# U.S. DEPARTMENT OF THE INTERIOR U.S. GEOLOGICAL SURVEY

The Directory of the World Landslide Inventory

by

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and

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Open-File Report 92-427 - A

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# **CONVERSION FACTORS AND ABBREVIATIONS**

Multiply	by	To obtain
millimeter (mm)	25.4	inches (in.)
meter (m)	0.3048	foot (ft)
kilometer (km)	1.609	mile (mi)
Meter <sup>2</sup> (m <sup>2</sup> )	0.0929	foot <sup>2</sup> (ft <sup>2</sup> )
kilometer <sup>2</sup> (km <sup>2</sup> )	2.59	mile² (mi²)
meter <sup>3</sup> (m <sup>3</sup> )	0.02832	foot <sup>3</sup> (ft <sup>3</sup> )
meter <sup>3</sup> per second (m <sup>3</sup> /s)	0.02832	foot <sup>3</sup> per second (ft <sup>3</sup> /s)

#### THE DIRECTORY OF THE WORLD LANDSLIDE INVENTORY

by

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# **ABSTRACT**

This data compilation consists of dBase IV¹ data files on participants in the World Landslide Inventory. The data include country names, class of inventory, names and addresses of responsible institutions and persons, contact numbers (telephone, telefax, telex, cable, E-mail), dates when information was provided, and notes on landslide processes and inventory status where provided by participants. The World Landslide Inventory is an evolving program for collecting and systematizing worldwide landslide data. The current Directory contains 297 entries, with the number still increasing in response to a worldwide mailing in October 1991. This compilation is an active file that will be updated whenever new information is received. During 1992, the Directory data files will be transferred to Sybase¹, a powerful database management system intended to accommodate the data volumes anticipated for the Directory and related databases. These databases will reside in the National Landslide Information Center, U.S. Geological Survey, Denver, Colorado, U.S.A. and will be maintained as contributions to the International Decade for Natural Disaster Reduction, 1990-2000.

<sup>&</sup>lt;sup>1</sup>Although this program has been used by the U.S. Geological Survey, no warranty, expressed or implied, is made by the USGS as to the accuracy and functioning of the program and related program material, nor shall the fact of distribution constitute any such warranty, and no responsibility is assumed by the USGS in connection therewith.

# INTRODUCTION

The database presented in this report is a compilation of information towards improving the state of knowledge of landslide occurrence throughout the world. It forms a basis upon which to build a more thorough, systematic inventory of worldwide landslide processes and problems. It also forms the basis for developing consistent, universal methods for reporting landslide events as standard reporting methods are distributed, reviewed, and adopted by the world community of landslide researchers. The database is a focus for meeting the goals of landslide disaster mitigation during the International Decade for Natural Disaster Reduction, 1990-2000 (IDNDR).

The concept of a World Landslide Inventory was developed by the International Geotechnical Societies' UNESCO Working Party on World Landslide Inventory (WP/WLI). WP/WLI has encouraged establishment of national landslide inventories by suggesting methods for standard reports and summaries of landslide activity. The first step in obtaining reliable, systematic reports is developing contacts among agencies and people with vested interests in understanding landslide processes and solving landslide problems. The second step is to compile the information for the benefit of all respondents, and to distribute methods for standard reports for their review and eventual systematic reporting.

This document was prepared for the 6th International Symposium on Landslides, Christchurch, New Zealand, February 10-14, 1992. It was distributed at that meeting in order to obtain review by the Symposium participants, and to encourage additional parties to participate in the World Landslide Inventory. This document is now intended for broader distribution, and will be made available in paper or diskette formats to interested parties. The database is currently stored in dBase IV format, and can be provided to the requestor in that format. In mid-1992, the database will be transferred into Sybase, a powerful database management system that will allow a variety of means of accessing and formatting the data according to individual needs.

As the database expands, the report will be reissued at appropriate intervals, particularly to coincide with significant events such as future international symposia on landslides and landslide-related meetings of the IDNDR. The database is not comprehensive or exhaustive; however, we anticipate updating the database toward a goal of worldwide coverage during the IDNDR. Future changes in the database will be handled through the U.S. Geological Survey, National Landslide Information Center (NLIC), Box 25046, Mail Stop 966, Denver Federal Center, Denver, Colorado, 80225-0046, U.S.A. Errors, corrections, additions, deletions, and other adjustments to the database should be reported or recommended to the NLIC.

<sup>&</sup>lt;sup>1</sup>The International Geotechnical Societies are the International Association of Engineering Geology (IAEG), the International Society for Soil Mechanics and Foundation Engineering (ISSMFE), and the International Society of Rock Mechanics (ISRM). These bodies have committees and commissions whose work has been supported by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

# **DATA ORGANIZATION**

#### SOURCES OF DATA

The preliminary list of contact persons for the World Landslide Inventory Roster was compiled using selections from the following existing rosters:

- WLI Roster, compiled by David M. Cruden and Jennifer S. de Lugt, 1991
- National Landslide Information Center International Roster, 1989
- U.S. Geological Survey Worldwide Directory of National Earth-Science Agencies and Related International Organizations, updated 1991
- Geotimes Directory of Geoscience Organizations, 1990
- International Geomorphology Directory, 1989
  - National Earthquake Information Center Foreign Station and Research Directory, 1990.

The list of 221 countries was compiled primarily from the Federal Information Processing Standards (FIPS) Publication 10-3 (U.S. National Bureau of Standards, 1984). Some dependent areas have been omitted because of small size. The list is being continuously updated.

In October 1991, letters were mailed to approximately 800 persons or organizations. This constituted a base list on which to build to ensure worldwide coverage. The base list has grown to over 900 entries as the result of recent responses. Each country received at least one letter. A registration form for the WLI roster was enclosed, with the request that the communication be forwarded to the appropriate person if necessary. We continue to receive responses, and to date (June 1992) have received 226 communications, some with lengthy descriptions of the landslide situation in that country, some with reprints enclosed, and some informing us that they have passed on the information to a more appropriate agency.

The World Landslide Inventory Roster of 297 persons or organizations presented in this Open-File Report has been selected out of the approximately 900 records now on our base list. This roster is made up of the original WLI Roster plus respondents who have registered in the past few months. Over half of all listed countries are represented in the roster at this time. We continue to update the roster as responses come in, and we welcome any assistance in finding contacts for countries not yet represented.

## **COMPUTER FILES**

The following computer files are included on the disk associated with this report:

WREADME Text of the Open-File Report, not including illustrations

WCHAR.DBF Characteristics of WLI countries

WROSTER.DBF World Landslide Inventory Roster database (297 entries as of June, 1992)

WROSTER.DBT Memo file associated with WROSTER.DBF WMEMO.TXT Memo file WROSTER.DBT in text format

The files WROSTER.DBF, WROSTER.DBT, and WCHAR.DBF are designed to be used with Ashton-Tate's dBASE IV. The .DBF files have fixed-length fields and can be accessed by other software. The associated memo file WROSTER.DBT can be accessed only through dBASE IV. However, the variable-length memo fields associated with individual records can be retrieved from WMEMO.TXT.

#### WCHAR.DBF

This database corresponds to the Characteristics of WLI Countries section of this report. It provides selected characteristics of each country in the WLI list. The headings for the fixed-length fields in this database are described below:

COUNTRYNAM Name of country

OFROSTER Country represented on current roster? Logical yes or no

CLASS Overall WLI classification code for country UN CODE United Nations code number for country

FIPS (Federal Information Processing Standards) code number for

country

AREA SQKM Area of country in square kilometers, taken primarily from the Times

atlas (Times Books, Ltd., 1985)

GEOG DESCR Description of geographical location of country, taken primarily from

Rand McNally, 1988

POLITICAL Notes on the political geography of the country, also taken primarily from

Rand McNally, 1988

POLITICAL2 Continuation of POLITICAL

The WLI classification code is as follows:

Class 5 Machine processible with systematic data capture and complete national coverage

Class 4 Systematic data capture and complete national coverage

Class 3 Machine processible local inventory

Class 2 Local inventory

Class 1 No inventory, some landslides known

Class 0 Nothing known

A summary of current (June 1992) WLI classification information is as follows:

Class	Number of countries	Percent of countries	Percent of land area
			***************************************
5	4	2	1
4	18	8	6
3	18	8	29
2	30	14	25
1	77	35	29
0	74	33	10
Total	221	100	100

#### WROSTER.DBF

This database corresponds to the World Landslide Inventory Roster section of this report. It contains names, addresses, and other information on persons currently desiring to be included in the WLI roster. WROSTER.DBF has fixed-length fields, and is associated with the memo file WROSTER.DBT. The records are alphabetized by country of reference, city, and organization.

In order to conform as much as possible to postal recommendations, the entries used on address labels have a minimum of punctuation.

The headings in the database are described below:

COUNTRYNAM Name of country of reference, identical to that in WCHAR.DBF.

(Respondent may live in a different country.)

**CLASS** WLI classification code of country, as provided by respondent F NAME First name or given name, including honorific if provided LNAME Last name family name. This is or alphabetizing. In the case of Chinese names, when the family name is written before the given name, the entire name is in this field, starting with the family name. Some entries from Spanishspeaking countries have two names in this field.

POSITION Professional position of respondent
DEPARTMENT Department or section of organization
ORGANIZAT Organizational affiliation of respondent

ORGANIZAT2 Continuation of ORGANIZAT

BUILDING Building where respondent's organization is located

STREET Street address of respondent PO BOX Post office box number

CITY City

PROVINCE Province or state

COUNTRY Country

PHONE Telephone number of respondent. The telephone number is preceded

by the country code in parentheses immediately followed by the city code and a dash. A dash directly after the country code means that city codes are not required. If there is no country code, connection must be made through an operator. The local telephone number may have spaces in it; for example, (49)21-630 256 where 49 is the country code, 21 is the city code, and 630 256

is the local number.

FAX Fax number of respondent, similar to telephone number

TELEX Telex number of respondent CABLE Cable number of respondent

EMAIL Electronic mail address of respondent

RESP DATE Date of last communication from respondent

CONTACT Contact this person for inventory information? Logical Yes or No

INCHARGE Person in charge of landslide inventory group

INVENTORY Person in group to contact for landslide inventory information

NOTES Notes on respondent, quotations from communications received. This

is a memo field; the .DBF database contains a pointer in this field that locates the beginning of the variable-length entry in the .DBT file. If you are not using dBASE IV, you will need to use the WMEMO.TXT file for this data. The country name and the last name of the associated respondent are given at the beginning of

the NOTES field, to aid in identification.

# **FOREIGN CHARACTERS**

The databases associated with this report use the foreign character set presented in the table below.

# FOREIGN CHARACTERS USED IN THE DIRECTORY OF THE WORLD LANDSLIDE INVENTORY

# **ASCII Characters**

Hex	Dec	Char	Hex	Dec	Char	Hex	Dec	Char
80	128	Ç	90	144	É	A0	160	á
81	129	Ç ü	91	145	æ	A1	161	í
82	130	é	92	146	Æ	A2	162	Ó
83	131	â	93	147	ô	A3	163	ú
84	132	ä	94	148	Ö	A4	164	ñ
85	133	à	95	149	ò	<b>A</b> 5	165	Ñ
86	134	å	96	150	û	<b>A</b> 6	166	
87	135	Ç	97	151	ù	<b>A</b> 7	167	2
88	136	Ç ê	98	152	ij Ö	<b>A8</b>	168	خ
89	137	ë	99	153	Ö	AD	173	i
8 <b>A</b>	138	è	9 <b>A</b>	154	Ü	AΕ	174	<b>«</b> <
8B	139	ï	9B	155	¢	AF	175	<b>&gt;&gt;</b>
8C	140	î	9C	156	£	E1	225	В
8D	141	ì	9D	157	¥			
8E	142	Ä	9E	158	R			
8 <b>F</b>	143	Å	9F	159	f			

# **Diacriticals**

Characters with diacritical marks that are not included in the above list are represented by a character pair, as in the examples below. The character pair is preceded by a pound sign (#) and can be replaced by the appropriate symbol using your own word processor. The pairs shown are appropriate for WordPerfect 5.1 "Compose".

Example	Result
<b>'</b> E	É
VC	č
,c	Ç
:1	ŀ
^a	â
-t	ŧ
.c	Ċ
<b>'</b> e	è
_u	ū
;a	ą
@a	ą å
/0	Ø
\1	l
~n	ñ
"u	ü
	/E VC ,C :1 ^a -t .c 'e _u ;a @a /o \1 ~n

# REFERENCES

- Brabb, E.E., and Harrod, B.L., eds., 1989, Landslides--Extent and economic significance, International Geological Congress, 28th, Symposium on Landslides, Washington, D.C., 1989, Proceedings: Rotterdam, The Netherlands, A.A. Balkema, 385 p.
- Brown, William M., III, 1992, Information for disaster reduction--The National Landslide Information Center, U.S. Geological Survey, in Bell, D.H., ed., Landslides (Glissements de terrain), International Symposium on Landslides, 6th, Christchurch, New Zealand, 10-14 February, 1992, Proceedings: Rotterdam, The Netherlands, and Brookfield, Vermont, A.A. Balkema, v. 2, p. 891-892.
- Cruden, D.M., and Brown, William M., III, 1992, Progress towards the World Landslide Inventory, in Bell, D.H., ed., Landslides (Glissements de terrain), International Symposium on Landslides, 6th, Christchurch, New Zealand, 10-14 February, 1992, Proceedings: Rotterdam, The Netherlands, and Brookfield, Vermont, A.A. Balkema, v. 1, p. 59-64.
  - International Association for Engineering Geology Commission on Landslides and Other Mass Movements, 1990, A suggested nomenclature for landslides: International Association for Engineering Geology Bulletin, v. 41, p. 13-16.
  - Rand McNally, 1988, World atlas of nations: Chicago, 208 p.
  - Times Books, Ltd., 1985, The Times atlas of the world, 7th comprehensive edition: London, p. ix-xiii.
  - U.S. National Bureau of Standards, 1984, Countries, dependencies, areas of special sovereignty, and their principal administrative divisions: Federal Information Processing Standards Publication 10-3, 65 p. [Updated.]
  - Varnes, D.J., 1978, Slope movement types and processes, in Landslides--Analysis and control, Schuster, R.L, and Krizek, R.J., eds.: Washington, D.C., National Academy of Sciences, Transportation Research Board, Special Report 176, p. 11-33.
  - WP/WLI (International Geotechnical Societies UNESCO Working Party on World Landslide Inventory), 1990, A suggested method for reporting a landslide: International Association of Engineering Geology Bulletin, v. 41, p. 5-12.
  - WP/WLI (International Geotechnical Societies UNESCO Working Party on World Landslide Inventory), 1991, A suggested method for a landslide summary: International Association of Engineering Geology Bulletin, v. 43, p. 101-110.

COUNTRY NAME	CLASS	ROSTER	AREA (SQ KM)
Afghanistan	1	Y	636,265
Albania	Ō	N	28,750
Algeria	ì	N	2,381,745
American Samoa	Ō	N	197
Andorra	ő	N	465
Angola	Ŏ	N	1,246,700
Antarctica	ĭ	Ϋ́	14,000,000
Antigua and Barbuda	i	Ÿ	442
Argentina	2	Ÿ	2,777,815
Armenia	4	Ÿ	30,000
Aruba	0	Ň	193
Australia	2	Ÿ	7,682,300
Austria	3	Ÿ	83,855
Azerbaijan	ő	N	87,000
Bahamas	ĭ	Ϋ́	13,865
Bahrain	Ō	N	661
Bangladesh	ĭ	N	144,000
Barbados	1	Y	430
Belgium	i	Y	30,520
Belize	1	Y	22,965
Benin	1	Y	112,620
Bhutan	1	Ÿ	46,620
Bolivia	2	Y	1,098,575
Botswana	1	Y	
Brazil	3	Y	575,000 8 511 065
Brunei	0	N N	8,511,965
Bulgaria	4	Y	5,765
Burkina Faso	0	N N	110,910
Burundi	0	N	274,122
Byelarus	0	N	27,835
Cambodia	1	N	208,000
Cameroon	0	N	181,000
Canada	3	. Y	475,500 9,922,385
Cape Verde	0	N	
Cayman Islands	0	N	4,035 259
Central African Republic	1	Y	624,975
Chad	0	N	1,284,000
Channel Islands	0	N	1,284,000
Chile	4	Y	751,625
China	3	Y	9,597,000
Christmas Island	0	N	135
Colombia	2	Y	
Comoros	0	N	1,138,915
Congo	0	N N	1,860
Cook Islands	0	N N	342,000
Costa Rica		N Y	233
Costa Rica Cote d'Ivoire	3	Y Y	50,900
Core a Ivolle	4	¥	322,465

COUNTRY NAME	CLASS	ROSTER	AREA (SQ KM)
Cuba	1	Y	114,525
Cyprus	2	Ÿ	9,250
Czechoslovakia	5	Ÿ	127,870
Denmark	1	Ÿ	43,075
Djibouti	Ô	N	<del>-</del>
Dominica	2	Y	23,000 751
Dominican Republic	í	N	
Ecuador	3	Y	48,440
Egypt	i	Ÿ	461,475 1,000,250
El Salvador	2	Ÿ	21,395
Equatorial Guinea	0	N	
Estonia	4	Y	28,050
Ethiopia	1	Y	45,100
Falkland Islands	Ō	N	1,023,050
Faroe Islands	0	N N	16,267
Fiji	3	Y Y	1,399
Finland	2		18,330
France	5	Y	337,030
Frence French Guiana	0	Y	543,965
French Polynesia	2	N .	91,000
		Y	3,940
French Southern/Antarctic Gabon	0	N	7,770
Gambia	0	N	267,665
	1	Y ••	10,690
Georgia	4	Y	69,700
Germany	3	Y	356,840
Ghana	2	<u>Y</u>	238,305
Greece	1	Y	131,985
Greenland	1	Y	2,175,600
Grenada	2	Y	345
Guadeloupe	1	N	1,780
Guam	1	N	450
Guatemala	1	N	108,890
Guinea	2	Y	245,855
Guinea-Bissau	0	N	36,125
Guyana	0	N	214,970
Haiti	1	N	27,750
Heard & McDonald Islands	0	N	412
Honduras	2	Y	112,085
Hong Kong	4	Y	1,062
Hungary	4	Y	93,030
Iceland	1	Y	102,820
India	4	Y	3,166,830
Indonesia	3	Y	1,919,445
<u>I</u> ran	1	Y	1,648,000
Iraq	2	Y	438,445
Ireland	1	Y	68,895
Israel	3	Y	20,770

COUNTRY NAME	CLASS	ROSTER	AREA (SQ KM)
Italy	4	Y	301,245
Jamaica	2	Ÿ	11,425
Japan	5	Ÿ	369,700
Jordan	ĭ	N	90,650
Kazakhstan	i	Y	2,717,300
Kenya	4	Y	582,645
Kiribati	i	N N	684
Korea, North	Ō	N N	122,310
Korea, South	ĭ	N N	98,445
. Kuwait	i	Y	24,280
Kyrgyzstan	i	N N	198,500
Laos	i	N 14	
Latvia	0	N N	236,725
Lebanon	0	N N	63,700
Lesotho	1	N N	10,400
Liberia	0		30,345
Libya		Ŋ	111,370
Libya Liechtenstein	1	Y	1,759,540
	1	N	160
Lithuania	0	N	65,200
Luxembourg	4	Y	2,585
Macau	0	N	16
Madagascar	1	Y ••	594,180
Malawi	1	Y	94,080
Malaysia	1	Y	332,965
Maldives	0	N	298
Mali	0	N	1,240,140
Malta	1	Y	316
Man, Isle of	0	N	588
Marshall Islands	1	N	181
Martinique	1	N	1,079
Mauritania	0	N	1,030,700
Mauritius	1	Υ .	1,865
Mayotte	0	N	376
Mexico	2	Y	1,972,545
Micronesia	0	N	702
Moldova	1	N	33,700
Monaco	1	Y	2
Mongolia	3	Y	1,565,000
Montserrat	0	N	104
Morocco	2	Y	458,730
Mozambique	1	N	784,755
Myanmar	0	N	678,030
Namibia	1	Y	824,295
Nauru	0	N	21
Nepal	2	Y	141,415
Netherlands	1	Y	41,160
Netherlands Antilles	0	N	993

COUNTRY NAME	CLASS	ROSTER	AREA (SQ KM)
New Caledonia	1	N	10 105
	1	N	19,105
New Zealand	2	Y	265,150
Nicaragua	1	N	148,000
Niger	0	N	1,186,410
Nigeria	1	Y	923,850
Niue	0	N	259
Northern Mariana Islands	0	N	477
Norway	4	Y	323,895
Oman	1	N	271,950
Pakistan	2	Y	803,940
Palau	0	N	508
Panama	2	Y	78,515
Papua New Guinea	1	Y	462,840
Paraguay	0	Y	406,750
Peru	4	Y	1,285,215
Philippines	3	Y	300,000
Poland	4	Y	312,685
Portugal	2	Y	91,630
Puerto Rico	2	Y	8,960
Qatar	0	N	11,435
Reunion	1	N	2,510
Romania	3	Y	237,500
Russia	2	Y	17,078,005
Rwanda	1	Y	26,330
Saint Helena	2	Y	248
Saint Kitts and Nevis	0	N	261
Saint Lucia	2	Y	616
Saint Pierre/Miquelon	0	N	241
Saint Vincent/Grenadines	2	Y	389
San Marino	0	N	61
Sao Tome and Principe	0	N	964
Saudi Arabia	1 .	N	2,400,900
Senegal	1	N	196,720
Seychelles	0	N	404
Sierra Leone	Ō	N	72,325
Singapore	2	Ÿ	616
Solomon Islands	3	Ÿ	29,790
Somalia	Ö	Ŋ	630,000
South Africa		Ÿ	1,184,825
Spain	2 3	Ÿ	504,880
Sri Lanka	ĭ	Ÿ	65,610
Sudan	ī	Ÿ	2,505,815
Suriname	Ō	Ň	163,820
Swaziland	1	N	17,365
Sweden	3	Y	449,790
Switzerland	1	Y	41,285
Syria	0	Y	•
plria	J	I	185,680

COUNTRY NAME	CLASS	ROSTER	AREA (SQ KM)
Taiwan	4	Y	35,990
Tajikistan	1	N	143,100
Tanzania	1	Y	939,760
Thailand	1	Y	514,000
Togo	1	Y	56,785
Tonga	1	N	699
Trinidad and Tobago	1	N	5,130
Tunisia	0	N	164,150
Turkey	2	Y	779,450
Turkmenistan	0	N	488,100
Turks and Caicos Islands	0	N	430
Tuvalu	0	N	25
Uganda	1	Y	236,580
Ukraine	4	Y	603,700
United Arab Emirates	0	N	75,150
United Kingdom	5	Y	244,755
United States	3	Y	9,363,130
Uruguay	0	N	186,925
Uzbekistan	1	Y	447,400
Vanuatu	1	Y	14,765
Venezuela	4	Y	912,045
Vietnam	1	Y	329,565
Virgin Islands	0	N	345
Virgin Islands, British	0	N	153
Wallis and Futuna	0	N	255
Western Sahara	0	N	266,000
Western Samoa	1	N	2,840
Yemen (Aden)	0	N	287,680
Yemen (Sanaa)	0	N	189,850
Yugoslavia	3	Y	255,805
Zaire	0	N	2,345,410
Zambia	1	Y	752,615
Zimbabwe	1	Y	390,310

ROSTER: Y WLI CLASS: 1 COUNTRY: Afghanistan UN CODE: 006 FIPS CODE: AF AREA (SQKM): 636,265

GEOGRAPHICAL LOCATION: Southern Asia

POLITICAL:

COUNTRY: Albania ROSTER: N WLI CLASS: 0 UN CODE: 009 FIPS CODE: AL AREA (SQKM): 28,750

GEOGRAPHICAL LOCATION: Southeastern Europe

POLITICAL:

ROSTER: N WLI CLASS: 1 COUNTRY: Algeria UN CODE: 012 FIPS CODE: AG AREA (SQKM): 2,381,745

GEOGRAPHICAL LOCATION: Northern Africa

POLITICAL:

COUNTRY: American Samoa ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: AQ AREA (SQKM): 197

GEOGRAPHICAL LOCATION: South Pacific Islands POLITICAL: Unincorporated territory (U.S.)

COUNTRY: Andorra ROSTER: N WLI CLASS: 0

UN CODE: FIPS CODE: AN AREA (SQKM): 465

GEOGRAPHICAL LOCATION: Southwestern Europe POLITICAL: Coprincipality (Spain, France)

COUNTRY: Angola ROSTER: N WLI CLASS: 0 UN CODE: 681 FIPS CODE: AO

ROSTER: N WILL CLASS: U
AREA (SQKM): 1,246,700

GEOGRAPHICAL LOCATION: Southern Africa

POLITICAL:

COUNTRY: Antarctica ROSTER: Y WLI CLASS: 1 FIPS CODE: AY

AREA (SQKM): 14,000,000

GEOGRAPHICAL LOCATION: Continent in Southern Hemisphere POLITICAL: Sectors claimed by Argentina, Australia, Chile, France, New Zealand, Norway, United Kingdom

COUNTRY: Antigua and Barbuda ROSTER: Y WLI CLASS: 1 UN CODE: 601 FIPS CODE: AC AREA (SQKM): 442

GEOGRAPHICAL LOCATION: Caribbean islands

UN CODE: 024 FIPS CODE: AR

GEOGRAPHICAL LOCATION

ROSTER: Y WLI CLASS: 2

AREA (SORM).

GEOGRAPHICAL LOCATION: Southern South America

POLITICAL:

ROSTER: Y WLI CLASS: 4 COUNTRY: Armenia

UN CODE: FIPS CODE: AM AREA (SQKM): 30,000

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL: Formerly Socialist Republic of USSR

ROSTER: N WLI CLASS: 0 COUNTRY: Aruba UN CODE: FIPS CODE: AA

AREA (SQKM):

GEOGRAPHICAL LOCATION: Caribbean island

POLITICAL: Self-governing territory (Netherlands)

COUNTRY: Australia ROSTER: Y WLI CLASS: 2 UN CODE: 027 FIPS CODE: AS AREA (SQKM): 7,682,300

GEOGRAPHICAL LOCATION: Continent, South Pacific and Indian Ocean

POLITICAL:

UN CODE: 030 FIPS CODE: AU GEOGRAPHICAL LOCATION ROSTER: Y WLI CLASS: 3

AREA (SQKM): 83,855

GEOGRAPHICAL LOCATION: Central Europe

POLITICAL:

COUNTRY: Azerbaijan ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: AJ AREA (SQKM): 87,000

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL: Formerly Socialist Republic of USSR;

also spelled Azerbaydzhan

ROSTER: Y WLI CLASS: 1 COUNTRY: Bahamas

FIPS CODE: BF UN CODE: 603 AREA (SQKM): 13,865

GEOGRAPHICAL LOCATION: Caribbean islands

POLITICAL: Excludes Turks and Caicos Islands

COUNTRY: Bahrain ROSTER: N WLI CLASS: 0

UN CODE: 604 FIPS CODE: BA AREA (SQKM): 661

GEOGRAPHICAL LOCATION: Southwestern Asian islands

COUNTRY: Bangladesh ROSTER: N WLI CLASS: 1 UN CODE: 507 FIPS CODE: BG AREA (SQKM): 144,000

GEOGRAPHICAL LOCATION: Southern Asia

POLITICAL:

UN CODE: 042 FIPS CODE: BB AREA (SOKM).

POLITICAL:

UN CODE: 048 FIPS CODE: BE AREA (SOKM): 30 500

GEOGRAPHICAL LOCATION: Western Europe

POLITICAL:

ROSTER: Y WLI CLASS: 1 COUNTRY: Belize

UN CODE: 611 FIPS CODE: BH AREA (SQKM): 22,965

GEOGRAPHICAL LOCATION: Central America POLITICAL: Formerly British Honduras

COUNTRY: Benin ROSTER: Y WLI CLASS: 1 UN CODE: 117 FIPS CODE: BN AREA (SOKM): 112.620

GEOGRAPHICAL LOCATION: Western Africa

POLITICAL: Formerly Dahomey

COUNTRY: Bhutan ROSTER: Y WLI CLASS: 1 UN CODE: 049 FIPS CODE: BT AREA (SQKM): 46,620

GEOGRAPHICAL LOCATION: Southern Asia

POLITICAL:

COUNTRY: Bolivia ROSTER: Y WLI CLASS: 2 UN CODE: 051 FIPS CODE: BL AREA (SQKM): 1,098,575

GEOGRAPHICAL LOCATION: Central South America

POLITICAL:

ROSTER: Y WLI CLASS: 1 COUNTRY: Botswana UN CODE: 052 FIPS CODE: BC

AREA (SQKM): 575,000

GEOGRAPHICAL LOCATION: Southern Africa

POLITICAL: Formerly, Bechuanaland

ROSTER: Y WLI CLASS: 3 COUNTRY: Brazil

UN CODE: 054 FIPS CODE: BR AREA (SQKM): 8,511,965

GEOGRAPHICAL LOCATION: Eastern South America

POLITICAL:

COUNTRY: Brunei ROSTER: N WLI CLASS: 0

UN CODE: 602 FIPS CODE: BX AREA (SQKM): 5,765

GEOGRAPHICAL LOCATION: Southeastern Asia, island of Borneo

POLITICAL:

COUNTRY: Bulgaria ROSTER: Y WLI CLASS: 4 UN CODE: 057 FIPS CODE: BU AREA (SQKM): 110,910

GEOGRAPHICAL LOCATION: Eastern Europe

POLITICAL:

COUNTRY: BURKINA FASO ROSTER: N WLI CLASS: 0
UN CODE: 459 FIPS CODE: UV AREA (SOKM): 274 100
GEOGRAPHICAL LOCATION

GEOGRAPHICAL LOCATION: Western Africa

POLITICAL: Formerly Upper Volta; also known as Burkina

COUNTRY: Burundi UN CODE: 061 FIPS CODE: BY ROSTER: N WLI CLASS: 0

AREA (SQKM): 27,835

GEOGRAPHICAL LOCATION: Eastern Africa

POLITICAL:

UN CODE: 063 FIPS CODE: BO
GEOGRAPHICAL LOCATION: BOTTOM AREA (SORM):

POLITICAL: Formerly Socialist Republic of USSR; also known as

Byelorussia, Belarus

ROSTER: N WLI CLASS: 1 COUNTRY: Cambodia UN CODE: 066 FIPS CODE: CB

AREA (SQKM): 181,000

GEOGRAPHICAL LOCATION: Southeastern Asia

POLITICAL: Formerly known as Khmer Republic and Kampuchea

COUNTRY: Cameroon ROSTER: N WLI CLASS: 0 UN CODE: 069 FIPS CODE: CM AREA (SQKM): 475,500 ROSTER: N WLI CLASS: 0

GEOGRAPHICAL LOCATION: Central Africa

COUNTRY: Canada ROSTER: Y WLI CLASS: 3 UN CODE: 072 FIPS CODE: CA

AREA (SQKM): 9,922,385

GEOGRAPHICAL LOCATION: Northern North America

POLITICAL:

COUNTRY: Cape Verde ROSTER: N WLI CLASS: 0 UN CODE: 682 FIPS CODE: CV AREA (SQKM): 4,035

GEOGRAPHICAL LOCATION: Western African islands

POLITICAL:

COUNTRY: Cayman Islands ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: CJ AREA (SQKM): 259

AREA (SQKM): 259

GEOGRAPHICAL LOCATION: Caribbean islands POLITICAL: Dependent territory (U.K.)

COUNTRY: Central African Republic ROSTER: Y WLI CLASS: 1 UN CODE: 075 FIPS CODE: CT AREA (SQKM): 624,975

GEOGRAPHICAL LOCATION: Central Africa

POLITICAL:

UN CODE: 081 FIPS CODE: CD ROSTER: N WLI CLASS: 0 COUNTRY: Chad

AREA (SQKM): 1,284,000

GEOGRAPHICAL LOCATION: Central Africa

POLITICAL:

COUNTRY: Channel Islands ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: JE AREA (SQKM): 194

GEOGRAPHICAL LOCATION: Northwestern European islands

POLITICAL: Dependent territory (U.K.); includes Jersey (JE) and Guernsey (GK) (Guernsey, Alderney, Sark)

ROSTER: Y WLI CLASS: 4 COUNTRY: Chile

UN CODE: 084 FIPS CODE: CI AREA (SQKM): 751,625

GEOGRAPHICAL LOCATION: Southern South America

POLITICAL:

COUNTRY: China ROSTER: 1 WILL CLASS. 3 UN CODE: 086 FIPS CODE: CH AREA (SQKM): 9,597,000 ROSTER: Y WLI CLASS: 3

GEOGRAPHICAL LOCATION: Eastern Asia

rmas Island ROSTER: N WLI CLASS: 0
FIPS CODE: KT AREA (SQKM): 135 COUNTRY: Christmas Island

UN CODE:

GEOGRAPHICAL LOCATION: Indian Ocean island POLITICAL: External territory (Australia)

COUNTRY: Colombia ROSTER: Y WLI CLASS: 2 UN CODE: 093 FIPS CODE: CO AREA (SQKM): 1,138,915

GEOGRAPHICAL LOCATION: Northern South America

POLITICAL:

ROSTER: N WLI CLASS: 0 COUNTRY: Comoros

COUNTRY: Comoros
UN CODE: 662 FIPS CODE: CN AREA (SQKM): 1,860

GEOGRAPHICAL LOCATION: Southeastern African islands

POLITICAL: Excludes Mayotte

COUNTRY: Congo ROSTER: N WLI CLASS: 0 UN CODE: 338 FIPS CODE: CF AREA (SQKM): 342,000

GEOGRAPHICAL LOCATION: Central Africa

POLITICAL:

COUNTRY: Cook Islands ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: CW AREA (SQKM): 233

GEOGRAPHICAL LOCATION: South Pacific islands

POLITICAL: Self-governing Territory (New Zealand)

COUNTRY: Costa Rica ROSTER: Y WLI CLASS: 3
UN CODE: 102 FIPS CODE: CS AREA (SQKM): 50,900

GEOGRAPHICAL LOCATION: Central America

POLITICAL:

COUNTRY: Cote d'Ivoire ROSTER: Y WLI CLASS: 4 UN CODE: 225 FIPS CODE: IV AREA (SQKM): 322,465

GEOGRAPHICAL LOCATION: Western Africa

POLITICAL: Formerly Ivory Coast

COUNTRY: Cuba ROSTER: Y WLI CLASS: 1
UN CODE: 105 FIPS CODE: CU AREA (SQKM): 114,525

GEOGRAPHICAL LOCATION: Caribbean island

ROSTER: Y WLI CLASS: 2 COUNTRY: Cyprus ROSTER: Y WLI CLASS: 2
UN CODE: 111 FIPS CODE: CY AREA (SQKM): 9,250
GEOGRAPHICAL LOCATION: Eastern Mediterranean island COUNTRY: Cyprus

POLITICAL: Includes Turkish Republic of Northern Cyprus

(not recognized internationally)

COUNTRY: Czechoslovakia ROSTER: Y WLI CLASS: 5 UN CODE: 114 FIPS CODE: CZ AREA (SQKM): 127,870

GEOGRAPHICAL LOCATION: Eastern Europe

POLITICAL:

ROSTER: Y WLI CLASS: 1 COUNTRY: Denmark UN CODE: 120 FIPS CODE: DA

AREA (SQKM): 43,075

GEOGRAPHICAL LOCATION: Northern Europe

POLITICAL: Excludes Faroe Islands and Greenland

COUNTRY: Djibouti UN CODE: 669 FIPS CODE: DJ ROSTER: N WLI CLASS: 0

AREA (SQKM): 23,000

GEOGRAPHICAL LOCATION: Eastern Africa

POLITICAL: Formerly French Territory of the Afars and Issas

COUNTRY: Dominica ROSTER: Y WLI CLASS: 2 UN CODE: 610 FIPS CODE: DO AREA (SQKM): 751

GEOGRAPHICAL LOCATION: Caribbean island

POLITICAL:

COUNTRY: Dominican Republic ROSTER: N WLI CLASS: 1 UN CODE: 126 FIPS CODE: DR AREA (SQKM): 48,440

GEOGRAPHICAL LOCATION: Caribbean island (eastern Hispaniola)

POLITICAL:

COUNTRY: Ecuador ROSTER: Y WLI CLASS: 3 UN CODE: 135 FIPS CODE: EC AREA (SQKM): 461,475

GEOGRAPHICAL LOCATION: Western South America

POLITICAL:

COUNTRY: Egypt
UN CODE: 450 FIPS CODE: EG

ROSTER: Y WLI CLASS: 1
AREA (SQKM): 1,000,250

GEOGRAPHICAL LOCATION: Northeastern Africa

ROSTER: Y WLI CLASS: 2 COUNTRY: El Salvador

UN CODE: 138 FIPS CODE: ES AREA (SQKM): 21,395

GEOGRAPHICAL LOCATION: Central America

POLITICAL:

COUNTRY: Equatorial Guinea ROSTER: N WLI CLASS: 0 UN CODE: 139 FIPS CODE: EK AREA (SQKM): 28,050

GEOGRAPHICAL LOCATION: Central Africa

POLITICAL:

COUNTRY: Estonia ROSTER: Y WLI CLASS: 4

FIPS CODE: EN AREA (SQKM): 45,100 UN CODE:

GEOGRAPHICAL LOCATION: Eastern Europe

POLITICAL: Formerly Socialist Republic of USSR

COUNTRY: Ethiopia ROSTER: Y WLI CLASS: 1

UN CODE: 141 FIPS CODE: ET AREA (SQKM): 1,023,050

GEOGRAPHICAL LOCATION: Eastern Africa

POLITICAL:

ROSTER: N WLI CLASS: 0 COUNTRY: Falkland Islands and Islands FIPS CODE: FK

AREA (SQKM): UN CODE:

GEOGRAPHICAL LOCATION: South Atlantic Islands

POLITICAL: Dep. territory (UK); claimed by Argentina; Islas

Malvinas; includes S. Georgia (SX), S. Sandwich Is

ROSTER: N WLI CLASS: 0 COUNTRY: Faroe Islands

UN CODE: FIPS CODE: FO AREA (SQKM): 1,399

GEOGRAPHICAL LOCATION: North Atlantic islands

POLITICAL: Self-governing territory (Denmark); also spelled

Faeroe

ROSTER: Y WLI CLASS: 3 COUNTRY: Fiii

UN CODE: 143 FIPS CODE: FJ AREA (SQKM): 18,330

GEOGRAPHICAL LOCATION: South Pacific islands

POLITICAL: Includes Viti Levu, Vanua Levu, and Rotuma Islands

ROSTER: Y WLI CLASS: 2 COUNTRY: Finland

UN CODE: 144 FIPS CODE: FI AREA (SQKM): 337,030

GEOGRAPHICAL LOCATION: Northern Europe

ROSTER: Y WLI CLASS: 5 COUNTRY: France

UN CODE: 147 FIPS CODE: FR AREA (SQKM): 543,965

GEOGRAPHICAL LOCATION: Western Europe POLITICAL: Excludes overseas departments

COUNTRY: French Guiana ROSTER: N WLI CLASS: 0

FIPS CODE: FG UN CODE: AREA (SQKM): 91,000

GEOGRAPHICAL LOCATION: Northeastern South America

POLITICAL: Overseas department (France)

COUNTRY: French Polynesia ROSTER: Y WLI CLASS: 2 h Polynesia ROSTER: Y WLI CLASS: 2 FIPS CODE: FP AREA (SQKM): 3,940

UN CODE:

GEOGRAPHICAL LOCATION: South Pacific islands

POLITICAL: Overseas territory (France)

COUNTRY: French Southern/Antarctic ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: FS AREA (SQKM): 7,770

AREA (SQKM):

GEOGRAPHICAL LOCATION: Indian Ocean islands

POLITICAL: Overseas territory (France); French Southern and

Antarctic Territories; excludes Antarctic mainland

ROSTER: N WLI CLASS: 0 COUNTRY: Gabon

UN CODE: 153 FIPS CODE: GB AREA (SQKM): 267,665

GEOGRAPHICAL LOCATION: Central Africa

POLITICAL:

ROSTER: Y WLI CLASS: 1 COUNTRY: Gambia
UN CODE: 156 FIPS CODE: GA COUNTRY: Gambia

AREA (SQKM): 10,690

GEOGRAPHICAL LOCATION: Western Africa POLITICAL: Also known as The Gambia

ROSTER: Y WLI CLASS: 4 COUNTRY: Georgia

FIPS CODE: GG AREA (SQKM): 69,700 UN CODE:

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL: Formerly Socialist Republic of USSR; also known as

Gruziya

ROSTER: Y WLI CLASS: 3 COUNTRY: Germany

FIPS CODE: GE UN CODE: 525 AREA (SQKM): 356,840

GEOGRAPHICAL LOCATION: Western Europe

POLITICAL: Formerly West Germany (Federal Republic of

Germany) and East Germany (German Democratic Rep.)

COUNTRY: Ghana ROSTER: Y WLI CLASS: 2 UN CODE: 162 FIPS CODE: GH AREA (SQKM): 238,305

GEOGRAPHICAL LOCATION: Western Africa

POLITICAL:

COUNTRY: Greece ROSTER: Y WLI CLASS: 1
UN CODE: 165 FIPS CODE: GR AREA (SQKM): 131,985

GEOGRAPHICAL LOCATION: Southeastern Europe

POLITICAL:

COUNTRY: Greenland ROSTER: Y WLI CLASS: 1
UN CODE: FIPS CODE: GL AREA (SQKM): 2,175,600

GEOGRAPHICAL LOCATION: North Atlantic island POLITICAL: Self-governing territory (Denmark)

COUNTRY: Grenada ROSTER: Y WLI CLASS: 2
UN CODE: 616 FIPS CODE: GJ AREA (SQKM): 345

GEOGRAPHICAL LOCATION: Caribbean island

POLITICAL:

COUNTRY: Guadeloupe ROSTER: N WLI CLASS: 1
UN CODE: FIPS CODE: GP AREA (SQKM): 1,780

GEOGRAPHICAL LOCATION: Caribbean islands POLITICAL: Overseas department (France)

COUNTRY: Guam ROSTER: N WLI CLASS: 1
UN CODE: FIPS CODE: GQ AREA (SQKM): 450
CEOCRAPHICAL LOCATION: North Pacific island

GEOGRAPHICAL LOCATION: North Pacific island POLITICAL: Unincorporated territory (U.S.)

COUNTRY: Guatemala ROSTER: N WLI CLASS: 1
UN CODE: 168 FIPS CODE: GT AREA (SQKM): 108,890

GEOGRAPHICAL LOCATION: Central America

POLITICAL:

COUNTRY: Guinea ROSTER: Y WLI CLASS: 2 UN CODE: 177 FIPS CODE: GV AREA (SQKM): 245,855

GEOGRAPHICAL LOCATION: Western Africa

COUNTRY: Guinea-Bissau ROSTER: N WLI CLASS: 0 UN CODE: 685 FIPS CODE: PU AREA (SQKM): 36,125 ROSTER: N WLI CLASS: 0

GEOGRAPHICAL LOCATION: Western Africa POLITICAL: Formerly Portuguese Guinea

COUNTRY: Guyana ROSTER: N WLI CLASS: 0 UN CODE: 180 FIPS CODE: GY AREA (SQKM): 214,970

GEOGRAPHICAL LOCATION: Northeastern South America

POLITICAL:

COUNTRY: Haiti ROSTER: N WLI CLASS: 1 COUNTRY: Haiti ROSTER: N WLI CLASS: 1
UN CODE: 183 FIPS CODE: HA AREA (SQKM): 27,750

GEOGRAPHICAL LOCATION: Caribbean island (western Hispaniola)

POLITICAL:

COUNTRY: Heard & McDonald Islands ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: HM AREA (SQKM): 412

AREA (SQKM): 412

GEOGRAPHICAL LOCATION: Indian Ocean islands

POLITICAL: External territory of Australia; no permanent

population

COUNTRY: Honduras ROSTER: Y WLI CLASS: 2 UN CODE: 186 FIPS CODE: HO AREA (SQKM): 112,085

GEOGRAPHICAL LOCATION: Central America

POLITICAL:

COUNTRY: Hong Kong ROSTER: Y WLI CLASS: 4
UN CODE: 612 FIPS CODE: HK AREA (SQKM): 1,062
GEOGRAPHICAL LOCATION: Eastern Asia

POLITICAL: Dependent territory (U.K.)

COUNTRY: Hungary ROSTER: Y WLI CLASS: 4 UN CODE: 195 FIPS CODE: HU AREA (SQKM): 93,030

GEOGRAPHICAL LOCATION: Eastern Europe

POLITICAL:

COUNTRY: Iceland ROSTER: Y WLI CLASS: 1
UN CODE: 198 FIPS CODE: IC AREA (SQKM): 102,820

GEOGRAPHICAL LOCATION: North Atlantic island

COUNTRY: India ROSTER: Y WLI CLASS: 4 COUNTRY: India
UN CODE: 204 FIPS CODE: IN

AREA (SQKM): 3,166,830

GEOGRAPHICAL LOCATION: Southern Asia

POLITICAL: Includes part of Jammu and Kashmir

ROSTER: Y WLI CLASS: 3 COUNTRY: Indonesia COUNTRY: Indonesia ROSTER: Y WLI CLASS: 3
UN CODE: 207 FIPS CODE: ID AREA (SQKM): 1,919,445

GEOGRAPHICAL LOCATION: Southeastern Asian islands

POLITICAL:

COUNTRY: Iran ROSTER: Y WLI CLASS: 1 UN CODE: 210 FIPS CODE: IR AREA (SQKM): 1,648,000

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL:

COUNTRY: Iraq ROSTER: Y WLI CLASS: 2 UN CODE: 213 FIPS CODE: IZ AREA (SQKM): 438,445

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL:

ROSTER: Y WLI CLASS: 1 COUNTRY: Ireland COUNTRY: Ireland ROSTER: Y WLI CLASS: 1
UN CODE: 216 FIPS CODE: EI AREA (SQKM): 68,895
GEOGRAPHICAL LOCATION: Northwestern European island

POLITICAL: Five-sixths of island of Ireland; also known as

Eire

COUNTRY: Israel ROSTER: Y WLI CLASS: 3
UN CODE: 219 FIPS CODE: IS AREA (SQKM): 20,770

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL:

COUNTRY: Italy ROSTER: Y WLI CLASS: 4 UN CODE: 222 FIPS CODE: IT AREA (SQKM): 301,245

GEOGRAPHICAL LOCATION: Southern Europe

POLITICAL:

COUNTRY: Jamaica ROSTER: Y WLI CLASS: 2
UN CODE: 228 FIPS CODE: JM AREA (SQKM): 11,425

GEOGRAPHICAL LOCATION: Caribbean island

COUNTRY: Japan ROSTER: Y WLI CLASS: 5 UN CODE: 231 FIPS CODE: JA AREA (SQKM): 369,700

GEOGRAPHICAL LOCATION: Eastern Asian islands

POLITICAL:

COUNTRY: Jordan ROSTER: N WLI CLASS: 1
UN CODE: 234 FIPS CODE: JO AREA (SQKM): 90,650

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL:

ROSTER: Y WLI CLASS: 1 COUNTRY: Kazakhstan

COUNTRY: Kazakhstan ROSTER: Y WLI CLASS: 1
UN CODE: FIPS CODE: KZ AREA (SQKM): 2,717,300

GEOGRAPHICAL LOCATION: Eastern Europe and Western Asia

POLITICAL: Formerly Socialist Republic of USSR

COUNTRY: Kenya ROSTER: Y WLI CLASS: 4 UN CODE: 240 FIPS CODE: KE AREA (SQKM): 582,645

GEOGRAPHICAL LOCATION: Eastern Africa

POLITICAL:

COUNTRY: Kiribati ROSTER: N WLI CLASS: 1
UN CODE: FIPS CODE: KR AREA (SQKM): 684

GEOGRAPHICAL LOCATION: Central Pacific islands

POLITICAL:

COUNTRY: Korea, North ROSTER: N WLI CLASS: 0
UN CODE: FIPS CODE: KN AREA (SQKM): 122,310

GEOGRAPHICAL LOCATION: Eastern Asia

POLITICAL: Also known as Democratic People's Republic of

Korea

COUNTRY: Korea, South ROSTER: N WLI CLASS: 1
UN CODE: 567 FIPS CODE: KS AREA (SQKM): 98,445
GEOGRAPHICAL LOCATION: Eastern Asia

POLITICAL: Also known as Republic of Korea

COUNTRY: Kuwait ROSTER: Y WLI CLASS: 1
UN CODE: 243 FIPS CODE: KU AREA (SQKM): 24,280

GEOGRAPHICAL LOCATION: Southwestern Asia

ROSTER: N WLI CLASS: 1 COUNTRY: Kyrgyzstan ROSTER: N WLI CLASS: 1
UN CODE: FIPS CODE: KG AREA (SQKM): 198,500

GEOGRAPHICAL LOCATION: Southern Asia

POLITICAL: Formerly Socialist Republic of USSR; also known as

Kirghizia

COUNTRY: Laos ROSTER: N WLI CLASS: 1 UN CODE: 246 FIPS CODE: LA AREA (SQKM): 236,725

GEOGRAPHICAL LOCATION: Southeastern Asia

POLITICAL:

COUNTRY: Latvia ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: LG AREA (SQKM): 63,700

GEOGRAPHICAL LOCATION: Eastern Europe

POLITICAL: Formerly Socialist Republic of USSR

COUNTRY: Lebanon ROSTER: N WLI CLASS: 0
UN CODE: 249 FIPS CODE: LE AREA (SQKM): 10,400

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL:

COUNTRY: Lesotho ROSTER: N WLI CLASS: 1
UN CODE: 252 FIPS CODE: LT AREA (SQKM): 30,345

GEOGRAPHICAL LOCATION: Southern Africa

POLITICAL: Formerly Basutoland

COUNTRY: Liberia ROSTER: N WLI CLASS: 0 UN CODE: 255 FIPS CODE: LI AREA (SQKM): 111,370

GEOGRAPHICAL LOCATION: Western Africa

POLITICAL:

COUNTRY: Libya ROSTER: Y WLI CLASS: 1 UN CODE: 258 FIPS CODE: LY AREA (SQKM): 1,759,540

GEOGRAPHICAL LOCATION: Northern Africa

POLITICAL:

COUNTRY: Liechtenstein ROSTER: N WLI CLASS: 1
UN CODE: FIPS CODE: LS AREA (SQKM): 160

GEOGRAPHICAL LOCATION: Central Europe

ROSTER: N WLI CLASS: 0
FIPS CODE: LH AREA (COMM) COUNTRY: Lithuania

UN CODE:

GEOGRAPHICAL LOCATION: Eastern Europe

POLITICAL: Formerly Socialist Republic of USSR

ROSTER: Y WLI CLASS: 4 COUNTRY: Luxembourg

UN CODE: 264 FIPS CODE: LU AREA (SQKM): 2,585

GEOGRAPHICAL LOCATION: Western Europe

POLITICAL:

UN CODE: FIPS CODE: MC AREA (COVA)

GEOGRAPHICAL LOCATION: Eastern Asia

POLITICAL: Chinese territory under Portuguese administration;

also known as Macao

COUNTRY: Madagascar ROSTER: Y WLI CLASS: 1 UN CODE: 267 FIPS CODE: MA AREA (SQKM): 594,180

GEOGRAPHICAL LOCATION: Southeastern African island

POLITICAL:

COUNTRY: Malawi ROSTER: Y WLI CLASS: 1 UN CODE: 269 FIPS CODE: MI AREA (SQKM): 94,080

AREA (SQKM): 94,080

GEOGRAPHICAL LOCATION: Southern Africa

POLITICAL: Formerly Nyasaland

COUNTRY: Malaysia ROSTER: Y WLI CLASS: 1 UN CODE: 270 FIPS CODE: MY AREA (SQKM): 332,965

GEOGRAPHICAL LOCATION: Southeastern Asia

POLITICAL:

ROSTER: N WLI CLASS: 0 UN CODE: 274 FIPS CODE: MV
GEOGRAPHICAL LOCATION COUNTRY: Maldives

AREA (SQKM): 298

GEOGRAPHICAL LOCATION: Indian Ocean islands

POLITICAL:

ROSTER: N WLI CLASS: 0 COUNTRY: Mali UN CODE: 276 FIPS CODE: ML

AREA (SQKM): 1,240,140

GEOGRAPHICAL LOCATION: Western Africa

COUNTRY: Malta ROSTER: Y WLI CLASS: 1 UN CODE: 279 FIPS CODE: MT AREA (SQKM): 316

GEOGRAPHICAL LOCATION: Mediterranean island

POLITICAL:

COUNTRY: Man, Isle of ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: IM AREA (SQKM): 588

GEOGRAPHICAL LOCATION: Northwestern European island POLITICAL: Self-governing territory (U.K. protection)

COUNTRY: Marshall Islands
UN CODE: FIPS CODE: RM ROSTER: N WLI CLASS: 1

AREA (SQKM): 181

GEOGRAPHICAL LOCATION: North Pacific islands

POLITICAL: Free association with U.S.; was part of Trust

Territory of the Pacific Islands

ROSTER: N WLI CLASS: 1 COUNTRY: Martinique

UN CODE: FIPS CODE: MB AREA (SQKM): 1,079

GEOGRAPHICAL LOCATION: Caribbean island POLITICAL: Overseas department (France)

COUNTRY: Mauritania ROSTER: N WLI CLASS: 0 UN CODE: 282 FIPS CODE: MR AREA (SQKM): 1,030,700

GEOGRAPHICAL LOCATION: Western Africa

POLITICAL:

COUNTRY: Mauritius ROSTER: Y WLI CLASS: 1
UN CODE: 283 FIPS CODE: MP AREA (SQKM): 1,865

GEOGRAPHICAL LOCATION: Indian Ocean island

POLITICAL:

COUNTRY: Mayotte ROSTER: N WLI CLASS: 0
UN CODE: FIPS CODE: MF AREA (SQKM): 376
GEOGRAPHICAL LOCATION: Southeastern African islands

POLITICAL: Territorial collectivity (France); claimed by

Comoros

COUNTRY: Mexico ROSTER: Y WLI CLASS: 2

COUNTRY: Mexico RUSTER: Y WILL CLASS: 2
UN CODE: 285 FIPS CODE: MX AREA (SQKM): 1,972,545

GEOGRAPHICAL LOCATION: Southern North America

COUNTRY: Micronesia ROSTER: N WLI CLASS: 0

FIPS CODE: FM UN CODE: AREA (SQKM): 702

GEOGRAPHICAL LOCATION: North Pacific islands

POLITICAL: Federated States of; free association with U.S.;

was part of Trust Territory of the Pacific Islands

COUNTRY: Moldova ROSTER: N WLI CLASS: 1

UN CODE: FIPS CODE: MD AREA (SQKM): 33,700

GEOGRAPHICAL LOCATION: Eastern Europe

POLITICAL: Formerly Socialist Republic of USSR; also known as

Moldavia

ROSTER: Y WLI CLASS: 1 COUNTRY: Monaco

UN CODE: FIPS CODE: MN AREA (SQKM):

GEOGRAPHICAL LOCATION: Southern Europe

POLITICAL:

COUNTRY: Mongolia ROSTER: Y WLI CLASS: 3 UN CODE: 288 FIPS CODE: MG AREA (SQKM): 1,565,000 GEOGRAPHICAL LOCATION: Central Asia

POLITICAL:

ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: MH COUNTRY: Montserrat

AREA (SQKM): 104

GEOGRAPHICAL LOCATION: Caribbean island POLITICAL: Dependent territory (U.K.)

ROSTER: Y WLI CLASS: 2 COUNTRY: Morocco

UN CODE: 291 FIPS CODE: MO AREA (SQKM): 458,730

GEOGRAPHICAL LOCATION: Northwestern Africa

POLITICAL: Excludes Western Sahara

COUNTRY: Mozambique
UN CODE: 689 FIPS CODE: MZ ROSTER: N WLI CLASS: 1

AREA (SQKM): 784,755

GEOGRAPHICAL LOCATION: Southern Africa

POLITICAL:

COUNTRY: Myanmar ROSTER: N WLI CLASS: 0 UN CODE: 060 FIPS CODE: BM AREA (SQKM): 678,030

GEOGRAPHICAL LOCATION: Southeastern Asia

POLITICAL: Formerly, Burma

ROSTER: Y WLI CLASS: 1 COUNTRY: Namibia COUNTRY: Namibla ROSTER: 1 WILL CLASS. I UN CODE: FIPS CODE: WA AREA (SQKM): 824,295

GEOGRAPHICAL LOCATION: Southern Africa

POLITICAL: Under South African administration;

formerly South-West Africa

COUNTRY: Nauru ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: NR AREA (SQKM): 21

GEOGRAPHICAL LOCATION: South Pacific island

POLITICAL:

UN CODE: 297 FIPS CODE: NP AREA (SQKM): 141,415 GEOGRAPHICAL LOCATION: Southern Asia POLITICAL:

COUNTRY: Netherlands ROSTER: Y WLI CLASS: 1
UN CODE: 300 FIPS CODE: NT AREA (SQKM): 41,160

GEOGRAPHICAL LOCATION: Western Europe

POLITICAL:

COUNTRY: Netherlands Antilles ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: NA AREA (SQKM): 993

GEOGRAPHICAL LOCATION: Caribbean islands

POLITICAL: Self-governing territory (Netherlands)

COUNTRY: New Caledonia ROSTER: N WLI CLASS: 1
UN CODE: FIPS CODE: NC AREA (SQKM): 19,105

GEOGRAPHICAL LOCATION: South Pacific islands

POLITICAL: Overseas territory (France)

COUNTRY: New Zealand ROSTER: Y WLI CLASS: 2 UN CODE: 309 FIPS CODE: NZ AREA (SQKM): 265,150

AREA (SQKM): 265,150

GEOGRAPHICAL LOCATION: South Pacific islands

POLITICAL: Includes Stewart Island, Chatham Islands, and

Kermadec Islands

COUNTRY: Nicaragua ROSTER: N WLI CLASS: 1
UN CODE: 312 FIPS CODE: NU AREA (SQKM): 148,000

GEOGRAPHICAL LOCATION: Central America

COUNTRY: Niger ROSTER: N WLI CLASS: 0 UN CODE: 318 FIPS CODE: NG AREA (SQKM): 1,186,410

GEOGRAPHICAL LOCATION: Western Africa

POLITICAL:

COUNTRY: Nigeria ROSTER: Y WLI CLASS: 1 UN CODE: 321 FIPS CODE: NI AREA (SOKM): 923.850

GEOGRAPHICAL LOCATION: Western Africa

POLITICAL:

COUNTRY: Niue

UN CODE:

FIPS CODE: NE

ROSTER: N WLI CLASS: 0
AREA (SQKM): 259

GEOGRAPHICAL LOCATION: South Pacific island

POLITICAL: Self-governing territory (New Zealand)

COUNTRY: Northern Mariana Islands ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: CQ AREA (SQKM): 477

AREA (SQKM): 477

GEOGRAPHICAL LOCATION: North Pacific islands

POLITICAL: Commonwealth associated with U.S.; was part of

Trust Territory of the Pacific Islands

COUNTRY: Norway ROSTER: Y WLI CLASS: 4
UN CODE: 324 FIPS CODE: NO AREA (SQKM): 323,895

GEOGRAPHICAL LOCATION: Northern Europe

POLITICAL: Includes Jan Mayen and Svalbard

ROSTER: N WLI CLASS: 1 COUNTRY: Oman
UN CODE: 635 FIPS CODE: MU

AREA (SQKM): 271,950

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL: Includes Khuriyra Muriyra

ROSTER: Y WLI CLASS: 2 UN CODE: 330 FIPS CODE: PK

AREA (SQKM): 803,940

GEOGRAPHICAL LOCATION: Southern Asia

POLITICAL: Includes part of Jammu and Kashmir

ROSTER: N WLI CLASS: 0 COUNTRY: Palau

UN CODE: FIPS CODE: AREA (SQKM): 508

GEOGRAPHICAL LOCATION: North Pacific Islands

POLITICAL: Was part of Trust Territory of the Pacific

Islands; also known as Balau

COUNTRY: Panama ROSTER: Y WLI CLASS: 2 COUNTRY: Panama ROSTER: Y WLI CLASS: 2 UN CODE: 333 FIPS CODE: PM AREA (SQKM): 78,515

GEOGRAPHICAL LOCATION: Central America

POLITICAL: Includes area formerly known as Canal Zone

COUNTRY: Papua New Guinea ROSTER: Y WLI CLASS: 1
UN CODE: 649 FIPS CODE: PP AREA (SQKM): 462,840

GEOGRAPHICAL LOCATION: South Pacific islands POLITICAL: Includes Northern Solomon Islands

COUNTRY: Paraguay ROSTER: Y WLI CLASS: 0 UN CODE: 336 FIPS CODE: PA AREA (SQKM): 406,750

GEOGRAPHICAL LOCATION: Central South America

POLITICAL:

COUNTRY: Peru ROSTER: Y WLI CLASS: 4 UN CODE: 339 FIPS CODE: PE AREA (SQKM): 1,285,215

GEOGRAPHICAL LOCATION: Western South America

POLITICAL:

COUNTRY: Philippines ROSTER: Y WLI CLASS: 3
UN CODE: 342 FIPS CODE: RP AREA (SQKM): 300,000

GEOGRAPHICAL LOCATION: Southeastern Asian islands

POLITICAL:

COUNTRY: Poland ROSTER: Y WLI CLASS: 4 UN CODE: 345 FIPS CODE: PL AREA (SQKM): 312,685

GEOGRAPHICAL LOCATION: Eastern Europe

POLITICAL:

COUNTRY: Portugal ROSTER: Y WLI CLASS: 2 UN CODE: 348 FIPS CODE: PO AREA (SQKM): 91,630

GEOGRAPHICAL LOCATION: Southwestern Europe

POLITICAL: Includes Azores and Madeira

COUNTRY: Puerto Rico ROSTER: Y WLI CLASS: 2 UN CODE: FIPS CODE: RQ AREA (SQKM): 8,960

GEOGRAPHICAL LOCATION: Caribbean island

POLITICAL: Commonwealth (U.S.)

COUNTRY: Qatar ROSTER: N WLI CLASS: 0 UN CODE: 624 FIPS CODE: QA AREA (SQKM): 11,435

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL:

COUNTRY: Reunion ROSTER: N WLI CLASS: 1
UN CODE: 663 FIPS CODE: RE AREA (SQKM): 2,510

GEOGRAPHICAL LOCATION: Indian Ocean island POLITICAL: Overseas department (France)

COUNTRY: Romania ROSTER: Y WLI CLASS: 3
UN CODE: 366 FIPS CODE: RO AREA (SQKM): 237,500

GEOGRAPHICAL LOCATION: Eastern Europe

POLITICAL:

COUNTRY: Russia ROSTER: Y WLI CLASS: 2 UN CODE: FIPS CODE: RS AREA (SQKM): 17,078,005

GEOGRAPHICAL LOCATION:

POLITICAL: Formerly Socialist Republic of USSR

COUNTRY: Rwanda ROSTER: Y WLI CLASS: 1 UN CODE: 375 FIPS CODE: RW AREA (SQKM): 26,330

GEOGRAPHICAL LOCATION: Eastern Africa

POLITICAL:

COUNTRY: Saint Helena ROSTER: Y WLI CLASS: 2
UN CODE: 625 FIPS CODE: SH AREA (SQKM): 248

GEOGRAPHICAL LOCATION: South Atlantic islands

POLITICAL: Dependent territory (U.K.); includes Ascension

Island and Tristan da Cunha archipelago

COUNTRY: Saint Kitts and Nevis ROSTER: N WLI CLASS: 0 UN CODE: 627 FIPS CODE: SC AREA (SQKM): 261

GEOGRAPHICAL LOCATION: Caribbean islands

POLITICAL: Formerly St. Christopher and Nevis

COUNTRY: Saint Lucia ROSTER: Y WLI CLASS: 2 UN CODE: 629 FIPS CODE: ST AREA (SQKM): 616

GEOGRAPHICAL LOCATION: Caribbean island

POLITICAL:

COUNTRY: Saint Pierre/Miquelon ROSTER: N WLI CLASS: 0 UN CODE: SB AREA (SQKM): 241

GEOGRAPHICAL LOCATION: North Atlantic islands

POLITICAL: Overseas department (France)

COUNTRY: Saint Vincent/Grenadines ROSTER: Y WLI CLASS: 2
UN CODE: 630 FIPS CODE: VC AREA (SQKM): 389

GEOGRAPHICAL LOCATION: Caribbean islands

POLITICAL:

COUNTRY: San Marino ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: SM AREA (SQKM): 61

GEOGRAPHICAL LOCATION: Southern Europe

POLITICAL:

COUNTRY: Sao Tome and Principe ROSTER: N WLI CLASS: 0
UN CODE: 683 FIPS CODE: TP AREA (SQKM): 964

GEOGRAPHICAL LOCATION: Western African islands

POLITICAL:

COUNTRY: Saudi Arabia ROSTER: N WLI CLASS: 1
UN CODE: 378 FIPS CODE: SA AREA (SQKM): 2,400,900

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL:

COUNTRY: Senegal ROSTER: N WLI CLASS: 1
UN CODE: 381 FIPS CODE: SG AREA (SQKM): 196,720

GEOGRAPHICAL LOCATION: Western Africa

POLITICAL:

COUNTRY: Seychelles ROSTER: N WLI CLASS: 0
UN CODE: 628 FIPS CODE: SE AREA (SQKM): 404

GEOGRAPHICAL LOCATION: Indian Ocean islands

POLITICAL:

COUNTRY: Sierra Leone ROSTER: N WLI CLASS: 0
UN CODE: 390 FIPS CODE: SL AREA (SQKM): 72,325

GEOGRAPHICAL LOCATION: Western Africa

POLITICAL:

COUNTRY: Singapore ROSTER: Y WLI CLASS: 2 UN CODE: 391 FIPS CODE: SN AREA (SQKM): 616

GEOGRAPHICAL LOCATION: Southeastern Asian island

POLITICAL:

COUNTRY: Solomon Islands ROSTER: Y WLI CLASS: 3
UN CODE: 631 FIPS CODE: BP AREA (SQKM): 29,790

GEOGRAPHICAL LOCATION: South Pacific islands

POLITICAL:

COUNTRY: Somalia ROSTER: N WLI CLASS: 0 UN CODE: 392 FIPS CODE: SO AREA (SQKM): 630,000

GEOGRAPHICAL LOCATION: Eastern Africa

POLITICAL:

COUNTRY: South Africa ROSTER: Y WLI CLASS: 2
UN CODE: 393 FIPS CODE: SF AREA (SQKM): 1,184,825

GEOGRAPHICAL LOCATION: Southern Africa

POLITICAL:

COUNTRY: Spain
UN CODE: 399 FIPS CODE: SP
ROSTER: Y WLI CLASS: 3
AREA (SQKM): 504,880

GEOGRAPHICAL LOCATION: Southwestern Europe

POLITICAL: Includes Balearic Islands and Canary Islands

COUNTRY: Sri Lanka COUNTRY: Sri Lanka ROSTER: Y WLI CLASS: 1 UN CODE: 078 FIPS CODE: CE AREA (SQKM): 65,610 ROSTER: Y WLI CLASS: 1

GEOGRAPHICAL LOCATION: Southern Asian island

POLITICAL: Formerly Ceylon

COUNTRY: Sudan
UN CODE: 402 FIPS CODE: SU
ROSTER: Y WLI CLASS: 1
AREA (SQKM): 2,505,815

GEOGRAPHICAL LOCATION: Eastern Africa

POLITICAL:

COUNTRY: Suriname ROSTER: N WLI CLASS: 0 UN CODE: 678 FIPS CODE: NS AREA (SQKM): 163,820

GEOGRAPHICAL LOCATION: Northeastern South America

POLITICAL: Also known as Surinam

COUNTRY: Swaziland ROSTER: N WLI CLASS: 1 UN CODE: 403 FIPS CODE: WZ AREA (SQKM): 17,365

GEOGRAPHICAL LOCATION: Southern Africa

POLITICAL:

COUNTRY: Sweden ROSTER: Y WLI CLASS: 3 UN CODE: 411 FIPS CODE: SW AREA (SQKM): 449,790

GEOGRAPHICAL LOCATION: Northern Europe

POLITICAL:

COUNTRY: Switzerland ROSTER: Y WLI CLASS: 1 UN CODE: 575 FIPS CODE: SZ AREA (SQKM): 41,285

GEOGRAPHICAL LOCATION: Central Europe

POLITICAL:

COUNTRY: Syria ROSTER: Y WLI CLASS: 0 UN CODE: 414 FIPS CODE: SY AREA (SQKM): 185,680

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL:

COUNTRY: Taiwan
UN CODE: FIPS CODE: TW ROSTER: Y WLI CLASS: 4

AREA (SQKM): 35,990

GEOGRAPHICAL LOCATION: Eastern Asian island

POLITICAL: Formerly Formosa

COUNTRY: Tajikistan ROSTER: N WLI CLASS: 1
UN CODE: FIPS CODE: TI AREA (SQKM): 143,100
GEOGRAPHICAL LOCATION: Southern Asia

POLITICAL: Formerly Socialist Republic of USSR; also spelled

Tadzhikistan

COUNTRY: Tanzania UN CODE: 455 FIPS CODE: TZ ROSTER: Y WLI CLASS: 1

AREA (SQKM): 939,760

GEOGRAPHICAL LOCATION: Eastern Africa

POLITICAL:

COUNTRY: Thailand ROSTER: Y WLI CLASS: 1 UN CODE: 420 FIPS CODE: TH AREA (SQKM): 514,000

GEOGRAPHICAL LOCATION: Southeastern Asia

POLITICAL:

ROSTER: Y WLI CLASS: 1 COUNTRY: Togo ROSTER: Y WLI CLASS: 1 UN CODE: 423 FIPS CODE: TO AREA (SQKM): 56,785

GEOGRAPHICAL LOCATION: Western Africa

POLITICAL:

COUNTRY: Tonga ROSTER: N WLI CLASS: 1
UN CODE: FIPS CODE: TN AREA (SQKM): 699

GEOGRAPHICAL LOCATION: South Pacific islands

POLITICAL:

COUNTRY: Trinidad and Tobago ROSTER: N WLI CLASS: 1
UN CODE: 429 FIPS CODE: TD AREA (SQKM): 5,130

GEOGRAPHICAL LOCATION: Caribbean islands

POLITICAL:

COUNTRY: Tunisia ROSTER: N WLI CLASS: 0
UN CODE: 432 FIPS CODE: TS AREA (SQKM): 164,150

GEOGRAPHICAL LOCATION: Northern Africa

POLITICAL:

COUNTRY: Turkey ROSTER: Y WLI CLASS: 2 UN CODE: 435 FIPS CODE: TU AREA (SQKM): 779,450

GEOGRAPHICAL LOCATION: Southeastern Europe and southwestern Asia

POLITICAL:

COUNTRY: Turkmenistan ROSTER: N WLI CLASS: 0
UN CODE: FIPS CODE: TX AREA (SQKM): 488,100

GEOGRAPHICAL LOCATION: Southern Asia

POLITICAL: Formerly Socialist Republic of USSR; also known as

Turkmenia

COUNTRY: Turks and Caicos Islands ROSTER: N WLI CLASS: 0 UN CODE: TK AREA (SQKM): 430

GEOGRAPHICAL LOCATION: Caribbean islands

POLITICAL: Dependent territory (U.K.)

COUNTRY: Tuvalu ROSTER: N WLI CLASS: 0
UN CODE: FIPS CODE: TV AREA (SQKM): 25

GEOGRAPHICAL LOCATION: South Pacific islands

POLITICAL: Formerly Ellice Islands

ROSTER: Y WLI CLASS: 1 COUNTRY: Uganda UN CODE: 438 FIPS CODE: UG ROSTER: Y WLI CLASS: I AREA (SQKM): 236,580

GEOGRAPHICAL LOCATION: Eastern Africa

POLITICAL:

UN CODE: 441 FIPS CODE: UP GEOGRAPHICAL LOCATION: ROSTER: Y WLI CLASS: 4 AREA (SQKM): 603,700

GEOGRAPHICAL LOCATION: Eastern Europe

POLITICAL: Formerly Socialist Republic of USSR; also

known as Ukraina

COUNTRY: United Arab Emirates ROSTER: N WLI CLASS: 0 UN CODE: 449 FIPS CODE: TC AREA (SQKM): 75,150

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL:

COUNTRY: United Kingdom ROSTER: Y WLI CLASS: 5 UN CODE: 453 FIPS CODE: UK AREA (SQKM): 244,755

GEOGRAPHICAL LOCATION: Northwestern European islands

POLITICAL: Great Britain (England, Scotland, and Wales) and

Northern Ireland

COUNTRY: United States ROSTER: Y WLI CLASS: 3 UN CODE: 456 FIPS CODE: US AREA (SQKM): 9,363,130

GEOGRAPHICAL LOCATION: Central North America

POLITICAL:

COUNTRY: Uruguay ROSTER: N WLI CLASS: 0 UN CODE: 462 FIPS CODE: UY AREA (SQKM): 186,925

GEOGRAPHICAL LOCATION: Eastern South America

POLITICAL:

istan FIPS CODE: UZ COUNTRY: Uzbekistan ROSTER: Y WLI CLASS: 1

AREA (SQKM): 447,400 UN CODE:

GEOGRAPHICAL LOCATION: Southern Asia

POLITICAL: Formerly Socialist Republic of USSR

ROSTER: Y WLI CLASS: 1 COUNTRY: Vanuatu

UN CODE: 655 FIPS CODE: NH AREA (SQKM): 14,765

GEOGRAPHICAL LOCATION: South Pacific islands

POLITICAL: Formerly New Hebrides

COUNTRY: Venezuela ROSTER: Y WLI CLASS: 4
UN CODE: 471 FIPS CODE: VE AREA (SQKM): 912,045

GEOGRAPHICAL LOCATION: Northern South America

POLITICAL:

COUNTRY: Vietnam ROSTER: Y WLI CLASS: 1
UN CODE: 520 FIPS CODE: VM AREA (SQKM): 329,565

GEOGRAPHICAL LOCATION: Southeastern Asia

POLITICAL:

COUNTRY: Virgin Islands ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: VQ AREA (SQKM): 345

GEOGRAPHICAL LOCATION: Caribbean islands POLITICAL: Unincorporated territory (U.S.)

COUNTRY: Virgin Islands, British ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: VI AREA (SQKM): 153

GEOGRAPHICAL LOCATION: Caribbean islands POLITICAL: Dependent territory (U.K.)

COUNTRY: Wallis and Futuna ROSTER: N WLI CLASS: 0
UN CODE: FIPS CODE: WF AREA (SQKM): 255

GEOGRAPHICAL LOCATION: South Pacific islands

POLITICAL: Overseas territory (France)

COUNTRY: Western Sahara ROSTER: N WLI CLASS: 0 UN CODE: FIPS CODE: WI AREA (SQKM): 266,000

AREA (SQKM): 266,000

GEOGRAPHICAL LOCATION: Northwestern Africa

POLITICAL: Occupied by Morocco; formerly Spanish Sahara

COUNTRY: Western Samoa ROSTER: N WLI CLASS: 1
UN CODE: 696 FIPS CODE: WS AREA (SQKM): 2,840

GEOGRAPHICAL LOCATION: South Pacific islands

POLITICAL:

COUNTRY: Yemen (Aden)
UN CODE: 395 FIPS CODE: YS
ROSTER: N WLI CLASS: 0
AREA (SQKM): 287,680

GEOGRAPHICAL LOCATION: Southwestern Asia
POLITICAL: Also known as South Yemen, People's Democratic

Republic of Yemen

COUNTRY: Yemen (Sanaa) ROSTER: N WLI CLASS: 0

UN CODE: 492 FIPS CODE: YE AREA (SQKM): 189,850

GEOGRAPHICAL LOCATION: Southwestern Asia

POLITICAL: Also known as North Yemen, Yemen Arab Republic

ROSTER: Y WLI CLASS: 3 COUNTRY: Yugoslavia

FIPS CODE: YO UN CODE: 495 AREA (SQKM): 255,805

GEOGRAPHICAL LOCATION: Eastern Europe

POLITICAL: Bosnia-Hercegovina, Croatia, Macedonia,

Montenegro, Serbia, Slovenia

COUNTRY: Zaire ROSTER: N WLI CLASS: 0

UN CODE: 099 FIPS CODE: CG AREA (SQKM): 2,345,410

GEOGRAPHICAL LOCATION: Central Africa

POLITICAL: Formerly Congo (Kinshasa), Belgian Congo

ROSTER: Y WLI CLASS: 1 COUNTRY: Zambia

AREA (SQKM): 752,615 UN CODE: 498 FIPS CODE: ZA

GEOGRAPHICAL LOCATION: Southern Africa POLITICAL: Formerly Northern Rhodesia

COUNTRY: Zimbabwe ROSTER: Y WLI CLASS: 1

UN CODE: 626 FIPS CODE: ZI AREA (SQKM): 390,310

GEOGRAPHICAL LOCATION: Southern Africa POLITICAL: Formerly Southern Rhodesia

COUNTRY NAME: Afghanistan WLI CLASS: 1

NAME - FIRST: Noor-Ahmad LAST: Azimi

POSITION: President

DEPARTMENT: Department of Geology and Mineral Survey

ORGANIZATION: Ministry of Mines and Industries

ORG (CONT):

BUILDING:

STREET: Micro Rayon

PO BOX:

CITY: Kabul PROVINCE:

COUNTRY: AFGHANISTAN

PHONE: 61951 RESPONSE DATE: 02/06/92

FAX:

TELEX: 260 Mines A F

CABLE:

EMAIL:

IN CHARGE: Azimi INVENTORY: Azimi

NOTES: Afghanistan, Azimi: 02/06/92 "In respect of

geomorphological and mountainous areas our country

a lot of landslide cases have been seen in Afghanistan which caused in some cases heavy casualties but due to lack of systematic

engineering geological investigation we can not

submit proper information."

"...While the programme of WP/WLI is highly appreciated, our organization is very interested in receiving the information and methods of research about landslides occurring in different parts of the world which would be a good background for us in the future....

"We are looking forward to your cooperation in

this field."

COUNTRY NAME: Antarctica WLI CLASS: 1

NAME - FIRST: Michael R A LAST: Thomson

POSITION: Head

DEPARTMENT: Geology Division

ORGANIZATION: British Antarctic Survey

ORG (CONT):

BUILDING:

STREET: High Cross Madingley Road

PO BOX:

CITY: Cambridge CB3 OET PROVINCE:

COUNTRY: UNITED KINGDOM

PHONE: (44)223-61188 RESPONSE DATE: 10/31/91

FAX: (44)223-62616

TELEX: 851 817725 BASCAM G

automobiles.

CABLE: EMAIL:

IN CHARGE: Thomson INVENTORY: Thomson

NOTES: Antarctica, Thomson: 10/31/91 "I am not aware of any landslides within Antarctica in the sense in which I suspect they are generally understood. However, in any mountainous region of Antarctica, particularly at times of warmer temperatures (near or above freezing) snow avalanches, usually

small-scale, are common place, i.e. several times a day within an area of a few square kilometres. In areas of near-vertical cliffs, under conditions of freeze-thaw, rock falls are frequent. For example, at the aptly named Tumbledown Cliffs on James Ross Island, they may occur every 15-30 minutes (guesstimate) throughout the day, and even into the night. On one memorable occasion we retraced our footsteps of the day before to find our footprints in one place obscured by a block of freshly fallen basalt the size of an average room - a sobering experience. On another occasion in the South Orkney Islands I watched as a small but entire penguin rookery was annihilated by a rock fall containing blocks the size of small

"On steep, several hundred metre high cliffs of sedimentary rock on James Ross and Alexander Island, water-charged talus slopes may suddenly move without warning as mass flow rock streams. The less active of these may be used as moving staircases by standing on them and 'pedalling' with ones feet to promote a mobile state. All the above occurrences are strictly localized within gullies and chutes.

"In a first draft of this letter I wrote that I

know of no rock fall or 'landslide' in Antarctica which has caused any danger to human life or facilities. However, I suddenly remembered the volcanic lahar on Deception Island, which destroyed the British and Chilean stations. I don't know if this is of interest to you but enclose a copy of the relevant report."

Report enclosed: Baker, McReath, Harvey, Roobol, and Davies, 1975, "The geology of the South Shetland Islands--V. Volcanic evolution of Deception Island"

COUNTRY NAME: Antarctica WLI CLASS: 0

NAME - FIRST: D LAST: Geddes

POSITION: Acting Manager DEPARTMENT: DSIR Antarctic

ORGANIZATION: Dept of Scientific & Industrial Research

ORG (CONT):
BUILDING:
STREET:

- PO BOX: P O Box 14-091

CITY: Christchurch Airport PROVINCE:

COUNTRY: NEW ZEALAND

PHONE: (64)3-358 0200 RESPONSE DATE: 11/01/91

FAX: (64)3-358 0211

TELEX: CABLE: EMAIL:

IN CHARGE: Geddes INVENTORY: Geddes

NOTES: Antarctica, Geddes: 11/01/91 "No landslides have

been known in the Ross Dependency though

avalanches may occur in northern Victoria Land. We regret that we are unable to help you in this

project."

Librarian = Deirdre Sheppard

COUNTRY NAME: Antigua and Barbuda WLI CLASS: 1

NAME - FIRST: Mr Mc Ronnie LAST: Henry

POSITION:

DEPARTMENT: Forestry Unit

ORGANIZATION: Ministry of Agriculture

1

ORG (CONT):

BUILDING:

STREET: Dunbars

PO BOX:

CITY: St Johns PROVINCE:

COUNTRY: ANTIGUA/BARBUDA

PHONE: RESPONSE DATE: 12/02/91

FAX: TELEX: CABLE: EMAIL:

IN CHARGE: Henry

INVENTORY: Henry

NOTES: Antigua, Mc.R. Henry: 12/02/91 F.A. Henry,

Director of Agriculture "...I am pleased to advise that the Forestry Unit of the Ministry of Agriculture has been assigned to provide

information on Land Slide.

"The contact person is Mr. Mc. Ronnie Henry.

"Our assessment of the present situation is that we fall in Class I. We have no specific inventory but are knowledgeable that some slides occurred. We will in future monitor land slides more closely.

"We would be happy to provide any further information and look forward to good working relation."

)

COUNTRY NAME: Argentina WLI CLASS: 1 LAST: Rimoldi NAME - FIRST: Dr H V POSITION: DEPARTMENT: ORGANIZATION: Asociacion Argentina de Geologia ORG (CONT): Aplicada a la Ingenieria BUILDING: STREET: Lavalle 1171 6 piso PO BOX: CITY: 1354 Buenos Aires PROVINCE: COUNTRY: ARGENTINA RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: INVENTORY: Rimoldi IN CHARGE: NOTES: COUNTRY NAME: Argentina WLI CLASS: 2 LAST: Rivelli NAME - FIRST: Felipe R - POSITION: Profesor de Geomorfología DEPARTMENT: Departamento de Geología ORGANIZATION: Universidad Nacional de Salta ORG (CONT): BUILDING: STREET: Las Tipas 697 PO BOX: Casilla de Correo 529 CITY: 4400 Salta PROVINCE: COUNTRY: ARGENTINA PHONE: (54)87-213652 RESPONSE DATE: 12/23/91 FAX: (54)87-251013/311611 TELEX: 65121 UNSAT CABLE: EMAIL: IN CHARGE: Rivelli INVENTORY: Rivelli NOTES: Argentina, Rivelli: "En la región NOA de la Argentina los problemas de deslizamientos son muy frecuentes y graves por los daños que ocasionan, constituye un área apropiada para realizar trabajos de investigación para quienes puedan estar interesados en la problematica." [In the NOA region of Argentina the landslide problems are very frequent and serious through the damages which occur. They constitute an appropriate area for accomplishing investigative works for those who may be interested in the problem.] 12/23/91 Rivelli: "Nos interesa sobremanera

todo lo referido a la problemática de los deslizamientos y tenemos mucho interésen trabajar con Uds."

[We are extremely interested in all the references to the problem of landslides and we are very much interested in working with you.]

"Me es grato dirigirme a Ud. a fin de adjuntarle el formulario referido al inventario mundial de deslizamientos.

"En el están todos los datos solicitados y en el mismo expreso mis deseos de seguir trabajando en forma conjunta con Uds. en todo lo relacionado con la problemática de los deslizamientos.

"La región NOA de la Argentina es afectada con mucha frecuencia por diferentes procesos de deslizamientos, causando cuantiosos danos y gravísimas pérdidas.

"No obstante ello, aún no se hizo ningún estudio sobre el particular, ni existe a la fecha proyecto alguno que pretenda de alguna manera conocer en detalle este problema y en base a la información recogida programar futuros trabajos para contrarrestar sus efectos.

"Por todo lo brevemente señalado es que me interesa sobremanera participar y colaborar en todo lo relacionado con el inventario mundial de deslizamientos, para lo cual me ofrezco una vez más a fin de trabajar con Uds...."

[I am happy to address myself to you in order to enclose the world landslide inventory form.

[On it are all the requested data, and on it I express my desires to pursue working in a cooperative manner with you in all that is related to the problem of landslides.

[The NOA region of Argentina is very frequently affected by different landslide processes, causing extensive damages and heavy losses.

[Even so, not one study has been made yet on this particular subject, and at present there is no project which attempts in any way to address this problem in detail and which, based on the information, contracts to plan future works to counteract its effects.

[In brief, I am extremely interested in participating and collaborating in all ways with the world landslide inventory, which offers me one more opportunity to work with your organization....]

COUNTRY NAME: Armenia WLI CLASS: NAME - FIRST: Prof Dr G I LAST: Ter-Stepanjan POSITION: **DEPARTMENT:** ORGANIZATION: ORG (CONT): BUILDING: STREET: 9 Avenue Lenin Apt 11 PO BOX: CITY: Yerevan 375002 PROVINCE: COUNTRY: ARMENIA RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: Ter-Stepanjan NOTES: COUNTRY NAME: Armenia WLI CLASS: 4 NAME - FIRST: S V LAST: Grigorian POSITION: Director DEPARTMENT: Institute of Geological Sciences ORGANIZATION: Academy of Sciences of Armenia ORG (CONT): BUILDING: STREET: M Bagramian 24a Ave PO BOX: CITY: Yerevan 375019 PROVINCE: COUNTRY: ARMENIA PHONE: RESPONSE DATE: 03/19/92 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Grigorian INVENTORY: Grigorian NOTES: Armenia, Grigorian: 03/19/92 Grigorian and Yadoyan "The territory of the Republic of Armenia is characterized by complex engineering-geological conditions, caused by variety of geomorphological forms, diversity of lithological rock composition, complexity of tectonic structure and wide development of geodynamic processes. "Numerous historical monuments preserved up to our days witness the high development of building art on the territory of Armenia from ancient times. "Between intervals of destructive wars, during

all the history of Armenia, cities, fortress, monasteries, caravanserai, bridges and many others have been erected.

"Modern geological processes and phenomena have wide development on the terrritory of Armenia, i.e. mudflows, landslides, collapses, hillsides, subsidences, causing considerable damage to national economy of the Republic. Over than one third territory of the Republic of Armenia are mudflow bearing regions. According to the preliminary data 3500 of landslides of different size are accounted on the territory of the Republic.

"The mountain structure of the Minor Caucasus covering the whole territory of the Republic of Armenia is under the extreme unfavourable geodynamic conditions and many of its regions need sooner organization in geological monitoring and mitigation of inevitable developing processes of destroying slopes and soil cover in the whole.

"According to the plans of economical development of the territory of the Republic the creation of new energetic complexes further development of transport communication, structure of large buildings and industrial centres, irrigational systems, increasing of the areas of land-reclamation and etc. is considered. However at the same time, intensification of technogene influence on the natural environment brings to undesirable and even dangerous consequences. examples unfortunately have accumulated a lot. One of the complex geological problems is the securing the safety of natural landscapes. landscape is the reflection of the complex of natural, at first, geological and technogene processes caused by the activity of human beings. It is obvious that increasing of the intensity of engineering-economical development of the territory, influences the geological processes, developing on the subsurface parts of the Earth crust.

"Institute of Geological Sciences of the Academy of Sciences of Armenia has carried out specialized investigations on the program: Engineering-geological zonation of the territory of Armenia on scale 1:200000, more detailed investigations within some regions. Recommendation on the mitigation landslide hazard are being worked out. Favorable areas with

suggestions of their using in economy in different regions have been recommended. Bases and methods on making of lithomonitoring center have been Number of methods of research and prediction of landslide and other exogenic geological processes are worked out as well as suggestion on technology of carrying out protective arrangements and constructions of protective mechanism are suggested. The basic of them are: the method of investigation of abyssal replacement of mountain rock mass and construction of spedial measuring instrument, technology of landslide slope drainage by the system of slope boreholes, the new method of physical modelling of gravitational dislocation of mountain rock mass, technology of receiving strongly swebled polymere-mineral composition, construction and technology of construction antilandslide embankment reinforced building.

"High reliability of suggested methods, constructions and technology are revealed. Their quickest application in carrying out scientific investigations, prospecting, projecting, construction and exploitation of different engineering constructions and other objects of national economy, investigation and prediction of landslides and other exogonic geological rocesses, the system of irrigational constructions, security of slope rigidity on the lines of railway and roads and others are expedient."

Also at this address: R. B. Yadoyan

COUNTRY NAME: Australia WLI CLASS: 1

NAME - FIRST: R W LAST: Day

POSITION: Acting Director

DEPARTMENT: Geological Survey Division

ORGANIZATION: Queensland Dept of Resource Industries

ORG (CONT):
BUILDING:

STREET:

PO BOX: G P O Box 194

CITY: Brisbane PROVINCE: Queensl 4001

COUNTRY: AUSTRALIA

PHONE: (61)7-237 1473 RESPONSE DATE: 11/26/91

FAX: (61)7-229 770

TELEX: CABLE: EMAIL:

IN CHARGE: Day INVENTORY: Day

NOTES: Australia, Day: 11/26/91 "...By world standards, the topography of Queensland is relatively mature, and landslide activity is not great; few if any life-threatening incidents have occurred. Most activity has been in slow moving slides affecting sparsely settled rural lands. Nevertheless, with the spread of closer urban settlement into some susceptible rural districts, there is potential for increased property damage unless appropriate planning measures are taken in advance.

"During the 1980s, the Geological Survey of Queensland within this Department undertook a number of reconnaissance studies in susceptible districts to advise planning authorities. These took the form of a report describing the geological controls of the landslides, and maps at 1:15 000 to 1:25 000 scale outlining the locations of known slides, and zones of varying hazards for closer settlement. A bibliography of reports of these studies is attached with a location map, and a copy of a summary paper written for a non-technical audience. Some of the recommendations of these studies have been incorporated in Local Authority Town Planning Schemes.

"During the 1980s, the orientation of this Department was focussed more closely on the mineral industry, and further work on landslide hazards was terminated. Our response to your questionnaire, including the lack of a contact person, reflects this situation. I am not aware of any other institution in Queensland undertaking

any systematic work on this topic.

"I believe that the Geological Survey of
Tasmania has compiled a useful summary report of
landslide hazards and technical studies throughout
Australia."

COUNTRY NAME: Australia WLI CLASS:

NAME - FIRST: Max C LAST: Ervin

POSITION: Chairman

DEPARTMENT: Australian Geomechanics Society

ORGANIZATION: Golder Associates Pty Ltd

ORG (CONT):

BUILDING:

STREET: 25 Burwood Road

PO BOX:

CITY: Hawthorn PROVINCE:

COUNTRY: AUSTRALIA

PHONE: (61)3-819 4044 RESPONSE DATE: 01/29/92

FAX: (61)3-818 7990

TELEX: CABLE: EMAIL:

IN CHARGE: Ervin INVENTORY: Ervin

NOTES: Australia, Ervin: 01/29/92 "...Through my office

(Golder Associates Pty. Ltd.) I have an interest

in landslides and access to most states of

Australia. I therefore would be pleased to act as one of your contacts in this country. However, in addition to or in preference to me I recommend you

contact Prof. Robin Fell...."

COUNTRY NAME: Australia WLI CLASS: 2 NAME - FIRST: Prof Robin LAST: Fell POSITION: DEPARTMENT: School of Civil Engineering ORGANIZATION: University of New South Wales ORG (CONT): BUILDING: STREET: PO BOX: P O Box 1 CITY: Kensington PROVINCE: NSW 2033 COUNTRY: AUSTRALIA RESPONSE DATE: / / PHONE: (61)2-697 2222 FAX: (61)2-663 2188 TELEX: AA26054 CABLE: Unitech, Sydney EMAIL: IN CHARGE: Fell INVENTORY: Fell NOTES: Australia, Fell: 01/29/92 Ervin "...in addition to or in preference to me I recommend you contact Prof. Robin Fell...represents Australia on a Technical Committee of the International Society of Soil Mechanics and Foundation Engineering which is considering landslides, has a professional interest in landslides and is widely called upon to consult in relation to landslide matters. Robin has prepared a paper on landsliding in Australia for the forthcoming International Symposium on Landslides to be held in... New Zealand. He therefore is well placed to answer your queries...."

COUNTRY NAME: Australia WLI CLASS: 2 LAST: Blong NAME - FIRST: Prof Russell J POSITION: Professor Head Physical Geography DEPARTMENT: School of Earth Sciences Suite 628 E7A ORGANIZATION: Macquarie University ORG (CONT): BUILDING: STREET: PO BOX: PROVINCE: NSW 2109 CITY: Sydney COUNTRY: AUSTRALIA PHONE: (61)2-805 8397 RESPONSE DATE: 11/12/91 FAX: (61)2-805 8428 TELEX: MACUNI AA122377 CABLE: EMAIL: es rblong@vaxa.mqcc.mq.oz.au IN CHARGE: Blong INVENTORY: Blong NOTES: Australia, Blong: 11/12/91 "I also hold a lot of information on landslides in Papua New Guinea and the Solomon Islands. "As part of the Circum-Pacific Councils' mapping program a number of us are investigating the possibility of a 1:10 million hazards map of the Pacific SW Quadrant. Landslides will be an important hazard on this map, although extremely difficult to portray. Has the NLIC any thoughts on maps? I would also be grateful if you could send me, at some stage, a list of your contact persons in the region." COUNTRY NAME: Austria WLI CLASS: 2-3 NAME - FIRST: Dr Gerhard LAST: Schäffer POSITION: Head of Section for Engineering Geology DEPARTMENT: ORGANIZATION: Geologische Bundesanstalt ORG (CONT): BUILDING: STREET: Rasumofskygasse 23 PO BOX: Postfach 154 CITY: A-1031 Wien PROVINCE: COUNTRY: AUSTRIA PHONE: (43)222-712 56 74/82 RESPONSE DATE: 02/05/92 FAX: (43)222-712 56 74/56 TELEX: 13 29 27 CABLE: EMAIL: INVENTORY: Schäffer IN CHARGE: Schäffer NOTES:

COUNTRY NAME: Austria WLI CLASS: 2 NAME - FIRST: H LAST: Aulitzky POSITION: DEPARTMENT: Inst für Wildbach- und Lawinenverbauung ORGANIZATION: Universität für Bodenkultur ORG (CONT): BUILDING: STREET: PO BOX: CITY: A-1180 Wien PROVINCE: COUNTRY: AUSTRIA PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: Aulitzky INVENTORY: Polsler NOTES: COUNTRY NAME: Austria WLI CLASS: 2 NAME - FIRST: Prof Dr Peter LAST: Steinhauser POSITION: Director DEPARTMENT: ORGANIZATION: Central Inst for Meterology & Geodynamic ORG (CONT): BUILDING: STREET: Hohe Warte 38 PO BOX: P O Box 342 CITY: A-1190 Wien PROVINCE: COUNTRY: AUSTRIA PHONE: (43)222-1 36 44 53 RESPONSE DATE: 12/23/91 FAX: (43)222-1 369 12 33 TELEX: 131837A METW A CABLE: EMAIL: IN CHARGE: Steinhauser INVENTORY: Steinhauser

NOTES:

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COUNTRY NAME: Austria WLI CLASS: 2 NAME - FIRST: Dr P LAST: Polsler POSITION: Österreichische National Gruppe der IAE DEPARTMENT: Inst Techn Geologie Petrog & Mineralogie ORGANIZATION: Techn Universität Graz ORG (CONT): BUILDING: STREET: Rechbauerstraße 12 PO BOX: CITY: A-8010 Graz PROVINCE: COUNTRY: AUSTRIA PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: Aulitzky INVENTORY: Polsler NOTES: COUNTRY NAME: Austria WLI CLASS: 3 NAME - FIRST: Dr Joachim LAST: Rohn POSITION: Engineering Geologist
DEPARTMENT: Institute of Applied Geology ORGANIZATION: Universität Karlsruhe ORG (CONT): BUILDING: STREET: Kaiserstraße 12 PO BOX: CITY: D-7500 Karlsruhe 1 PROVINCE: COUNTRY: GERMANY PHONE: (49)721-608 4178 RESPONSE DATE: 10/30/91 FAX: (49)721-606 279 TELEX: CABLE: EMAIL: IN CHARGE: Rohn INVENTORY: Rohn NOTES: Austria, Rohn: 10/30/91 see Germany

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COUNTRY NAME: Bahamas WLI CLASS: NAME - FIRST: R V LAST: Cant POSITION: DEPARTMENT: Water and Sewerage Corporation ORGANIZATION: Ministry of Works and Utilities Building ORG (CONT): BUILDING: STREET: PO BOX: P O Box N 3905 CITY: Nassau PROVINCE: COUNTRY: BAHAMAS PHONE: (1)809-323 3944 RESPONSE DATE: 11/01/91 FAX: (1)809-322 5080 TELEX: 20515 WATER CORP CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: Bahamas, Cant: 11/01/91 FAX received but only cover page. NLIC could not make FAX contact with them. COUNTRY NAME: Barbados WLI CLASS: 1 NAME - FIRST: Leslie H LAST: Barker POSITION: Chief Technical Officer DEPARTMENT: Energy and Natural Resources Division ORGANIZATION: Ministry of Finance and Economic Affairs ORG (CONT): BUILDING: Government Headquarters STREET: Bay Street PO BOX: CITY: Bridgetown PROVINCE: COUNTRY: BARBADOS PHONE: (1)809-429 5254 RESPONSE DATE: 12/05/91 FAX: (1)809-436 6004 TELEX: CABLE: EMAIL: IN CHARGE: Barker INVENTORY: Barker NOTES: Barbados, Barker: 12/16/91 "While numerous small landslides occur throughout the Scotland district of Barbados - An inlier of Tertiary Age, and composed of clays and sandstones - they have not been systematically mapped. They however do have some socio-economic effect on the island, e.g.

disruption of roads and destruction of houses."

COUNTRY NAME: Belgium WLI CLASS: 1 LAST: Vandeven NAME - FIRST: George POSITION: Geologist DEPARTMENT: Belgische Geologische Dienst ORGANIZATION: Ministerie van Economische Zaken ORG (CONT): BUILDING: STREET: Jennerstraat 13 PO BOX: CITY: B-1040 Brussels PROVINCE: COUNTRY: BELGIUM PHONE: (32)2-647 6400 RESPONSE DATE: 10/24/91 FAX: (32)2-647 7359 TELEX: 21062 ECOBEL B CABLE: EMAIL: IN CHARGE: Vandeven INVENTORY: Vandeven NOTES: COUNTRY NAME: Belgium WLI CLASS: 0 LAST: Trève NAME - FIRST: Monsieur C POSITION: DEPARTMENT: ORGANIZATION: Comité Belge de Geologie de l'Ingenieur ORG (CONT): BUILDING: Chaussée de la Hulpe 164 STREET: PO BOX: CITY: B-1170 Bruxelles PROVINCE: COUNTRY: BELGIUM PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: Trève

NOTES:

COUNTRY NAME: Belgium WLI CLASS: LAST: Simon NAME - FIRST: Eng G POSITION: DEPARTMENT: Direction des Ponts ORGANIZATION: MWET DGST ORG (CONT): BUILDING: WTC-T3 Local 8.036 STREET: Bd Simon Bolivar 30 PO BOX: CITY: B-1210 Bruxelles PROVINCE: COUNTRY: BELGIUM PHONE: (32)2-212 3884 RESPONSE DATE: / / FAX: (32)2-212 3829 TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: COUNTRY NAME: Belgium WLI CLASS: COUNTRY NAME: Belgium WLI
NAME - FIRST: Prof Emmanuel LAST: Lousberg POSITION: Professor DEPARTMENT: Labo du Genie Civil ORGANIZATION: UCL Université Catholique de Louvain ORG (CONT): BUILDING: Bâtiment Vinci STREET: Place du Levant 1 PO BOX: CITY: B-1348 Louvain-la-Neuve PROVINCE: COUNTRY: BELGIUM PHONE: (32)10-472112 RESPONSE DATE: / / FAX: (32)10-472179 TELEX: 59037 ULCB CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES:

COUNTRY NAME: Belize WLI CLASS: 0 NAME - FIRST: Carlos LAST: Fuller POSITION: Chief Meteorologist DEPARTMENT: ORGANIZATION: National Meteorological Service ORG (CONT): BUILDING: STREET: PO BOX: P O Box 717 CITY: Belize City PROVINCE: COUNTRY: BELIZE PHONE: (501)2-52012 RESPONSE DATE: 10/30/91 FAX: (501)2-52101 TELEX: 371-211 CW Booth BZ CABLE: METOF Belize EMAIL: IN CHARGE: Fuller INVENTORY: Fuller NOTES: COUNTRY NAME: Benin WLI CLASS: 1 NAME - FIRST: Jean-Claude LAST: Kogblevi POSITION: Directeur Général DEPARTMENT: ORGANIZATION: OBEMINES Office Béninois des Mines ORG (CONT): BUILDING: STREET: PO BOX: B P 249 CITY: Cotonou PROVINCE: COUNTRY: BENIN PHONE: (229)-314120 RESPONSE DATE: 12/17/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Kogblevi INVENTORY: Kogblevi NOTES: Bénin, Kogblevi: OBEMINES 12/16/91, recommended Centre de la Recherche Scientifique 12/17/91, Kogblevi: "... Nous apprécions hautement votre initiative ainsi que les objectifs du groupe de travail scientifique WP/WLI. "Nous sommes persuadé aussi, que la couverture du globe en informations fiables sur les glissements de terrains contribuera à mieux cerner le phénomène que constituent les glissements de terrains et à limiter les catastrophes qu'il provoque. "Nous avons le plaisir de vous informer que ce

phénomène qui n'est pas systématiquement étudié au

Bénin s'est manifesté cette année sans grands dégâts autour de Savalou, une région de collines située dans la partie méridionale du pays..."

[...We greatly appreciate your initiative as well as the objectives of the scientific working group WP/WLI.

[We too are persuaded that global coverage with reliable information on landslides will contribute to better encompassing the phenomenon which landslides constitute and to limiting the catastrophes which it provokes.

[We have the pleasure of informing you that this phenomenon which is not systematically studied in Benin manifested itself this year without great damage around Savalou, a hilly region situated in the southern part of the country....]

COUNTRY NAME: Bhutan WLI CLASS: 1

NAME - FIRST: Dorji LAST: Wangda

POSITION: Geologist Head of the Department DEPARTMENT: Department of Geology and Mines

ORGANIZATION: Department of Trade Industry and Power

ORG (CONT):
BUILDING:
STREET:

PO BOX: Post Box No 173

CITY: Thimphu PROVINCE:

COUNTRY: BHUTAN

PHONE: (975)-22879/23013 RESPONSE DATE: 11/10/91

FAX: (975)-22406 TELEX: THP/MTI/215

CABLE: MITI

EMAIL:

IN CHARGE: Wangda INVENTORY: Dorji

NOTES: Bhutan, Wangda: 11/91 "There are lots of

landslides taking place in Bhutan mostly along the highways. So far no inventory has been prepared and we are planning to take it up by near future

the mid of 1992."

COUNTRY NAME: Bhutan WLI CLASS: 1 NAME - FIRST: Yeshi LAST: Dorji POSITION: Engineering Geologist DEPARTMENT: Department of Geology and Mines ORGANIZATION: Department of Trade Industry and Power ORG (CONT): BUILDING: STREET: PO BOX: Post Box No 173 CITY: Thimphu PROVINCE: COUNTRY: BHUTAN PHONE: (975)-22879/23013 RESPONSE DATE: 11/10/91 FAX: (975)-22406 TELEX: THP/MTI/215 CABLE: MITI EMAIL: IN CHARGE: Wangda INVENTORY: Dorji NOTES: COUNTRY NAME: Bolivia WLI CLASS: 1 NAME - FIRST: Ing G A LAST: Grudner POSITION: Secretaria Permanence DEPARTMENT: ORGANIZATION: Asoc Boliviana de Ingeniería Geotécnica ORG (CONT): BUILDING: STREET: Calle Sanchez Lima 2237 PO BOX: Casilla Postal No 567 CITY: La Paz PROVINCE: COUNTRY: BOLIVIA PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: Grudner NOTES:

COUNTRY NAME: Bolivia WLI CLASS: 1-2

NAME - FIRST: Ing Milton LAST: Suárez Montero

POSITION: Chief of Project

DEPARTMENT:

ORGANIZATION: GEOBOL Servicio Geológico de Bolivia

ORG (CONT):
BUILDING:
STREET:

PO BOX: Casilla No 2729

CITY: La Paz PROVINCE:

COUNTRY: BOLIVIA

PHONE: (591)2-343373/322022 RESPONSE DATE: 11/06/91

FAX: (591)2-363474

TELEX: CABLE: EMAIL:

IN CHARGE: Suárez Montero INVENTORY: Suárez Montero

NOTES: Bolivia, Suárez Montero: 11/06/91 Ing. Oscar Siles Arce, Director of the Geological Survey of Bolivia: "As you will see our country is limited existing information. In some cases no inventory exists. However the country is very susceptible to mass movement and other natural disasters, such as flooding, etc."

"...The professional in charge of this subject and who shall be contacted for further information is Mr. Milton Suárez Montero, a highly qualified engineer and scientist in geology, geomorphology, Remote Sensing and environmental problems..."

COUNTRY NAME: Botswana WLI CLASS: 1

NAME - FIRST: Mr John E LAST: Gould

POSITION: Lecturer

DEPARTMENT: Department of Environmental Science

ORGANIZATION: University of Botswana

ORG (CONT):
BUILDING:
STREET:

PO BOX: Private Bag 0022

CITY: Gaborone PROVINCE:

COUNTRY: BOTSWANA

PHONE: (267) 35-1151 RESPONSE DATE: 11/07/91

FAX: (267)35-6591

TELEX: CABLE: EMAIL:

IN CHARGE: Gould INVENTORY: Gould

NOTES: Botswana, Gould: 11/07/91 "Landslides are very rare in Botswana due to the flat topography, lack of tectonic activity and arid climate. A couple of small landslides are known to have occurred but no record or inventory exists.

"...I would be willing to act as your contact here in Botswana, however, I should stress landslides are very rare, are not a significant hazard, and information about them is virtually non-existent.

"My own interest only extends as far as the teaching of a course, Landforms, Climate and Man, which includes a unit on Mass Movement. If you have any up to date information on landslides worldwide or any audiovisual materials you would be able to send us for teaching purposes it would be greatly appreciated."

COUNTRY NAME: Botswana WLI CLASS: 1

LAST: Machacha NAME - FIRST: T P

POSITION: Director

DEPARTMENT:

ORGANIZATION: Geological Survey

ORG (CONT): BUILDING: STREET:

PO BOX: Private Bag 14

CITY: Lobatse PROVINCE:

COUNTRY: BOTSWANA

PHONE: (267)33-0327 RESPONSE DATE: 10/30/91

FAX: (267)33-2013

TELEX: CABLE: EMAIL:

IN CHARGE: Machacha INVENTORY: Machacha

NOTES:

COUNTRY NAME: Botswana WLI CLASS: 0

NAME - FIRST: Benson N LAST: Modie

POSITION: Geologist

DEPARTMENT: Geological Survey

ORGANIZATION: Min of Mineral Resources & Water Affairs

ORG (CONT): BUILDING: STREET:

PO BOX: Private Bag 14

CITY: Lobatse PROVINCE:

COUNTRY: BOTSWANA

PHONE: (267)33-0327/8 RESPONSE DATE: 01/15/92

FAX: (267)33-2013

TELEX: 2293 BD

CABLE:

EMAIL:

IN CHARGE: Modie INVENTORY: Modie

NOTES: Botswana, Modie: 01/15/92 "This is in response to your letter dated October 1991 which was forwarded to us by the Department of Surveys and Lands. I enclose a short report on landslides related issues, and I hope this will be of some use to you. Our knowledge of landslides is limited though because of the geographic nature of our country, and we hope to learn more from you. Any further enquiries is most welcome from us, as we

> stand firm behind you in your venture to combat nature's disasters like landslides...."

See Machacha

COUNTRY NAME: Brazil WLI CLASS: 3 NAME - FIRST: Agostinho LAST: Tadashi Ogura POSITION: Chief of Landslide Section DEPARTMENT: Div de Geol de Eng e Mecânica de Rochas ORGANIZATION: IPT Instituto de Pesquisas Tecnológicas ORG (CONT): do Estado de São Paulo S/A BUILDING: STREET: PO BOX: Caixa Postal 7141 CITY: CEP 01051 São Paulo PROVINCE: SP COUNTRY: BRAZIL PHONE: (55)11-268 2211 Ramal 370 RESPONSE DATE: 11/20/91 FAX: (55)11-869 3353 TELEX: (11)80934 INPT BR CABLE: EMAIL: INVENTORY: Tadashi Ogura IN CHARGE: Tadashi Ogura NOTES: Brazil, Tadashi Ogura: 11/20/91 Complete address: IPT - Instituto de Pesquisas Tecnológicas do Estado de São Paulo S/A Divisão de Geologia de Engenharia e Mecânica de Rochas Agrupamento de Geologia de Engenharia e Meio Ambiente Caixa Postal 7141 CEP 01051 São Paulo SP BRAZIL COUNTRY NAME: Brazil WLI CLASS: 2 LAST: Amaral NAME - FIRST: Claudio POSITION: DEPARTMENT: ORGANIZATION: Diretoria de Geotécnica ORG (CONT): BUILDING: STREET: Rua Barão de Piracinunga 52/404 Tijuca PO BOX: CITY: CEP 20521 Rio de Janeiro PROVINCE: RJ COUNTRY: BRAZIL RESPONSE DATE: 12/20/91 PHONE: (55)21-248 3060 FAX: (55)21-259 8320 TELEX: CABLE: EMAIL: IN CHARGE: da Cumha Rosa INVENTORY: Amaral NOTES: Brazil, Amaral: 12/20/91 da Cunha Rosa "...One

member of our staff, Mr Amaral, asked for a

financial support to The National Agency for Research in order to establish a Local Landslide Inventory. He told me that this Inventory will probably integrate his PhD Thesis and that he reviewed the suggested method for reporting a landslide (Cruden et al., 1991). He made some modifications in that proposal and at the moment he's finishing the computer part of the project..."

- COUNTRY NAME: Brazil WLI CLASS: 2

NAME - FIRST: Eng Aldo LAST: da Cunha Rosa

POSITION: Director

DEPARTMENT:

ORGANIZATION: Diretoria de Geotécnica

ORG (CONT):

BUILDING: Rua Fonseca Telles 121 10 Andar

STREET: São Cristóvão

PO BOX:

CITY: CEP 20940 Rio de Janeiro PROVINCE: RJ

COUNTRY: BRAZIL

PHONE: (55)21-248 3060 RESPONSE DATE: 12/20/91

FAX: (55)21-259 8320

TELEX:

CABLE:

EMAIL:

IN CHARGE: da Cunha Rosa INVENTORY: Amaral, Lacerda NOTES: Brazil, da Cunha Rosa: 12/20/91 "...The Rio de

Janeiro Geotechnical Office started organizing in 1988 all the eye inspections and landslides reports obtained in field work for the years of 1988 (2000), 1987 and 1986. At that time the RJGO contracted a private firm to produce a Geotechnical Data Bank, which could be roughly defined as an Inventory of Landslides, Borehole Logs and Stabilization Works undertaken by this Office since its creation in 1967.

"On the other hand, one member of our staff, Mr Amaral, asked for a financial support to The National Agency for Research in order to establish a Local Landslide Inventory. He told me that this Inventory will probably integrate his PhD Thesis and that he reviewed the suggested method for reporting a landslide (Cruden et al., 1991). He made some modifications in that proposal and at the moment he's finishing the computer part of the project.

"...It would be interesting if our Association

of Engineering Geologists indicated someone to take part in this Working Group. Anyhow, we are very interested in getting more information on its development.

"Last month in São Paulo, in a Regional Geological Symposium, Mr Amaral told me, some colleagues started thinking in the possibility of joining geologists from cities which have been suffering from landslides, like Petropolis, Salvador, Recife, Vitória, Rio de Janeiro, Belo Horizonte and São Paulo, to discuss all the initiatives against landslide risk in Brasil. From this initiative I expect we can achieve in the near future a Landslide National Inventory Group.

"I am sending you the name and address of two institutions which have also access to information on landslides: 1) Pontifícia Universidade Católica do Rio de Janeiro...Professor Euripedes Vargas....2) Instituto de Pesquisas Tecnológicas do Estado de São Paulo...Geologist Leandro Cerri..."

COUNTRY NAME: Brazil WLI CLASS: 3 NAME - FIRST: Willy Alvarenga LAST: Lacerda POSITION: Professor **DEPARTMENT:** ORGANIZATION: ORG (CONT): BUILDING: STREET: Av Rui Barbosa 170 Apt 1405 Bloco B2 CITY: CEP 22250 Rio de Janeiro PROVINCE: RJ COUNTRY: BRAZIL RESPONSE DATE: / / PHONE: (55)21-551 1014 FAX: (55)21-551 0798 TELEX: CABLE: EMAIL: IN CHARGE: da Cunha Rosa INVENTORY: Lacerda

NOTES:

WLI CLASS: 3 COUNTRY NAME: Brazil NAME - FIRST: Carlos Eduardo LAST: Osório Ferreira POSITION: DEPARTMENT: ORGANIZATION: CPRM Companhia de Pesquisa de Recursos ORG (CONT): Minerais BUILDING: STREET: Av Pasteur 404 2nd Floor DEGEO Urca PO BOX: CITY: CEP 22292 Rio de Janeiro PROVINCE: RJ COUNTRY: BRAZIL PHONE: (55)21-295 4992 RESPONSE DATE: 04/10/92 FAX: (55)21-295 6347 TELEX: (021) 22685/32525 CABLE: EMAIL: IN CHARGE: Marques INVENTORY: Osório Ferreira NOTES: Brazil, Osório Ferreira: see Brazil, Marques COUNTRY NAME: Brazil WLI CLASS: 3 NAME - FIRST: Valter José LAST: Marques POSITION: Adviser of Director DEPARTMENT: Geology and Water Resources ORGANIZATION: CPRM Companhia de Pesquisa de Recursos ORG (CONT): Minerais BUILDING: STREET: Av Pasteur 404 3rd Floor DGH Urca PO BOX: CITY: CEP 22292 Rio de Janeiro PROVINCE: RJ COUNTRY: BRAZIL PHONE: (55)21-295 6147 RESPONSE DATE: 04/10/92 FAX: (55)21-295 6347 TELEX: (021) 22685/32525 CABLE: EMAIL: IN CHARGE: Marques INVENTORY: Osório Ferreira NOTES: Brazil, Marques: 04/10/92 Hermes Augusto Verner Inda, Director of Geology and Hydrology "At the request of Departamento Nacional da Procução Mineral - DNPM we would like to put our institution at your disposal, in order to collaborate with the Working Party on World Landslide Inventory (WP/WLI). "CPRM is a government institution under the Ministry of Infrastructure, responsible for the Brazilian Geological Survey Program developed by Departamento Nacional da Produção Mineral -DNPM.

"CPRM has information related to the subject of

the WP/WLI and can also obtain nearly all the extra available data on this matter, from other Brazilian institutions. As well, CPRM will be able to integrate all these data in the 'Sistema de Informações de Recursos Naturais - SIR' (Natural Resource Information System) and provide them to the Working Party.

"We would appreciate receiving more details about the WP/WLI in order to enable CPRM to join the Working Party."

- COUNTRY NAME: Bulgaria WLI CLASS: 2,4 NAME - FIRST: Dr Georgy LAST: Frangov POSITION: Scientific Research Assistant DEPARTMENT: Geotechnical Laboratory ORGANIZATION: Bulgarian Academy of Sciences ORG (CONT): BUILDING: STREET: Akad G Bonchev str bl 24 PO BOX: CITY: Sofia 1113 PROVINCE: COUNTRY: BULGARIA PHONE: (359)2-71 31 (22 41) RESPONSE DATE: 11/15/91 TELEX: CABLE: EMAIL: IN CHARGE: Frangov INVENTORY: Frangov NOTES: Bulgaria, Frangov: 11/91 Ilia Iliev, prof. Dr. of sciences, Head of Section "Engineering Geodynamics": "...We appraise your activity to form a Working Party on [WLI] as positive, express our wishes to include in it and we'll assist in collection of data from Bulgaria. Our Geotechnical Laboratory of Bulgarian Academy of Sciences is specialized in investigation of disaster geological processes including landslides. The landslide investigations have been started by prof. B. Kamenov et al. 30 years ago and the scientific results have been published in more than 200 papers and reports. We can send you these references if they are of great interest of you and are useful for you. The idea to compose an information landslide center in Bulgaria has been proposed in 1973, but the different reasons - financial, organizational etc. frustrated its realization. There is a large quantity unpublished landslide information in a

few engineering-geological institutes and offices

in the country. The possibility to collect, schematize and computerize these data is discussed recently.

"The complete geological structure of Bulgarian territory has determined manifestation of a great number of landslides - about some thousands. There are data about the most important and largest landslide regions of the country in Geotechnical laboratory files. The information about other investigated landslides affected roads, rail ways, open mines, civil engineering etc., can be obtained by above mentioned institutes.

"Analyzing the condition and the degree of knowledge for landslides, desintegration of information and economical crisis in the country we consider Geotechnical laboratory as the most appropriate for collaboration with you. According to the proposed scheme 'Inventory classes' we conform to class 2 and partly to class 4.

"With our willingness and outlined possibilities to create Bulgarian Information Landslide system in mind, we would like ask you to accept our collaborator for a few months to specialize in your WP/WLI. An appropriate candidate is PhD Georgy Frangov. In his dissertation he investigated landslides caused or activated by human activity.

"Expressing our readiness for future contacts...."

WLI CLASS: 4 COUNTRY NAME: Bulgaria LAST: Aguelov NAME - FIRST: Dr Kiril POSITION: DEPARTMENT: ORGANIZATION: Higher Institute of Mining and Geology ORG (CONT): BUILDING: STREET: PO BOX: CITY: Sofia 1156 PROVINCE: COUNTRY: BULGARIA PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: Ressulov INVENTORY: Aguelov NOTES: COUNTRY NAME: Bulgaria WLI CLASS: 4 NAME - FIRST: Mr Georgi LAST: Ressulov POSITION: General Manager DEPARTMENT: ORGANIZATION: Geozashtita Ltd Company ORG (CONT): BUILDING: STREET: PO BOX: P O Box 133 CITY: Varna 9000 PROVINCE: COUNTRY: BULGARIA PHONE: (359)52-446151 RESPONSE DATE: 11/14/91 FAX: (359)52-452276 TELEX: 77 387 CABLE: EMAIL: IN CHARGE: Ressulov INVENTORY: Aquelov NOTES: Bulgaria, Ressulov: 12/90 About 20 persons; former State Institute; 600 case histories of monitored landslides, some stabilized. 11/14/91 "According to information there are 840 registrated hazard landslides in 350 towns and villages with 260 thousand decares land damaged and milliards leva worth of capital funds destroyed. "Since the beginning of the century there have been taken landslides measures but the creation of an organized activity was established in 1972 with setting up first structures for the purpose. "Our Company covers the whole country with its

landslides activity and has an object of activities as follows:
 -registration and identification of all landslides and erosive activities
 -monitoring process research
 -research and design of protective facilities
 -investment and construction activities
 -control and preventive measures
 -exploitation activity
 "We can afford to send you a booklet so as to have an idea of what our Company's doing..."

COUNTRY NAME: Canada WLI CLASS: 3 NAME - FIRST: Dr David M LAST: Cruden POSITION: Chairman DEPARTMENT: Department of Civil Engineering ORGANIZATION: University of Alberta ORG (CONT): BUILDING: 220 Civil Electrical Engineering Bldg STREET: PO BOX: CITY: Edmonton PROVINCE: AB T6G 2G7 COUNTRY: CANADA PHONE: (1)403-492 5923 RESPONSE DATE: / / FAX: (1)403-492 0249 TELEX: CABLE: EMAIL: IN CHARGE: Evans INVENTORY: Cruden NOTES:

WLI CLASS: 3 COUNTRY NAME: Canada LAST: Evans NAME - FIRST: Dr Stephen G POSITION: Coordinator Canada Landslide Inventory DEPARTMENT: Terrain Sciences Division ORGANIZATION: Geological Survey of Canada ORG (CONT): BUILDING: STREET: 601 Booth St PO BOX: CITY: Ottawa PROVINCE: ON K1A 0E8 COUNTRY: CANADA PHONE: (1)613-996 7648 RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: INVENTORY: Cruden IN CHARGE: Evans NOTES: COUNTRY NAME: Canada WLI CLASS: NAME - FIRST: Dr Pierre LAST: LaRochelle POSITION: Professor DEPARTMENT: Département de Genie Civil ORGANIZATION: Université Laval Fac des Sci et de Genie ORG (CONT): BUILDING: STREET: PO BOX: CITY: Quebec Ste-Foy PROVINCE: PQ G1K 2P4 COUNTRY: CANADA PHONE: (1)418-656 2200 RESPONSE DATE: / / FAX: TELEX: 051-31621 CABLE: UNILAVAL QBC EMAIL: IN CHARGE: INVENTORY: NOTES:

COUNTRY NAME: Canada WLI CLASS: NAME - FIRST: Dr G LAST: Lefèbvre POSITION: DEPARTMENT: Département de Genie Civil ORGANIZATION: Université de Sherbrooke ORG (CONT): BUILDING: STREET: PO BOX: CITY: Sherbrooke PROVINCE: PQ J1K 2R1 COUNTRY: CANADA PHONE: (1)819-821 7107 RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: COUNTRY NAME: Canada WLI CLASS: 1 NAME - FIRST: Dr Peter T LAST: Bobrowsky POSITION: Head DEPARTMENT: Surficial Geology Unit ORGANIZATION: Geological Survey of Canada ORG (CONT): BUILDING: STREET: 553 Superior St PO BOX: CITY: Victoria PROVINCE: BC V8V 1X4 COUNTRY: CANADA PHONE: (1)604-356 7763 RESPONSE DATE: 12/16/91 FAX: (1)604-356 8153 TELEX: CABLE: EMAIL: IN CHARGE: Bobrowsky INVENTORY: Bobrowsky NOTES: Canada, Bobrowsky: 12/16/91 "Please note we keep some info. on landslides for British Columbia only. The main sources of information are Dr. John Clague (G.S.C. Vancouver) and Dr. Steve Evans (G.S.C. Ottawa)."

COUNTRY NAME: Central African Republic WLI CLASS: 1

NAME - FIRST: Yves LAST: Boulvert

POSITION: Directeur de Recherches

DEPARTMENT:

ORGANIZATION: ORSTOM Office de la Recherche

ORG (CONT): Scientifique et Technique d'Outre-Mer

BUILDING: Centre de Bondy STREET: 70 route d'Aulnay

PO BOX:

CITY: 93143 Bondy PROVINCE:

COUNTRY: FRANCE

PHONE: (33)1-48 47 31 95 RESPONSE DATE: 01/14/92

FAX: (33)1-48 47 30 88 TELEX: SSC BY 235453 F

CABLE: EMAIL:

IN CHARGE: Boulvert INVENTORY: Boulvert

NOTES: Central African Republic, Boulvert: 01/14/92 "Le Centre ORSTOM de Bangui, que j'ai quitté en 1990, me fait suivre votre circulaire. L'érosion est minime en Centrafrique en raison du faible relief, de la couverture végétale et de la faible densité de population. Sur la carte phytogéographique à 1/1 000 000, j'ai fait figurer les dégradations de la végétation.

- par surpâturage sur les plateaux du nord-ouest,
- anthropique autour des centres urbains notamment Banqui.

"Des paysages de 'bad-lands' s'observent sur les reliefs du nord-est. Sinon une description sommaire de l'érosion figure dans la notice de la carte géomorphologique à 1/1 000 000 (à paraître, cf extrait ci-joint). Aucun glissement de terrain n'est signalé à ce jour en Centrafrique..."

[The ORSTOM Center of Bangui, which I left in 1990, forwarded your letter to me. Erosion is minimal in Central Africa due to the low relief, the vegetation cover, and the low population density. On the phytogeographic map at 1:1,000,000, I have indicated the degradation of vegetation.

- by overpasturing on the plateaus of the northwest,
- by human activities around the urban centers, notably Bangui.

['Badland' landscapes are observed on the reliefs of the northeast. Otherwise, a summary description of erosion appears in the account with

the geomorphological map at 1:1,000,000 (to be published, see attached excerpt). No landslide is indicated at this time in Central Africa....

COUNTRY NAME: Chile WLI CLASS: 2

NAME - FIRST: María LAST: Mardones Flores

POSITION: Investigador Principal DEPARTMENT: Departamento de Geociencias ORGANIZATION: Universidad de Concepción

ORG (CONT):
BUILDING:
STREET:

PO BOX: Casilla 3-C

CITY: Concepción PROVINCE:

COUNTRY: CHILE

PHONE: (56) 42-234985-2219-2215 RESPONSE DATE: 11/15/91

FAX: (56) 42-240280

TELEX: CABLE: EMAIL:

IN CHARGE: Mardones Flores INVENTORY: Mardones Flores

NOTES: Chile, Mardones Flores: 11/15/91 "En relación a su solicitud de información sobre deslizamientos en nuestra región y/o ciudad, lamento no poder enviarle un inventario de tales fenómenos ya que recién estamos implementado nuestro banco de datos.

"Sin embargo, debo comunicarle que iniciaremos un proyecto de Evaluación de Riesgos Naturales el año 1992 en el área Metropolitana de Concepción-Talcahuano. Esta investigación incluirá el estudio de todos los tipos de desastres naturales, tales como: riesgos sísmicos de Tsunami, de deslizamiento, de derrumbes, de inundaciones fluviales y de anegamiento.

"Todos los resultados que abtengamos le serán informados."

[Regarding your request for information on landslides in our region and/or city, I am sorry that I am not now able to provide an inventory of such phenomena as we have recently implemented our data bank.

[Nevertheless, I ought to tell you that we are initiating a project of Evaluation of Natural Hazards in 1992 in the metropolitan area of Concepción-Talcahuano. This investigation includes the study of all types of natural disasters, such as: seismic risks of tsunami, of

landslides, of avalanches, of river floods and of [You will be informed of all the results which we obtain.]

COUNTRY NAME: Chile WLI CLASS: 4

NAME - FIRST: Fernando LAST: Diaz Labbe

POSITION: Geógrafo Depto Estudios

DEPARTMENT:

ORGANIZATION: ONEMI Oficina Nacional de Emergencia

ORG (CONT):

BUILDING:

STREET: Beaucheff 1637

PO BOX:

CITY: Santiago PROVINCE:

COUNTRY: CHILE

RESPONSE DATE: 11/05/91

PHONE: (56)2-671 8333

FAX: (56)2-689 4094/5050

TELEX: 240000 ONEMI CL

CABLE: EMAIL:

IN CHARGE: Diaz Labbe INVENTORY: Diaz Labbe

NOTES: Chile, Diaz Labbe: 10/11/90, Valenzuela "ONEMI has

collected a significant number of data sheet

referred to landslides all over the country. This information has not been fully processed and the

machine processible system has not been

implemented yet."

COUNTRY NAME: Chile WLI CLASS: 4

LAST: Hauser Yung NAME - FIRST: Arturo

POSITION: Applied Geology Department

DEPARTMENT:

ORGANIZATION: SERNAGEOMIN Servicio Nacional de

ORG (CONT): Geología y Minería

BUILDING:

STREET: Av Santa María 0104

PO BOX: Casilla 10465

CITY: Santiago PROVINCE:

COUNTRY: CHILE

PHONE: (56) 2-375050 RESPONSE DATE: 11/26/91

FAX: (56)2-372026

TELEX:

CABLE:

EMAIL:

IN CHARGE: Hauser Yung INVENTORY: Hauser Yung

NOTES: Chile, Hauser Yung: 11/26/91 "I prepared a paper,

actually under edition, which will be published as

a Special Bulletin by January-February 1992, by Sernageomin, Chilean Geological Survey, related to 'Mass Movements in Chile'. It includes an inventory of the main mass movement processes in Chile, its geographical distribution, basic conditions that affect stability (geology, geomorphology, hydrology, climatology, vegetation), triggering factors. The study includes: a) Flows: debris - mud - lahar - related to collapse of tailing dams - creep - solifluxion. b) Jokulhlaup. c) Snow avalanches. d) Falls: rocks - soft erodable rock - topples. e) Landslide: rotational - multirotations translational - rock slide - debris slide. f) Subsidence - sinking."

COUNTRY NAME: Chile WLI CLASS: 5 NAME - FIRST: Sr Luis LAST: Valenzuela Paloma POSITION: DEPARTMENT: ORGANIZATION: SOCHIMSYF ORG (CONT): BUILDING: STREET: San Martin 352 PO BOX: CITY: Santiago PROVINCE: COUNTRY: CHILE PHONE: (56)2-204 9111 RESPONSE DATE: / / FAX: (56)2-41217 TELEX: CABLE:

EMAIL:
IN CHARGE: Diaz Labbe (ONEMI) INVENTORY: Valenzuela Paloma
NOTES: Chile, Valenzuela Paloma: 10/90 Valenzuela also
provides information for Argentina, Bolivia and
Paraguay.

COUNTRY NAME: China WLI CLASS: NAME - FIRST: Prof LAST: Sun Guangzhong POSITION: Director of Engineering Geomechanics Lab DEPARTMENT: Institute of Geology ORGANIZATION: Academia Sinica ORG (CONT): BUILDING: STREET: PO BOX: P O Box 634 CITY: Beijing PROVINCE: COUNTRY: CHINA RESPONSE DATE: / / PHONE: (86) 1-446551 326 FAX: TELEX: **CABLE: 6347** EMAIL: IN CHARGE: INVENTORY: NOTES: COUNTRY NAME: China WLI CLASS: NAME - FIRST: Dr LAST: Chen Zuyu POSITION: Senior Engineer DEPARTMENT: ORGANIZATION: Inst Water Conservancy and ORG (CONT): Hydroelectric Power Research BUILDING: STREET: PO BOX: P O Box 366 CITY: Beijing 100044 PROVINCE: COUNTRY: CHINA PHONE: RESPONSE DATE: / / FAX: (86)1-841 1174 TELEX: 22786 ITCES-CN CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: China, Chen Zuyu: 08/09/91 "During the coming 5 years, a comprehensive investigation on the water resources and engineering related landslides will be held in our community. The survey will include landslide dams, landslides or large ground movement due to reservoir impounding, and excavation induced landslides."

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COUNTRY NAME: China WLI CLASS: 2

NAME - FIRST: LAST: Liu Hanchao

POSITION: Associate Professor

DEPARTMENT: Natl Lab of Geological Hazard Prevention

ORGANIZATION: Chengdu College of Geology

ORG (CONT): BUILDING:

STREET:

PO BOX:

CITY: Chengdu 610059 PROVINCE: Sichuan

COUNTRY: CHINA

PHONE: (86) 28-334712 784 RESPONSE DATE: 11/20/91 FAX: (86) 28-334963

TELEX:

CABLE: CHENGDU 0966

EMAIL:

IN CHARGE: Zhang Zhuoyuan INVENTORY: Liu Hanchao, Dong X

NOTES: China, Liu Hanchao: 11/20/91 Full name of

Department = National Laboratory of Geological Hazard Prevention & Geological Environment

Preservation

COUNTRY NAME: China WLI CLASS: 2

NAME - FIRST: LAST: Zhang Zhuoyuan

POSITION: Professor

DEPARTMENT: Natl Lab of Geological Hazard Prevention

ORGANIZATION: Chengdu College of Geology

ORG (CONT):

BUILDING: STREET:

PO BOX:

CITY: Chengdu 610059 PROVINCE: Sichuan

COUNTRY: CHINA

PHONE: (86) 28-334712 321 RESPONSE DATE: 11/20/91

FAX: (86) 28-334963

TELEX:

CABLE: Chengdu 0966

EMAIL:

IN CHARGE: Zhang Zhuoyuan INVENTORY: Liu Hanchao, Dong X

NOTES: China, Zhang Zhouyuan: 11/20/91 Full name of

Department = National Laboratory of Geological

Hazard Prevention & Geological Environment

Preservation

COUNTRY NAME: China WLI CLASS: 2 NAME - FIRST: LAST: Dong Xiaobi POSITION: DEPARTMENT: Natl Lab of Geological Hazard Prevention ORGANIZATION: Chengdu College of Geology ORG (CONT): BUILDING: STREET: PO BOX: CITY: Chengdu 610059 PROVINCE: Sichuan COUNTRY: CHINA PHONE: (86)28-334712 784 RESPONSE DATE: / / FAX: (86) 28-334963 TELEX: CABLE: CHENGDU 0966 EMAIL: IN CHARGE: Zhang Zhuoyuan INVENTORY: Liu Hanchao, Dong X NOTES: COUNTRY NAME: China WLI CLASS: 2 NAME - FIRST: Dr LAST: Wang Gongxian POSITION: Professor DEPARTMENT: Northwest Institute ORGANIZATION: China Academy of Railway Sciences ORG (CONT): BUILDING: STREET: 219 East Minzhou Road PO BOX: CITY: Lanzhou PROVINCE: Gansu COUNTRY: CHINA RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Huang Xiaoming INVENTORY: Wang Gongxian NOTES:

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COUNTRY NAME: China WLI CLASS: 2 NAME - FIRST: LAST: Huang Xiaoming POSITION: Professor DEPARTMENT: Northwest Institute ORGANIZATION: China Academy of Railway Sciences ORG (CONT): BUILDING: STREET: 219 East Minzhou Road PO BOX: CITY: Lanzhou PROVINCE: Gansu COUNTRY: CHINA PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: Huang Xiaoming INVENTORY: Wang Gongxian NOTES: COUNTRY NAME: China WLI CLASS: 2 LAST: Chen Yaning NAME - FIRST: POSITION: DEPARTMENT: Xinjiang Institute of Geography ORGANIZATION: Chinese Academy of Sciences ORG (CONT): Academia Sinica BUILDING: STREET: Beijing Lu PO BOX: CITY: Urumqi 830011 PROVINCE: Xinjiang COUNTRY: CHINA PHONE: (86)991-338512 FAX: (86)991-335459 RESPONSE DATE: 11/26/91 TELEX: CABLE: EMAIL: IN CHARGE: Chen Yaning INVENTORY: Chen Yaning NOTES: China, Chen Yaning: 11/26/91 "Landslide is one of the most serious disasters in Xinjiang. landslide, for example, occurred in western Tian Shan in June 1991 brought a direct economic loss of 0.5 million Yuan, causing 24 persons and more thousands domestic animals die."

COUNTRY NAME: China WLI CLASS: 1

NAME - FIRST: Jian-xin LAST: Yuan

POSITION: Professor and Director

DEPARTMENT: Institute of Rock and Soil Mechanics

ORGANIZATION: Academia Sinica

ORG (CONT):

BUILDING:

STREET: Xiadhongshan Wuchang

PO BOX:

CITY: Wuhan 430071 PROVINCE: Hubei

COUNTRY: CHINA

PHONE: (86)27-813712 ext 304/518 RESPONSE DATE: 11/10/91

FAX: (86)27-711613

TELEX:

**CABLE: 5588** 

EMAIL:

IN CHARGE: Yuan INVENTORY: Yuan

NOTES:

COUNTRY NAME: China WLI CLASS: 3

NAME - FIRST: Prof LAST: Dong Fenggi

- POSITION: Deputy Director and Professor

DEPARTMENT: Inst of Hydrogeology and Eng Geology ORGANIZATION: Chinese Academy of Geological Sciences

ORG (CONT):

BUILDING:

STREET:

PO BOX:

CITY: Zhengding 050803 PROVINCE: Hebei

COUNTRY: CHINA

PHONE: (86)311-901129 RESPONSE DATE: 11/05/91

FAX: (86)1-8310894 TELEX: 222721 CAGS CN

)

CABLE: 3055

EMAIL:

IN CHARGE: Dong Fengqi INVENTORY: Zhang Zemin, Dong F.

NOTES:

COUNTRY NAME: China WLI CLASS: 3 NAME - FIRST: Mr LAST: Zhang Zemin POSITION: DEPARTMENT: Inst of Hydrogeology and Eng Geology ORGANIZATION: Chinese Academy of Geological Sciences ORG (CONT): BUILDING: STREET: PO BOX: CITY: Zhengding 050803 PROVINCE: Hebei COUNTRY: CHINA PHONE: (86)311-901129 RESPONSE DATE: 11/05/91 FAX: (86)1-8310894 TELEX: 222721 CAGS CN **CABLE: 3055** EMAIL: IN CHARGE: Dong Fengqi INVENTORY: Zhang Zemin, Dong F. NOTES: COUNTRY NAME: Colombia WLI CLASS: 2 NAME - FIRST: Alvaro J LAST: Gonzales POSITION: DEPARTMENT: Department of Civil Engineering ORGANIZATION: Universidad Nacional de Colombia ORG (CONT): BUILDING: STREET: PO BOX: Apartado Aéreo 5885 CITY: Bogotá PROVINCE: COUNTRY: COLOMBIA RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: INVENTORY: Beltran IN CHARGE: Gonzales NOTES:

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COUNTRY NAME: Colombia
                                                 WLI CLASS: 2
NAME - FIRST: Mr Lisandro
                                    LAST: Beltran
    POSITION: Associate Professor
  DEPARTMENT:
ORGANIZATION: Universidad Nacional de Colombia
  ORG (CONT):
    BUILDING:
      STREET:
     PO BOX: Apartado Aéreo 30420
        CITY: Bogotá
                                        PROVINCE:
     COUNTRY: COLOMBIA
       PHONE: (57)1-269 9111
                                       RESPONSE DATE: / /
        FAX:
       TELEX: 744
       CABLE:
       EMAIL:
   IN CHARGE: Gonzales INVENTORY: Beltran
      NOTES:
COUNTRY NAME: Colombia
                                                 WLI CLASS: 1
NAME - FIRST: Leonardo
                                    LAST: Rivera Perez
  - POSITION: Hydrometeorological Adviser
  DEPARTMENT:
ORGANIZATION: HIMAT Instituto Colombiano de Hidrología
  ORG (CONT): Meteorología y Adecuación de Tierras
    BUILDING:
      STREET: Carrera 5a No 15-80 Piso 18
      PO BOX:
        CITY: Santafé de Bogotá PROVINCE: DC
     COUNTRY: COLOMBIA
       PHONE: (57)2-830 668
                                       RESPONSE DATE: 12/05/91
         FAX: (57)2-860 658
       TELEX: 44345 CO
       CABLE:
       EMAIL:
   IN CHARGE: Rivera Perez INVENTORY: Caro
       NOTES: Colombia, Rivera Perez: 12/05/91 Jorge-Ivan
             Valencia-Franco, Subdirector de Hidrologia y
             Meteorologia "Tenemos el gusto de devolver a usted
             el formulario sobre el inventario de
             deslizamientos, debidamente diligenciado. Sería
             muy grato tener conocimiento futuro sobre sus
              avances."
                 [We have the pleasure to return to you the form
             on the landslide inventory, properly completed.
             will be very grateful to have information in the
              future on your progress.]
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COUNTRY NAME: Colombia WLI CLASS: 1 LAST: Caro NAME - FIRST: Pablo POSITION: DEPARTMENT: ORGANIZATION: HIMAT Instituto Colombiano de Hidrología ORG (CONT): Meteorología y Adecuación de Tierras BUILDING: STREET: Carrera 30 No 51-59 PO BOX: CITY: Santafé de Bogotá PROVINCE: DC COUNTRY: COLOMBIA PHONE: (57) 2-211 066 RESPONSE DATE: 12/05/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Rivera Perez INVENTORY: Caro NOTES: COUNTRY NAME: Costa Rica WLI CLASS: 2 NAME - FIRST: Dr Sergio LAST: Mora C -POSITION: Head DEPARTMENT: Oficina de Geología Aplicada ORGANIZATION: Instituto Costarricense de Electricidad ORG (CONT): BUILDING: STREET: PO BOX: Apartado 10032 CITY: 1000 San José PROVINCE: COUNTRY: COSTA RICA RESPONSE DATE: / / PHONE: (506)-207141 FAX: (506)-314744 TELEX: 2140-ICE CABLE: EMAIL: IN CHARGE: Mora INVENTORY: Mora NOTES:

WLI CLASS: 3 COUNTRY NAME: Costa Rica LAST: Malavassi NAME - FIRST: Dr Eduardo POSITION: Director DEPARTMENT: ORGANIZATION: OVSICORI-UNA Observatoria Vulcanologico ORG (CONT): y Sismológico de Costa Rica BUILDING: STREET: Universidad Nacional PO BOX: Apartado Postal 86 CITY: 3000 Heredia PROVINCE: COUNTRY: COSTA RICA RESPONSE DATE: 11/14/91 PHONE: (506)-377023 FAX: (506)-380086 TELEX: CABLE: EMAIL: IN CHARGE: Malavassi INVENTORY: Marino NOTES: Costa Rica, Malavassi: 11/14/91 "Landslides are being monitored using GPS methods. We are monitoring 'San Blas' and 'Puriscal'. GPS is combined with conventional geodesy." COUNTRY NAME: Costa Rica WLI CLASS: NAME - FIRST: Ing Tomás LAST: Marino POSITION: DEPARTMENT: ORGANIZATION: OVSICORI-UNA Observatoria Vulcanologico ORG (CONT): y Sismológico de Costa Rica BUILDING: STREET: Universidad Nacional PO BOX: Apartado Postal 86 CITY: 3000 Heredia PROVINCE: COUNTRY: COSTA RICA PHONE: (506)-377023 RESPONSE DATE: 11/14/91 FAX: (506)-380086 TELEX: CABLE: EMAIL:

IN CHARGE: Malavassi INVENTORY: Marino

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NOTES:

WLI CLASS: 3 COUNTRY NAME: Costa Rica LAST: Mora Chinchilla NAME - FIRST: Rolando POSITION: Subdirector DEPARTMENT: ORGANIZATION: UCR Universidad de Costa Rica ORG (CONT): BUILDING: Ciudad Universitaria Rodrigo Facio PO BOX: Apartado 35 2060 CITY: San José PROVINCE: COUNTRY: COSTA RICA RESPONSE DATE: 12/20/91 PHONE: (506)-257941 FAX: (506)-342347 TELEX: UNICORI 2544 CABLE: EMAIL: IN CHARGE: Mora Chinchilla INVENTORY: Mora Chinchilla NOTES: COUNTRY NAME: Cote d'Ivoire WLI CLASS: 1 NAME - FIRST: Mr Gerard LAST: Cougny POSITION: DEPARTMENT: Département de la Recherche Appliquée ORGANIZATION: LBTP Laboratoire du Bâtiment et des ORG (CONT): Travaux Publics BUILDING: STREET: PO BOX: B P 3 CITY: Abidjan 04 PROVINCE: COUNTRY: COTE D'IVOIRE RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Vlami-Bi-Dou INVENTORY: Cougny NOTES:

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WLI CLASS: 1 COUNTRY NAME: Cote d'Ivoire LAST: Vlami-Bi-Dou NAME - FIRST: Mr Faustin POSITION: Director DEPARTMENT: Département de la Recherche Appliquée ORGANIZATION: LBTP Laboratoire du Bâtiment et des ORG (CONT): Travaux Publics BUILDING: STREET: PO BOX: B P 3 CITY: Abidjan 04 PROVINCE: COUNTRY: COTE D'IVOIRE PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: Vlami-Bi-Dou INVENTORY: Cougny NOTES: COUNTRY NAME: Cote d'Ivoire WLI CLASS: 4 LAST: Tireford NAME - FIRST: Jean-Louis POSITION: Directeur DEPARTMENT: ORGANIZATION: Station Géophysique de Lamto ORG (CONT): BUILDING: STREET: PO BOX: B P 31 CITY: N'Douci PROVINCE: COUNTRY: COTE D'IVOIRE PHONE: (225)-690095 RESPONSE DATE: 11/16/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Tireford INVENTORY: Tireford NOTES:

WLI CLASS: 1 COUNTRY NAME: Cuba

NAME - FIRST: Dr Carlos LAST: Perez Perez

POSITION: Research Project Head

ORGANIZATION: Instituto de Geologia y Paleontologia

ORG (CONT): BUILDING:

STREET: Via Blanca y Linea del Ferrocarril S/N

PO BOX: San Miguel del Padron

CITY: Ciudad Habana PROVINCE:

COUNTRY: CUBA

PHONE: 99-5790 RESPONSE DATE: 06/23/92

FAX: 53-7-338212/338213 TELEX: 511 183 MINBAS CU

CABLE: EMAIL:

IN CHARGE: Perez Perez INVENTORY: Calzadilla Ribeaux

NOTES: Cuba, Perez Perez: 06/23/92 "Our research project 'Tectonic of Sierra Maestra and surrounding areas' includes the landslide inventory in this region, as initial stage for the inventory of the whole

country. We would like to thank any

methodological help you can give us on geological risk. Please, send your answer by TELEX and FAX

simultaneously."

COUNTRY NAME: Cuba WLI CLASS: 1

NAME - FIRST: Maria LAST: Calzadilla Ribeaux

POSITION:

DEPARTMENT:

ORGANIZATION: Instituto de Geologia y Paleontologia

ORG (CONT): BUILDING:

STREET: Via Blanca y Linea del Ferrocarril S/N

PO BOX: San Miguel del Padron

CITY: Ciudad Habana PROVINCE:

COUNTRY: CUBA

PHONE: 99-5790 RESPONSE DATE: 06/23/92

FAX: 53-7-338212/338213 TELEX: 511 183 MINBAS CU

CABLE:

EMAIL:

IN CHARGE: Perez Perez INVENTORY: Calzadilla Ribeaux

NOTES:

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WLI CLASS: 2
COUNTRY NAME: Cyprus
NAME - FIRST: George
                                       LAST: Petrides
    POSITION: Senior Geological Officer
  DEPARTMENT: Geological Survey Department
ORGANIZATION: Min of Agriculture and Natural Resources
  ORG (CONT):
    BUILDING:
      STREET:
      PO BOX:
        CITY: Nicosia
                                          PROVINCE:
     COUNTRY: CYPRUS
                                      RESPONSE DATE: 11/18/91
       PHONE: (357)2-302330
         FAX: (357)2-445019
       TELEX: 5533 WDD CY
       CABLE:
       EMAIL:
   IN CHARGE: Petrides
                                   INVENTORY: Petrides
       NOTES: Cyprus, Petrides: 11/18/91 Dr. S. Zomenis, for
              Director "... The idea of a WLI finds us in full
              agreement as within the objectives of our
              organization."
COUNTRY NAME: Czechoslovakia
                                                   WLI CLASS: 5
NAME - FIRST: Miloslav
                                       LAST: Novák
    POSITION: Chief of Landslide Register
  DEPARTMENT:
ORGANIZATION: GEOFOND České Republiky Czech Republic
  ORG (CONT):
    BUILDING:
      STREET: Kostelní 26
      PO BOX:
        CITY: 170 00 Praha 7
                                          PROVINCE:
     COUNTRY: CZECHOSLOVAKIA
       PHONE: (42)2-379341
                                       RESPONSE DATE: 01/09/92
         FAX: (42)2-370647
       TELEX:
       CABLE:
       EMAIL:
   IN CHARGE: Novák
                                   INVENTORY: Novák
       NOTES: Czechoslovakia, Novák: 01/09/92 "Landslides are
              registered in two independent regional centres in
              Czechoslovakia. Landslides of The Czech Republic
              (Bohemia, Moravia, Silesia) are registered in
              GEOFOND ČESKÉ REPUBLIKY and those of The Slovak
              Republic (Slovakia) are registered in GEOFOND
              BRATISLAVA."
                 01/13/92 Czudek, Brno "...The best information
              concerning the landslides in the western part of
```

Czechoslovakia can be supplied by GEOFOND...Praha (Dr. Novák - informed us about the receipt of your letter)...."

COUNTRY NAME: Czechoslovakia WLI CLASS: NAME - FIRST: Ing Dr Jan LAST: Rybář POSITION: Csc DEPARTMENT: UGG Institute of Geology and Geotechnics ORGANIZATION: ČSAV Czechoslovak Academy of Sciences ORG (CONT): BUILDING: STREET: V Holešovičkách 41 PO BOX: CITY: 182 09 Praha 8 Libeň PROVINCE: COUNTRY: CZECHOSLOVAKIA RESPONSE DATE: / / PHONE: (42)2-820051 FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: Czechoslovakia, Rybář: 11/19/91 Ondrášik "For the Czech part of the country would be convenient to contact: JAN RYBÁŘ..." COUNTRY NAME: Czechoslovakia WLI CLASS: 5 NAME - FIRST: Ing Stan LAST: Novosad POSITION: DEPARTMENT: ORGANIZATION: Novosad IG/EG Consulting ORG (CONT): BUILDING: STREET: I Sekaniny 1801 PO BOX: CITY: 708 00 Ostrava 4 PROVINCE: COUNTRY: CZECHOSLOVAKIA PHONE: (42)69-473028 RESPONSE DATE: / / FAX: (42)2-381848 TELEX: CABLE: EMAIL:

IN CHARGE: GEOFOND (Novák) INVENTORY: Novosad

1

NOTES:

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COUNTRY NAME: Czechoslovakia
                                                 WLI CLASS: 5
                                  LAST: Suchánková
NAME - FIRST: Mrs Zora
   POSITION: Chief of Landslide Register
  DEPARTMENT:
ORGANIZATION: GEOFOND Bratislava
 ORG (CONT):
   BUILDING:
     STREET: Bukurešťská 4
     PO BOX:
        CITY: 811 04 Bratislava
                                       PROVINCE:
     COUNTRY: CZECHOSLOVAKIA
       PHONE: (42)7-491312/496603 RESPONSE DATE: 01/09/92
         FAX: (42)7-496639
       TELEX: 93244
       CABLE:
       EMAIL:
   IN CHARGE: Suchánková
                                  INVENTORY: Suchánková
       NOTES: Czechoslovakia, Suchánková: 01/09/92 Novák
              "Landslides are registered in two independent
              regional centres in Czechoslovakia. Landslides of
              The Czech Republic (Bohemia, Moravia, Silesia) are
              registered in GEOFOND ČESKÉ REPUBLIKY and those
              of The Slovak Republic (Slovakia) are registered
              in GEOFOND BRATISLAVA."
                 01/13/92 Czudek, Brno "...Best information
              concerning the landslides in...the eastern part of
              the territory - Slovakia - it is
              GEOFOND...Bratislava (Mrs. Zora Suchánková)...."
COUNTRY NAME: Czechoslovakia
                                                  WLI CLASS: 5
NAME - FIRST: Dr Igor
                                     LAST: Modlitba
    POSITION:
  DEPARTMENT:
ORGANIZATION: Dionýz Štúr Institute of Geology
  ORG (CONT):
    BUILDING:
      STREET: Mlynská dolina 1
      PO BOX:
        CITY: 817 04 Bratislava PROVINCE:
     COUNTRY: CZECHOSLOVAKIA
                                       RESPONSE DATE: 11/20/91
       PHONE: (42)7-221171
         FAX: (42)7-371940
       TELEX: 92 446
       CABLE:
       EMAIL:
   IN CHARGE: Ondrášik
                                INVENTORY: Modlitba
       NOTES: Czechoslovakia, Modlitba: 11/20/91 Contact for
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Slovakia

1

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COUNTRY NAME: Czechoslovakia
                                                  WLI CLASS: 5
NAME - FIRST: Prof Rudolf
                                      LAST: Ondrášik
    POSITION: Pres Slovak Assoc Engineering Geologists
 DEPARTMENT: Dept of Engineering Geology
ORGANIZATION: Comenius University Fac of Natural Sci
 ORG (CONT):
    BUILDING:
     STREET: Mlynská dolina
     PO BOX:
       CITY: 842 15 Bratislava
                                        PROVINCE:
     COUNTRY: CZECHOSLOVAKIA
      PHONE: (42)7-728981
                                       RESPONSE DATE: 11/20/91
         FAX: (42)7-729064
      TELEX:
      CABLE:
      EMAIL:
   IN CHARGE: Ondrášik
                                INVENTORY: Modlitba
      NOTES: Czechoslovakia, Ondrášik: 11/20/91 for Slovakia;
             "For the Czech part of the country would be
             convenient to contact JAN RYBÁR..."
COUNTRY NAME: Denmark
                                                  WLI CLASS: 1
                               LAST: Pedersen
NAME - FIRST: S Schack
    POSITION:
  DEPARTMENT:
ORGANIZATION: Geological Survey of Denmark
  ORG (CONT):
    BUILDING:
     STREET: Thoravej 31
      PO BOX:
        CITY: DK-2400 Copenhagen NV PROVINCE:
     COUNTRY: DENMARK
      PHONE:
                                         RESPONSE DATE: / /
         FAX:
      TELEX:
      CABLE:
      EMAIL:
   IN CHARGE:
                                  INVENTORY: Pedersen
      NOTES:
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COUNTRY NAME: Dominica WLI CLASS: LAST: DeGraff NAME - FIRST: J V POSITION: DEPARTMENT: Sierra National Forest ORGANIZATION: USDA Forest Service ORG (CONT): BUILDING: STREET: 1600 Tollhouse Road PO BOX: CITY: Clovis PROVINCE: CA 93612 COUNTRY: USA PHONE: (1)209-487 5640 RESPONSE DATE: 01/17/92 FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: COUNTRY NAME: Ecuador WLI CLASS: 2 NAME - FIRST: Prof A Miguel LAST: Chavez - POSITION: c/o Ing Alfredo Silva Sanchez Secretary DEPARTMENT: SEMSIR Laboratoria Dr Arnaldo Ruffilli ORGANIZATION: Universidad de Guayaquil ORG (CONT): BUILDING: STREET: Clda Universitaria Av Kennedy PO BOX: Apartado 9176 CITY: Guayaquil PROVINCE: COUNTRY: ECUADOR PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: INVENTORY: Chavez IN CHARGE: Chavez NOTES:

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COUNTRY NAME: Ecuador WLI CLASS: 2

NAME - FIRST: TCrnl Fabián LAST: Durango Vela

POSITION: Director Ejecutivo

DEPARTMENT:

ORGANIZATION: CLIRSEN Center of Integrated Surveys of ORG (CONT): Natural Resources by Remote Sensing BUILDING: Edif Inst Geografico Militar 4to piso

STREET: Seniergues y Paz y Miño s/n

PO BOX: Apartado 8216

CITY: Quito PROVINCE:

COUNTRY: ECUADOR

PHONE: (593)2-549 472 RESPONSE DATE: 12/26/91

FAX: (593)2-581 066 TELEX: 2775 CLIRSN ED

CABLE: EMAIL:

IN CHARGE: Durango Vela INVENTORY: Iglesias, Perez

NOTES: Ecuador, Durango Vela: 12/26/91 "En relación a su requerimiento de información para efectuar el inventario de deslizamientos, me permito indicar a usted que en Ecuador los organismos que ejecutan estas actividades, disponen solamente de información de trabajos puntuales.

"El CLIRSEN es en el Ecuador el encargado de conformar el inventario de los recursos naturales renovables y no renovables, así como también de aspectos relacionados con el impacto ambiental. En el futuro, CLIRSEN dedicará sus esfuerzos a conformar el Inventario de los Deslizamientos en el Ecuador.

"El CLIRSEN, ha efectuado trabajos a nivel de reconocimiento (escala 1/250.000) sobre Geomorfología asociada a la Morfodinámica Actual, en la región Sur del país."

[In relation to your request for information in order to implement the landslide inventory, I permit myself to point out to you that in Ecuador the organizations which perform these activities prepare only information about specific works.

[CLIRSEN is the agency in Ecuador charged with complying with the inventory of renewable and nonrenewable natural resources, therefore also of aspects relating to the environmental impact. In the future, CLIRSEN will dedicate its efforts to comply with the Landslide Inventory in Ecuador.

[CLIRSEN has implemented works at the level of reconnaissance (scale 1:250,000) on geomorphology associated with existing morphodynamics, in the southern region of the country.]

COUNTRY NAME: Ecuador WLI CLASS: 2 COUNTRY NAME: Ecuador WLI
NAME - FIRST: Ing Ramiro LAST: Iglesias

POSITION:

DEPARTMENT:

ORGANIZATION: CLIRSEN Center of Integrated Surveys of ORG (CONT): Natural Resources by Remote Sensing BUILDING: Edif Inst Geografico Militar 4to piso

STREET: Seniergues y Paz y Miño s/n

PO BOX: Apartado 8216

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CITY: Quito PROVINCE:

COUNTRY: ECUADOR

PHONE: (593)2-549 472 RESPONSE DATE: 12/26/91

FAX: (593)2-581 066 TELEX: 2775 CLIRSN ED

CABLE:

EMAIL:

IN CHARGE: Durango Vela INVENTORY: Iglesias, Perez

NOTES:

COUNTRY NAME: Ecuador WLI CLASS: 2

NAME - FIRST: Ing Victor H LAST: Perez

POSITION:

DEPARTMENT:

ORGANIZATION: CLIRSEN Center of Integrated Surveys of ORG (CONT): Natural Resources by Remote Sensing BUILDING: Edif Inst Geografico Militar 4to piso

STREET: Seniergues y Paz y Miño s/n

PO BOX: Apartado 8216

CITY: Quito PROVINCE:

COUNTRY: ECUADOR

PHONE: (593)2-549 472 RESPONSE DATE: 12/26/91

FAX: (593)2-581 066 TELEX: 2775 CLIRSN ED

CABLE:

EMAIL:

IN CHARGE: Durango Vela INVENTORY: Iglesias, Perez

NOTES:

COUNTRY NAME: Ecuador WLI CLASS: 3 LAST: Plaza Nieto NAME - FIRST: Galo POSITION: Professor DEPARTMENT: Dpto de Geotecnia ORGANIZATION: Escuela Politécnica Nacional ORG (CONT): BUILDING: STREET: PO BOX: Apartado 2759 CITY: Quito PROVINCE: COUNTRY: ECUADOR PHONE: (593)2-553 699 ext 267 RESPONSE DATE: 12/04/91 FAX: (593)2-567 847 TELEX: 2650 ESPONA CABLE: EMAIL: IN CHARGE: Plaza Nieto INVENTORY: Plaza Nieto NOTES: Ecuador, Plaza Nieto: 12/05/91 "Our inventory is considered as preliminary and its results are listed in a catalog containing the characteristics of approximately 1800 slope movements. landslide inventory shows the slope movements that took place in the mountainous region (Ecuadorian ANDES) what is almost 1/3 of the Ecuadorian territory." COUNTRY NAME: Egypt WLI CLASS: 1 LAST: Hamza NAME - FIRST: Dr M POSITION: **DEPARTMENT:** ORGANIZATION: ORG (CONT): BUILDING: STREET: 13 Mohamed Sakeb Street PO BOX: CITY: Zamalek Cairo PROVINCE: COUNTRY: EGYPT RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: Hamza NOTES:

COUNTRY NAME: El Salvador WLI CLASS: 1 NAME - FIRST: Daniel Antonio LAST: Hernández Flores POSITION: Ing Civ DEPARTMENT: ORGANIZATION: Centro de Investigaciones Geotécnicas ORG (CONT): BUILDING: Calle a la Chacra STREET: Costado Ote Talleres El Coro PO BOX: Apartado Postal 109 CITY: San Salvador PROVINCE: COUNTRY: EL SALVADOR RESPONSE DATE: 03/09/92 PHONE: (503)-211933 FAX: (503)-211933 TELEX: CABLE: EMAIL: IN CHARGE: Rodríguez Deras INVENTORY: Hernández Flores NOTES: COUNTRY NAME: El Salvador WLI CLASS: 1 NAME - FIRST: Jorge Alberto LAST: Rodríguez Deras MSc - POSITION: Director DEPARTMENT: Departamento de Sismología ORGANIZATION: Centro de Investigaciones Geotécnicas ORG (CONT): BUILDING: Calle a la Chacra STREET: Costado Ote Talleres El Coro PO BOX: Apartado Postal 109 PROVINCE: CITY: San Salvador

COUNTRY: EL SALVADOR

PHONE: (503)-211933 RESPONSE DATE: 03/09/92

FAX: (503)-211933

TELEX: CABLE: EMAIL:

IN CHARGE: Rodríguez Deras INVENTORY: Hernández Flores NOTES: El Salvador, Rodríguez Deras: 03/09/92 "We are

interested in carrying out a historical landslide inventory in our country. We would also like to hear your comments on some criteria or methodology

used for such purpose."

COUNTRY NAME: Estonia WLI CLASS: 4

NAME - FIRST: Aivo LAST: Lepland

POSITION:

DEPARTMENT: Institute of Geology

ORGANIZATION: Estonian Academy of Sciences

ORG (CONT):

BUILDING:

STREET: Estonia Avenue 7

PO BOX:

CITY: Tallinn 200105 PROVINCE:

COUNTRY: ESTONIA

PHONE: 7 042 605708 RESPONSE DATE: 11/19/91

FAX: 7 042 444189

TELEX:

CABLE:

EMAIL:

IN CHARGE: Raukas INVENTORY: Lepland

NOTES: Estonia, Lepland: 11/19/91 "...The Institute of Geology...would be interested in participation in National Landslide Information Center's project.

"In Estonia, mostly the landslides of two types occur.

"The first type is connected with North-Estonian clint, a cliff composed of Cambrian (clays and sandstones) and Ordovician (sandstones and limestones) bedrocks and extending along the Northern coast of Estonia. In places, the clint is in some distance from the shore (up to some kilometers) and sometimes buried under Quaternary deposits. In the places where the clint is under abrasion influence of waves, with the height reaching up to 50 m, the landslides may occur.

"The second type of landslides in Estonia is connected with weak grounds (varved clays): there are many cases where the buildings have been damaged because of differential sliding of different parts of the basement and in slopes of the valleys this sliding may cause landslides of different magnitude.

"Looking forward to productive cooperation."

COUNTRY NAME: Estonia WLI CLASS: 4

LAST: Raukas NAME - FIRST: Anto

POSITION: Academic

DEPARTMENT:

ORGANIZATION: Estonian Academy of Sciences

ORG (CONT):

BUILDING:

STREET: Estonia Avenue 7

PO BOX:

CITY: Tallinn 200105 PROVINCE:

COUNTRY: ESTONIA

PHONE: 7 042 605182 RESPONSE DATE: 11/19/91

FAX: 7 042 444189

TELEX:

CABLE: EMAIL:

IN CHARGE: Raukas INVENTORY: Lepland

NOTES:

COUNTRY NAME: Ethiopia WLI CLASS: 1

NAME - FIRST: Dr Laike M LAST: Asfaw

-POSITION: Director

DEPARTMENT: Geophysical Observatory Fac of Science

ORGANIZATION: Addis Ababa University

ORG (CONT): BUILDING:

STREET:

PO BOX: P O Box 1176

CITY: Addis Ababa PROVINCE:

COUNTRY: ETHIOPIA

PHONE: (251)1-550844 RESPONSE DATE: 10/31/91

FAX:

TELEX: 21205 CABLE: AAUNIV

EMAIL:

IN CHARGE: Asfaw INVENTORY: Asfaw

NOTES:

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COUNTRY NAME: Fiji
                                                 WLI CLASS: 3
NAME - FIRST: Mr Alfred LAST: Simpson
    POSITION: Assistant Director Mineral Development
  DEPARTMENT: Mineral Resources Department
ORGANIZATION: Ministry of Energy and Mineral Resources
  ORG (CONT):
    BUILDING:
      STREET:
      PO BOX: Private Mail Bag
        CITY: Suva
                                     PROVINCE:
    COUNTRY: FIJI ISLANDS
                                 RESPONSE DATE: 11/05/91
       PHONE: (679)-381611
        FAX: (679)-370039
      TELEX: FJ 2330
       CABLE:
      EMAIL:
   IN CHARGE: Simpson INVENTORY: Lawson
      NOTES:
COUNTRY NAME: Fiji
                                                 WLI CLASS:
NAME - FIRST: Mr Trevor
                                    LAST: Lawson
  - POSITION: Senior Engineering Geologist
  DEPARTMENT: Mineral Resources Department
ORGANIZATION: Ministry of Energy and Mineral Resources
  ORG (CONT):
    BUILDING:
     STREET:
      PO BOX: Private Mail Bag
        CITY: Suva
                                    PROVINCE:
     COUNTRY: FIJI ISLANDS
                                  RESPONSE DATE: 11/05/91
       PHONE: (679)-381611
      FAX: (679)-370039
TELEX: FJ 2330
       CABLE:
       EMAIL:
   IN CHARGE: Simpson
                                 INVENTORY: Lawson
       NOTES: Fiji, Lawson: 01/05/92 "Our department began a
             study of landslides in Fiji (the South-East Viti
             Levu Landslide Project) in February 1989. We are
             very keen to become involved in your inventory and
             to exchange information on landslide occurrences
             elsewhere."
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COUNTRY NAME: Finland WLI CLASS: 1 NAME - FIRST: Mr E LAST: Slunga POSITION: DEPARTMENT: Department of Civil Engineering ORGANIZATION: Helsinki University of Technology ORG (CONT): BUILDING: STREET: Rakentajanaukio 4A CITY: Helsinki PROVINCE: COUNTRY: FINLAND PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: Slunga NOTES: COUNTRY NAME: Finland WLI CLASS: 2 NAME - FIRST: Raimo LAST: Kujansuu - POSITION: Research Professor DEPARTMENT: Geologian Tutkimuskeskus ORGANIZATION: Geological Survey of Finland ORG (CONT): BUILDING: STREET: PO BOX: CITY: SF-02150 Espoo PROVINCE: COUNTRY: FINLAND PHONE: (358)0-46931 RESPONSE DATE: 10/29/91 FAX: (358)0-462205 TELEX: 123185 GEOLO SF CABLE: EMAIL: IN CHARGE: Kujansuu INVENTORY: Kujansuu NOTES: Finland, Kujansuu: 10/29/91 "In Finland there are two kinds of landslides: 1. Fossil till slides in northern Finland originating from the time of deglaciation and 2. recent small clay slides in the river valleys of southern Finland. So far we have no computer based data systems."

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WLI CLASS: 1

NAME - FIRST: Dr Harry LAST: Zilliacus

POSITION:
DEPARTMENT:
ORGANIZATION:
ORG (CONT):
BUILDING:
STREET: Yläkartanonkuja 7 I 71
PO BOX:
CITY: SF-02360 Espoo PROVINCE:
COUNTRY: FINLAND
PHONE: (358)0-801 3523 RESPONSE DATE: 11/07/91
FAX:
TELEX:

CABLE:
EMAIL:
IN CHARGE: Zilliacus

COUNTRY NAME: Finland

PHARGE: Zilliacus INVENTORY: Zilliacus
NOTES: Finland, Zilliacus: 11/07/91 "No inventory
available at the Dept. of Geography, Univ. of
Helsinki, and no systematic information offered by
Geological Survey or Road Maintenance either. No
systematic or continuous inventory done,
landslides being a minor problem in our country.
Occasional studies have been performed, though,
e.g. the publication enclosed citing several
others (important ones marked X). A short report
on 'Road disasters in Finland' has recently been
sent to P.I.A.R.C. (Road Congresses) for a meeting
held in Marrakesh, Morocco, Sept. 22-28, 1991.
Very little besides this that I can do - sorry."

COUNTRY NAME: France WLI CLASS: 3-5 NAME - FIRST: Dr Jean-Pierre LAST: Asté POSITION: Chef de Services Risques Natures DEPARTMENT: Département Environnement et Risques ORGANIZATION: BRGM Bureau de Recherches Géologiques et Minières ORG (CONT): BUILDING: STREET: Avenue de Concyr PO BOX: B P 6009 Cedex 2 CITY: 45060 Orléans La Source PROVINCE: Loiret COUNTRY: FRANCE PHONE: (33)38-64 35 63 RESPONSE DATE: 11/07/91 FAX: (33)38-64 30 13 TELEX: BRGM 780258 F CABLE: EMAIL: IN CHARGE: Asté INVENTORY: Asté NOTES: France, Asté: 11/07/91 Paper enclosed: Aste, Gouisset, and Leroi, 1992, "The French 'INVI' project -- National Inventory of Unstable Slopes" to be published in Christchurch. 04/05/91 "...Je vous signale que la 'Réunion' (code pays 663) est une île française et que l'inventaire régional de la Réunion est intégré dans INVI (Inventaire National des Versants Instables)...." [...Note that 'Reunion' (country code 663) is a French island and that the regional inventory of Reunion is integrated into INVI (National Inventory of Unstable Slopes)....]

COUNTRY NAME: France WLI CLASS: NAME - FIRST: Prof René-Michel LAST: Fauré POSITION: Professor DEPARTMENT: Département Mécanique et Informatique ORGANIZATION: ENTPE École Nat des Travaux Publics de ORG (CONT): l'État BUILDING: STREET: Rue Maurice Audin PO BOX: CITY: 69518 Vaulx-en-Velin PROVINCE: COUNTRY: FRANCE RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: COUNTRY NAME: France WLI CLASS: NAME - FIRST: Dr M LAST: Hashizume - POSITION: DEPARTMENT: Division of Earth Sciences ORGANIZATION: Science Sector UNESCO ORG (CONT): BUILDING: STREET: 7 Place de Fontenoy PO BOX: CITY: 75700 Paris PROVINCE: COUNTRY: FRANCE PHONE: (33)1-45 68 10 00 FAX: (33)1-43 06 11 22 RESPONSE DATE: / / TELEX: 204461 PARIS CABLE: UNESCO PARIS EMAIL: **INVENTORY:** IN CHARGE:

COUNTRY NAME: France WLI CLASS: 3 LAST: Durville NAME - FIRST: Jean-Louis POSITION: Chef DEPARTMENT: Division Géologie et Environnement ORGANIZATION: Lab Central des Ponts et Chaussées ORG (CONT): BUILDING: STREET: 58 Bd Lefebvre PO BOX: CITY: 75732 Paris Cedex 15 PROVINCE: COUNTRY: FRANCE PHONE: (33)1-40 43 52 46 RESPONSE DATE: 12/03/91 FAX: (33)1-40 43 54 98 TELEX: CABLE: EMAIL: IN CHARGE: Durville INVENTORY: Durville NOTES: COUNTRY NAME: French Polynesia NAME - FIRST: Dr Jacques WLI CLASS: 1-2 LAST: Talandier - POSITION: Director DEPARTMENT: ORGANIZATION: Laboratoire de Géophysique ORG (CONT): BUILDING: STREET: PO BOX: B P 640 CITY: Papeete PROVINCE: Tahiti COUNTRY: FRENCH POLYNESIA RESPONSE DATE: 11/12/91 PHONE: (689)-428025 FAX: (689)-435037 TELEX: 439 FP CABLE: EMAIL: IN CHARGE: Talandier INVENTORY: Talandier NOTES: French Polynesia, Talandier: 11/12/91 "Polynesian Seismic Network of 21 Stations"

COUNTRY NAME: Gambia WLI CLASS: 1

NAME - FIRST: W J LAST: Whyte

POSITION: Chief Geologist

DEPARTMENT:

ORGANIZATION: Geological Unit

ORG (CONT):

BUILDING:

STREET: 12 Marina Parade

PO BOX:

CITY: Banjul PROVINCE:

COUNTRY: GAMBIA

PHONE: (220)-28164 RESPONSE DATE: 12/13/91

FAX: (220)-29575 TELEX: 2293 MEPID GV

CABLE: EMAIL:

IN CHARGE: Whyte INVENTORY: Camara

NOTES: Gambia, Whyte: 12/13/91 Camara "...As no inventory

on landslide in the Gambia is available to this

Unit we would like to supply the following

information.

"Landslide of low magnitude slump variety, rock fall and sediment flow may be associated with some of the Gambian situations. This may occur as a result of slope failure in cliff sections and

precipitous sides of river banks and road

cuttings...."

COUNTRY NAME: Gambia WLI CLASS: 1

NAME - FIRST: Tijan LAST: Camara

POSITION: Geologist

DEPARTMENT:

ORGANIZATION: Geological Unit

ORG (CONT):
BUILDING:

STREET: 12 Marina Parade

PO BOX:

CITY: Banjul PROVINCE:

COUNTRY: GAMBIA

PHONE: (220)-28164 RESPONSE DATE: 12/13/91

FAX: (220)-29575 TELEX: 2293 MEPID GV

CABLE: EMAIL:

IN CHARGE: Whyte INVENTORY: Camara

COUNTRY NAME: Gambia WLI CLASS: 0 NAME - FIRST: Ms Ndey-Isatov LAST: Njie POSITION: Principal Environment Officer DEPARTMENT: Environment Unit ORGANIZATION: Min of Natural Resources and Environment ORG (CONT): BUILDING: STREET: 5 Marina Parade PO BOX: CITY: Banjul PROVINCE: COUNTRY: GAMBIA PHONE: (220)-28056 RESPONSE DATE: 11/27/91 FAX: (220)-29701 TELEX: 2246 JICA GV CABLE: EMAIL: IN CHARGE: Njie INVENTORY: Njie NOTES: Gambia, Njie: 11/27/91 "A slight tremor was experienced in December 1983. This was attributed to a volcanic activity in the Camerouns." COUNTRY NAME: Georgia WLI CLASS: 3-4 NAME - FIRST: Emil D LAST: Tsereteli POSITION: Deputy Chief DEPARTMENT: Hydrogeological & Engineering Geol Board ORGANIZATION: Department of Geology of Republic of ORG (CONT): Georgia BUILDING: STREET: Mosashvili 24 PO BOX: CITY: 380030 Tbilisi PROVINCE: COUNTRY: GEORGIA RESPONSE DATE: 01/28/92 PHONE: 8832-22 40 40 FAX: 8832-22 56 13 TELEX: CABLE: EMAIL: INVENTORY: Tsereteli IN CHARGE: Tsereteli

NOTES:

WLI CLASS: COUNTRY NAME: Germany

NAME - FIRST: Dr L LAST: Hahn

POSITION: President

DEPARTMENT:

ORGANIZATION: Bundesanstalt für Geowissenschaften

und Rohstoffe ORG (CONT): BUILDING: Alfred-Bentz-Haus

STREET: Stilleweg 2

PO BOX: Postfach 51 01 53

CITY: D-3000 Hannover-Buchholz PROVINCE: 51

COUNTRY: GERMANY

PHONE: (49)511-643 3141 RESPONSE DATE: 02/03/92

FAX: (49)511-643 2304 TELEX: 841 923730 bfb (bgr) ha d

CABLE: Geobund

EMAIL:

IN CHARGE: INVENTORY:

NOTES: Germany, Hahn: 02/03/92 "Sorry for the delay...One of the reasons is, that we wanted to give you notice of the new 'Bundesländer' after the German unification. They are now installed and we can give you finally the complete mailing list.

> "Our institution is very interested in information on ecological hazards by landslides. Therefore, we appreciate to be on your mailing list and we kindly ask you to keep us informed. Nevertheless, we are not the institution for reliable information on the said problem. We suggest you contact the geological surveys of the 'Bundesländer'. Attached you find a complete mailing list. To our knowledge mainly Bayern, Rheinland-Pfalz and Baden-Württemberg are affected by landslides and we know that Dr. Krauter from the Geological Survey of Rheinland-Pfalz collects data on landslides all over Germany. Other 'Länder' like Schleswig-Holstein, Niedersachsen (where we live), Nordrhein-Westfalen, Brandenburg, Mecklenburg-Vorpommern - lovely as they are - are unfortunately not provided with beautiful hills or mountains high and fierce enough to cause the awful kind of natural events you are going to collect for documentation.

"We hope that this information is of use for the Working Party and that we are included in the mailing list."

Enclosed with letter was list of Geological Survey offices for each state.

WLI CLASS: 5 COUNTRY NAME: Germany NAME - FIRST: Prof Dr Edmund LAST: Krauter POSITION: Director DEPARTMENT: ORGANIZATION: Geologisches Landesamt Rheinland-Pfalz ORG (CONT): BUILDING: STREET: Emmermannstraße 36 PO BOX: CITY: D-6500 Mainz PROVINCE: COUNTRY: GERMANY PHONE: (49)6131-232 261 RESPONSE DATE: / / FAX: (49)6131-236 007 TELEX: CABLE: EMAIL: IN CHARGE: Krauter INVENTORY: Krauter NOTES: COUNTRY NAME: Germany WLI CLASS: 3 NAME - FIRST: Dr Joachim LAST: Rohn POSITION: Engineering Geologist DEPARTMENT: Institute of Applied Geology ORGANIZATION: Universität Karlsruhe ORG (CONT): BUILDING: STREET: Kaiserstraße 12 PO BOX: CITY: D-7500 Karlsruhe 1 PROVINCE: COUNTRY: GERMANY PHONE: (49)721-608 4178 RESPONSE DATE: 10/30/91 FAX: (49)721-606279 TELEX: CABLE: EMAIL: IN CHARGE: Rohn INVENTORY: Rohn NOTES: Germany, Rohn: 10/30/91 Rohn has information for

Austria too

COUNTRY NAME: Germany WLI CLASS: 3 LAST: von Poschinger NAME - FIRST: Dr A POSITION: DEPARTMENT: Regierungsrat ORGANIZATION: Bayerisches Geologisches Landesamt ORG (CONT): BUILDING: STREET: Heßstraße 128 PO BOX: CITY: D-8000 München 40 PROVINCE: COUNTRY: GERMANY PHONE: (49)89-12 000-638 RESPONSE DATE: 11/13/91 FAX: (49)89-12 000-647 TELEX: CABLE: EMAIL: IN CHARGE: von Poschinger INVENTORY: von Poschinger NOTES: COUNTRY NAME: Germany WLI CLASS: NAME - FIRST: Prof Dr P LAST: Bormann POSITION: DEPARTMENT: ORGANIZATION: GFZ GeoForschungsZentrum ORG (CONT): BUILDING: STREET: Telegrafenberg A3 PO BOX: CITY: 0-1561 Potsdam PROVINCE: COUNTRY: GERMANY PHONE: (37)33-310 268 RESPONSE DATE: / / FAX: (37)33-310 607 TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: Germany, Bormann: 01/10/92 "...The former Zentralinstitut für Physik der Erde does not exist any longer. It has been replaced by the newly established GeoResearch Center (GeoForschungsZentrum - GFZ) at Potsdam. The latter, being in effect since January 1st, 1992, has been put in charge, amongst others, of serving as a German focal point for research....You should, therefore, keep the GFZ on your mailing list and I will inform the director of the centre, Prof. Dr. R. Emmermann, and the future head of the branch for disaster research at the GFZ of your circular letter.

"For the time being I will send a copy of it to Prof. Dr.-Ing. Otfried Natau, Faculty for Rock Mechanics, Institute for Soil and Rock Mechanics of the University (TH) Fridericiana at Karlsruhe since he and his Institute are involved in respective research projects and might be in a position to respond to your questionnaire...."

COUNTRY NAME: Ghana WLI CLASS: 1

NAME - FIRST: Chris LAST: Anani

POSITION: Director

DEPARTMENT:

ORGANIZATION: Geological Survey of Ghana

ORG (CONT):
BUILDING:
STREET:

PO BOX: P O Box M 80

CITY: Accra PROVINCE:

COUNTRY: GHANA

PHONE: (233)21-226490 RESPONSE DATE: 03/02/92

FAX: TELEX: CABLE: EMAIL:

IN CHARGE: Anani INVENTORY: Anani

NOTES: Ghana, Anani: 03/03/92 "...We have landslides in

Ghana and...you should include us on the mailing

list and provide us with the necessary

information."

WLI CLASS: 2 COUNTRY NAME: Ghana NAME - FIRST: J K LAST: Ayetey POSITION: Head DEPARTMENT: Geotechnical Engineering Division ORGANIZATION: CSIR Building and Road Research Inst ORG (CONT): BUILDING: STREET: PO BOX: University P O Box 40 CITY: Kumasi PROVINCE: COUNTRY: GHANA PHONE: (233)51-4221/4222 RESPONSE DATE: 11/07/91 FAX: TELEX: CABLE: BRIGA EMAIL: IN CHARGE: Ayetey INVENTORY: Ayetey NOTES: Ghana, Ayetey: 11/07/91 "Work underway in the Institute should shortly enable us to offer information under Class 3 of inventory in addition to class 1 and class 2." COUNTRY NAME: Greece WLI CLASS: NAME - FIRST: Dr Anthony LAST: Eleftheriou POSITION: Head DEPARTMENT: Engineering Geology Division ORGANIZATION: IGME Inst for Geology and Mineral ORG (CONT): Exploration BUILDING: STREET: 70 Messoghion Avenue PO BOX: CITY: GR-11527 Athens PROVINCE: COUNTRY: GREECE PHONE: (30)1-779 8412 RESPONSE DATE: 06/09/91 FAX: (30)1-775 2211 TELEX: 216357 IGME GR CABLE: EMAIL: INVENTORY: Eleftheriou IN CHARGE: Eleftheriou NOTES: Greece, Eleftheriou: 06/09/91 Pachakis: Eleftheriou is main contact - "There is no systematic data capture neither complete national coverage. Several reports on investigated landslides can be found in the archives of the above mentioned Institute (IGME) as well as in the archives of the Geotechnical Section of the Central Public Works Laboratory (166 Piraeus str., 118 54 Athens, Greece) and some private firms."

WLI CLASS: 4 COUNTRY NAME: Greece LAST: Marinos NAME - FIRST: Prof Paul POSITION: Professor DEPARTMENT: ORGANIZATION: National Techn University of Athens ORG (CONT): BUILDING: STREET: Panetolion 23 PO BOX: CITY: GR-11741 Athens PROVINCE: COUNTRY: GREECE RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Eleftheriou INVENTORY: Marinos NOTES: COUNTRY NAME: Greece WLI CLASS: NAME - FIRST: Dr M D LAST: Pachakis POSITION: DEPARTMENT: ORGANIZATION: KEDE Public Works Research Center ORG (CONT): BUILDING: STREET: 166 Piraeus Street PO BOX: CITY: GR-11854 Athens PROVINCE: COUNTRY: GREECE PHONE: (30)1-347 5810 RESPONSE DATE: 06/09/91 FAX: (30)1-346 7455 TELEX: 221199 KEDE GR CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: Greece, Pachakis: 06/09/91 Main contact is Eleftheriou. Several reports on investigated landslides can be found in the archives of the Geotechnical Section of the Central Public Works Laboratory.

COUNTRY NAME: Greenland WLI CLASS: 1

NAME - FIRST: Anker LAST: Weidick

POSITION: Head

DEPARTMENT: Dept of Glaciology and Glacial Geology ORGANIZATION: GGU Geological Survey of Greenland

ORG (CONT):

BUILDING:

STREET: Oester Voldgade 10

PO BOX:

CITY: DK-1350 Copenhagen K PROVINCE:

COUNTRY: DENMARK

PHONE: (45)3-311 8866 RESPONSE DATE: 10/30/91

FAX: (45)3-393 5352 TELEX: 19066 GGUTEL DK

CABLE:

EMAIL:

IN CHARGE: Weidick INVENTORY: Weidick

NOTES:

COUNTRY NAME: Grenada WLI CLASS: 2

NAME - FIRST: J V LAST: DeGraff

POSITION:

DEPARTMENT: Sierra National Forest ORGANIZATION: USDA Forest Service

ORG (CONT):
BUILDING:

STREET: 1600 Tollhouse Road

)

PO BOX:

CITY: Clovis PROVINCE: CA 93612

COUNTRY: USA

PHONE: (1)209-487 5640 RESPONSE DATE: 01/17/92

FAX:

TELEX: CABLE:

EMAIL:

IN CHARGE: DeGraff INVENTORY: DeGraff

COUNTRY NAME: Grenada WLI CLASS: 1 LAST: Fletcher NAME - FIRST: H A G POSITION: DEPARTMENT: ORGANIZATION: Ministry of Communications and Works ORG (CONT): BUILDING: STREET: Young Street PO BOX: CITY: St Georges PROVINCE: COUNTRY: GRENADA PHONE: (1)809-440 3976 RESPONSE DATE: 02/06/92 FAX: (1)809-440 4122 TELEX: CABLE: EMAIL: IN CHARGE: Fletcher INVENTORY: Fletcher NOTES: COUNTRY NAME: Guinea WLI CLASS: 2 NAME - FIRST: Mr Diao LAST: Diallo POSITION: Deputy Director DEPARTMENT: Geological Department ORGANIZATION: Direction Nationale de la Géologie ORG (CONT): BUILDING: STREET: PO BOX: P O Box 295 CITY: Conakry PROVINCE: COUNTRY: GUINEA PHONE: (224)4-42801 RESPONSE DATE: 03/02/92 FAX: TELEX: 22350 MINGEO+ CABLE: EMAIL: IN CHARGE: Diallo INVENTORY: Doumbouya NOTES: Guinea, Diallo: 03/02/92 "Since 1983, only Guinea knews an earthquake (in district Koumbia) Mg: 6.8. On this area they are many landslides in rain season by liquefaction." "...I am happy to inform you that my Ministry can provide you necessary information about landslides in Guinéa. "That Ministry, namely the Ministry of Natural Resources, Energy and Environment, has a geological department. Specially one section of that department deals with hydrogeological and Sismology surveys. This specific section can provide you all information about natural risk or

landslides in our country.

"For example, in June 1987 that section made research in Fouta Djallon in Ninguelande (district of Pita). In this area of Ninguelande, landslides have provoked the collapsing of several land compartments over several meters and people had to move.

"I hope this information will help you fill your data base on landslides in Guinea and undertake any reliable research in this area.

"Please let me know if any other information can be provided. Please find on the bulletin the exact address for your contact person in Guinea."

COUNTRY NAME: Guinea WLI CLASS: 2

NAME - FIRST: Seny LAST: Doumbouya

POSITION: Sismologue

DEPARTMENT: Geological Department

ORGANIZATION: Direction Nationale de la Géologie

ORG (CONT):
BUILDING:
STREET:

PO BOX: P O Box 295

CITY: Conakry PROVINCE:

COUNTRY: GUINEA

PHONE: RESPONSE DATE: 03/02/92

FAX:

TELEX: 22350 MINGEO+

)

CABLE: EMAIL:

IN CHARGE: Diallo INVENTORY: Doumbouya

COUNTRY NAME: Honduras WLI CLASS: 2 LAST: King NAME - FIRST: Allen P POSITION: DEPARTMENT: ORGANIZATION: USDA Forest Service ORG (CONT): BUILDING: STREET: PO BOX: CITY: Quincy PROVINCE: CA COUNTRY: USA PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: King INVENTORY: King NOTES: WLI CLASS: 4 COUNTRY NAME: Hong Kong NAME - FIRST: Dr A LAST: Malone POSITION: Principal Govt Geotechnical Engineer DEPARTMENT: ORGANIZATION: Geotechnical Control Office ORG (CONT): BUILDING: 6th/F Empire Centre STREET: 68 Mody Road Tsim Sha Tsui East PO BOX: CITY: Kowloon PROVINCE: COUNTRY: HONG KONG PHONE: (852)-721 2849 RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: Malone INVENTORY: Brand NOTES:

COUNTRY NAME: Hong Kong WLI CLASS: 4 LAST: Brand NAME - FIRST: E W POSITION: DEPARTMENT: ORGANIZATION: Geotechnical Control Office ORG (CONT): BUILDING: 6th/F Empire Centre STREET: 68 Mody Road Tsim Sha Tsui East PO BOX: CITY: Kowloon PROVINCE: COUNTRY: HONG KONG RESPONSE DATE: / / PHONE: (852)-721 2068 FAX: TELEX: CABLE: EMAIL: INVENTORY: Brand IN CHARGE: Malone NOTES: WLI CLASS: 4 COUNTRY NAME: Hong Kong NAME - FIRST: Y C LAST: Chan POSITION: Chief Geotechnical Engineer DEPARTMENT: Civil Engineering Department ORGANIZATION: Geotechnical Engineering Office ORG (CONT): BUILDING: 12/F Civil Engineering Building STREET: 101 Princess Margaret Road Ho Man Tin PO BOX: CITY: Kowloon PROVINCE: COUNTRY: HONG KONG PHONE: (852)-762 5362 RESPONSE DATE: 12/10/91 FAX: (852)-714 0275 TELEX: CABLE: EMAIL: IN CHARGE: Chan INVENTORY: Premchitt NOTES: Hong Kong, Chan: 12/10/91 "Your letter in 10/91 to the Government of Hong Kong regarding World Landslide Inventory has been referred to me...."

1

WLI CLASS: 4 COUNTRY NAME: Hong Kong

LAST: Premchitt NAME - FIRST: Dr J

POSITION:

DEPARTMENT: Civil Engineering Department ORGANIZATION: Geotechnical Engineering Office

ORG (CONT):

BUILDING: 12/F Civil Engineering Building

STREET: 101 Princess Margaret Road Ho Man Tin

PO BOX:

CITY: Kowloon PROVINCE:

COUNTRY: HONG KONG

PHONE: (852)-762 5355 RESPONSE DATE: 12/10/91

FAX: (852)-714 0275

TELEX: CABLE: EMAIL:

INVENTORY: Premchitt IN CHARGE: Chan

NOTES:

COUNTRY NAME: Hungary WLI CLASS: 2,3

NAME - FIRST: Prof Ferenc LAST: Schweitzer

POSITION: Professor

DEPARTMENT: Geographical Institute

ORGANIZATION: Hungarian Academy of Sciences

ORG (CONT): BUILDING:

STREET: Andrássy u 62

PO BOX:

CITY: H-1062 Budapest PROVINCE:

COUNTRY: HUNGARY

RESPONSE DATE: 02/09/02 PHONE: (36)1-111 6838

FAX: (36)1-131 7991

TELEX: CABLE:

EMAIL: h2670mtafki ulla.hu

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IN CHARGE: Mezösi INVENTORY: Schweitzer

COUNTRY NAME: Hungary WLI CLASS: 4

NAME - FIRST: Prof Dr Jozsef LAST: Farkas

POSITION: Head

DEPARTMENT: Dept Geotechnics Geotechnikai Tanszek

ORGANIZATION: Technical University of Budapest ORG (CONT): Budapesti Müszaki Egyetem

BUILDING:

STREET: Muegyetem rkp 3

PO BOX:

CITY: H-1521 Budapest PROVINCE:

COUNTRY: HUNGARY

PHONE: (36)1-1664 242 RESPONSE DATE: 11/05/91

PHONE: (36)1-1664 242 FAX: (36)1-1664 242 TELEX: 225931 MUEGY

CABLE:

EMAIL:

IN CHARGE: Farkas INVENTORY: Farkas

NOTES:

COUNTRY NAME: Hungary WLI CLASS: 4

NAME - FIRST: László LAST: Lonsták

POSITION: Project Leader

DEPARTMENT: Investigation of Hungarian Landslides

ORGANIZATION: Hungarian Geological Survey

ORG (CONT): N-Hungarian Regional Service

BUILDING:

STREET: Kun B u 1/A

PO BOX:

CITY: H-3100 Salgótarján PROVINCE:

COUNTRY: HUNGARY

PHONE: (36)32-14-786 RESPONSE DATE: 04/01/92

FAX: (36)32-14-786

,

TELEX: 229172

CABLE:

EMAIL:

IN CHARGE: Lonsták INVENTORY: Lonsták

COUNTRY NAME: Hungary WLI CLASS: 2,3 LAST: Mezösi NAME - FIRST: Prof Gábor

POSITION: Head of Department

DEPARTMENT: Physical Geographical Institute

ORGANIZATION: University Szeged

ORG (CONT):

BUILDING:

STREET: Táncsics Mihály u 2

PO BOX: P B 653

CITY: H-6722 Szeged PROVINCE:

COUNTRY: HUNGARY

PHONE: (36)62-10865 RESPONSE DATE: 02/09/92

FAX: (36)62-12921

TELEX: 82401

CABLE:

EMAIL: h2522mezosi ulla.hu

IN CHARGE: Mezösi INVENTORY: Schweitzer

NOTES:

COUNTRY NAME: Iceland WLI CLASS: 0

NAME - FIRST: Birgir LAST: Jonsson

POSITION:

DEPARTMENT: Orkustofnun

ORGANIZATION: Department of Water Power

ORG (CONT):

BUILDING:

STREET: Grensasvegi 9

PO BOX:

CITY: IS-108 Reykjavík PROVINCE:

COUNTRY: ICELAND

RESPONSE DATE: / / PHONE:

FAX:

TELEX: CABLE:

EMAIL:

IN CHARGE: Jonsson INVENTORY: Jonsson

COUNTRY NAME: Iceland WLI CLASS: 1

NAME - FIRST: Haukur LAST: Jóhannesson

POSITION: Survey Geologist

DEPARTMENT: Division of Geology and Geography ORGANIZATION: Icelandic Museum of Natural History

ORG (CONT):

BUILDING:

STREET: Laugavegi 105 and Hverfisgota 116

PO BOX: P O Box 5320

CITY: IS-125 Reykjavík PROVINCE:

COUNTRY: ICELAND

PHONE: (354)1-629822 RESPONSE DATE: 11/15/91

FAX: (354)1-620815

TELEX: CABLE:

EMAIL:

IN CHARGE: Jóhannesson INVENTORY: Jóhannesson

NOTES:

COUNTRY NAME: Iceland WLI CLASS:

NAME - FIRST: Magnus Mar LAST: Magnusson

POSITION: Chief

DEPARTMENT: Avalanche Division Veourstofa Islands

ORGANIZATION: Iceland Meteorological Office

ORG (CONT):
BUILDING:

STREET: Bustadavegur 9

PO BOX:

CITY: IS-150 Reykjavík PROVINCE:

COUNTRY: ICELAND

PHONE: (354)1-600600 RESPONSE DATE: 02/26/91

FAX: (354)1-28121

)

TELEX: 858 300 SIMTEX IS METEO

CABLE:

EMAIL:

IN CHARGE: Magnusson INVENTORY: Magnusson

COUNTRY NAME: Iceland WLI CLASS: NAME - FIRST: Mr Halldor G LAST: Petursson POSITION: Geologist DEPARTMENT: ORGANIZATION: Akureyri Museum of Natural History ORG (CONT): BUILDING: STREET: PO BOX: P O Box 580 CITY: IS-602 Akureyri PROVINCE: COUNTRY: ICELAND PHONE: RESPONSE DATE: 02/26/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: COUNTRY NAME: India WLI CLASS: LAST: Nagar NAME - FIRST: V K POSITION: Surveyor General of India DEPARTMENT: ORGANIZATION: Survey of India ORG (CONT): BUILDING: STREET: PO BOX: P O Box 37 Hathibarkala CITY: Dehra Dun 248001 PROVINCE: COUNTRY: INDIA PHONE: (91)135-23468/27051/1 RESPONSE DATE: 01/10/92 FAX: TELEX: 0585 218 SRVY IN CABLE: SURVEYS EMAIL: INVENTORY: ---IN CHARGE: Nagar NOTES: India, Nagar: 01/10/92 "...Our organisation is involved in monitoring land slides on specific request of other Institutions. We, therefore, do not have a comprehensive record of Land Slides in the country. I am, however, forwarding a copy of your letter to the Director General, Geological Survey of India who may be able to provide you the requisite record of Land Slides. "I would like that our organisation is kept on your mailing list."

WLI CLASS: 2 COUNTRY NAME: India

LAST: Thakur NAME - FIRST: Dr V C

POSITION: Director

DEPARTMENT:

ORGANIZATION: Wadia Institute of Himalayan Geology

ORG (CONT): BUILDING:

STREET: 33 General Mahadeo Singh Road

PO BOX:

CITY: Dehra Dun 248001 PROVINCE:

COUNTRY: INDIA

PHONE: (91)135-23052/26335/27387 RESPONSE DATE: 11/15/91

FAX:

TELEX: 585-326 WIHG-IN

CABLE: HIMGEOLOGY

EMAIL:

INVENTORY: Virdi IN CHARGE: Thakur

NOTES: India, Thakur: 11/15/91 "A big effort is on for compiling on inventory for Western Himalaya. This

inventory will be Machine processible."

"...I request you to keep our Institute on your Mailing list and we assure you of our cooperation in overons [sic] task being undertaken by you and

your organisation."

COUNTRY NAME: India WLI CLASS: 2

NAME - FIRST: Dr N S LAST: Virdi

POSITION: Scientist E II

DEPARTMENT:

ORGANIZATION: Wadia Institute of Himalayan Geology

ORG (CONT): BUILDING:

STREET: 33 General Mahadeo Singh Road

PO BOX:

CITY: Dehra Dun 248001 PROVINCE:

COUNTRY: INDIA

PHONE: (91)135-23052/26335/27387 RESPONSE DATE: 11/15/91

FAX:

TELEX: 585-326 WIHG-IN

CABLE: HIMGEOLOGY

EMAIL:

INVENTORY: Virdi IN CHARGE: Thakur

COUNTRY NAME: India WLI CLASS: LAST: Gopalan NAME - FIRST: K POSITION: Deputy Director DEPARTMENT: ORGANIZATION: National Geophysical Research Institute ORG (CONT): BUILDING: STREET: Uppal Road PO BOX: CITY: Hyderabad 500007 PROVINCE: COUNTRY: INDIA PHONE: (91)842-850141 5 RESPONSE DATE: 11/06/91 FAX: (91)842-854164 TELEX: 0425-7018 NGRI IN CABLE: GEOPHYSICS EMAIL: IN CHARGE: INVENTORY: NOTES: India, Gopalan: 11/06/91 suggested Thakur, Valdiya. "Though my organization is not in a position to provide information on landslides, we shall appreciate if you can keep us on your mailing list." COUNTRY NAME: India WLI CLASS: 4 NAME - FIRST: Dr Pitamber LAST: Pant POSITION: Lecturer of Geology DEPARTMENT: D S B Campus ORGANIZATION: Kumaun University ORG (CONT): BUILDING: STREET: PO BOX: CITY: Naini Tal 263002 PROVINCE: UP COUNTRY: INDIA PHONE: (91)5942-2114 RESPONSE DATE: 12/07/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Pant INVENTORY: Pant NOTES: India, Pant: 12/07/91 Radhakrishna "...We are recommending the name of Dr. PITAMBER PANT as the person in charge to furnish the report on the current landslide inventory. Dr. Pant is an active worker in landslide investigations in the Central sector of Himalaya...." 11/06/91 Gopalan recommended Prof. K.S. Valdiya, Head of Dept of Geology, Kumaun Univ.

COUNTRY NAME: India WLI CLASS: 3-4

NAME - FIRST: Dr G S LAST: Mehrotra

POSITION: Senior Scientist

DEPARTMENT: Geotechnical Engineering Division ORGANIZATION: Central Building Research Institute

ORG (CONT):
BUILDING:
STREET:

PO BOX:

CITY: Roorkee 247667 PROVINCE: UP

COUNTRY: INDIA

PHONE: (91)1332-2465 RESPONSE DATE: 11/14/91

FAX: (91)1332-2272 TELEX: 0597-203

TELEX: 0597-203 CABLE: BILDSERCH

EMAIL:

IN CHARGE: Mehrotra INVENTORY: Sarkar

NOTES: India, Mehrotra: 11/14/91 "Inventory of landslides in standard format has been prepared for national data base in different sectors of Himalaya."

"...It would be pleasure for me to get the reports and other information on the status of World Landslide Inventory from you periodically.

"It is for your kind information that over a period of last one decade we have been engaged on the studies related to various aspects of landslides including preparation of inventory of landslides, hazard risk zonation map of the terrain and development of innovative control measure.

"We shall be glad to provide you any information on landslides when required."

COUNTRY NAME: India WLI CLASS: 3-4 NAME - FIRST: S LAST: Sarkar POSITION: Scientist DEPARTMENT: Geotechnical Engineering Division ORGANIZATION: Central Building Research Institute ORG (CONT): BUILDING: STREET: PO BOX: CITY: Roorkee 247667 PROVINCE: UP COUNTRY: INDIA PHONE: (91)1332-2465 RESPONSE DATE: 11/14/91 FAX: (91)1332-2272 TELEX: 0597-203 CABLE: BILDSERCH EMAIL: IN CHARGE: Mehrotra INVENTORY: Sarkar NOTES: COUNTRY NAME: Indonesia WLI CLASS: 2 NAME - FIRST: Mr Supardijono LAST: Sobirin POSITION: Secretary of the National Group IAEG DEPARTMENT: Institute of Hydraulic Engineering ORGANIZATION: DPMA ORG (CONT): BUILDING: STREET: Jl Ir H Juanda No 193 PO BOX: CITY: Bandung PROVINCE: COUNTRY: INDONESIA RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Sobirin INVENTORY: Sobirin NOTES:

WLI CLASS: 3 COUNTRY NAME: Indonesia LAST: Sudarsono NAME - FIRST: Untung POSITION: Head DEPARTMENT: Engineering Geology Division ORGANIZATION: Directorate of Environmental Geology ORG (CONT): BUILDING: STREET: Jalan Diponegoro 57 PO BOX: CITY: Bandung 40122 PROVINCE: COUNTRY: INDONESIA PHONE: (62)22-74760 FAX: (62)22-74767 RESPONSE DATE: 11/26/91 TELEX: 28760 DGT.IA CABLE: GTL - BANDUNG EMAIL: IN CHARGE: Sudarsono INVENTORY: Sudarsono NOTES: Indonesia, Sudarsono: 11/26/91 "I informed that our institution is responsible to produce landslide susceptibility map and as an example I send one of our map. We are very happy if you can give comment on our map." COUNTRY NAME: Indonesia WLI CLASS: 1 NAME - FIRST: Ir S LAST: Sukardi POSITION: Directorate of Rivers DEPARTMENT: Directorate General Water Resources Dev ORGANIZATION: Department of Public Works ORG (CONT): BUILDING: STREET: Jalan Pattimura 20 PO BOX: PROVINCE: CITY: Jakarta Selatan COUNTRY: INDONESIA PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: Sukardi/Sumartono INVENTORY: Fujita

WLI CLASS: 1 COUNTRY NAME: Indonesia NAME - FIRST: Ir LAST: Sumartono POSITION: Directorate of Rivers DEPARTMENT: Directorate General Water Resources Dev ORGANIZATION: Department of Public Works ORG (CONT): BUILDING: STREET: Jalan Pattimura 20 PO BOX: CITY: Jakarta Selatan PROVINCE: COUNTRY: INDONESIA RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Sukardi/Sumartono INVENTORY: Fujita NOTES: COUNTRY NAME: Iran WLI CLASS: 0 LAST: Behina NAME - FIRST: Camybse POSITION: DEPARTMENT: ORGANIZATION: Iranian Geotechnical Society ORG (CONT): BUILDING: STREET: 242 Pasdaran Ave PO BOX: PROVINCE: CITY: IR-19468 Tehran COUNTRY: IRAN PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: INVENTORY: Behina IN CHARGE: Behina NOTES:

WLI CLASS: 1 COUNTRY NAME: Iran

LAST: Berberian NAME - FIRST: Dr Manuel

POSITION: DEPARTMENT: ORGANIZATION:

ORG (CONT): BUILDING:

STREET: 3273 Lahitte Ct

PO BOX:

CITY: San Diego PROVINCE: CA 92122

COUNTRY: USA

PHONE: (1)619-457 5629 RESPONSE DATE: 12/18/91

FAX: TELEX: CABLE: EMAIL:

IN CHARGE: Berberian INVENTORY: Berberian NOTES: Iran, Berberian: 12/18/91 formerly with

Seismotectonic Section, Geol. Survey of Iran

COUNTRY NAME: Iraq WLI CLASS: 2

NAME - FIRST: Dr Adnan B LAST: Nagash

POSITION: Professor of Geomorphology

DEPARTMENT: Geology Department ORGANIZATION: Baghdad University

ORG (CONT): BUILDING:

STREET: Jadriah

PO BOX:

PROVINCE: CITY: Baghdad

COUNTRY: IRAQ

PHONE: (964)1-776 0730 ext 164 RESPONSE DATE: 12/05/91

TELEX: 212197 B JAMIT IK

CABLE: EMAIL:

IN CHARGE: Nagash INVENTORY: Nagash

COUNTRY NAME: Ireland WLI CLASS: 0 LAST: O'Donovan NAME - FIRST: M B POSITION: DEPARTMENT: ORGANIZATION: Geotechnical Society of Ireland ORG (CONT): BUILDING: STREET: 22 Clyde Rd Ballsbridge PO BOX: CITY: Dublin 4 PROVINCE: COUNTRY: IRELAND RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: INVENTORY: O'Donovan IN CHARGE: O'Donovan NOTES: COUNTRY NAME: Ireland WLI CLASS: 1 NAME - FIRST: Michael LAST: Rodgers POSITION: Lecturer in Civil Engineering DEPARTMENT: ORGANIZATION: University College ORG (CONT): BUILDING: STREET: PO BOX: CITY: Galway PROVINCE: COUNTRY: IRELAND PHONE: (353)91-24411 RESPONSE DATE: 12/12/91 FAX: (353)91-25700 TELEX: 50023 EI CABLE: EMAIL: IN CHARGE: Rodgers INVENTORY: Rodgers NOTES:

WLI CLASS: 3 COUNTRY NAME: Israel LAST: Inbar NAME - FIRST: Dr Moshe POSITION: Head Lab of Geomorphology DEPARTMENT: Department of Geography ORGANIZATION: University of Haifa ORG (CONT): BUILDING: STREET: PO BOX: CITY: Haifa 31905 PROVINCE: COUNTRY: ISRAEL PHONE: (972)4-240552 FAX: (972)4-342101 RESPONSE DATE: 11/04/91 TELEX: CABLE: EMAIL: BITNET: RSGE 729 &HAIFAUVM IN CHARGE: Inbar INVENTORY: Arad NOTES: COUNTRY NAME: Israel WLI CLASS: 1 NAME - FIRST: Daniel LAST: Wachs POSITION: Geologist DEPARTMENT: ORGANIZATION: Geological Survey of Israel ORG (CONT): BUILDING: STREET: 30 Malkhe Israel St PO BOX: CITY: Jerusalem 95501 PROVINCE: COUNTRY: ISRAEL PHONE: (972)2-314267 RESPONSE DATE: 11/11/91 FAX: (972)2-380688 TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: Israel, Wachs: 11/91 Beyth: passed letter on to Dr. A. Bein at this address (Geological Survey) 11/91 Inbar: Inventory contact = Varda Arad, Geological Survey 11/11/91 Wachs "Damage by landslides are reported from the 1837 and 1927 earthquake events."

COUNTRY NAME: Israel WLI CLASS: 3 NAME - FIRST: Varda LAST: Arad POSITION: DEPARTMENT: ORGANIZATION: Geological Survey of Israel ORG (CONT): BUILDING: STREET: 30 Malchei Israel PO BOX: CITY: Jerusalem 95501 PROVINCE: COUNTRY: ISRAEL PHONE: RESPONSE DATE: 11/04/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Inbar INVENTORY: Arad NOTES: COUNTRY NAME: Italy WLI CLASS: NAME - FIRST: Prof Ing Franco LAST: Esu POSITION: DEPARTMENT: ORGANIZATION: ORG (CONT): BUILDING: STREET: Via Proba Petronia 69 PO BOX: CITY: I-00136 Roma PROVINCE: COUNTRY: ITALY PHONE: (39)6-345 0894 RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES:

WLI CLASS: 4 COUNTRY NAME: Italy NAME - FIRST: Prof Paolo LAST: Canuti POSITION: Professor DEPARTMENT: Dipartimento di Scienze della Terra ORGANIZATION: Universita degli Studi de Firenze ORG (CONT): BUILDING: STREET: Via G La Pira 4 PO BOX: CITY: I-50121 Firenze PROVINCE: COUNTRY: ITALY PHONE: RESPONSE DATE: / / FAX: (39)55-218 628 TELEX: CABLE: EMAIL: IN CHARGE: Canuti INVENTORY: Canuti NOTES: COUNTRY NAME: Italy WLI CLASS: NAME - FIRST: Prof V LAST: Cotecchia POSITION: Direttore Facolta d'Ingeneria DEPARTMENT: Inst di Geologia Applicata & Geotechnica ORGANIZATION: University of Bari ORG (CONT): BUILDING: STREET: Via Re David 200 PO BOX: CITY: I-70125 Bari PROVINCE: COUNTRY: ITALY PHONE: (39)80-242 200/350 377 RESPONSE DATE: / / FAX: (39)80-353 231 TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES:

1

COUNTRY NAME: Jamaica WLI CLASS:

NAME - FIRST: J V LAST: DeGraff

POSITION:

DEPARTMENT: Sierra National Forest ORGANIZATION: USDA Forest Service

ORG (CONT):
BUILDING:

STREET: 1600 Tollhouse Road

PO BOX:

CITY: Clovis PROVINCE: CA 93612

COUNTRY: USA

PHONE: (1)209-487 5640 RESPONSE DATE: 01/17/92

FAX: TELEX:

CABLE: EMAIL:

IN CHARGE: INVENTORY:

NOTES:

COUNTRY NAME: Jamaica WLI CLASS: 2

NAME - FIRST: Mr Rafi LAST: Ahmad

POSITION: Lecturer

DEPARTMENT: Department of Geology

ORGANIZATION: University of the West Indies

ORG (CONT):

BUILDING:

STREET: Mona Campus

PO BOX:

CITY: Kingston 7 PROVINCE:

COUNTRY: JAMAICA WEST INDIES

PHONE: (1)809-927 2728 RESPONSE DATE: 10/31/91

FAX: (1)809-927 1640

TELEX: 2123 UNIVERS JAMAICA CABLE: UNIVERSITY JAMAICA

EMAIL:

IN CHARGE: Ahmad INVENTORY: Ahmad

NOTES: Jamaica, Ahmad: 10/31/91 "Enclosed are a few

publications from Jamaica. Your comments will be appreciated. We are trying to move into class 3

inventory, however, there are problems."

WLI CLASS: COUNTRY NAME: Japan NAME - FIRST: Dr H LAST: Nakamura POSITION: DEPARTMENT: Public Works Research Institute ORGANIZATION: Ministry of Construction Govt of Japan ORG (CONT): BUILDING: STREET: 1 Ashahi Tsukuba-Shi PO BOX: CITY: Ibaraki-Ken 305 PROVINCE: COUNTRY: JAPAN PHONE: (81)298-64 2211 FAX: (81)298-64 2840 TELEX: 3652-574 PWRIMC J RESPONSE DATE: / / CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: WLI CLASS: 5 COUNTRY NAME: Japan NAME - FIRST: Prof Kyoji LAST: Sassa POSITION: Professor DEPARTMENT: DPRI Disaster Prevention Research Inst ORGANIZATION: Kyoto University ORG (CONT): BUILDING: STREET: Gokasho Uji PO BOX: CITY: Kyoto 611 PROVINCE: COUNTRY: JAPAN PHONE: (81)774-32 3111 RESPONSE DATE: / / FAX: (81)774-32 4115 TELEX: 781 545 3638 UCLKU J CABLE: EMAIL: IN CHARGE: INVENTORY: Sassa NOTES:

COUNTRY NAME: Japan WLI CLASS:

NAME - FIRST: Shinjiro LAST: Mizutani

POSITION: Geology

DEPARTMENT: Department of Earth Science

ORGANIZATION: Nagoya University

ORG (CONT):
BUILDING:
STREET:

CITY: Nagoya 464 01 PROVINCE:

COUNTRY: JAPAN

PHONE: (81)52-781 5111 ext 2525 RESPONSE DATE: 12/06/91

FAX: (81)52-782 7091

TELEX: CABLE: EMAIL:

PO BOX:

IN CHARGE: INVENTORY:

to contact him...."

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NOTES: Japan, Mizutani: 12/06/91 "...We Japanese scientists had organized a group, mainly consisting of university teachers in Japan, aiming at study on all kinds of natural disasters; I have been working in 'the Japanese Group for Natural Disaster Science' as a geologist; I myself have been studying sedimentology and structural geology, and also general natural disasters in relation to physical geology. We have also a committee for IDNDR....In the Japanese Group, we have many subgroups; the head, which you want to know, of the subgroup of the geological disasters is Prof. Dr. Akira Iwamatsu. So, I recommend you

WLI CLASS: COUNTRY NAME: Japan NAME - FIRST: Dr H LAST: Fujita POSITION: DEPARTMENT: ORGANIZATION: SABO Technical Center ORG (CONT): BUILDING: STREET: Ichigaya-Sadohara 3-4 Shinjuku-Ku PO BOX: CITY: Tokyo 162 PROVINCE: COUNTRY: JAPAN PHONE: (81)3-267 8014 RESPONSE DATE: / / FAX: (81)3-267 8040 TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: Japan, Fujita: Also is inventory contact for Mauritius and Philippines. COUNTRY NAME: Japan WLI CLASS: 3-4 NAME - FIRST: Hiroyuki LAST: Yoshimatsu POSITION: Head of Landslide Division DEPARTMENT: Erosion Control Department ORGANIZATION: Public Works Research Institute ORG (CONT): BUILDING: Ministry of Construction STREET: Asahi 1 PO BOX: CITY: Tsukuba City PROVINCE: Ibaraki 305 COUNTRY: JAPAN PHONE: (81) 298-64 2211 RESPONSE DATE: 12/27/91 FAX: (81)298-64 0903 TELEX: CABLE: EMAIL: IN CHARGE: Yoshimatsu INVENTORY: Yoshimatsu

NOTES:

COUNTRY NAME: Kazakhstan WLI CLASS:

NAME - FIRST: Vladimir P LAST: Bochkarev

POSITION: Chief Exogenic Geodynamics & Geoecology

DEPARTMENT: Geological Institute

ORGANIZATION: Kazakh Academy of Sciences

ORG (CONT):
BUILDING:

STREET: Lenina st 248 fl 49

PO BOX:

CITY: Alma-Ata 480020 PROVINCE:

COUNTRY: KAZAKHSTAN

PHONE: 646619 RESPONSE DATE: 12/27/91

FAX: TELEX: CABLE:

EMAIL:

IN CHARGE: Bochkarev(Lenina st) INVENTORY: Bochkarev (Kalinina)
 NOTES: Kazakhstan, Bochkarev, Lenina st: 12/17/91 "...In

my laboratory research work on the programme 'Especially dangerous elemental phenomena. Natural development and distribution. Reducing the damage caused by geodynamic natural hazards' is carried

out.

"The territory of exploration is Kazakhstan. Geodynamic processes of endogenic (seismodislocations) and exogenic (landslides, collapses, mud flows, erosion) genesis are the objects of investigations. This work is planned for 1991-1995. It is realized with cooperation of specialists from other organizations - Institutes of Seismology and Geography. Degree of studying assessment of the elemental phenomena is carried out by computer data bank, setting up according to the developing of monitoring system and territory protection from disastrous geological processes....A part of our materials is presented in the book 'Engineering Geology of the Earth', Moscow, 1989, and in the proceedings of Engineering Geology International Congresses -Buenos Aires, Oct. 1986, Amsterdam, Aug. 1990." Member of Eng. Acad. of USSR

COUNTRY NAME: Kazakhstan WLI CLASS: LAST: Bochkarev NAME - FIRST: Vladimir P POSITION: DEPARTMENT: Geological Institute ORGANIZATION: Kazakh Academy of Sciences ORG (CONT): BUILDING: STREET: Kalinina st 69-a PO BOX: CITY: Alma-Ata 480100 PROVINCE: COUNTRY: KAZAKHSTAN PHONE: 615879 RESPONSE DATE: 12/27/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Bochkarev (Lenina st) INVENTORY: Bochkarev (Kalinina) NOTES: COUNTRY NAME: Kenya WLI CLASS: 4 NAME - FIRST: Bernard G LAST: Wangusi POSITION: DEPARTMENT: Materials Department ORGANIZATION: Ministry of Public Works ORG (CONT): BUILDING: STREET: PO BOX: P O Box 11873 CITY: Nairobi PROVINCE: COUNTRY: KENYA RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Wangusi INVENTORY: Wangusi

NOTES:

WLI CLASS: 1 COUNTRY NAME: Kenya NAME - FIRST: Dr Isaac O LAST: Nyambok POSITION: Professor DEPARTMENT: Department of Geology ORGANIZATION: University of Nairobi ORG (CONT): BUILDING: STREET: PO BOX: P O Box 30197 CITY: Nairobi PROVINCE: COUNTRY: KENYA PHONE: (254)2-442121 RESPONSE DATE: 01/29/92 FAX: TELEX: 22095 Varsity KE CABLE: Varsity EMAIL: IN CHARGE: Nyambok INVENTORY: Nyambok NOTES: Kenya, Nyambok: 01/29/92 "The most recent major landslide which occurred in mid-1991 has been scientifically investigated by Nyambok, I.O., and Davis, T.C., and has been submitted for publication." COUNTRY NAME: Kuwait WLI CLASS: NAME - FIRST: Mohammed LAST: Al-Hamad POSITION: A/Manager Technical Service Dept DEPARTMENT: Nat Scientific and Technical Info Center ORGANIZATION: Kuwait Institute for Scientific Research ORG (CONT): BUILDING: STREET: PO BOX: P O Box 24885 CITY: 13109 Safat PROVINCE: COUNTRY: KUWAIT PHONE: (965)-483 0776/483 0125 RESPONSE DATE: 12/28/91 FAX: (965)-484 6891 TELEX: 22299 KISR KT CABLE: SCIENCE EMAIL: INVENTORY: IN CHARGE: NOTES: Kuwait, Al-Hamad: 12/28/91 "...We have forwarded your letter along with your enclosed form to our Environmental and Earth Sciences Division....Al-Ajmi....You may continue to keep

the above address in your mailing list."

COUNTRY NAME: Kuwait WLI CLASS: NAME - FIRST: Dr Dhari LAST: Al-Ajmi POSITION: Division Director DEPARTMENT: Environmental and Earth Sciences Div ORGANIZATION: Kuwait Institute for Scientific Research ORG (CONT): BUILDING: STREET: PO BOX: P O Box 24885 CITY: 13109 Safat PROVINCE: COUNTRY: KUWAIT PHONE: (965)-483 0776/483 0125 RESPONSE DATE: 12/31/91 FAX: (965)-484 6891 TELEX: 22299 KISR KT CABLE: SCIENCE Kuwait EMAIL: IN CHARGE: Al-Ajmi INVENTORY: Al-Ajmi NOTES: Kuwait, Al-Ajmi: 12/31/91 "...My office will be glad to provide you any related information on the landslides in my country, and please do not hesitate to contact me for further information. We look forward to hear from you." COUNTRY NAME: Libya WLI CLASS: 1 NAME - FIRST: Dr S LAST: Ostaficzuk POSITION: DEPARTMENT: Geosynoptics Minerals Economy & Energy ORGANIZATION: Research Centre of the Polish Academy of ORG (CONT): Sciences BUILDING: STREET: Ksiecia Janusza 64 PO BOX: CITY: 01-252 Warszawa PROVINCE: COUNTRY: POLAND PHONE: (48)22-361901 RESPONSE DATE: 02/04/92 FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: Libya, Ostaficzuk: 02/04/92 "...You may also find it interesting, that I was lucky to find in 1971 a huge zone of fossil landslides surrounding Hammada al Hamra [plateau in Libya] in North Africa, what was then published in 1973...."

COUNTRY NAME: Libya WLI CLASS: 0 LAST: Bourkhis NAME - FIRST: Mohamed POSITION: Director DEPARTMENT: Geological Research and Mining Dept ORGANIZATION: Industrial Research Center ORG (CONT): BUILDING: STREET: PO BOX: P O Box 3633 CITY: Tripoli PROVINCE: COUNTRY: LIBYA PHONE: (218)21-691511-18 RESPONSE DATE: 02/09/92 FAX: (218)21-69510/69512 TELEX: 20038/20312 CABLE: EMAIL: IN CHARGE: Bourkhis INVENTORY: Bourkhis NOTES: Libya, Bourkhis: 02/09/92 Form filled out for Industrial Research Center, but no name given. Bourkhis is the name from an earlier list. COUNTRY NAME: Luxembourg

LAST: Naquil WLI CLASS: 4 POSITION: Geologist DEPARTMENT: Service Géologique ORGANIZATION: Administration des Ponts et Chaussées ORG (CONT): BUILDING: STREET: 43 Bd G-D Charlotte CITY: L-1331 Luxembourg PROVINCE: COUNTRY: LUXEMBOURG
PHONE: (352)-444126 RESPONSE DATE: 01/08/92
FAX: (352)-458760 TELEX: CABLE: EMAIL: IN CHARGE: Naquil INVENTORY: Naquil NOTES: Luxembourg, Naquil: 01/08/92 Class 4 since 1970.

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COUNTRY NAME: Madagascar
                                                  WLI CLASS: 1
NAME - FIRST: Dr Jean Bruno LAST: Ratsimbazafy
    POSITION: Director
  DEPARTMENT:
ORGANIZATION: Geophysical Observatory
  ORG (CONT):
    BUILDING:
      STREET:
      PO BOX: P O Box 3843
        CITY: 101 Antananarivo
                                         PROVINCE:
     COUNTRY: MADAGASCAR
       PHONE: (261)2-25353
                                         RESPONSE DATE: 04/23/92
         FAX:
       TELEX: 2204 RECUMT MG Attn: Geophys Obs
       CABLE:
       EMAIL:
   IN CHARGE: Ratsimbazafy
                                   INVENTORY: Ratsimbazafy
       NOTES: Madagascar, Ratsimbazafy: 04/23/92 "Our delay in
              reply is due to a long general strike in our
              country (roughly 8 months) on last year 1991.
                 "Besides, our country is very wide. So, to
              have a complete national coverage is very
              difficult unless material and financial supports
              from your organisation or others (UNESCO) are
              provided. Under these conditions, information on
              landslides could be provided without any problems.
              Thank you very much. We look forward to
              cooperation. I think of remote sensing data
              using."
COUNTRY NAME: Malawi
                                                  WLI CLASS: 1
NAME - FIRST: H E
                                      LAST: Dandaula
    POSITION: for Chief Meteorologist
  DEPARTMENT:
ORGANIZATION: Meteorological Department
  ORG (CONT):
    BUILDING:
      STREET:
      PO BOX: P O Box 2
        CITY: Chileka Airport
                                        PROVINCE:
     COUNTRY: MALAWI
       PHONE: (265)-694355
                                       RESPONSE DATE: 11/18/91
         FAX: (265)-694332
       TELEX: 44611
       CABLE:
       EMAIL:
   IN CHARGE:
                                   INVENTORY:
       NOTES: Malawi, Dandaula: 11/18/91 "...Your letter has
              been passed on to an appropriate agency, the
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Geological Survey Department who are the competent organization. However, the Meteorological Department wishes to remain on your mailing list and will provide whatever information on landslides will be available to it...."

COUNTRY NAME: Malawi WLI CLASS:

NAME - FIRST: Nic J LAST: Money

POSITION: Director

DEPARTMENT: Geological Survey Department

ORGANIZATION: Ministry of Mines

ORG (CONT):

BUILDING:

STREET: Government Road Ridgeway

PO BOX: P O Box 50135

CITY: Lusaka PROVINCE:

COUNTRY: ZAMBIA

RESPONSE DATE: 11/26/91

PHONE: (260)1-250174 FAX: (260)1-251973 TELEX: ZA 40107 GEOLOGY

CABLE: EMAIL:

IN CHARGE: INVENTORY:

NOTES: Malawi, Money: 11/26/91 "... Over the last two years heavy rainfall resulted in calamities in Zambia and Malawi....It is also understood that major landslides involving complete hills took

> place in neighbouring Malawi although no documentation has been received...."

COUNTRY NAME: Malawi WLI CLASS: 1

LAST: Phiri NAME - FIRST: F R

POSITION: Acting Chief Geologist

DEPARTMENT:

ORGANIZATION: Geological Survey of Malawi

ORG (CONT): BUILDING:

STREET: Liwonde Road PO BOX: P O Box 27

CITY: Zomba PROVINCE:

COUNTRY: MALAWI

PHONE: (265)50-522 166 RESPONSE DATE: 03/18/92

FAX: (265)50-522 716

TELEX: 44382

CABLE:

EMAIL:

IN CHARGE: Phiri INVENTORY: Gohawe

NOTES: Malawi, Phiri: 03/18/92 "Within the last four

years, there have been a number of landslides and

rock avalanches."

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COUNTRY NAME: Malawi
                                               WLI CLASS: 1
                              LAST: Gohawe
NAME - FIRST: P C
   POSITION:
  DEPARTMENT:
ORGANIZATION: Geological Survey of Malawi
 ORG (CONT):
   BUILDING:
     STREET:
     PO BOX: P O Box 27
       CITY: Zomba
                                PROVINCE:
    COUNTRY: MALAWI
      PHONE: (265)50-522 166
                                     RESPONSE DATE: 03/18/92
        FAX: (265)50-522 716
      TELEX: 44382
      CABLE:
      EMAIL:
  IN CHARGE: Phiri
                        INVENTORY: Gohawe
  NOTES:
COUNTRY NAME: Malaysia
                                               WLI CLASS: 1
NAME - FIRST:
                              LAST: Chow Weng Sum
    POSITION: Head
  DEPARTMENT: Engineering Geology Section
ORGANIZATION: Geological Survey of Malaysia
  ORG (CONT): Makmal Penyiasatan Kajibumi
   BUILDING:
     STREET: Jalan Sultan Azlan Shah
     PO BOX: P S 1015
       CITY: 30820 Ipoh Perak PROVINCE: Darul Ridzuan
     COUNTRY: MALAYSIA
                                RESPONSE DATE: 12/16/91
      PHONE: (60)5-557 644
        FAX: (60)5-056 2815
      TELEX:
      CABLE:
      EMAIL:
   IN CHARGE: Chow Weng Sum INVENTORY: Chow Weng Sum
      NOTES: Malaysia, Chow Weng Sum: 12/16/91 "...The
             Geological Survey of Malaysia has an Environmental
             Geology Unit within the Engineering Geology
             Section which conducts investigations on natural
             disasters like landslides, rockfalls, sinkholes
             etc..."
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COUNTRY NAME: Malaysia WLI CLASS:

NAME - FIRST: P LAST: Markandan

POSITION: Director General

DEPARTMENT: Malaysian Meteorological Service ORGANIZATION: Perkhidmatan Kajicuaca Malaysia

ORG (CONT):
BUILDING:

STREET: Jalan Sultan

PO BOX:

CITY: 46667 Petaling Jaya PROVINCE: Selangor

COUNTRY: MALAYSIA

PHONE: (60)3-756 9422 RESPONSE DATE: 11/11/91

FAX:

**TELEX: MA 37243** 

CABLE: METEO, KUALA LUMPUR

EMAIL:

IN CHARGE: INVENTORY:

NOTES: Malaysia, Markandan: 11/11/91 "...Your letter requesting for data on landslides in Malaysia has been redirected to... Geological Survey Department...who monitor landslides occurring in the country and as such will be able to respond effectively to your queries... The question of studies/research on the occurrence of landslides was raised during the 10th session of the World Meteorological Organisation (WMO) when discussing the WMO Tropical Cyclone Programme. A survey was conducted by WMO but to-date no official publication has been distributed...We would greatly appreciate it if you could forward for our information copies of research papers, if available, that would be useful to the meteorologists in respect of the factors that cause landslides and how it (the occurrence of

landslides) could be prevented or at least

minimized."

COUNTRY NAME: Malaysia WLI CLASS: 1 NAME - FIRST: Dr Wen Hui LAST: Ting POSITION: DEPARTMENT: ORGANIZATION: Dr W H Ting Consultants SDN BHD ORG (CONT): BUILDING: STREET: 18 Jalan SS 20/10 Damansara Kim PO BOX: CITY: Petaling Jaya PROVINCE: COUNTRY: MALAYSIA PHONE: (60)3-719 7409 RESPONSE DATE: / / FAX: (60)3-717 6015 TELEX: CABLE: EMAIL: INVENTORY: Ting IN CHARGE: Ting NOTES: COUNTRY NAME: Malta WLI CLASS: 1 NAME - FIRST: Frans LAST: Mallia POSITION: Conservation & Natural Resources Officer DEPARTMENT: Planning Services Division ORGANIZATION: Conservation Section Works Department ORG (CONT): BUILDING: STREET: Floriana PO BOX: CITY: Beltissebh PROVINCE: COUNTRY: MALTA PHONE: (356)-221411 RESPONSE DATE: 11/28/91 FAX: (356)-224846 TELEX: 110 MOD MLT MT CABLE: EMAIL: IN CHARGE: Mallia INVENTORY: Mallia NOTES: Malta, Mallia: 11/28/91 "We do have very sketchy information about landslides occurring, but no evaluation of areas which represent a landslide risk has been conducted and no mapping in this respect has been done. However the areas which represent a risk are known since they occur near cliffs which overly clay slopes. The erosion of the clay reduces support of overlying rocks and these eventually tumble down below. However, most of these areas 'at risk' are not inhabited and consequently do not represent a major threat. However there has been a reported case where some tourists were slightly injured during such a

landslide and the markings of recent landslide activity can be readily recognized on the cliff faces. But nothing major and no casualties are known.

"There are also areas which are underlined by solution hollows and/or caves. Since no systematic geological analysis has been conducted, it is impossible to assess where such a risk lies until structural failure actually takes place. Although not strictly speaking pertaining to a landslide nature, perhaps it might interest NLIC that such a problem exists in Malta, albeit to a very small degree.

"Seismic activity is rather limited although some damage resulting from tectonic movements is sometimes reported. During this century, no earthquake with a force greater than 5 on the Richter Scale has been reported. In 1990, two earthquakes were reported, one on October 31st with epicentre near Gozo whilst the second occurred on the 13th of December and had epicentre near the Bay of Syracuse, Italy."

COUNTRY NAME: Mauritius WLI CLASS: 1 NAME - FIRST: Mr Jean LAST: Hendry POSITION: Administrative Secretary DEPARTMENT: ORGANIZATION: Ministry of Local Government ORG (CONT): BUILDING: Emmanuel Anquetil Bldg STREET: PO BOX: CITY: Port Louis PROVINCE: COUNTRY: MAURITIUS PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: Hendry INVENTORY: Fujita NOTES:

1

COUNTRY NAME: Mexico WLI CLASS: 2 NAME - FIRST: Luis Miguel Squire LAST: Menchaca POSITION: Chairman DEPARTMENT: ORGANIZATION: Soc Méxicana de Mecánica de Suelos A C ORG (CONT): BUILDING: STREET: Calle de Bravo No 19 Cal Vergel PO BOX: CITY: Coyoacan PROVINCE: DF COUNTRY: MEXICO RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Menchaca INVENTORY: Morales Virgen NOTES: COUNTRY NAME: Mexico WLI CLASS: 2 LAST: Morales Virgen NAME - FIRST: Luis Raul POSITION: DEPARTMENT: ORGANIZATION: ORG (CONT): BUILDING: STREET: Av Universidad 1187 401 PO BOX: CITY: México 03100 PROVINCE: DF COUNTRY: MEXICO PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: Menchaca INVENTORY: Morales Virgen NOTES:

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COUNTRY NAME: Mexico WLI CLASS: 1 NAME - FIRST: Dr Gerardo LAST: Suárez POSITION: Director DEPARTMENT: Instituto de Geofísica ORGANIZATION: UNAM Univ Nacional Autonoma de México ORG (CONT): BUILDING: STREET: Circuito de la Investigación Ciudad Univ PO BOX: Apartado Postal 21499 CITY: México 04000 PROVINCE: DF COUNTRY: MEXICO PHONE: (52)5-548 5892/550 5949 RESPONSE DATE: 11/07/91 FAX: (52)5-550 2486 TELEX: 1760197 IGSSME CABLE: EMAIL: BITNET: SISMO UNAMVM1 IN CHARGE: Suárez INVENTORY: Suárez NOTES: COUNTRY NAME: Monaco WLI CLASS: 1 NAME - FIRST: Mr Raoul LAST: Viora POSITION: Ingénieur du Contrôle Technique DEPARTMENT: ORGANIZATION: Stade Louis II ORG (CONT): BUILDING: STREET: 1 Avenue des Castellans PO BOX: CITY: 98000 Monaco-ville PROVINCE: COUNTRY: MONACO PHONE: (33)93-15 85 51 RESPONSE DATE: 11/08/91 FAX: (33)93-15 85 50 TELEX: CABLE: EMAIL: IN CHARGE: Viora INVENTORY: Viora NOTES: Monaco, Viora: 11/08/91 "Due to its tiny size Principality of Monaco is scarcely concerned with landslides. therefore no systematic data capture is provided. In case a landslide would appear it will be treated independently....Monaco is a very tiny principality (2 Square Kilometers) located in a rocky area. Therefore landslides on its territory are very scarce. Should such an event appear it will be treated with all needed means."

COUNTRY NAME: Mongolia WLI CLASS: 3 LAST: Gurragchaa NAME - FIRST: Mr POSITION: Chairman DEPARTMENT: ORGANIZATION: MGGEC Mongolian Geological and ORG (CONT): Geophysical Exploration Company Ltd BUILDING: International Geological Bldg 8th floor STREET: PO BOX: CITY: Ulaanbaatar 37 Tolgoit PROVINCE: 210537 COUNTRY: MONGOLIA PHONE: 31821 RESPONSE DATE: 11/25/91 FAX: TELEX: 79308 MGGE MN CABLE: EMAIL: IN CHARGE: Gurragchaa INVENTORY: Saandar NOTES: Mongolia, Gurragchaa: 11/25/91 "...Pls, send to us detail information about yr landslides analog and digital databases of Asia, and requirements to data format, hardware (PC based or workstations) and software...We will be to participate at National Western Mining Conference in Denver, CO, 5-7 Feb, 1992, and proposed to meet y at this conference 4 detail discussions of cooperation. Thks y 4 yr cooperation in future." WLI CLASS: COUNTRY NAME: Mongolia NAME - FIRST: Dr M LAST: Saandar POSITION: Director DEPARTMENT: Remote Sensing and Geoinformation Center ORGANIZATION: MGGEC Mongolian Geological and ORG (CONT): Geophysical Exploration Company Ltd BUILDING: International Geological Bldg 8th floor STREET: PO BOX: CITY: Ulaanbaatar 37 Tolgoit PROVINCE: 210537 COUNTRY: MONGOLIA PHONE: 31821 RESPONSE DATE: 11/25/91 FAX: TELEX: 79308 MGGE MN CABLE: EMAIL: IN CHARGE: Gurragchaa INVENTORY: Saandar

NOTES:

COUNTRY NAME: Morocco WLI CLASS: 2 LAST: Kacimi NAME - FIRST: My Mustapha POSITION: Régional Representative DEPARTMENT: ORGANIZATION: Délégation Régionale de l'Energie et ORG (CONT): des Mines BUILDING: STREET: PO BOX: B P 302 CITY: Ouarzazate PROVINCE: COUNTRY: MOROCCO PHONE: (212)4-883240 RESPONSE DATE: 11/13/91 FAX: TELEX: 32761M CABLE: EMAIL: IN CHARGE: Kacimi INVENTORY: Kacimi NOTES: Morocco, Kacimi: 04/10/91 LaRochelle, Quebec "...The importance of Morocco as a landslide prone country is greatly underestimated, the Rif area up to and including the coast of the Gibraltar Detroit is covered by a network of landslides and rockslides, some of them quite spectacular. There are some whole mountainsides, many kilometers long, subjected to observable creep with occasional landslides in a plastic material." COUNTRY NAME: Namibia WLI CLASS: 0 NAME - FIRST: Dr Brian G LAST: Hoal POSITION: Chief Geology DEPARTMENT: ORGANIZATION: Geological Survey of Namibia ORG (CONT): BUILDING: STREET: PO BOX: P O Box 2168 CITY: Windhoek 9000 PROVINCE: COUNTRY: NAMIBIA RESPONSE DATE: 12/02/91 PHONE: (264)61-37240 FAX: (264)61-228324 TELEX: CABLE: EMAIL: IN CHARGE: Hoal INVENTORY: Hoal NOTES: Namibia, Hoal: 12/02/91 "Local inventory of rockfalls and mine-related 'landslides' from: Inspector of Mines, Ministry of Mines and Energy, Private Bag 13297, Windhoek 9000, Namibia."

COUNTRY NAME: Nepal WLI CLASS: 2 NAME - FIRST: Mahendra Narsingh LAST: Rana POSITION: Director General DEPARTMENT: Department of Mines and Geology ORGANIZATION: Ministry of Industry and Commerce ORG (CONT): BUILDING: STREET: Lainchaur PO BOX: CITY: Kathmandu PROVINCE: COUNTRY: NEPAL PHONE: (977)-414806 RESPONSE DATE: / / FAX: TELEX: 947 2320 MINES NP CABLE: EMAIL: IN CHARGE: Rana INVENTORY: Rana NOTES: COUNTRY NAME: Netherlands WLI CLASS: 1 NAME - FIRST: Dr J J A LAST: Hartevelt POSITION: Secretary DEPARTMENT: Netherlands Sect of Engineering Geology ORGANIZATION: Fugro Geotechnical Engineers BV ORG (CONT): BUILDING: STREET: PO BOX: P O Box 63 CITY: 2260 AB Leidschendam PROVINCE: COUNTRY: NETHERLANDS RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Hartevelt INVENTORY: Hartevelt NOTES:

COUNTRY NAME: Netherlands WLI CLASS: 1 LAST: Ammonietenhoeve NAME - FIRST: Stg POSITION: DEPARTMENT: ORGANIZATION: ORG (CONT): BUILDING: STREET: St Lambertusweg 4 PO BOX: CITY: 5291 NB Boxtel PROVINCE: COUNTRY: NETHERLANDS PHONE: (31)4116-72496 RESPONSE DATE: 11/07/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Fraaye INVENTORY: Ammonietenhoeve NOTES: COUNTRY NAME: Netherlands WLI CLASS: 1 NAME - FIRST: Dr R H B LAST: Fraaye POSITION: Curator DEPARTMENT: Geological Museum ORGANIZATION: Geo Centrum Brabant ORG (CONT): BUILDING: STREET: St Lambertusweg 4 PO BOX: CITY: 5291 NB Boxtel PROVINCE: COUNTRY: NETHERLANDS PHONE: (31)4116-72496 RESPONSE DATE: 11/07/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Fraaye INVENTORY: Ammonietenhoeve

NOTES:

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COUNTRY NAME: New Zealand WLI CLASS: 1-2 LAST: Sutherland NAME - FIRST: Ron D POSITION: Land Manager DEPARTMENT: ORGANIZATION: Nelson Marlborough Regional Council ORG (CONT): BUILDING: STREET: 15 Purkiss St PO BOX: Private Bag CITY: Blenheim PROVINCE: COUNTRY: NEW ZEALAND PHONE: (64)3-578 9099 RESPONSE DATE: 12/03/91 FAX: (64)3-578 2818 TELEX: CABLE: EMAIL: IN CHARGE: Sutherland INVENTORY: Sutherland NOTES: COUNTRY NAME: New Zealand WLI CLASS: NAME - FIRST: Mr David H LAST: Bell POSITION: DEPARTMENT: Geology Department ORGANIZATION: University of Canterbury ORG (CONT): BUILDING: STREET: PO BOX: Private Bag PROVINCE: CITY: Christchurch COUNTRY: NEW ZEALAND PHONE: (64)3-642 717/667 001 RESPONSE DATE: / / FAX: (64)3-642 999 TELEX: NZ 4144 UNICANT CABLE: EMAIL: INVENTORY: IN CHARGE:

NOTES:

COUNTRY NAME: New Zealand WLI CLASS: 2 NAME - FIRST: Mr Graham LAST: Salt POSITION: DEPARTMENT: Geotechnical Group ORGANIZATION: New Zealand Geological Survey ORG (CONT): BUILDING: STREET: PO BOX: P O Box 64 CITY: Cromwell PROVINCE: COUNTRY: NEW ZEALAND PHONE: (64)294-50 011 RESPONSE DATE: / / FAX: (64)294-50 649 TELEX: CABLE: EMAIL: IN CHARGE: Salt INVENTORY: Salt NOTES: COUNTRY NAME: New Zealand WLI CLASS: NAME - FIRST: Colin J LAST: Newton POSITION: DEPARTMENT: ORGANIZATION: Works Consultancy Services Ltd ORG (CONT): BUILDING: STREET: PO BOX: P O Box 12-447 CITY: Wellington PROVINCE: COUNTRY: NEW ZEALAND RESPONSE DATE: / / PHONE: 044 717 000 FAX: 044 731 296 TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES:

WLI CLASS: 1 COUNTRY NAME: Nigeria NAME - FIRST: Dr Celestine O LAST: Okagbue POSITION: Senior University Lecturer DEPARTMENT: Department of Geology Fac of Phys Sci ORGANIZATION: University of Nigeria ORG (CONT): BUILDING: STREET: Nsukka Campus PO BOX: CITY: Nsukka PROVINCE: COUNTRY: NIGERIA PHONE: (234) Nsukka 771911 ext 43 RESPONSE DATE: 12/05/91 FAX: TELEX: 51496 ULIONS NG CABLE: Nigersity Nsukka EMAIL: IN CHARGE: Okagbue INVENTORY: Okaqbue NOTES: Nigeria, Okagbue: 12/05/91 "No national project on inventory. Landslides known are those documented by this writer. No funds for the writer to embark on inventory." COUNTRY NAME: Nigeria WLI CLASS: 1 NAME - FIRST: Dr Idris A LAST: Jaiyeoba POSITION: Senior Lecturer DEPARTMENT: Department of Geography ORGANIZATION: Ahmadu Bello University ORG (CONT): BUILDING: STREET: PO BOX: CITY: Zaria PROVINCE: COUNTRY: NIGERIA PHONE: (234)69-51833 RESPONSE DATE: 11/14/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Jaiyeoba INVENTORY: Jaiyeoba NOTES: Nigeria, Jaiyeoba: 11/14/91 "My Department will be most willing to handle such an exercise for Nigeria."

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COUNTRY NAME: Norway WLI CLASS: 1-2

NAME - FIRST: Edgar LAST: Hamre

POSITION:

DEPARTMENT: Natl Fund Natural Disaster Assistance

ORGANIZATION: Statens Naturskadefond

ORG (CONT):
BUILDING:
STREET:

PO BOX: Postboks 8140 Dep

CITY: N-0033 Oslo 1 PROVINCE:

COUNTRY: NORWAY

PHONE: (47)2-414950 RESPONSE DATE: 10/29/91

FAX: (47)2-333936

TELEX: CABLE: EMAIL:

IN CHARGE: Hamre INVENTORY: Hamre

NOTES: Norway, Hamre: 10/29/91 "(See also ??) Norwegian

Geoteknical Institute"

COUNTRY NAME: Norway WLI CLASS: 3-4

NAME - FIRST: Karstein LAST: Lied

POSITION: Section Head

DEPARTMENT: Avalanches Dams Waste Deposits ORGANIZATION: Norwegian Geotechnical Institute

ORG (CONT):
BUILDING:

STREET: Sognsveien 72

PO BOX: P O Box 40 Taasen

1

CITY: N-0801 Oslo 8 PROVINCE:

COUNTRY: NORWAY

PHONE: (47)2-230388 RESPONSE DATE: 12/09/91

FAX: (47)2-230448 TELEX: 19787 NGI N

CABLE: EMAIL:

IN CHARGE: Lied INVENTORY: Library

NOTES:

COUNTRY NAME: Norway WLI CLASS: 4 LAST: Bargel NAME - FIRST: Terje H POSITION: Section Leader DEPARTMENT: ORGANIZATION: Geological Survey of Norway ORG (CONT): BUILDING: STREET: Liev Eirikssons Vei 39 PO BOX: P O Box 3006 Lade CITY: N-7002 Trondheim PROVINCE: COUNTRY: NORWAY PHONE: (47)7-904011 RESPONSE DATE: 11/22/91 FAX: (47)7-921620 TELEX: 554 17 NGU N CABLE: EMAIL: IN CHARGE: Bargel INVENTORY: Bargel NOTES: COUNTRY NAME: Norway WLI CLASS: NAME - FIRST: Dr Lars LAST: Grande POSITION: DEPARTMENT: Geotechnical Division ORGANIZATION: NIT Norwegian Institute of Technology ORG (CONT): BUILDING: STREET: PO BOX: CITY: Trondheim PROVINCE: COUNTRY: NORWAY PHONE: (47)7-594590 RESPONSE DATE: / / FAX: (47)7-945823 TELEX: 55637 NTHAD N CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES:

COUNTRY NAME: Pakistan WLI CLASS:

NAME - FIRST: Sh Zia-ud-Din LAST: Ahmad

POSITION: Director General

DEPARTMENT: Emergency Relief Cell

ORGANIZATION: Cabinet Division Government of Pakistan

ORG (CONT):
BUILDING:

STREET:
PO BOX:

CITY: Islamabad PROVINCE:

COUNTRY: PAKISTAN

PHONE: (92)51-817015 RESPONSE DATE: 12/09/91

FAX: (92)51-820345 TELEX: 5791 CAB PK

CABLE: EMAIL:

IN CHARGE: Ahmad INVENTORY: Ahmad

NOTES: Pakistan, Ahmad: 12/09/91 Abdul Shafiq, Deputy Secretary "...The Emergency Relief Cell...serves as the focal point for coordination of relief activities in the country. However, landslides being a secondary disaster as compared to floods and earthquakes, authentic data on landslides is not readily available with the Emergency Relief Cell. The said information is, therefore, being collected from the local authorities. They have been requested to report major incidents of

landslides in the past, the damages caused, and the relief provided to the affectees. Any

additional information required in this regard may

please be indicated...."

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COUNTRY NAME: Pakistan WLI CLASS: 2

NAME - FIRST: Kanwar Sabir Ali LAST: Khan

POSITION: Deputy Director

DEPARTMENT: Engineering Geology Branch
ORGANIZATION: Geological Survey of Pakistan

ORG (CONT):
BUILDING:

STREET: Plot 84 H-8/1

PO BOX:

CITY: Islamabad PROVINCE:

COUNTRY: PAKISTAN

PHONE: (92)51-857157 RESPONSE DATE: 12/12/91

FAX: TELEX:

CABLE: GEOLOGICAL ISLAMABAD

)

EMAIL:

IN CHARGE: Khan INVENTORY: Khan

NOTES: Pakistan, Khan: 12/12/91 "...The Geological Survey of Pakistan, Engineering Geology Branch has been working on landslide problems in various parts of

Pakistan since long and have got substantial data. I am obliged to send it to your Centre to be included in the inventory. Some of the reports on

landslides are also enclosed.

"It will be highly appreciated if my department is also placed on the mailing list for providing periodical and lastest information on the status of Worldwide Landslide Inventory/Reports.

"We assure you all our cooperation and support in the future."

Enclosed inventory of 50 landslides.

COUNTRY NAME: Pakistan WLI CLASS: 2 LAST: Ahmed NAME - FIRST: Mr Mansoor POSITION: DEPARTMENT: NESPAK ORGANIZATION: National Engineering Services Pakistan ORG (CONT): BUILDING: STREET: 417 Wapda House Shahrah-e-Quaid-e-Azam PO BOX: P O Box 1351 CITY: Lahore PROVINCE: COUNTRY: PAKISTAN RESPONSE DATE: / / PHONE: (92)42-650515 FAX: TELEX: 44730 NESPK PK CABLE: NESPAK, LAHORE EMAIL: IN CHARGE: Ahmed INVENTORY: Ahmed NOTES: COUNTRY NAME: Pakistan WLI CLASS: NAME - FIRST: Muhammad Munir LAST: Sheikh -POSITION: Director DEPARTMENT: Geophysical Centre ORGANIZATION: Pakistan Meterological Department ORG (CONT): Government of Pakistan BUILDING: STREET: PO BOX: Post Box No 2 CITY: Quetta PROVINCE: COUNTRY: PAKISTAN RESPONSE DATE: 03/25/92 PHONE: (92)81-74103 FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: Pakistan, Sheikh: 11/04/91 copy of letter to Director General, Disaster Relief Cell, Cabinet Division, Secretariat Building, Islamabad: "Kindly find enclosed herewith a letter along with its enclosures, in original from National Landslide Information Centre (NLIC) U.S. Geological Survey on the above subject which is self-explanatory. "2. Requisite information may kindly be supplied direct to the concerned agency. It is further requested that, in future, a copy of information on landslides resulting from rains, floods, earthquakes etc., may kindly also be

supplied to this Centre for conducting scientific study aiming at natural disaster reduction.

"3. In case, the subject matter does not fall under your jurisdiction, the letter may kindly be sent to the appropriate agency under intimation to NLIC, USA and this Centre."

03/25/92, S.I.H.S. Bokhari, Meteorologist, for Director: "...Please find enclosed herewith copy of subject information received from Geological Survey of Pakistan, Sariab Road, Quetta. Further correspondence, if needed may please be made at the address given above [The Director, Geophysical Centre, Post Box No. 2, Quetta]....Assuring you of our co-operation in future as well."

Enclosed the same list of landslides as was sent to us by Khan, Geological Survey, Islamabad.

COUNTRY NAME: Panama WLI CLASS:

NAME - FIRST: Ing Abraham LAST: Crocamó Arevalo

POSITION: Director General

DEPARTMENT:

ORGANIZATION: Sistema Nacional de Proteccion Civil

ORG (CONT):
BUILDING:
STREET:

PO BOX: Apartado Postal 6-7297

CITY: El Dorado PROVINCE: Panamá

COUNTRY: PANAMA

PHONE: (507)-325057/325059 RESPONSE DATE: 12/10/91

FAX: (507)-325128

TELEX: CABLE: EMAIL:

IN CHARGE: Crocamó Arevalo INVENTORY: Tisla de Destro

NOTES: Panama, Crocamó Arevalo: 12/10/91 "La presente tiene como finalidad confirmarle que nuestra institución el Sistema Nacional de Protección Civil para casos de desastres, es el centro de acopio de la información a través de la Comisión Coordinadora de Prevención, presidida por la Doctora Tisla de Destro de la Universidad Tecnológica de Panama.

> "Adjuntamos la Dirección de la Comisión Coordinadora para que puedan comunicarse directamente cuando Ustedes lo estimen conveniente..."

[The purpose of this letter is to confirm that our institution, the National System of Civil

Protection for disasters, is the center for information storage through the Coordinating Commission for Prevention, presided over by Dr. Tisla de Destro of the Technological University of Panama.

[We enclose the address of the Coordinating Commission so that you may communicate directly with them at your convenience....]

COUNTRY NAME: Panama WLI CLASS: NAME - FIRST: Doctora LAST: Tisla de Destro POSITION: Presidente Comisión Coordinadora de Prev DEPARTMENT: Facultad de Ingenieria Civil ORGANIZATION: Universidad Tecnológica ORG (CONT): BUILDING: STREET: PO BOX: Apartado Postal 6-2894 CITY: El Dorado PROVINCE: Panamá COUNTRY: PANAMA PHONE: RESPONSE DATE: 12/10/91 FAX: (507)-641832 TELEX: CABLE: EMAIL: IN CHARGE: Crocamó Arevalo INVENTORY: Tisla de Destro NOTES: Panama, Tisla de Destro: 12/10/91 Crocamó Arevalo "...el Sistema Nacional de Protección Civil para casos de desastres, es el centro de acopio de la información a través de la Comisión Coordinadora de Prevención, presidida por la Doctora Tisla de Destro...puedan comunicarse directamente....] [...the National System of Civil Protection for disasters is the center for information storage through the Coordinating Commission for Prevention, presided over by Dr. Tisla de Destro...you may communicate directly with them...1

COUNTRY NAME: Panama WLI CLASS: 2 NAME - FIRST: Ing Querube LAST: Alexandropulos POSITION: DEPARTMENT: ORGANIZATION: Ministerio de Obras Publicas ORG (CONT): BUILDING: STREET: PO BOX: Apartado Postal 1632 Zona 1 CITY: Panamá PROVINCE: COUNTRY: PANAMA RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Alexandropoulos INVENTORY: Alexandropoulos NOTES: COUNTRY NAME: Papua New Guinea WLI CLASS: 1 LAST: NAME - FIRST: -POSITION: Chief Government Geologist DEPARTMENT: Department of Minerals and Energy ORGANIZATION: Geological Survey ORG (CONT): BUILDING: STREET: PO BOX: P O Box 778 CITY: Port Moresby PROVINCE: COUNTRY: PAPUA NEW GUINEA RESPONSE DATE: 02/26/92 PHONE: (675)-212422 FAX: (675)-211360 TELEX: GEOSURV NE 23305 CABLE: EMAIL: IN CHARGE: Chief Government Geo INVENTORY: Principal Eng Geo NOTES:

COUNTRY NAME: Papua New Guinea WLI CLASS: 1 LAST: NAME - FIRST: POSITION: Principal Engineering Geologist DEPARTMENT: Department of Minerals and Energy ORGANIZATION: Geological Survey ORG (CONT): BUILDING: STREET: PO BOX: P O Box 778 CITY: Port Moresby PROVINCE: COUNTRY: PAPUA NEW GUINEA PHONE: (675)-212422 RESPONSE DATE: 02/26/92 FAX: (675)-211360 TELEX: CABLE: EMAIL: IN CHARGE: Chief Government Geo INVENTORY: Principal Eng Geo NOTES: COUNTRY NAME: Papua New Guinea WLI CLASS: NAME - FIRST: Prof Russell J LAST: Blong -POSITION: Head Physical Geography DEPARTMENT: School of Earth Sciences Suite 628 E7A ORGANIZATION: Macquarie University ORG (CONT): BUILDING: STREET: PO BOX: CITY: Sydney PROVINCE: NSW 2109 COUNTRY: AUSTRALIA RESPONSE DATE: 11/12/91 PHONE: (61)2-805 8397 FAX: (61)2-805 8428 TELEX: MACUNI AA122377 CABLE: EMAIL: es\_rblong@vaxa.mqcc.mq.oz.au IN CHARGE: INVENTORY: NOTES: Papua New Guinea, Blong: See Australia; also Solomon Islands.

WLI CLASS: 0 COUNTRY NAME: Paraguay W. LAST: Morales NAME - FIRST: Ing Simon POSITION: Secretario DEPARTMENT: ORGANIZATION: Asociación Paraguaya de Geotécnia ORG (CONT): BUILDING: STREET: Avenida España 959 PO BOX: Casilla de Correo 336 CITY: Asunción PROVINCE: COUNTRY: PARAGUAY RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Morales INVENTORY: Morales NOTES: COUNTRY NAME: Peru WLI CLASS: NAME - FIRST: Ing Alberto LAST: Giesecke POSITION: Director DEPARTMENT: ORGANIZATION: CERESIS Centro Regional de Sismología ORG (CONT): para América del Sur BUILDING: STREET: Av Arenales 431 Of 702 PO BOX: Apartado 14-0363 CITY: Lima PROVINCE: COUNTRY: PERU PHONE: (51)14-336750 RESPONSE DATE: 11/20/91 FAX: (51)14-336750 TELEX: 20053 PE PB LIMTC CABLE: CERESIS EMAIL: IN CHARGE: Giesecke INVENTORY: Giesecke NOTES: Peru, Giesecke: 11/20/91 "We shall be pleased to cooperate with you....We produced a very preliminary [general land failures] map as part of project SISRA (A Program for the Mitigation of Earthquake Effects in the Andean Region) carried out with the USGS. The Technical coordination for the Project was [through the USGS, Bureau of Geologic Risk Assessment, in Golden, Colorado, which will be able to provide you with a copy of the map. Of course, our interest at the time was simply to identify major [land failure] areas and, in particular, those associated with earthquakes. "I shall distribute your letter and enclosures

to the CERESIS Liason Institutions of our Member States (List enclosed) and in Peru directly to Agencies that should be able to provide useful information.

"Please provide us periodically with reports and other information on the status of the World Landslide Inventory and, in particular, that relevant to the South American Region. Will you compile data on submarine landslides?"

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COUNTRY NAME: Peru
                                                 WLI CLASS: 4
                                 LAST: Michelena
NAME - FIRST: Mr R
    POSITION:
  DEPARTMENT:
ORGANIZATION:
  ORG (CONT):
    BUILDING:
      STREET:
      PO BOX: Boccioni 279
        CITY: Lima 41
                                        PROVINCE:
   COUNTRY: PERU
      PHONE: (51)14-231572
                                        RESPONSE DATE: / /
         FAX:
       TELEX:
       CABLE: ROMAS LIMA PERU
      EMAIL:
   IN CHARGE: Michelena
                                 INVENTORY: Michelena
      NOTES:
COUNTRY NAME: Philippines
                                                  WLI CLASS: 1
NAME - FIRST: Mr Manuel
                                     LAST: Bonoan
    POSITION: Assistant Secretary for Planning
  DEPARTMENT: Project Evaluation Div Planning Service
ORGANIZATION: Ministry of Public Works and Highways
  ORG (CONT):
    BUILDING:
      STREET: Bonifacio Drive Intramuros Port Area
      PO BOX:
        CITY: 1002 Manila
                                        PROVINCE:
     COUNTRY: PHILIPPINES
       PHONE: (63)2-479311/482011 RESPONSE DATE: / /
       TELEX: MPH 2335
       CABLE:
      EMAIL:
   IN CHARGE: Bonoan
                                  INVENTORY: Fujita
      NOTES:
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COUNTRY NAME: Philippines WLI CLASS: 3

NAME - FIRST: Dr Roger LAST: Moore

POSITION: Senior Geomorphologist

DEPARTMENT:

ORGANIZATION: Rendel Geotechnics

ORG (CONT):
BUILDING:

STREET: 58-72 John Bright St

PO BOX:

CITY: Birmingham B1 1BN PROVINCE:

COUNTRY: UNITED KINGDOM

PHONE: (44)21-627 1777 RESPONSE DATE: 11/05/91

FAX: (44)21-627 1778

TELEX: 339110

CABLE:

EMAIL:

IN CHARGE: Moore INVENTORY: Moore

NOTES: Philippines, Moore: 11/05/91 Has computerized landslide inventory for Aurora Province, Phil.
"The Aurora Landslide Survey Inventory identified 673 landslides within Aurora Province, Philippines

and was undertaken as part of the Aurora
Integrated Area Development Project (by myself)
under contract to the Commission of European
Communities and the Rep8ublic of the Philippines.
Access to this data will require the consent of
the EC and AIADP. The data can be accessed by
myself (in the UK) and AIADP (in Baler the
provincial capital of Aurora) by interrogating the
Watershed Information System. The work has been
written up (by Moore et al. 1992) and submitted to
the Sixth International Symposium on Landslides,
Christchurch, New Zealand to take place on the
10-14 February 1992."

Formerly Geomorphological Services Ltd. See United Kingdom.

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COUNTRY NAME: Philippines WLI CLASS: 1 LAST: Almero NAME - FIRST: Mr Ronaldo A POSITION: DEPARTMENT: Geology and Geotechnics ORGANIZATION: National Power Corporation ORG (CONT): BUILDING: 3rd Floor Bldg No 2 Office Bldg Complex STREET: Quezon Ave Bir Road PO BOX: P O Box 10183 CITY: Diliman Quezon City PROVINCE: COUNTRY: PHILIPPINES PHONE: (63)2-921354/55/56/57/58 RESPONSE DATE: / / TELEX: 742 40120 NAPOCOR PM CABLE: EMAIL: IN CHARGE: Punongbayan INVENTORY: Almero NOTES: COUNTRY NAME: Philippines WLI CLASS: 2-3 LAST: Punongbayan NAME - FIRST: Raymundo S POSITION: Director DEPARTMENT: ORGANIZATION: PHIVOLCS Philippine Institute of ORG (CONT): Volcanology and Seismology BUILDING: Hizon Building 6th Floor STREET: 28 Ouezon Ave PO BOX: CITY: Quezon City PROVINCE: COUNTRY: PHILIPPINES PHONE: (63)2-7124669 RESPONSE DATE: 12/05/91 FAX: (63)2-7113077 TELEX: 65587 IOVAS CABLE: EMAIL: IN CHARGE: Punongbayan INVENTORY: Arboleda NOTES: Philippines, Punongbayan: 12/05/91 "The Philippine Institute of Volcanology and Seismology (PHIVOLC) deals mainly with earthquake-induced landslides. One other government agency that does landslide studies is the Mines and Geosciences Bureau (MGB). The National Mapping and Resource Information Agency (NAMRIA), on the other hand, has the hardware (Mainframe computers) to do processing of data supplied by various agencies."

COUNTRY NAME: Philippines WLI CLASS: 2-3

LAST: Arboleda NAME - FIRST: Ronaldo A

POSITION:

DEPARTMENT:

ORGANIZATION: PHIVOLCS Philippine Institute of

ORG (CONT): Volcanology and Seismology

BUILDING: Hizon Building 5th Floor

STREET: 28 Quezon Ave

PO BOX:

CITY: Quezon City PROVINCE:

COUNTRY: PHILIPPINES

PHONE: (63)2-7126110 RESPONSE DATE: 12/05/91

FAX: (63)2-7124656 TELEX: 65587 IOVAS

CABLE:

EMAIL:

IN CHARGE: Punongbayan INVENTORY: Arboleda

NOTES:

COUNTRY NAME: Poland WLI CLASS: 4

NAME - FIRST: Dr S LAST: Ostaficzuk

POSITION:

DEPARTMENT: Geosynoptics Minerals Economy & Energy ORGANIZATION: Research Centre of the Polish Academy

ORG (CONT): of Sciences

BUILDING:

STREET: Ksiecia Janusza 64

PO BOX:

CITY: 01-252 Warszawa PROVINCE:

COUNTRY: POLAND

PHONE: (48)22-361901 RESPONSE DATE: 02/04/92

FAX:

TELEX: CABLE:

EMAIL:

IN CHARGE: INVENTORY:

NOTES: Poland, Ostaficzuk: 02/04/92 "...General

information: Poland's topography is divided into two major parts: a) Polish Lowlands, covering over 80% of the territory and b) uplands and mountains

bordering Poland from the south.

"Within the Polish Lowlands, landslides occur mostly along high river banks where Quaternary sands and boulder clays (of glacial origin) are underlain by Tertiary clayey and silty deposits e.g. in Plock city. Another landslide prone area is the Baltic coast, where landslides, following marine abrasion occur along Quaternary cliffs, again, underlain by Tertiary clayey deposits.

"The most, however, landslide prone are the Carpathians. These are Alpine mountain ranges formed by folded and strongly overthrusted (napped) flysch deposits of Cretaceous and Tertiary age. Thick series of interlayered sandstones, siltstones and clay shales, produce permanent landslide endangerment for both constructions and farmlands there.

"In the late 1960's the then Geological Institute ordered and executed total landslide inventory action for whole Poland. If I am right, individual cards were completed for each landslide, all landslides were mapped, using 1:25,000 topo-base maps, then synthetic, manuscript maps 1:100,000 were completed, and the whole action results landed on archive shelves.

"Many landslides in Poland were subjected to detail scientific studies, resulting in MSc and PhD dissertations, research papers and monographs. Details on the most of such works one can find in references in many geological papers in Poland for the period beginning in the late XIXth century till now. Landslides triggered by engineering works have been usually well documented with geotechnical field and laboratory studies.

"...Poland belongs to class 4...valid for 1968, with exceptionally detail and in deep study of some landslides.

"No one perhaps is in charge of landslides; in many institutions, however, research works are oriented on landslides: e.g. at the Warsaw University, Faculty of Geology, professor J. Pininska is involved in landslide control along highways and in coal mine agglomerates in southern Poland; at the Institute of Building Technology, professor L. Wysokinski works on stabilization of landslides along the Wisla river in Central Poland and in the open-pit coal mine (over 200 m deep). In early 60's till early 80's I applied photogrammetric methods (phototheodolite and aerial photos) and precise stereoplotters to landslides developing in vicinity of water dams and dammed lakes both in the Carpathians and at the Polish Lowlands (along Wisla River and at the Baltic Coast.

"You may also find it interesting, that I was lucky to find in 1971 a huge zone of fossil landslides surrounding Hammada al Hamra [plateau in Libya] in North Africa, what was then published

in 1973.

NOTES:

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"If you wish further information, please, do not hesitate to contact me...." COUNTRY NAME: Poland WLI CLASS: 2 NAME - FIRST: Dr Adam LAST: Kotarba POSITION: Instytut Geografii DEPARTMENT: i Przestrzennego Zagospodarowama ORGANIZATION: PAN Polskiej Akademii Nauk ORG (CONT): Polish Academy of Sciences BUILDING: Zaklad Geomorfologii i Hydrologii STREET: Sw Jana 22 PO BOX: PROVINCE: CITY: 31-018 Krakow COUNTRY: POLAND RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Kotarba INVENTORY: Kotarba NOTES: Poland, Kotarba: Department of Geology and Hydrology COUNTRY NAME: Portugal WLI CLASS: 2 LAST: Fialho Rodrigues NAME - FIRST: Luis POSITION: DEPARTMENT: Laboratorio Nacional de Engenharia Civil ORGANIZATION: Min das Obras Publicas Transportes e ORG (CONT): Comunicadoes BUILDING: STREET: Avenida do Brasil 101 PO BOX: CITY: 1799 Lisboa Codex PROVINCE: COUNTRY: PORTUGAL RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL:

IN CHARGE: Fialho Rodrigues INVENTORY: Fialho Rodrigues

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COUNTRY NAME: Puerto Rico
                                                   WLI CLASS: 2
NAME - FIRST: Ramón M
                                       LAST: Alonso
    POSITION: Director Geology Division
  DEPARTMENT: Department of Natural Resources
ORGANIZATION:
  ORG (CONT):
    BUILDING:
      STREET:
      PO BOX: P O Box 5887
        CITY: Puerta de Tierra
                                          PROVINCE:
     COUNTRY: PUERTO RICO 00906
       PHONE: (1)809-722 2526
                                         RESPONSE DATE: 02/20/92
         FAX: (1)809-724 0365
       TELEX:
       CABLE:
       EMAIL:
                            INVENTORY: Alonso
   IN CHARGE: Alonso
       NOTES:
COUNTRY NAME: Romania
                                                    WLI CLASS: 3
NAME - FIRST: Dr Mihail
                                       LAST: Popescu
    POSITION: Professor of Soil Mechanics
  DEPARTMENT:
ORGANIZATION: Civil Engineering Institute
  ORG (CONT):
    BUILDING:
      STREET:
      PO BOX: P O Box 2-45
        CITY: R-78172 Bucharest 2 PROVINCE:
     COUNTRY: ROMANIA
       PHONE: (40)0-13 115100
                                        RESPONSE DATE: 11/07/91
         FAX: (40)0-90 352728
       TELEX:
       CABLE:
       EMAIL:
   IN CHARGE: Popescu INVENTORY: Popescu NOTES: Romania, Popescu: 11/91 "Prof. Mihail Popescu is
              currently a member of the ISSMFE Technical
              Committee on Landslides and of the ISSMFE
              Subcommittee on Landslide Stabilization in Europe.
              He is also a memeber of the IAEG European
              Subcommission on Landslides."
                 Former phone number: (40)0-90 572375
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COUNTRY NAME: Russia WLI CLASS: LAST: Ter-Martirosian NAME - FIRST: Prof Z G POSITION: DEPARTMENT: ORGANIZATION: USSR National Committee for SMFE ORG (CONT): BUILDING: STREET: Pushkinskaya Str PO BOX: CITY: 103828 Moscow PROVINCE: 26 Gosstroy COUNTRY: RUSSIA PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: Ter-Martirosian INVENTORY: Ter-Martirosian NOTES: COUNTRY NAME: Rwanda WLI CLASS: 1 LAST: Nzirbrera NAME - FIRST: Joseph POSITION: DEPARTMENT: ORGANIZATION: Min de l'Industrie et de l'Artisanat ORG (CONT): République Rwandaise BUILDING: STREET: PO BOX: B P 73 CITY: Kigali PROVINCE: COUNTRY: RWANDA PHONE: (250)-75417 RESPONSE DATE: 12/30/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Nzirbrera INVENTORY: Nzirbrera NOTES: Rwanda, Nzirbrera: 12/30/91 "...Pendant la saison de pluie, notre Pays connaît des glissements de terrains localisés surtout dans la partie occidentale du pays, caractérisée surtout par ses grands escarpements. Ces glissements sont généralement concentrés dans des zones à soubassements schiteux. "Par ailleurs, il n'existe aucun service spécialisé pour le moment au Rwanda chargé de l'étude des glissements de terrains; mais il est prévu prochainement la création d'un centre qui doit s'occuper des catastrophes naturelles en collaboration avec le Service Géologique du

Rwanda.

"Je vous demanderais ainsi, de bien vouloir me transmettre, chaque fois que vous le pourriez, la documentation et les informations relatives à l'objet ci-haut émargé [Risques des glissements de terrains]...."

[During the rainy season, our country is aware of localized landslides, especially in the western part of the country, which is characterized especially by its large escarpments. These

landslides are generally concentrated in the zones of schist[?] subbasements.

[Moreover, no specialized service exists at the moment in Rwanda charged with the study of landslides; but the creation is anticipated soon of a center which will be concerned with natural catastrophes in collaboration with the Geological Service of Rwanda.

[I would thus ask you to be willing to send me, each time that you are able, documentation and information relative to the subject noted in the margin above [Risks of landslides]....]

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COUNTRY NAME: Saint Helena
                                                    WLI CLASS: 1-2
NAME - FIRST: Keith Edward
                                        LAST: Jones
    POSITION: Acting Director of Works
  DEPARTMENT: Department of Public Works and Services
ORGANIZATION: Government of St Helena
  ORG (CONT):
    BUILDING:
      STREET:
      PO BOX:
        CITY:
                                           PROVINCE:
     COUNTRY: ST HELENA
       PHONE: (290)-2300
                                          RESPONSE DATE: 12/03/91
         FAX: (290)-2323
       TELEX:
       CABLE:
       EMAIL:
   IN CHARGE: Jones
                                    INVENTORY: Jones
       NOTES: St. Helena, Jones: 12/03/91 "Some additional
              information & examples of required data would be a
              great help in setting up a local inventory with
              possibility of database in future."
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COUNTRY NAME: Saint Helena WLI CLASS: 2

NAME - FIRST: Martin G LAST: Culshaw

POSITION: Deputy Manager

DEPARTMENT: Engineering Geology and Geophysics Group

ORGANIZATION: British Geological Survey

ORG (CONT):
BUILDING:

STREET: Keyworth

PO BOX:

CITY: Nottingham NG12 5GG PROVINCE:

COUNTRY: UNITED KINGDOM

PHONE: (44)602-6077 6111 RESPONSE DATE: 10/28/91

FAX: (44)602-6077 2227 TELEX: 378173 BGSKEY G

CABLE:

EMAIL:

IN CHARGE: Culshaw INVENTORY: Culshaw

NOTES: Saint Helena, Culshaw: 11/02/90 "For James Valley (mail population centre; about 50% of people) rockfalls between 1861 & 1923 described in local newspapers recorded under headings: date, location, size, weather, damage. Map also avaliable of areas of greatest rockfall potential for James Valley (see reference). Nothing known for rest of island but rockfalls likely in all valleys. Geology etc. well known & detailed in report." See United Kingdom, F. Geoffrey Larminie.

10/28/91 Culshaw "Class 2 landslides recorded for main inhabited part of St. Helena only....Paper of St. Helena rockfalls to be published in Proc. 6th Landslide Symposium 1992. BGS Open File Report is available on St. Helena rockfalls (see enclosure)."

COUNTRY NAME: Saint Lucia WLI CLASS: 2 NAME - FIRST: J V LAST: DeGraff POSITION: DEPARTMENT: Sierra National Forest ORGANIZATION: USDA Forest Service ORG (CONT): BUILDING: STREET: 1600 Tollhouse Road PO BOX: CITY: Clovis PROVINCE: CA 93612 COUNTRY: USA PHONE: (1)209-487 5640 RESPONSE DATE: 01/17/92 FAX: TELEX: CABLE: EMAIL: IN CHARGE: DeGraff INVENTORY: DeGraff NOTES: COUNTRY NAME: Saint Vincent/Grenadines WLI CLASS: 2 NAME - FIRST: J V LAST: DeGraff - POSITION: DEPARTMENT: Sierra National Forest ORGANIZATION: USDA Forest Service ORG (CONT): BUILDING: STREET: 1600 Tollhouse Road PO BOX: CITY: Clovis PROVINCE: CA 93612 COUNTRY: USA PHONE: (1)209-487 5640 RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: DeGraff INVENTORY: DeGraff NOTES:

COUNTRY NAME: Singapore WLI CLASS: 1

LAST: Leng NAME - FIRST: Mr Tan Siong

POSITION: Chief Civil Engineer

DEPARTMENT: Chief Civil Engineer's Office

ORGANIZATION: Public Works Department

ORG (CONT):

BUILDING: Tower Block MND Complex STREET: 5 Maxwell Road 07-00

PO BOX:

CITY: Singapore 0106 PROVINCE:

COUNTRY: SINGAPORE

PHONE: (65)-322 5959 RESPONSE DATE: 05/11/92

FAX: (65)-322 5957

TELEX:

CABLE:

EMAIL:

IN CHARGE: Leng INVENTORY: Woon

NOTES:

COUNTRY NAME: Singapore WLI CLASS: 1

NAME - FIRST: Mr Lee Kim LAST: Woon

POSITION:

DEPARTMENT: Chief Civil Engineer's Office

ORGANIZATION: Public Works Department

ORG (CONT):

BUILDING: Tower Block MND Complex STREET: 5 Maxwell Road 07-00

PO BOX:

CITY: Singapore 0106 PROVINCE:

COUNTRY: SINGAPORE

RESPONSE DATE: 05/11/92 PHONE: (65)-322 5961

FAX: (65)-322 5957

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TELEX: CABLE:

EMAIL:

IN CHARGE: Leng INVENTORY: Woon

NOTES:

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COUNTRY NAME: Singapore
                                                   WLI CLASS: 2
NAME - FIRST: Dr Avijit
                                      LAST: Gupta
    POSITION: Associate Professor
  DEPARTMENT: Department of Geography
ORGANIZATION: National University of Singapore
  ORG (CONT):
    BUILDING:
      STREET: 10 Kent Ridge Crescent
      PO BOX:
        CITY: Singapore 0511
                                         PROVINCE:
     COUNTRY: SINGAPORE
       PHONE: (65)-772 3860
                                  RESPONSE DATE: 11/27/91
         FAX: (65)-777 3091
       TELEX:
       CABLE:
       EMAIL: BITNET: Geoagup@NUSVM
   IN CHARGE: Gupta
                                   INVENTORY: Gupta
       NOTES: Singapore, Gupta: 11/27/91 "Singapore is areally
              rather small. The landslides usually are small in
              size, and unimpressive. There are, however, a few
              cases of significant property damage."
COUNTRY NAME: Solomon Islands
                                                   WLI CLASS: 3
                                   LAST: Tolia
NAME - FIRST: Mr Donn
    POSITION: Deputy Director
  DEPARTMENT: Geology Division
ORGANIZATION: Ministry of Natural Resources
  ORG (CONT):
    BUILDING:
      STREET:
      PO BOX: P O Box G24
        CITY: Honiara
                                         PROVINCE: Guadalcanal
     COUNTRY: SOLOMON ISLANDS
       PHONE: (677)-21521
                                          RESPONSE DATE: 11/26/91
         FAX: (677)-21245
       TELEX: HQ66306 SOLNAT
       CABLE:
       EMAIL:
   IN CHARGE: Tolia
                                   INVENTORY: Tolia
       NOTES: Solomon Islands, Tolia: 11/26/91 "Class 3
              inventory available for north Guadalcanal, DLS
              contract report 89/07 from DSIR, Private Bag,
              Palmerston North, New Zealand."
                 "... The only area in the country where some
              detail landslide information has been collected
              for is on North Guadalcanal Island in 1986.
              landslide data collected for the rest of the
              country yet.
                 "The landslide data mentioned is collected by
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the Department of Science, Instrument and Research (DSIR) of New Zealand and they hold all the raw data. We only have the final report...."

COUNTRY NAME: Solomon Islands WLI CLASS:

LAST: Blong NAME - FIRST: Prof Russell J POSITION: Professor Head Physical Geography
DEPARTMENT: School of Earth Sciences Suite 628 E7A

ORGANIZATION: Macquarie University

ORG (CONT): BUILDING: STREET: PO BOX:

CITY: Sydney PROVINCE: NSW 2109

COUNTRY: AUSTRALIA

RESPONSE DATE: 11/12/91 PHONE: (61)2-805 8397

FAX: (61)2-805 8428 TELEX: MACUNI AA122377

CABLE:

EMAIL: es rblong@vaxa.mqcc.mq.oz.au IN CHARGE: INVENTORY:

NOTES: Solomon Islands, Blong: See Australia; also Papua

New Guinea.

COUNTRY NAME: South Africa WLI CLASS: 1-2

LAST: Paige-Green NAME - FIRST: Dr Philip

POSITION: Project Leader

DEPARTMENT: DRTT Div of Roads & Transport Technology ORGANIZATION: CSIR Council for Sci and Ind Research

ORG (CONT): BUILDING: STREET:

PO BOX: P O Box 395

PROVINCE: CITY: Pretoria 0001

COUNTRY: SOUTH AFRICA

PHONE: (27)12-841 2924 RESPONSE DATE: 12/10/91

FAX: (27)12-841 3232

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TELEX: 3-21312 SA

CABLE:

EMAIL:

IN CHARGE: Paige-Green INVENTORY: Paige-Green

NOTES:

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COUNTRY NAME: South Africa
                                                  WLI CLASS: 2
NAME - FIRST: Dr Paul
                                      LAST: Roux
    POSITION: Deputy Director
  DEPARTMENT: Engineering Geology Division
ORGANIZATION: Geological Survey of South Africa
  ORG (CONT):
    BUILDING:
      STREET:
      PO BOX: Private Bag X112
        CITY: Pretoria 0001
                                         PROVINCE:
     COUNTRY: SOUTH AFRICA
                                        RESPONSE DATE: 11/21/91
       PHONE: (27)12-841 1165
         FAX: (27)12-841 1221
       TELEX: 350286
       CABLE:
       EMAIL:
   IN CHARGE: Roux
                                   INVENTORY: Roux
       NOTES: South Africa, Roux: 11/21/91 "Will endeavour to
              assemble the available information which has been
              collected by a variety of organisations. Please
              provide further guidelines."
                 "...Various organisations in the RSA have
              information on landslides - your request really
              has set the ball rolling."
COUNTRY NAME: Spain
                                                  WLI CLASS: 3
NAME - FIRST: Dr Jose
                                       LAST: Chacón
    POSITION: Professor in Engineering Geology
  DEPARTMENT: Departamento de Geodinámica
ORGANIZATION: Univ de Granada Facultad de Ciencias
  ORG (CONT):
    BUILDING:
      STREET:
      PO BOX:
        CITY: E-18071 Granada
                                         PROVINCE:
     COUNTRY: SPAIN
       PHONE: (34)58-243367
                                        RESPONSE DATE: 11/05/91
         FAX: (34)58-243352
       TELEX:
       CABLE:
       EMAIL:
   IN CHARGE: Chacón
                                   INVENTORY: Chacón
       NOTES: Spain, Chacón: 11/05/91 "Andalucia Region - South
              Spain - Regional systematic data capture and
              machine processible inventory. This inventory is
              being developed since 1989 and is supported by
              researches founded by the Junta de Andalucia
              government and the Andalucian Group for Geological
              Hazards and Environment."
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COUNTRY NAME: Spain WLI CLASS: 2 LAST: Ayala-Carcedo NAME - FIRST: F J POSITION: DEPARTMENT: Instituto Geológico y Minero de España ORGANIZATION: Ministerio de Industría y Energía ORG (CONT): BUILDING: STREET: Rios Rosas 23 PO BOX: CITY: E-28003 Madrid PROVINCE: COUNTRY: SPAIN PHONE: (34)1-441 6500 RESPONSE DATE: / / FAX: (34)1-442 6216 TELEX: 48054 IGME CABLE: EMAIL: IN CHARGE: Ayala-Carcedo INVENTORY: Ayala-Carcedo NOTES: COUNTRY NAME: Sri Lanka WLI CLASS: 1 LAST: Kudahetty NAME - FIRST: Kamal Ranjan POSITION: Geologist DEPARTMENT: ORGANIZATION: Geological Survey Department ORG (CONT): BUILDING: STREET: 48 Sri Jinaratana Road PO BOX: CITY: Colombo 02 PROVINCE: COUNTRY: SRI LANKA PHONE: (94)1-29014/29015/431877 RESPONSE DATE: 11/07/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Kudahetty INVENTORY: Kudahetty NOTES:

1

COUNTRY NAME: Sri Lanka WLI CLASS:

NAME - FIRST: Dr R K LAST: Bhandari

POSITION: Chief Technical Adviser

DEPARTMENT:

ORGANIZATION: HABITAT U N Centre for Human Settlements

ORG (CONT):
BUILDING:

STREET: 99/1 Jawatte Road

PO BOX:

CITY: Colombo 5 PROVINCE:

COUNTRY: SRI LANKA

PHONE: (94)1-589943/588946 RESPONSE DATE: 11/09/91

FAX: (94)1-581116

TELEX: CABLE: EMAIL:

IN CHARGE: Bhandari INVENTORY: Bhandari

NOTES: Sri Lanka, Bhandari: 11/09/91 "We should certainly

be able to provide you with the information

relating to landslides in Sri Lanka. But before we could do that, a formal approval will be

necessary from the Government of Sri Lanka, the United Nations Centre for Human Settlements and the UNDP, who are jointly pursuing a major

the UNDP, who are jointly pursuing a major programme on Landslide Hazard Mapping in Sri

Lanka.

"In my capacity as the Chief Technical Adviser to the Project, I am taking up the matter with the three agencies and would revert to the subject in due course of time."

1

COUNTRY NAME: Sri Lanka WLI CLASS: 1 NAME - FIRST: K LAST: Dahanayake POSITION: Professor of Geology DEPARTMENT: Department of Geology ORGANIZATION: University of Peradeniya ORG (CONT): BUILDING: STREET: PO BOX: CITY: Peradeniya PROVINCE: COUNTRY: SRI LANKA PHONE: (94)8-88301 RESPONSE DATE: 11/26/91 FAX: (94)8-32131 TELEX: CABLE: EMAIL: IN CHARGE: Dahanayake INVENTORY: Dahanayake NOTES: Sri Lanka, Dahanayake: 11/26/91 "No inventory available, we have done some case studies of landslides during the last 15 years in Sri Lanka." COUNTRY NAME: Sudan WLI CLASS: 0 NAME - FIRST: Prof M Kh LAST: Omer POSITION: DEPARTMENT: Geology Department ORGANIZATION: University of Khartoum ORG (CONT): BUILDING: STREET: PO BOX: P O Box 321 CITY: Khartoum PROVINCE: COUNTRY: SUDAN PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: IN CHARGE: Omer INVENTORY: Omer NOTES:

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COUNTRY NAME: Sweden WLI CLASS: 3

NAME - FIRST: Dr Leif LAST: Viberg

POSITION: Engineer in Chief

DEPARTMENT: Dept of Geotechnics in Planning & Build

ORGANIZATION: Swedish Geotechnical Institute

ORG (CONT): BUILDING:

STREET: Olaus Magnus väg 35

CITY: S-58101 Linköping PROVINCE:

COUNTRY: SWEDEN

RESPONSE DATE: 11/06/91 PHONE: (46)13-115100

FAX: (46)13-1696 TELEX: 50125 VTISGI S

CABLE:

EMAIL:

IN CHARGE: Viberg INVENTORY: Viberg

NOTES:

COUNTRY NAME: Sweden WLI CLASS: 2

NAME - FIRST: Dr Curt LAST: Fredén

POSITION: Senior Geologist

DEPARTMENT: Sveriges Geologiska Undersokning

ORGANIZATION: Geological Survey of Sweden

ORG (CONT): BUILDING: STREET:

PO BOX: Box 670

CITY: S-75128 Uppsala PROVINCE:

COUNTRY: SWEDEN

PHONE: (46) 18-179321 RESPONSE DATE: 11/10/91

FAX: (46)18-179210 TELEX: 76154 GEOSWED S

1

CABLE:

EMAIL:

IN CHARGE: Fredén INVENTORY: Fredén

NOTES: Sweden, Freden: 11/91 "In cooperation with the

Swedish Geotechnical Institute"

COUNTRY NAME: Switzerland WLI CLASS: 1 NAME - FIRST: A LAST: Parriaux POSITION: Professor DEPARTMENT: Laboratoire de Géologie ORGANIZATION: EPFL École Polytechnique Fédérale de ORG (CONT): Lausanne BUILDING: STREET: DGC Ecublens PO BOX: CITY: CH-1015 Lausanne PROVINCE: COUNTRY: SWITZERLAND PHONE: (41)21-693 2312 RESPONSE DATE: 11/25/91 FAX: (41)21-693 4153 TELEX: 45 44 78 EPFL CH CABLE: EMAIL: IN CHARGE: Parriaux INVENTORY: Parriaux NOTES: COUNTRY NAME: Switzerland WLI CLASS: 2 NAME - FIRST: M Christophe LAST: Bonnard POSITION: DEPARTMENT: ISRF ORGANIZATION: EPFL École Polytechnique Fédérale de ORG (CONT): Lausanne BUILDING: STREET: Ecublens PO BOX: CITY: CH-1015 Lausanne PROVINCE: COUNTRY: SWITZERLAND PHONE: (41)21-693 2312 RESPONSE DATE: / / FAX: (41)21-693 4153 TELEX: 45 44 78 EPFL CH CABLE: EMAIL: IN CHARGE: Bonnard INVENTORY: Bonnard

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NOTES:

I COUNTRY NAME: Switzerland WLI CLASS: NAME - FIRST: Dr J LAST: Tomblin POSITION: Chief DEPARTMENT: Disaster Mitigation Branch ORGANIZATION: UN Office Disaster Relief Co-ordinator ORG (CONT): BUILDING: Palais des Nations STREET: PO BOX: CITY: CH-1211 Genève 10 PROVINCE: COUNTRY: SWITZERLAND PHONE: RESPONSE DATE: / / FAX: TELEX: CABLE: EMAIL: INVENTORY: IN CHARGE: NOTES: COUNTRY NAME: Switzerland LAST: Monbaron WLI CLASS: 1 NAME - FIRST: Michel F -POSITION: Prof of Geomorphology DEPARTMENT: ORGANIZATION: Institut de Géographie ORG (CONT): BUILDING: STREET: Pérolles PO BOX: PROVINCE: CITY: CH-1700 Fribourg COUNTRY: SWITZERLAND PHONE: (41)37-826311 RESPONSE DATE: 11/05/91 FAX: (41)37-826519 TELEX: CABLE: EMAIL: IN CHARGE: Monbaron INVENTORY: Monbaron NOTES: Switzerland, Monbaron: 11/05/91 Canton of Fribourg - at the moment: class 1; projected: class 2 for our region

1

COUNTRY NAME: Switzerland WLI CLASS: 1

NAME - FIRST: Dr A LAST: Pancza

POSITION: Professor

DEPARTMENT: Institut de Géographie ORGANIZATION: Université de Neuchâtel

1

ORG (CONT):
BUILDING:

STREET: Espace Louis-Agassiz 1

PO BOX:

CITY: CH-2000 Neuchâtel PROVINCE:

COUNTRY: SWITZERLAND

PHONE: (41)38-208237 RESPONSE DATE: 12/12/91

FAX: TELEX: CABLE: EMAIL:

IN CHARGE: Pancza INVENTORY: Pancza

NOTES:

COUNTRY NAME: Switzerland WLI CLASS: 1

NAME - FIRST: Dr Hans LAST: Kienholz

POSITION:

DEPARTMENT: Geographisches Institut

ORGANIZATION: Universität Bern

ORG (CONT):
BUILDING:

STREET: Hallerstraße 12

PO BOX:

CITY: CH-3012 Bern PROVINCE:

COUNTRY: SWITZERLAND

PHONE: (41)31-658884 RESPONSE DATE: 11/12/91

FAX: (41)31-658511

TELEX: CABLE: EMAIL:

IN CHARGE: Kienholz INVENTORY: Kienholz

NOTES: Switzerland, Kienholz: 11/12/91 "Hereby I am also

responding on behalf of the Swiss Association of

Geographers (ASG)."

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WLI CLASS: 0 COUNTRY NAME: Syria LAST: Mawlawi NAME - FIRST: Farid POSITION: DEPARTMENT: ORGANIZATION: Syrian Geotechnical Society ORG (CONT): BUILDING: STREET: PO BOX: P O Box 2846 CITY: Damascus PROVINCE: COUNTRY: SYRIA RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Mawlawi INVENTORY: Mawlawi NOTES: COUNTRY NAME: Taiwan WLI CLASS: 2 NAME - FIRST: Mr LAST: San Wei Lee POSITION: Deputy Director DEPARTMENT: Forestry Department ORGANIZATION: COA Council of Agriculture ORG (CONT): BUILDING: STREET: 37 Nanhai Road PO BOX: CITY: Taipei PROVINCE: COUNTRY: TAIWAN PHONE: (886)2-312 4045 RESPONSE DATE: 11/30/91 FAX: (886)2-312 5857 TELEX: CABLE: EMAIL: IN CHARGE: San Wei Lee INVENTORY: COA NOTES:

COUNTRY NAME: Taiwan WLI CLASS: LAST: NAME - FIRST: POSITION: DEPARTMENT: ORGANIZATION: COA Council of Agriculture ORG (CONT): BUILDING: STREET: 37 Nanhai Road PO BOX: CITY: Taipei PROVINCE: COUNTRY: TAIWAN PHONE: (886)2-381 2991 RESPONSE DATE: 11/30/91 FAX: (886)2-331 0341 TELEX: CABLE: EMAIL: IN CHARGE: San Wei Lee INVENTORY: COA NOTES: COUNTRY NAME: Taiwan WLI CLASS: 4 NAME - FIRST: Prof Shih-Chiao LAST: Chang POSITION: Prof Lab of Nat Environment and Hazards DEPARTMENT: Department of Geography ORGANIZATION: National Taiwan University ORG (CONT): BUILDING: STREET: PO BOX: CITY: Taipei PROVINCE: COUNTRY: TAIWAN PHONE: (886)2-363 8135 RESPONSE DATE: 11/18/91 FAX: (886)2-363 8135 TELEX: CABLE: EMAIL: IN CHARGE: Chang INVENTORY: Chang NOTES:

1

COUNTRY NAME: Tanzania WLI CLASS: NAME - FIRST: Dr M O LAST: Iranga POSITION: DEPARTMENT: Physics Department ORGANIZATION: University of Dar Es Salaam ORG (CONT): BUILDING: STREET: PO BOX: P O Box 35063 PROVINCE: CITY: Dar es Salaam COUNTRY: TANZANIA PHONE: RESPONSE DATE: 03/20/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: COUNTRY NAME: Thailand WLI CLASS: 1 LAST: Balasubramaniam NAME - FIRST: Prof A S POSITION: Secretary DEPARTMENT: SEAGS ORGANIZATION: Asian Institute of Technology ORG (CONT): BUILDING: STREET: PO BOX: P O Box 2754 PROVINCE: CITY: Bangkok 10501 COUNTRY: THAILAND PHONE: (66)2-529 0100 13 RESPONSE DATE: / / FAX: (66)2-529 0374 TELEX: CABLE: EMAIL: IN CHARGE: Balasubramaniam INVENTORY: Balasubramaniam NOTES:

)

WLI CLASS: 1 COUNTRY NAME: Togo LAST: Pere NAME - FIRST: N' Zonou B POSITION: Directeur DEPARTMENT: ORGANIZATION: Dir Gén des Mines de la Géologie et du ORG (CONT): Bureau Nat de Recherches Minières BUILDING: STREET: PO BOX: B P 356 CITY: Lome PROVINCE: COUNTRY: TOGO PHONE: (228)-213001 RESPONSE DATE: 11/06/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Pere INVENTORY: Pere NOTES: Togo, Pere: 11/06/91 "...Des glissements de terrain se produisent chaque année dans la partie montagneuse de notre pays, au cours de la saison des pluies (Mars à Octobre). Etant de faible ampleur et par conséquent n'ayant causé jusqu'ici aucun dommage grave à la population, ils n'ont été l'objet d'aucun inventaire systématique et peuvent donc selon votre classification, être attribués à la classe 1...." [...Landslides occur each year in the mountainous part of our country, during the rainy season (March to October). Being of small size and therefore up to now not having caused any serious damage to the population, they have not been the object of any systematic inventory and therefore they may, according to your classification, be attributed to class 1....]

)

COUNTRY NAME: Turkey WLI CLASS: 2 LAST: Özküçük NAME - FIRST: H POSITION: DEPARTMENT: Afet Etüt Daire Bşk ORGANIZATION: Afet Işleri Genel Müdürlüğü ORG (CONT): Bayindirlik ve İskan Bakanlığı BUILDING: STREET: PO BOX: CITY: 06 Ankara PROVINCE: COUNTRY: TURKEY PHONE: (90)4-1 213 25 84 RESPONSE DATE: 10/30/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Onalp INVENTORY: Özküçük NOTES: COUNTRY NAME: Turkey WLI CLASS: 2 NAME - FIRST: Prof Dr Akin LAST: Onalp POSITION: Prof of Geotechnical Engineering DEPARTMENT: Dept of Civil Eng Muhendislik Fakültesi ORGANIZATION: Istanbul Teknik Univesitesi Rektorlugo ORG (CONT): BUILDING: STREET: PO BOX: CITY: 54188 Adapazari PROVINCE: COUNTRY: TURKEY PHONE: (90)261-21690 office RESPONSE DATE: 10/30/91 FAX: (90)261-17102 TELEX: CABLE: ITU SMF ADAPAZARI EMAIL: IN CHARGE: Onalp INVENTORY: Özküçük

1

NOTES: Turkey, Onalp: 10/30/91 Home phone (90)135-28291

COUNTRY NAME: Turkey WLI CLASS: 0 LAST: Eroskay NAME - FIRST: Prof Dr Okay POSITION: Jeologi Muh Bolumu DEPARTMENT: Muhendislik Fakültesi ORGANIZATION: I U ORG (CONT): BUILDING: STREET: PO BOX: CITY: Vezneciler Istanbul PROVINCE: COUNTRY: TURKEY RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Eroskay INVENTORY: Eroskay NOTES: COUNTRY NAME: Uganda WLI CLASS: 1 NAME - FIRST: Mr David P M LAST: Hadoto POSITION: Acting Assistant Commissioner DEPARTMENT: ORGANIZATION: Geological Survey and Mines Department ORG (CONT): BUILDING: STREET: PO BOX: P O Box 9 CITY: Entebbe PROVINCE: COUNTRY: UGANDA PHONE: (256)42-20656 RESPONSE DATE: 02/04/92 FAX: (256)42-20347 TELEX: 62129 Petrol UGA CABLE: EMAIL: IN CHARGE: Hadoto INVENTORY: Hadoto NOTES: Uganda, Hadoto: 02/04/92 "In Uganda, the areas where landslides are common are Mt. Elgon and its environs and Mt. Ruwenzori and its environs. Elsewhere it is not common to have landslides."

)

WLI CLASS: COUNTRY NAME: Ukraine NAME - FIRST: d-z Leonid K LAST: Ginzburg POSITION: DEPARTMENT: ORGANIZATION: Ukzspetsstroiproekt ORG (CONT): BUILDING: STREET: Prospekt Vozontsove No 73 CITY: Dnepropetrovsk 320081 PROVINCE: COUNTRY: UKRAINE RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: COUNTRY NAME: Ukraine WLI CLASS: NAME - FIRST: Vadim I LAST: Khazin -POSITION: **DEPARTMENT:** ORGANIZATION: ORG (CONT): BUILDING: STREET: 28-26 Pushkinskaya St PO BOX: CITY: Kiev 252004 PROVINCE: COUNTRY: UKRAINE PHONE: RESPONSE DATE: 03/20/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: Ukraine, Khazin: 10/10/90 "Data are being supplied by several research expeditions under the auspices of Ukrglavgeologiya (formerly Ministry of Geology), covering the entire territory of the Ukraine and studying landslides within the frame of 'exogenic processes'--both natural & man-made. Various maps based on these data being compiled. In some regions (e.g. the Carpathians) the data are available for machine processing....'Landslide' is understood here as an event, not a geomorphological feature."

COUNTRY NAME: United Kingdom WLI CLASS: 5

NAME - FIRST: Dr Roger LAST: Moore

POSITION: Senior Geomorphologist

DEPARTMENT:

ORGANIZATION: Rendel Geotechnics

ORG (CONT):
BUILDING:

STREET: 58-72 John Bright Street

PO BOX:

CITY: Birmingham B1 1BN PROVINCE: England

COUNTRY: UNITED KINGDOM

PHONE: (44)21-627 1777 RESPONSE DATE: 11/05/91

FAX: (44)21-627 1778

)

TELEX: 339110

CABLE:

EMAIL:

IN CHARGE: Moore INVENTORY: Moore

NOTES: United Kingdom, Moore: 11/05/91 - has The National Landslides Databank for Great Britain (brochure attached). "The National Landslides Databank for Great Britain (currently containing 8835 records of landslides throughout England, Scotland and Wales) is a commercial database and Rendel Geotechnics operate an enquiry service from the birmingham office. A databank search costs 30.00 pounds plus 1.50 pounds for each landslide report which includes associated geotechnical data and all known references."

Formerly Geomorphological Services Ltd.

Has database for Philippines.

Brunsden 11/91: "General advice on landslides in the United Kingdom from D. Brunsden. Actual research from the data base from M. Lee [Rendel]."

COUNTRY NAME: United Kingdom WLI CLASS: 5 LAST: Lee NAME - FIRST: Mr M POSITION: DEPARTMENT: ORGANIZATION: Rendel Geotechnics ORG (CONT): BUILDING: STREET: 58-72 John Bright Street PO BOX: CITY: Birmingham B1 1BN PROVINCE: England COUNTRY: UNITED KINGDOM PHONE: (44)21-627 1777 RESPONSE DATE: / / FAX: (44)21-627 1778 TELEX: 339110 CABLE: EMAIL: IN CHARGE: Brunsden INVENTORY: Lee NOTES: United Kingdom, Lee: 12/91 Brunsden "General advice on landslides in the United Kingdom from D. Brunsdem. Actual records from the data base from M. Lee." COUNTRY NAME: United Kingdom WLI CLASS: 5 NAME - FIRST: Dr David LAST: Brook POSITION: Head Land Stability Branch DEPARTMENT: Minerals and Land Reclamation ORGANIZATION: Department of the Environment ORG (CONT): BUILDING: STREET: 2 Marsham Street PO BOX: CITY: London SW1P 3EB PROVINCE: England COUNTRY: UNITED KINGDOM RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Brook INVENTORY: Doornkamp NOTES:

COUNTRY NAME: United Kingdom WLI CLASS: 5

NAME - FIRST: Prof D LAST: Brunsden

POSITION:

DEPARTMENT: Department of Geography

ORGANIZATION: Kings College University of London

ORG (CONT):
BUILDING:

STREET: Strand

PO BOX:

CITY: London SW2 2LS PROVINCE: England

COUNTRY: UNITED KINGDOM

PHONE: (44)71-836 5454 RESPONSE DATE: 11/05/91

FAX: TELEX: CABLE: EMAIL:

IN CHARGE: Brunsden INVENTORY: Lee

NOTES: United Kingdom, Brunsden: 11/05/91 "General advice

on landslides in the United Kingdom from D.

Brunsden. Actual research from the data base from

M. Lee [Rendel Geotechnics]."

COUNTRY NAME: United Kingdom WLI CLASS:

NAME - FIRST: Prof John N LAST: Hutchinson

POSITION: Professor of Engineering Geomorphology

DEPARTMENT: Department of Civil Engineering

ORGANIZATION: Imperial College of Science Technology

ORG (CONT): and Medicine

BUILDING:

STREET: Imperial College Road

PO BOX:

CITY: London SW7 2BU PROVINCE: England

COUNTRY: UNITED KINGDOM

PHONE: (44)71-589 5111 ext 4721 RESPONSE DATE: 10/31/91

FAX: (44)71-823 8525

TELEX: 261503

CABLE:

EMAIL:

IN CHARGE: INVENTORY:

NOTES: United Kingdom, Hutchinson: Member of IAEG

Commission on Landslides

COUNTRY NAME: United Kingdom WLI CLASS: 4

NAME - FIRST: Prof David K C LAST: Jones

POSITION: Professor of Physical Geography

DEPARTMENT: Department of Geography ORGANIZATION: London School of Economics

ORG (CONT):
BUILDING:

STREET: Houghton Street Aldwych

PO BOX:

CITY: London WC2A 2AE PROVINCE: England

COUNTRY: UNITED KINGDOM

PHONE: (44)71-955 7590 RESPONSE DATE: 01/03/92

FAX: (44)71-955 7412 TELEX: 24655 LSELON G

CABLE: EMAIL:

IN CHARGE: Jones INVENTORY: Jones

NOTES: United Kingdom, Jones: For England, Wales, and

Scotland

)

Forwarded by Legg of Geographical Association, through Institute of British Geographers (1 Kensington Gore, London SW7 2AR).

01/03/92 "Survey of all REPORTED landslides up to 1989 undertaken using funds provided by UK Department of Environment."

"...I co-ordinated a major review of landsliding in Britain undertaken for the UK Department of the Environment over the period 1984-89. This was essentially a literature review designed to produce a survey of REPORTED LANDSLIDES and did not involve any search procedures nor the establishment of a reporting network. Nevertheless, a very considerable volume of information has been gathered together including maps and computer data files. As a great many people were involved in this exercise I suggest that the easiest practice would be to use me as the contact point should you require further information..."

COUNTRY NAME: United Kingdom WLI CLASS: NAME - FIRST: Martin G LAST: Culshaw

POSITION: Manager

DEPARTMENT: Engineering Geology Group ORGANIZATION: British Geological Survey

ORG (CONT):
BUILDING:

STREET: Nicker Hill Keyworth

PO BOX:

CITY: Nottingham NG12 5GG PROVINCE: England

COUNTRY: UNITED KINGDOM

PHONE: (44)602-6077 6111 RESPONSE DATE: 10/28/91

FAX: (44)602-6077 6602 TELEX: 378173 BGSKEY G

CABLE: EMAIL:

IN CHARGE: INVENTORY:

NOTES: United Kingdom, Culshaw: Also St. Helena.

Original reference person at British Geological Survey was F. Geoffrey Larminie (USGS Worldwide

Directory).

COUNTRY NAME: United Kingdom WLI CLASS: 2

NAME - FIRST: Mr Robin LAST: McInnes

POSITION: Deputy Director

DEPARTMENT: Environmental and Engineering Serv Dept

ORGANIZATION: South Wight Borough Council

ORG (CONT):

BUILDING:

STREET: Salisbury Gardens Dudley Road

PO BOX:

CITY: Ventnor PO38 1EJ PROVINCE: Isle of Wight

COUNTRY: UNITED KINGDOM

PHONE: (44)983-854938 RESPONSE DATE: 02/25/92

FAX: (44)983-854803

TELEX: CABLE: EMAIL:

EMAID.

IN CHARGE: McIntyre INVENTORY: McInnes

NOTES: UK, McInnes: 02/25/92 "Following on from our discussion at the conference in Christchurch, I enclose a report form for our entry into the World Landslide Inventory. Please let me know if you require any additional information and whether you can store photographs or plans for reference. We

look forward to receiving an updated inventory in due course."

"South Wight Borough Council holds a large

inventory of technical papers and photographs relating to coastal instability and landsliding on the Isle of Wight. S.W.B.C. is the Local Authority responsible for the Ventnor Undercliff Landslide which has recently been the subject of detailed study by the Department of the Environment (1988-1991). The Council is closely involved with the development and day to day use of large scale (1:2500) hazard and planning quidance maps in an urban area. South Wight has contracted other UK experts to carry out investigations at Ventnor including Rendel Geotechnics (DR A R CLARK, DR R MOORE), PROF J N HUTCHINSON and PROF D BRUNSDEN. South Wight is currently extending its studies within the Ventnor Undercliff and is implementing a Landslide Management Strategy for the area. The Council was co-sponsor (with the Institution of Civil Engineers) of the International Conference on Slope Stability Developments and Applications held at Shanklin, Isle of Wight 15th-19th April 1991. Contributions were made to ISL conferences at Lausanne (1988) and Christchurch (1992)."

COUNTRY NAME: United Kingdom WLI CLASS: 2 NAME - FIRST: Mr Graham LAST: McIntyre POSITION: Director DEPARTMENT: Environmental and Engineering Serv Dept ORGANIZATION: South Wight Borough Council ORG (CONT): BUILDING: STREET: Salisbury Gardens Dudley Road PO BOX: PROVINCE: Isle of Wight CITY: Ventnor PO38 1EJ COUNTRY: UNITED KINGDOM PHONE: (44)983-852703 RESPONSE DATE: 02/25/92 FAX: (44)983-854803 TELEX: CABLE: EMAIL:

INVENTORY: McInnes

IN CHARGE: McIntyre

NOTES:

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COUNTRY NAME: United States WLI CLASS: 1 LAST: Hourani NAME - FIRST: Nabil POSITION: Geotechnical Engineer DEPARTMENT: ORGANIZATION: Massachusetts Department of Public Works ORG (CONT): BUILDING: STREET: 10 Park Plaza PO BOX: CITY: Boston PROVINCE: MA 02116 COUNTRY: USA PHONE: (1)617-973 8832 RESPONSE DATE: 12/03/91 FAX: (1)617-973 7554 TELEX: CABLE: EMAIL: INVENTORY: Hourani IN CHARGE: Hourani NOTES: United States, Hourani: Massachusetts only. 11/05/91 Einstein: "...person and agency in Massachusetts to contact is Mr. H. Ernst...", at above address. 12/01/91 Response came in from Hourani. COUNTRY NAME: United States

LAST: Swanson WLI CLASS: POSITION: Research Geologist DEPARTMENT: Ecosystem Processes ORGANIZATION: Forestry Sciences Laboratory ORG (CONT): BUILDING: STREET: 3200 S W Jefferson Way PO BOX: CITY: Corvallis PROVINCE: OR 97331 COUNTRY: USA RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: United States, Swanson: 11/15/91 letter to Cruden "I am interested to learn more about the objectives and status of efforts to develop a repository for landslide data for the globe. issue came up at the meeting of the Panel on Natural Disaster Reduction (U.S.-Japan Science and Technology Agreement) at Karuizawa, Japan in September 1991 and at a workshop on landslides,

debris flows, and snow avalanches held in Tsukuba the following week. Both meetings concerned U.S.-Japan bilateral activities as part of the International Decade of Natural Disaster Reduction (IDNDR)....Collection, management, and exchange of landslide data are objectives within IDNDR activities. We proposed to work for good coordination across spatial scales of the sorts outlined below....I am not up to date on the extent to which such a system is in place or if priorities have been set for the various coordination tasks. Please bring me up to date....this is a huge task and resources are quite limited, but as part of IDNDR it would be nice to establish a prototype program...."

COUNTRY NAME: United States WLI CLASS: 3

NAME - FIRST: Mr William M LAST: Brown III POSITION: Chief Natl Landslide Information Center

DEPARTMENT: Branch of Geologic Risk Assessment

ORGANIZATION: U S Geological Survey

ORG (CONT):
BUILDING:
STREET:

PO BOX: P O Box 25046 MS 966

CITY: Denver PROVINCE: CO 80225-0046

COUNTRY: USA

PHONE: (1)303-273 8587 RESPONSE DATE: 05/28/92

FAX: (1)303-273 8600 TELEX: 5106014123 ESL UD

CABLE: EMAIL:

IN CHARGE: Brown INVENTORY: Brown

NOTES:

COUNTRY NAME: United States WLI CLASS: NAME - FIRST: Dr David J LAST: Varnes POSITION: Geologist DEPARTMENT: Branch of Geologic Risk Assessment ORGANIZATION: U S Geological Survey ORG (CONT): BUILDING: STREET: PO BOX: P O Box 25046 MS 966 CITY: Denver PROVINCE: CO 80225-0046 COUNTRY: USA PHONE: (1)303-273 8555 RESPONSE DATE: 05/28/92 FAX: (1)303-273 8600 TELEX: 5106014123 ESL UD CABLE: EMAIL: IN CHARGE: INVENTORY: NOTES: COUNTRY NAME: Uzbekistan WLI CLASS: NAME - FIRST: R LAST: Niyazov -POSITION: General Director DEPARTMENT: Uzbekhydrogeology ORGANIZATION: State Committee on Geology Republic of Uzbekistan ORG (CONT): BUILDING: STREET: Morosov St 64 PO BOX: CITY: 700041 Tashkent PROVINCE: COUNTRY: UZBEKISTAN PHONE: 626215 RESPONSE DATE: 02/10/92 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Niyazov INVENTORY: Niyazov NOTES: Uzbekistan, Niyazov: 02/10/92 "I am grateful to you for the suggestion to take part in supplying the Working Group by the information on landslides. "Our Organization carries on investigations and examinations on landslides all over the Central Asia and has the information about the every incident on large landslides for more than 30 "We consider it advisable to cooperate with the National Landslide Information Center.

presenting the information on landslides and

"It would be kind of you to send us the form of

indicate the conditions of cooperation...

"I invite you to visit Uzbekistan at the convenient for you period to discuss the perspectives of informational cooperation development and the ways of landslide studying."

COUNTRY NAME: Vanuatu WLI CLASS: 1

NAME - FIRST: Cedric LAST: Mortimer

POSITION: Director

DEPARTMENT:

ORGANIZATION: Department of Geology Mines and

ORG (CONT): Rural Water Supply

BUILDING:

STREET:

PO BOX: Private Mail Bag 001

CITY: Port Vila PROVINCE:

COUNTRY: VANUATU

PHONE: 678 22423 RESPONSE DATE: 10/30/91

FAX: 678 22213 TELEX: 1004 VANGOV

CABLE:

- EMAIL:

IN CHARGE: Mortimer INVENTORY: Mortimer

NOTES:

COUNTRY NAME: Venezuela WLI CLASS:

NAME - FIRST: Carlos LAST: Schubert

POSITION:

DEPARTMENT: Centro de Ecología

ORGANIZATION: IVIC Instituto Venezolano de ORG (CONT): Investigaciones Científicas

BUILDING:

STREET:

PO BOX: Apartado 21827 Código Postal 1020a CITY: Caracas PROVINCE:

COUNTRY: VENEZUELA

PHONE: (58)2-501 1111 RESPONSE DATE: 12/11/91

FAX: (58)2-571 3164 TELEX: 21338 21657 CABLE: IVICSAS

EMAIL:

IN CHARGE: INVENTORY:

NOTES: Venezuela, Schubert: 12/11/91 returned forms for

Ferrer, Singer

COUNTRY NAME: Venezuela WLI CLASS: 3-4

NAME - FIRST: Geom André LAST: Singer

POSITION:

DEPARTMENT: Departamento de Ciencias de la Tierra ORGANIZATION: FUNVISIS Fundación Venezolana de

ORG (CONT): Investigaciones Sismológicas

BUILDING:

STREET:

PO BOX: Apartado 1892

CITY: Caracas 1011 PROVINCE:

COUNTRY: VENEZUELA

PHONE: RESPONSE DATE: 12/11/91

FAX:

TELEX: 26453 FUNVISIS

CABLE:

EMAIL:

IN CHARGE: Singer INVENTORY: Singer

NOTES:

COUNTRY NAME: Venezuela WLI CLASS: 2

NAME - FIRST: Rodolfo LAST: Sancio T

- POSITION:

DEPARTMENT:

ORGANIZATION: ORG (CONT):

BUILDING:

STREET:

PO BOX: Apartado 75987

CITY: Caracas 1070 PROVINCE:

COUNTRY: VENEZUELA

PHONE: RESPONSE DATE: / /

FAX:

TELEX:

CABLE:

EMAIL:

IN CHARGE: Sancio T INVENTORY: Sancio T

NOTES:

COUNTRY NAME: Venezuela WLI CLASS: 2 LAST: Ferrer NAME - FIRST: Prof Carlos POSITION: Inst de Geografía y Conservación DEPARTMENT: Facultad de Ciencias Forestales ORGANIZATION: ULA Universidad de los Andes ORG (CONT): BUILDING: STREET: PO BOX: CITY: Merida PROVINCE: Est Merida COUNTRY: VENEZUELA PHONE: RESPONSE DATE: 12/11/91 FAX: TELEX: CABLE: EMAIL: IN CHARGE: Ferrer INVENTORY: Ferrer NOTES: Venezuela, Ferrer: 12/91 Full address: Instituto de Geografia y Conservación de Recursos Naturales COUNTRY NAME: Vietnam WLI CLASS: 0 NAME - FIRST: M Le Duc LAST: Thang POSITION: DEPARTMENT: ORGANIZATION: Truong Dai Hoc Xay Dung ORG (CONT): BUILDING: STREET: PO BOX: CITY: Hanoi PROVINCE: COUNTRY: VIETNAM RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Thang INVENTORY: Thang NOTES:

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COUNTRY NAME: Yugoslavia WLI CLASS: 1 NAME - FIRST: Dr P LAST: Anagnosti POSITION: DEPARTMENT: Water Resources Development Department ORGANIZATION: Energoprojekt Consulting and Engineering ORG (CONT): Company BUILDING: STREET: Bulevar Lenjina 12 PO BOX: P O Box 20 CITY: 11070 Belgrade PROVINCE: Serbia COUNTRY: YUGOSLAVIA PHONE: (38)11-134712 RESPONSE DATE: / / FAX: (38)11-137460 TELEX: YU ENERGO 11181 CABLE: EMAIL: IN CHARGE: Anagnosti INVENTORY: Anagnosti NOTES: Yugoslavia, Anagnosti: 02/92 Secretary of WP/WLI COUNTRY NAME: Yugoslavia WLI CLASS: 3 NAME - FIRST: Karel LAST: Natek POSITION: Senior Research Fellow DEPARTMENT: Inst of Geography Scientific Res Center ORGANIZATION: Slovene Academy of Sciences and Arts ORG (CONT): BUILDING: STREET: Novi Trg 3 PO BOX: CITY: 61000 Ljubljana PROVINCE: Slovenia COUNTRY: YUGOSLAVIA PHONE: (38)61-156068 RESPONSE DATE: 11/12/91 FAX: (38)61-155253 TELEX: CABLE: EMAIL: IN CHARGE: Natek INVENTORY: Natek NOTES:

COUNTRY NAME: Zambia WLI CLASS: 1

NAME - FIRST: Nic J LAST: Money

POSITION: Director

DEPARTMENT: Geological Survey Department

ORGANIZATION: Ministry of Mines

ORG (CONT):
BUILDING:

STREET: Government Road Ridgeway

PO BOX: P O Box 50135

CITY: Lusaka PROVINCE:

COUNTRY: ZAMBIA

PHONE: (260)1-250174 RESPONSE DATE: 11/26/91

FAX: (260)1-251973 TELEX: ZA 40107 GEOLOGY

CABLE: EMAIL:

IN CHARGE: Money INVENTORY: Money

NOTES: Zambia, Money: 11/26/91 "Some landslides are known in escarpment country especially after heavy unusual rainfall. In February 1990 heavy sheet-flood swept from the Escarpment into Maamba

Colliery resulting in numerous landslips."

"...I wish to state that in general this country does not experience serious landslides. However, it must be recognised the Zambia, a large land area is sparsely populated and therefore much of the information is not readily available. Over the last two years heavy rainfall resulted in calamities in Zambia and Malawi. Sheet flood avalanche caused drainage dislocations and damage at Maamba Collieries. It is also understood that major landslides involving complete hills took place in neighbouring Malawi although no documentation has been received.

"I shall endeavour to keep you updated on developments as they arise. You may please include us in your regular mailing list so that issues connected with landslides are kept in perspective."

COUNTRY NAME: Zimbabwe WLI CLASS: 0 NAME - FIRST: Dr J L LAST: Orpen POSITION: Director DEPARTMENT: ORGANIZATION: Geological Survey ORG (CONT): BUILDING: STREET: PO BOX: P O Box 8039 Causeway CITY: Harare PROVINCE: COUNTRY: ZIMBABWE RESPONSE DATE: 12/01/91 PHONE: (263)4-790701 FAX: (263)4-790704 TELEX: 22416 CABLE: EMAIL: IN CHARGE: Orpen INVENTORY: Chenterai NOTES: Zimbabwe, Orpen: 12/01/91 "I have made photocopies of the inventory and circulated them to a number of organisations in Zimbabwe." COUNTRY NAME: Zimbabwe WLI CLASS: 0 LAST: Chenterai NAME - FIRST: K G POSITION: DEPARTMENT: ORGANIZATION: Geological Survey

PO BOX: P O Box 8039 Causeway

CITY: Harare PROVINCE:

COUNTRY: ZIMBABWE

PHONE: (263)4-790701 RESPONSE DATE: 12/01/91

FAX: (263)4-790704

TELEX: 22416

CABLE:

EMAIL:

ORG (CONT):
BUILDING:
STREET:

IN CHARGE: Orpen INVENTORY: Chenterai

NOTES:

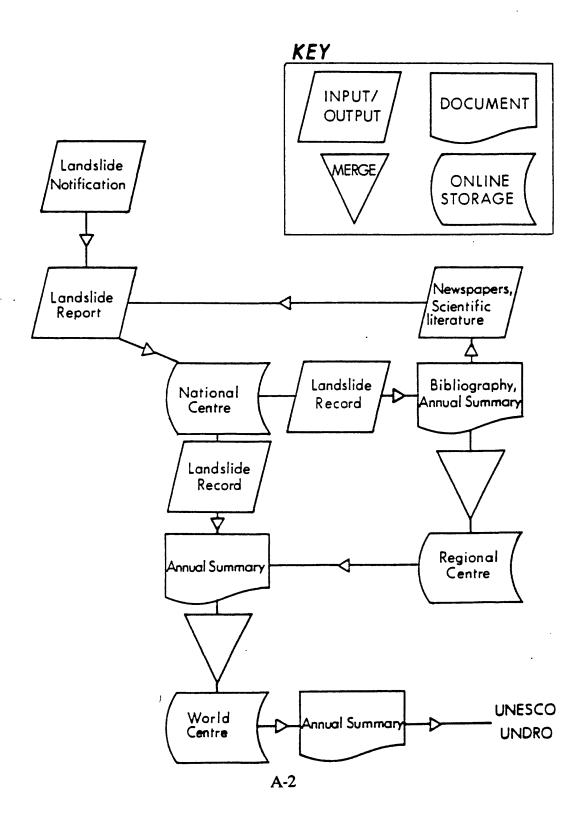
COUNTRY NAME: Zimbabwe WLI CLASS: 1 LAST: Lister NAME - FIRST: Dr L A POSITION: Senior Lecturer DEPARTMENT: Geology Department ORGANIZATION: University of Zimbabwe ORG (CONT): BUILDING: STREET: PO BOX: P O Box MP167 CITY: Harare PROVINCE: COUNTRY: ZIMBABWE PHONE: (263)4-303211 FAX: (263)4-732828 RESPONSE DATE: 12/15/91 TELEX: 26580 UNIVZ ZW CABLE: EMAIL: IN CHARGE: Lister INVENTORY: Lister NOTES: COUNTRY NAME: Zimbabwe WLI CLASS: 0 NAME - FIRST: G B LAST: Delph POSITION: DEPARTMENT: Geotechnical Division ORGANIZATION: Zimbabwe Institution of Engineers ORG (CONT): BUILDING: STREET: PO BOX: P O Box 660 RSR CITY: Harare PROVINCE: COUNTRY: ZIMBABWE RESPONSE DATE: / / PHONE: FAX: TELEX: CABLE: EMAIL: IN CHARGE: Delph INVENTORY: Delph NOTES:

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## **APPENDIX**

Concept and preparation of the World Landslide Inventory (WP/WLI, 1990 and 1991).

# Conceptual Information Flow for the World Landslide Inventory





## United States Department of the Interior



la reply ruler icc William M. Brown III Telephone: Comm. (303) 236-8616 FTS: 776-8616 GEOLOGICAL SURVEY
BRANCH OF GEOLOGIC RISK ASSESSMENT
BOX 25046 MS 966
DENVER FEDERAL CENTER
DENVER, COLORADO 80225
FAX: FTS 776-0618; COMM: (303) 236-0618
TELEX: 5106014123 ESL UD

NATIONAL LANDSLIDE INFORMATION CENTER
(800) 654-4966

October 1991

Greetings!

Reliable historical data on the world distribution of landslides is fundamental for disaster risk assessment and for averting loss of life and economic damages.

With this end in mind, and in conjunction with the United Nations International Decade for Natural Disaster Reduction, a Working Party on World Landslide Inventory (WP/WLI) has been formed under the auspices of UNESCO.

The WP/WLI is now setting up an list of contact persons in each country who could provide information on landslides in that country.

Your organization has been suggested to us as a possible source for landslide information for your country. If your office is able to provide such information, we would appreciate it very much if you would return the enclosed form as soon as possible to the above address or FAX number. We will provide you periodically with reports and other information on the status of the World Landslide Inventory.

If your office does not have access to information on landslides, it would be most helpful if you would forward this letter to the appropriate agency, or return the form to us with a notation of the name and address of the agency. Also, please inform us if your organization should not be on our mailing list.

The contribution of each country is important to provide complete coverage of the Earth's surface.

Thank you very much. We look forward to cooperation and exchange of information in the future.

Sincerely yours,

William M. Brown III Judith S. Denison

National Landslide Information Center

## WP/WLI REPORT OF CURRENT LANDSLIDE INVENTORY

,				
COUNTRY:				
CLASS OF INVENTORY (see definitions	below):			
PERSON IN CHARGE:				
POSITION:				
ADDRESS:				
TELEPHONE:	FAX:			
TELEX:	CABLE:			
INVENTORY CONTACT:	·			
ADDRESS:				
ADDRESS:				
TELEPHONE:	FAX:			
TELEX:	CABLE:			
	CADILL.			
ADDITIONAL COMMENTS:				
DEFINITIONS: An inventory is a detailed list. The WP/WLI has recognized five Inventory Classes as follows: Class 5: Machine processible with systematic data capture and complete national coverage Class 4: Systematic data capture and complete national coverage Class 3: Machine processible local inventory Class 2: Local inventory				
Class 1: No inventory, some landsli (Class 0: Nothing known)	laes known			
Please return to: William M. Brown III, NLIC, USGS, Box 25046, MS 966, Federal Center, Denver, CO 80225, U.S.A. (FAX 303/273-8600)				

### <u>Inventory Classes</u>

Machine processible with systematic data Class 5: capture and complete national coverage Systematic data capture and complete Class 4: national coverage Class 3: Machine processible local inventory Local inventory Class 2: Class 1: No inventory, some landslides known Class 0:

Nothing known

#### INTERNATIONAL GEOTECHNICAL SOCIETIES'

## (International Association of Engineering Geology,

## International Society for Soil Mechanics and Foundation Engineering,

## International Society of Rock Mechanics) UNESCO WORKING PARTY

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As of: February 26, 1992

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## WORKING GROUPS: WP/WLI

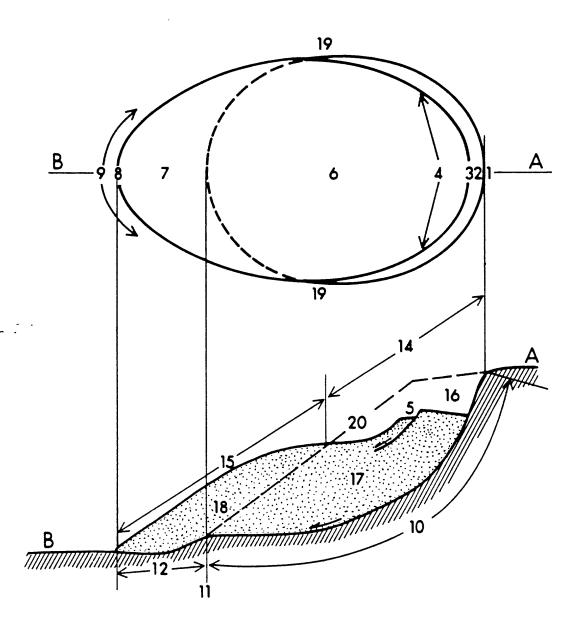
Topic /	Members	
Rate of Movement	C. Bonnard H.H. Einstein D.J. Varnes D.M. Cruden G. Salt S. Novosad Z. G. Ter-Martirosian Z.Y. Zhang	Chairman
Causes of Landslides	M. Popescu R. Fell D.M. Cruden S. Novosad J. Farkas P. Anagnosti W.A. Lacerda K. Sassa F. Esu G.X. Wang	Chairman
Geology	R. Fell H. Nakamura L. Beltran D.M. Cruden Z.Y. Zhang E. Krauter	Chairman
Distribution of Movement Activity (2 topics)	D.M. Cruden W.H. Ting D.J. Varnes J.N. Hutchinson S. Novosad G.X. Wang J. Farkas	Chairman
Landslide Summaries	D.M. Cruden C. Bonnard H.H. Einstein K.Sassa M. Hashizume M. Popescu Z.Y. Zhang	Chairman
Damage	H. Einstein M. Pachakis E. Krauter D.M. Cruden	Chairman

## The Landslide Report Form - Side One

LANDSL	IDE REPORT		·	Date of Report		mo. yı	
Landsli	ide Localit	У		National Inve	ntory Num	per	
Reporte	er: Name _						
Affilia	ation						
	Address _						
	-						
	Phone _			-			
Positio	on: Latitu	degrees	minutes	seconds her	misphere		
		ude•					
		ion: crown			•		
	rupture so	rface toe					
		tip		m a.s.l.		·····	
Date of	f occurrenc	day mo					
Type:	First move	ment (circle t	he appropria	te numbers and	terms)		
	1. rock	2. debris	3. earth				
	1. fall	2. topple	3. slide	4. lateral	spread	5. flow	
	Second mov	rement (circle	the appropri	ate numbers an	d terms)		
	1. rock	2. debris	3. earth				
	1. fall	2. Hopple	3. slide	4. lateral	spread	5. flow	

## The Landslide Report Form - Side Two

Geometry:	Rupture Surface	Displaced Mass	
Length	L <sub>r</sub> = m	L <sub>d</sub> = m	L = m
Width	W <sub>r</sub> = m	W <sub>d</sub> = m	
Depth	D <sub>r</sub> = m	D <sub>d</sub> = m	
Volume: V = π	L <sub>d</sub> D <sub>d</sub> w <sub>d</sub> /6 or	v =	Swell factor =
v =	m <sup>3</sup> x 10 <sup>n</sup>		
Damage: Value		Currency	
Injur	ies	Deaths	
References:			
. 1.			
2			
3			
Comments:			
<del></del>	1		



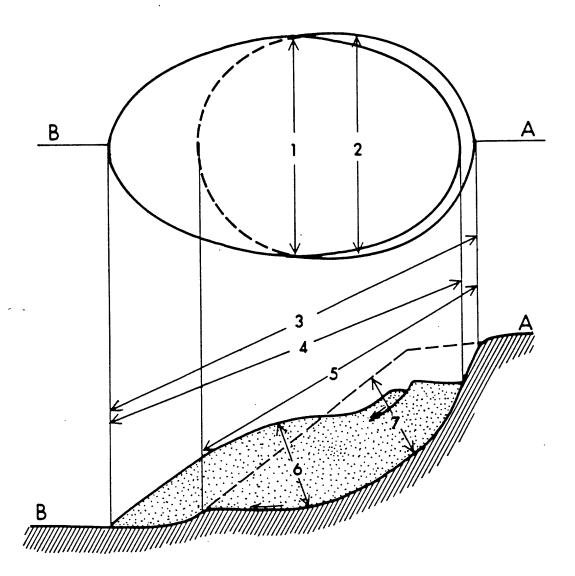
Landslide Features

#### Landslide Features

- 1) Crown: The practically undisplaced material adjacent to the highest parts of the main scarp.
- 2) Main scarp: A steep surface on the undisturbed ground at the upper edge of the landslide caused by movement of the displaced material away from the undisturbed ground.
- 3) Top: The highest point of contact between the displaced material (13) and the main scarp (2).
- 4) Head: The upper parts of the landslide along the contact between the displaced material and the main scarp (2).
- 5) Minor scarp: A steep surface on the displaced material of the landslide produced by differential movements within the displaced material.
- 6) Main body: The part of the displaced material of the landslide that overlies the surface of rupture between the main scarp (2) and the toe of the surface of rupture (11).
- 7) Foot: The portion of the landslide that has moved beyond the toe of the surface of rupture (11) and overlies the original ground surface (20).
- 8) Tip: The point on the toe (9) farthest from the top (3) of the landslide.
- 9) Toe: The lower, usually curved margin of the displaced material of a landslide, it is the most distant from the main scarp (2).
- 10) Surface of rupture: The surface forming the lower boundary of the displaced material below the original ground surface.
- 11) Toe of surface of rupture: The intersection (usually buried) between the lower part of the surface of rupture (10) of a landslide and the original ground surface.
- 12) Surface of separation: The part of the original ground surface now overlain by the foot (7) of the landslide.
- 13) Displaced material: Material displaced from its original position on the slope by movement in the landslide. It forms both the depleted mass (17) and the accumulation (18). It is stippled in the figure.
- accumulation (18). It is stippled in the figure.

  14) Zone of depletion: The area of the landslide within which the displaced material (13) lies below the original ground surface (20).
- 15) Zone of accumulation: The area of the landslide within which the displaced material lies above the original ground surface (20).
- 16) Depletion: The volume bounded by the main scarp (2), the depleted mass (17) and the original ground surface (20).
- 17) Depleted mass: The volume of the displaced material which overlies the rupture surface (10) but underlies the original ground surface (20).
- 18) Accumulation: The volume of the displaced material (13) which lies above the original ground surface (20).
- 19) Flank: The undisplaced material adjacent to the sides of the rupture surface. Compass directions are preferable in describing the flanks but if left and right are used, they refer to the flanks as viewed from the crown.
- 20) Original ground surface: The surface of the slope that existed before the landslide took place.

Figure legend The upper portion of the figure is a plan of a typical landslide, the dashed line in it is the trace of the rupture surface on the original ground surface. In the section in the lower portion of the figure, cross hatching indicates undisturbed ground, stippling shows the extent of the displaced material.

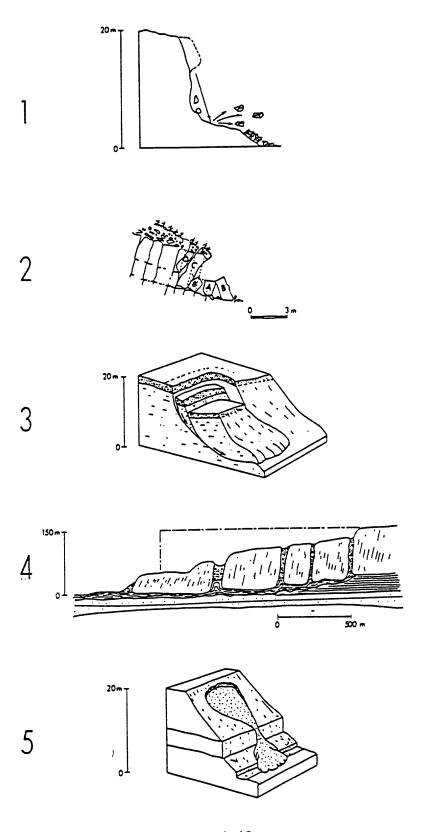


Landslide Dimensions

#### Landslide Dimensions

- 1) Width of the displaced mass, Wd, the maximum breadth of the displaced mass perpendicular to the length, Ld.
- 2) Width of the rupture surface, Wr, the maximum width between the flanks of the landslide, perpendicular to the length, L<sub>I</sub>.
- 3) Total length, L, the minimum distance from the tip of the landslide to its crown.
- 4) Length of the displaced mass, Ld, the minimum distance from the tip to the top.
- 5) Length of the rupture surface,  $L_{\Gamma}$ , the minimum distance from the toe of the surface of rupture to the crown.
- 6) Depth of the displaced mass, Dd, the maximum depth of the displaced mass, measured perpendicular to the plane containing Wd and Ld.
- 7) Depth of the rupture surface,  $D_r$ , the maximum depth of the rupture surface below the original ground surface measured perpendicular to the plane containing  $W_r$  and  $L_r$ .

In the section, cross hatching indicates undisturbed ground and the broken line is the original ground surface. The dashed line in the plan is the trace of the rupture surface on the original ground surface.



A-18

#### Types of Landslides

- 1) A Fall starts with the detachment of soil or rock from a steep slope along a surface on which little or no shear displacement takes place. The material then descends largely through the air by falling, saltation or rolling.
- A Topple is the forward rotation, out of the slope, of a mass of soil or rock about a
  point or axis below its centre of gravity.
- 3) A Slide is a downslope movement of a soil or rock mass occurring dominantly on surfaces of rupture or relatively thin zones of intense shear strain.
- 4) A Spread is an extension of a cohesive soil or rock mass combined with a general subsidence of the fractured mass of cohesive material into softer underlying material.

  The rupture surface is not a surface of intense shear. Spreads may result from liquefaction or flow (and extrusion) of the softer material.
- 5) A Flow is a spatially continuous movement in which surfaces of shear are short-lived, closely spaced and not usually preserved. The distribution of velocities in the displacing mass resembles that in a viscous fluid.

The figures are based on examples from D.J. Varnes, 1978, Transportation Research Board Special Report 176, Figure 2.1. Broken lines indicate the original ground surface. Arrows show portions of the trajectories of individual particles of the displaced mass.