



United States–Mexican

Borderlands

.....facing tomorrow's challenges through USGS science



Circular 1380

U.S. Department of the Interior
U.S. Geological Survey





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William R. Page, Melanie J. Parker, Jay B. Hestbeck,
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**U.S. Department of the Interior
U.S. Geological Survey**



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U.S. Geological Survey
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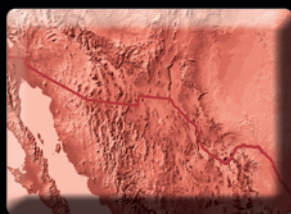
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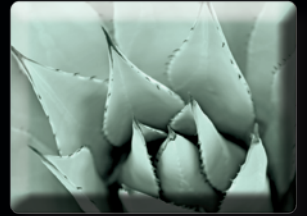
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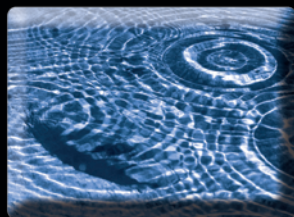
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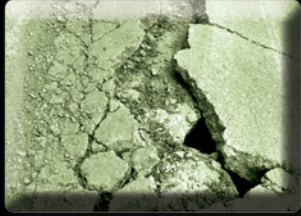
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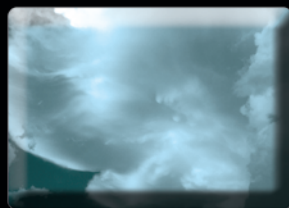
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Poster

[In back pocket]



Conversion Factors

Inch/Pound to SI

Multiply	By	To obtain
Length		
inch (in.)	2.54	centimeter (cm)
inch (in.)	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
Area		
acre	0.4047	hectare (ha)
square mile (mi ²)	2.590	square kilometer (km ²)
Volume		
barrel (bbl), (petroleum, 1 barrel=42 gal)	0.1590	cubic meter (m ³)
gallon (gal)	3.785	liter (L)
gallon (gal)	0.003785	cubic meter (m ³)
cubic foot (ft ³)	0.02832	cubic meter (m ³)
acre-foot (acre-ft)	1,233	cubic meter (m ³)
Mass		
ton per day (ton/d)	0.9072	metric ton per day

SI to Inch/Pound

Multiply	By	To obtain
Length		
centimeter (cm)	0.3937	inch (in.)
millimeter (mm)	0.03937	inch (in.)
meter (m)	3.281	foot (ft)
kilometer (km)	0.6214	mile (mi)
Area		
hectare (ha)	2.471	acre
square kilometer (km ²)	0.3861	square mile (mi ²)
Volume		
cubic meter (m ³)	6.290	barrel (petroleum, 1 barrel = 42 gal)
liter (L)	0.2642	gallon (gal)
cubic meter (m ³)	264.2	gallon (gal)
cubic meter (m ³)	35.31	cubic foot (ft ³)
cubic meter (m ³)	0.0008107	acre-foot (acre-ft)
Mass		
metric ton per day	1.102	ton per day (ton/d)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:
 $^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$

Temperature in degrees Fahrenheit (°F) may be converted to degrees Celsius (°C) as follows:
 $^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1.8$

1 terawatt (TW) = 10^3 gigawatt (GW) = 10^9 kilowatt (kW)

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Abbreviations Used in This Report

United States Agencies, Bureaus, Offices, Companies, and Programs

AGAVES	Assessment of Goods and Valuation of Ecosystem Services project (USGS)
ASARCO	formerly American Smelting and Refining Company
BBNP	Big Bend National Park (NPS)
BEHI	Border Environmental Health Initiative (USGS)
BLM	Bureau of Land Management
DOD	U.S. Department of Defense
DOI	U.S. Department of the Interior
EPA	U.S. Environmental Protection Agency
FCC	U.S.–Mexico Border Field Coordinating Committee (DOI)
FORT Center	Fort Collins Science Center (USGS)
FS	U.S. Forest Service (U.S. Department of Agriculture)
FWS	U.S. Fish and Wildlife Service
NPS	National Park Service
NREL	National Renewable Energy Laboratory (U.S. Department of Energy)
NWQL	National Water Quality Laboratory (USGS)
SOS	Office of the Secretary of State of Texas
TAAP	Transboundary Aquifer Assessment Program (USGS)
USGS	U.S. Geological Survey

Mexican Agencies, Companies, and Programs

BIP	Border Industrialization Program (Mexico)
CEMEX	formerly Cementos Mexicanos
INEGI	Instituto Nacional de Estadística y Geografía [National Institute of Statistics and Geography]

International Groups and Agreements

IBWC	International Boundary and Water Commission
IPCC	Intergovernmental Panel on Climate Change
NAFTA	North American Free Trade Agreement (1994)
UNESCO	United Nations Educational, Scientific, and Cultural Organization

Models, Tools, and Datasets

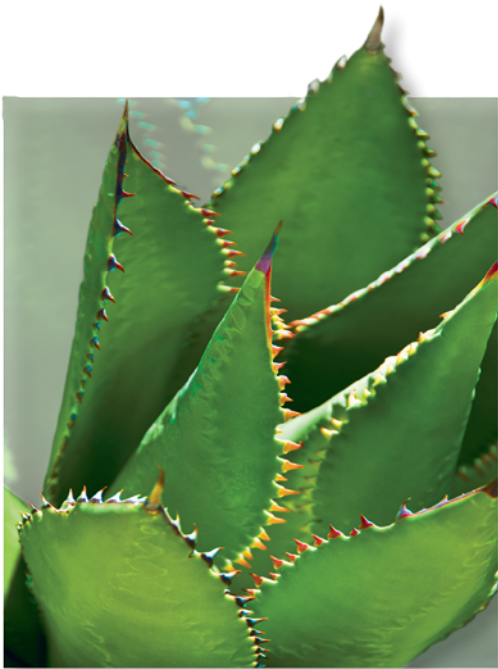
ASTER	Advanced Spaceborne Thermal Emission and Reflection Radiometer
CHIPS	Colonia Health, Infrastructure, and Platting Status tool (USGS)
CVAT	Community Vulnerability Assessment Tool (National Oceanic and Atmospheric Administration)
HEC-RAS	Hydrologic Engineering Center's River Analysis System (U.S. Army Corp of Engineers)
KINEROS2	kinetic runoff and erosion model (U.S. Department of Agriculture)
LIDAR	light detection and ranging
M-SEVI	Modified Socio-Environmental Vulnerability Index (SCWEPM)
NLCD 1992	National Land Cover Dataset 1992 (USGS)
NLCD 2001	National Land Cover Database 2001 (USGS)
PAGER	Prompt Assessment of Global Earthquakes for Response (USGS)
SCWEPM	Santa Cruz Watershed Ecosystem Portfolio Model (USGS)
SLEUTH	slope, land cover, exclusion, urbanization, transportation, and hillshade urban growth model
SWAT	Soil and Water Assessment Tool (SCWEPM)
USMX-GIS	United States–Mexico Border Geographic Information System (BEHI)

Other

CO ₂	carbon dioxide
DDE	dichlorodiphenyldichloroethylene (daughter product of DDT)
DDT	dichlorodiphenyltrichloroethane
DEM	digital elevation model
DNA	deoxyribonucleic acid
DNI	direct normal insulation
ENSO	El Niño–Southern Oscillation
FTP	file transfer protocol
GCM	global circulation model
GIS	geographic information system
GPS	global positioning system
LULC	land use and land cover
P-E	precipitation minus evaporation
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PDO	Pacific Decadal Oscillation
PSOC	potential source of contaminants
QRA	qualified resource area
RCM	regional climate model
SB 827	Senate bill 827 (79th Texas Legislature)
SES	socioecological systems
SPMD	semipermeable membrane device

Units of Measure

acre-ft	acre-foot
cm	centimeter
ft	foot
ft ³	cubic foot
gal	gallon
ha	hectare
in	inch
km	kilometer
km ²	square kilometer
kWh	kilowatthour
L	liter
m	meter
m ³	cubic meter
mi	mile
mi ²	square mile
mm	millimeter
s	second
TWh	terawatthour
yr	year





Borderlands



