

United States Department of the Interior
Geological Survey

U.S. GEOLOGICAL SURVEY INTERIM EMERGENCY RESPONSE PLAN
FOR VOLCANIC HAZARDS IN THE UNITED STATES

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Open-File Report

81-123

This report is preliminary and has not
been reviewed for conformity with U.S.
Geological Survey editorial standards.

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U.S. GEOLOGICAL SURVEY INTERIM EMERGENCY RESPONSE PLAN
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Introduction:

The Hawaiian Islands, Alaskan Arc, and the Cascade Range all contain active volcanoes that have affected the environs, including urban centers, during the last several years. The potential for violent volcanic eruptions near urban centers, as is currently occurring at Mount Saint Helens, makes it imperative that the USGS strengthen its capacity to anticipate and to assess volcanic hazardous events and to ensure that effective emergency response planning is done prior to the next such event.

The Hawaiian Volcano Observatory is well-instrumented, staffed by trained experts, and guided by tested contingency plans. The staff is well prepared to alert appropriate authorities to any potential dangers and to advise them of the need for possible evacuation. The Alaskan Arc is remote, sparsely populated, except in the area of Cook Inlet, and inadequately instrumented or staffed for satisfactory volcano observations. The Cascade Range is partially instrumented around some of its major volcanoes, and modest research centers have evolved in the vicinity of its major volcanic risks (Seattle-Tacoma and Vancouver-Portland), but considerably more scientific research, instrumentation, and staffing are required, commensurate with the existing risks.

This is an interim emergency response plan for any volcano; practical considerations, as indicated above, focus attention on the Cascade Range. It is an interim plan because: 1) a more extensive pre-warning seismic net must be established in the Cascade Range and in the Alaskan Arc; 2) more hazards

assessment scientists, seismologists and volcanologists should be assigned to specific volcanoes; 3) we must establish criteria for thresholds of response to volcanic events; 4) we must make considerable arrangements for utilizing public or private facilities near volcanoes; and 5) we must establish interagency procedures as may be appropriate in an emergency due to a volcanic eruption.

Later versions of this plan eventually will incorporate all of the above elements. In anticipation of these later versions and for purposes of brevity, all references in this plan will be made to the Emergency Response Plan.

Purpose:

The purpose of this plan is to identify: 1) the USGS personnel responsible for responding to a natural disaster caused by a volcanic eruption and for monitoring and evaluating such a potential natural disaster; 2) the sequence of events that generate appropriate actions by these individuals (Table 1); and 3) their detailed functions, responsibilities, and interrelationships.

USGS Personnel Responsible for Initiating and Implementing this Plan:

The Director, U.S. Geological Survey, or his designee, is authorized to activate this plan. In the event of a volcanic eruption with little or no warning and in the absence of appropriate on-site USGS personnel, the Director's activation of this plan will trigger the immediate dispatch of the Quick-Response Team (see below) led by the Quick-Response Team Leader; the assumption of overall responsibility for the implementation of this plan by the Bureau Emergency Response Coordinator; and, if appropriate, the subsequent dispatch of the Field Task Force led by the Field Manager.

When a potentially hazardous condition is identified by a USGS employee, the USGS internal guidelines for reporting geologic-related hazards (Appendix A)

should be followed. In summary, the employee should document the potential hazard as completely and precisely as possible. If the hazard presents a clear risk to life and property and there does not appear to be sufficient time to contact a responsible USGS official for scientific evaluation and policy review, the employee should make every reasonable effort to directly and immediately contact the affected parties and appropriate local public officials. As soon as possible after communicating the information to local officials, the employee should notify both his supervisor and the Hazards Information Coordinator of the hazard observations, the actions he took, and the current status of the hazardous condition.

After notification from the USGS employee, who may be the on-site scientist or his supervisor, the following USGS personnel will be responsible for initiating and implementing this plan in the sequence indicated.

A. Hazards Information Coordinator:

1. Determines whether to recommend to the Director that a Quick-Response Team be dispatched to the potential disaster site, and alerts Bureau Emergency Response Coordinator.
2. Prepares a "Hazard Watch" or "Hazard Warning Notice" as appropriate, in coordination with the Chief of the Office of Geophysics and Geochemistry, and the Public Affairs Officer. See Appendix B for details of those procedures.

B. Director:

1. Approves or disapproves recommendation of the Hazards Information Coordinator to dispatch the Quick-Response Team. Concurrence

activates the Emergency Response Plan, the Bureau Emergency Response Coordinator and his Survey Coordination Team.

2. Approves or disapproves recommendation of the Bureau Emergency Response Coordinator that Field Task Force be dispatched to site (see D-2 below).
3. Terminates the Emergency Response Plan when appropriate.

C. Bureau Emergency Response Coordinator:

1. In response to the Director's decision, he assumes responsibility for the implementation of the Emergency Response Plan and the leadership of the Survey Coordination Team.
2. Acts as the Director's representative at headquarters to other bureaus of the Department of the Interior (DOI), Federal organizations, and the Congressional Liaison Office in the matters relating to policy, for the duration of the specific emergency.

D. Quick-Response Team Leader:

1. Evaluates the degree of the potential hazard for the use of the affected parties, local public officials, governmental organizations, and for USGS Headquarters.
2. Determines the need for additional USGS support, and determines whether to recommend to the Director through the Bureau Emergency Response Coordinator that the Field Task Force be dispatched, if necessary.

E. Field Manager:

1. Assumes leadership of the Field Task Force.
2. Acts as senior USGS representative at the site to State and local agencies and to regional or local units of other Federal agencies.

F. Public Affairs Office Coordinator:

1. Begins assembling as soon as possible any verifiable information that can be quickly disseminated to answer immediate expectable news media inquiries.
2. Serves as focus for news media inquiries, arranges for temporary technical spokesman, screens and arranges requests for interviews, advises on immediate and expectable news media needs.

Sequence of Events and Appropriate Actions by Responsible USGS Personnel:

A natural disaster due to a volcanic eruption will trigger the immediate activation of this plan by the Director or his designee, as detailed in the previous section.

Increased or unusual volcanic activity that has the potential for developing into a natural disaster should be brought immediately to the attention of the Hazards Information Coordinator. If, after consultation with the on-site scientist, his supervisor, and if time permits, the technical staff having responsibility for that area of geographic and topical expertise, the hazard is considered serious, the Hazards Information Coordinator may recommend to the Director that the Quick-Response Team be activated at the site from the available staff or be dispatched to the critical area within 24 hours. The written or oral concurrence of the Director or his designee to the recommendation of the Hazards Information Coordinator activates the Emergency Response Plan, the Bureau Emergency Response Coordinator and his Survey Coordination Team at Headquarters, and dispatches the Quick-Response Team to the critical site. The purpose of the Quick-Response Team is to assess the degree of the hazard for immediate local application

(see D-1 above) the necessity for, and extent of, further USGS response, and to establish communications and administrative support.

The nucleus of the Quick-Response Team ideally should consist of an on-site hazards assessment scientist, seismologist, volcanologist, and other scientists at or near the site. It is essential that this team be in position to respond to the emergency swiftly. One of the on-site scientists or his supervisor should assume the leadership of the Quick-Response Team if possible. This assures continuity as events unfold and places the team in the hands of a topical expert familiar with the site and presumably with the local personnel. Continuing volcanic activity may prompt the Quick-Response Team Leader to recommend to the Director, through the Bureau Emergency Response Coordinator, that the Field Task Force be dispatched to the site. The concurrence of the Director, or his designee, should result in the dispatch of the Field Manager and the Field Task Force to the site within 48 hours.

The Bureau Emergency Response Coordinator assumes responsibility for the execution of the Emergency Response Plan and all of its elements. He assembles the Survey Coordination Team and is the focal point for coordination between the Field Manager and USGS Headquarters.

A very serious hazard, as determined by the Hazards Information Coordinator in concert with the responsible technical staff, could result in the almost simultaneous formation of the Quick-Response Team at the site and the dispatch of those elements of the Quick-Response Team and the Field Task Force that are required.

Upon arrival at the hazard site, the Field Manager, who has been previously designated by the Director in the Emergency Response Plan, assumes overall

direction of USGS personnel and activities at the site. He and his Field Task Force will remain until the hazard has terminated, and he receives permission to leave the site.

Functions and Responsibilities of the Bureau Emergency Response Coordinator and the Survey Coordination Team:

The Bureau Emergency Response Coordinator and the Survey Coordination Team (Figure 1) provide headquarters support, guidance, and resolution of policy level problems that cannot be dealt with at the field level. The specific functions and responsibilities of the individual members are described below.

A. Bureau Emergency Response Coordinator:

The Bureau Emergency Response Coordinator is responsible for the execution of the Emergency Response Plan. He is assisted by the Survey Coordination Team composed of representatives from the Director's Office and from the appropriate Divisions. The Bureau Emergency Response Coordinator is the primary conduit for communications between the Director and the Field Manager and facilitates and expedites the work of the Field Manager in those areas requiring headquarters support such as policy issues or major problems not resolvable at field level. He is the Director's representative at headquarters to DOI or to other Federal agencies in matters which involve coordination or policy issues germane to the Geological Survey's response to the specific disaster.

B. Survey Coordination Team:

1. Hazards Information Coordinator:

The Hazards Information Coordinator acts as the Deputy to the Bureau Emergency Response Coordinator and as such maintains close communication with the Field Manager. He is responsible for maintaining a current

Table 1.--SUMMARY OF EVENTS, ACTIONS, AND RESPONSIBLE OFFICIALS

<u>Events</u>	<u>Actions</u>	<u>Responsible Officials</u>
Volcanic disaster	Notification of disaster to affected parties and to local public officials, Director, HIC, AD-WR	Confirmed Eye Witness; On-Site Scientist
	Recommendation for dispatch of QRT	HIC
	Dispatch of QRT, and if necessary FTF; activation of ERP, BERC, and SCT	Director
Potentially hazardous volcanism	Notification of hazard to local public officials, supervisor and HIC	On-Site Scientist, Supervisor
	Alerting of Director BERC and PAO; recommendation for dispatch of QRT; preparation of Hazard Watch or Hazard Warning Notice	HIC
	Concurrence; dispatch of QRT; activation of ERP, BERC, and SCT	Director
	Alerting of Field Manager and FTF	BERC
	Recommendation for FTF to be dispatched to site	BERC
Increased volcanic hazard	Concurrence, dispatched FTF	Director
	Operation of FTF	Field Manager
Continuing volcanic hazard	Operation of FTF	Field Manager
Termination of volcanic hazard	Permission to leave the site, deactivation of ERP	Director

HIC---Hazards Information Coordinator
 AD-WR-Assistant Director--Western Region
 QRT---Quick-Reponse Team
 FTF---Field Task Force

ERP---Emergency Response Plan
 BERC--Bureau Emergency Response Coordinator
 SCT---Survey Coordination Team
 PAO--Public Affairs Office Coordinator

record of events, an action file of prioritized problems or needs, and a continuously updated list of Emergency Response Plan participants, their alternates, and their home and office telephone numbers. The Hazards Information Coordinator acts for the Bureau Emergency Response Coordinator in the latter's absence.

2. Divisional Coordinators for GD, WRD, NMD:

The divisional coordinators provide linkage between their representatives on the Field Task Force and their headquarters staff. They assist the Bureau Emergency Response Coordinator in identifying resource needs and in resolving policy level problems. They are responsible for maintaining a continuously updated list of Emergency Response Plan participants from their Divisions, which they transmit to the Hazards Information Coordinator.

3. Logistics Coordinator, Administrative Division:

The Logistics Coordinator from the Administrative Division is responsible for all logistical, personnel, and associated administrative requirements of the Quick Response Team and the Field Task Force. He coordinates the activities of the administrative staffs of the Divisions represented on the Quick Response Team or the Field Task Force, as they will be the ones most likely called upon to provide the required services. The Logistics Coordinator is responsible for supplying all Emergency Response Plan personnel in advance with documents and funding sufficient to expedite their movement to the site on short notice.

4. Public Affairs Office Coordinator:

The Public Affairs Office Coordinator is responsible for the coordination of news media services, contacts with news media, arranging news

interviews with appropriate USGS personnel, preparation of news releases and news photos, advising USGS officials of news media needs and possible reactions to anticipated events, and coordinating news-related activities. The Public Affairs Office Coordinator will maintain a reference file of issued news releases and samples of resulting news clippings.

5. The Program and Budget Coordinator:

The Program and Budget Coordinator provides assistance in developing strategies for funding emergency operations which cannot be anticipated in the Geological Survey's Budget. In addition, the Program and Budget Coordinator coordinates the preparation of requests for supplementary funds to compensate for funds expended as a result of a natural disaster (as in the case of Mount Saint Helens).

6. Legislative Liaison Coordinator:

The Legislative Liaison Coordinator is responsible for providing communication between the Bureau Emergency Response Coordinator and Congress and specifically with the Congressional delegation(s) from the area affected and for alerting the Bureau Emergency Response Coordinator to special requests for information or briefing materials.

Functions and Responsibilities of the Quick-Response Team:

The Quick-Response Team is designed to respond effectively in the field to three essential requirements: 1) to provide a rapid, accurate, and continuing assessment of the potential hazard in order to advise the affected parties, the local public officials, governmental organizations, and USGS Headquarters; 2) to provide the necessary basis for determining whether or not support may be required from a Field Task Force; 3) to develop and maintain timely

and responsive communications with the local public officials, governmental organizations, USGS Headquarters, and with the news media. Representation on the Quick-Response Team (Figure 1), with the exception of the Quick-Response Team Leader, is organizational rather than individual. Several geologists and hydrologists may be required for effective assessment and response. The specific functions and responsibilities of the individual members are described below.

A. Quick-Response Team Leader:

The Quick-Response Team is under the direction of the Quick-Response Team Leader who may have been the on-site scientist or his supervisor who initially reported the volcanic hazard (see page 5). The Quick-Response Team Leader is charged with the responsibility of making critical decisions in a short time with only a minimum of information. The importance of this position argues strongly for an individual with the requisite topical and areal experience. The Quick-Response Team Leader is responsible for immediate and continuing assessment of the emergency situation for the use of the affected parties, local public officials, governmental organizations, and for USGS Headquarters, and for recommendations to the Bureau Emergency Response Coordinator on the need for and extent of further USGS response to the potential hazard. He coordinates the efforts of his team with those of cooperating organizations.

B. Divisional Scientists (GD, WRD):

These divisional scientists, with expertise in volcanic hazards and related hazards, support the Quick-Response Team Leader, and in consultation with other program scientists, they advise and make recommendations to the Quick-

Response Team Leader on appropriate USGS response actions. The Water Resources Division (WRD) has emergency response plans prepared for each State which detail the responsibilities of District personnel in response to catastrophic hydrologic events. Therefore, the WRD scientist on the Quick-Response Team will serve as an integrator and communicator. He should distill the information provided by on-site WRD personnel to provide an integrated assessment to the Quick-Response Team Leader.

C. Deputy Hazards Information Coordinator:

The principal responsibility of the Deputy Hazards Information Coordinator is to assist the Quick-Response Team Leader in establishing and maintaining contacts with affected parties and governmental organizations. This includes keeping them informed of USGS activities and acting as a conduit for information requests. The Deputy Hazards Information Coordinator also shares responsibility with the Quick-Response Team Leader for providing briefings as required by local, State, and Federal government agencies charged with emergency response duties. He will aid government agencies by clarifying technical information provided by the USGS and by performing tasks which require a geologic background. He is responsible for evaluating the need for a professional photographer and archivist to prepare material designed for USGS and outside briefings, and to coordinate their activities with pertinent USGS offices.

D. Logistics Coordinator, Administrative Division:

The Logistics Coordinator provides administrative and logistical support to the Quick-Response Team, as required, and, in the event that further USGS response is ordered, initiates appropriate action to secure necessary

space, lodging, transportation, equipment, supplies, communications facilities, and other such support.

E. Public Affairs Office Coordinator:

The Public Affairs Office Coordinator has the primary responsibility for dealing with the news media needs on-site and for establishing and maintaining a flow of information to regional and national Public Affairs Offices'. The immediate duties of the designated Public Affairs Office Coordinator will include: 1) answering questions and responding to interviews by the news media; 2) determining the needs for an on-site scientist to help meet news media demands; 3) arranging news interviews with that scientist and other informed USGS personnel; 4) establishing and maintaining a working relationship with the news media activities of other involved agencies; 5) advising USGS officials on probable future news media needs and anticipating possible reactions and problems; and 6) initiating action in conjunction with the Logistics Coordinator to secure appropriate media space and facilities.

Functions and Responsibilities of the Field Task Force:

The Field Task Force is designed to supplant, if needed, the Quick-Response Team in order to respond effectively to three essential requirements: 1) the accurate, timely, and continuing monitoring and evaluation of the volcanic hazards; 2) the collection, documentation and interpretation of scientific data; and 3) the establishment and maintenance of communication from the Field Task Force to USGS officials and to the news media. The Quick-Response Team should be the nucleus for the Field Task Force (Figure 1). This critical effort is directed by the Field Manager supported

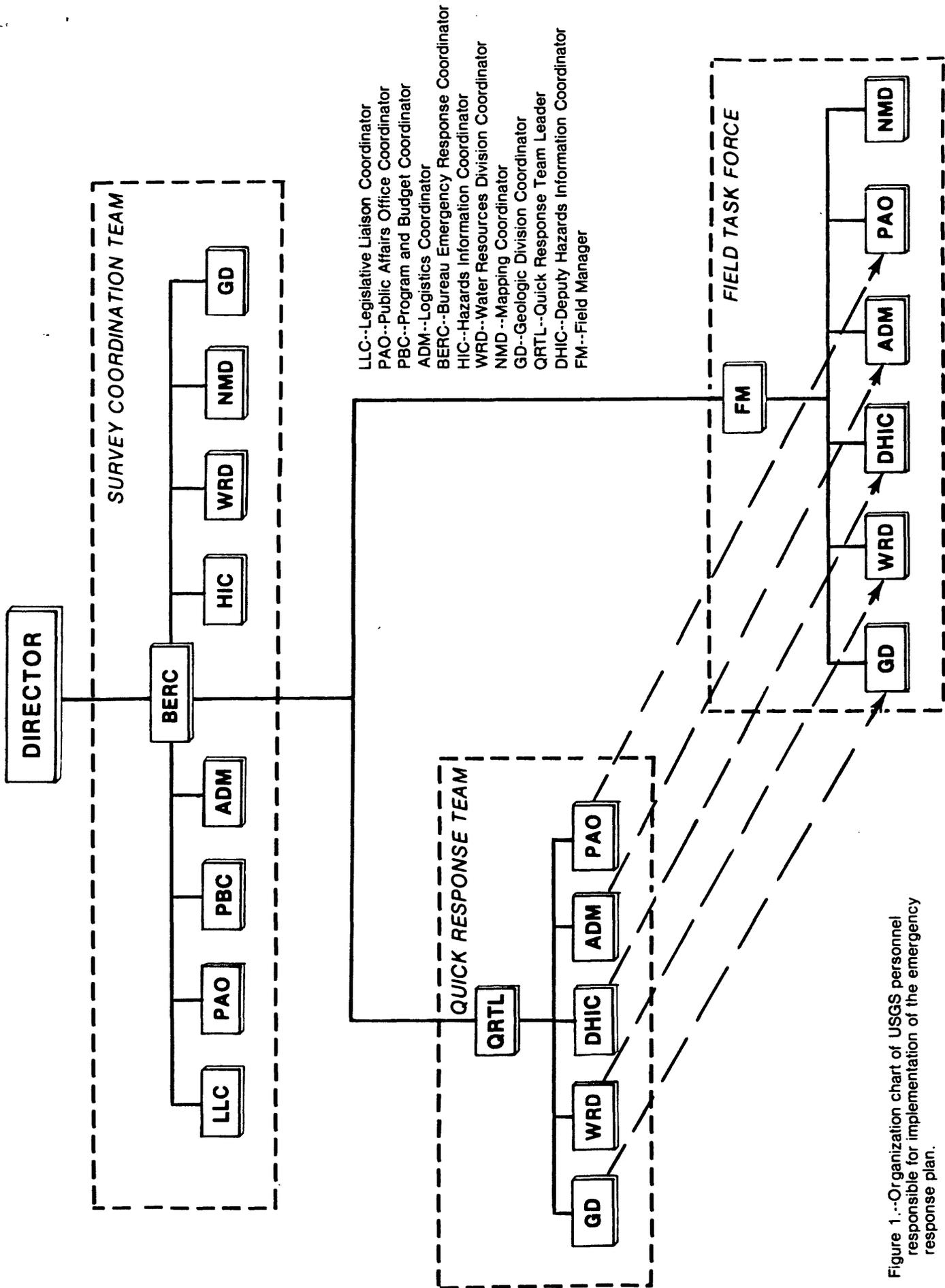


Figure 1.--Organization chart of USGS personnel responsible for implementation of the emergency response plan.

by the scientific resources of the USGS. The specific functions and responsibilities of the individual members are described below:

A. Field Manager:

The Field Manager, who is designated by the Director, has one of the most important assignments in the Emergency Response Plan. He should be an amalgam of proven manager and volcano specialist. Previous Scientists-in-Charge of the Hawaiian Volcano Observatory are obvious candidates for this position. The Field Manager performs essentially three functions: 1) he is the visible, senior USGS representative at the site and the direct link between the Bureau Emergency Response Coordinator and the Field Task Force; 2) he exercises full control over all support functions and facilities, and coordinates, to the fullest extent possible, the work of the technical investigators; 3) he is authorized by the Director to commit USGS resources of funding and personnel as required to meet the Geological Survey's responsibilities during the emergency. He should be assisted in these functions by a deputy. The Quick-Response Team Leader may be a suitable choice for this position.

B. Division Scientists (GD, WRD):

These on-site scientists are the senior representatives of their respective Divisions and directly supervise their field personnel. They supply the Field Manager with hazards assessments and keep him informed of critical resource needs that may not be readily available through their normal divisional channels.

Because of its structure, the Water Resources Division (WRD) has a District Office in each state containing a volcano; therefore the field task force member will be the District Chief of the affected state.

C. Deputy Hazards Information Coordinator:

The role of the Deputy Hazards Information Coordinator (see page 12) expands as the event unfolds and there is greater need for more assistance and coordination with local public officials and governmental organizations.

D. Logistics Coordinator, Administrative Division:

The role of the Logistics Coordinator expands as the participation of USGS personnel increases from the Quick-Response Team to the Field Task Force along with the facilities and equipment required. However, there is also greater involvement of divisional administrative staff who are more intimately and directly involved in their respective divisional logistical support functions. The Logistics Coordinator from the Administrative Division remains the senior representative coordinating logistical needs.

E. Public Affairs Office Coordinator:

The role of the Public Affairs Office Coordinator (see page 13) expands as the event unfolds and there is increasing need for more information.

F. Mapping Coordinator:

The Mapping Coordinator has three primary functions: 1) he supervises the work of the National Mapping Division representatives at the site and determines their resource needs; 2) he coordinates the mapping needs of the on-site scientists; 3) he communicates his own needs and those of the on-site scientists to his coordinator in the Survey Coordination

Team for implementation, resolution of priorities, or policy-level problems.

In order to assure first-hand communications with the research/monitoring teams and with the Public Affairs Offices, the Field Task Force should hold brief, daily conferences as necessary. The distillation of these conferences should be the "Task Force Update" prepared by the Field Manager. This document will abstract the observations of the scientists, progress of projects, evaluations of hazards, needed resources, and discussion of problems. The Continuum conferencing system on Multics can be used to enter the "Task Force Update", to exchange information, requests and special messages. This system can be an invaluable information aid to USGS Headquarters Staff and to those members of the Emergency Response Team who are physically separated from the site. In addition, all of the activities of the Field Task Force should be housed in a single location, if possible, and should be close to the area being studied.

Communication Procedures for Notifying the Responsible USGS Personnel of a Volcanic Hazard or Disaster:

The speed and effectiveness with which the on-site scientist communicates the accurate assessment of the volcanic disaster or hazard to the responsible local officials and to the USGS staff are critical to the success of any response. The procedures outlined here cannot substitute for the judgement and initiative of the on-site scientist as events move swiftly and some of the initial telephone contacts are unavailable. It is essential that immediate communication be made to Reston and Menlo Park (see Figure 2); after that, the on-site scientist must concentrate on the emergency and further early communication must be made by the respective headquarters staffs.

Notification of a natural disaster due to a volcanic eruption should be made to the Director, Hazards Information Coordinator, and to the Assistant Director--Western Region (Figure 2) or their designees, at their offices or at their homes (see next section). The Hazards Information Coordinator will inform the Bureau Emergency Response Coordinator, the Associate Director, Chiefs of the Geologic and Water Resources Divisions and the Public Affairs Officer or their designees. The Assistant Director--Western Region will inform the Western Region senior staff, the Assistant Director--Central Region and the Director's Special Assistant, Alaska, or their designees. Further communication should be arranged locally.

Notification of increased or unusual volcanic activity that has the potential for developing into a natural disaster should be made to the Hazards Information Coordinator and to the Assistant Director--Western Region or their designees at their offices or at their homes. The Hazards Information Coordinator will inform the Director in addition to those he would inform in the case of a disaster (see above). The Assistant Director--Western Region informs the same individuals listed for him in the case of a disaster (see above).

If for any reason the Reston points of contact cannot be reached immediately, notification should be made to one of the following:

Assistant Director--Western Region

Regional Geologist--Western Region

Regional Hydrologist--Western Region

Management Officer--Western Region

Field Manager, Mount Saint Helens--Vancouver, WA (for Mount Saint Helens Activity)

Director's Special Assistant, Alaska--Anchorage, AK (for Alaskan Activity)

Scientist-in-Charge, Hawaiian Volcano Observatory--Hawaii (for Hawaiian activity)

These individuals will be given a private number connected to a 24-hour answering service, which they can call; identifying themselves by name, location, time of call, and telephone number at which they can be reached. Then their message should be conveyed. Next, the answering-service operator will dial a number activating beepers carried by:

Director, U.S. Geological Survey

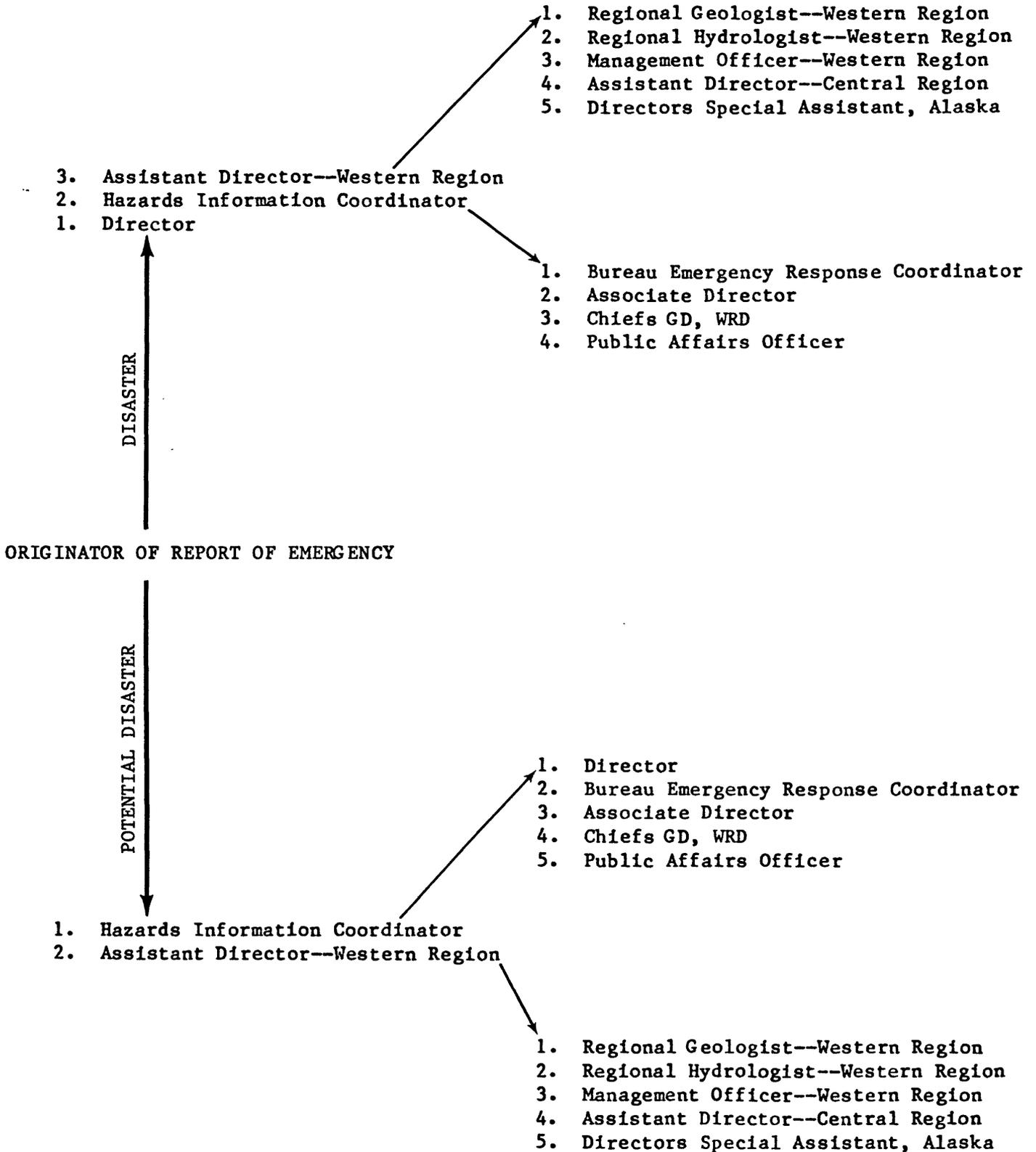
Bureau Emergency Response Coordinator

Chief, Office of Geochemistry and Geophysics

Chief Hydrologist

or their designees. These individuals, when alerted by beeper, will call another private number, receive the message, call the source of the message and decide on the appropriate response or request further information.

Figure 2.--USGS Emergency Communication Network



USGS Personnel Responsible for Initiation and Implementation of
the USGS Emergency Response Plan for Volcanic Hazards in the United States

Current as of March 10, 1981

INITIAL CONTACT POINTS

<u>Title</u>	<u>Name</u>	<u>Office Telephone</u>	<u>Home Telephone</u>
<u>Reston</u>			
Acting Director	Doyle G. Frederick	FTS 928-7412 Commercial (703) 860-7412	(703) 938-9680
(Alternates)	James F. Devine	FTS 928-7491 Commercial (703) 860-7491	(703) 620-3710
	Robert L. Wesson	FTS 928-7488 Commercial (703) 860-7488	(703) 860-9608
Chief, Office of Geochemistry and Geophysics	Robert I. Tilling	FTS 928-6584 Commercial (703) 860-6584	(703) 821-2267
(Alternate)	Charles J. Zablocki	FTS 928-6582 Commercial (703) 860-6582	(703) 476-5497
Hazards Information Coordinator	Jerry C. Stephens	FTS 928-6961 Commercial (703) 860-6961	(703) 754-7583
(Alternate)	Clement F. Shearer	Same	(703) 620-9422
Public Affairs Office Coordinator	Donovan B. Kelly	FTS 928-7444 Commercial (703) 860-7444	(703) 338-4044
(Alternate)	Robert D. Johns	Same	(703) 620-3142

Current as of March 10, 1981

INITIAL CONTACT POINTS (continued)

Menlo Park (Commercial No. is (415) 323-8111 plus extension)

<u>Title</u>	<u>Name</u>	<u>Office Telephone</u>	<u>Home Telephone</u>
Acting Assistant Director, Western Region	George E. Robinson	FTS 467-2711 Commercial x-2711 Night Line (415) 323-0478	(415) 365-6549
Regional Geologist Western Region	Joseph I. Ziony	FTS 467-2214 Commercial x-2214	(415) 328-4218
Regional Hydrologist Western Region	John D. Bredehoeft	FTS 467-2337 Commercial x-2337	(415) 365-6492
Management Officer Western Region	Avery W. Rogers	FTS 467-2211 Commercial x-2211 Night Line (415) 323-2135	(415) 325-0569

Mount St. Helens

Field Manager	Donald W. Peterson	FTS 422-7693 Commercial (206) 696-7693	(206) 573-7227 (206) 696-7853*
(Alternates)	Willie T. Kinoshita	Same	(206) 696-4559
	Christopher G. Newhall	FTS 422-7850 Commercial (206) 696-7850	(206) 892-9633 (206) 696-7853*

Anchorage

Director's Special Assistant	William W. Barnwell	FTS 399-0150 Commercial (907) 271-4398	(907) 243-6730
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Hawaii

Scientist-in-Charge Hawaiian Volcano Observatory	Robert W. Decker	Commercial (808) 967-7328	(808) 967-7603
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*Forest Service Fire Control Center, to be called if there is no answer at the other number listed. They will activate a beeper notifying the Field Manager of an emergency.

Current as of March 10, 1981

SURVEY COORDINATION TEAM AT RESTON

<u>Title</u>	<u>Name</u>	<u>Office Telephone</u>	<u>Home Telephone</u>
Bureau Emergency Response Coordinator	James R. Burns	FTS 928-7811 Commercial (703) 860-7811	(703) 938-9814
Hazards Information Coordinator	Jerry C. Stephens	FTS 928-6961 Commercial (703) 860-6961	(703) 754-7583
Geologic Division Coordinator	Robert I. Tilling	FTS 928-6584 Commercial (703) 860-6584	(703) 821-2267
Water Resources Division Coordinator	Leslie B. Laird	FTS 928-6971 Commercial (703) 860-6971	(703) 476-4849
National Mapping Division Coordinator	Frederick Brownworth	FTS 928-6212 Commercial (703) 860-6212	(703) 435-1074
Logistics Coordinator	George F. Hargrove, Jr.	FTS 928-7204 Commercial (703) 860-7204	(703) 430-7856
Public Affairs Office Coordinator	Donovan B. Kelly	FTS 928-7444 Commercial (703) 860-7444	(703) 338-4044
Program Analysis and Budget Coordinator	H. Tom Davis	FTS 928-7217 Commercial (703) 860-7217	(703) 620-3021
Legislative Liaison Coordinator	Dorothy A. Bunevich	FTS 928-7477 Commercial (703) 860-7477	(202) 337-2191

QUICK RESPONSE TEAM

Team Leaders:

Mt. Shasta

Geologist
(Alternate)

Robert L. Christiansen
C. Dan Miller

FTS 467-2371
FTS-234-3721

(415) 326-9125
(303) 238-9903

Mt. Rainier

Geologist/seismologist
(Alternate)

Craig Weaver
Donal R. Mullineaux

FTS 392-7010
FTS 234-3721

(206) 485-4951
(303) 237-5794

Current as of March 10, 1981

QUICK RESPONSE TEAM (continued)

Leaders: (continued)

<u>Title</u>	<u>Name</u>	<u>Office Telephone</u>	<u>Home Telephone</u>
<u>Three Sisters</u>			
Geologist (Alternate)	Norman S. MacLeod George W. Walker	FTS 422-7693 FTS 467-2285	(206) 574-7038 (415) 948-5200
<u>Mt. Lassen</u>			
Geologist (Alternate)	L. J. Patrick Muffler Michael A. Clynne	FTS 467-2398 FTS 467-2124	(415) 493-6439 (408) 262-9120
<u>Mt. Baker</u>			
Geologist (Alternate)	David Frank Donald A. Swanson	FTS 399-7300 FTS 422-7693	(206) 567-4776 (206) 574-6024
<u>Newberry</u>			
Geologist (Alternate)	Norman S. MacLeod George W. Walker	FTS 422-7693 FTS 467-2285	(206) 574-7038 (415) 948-5200
<u>Medicine Lake</u>			
Geologist (Alternate)	Julie Donnelly-Nolan Charles R. Bacon	FTS 467-2334 FTS 467-2332	(415) 326-5591 (415) 324-8237
<u>Mt. Hood</u>			
Geologist (Alternate)	Donal R. Mullineaux Melvin H. Beeson	FTS 234-3721 FTS 467-2507	(303) 237-5794 (415) 792-8958
Geologist (Alternate)	Donald A. Swanson Charles R. Bacon	FTS 422-7693 FTS 467-2332	(206) 574-6024 (415) 324-8237
Hydrologist (Alternate)	Marvin O. Fretwell Donald O. Moore	FTS 467-2337 FTS 467-2337	(415) 739-5805 (415) 966-8431
Deputy Hazards Infor- mation Coordinator	Clement F. Shearer	FTS 928-6961	(703) 620-9422
Logistics Coordinator (Alternate)	Avery W. Rogers Graham S. Gilbertson	FTS 467-2211 FTS 467-2785	(415) 325-0569 (415) 961-8769
Public Affairs Coordinator (Alternate)	Donald R. Finley Edna G. King	FTS 234-6199 FTS 467-2953	(303) 423-5349 (415) 328-7741

Current as of March 10, 1981

FIELD TASK FORCE

<u>Title</u>	<u>Name</u>	<u>Office Telephone</u>	<u>Home Telephone</u>
Field Manager (Alternate)	Donald W. Peterson Willie T. Kinoshita	FTS 422-7693 FTS 422-7693	(206) 573-7227 (206) 696-4559
Public Affairs Coordinator (Alternate)	Donald R. Finley Edna G. King	FTS 234-6199 FTS 467-2953	(303) 423-5349 (415) 328-7741
Logistics Coordinator (Alternate)	Avery W. Rogers Graham S. Gilbertson	FTS 467-2211 FTS 467-2985	(415) 325-0569 (415) 961-8769
Geologist (Alternate)	Jack Lockwood Dick Moore	Commercial (808) 967-7328 Same	(808) 967-7357 (808) 967-7338
Hydrologists:			
<u>Alaska</u> (Alternate)	District Chief Raymond S. George	FTS 399-0159 (ask operator for 271-4138) Same	(907) 376-5834
<u>California</u> (Alternate)	Richard M. Bloyd Loren E. Young	FTS 467-2326 Commercial (415) 323-8111 x2326 Same	(408) 255-1987 (415) 968-4077
<u>Oregon</u> (Alternate)	Stanley F. Kapustka Edward L. Bolke	FTS 429-2009 Commercial (503) 231-2009 FTS 231-2010	(503) 246-3480 (503) 643-5890
<u>Washington</u> (Alternate)	Charles R. Collier Philip J. Carpenter	FTS 390-6510 Commercial (206) 593-6510 Same	(206) 582-2530 (206) 588-2283
Mapping Coordinator (Alternate)	William C. Albee Dick W. Ruthven	FTS 467-2441 Commercial (415) 373-8111 x2441 FTS 467-2421 Commercial (415) 373-8111 x2421	(415) 462-5158 (415) 657-4942

APPENDIX A

Hazard-Warning Procedures

- A. Information on a potential hazard that requires immediate action in order to save lives and property. In rare instances, a scientist may identify a hazardous event while it is in process or recognize that one is imminent. If a USGS employee observes such an immediate hazard that presents a clear risk to life and property and there does not appear to be sufficient time to contact a responsible USGS official for scientific evaluation and policy review, the employee should make every reasonable effort to report his findings directly and immediately to the appropriate local public officials, or, if need be, alert the affected population.
- Direct notifications to public officials in such emergency situations should be limited to a statement of the conditions or situation observed and should not be expressed as an official Geological Survey Hazard Warning. As soon as possible after reporting the information to local officials, the employee should notify both his supervisor and the Hazards Information Coordinator in the Earth Sciences Assistance Office of the hazard observations, the actions he took, the current status of the hazardous condition, and the actions taken by public officials. Subsequent contacts with public officials and communication agencies should be guided by policy established by the Director's office.
- B. Identification of potential hazards that appear to require action prior to report approval. Notification to appropriate officials of certain potential hazards cannot always be undertaken as part of the normal

publication procedures (see Part C below), either because 1) the identification of a hazard was outside the scope of a USGS project and there was no intent to publish the information, or 2) the hazardous event could occur before the report could be processed for publication. In both cases, the information should be documented as fully as possible and submitted at once to the employee's supervisor, usually the appropriate Branch or District Chief with a copy to the Hazards Information Coordinator. The supervisor should promptly evaluate the available information and transmit his findings, along with all pertinent information concerning the hazard notification, directly to the Hazards Information Coordinator by telephone, and inform intermediate offices at the earliest opportunity. Information concerning potential hazards will be reviewed by a scientific evaluation panel.

C. Identification of potential hazards that do not appear likely to occur before publication or open-file release of maps or reports. Potential hazards that are identified as a part of project activities will, if time allows, be documented in normal project reports. When this procedure is followed, the author(s) of the report will prepare a draft statement documenting the hazard identification for transmittal by the Director to appropriate officials. The statement should contain the following information:

1. geologic, hydrologic, or other pertinent conditions that exist;
2. factors that indicate that such conditions constitute a potential hazard;
3. location or area that may be affected;
4. estimated severity and time of occurrence, if such estimates are justified by available information;

5. other pertinent supporting data, including estimates of the size of the population likely to be affected and, if appropriate, the number and types of structures likely to be affected;
6. possible mitigating measures, if appropriate, and their potential effectiveness; and
7. where possible, a list of authorities known to have principal responsibility for health, safety, and welfare in the area likely to be affected (i.e., Mayor, City Engineer, Department of the Public Works, County Manager, or, if multicounty or multistate, Governors and Offices of Emergency Services), and Federal agencies having installations, structures, or activities in the area.

The draft of the hazard-identification documentation, together with a list of all parties to whom the notification should be sent, should accompany the report through review.

Upon receipt of a report or map that identifies a potential hazard, the responsible Branch or District Chief should forward copies of the manuscript and hazard-identification documentation, together with his evaluation of the potential hazard, directly to the Hazards Information Coordinator. A copy of the transmittal letter should accompany the manuscript being processed for publication to alert reviewers of the need for timely and critical review.

Upon receipt by the Hazards Information Coordinator, the report or map and the hazard-identification documentation will be submitted to a scientific evaluation panel for review and recommendations for appropriate action.

If the draft report or map is unduly delayed in review or processing, the

hazard-identification documentation will be considered separately by the evaluation panel.

D. Evaluation and official notification of hazard information. All relevant information pertaining to potentially hazardous conditions or catastrophic events will be reviewed by a scientific evaluation panel. The number of reviewers and the composition of the panel will vary according to the time available for review and the type and location of the potential hazards. The panel may find that:

1. a hazard to life or property is unlikely or insufficiently defined to justify a Notice of Potential Hazard without additional information;
2. a potential hazard to life and/or property exists;
3. the potential hazard exists and monitoring by the Geological Survey could lead to a better definition of location or the magnitude, extent, or timing of the hazard; or
4. the hazard conditions are sufficiently well defined as to location, magnitude, and time to warrant the issuance of a Hazard Watch or a Hazard Warning (Prediction).

APPENDIX B

Internal Operating Procedures Related to Issuance of
Hazard Watch or Hazard Warning by USGS

1. Notification that senior scientific staff, designated review panel, or Director recommends issuance of Hazard Watch or Warning is received by Hazards Information Coordinator.
2. Summary documentation of scientific basis for concern is made available to Public Affairs Office for reference in preparing draft press release. Regional Public Affairs Offices are alerted by Reston Public Affairs Office.
3. Draft letter and draft press release announcing Hazard Watch or Warning are reviewed for scientific validity, accuracy, and policy by Hazards Information Coordinator, Information Officer, Chief of affected scientific program or designated review panel, Acting Chief of Office of Earth Sciences Applications, and Director.
4. Approved letter and press release are prepared in final form.
5. As soon as Director signs the letter, the Hazards Information Coordinator orally informs appropriate State and Federal agency designated contacts by telephone of content of letter.
6. After initial oral notifications have been made, the Hazards Information Coordinator approves issuance of press release and transmits facsimile copies of letter to appropriate State and Federal agencies.

7. As soon as possible thereafter, original letter and information copies are mailed (by most expeditious means available) to known concerned local, State, and Federal agencies and appropriate USGS offices.