



PACIFIC REGION, CIVIL AIR PATROL

DR / HLS TRAINING EXERCISE

PCREX #3 2006

“SEISMIC SURVEY”

Exercise Tasking Instructions

Phase 1 and Phase 3

For The

United States Geological Survey

Department of The Interior

August 16th – 31st 2006

updated
20060728

Phase 1 & 3 Target Sites for USGS Instructions

Task list from Dr. John Tinsley (Geologist, US Geological Survey)

1. All target File Names for Phase 1 & 3 Begin with "USGS" ie:
(usgs_ca_01a.doc and usgs_ca_01a.jpg)
2. Utilize the attached Google Earth Sat Photo's for target guidance
3. Note that the Google Earth Sat Photo's file names are located at the bottom of picture
4. Upload all photo's to WMRES
5. Email Photo's(in Doc and Jpg format) cawgcoregp@sbcglobal.net and davies@westerndisastercenter.org
6. Note See Attached Instructions for photo upload
7. The phase 1 & 3 target sorties may be flown any time from 19 August 2006 to 28 August 2006
8. All questions can be directed to Exercise Seismic Survey Control Staff

NOTES

1. **All Wings:** Report any adverse conditions to the Exercise "Seismic Survey" Control Staff that may prevent your aircrews from completing a sortie.
2. **Alaska Only:** Targets were generated by the Ex Control Staff but should be treated as if generated by USGS.
3. **California Only:** Coordinate Transport and Target Photo Flight:
Originating from Palo Alto, Ca 19 August 2006 with :

John C. Tinsley, Ph.D.

Research Geologist

US Geological Survey

Earthquake Hazards Team

345 Middlefield Road MS-977

Menlo Park, CA 94025

650 799-5156 CELL 650-329-4928 Office; -5163 FAX

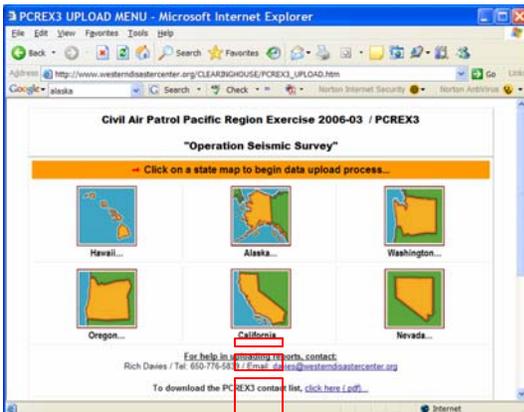
jtinsley@usgs.gov f

The URL to the web page to begin the report and data upload is:

http://www.westerndisastercenter.org/CLEARINGHOUSE/PCREX3_UPLOAD.htm

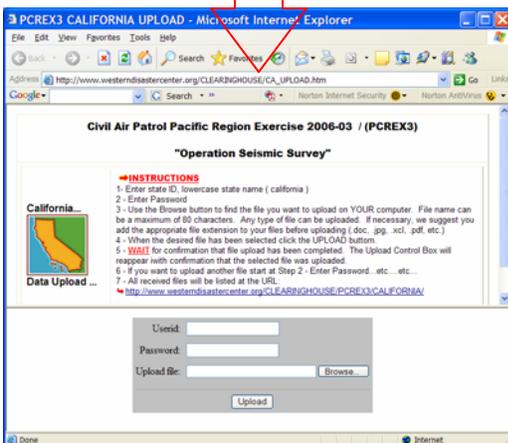
The site is password protected:

username = earth
password = quake



From this page you can access the report and data upload web page for each of the states involved in the exercise.

Click on your state map to access your state report and data upload web page ...



Detailed instructions are included on the report and data upload web page ...

The User ID to upload data is your state name in lower case text, ex. "california"

The password to upload data is "quake"

Note: Do not use quotes in User ID and password.

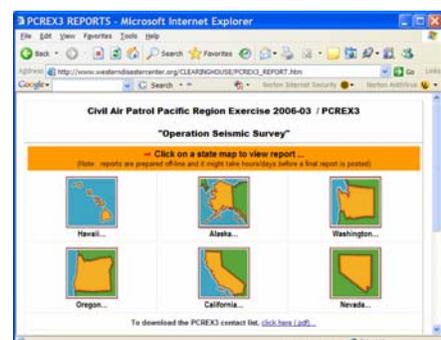
As reports are generated they can be viewed at :

http://www.westerndisastercenter.org/CLEARINGHOUSE/PCREX3_REPORT.htm

The site is password protected:

username = earth
password = quake

Reports will be generated off-line and might be hours/days before the final report is posted.



SIM USGS CUSTOMER UPLOAD WEBSITE

**IF YOU USE THIS SYSTEM YOU DO NOT HAVE TO EMAIL THE DOC OR
JPG FILES. JUST POST THE DELIVERABLES AND NOTIFY THE CONTROL
STAFF THAT YOU HAVE POSTED THE DELIVERABLES**

NOTE: The customer is still in the process of building the Site

To upload photo's to the SIM USG Customer Website follow the directions below.

Go to:

http://www.westerndisastercenter.org/CLEARINGHOUSE/PCREX3_UPLOAD.htm

username = earth

password = quake

You will see a list of the states with a pic of each state. Right now only the California row is an upload box.

To use this enter "california" as the userid ...each state has a separate userid which is the states name in lowercase without the quotes ""

Password = quake

Use browse to find the file you want to upload ... results go into a folder on our server ... if you want to go this route I can clean it up so you can access the uploads ... any type of file can be uploaded

Right now after you upload you see the upload box on new page with the message that the file was successfully uploaded ...from here you can do another file ..etc etc etc

All the files go into a folder with that states name (ie CALIFORNIA, HAWAII, etc), we can organize this so you will have ftp access so you can download in bulk or folks can upload in bulk using ftp rather than web (http). Upload & download speed for http is same as ftp

To view Files that have been uploaded:

A web page has been setup that could be used as a "formal" display/summary of things. The uploaded data can be viewed in real-time but it is not formatted as of yet, the page contains a list of the files.

http://www.westerndisastercenter.org/CLEARINGHOUSE/PCREX3_CA_OPS.htm

Phase 1 & 3 Target Sites for USGS

Task list from John Tinsley (Geologist, US Geological Survey)
Prepared for Lt. Col. Michael Lewis, Civil Air Patrol

State	Target Number	Latitude N	Longitude W	Feature	Geologic Event	Task Description
CALIF		CALIF	CALIF	CALIF	CALIF	CALIF
CA-North	USGS 1	41- 47' 24"	121- 34' 00' 00"	Gillem Fault-Lava Beds NM	M 6.5 quake on Gillem Fault	Chk surface rupture along W side Tule Lake NWR
CA-North	USGS 2	38- 59' 53"	123- 41' 57"	Thrust faults at San Andreas CA	M 7.5 quake on San Andreas	Check surface rupture and coastal landslides where San Andreas Fault approaches coastline
CA-North	USGS 3	40- 27' 36"	121- 30' 18"	Bumpass Hell Hot Springs	M 6.4 quake under Mt. Lassen	Chk and photo hot springs for new vents near Bumpass 'Hell and Little Hot Springs Valley (colorful areas) along S flanks of Mt. Lassen and Bumpass Mt.
CA-North	USGS 4	40- 33' 46"	124- 21' 18"	Landslide S of Eel River valley	M 6.9 quake vic Honeydew	Chk coastal landslide; photo recent movement by site of former Naval Communication Station
CA-Centr	USGS 5	36- 50' 59"	121- 24' 25"	Dunne Park, Hollister	M 7.0 quake on Calaveras flt	Check park for new surface rupture or accelerated 'creeping affecting curbs in paved streets.
CA-Centr	USGS 6	36- 24' 18"	120- 59' 40"	Bitterwater Valley	M 6.5 quake on San Andreas	Chk and photograph fault for recent surface rupture;
CA-Centr	USGS 7	37- 15' 00"	122- 22' 12"	San Gregorio Fault at Pescadero, CA	M 7.0 quake on San Gregorio Fault;	Check area for surface rupture and for recent landslide displacements; photograph what is there.
CA-Centr	USGS 8	37- 30' 36"	122- 30' 36"	San Gregorio Fault at Headland	M 6.8 quake on SG fault	Chk and photo large landslide facing west between Pillar Point and Seal Cove for recent surface movements
CA-South	USGS 9	36- 36' 00"	118- 09' 54"	Alabama Hills, Owens Valley	M6.5 quake, East Owens Vly	Chk faults for surface displacement, photo and report Note: Low sun angle helpful; 0700 hr should be good.

						New fault mapped recently		
CA-South	USGS	10	33- 52' 33"	116- 17' 51"	Sky Valley, Indio Hills vic Coachella Valley	M 6.7 quake, Indio Hills Area;	South end of East Calif Shear Zone; many fault splays. Take photos looking N; prior to 0800 hr if possible. Nearest road jcnctn = Dillon Road and 1000 Palms Rd	
CA-South	USGS	11	33- 09' 45"	115- 35' 06"	Obsidian Butte, Imperial Vly New fault; Brawley Seis Zone	M 6.3 quake, swarm in area	This is a newly found fault. Chk and photo for surface rupture or new hot spring activity . Lo sun angle helpful. Recommend photo prior to 0800 if possible.	
CA-South	USGS	12	33- 56' 30"	116- 47' 45"	San Gorgonio Pass FZ vic Banning, CA	M6.6 quake on Banning Flt	Chk for recent rupture along scarps and in recent washes, such as Millard Canyon. Take photos of scarps	
CA-South		13	33- 49' 38"	116- 19' 52"	Scarp of Banning Flt , Willis Palms Oasis, Indio Hills	M 7.5 quake on Banning Flt Salton Sea to Wrightwood	Check for surface ruptures, photograph	
CA-South	USGS	14	34- 39' 54"	116- 21' 24"	Lavic Lake Playa-Hector Mine Fault Zone	M 7.1 quake	Check playa for recent faulting effects, photograph, and report. report.	
OREGON	OREGO	OREGON	OREGON	OREGON	OREGON	OREGON	OREGON	
OR	USGS	15	43- 43' 21"	121- 13' 48"	Newberry Volcano	New swarms of quakes	Photograph crater; include any steam vents 'report.	
OR	USGS	16	45- 24' 00"	121- 42' 00"	Mt Hood Volcano	Recent shallow quake swarms	Circle peak; photo crater and upper slopes for new fractures, steam vents, or other evidence of volc. Action	
OR	USGS	17	42- 56' 19"	122- 08' 43"	Crater Lake, Wizard Island	Recent shallow quake swarms	Circle crater, photo island and crater slopes for evidence of recent rockfalls, fractures, steam vents, etc.	

WASH		WASH	WASH	WASH	WASH	WASH	WASH
WA	USGS	18	46- 13' 00"	122- 11' 00"	Mt. St. Helens	Renewed seismic activity	Photograph new dome in crater; include steam vents so we can learn of sites of new activity
WA	USGS	19	46- 54' 00"	121- 46' 30"	Mt Rainier, vic	Renewed seismic activity	Photo of N side of mtn, to check for recent glacier and ice field melting; Fly at 10,000 ft
WA	USGS	20	48- 46' 37"	121- 48' 46"	Mt. Baker	Earthquake swarms in area	Check and photo steam vents to note new vents or developing vents and fractures.
WA	USGS	21	47- 15' 09"	122- 23' 45"	Tacoma Shipyardq	M 6.9 quake	Check for and photo liquefaction in pipeline corridor north of the railroad switching yard.
WA	USGS	22	46- 25' 00"	123- 57' 00"	N of mouth of Columbia River	M 7.1 quake	Chk for liquefaction in flats west of Louse Rocks and Round Island.
WA	USGS	23	44- 41' 30"	121- 47' 30"	Mt. Jefferson, Cascade Range	M. 6.8 quake in area	Circle peak, photograph for recent snow melting and new steam vents.
HAWAII		HAWAI	HAWAII	HAWAII	HAWAII	HAWAII	HAWAII
HI	USGS	24	21- 19' 29"	157- 48' 14"	Honolulu, vic Loulu St and Kumukoa St	Landslide activity after heavy monsoonal season.	Photo streets upslope of Oahu Ave, look for patches in asphalt paving marking old landslide breaks
HI	USGS	25	18- 58' 30"	155- 42' 36"	Kilauea Volcano, S margin	Recent Flow Activity	Photo new lava flows and check for new flow paths
HI	USGS	26	18- 59' 42"	155- 40' 15"	Kilauea Volcano, S. margin	Vegetated young lava flow	Photo sinuous trenches (lava tubes) for evidence of recent flow activity on S margin of Kilauea Volcano.

NEVADA**NEVAD.****NEVADA****NEVADA****NEVADA****NEVADA****NEVADA**

NV

USGS 27

39- 39' 40"

118- 10' 00"

Dixie Valley Fault
ScarpsM 6.7 quake under E side
of valleyCheck and photo fault scarps from earlier
20th century surface faulting, check for
renewed surface fault rupture.

NV

USGS 28

39- 26' 42"

117- 06' 18"

South of Austin, NV
area

M. 6.8 quake

Photo from Veatch Cyn to Marshall Falls to
recon for surface rupture and landslides at
base of mountains.

NV

USGS 29

40- 28' 07"

118- 18' 30"

Rye Patch Dam

M 6.9 quake

Photo dam looking N; check for unnatural
leaks and photo dam to establish its
structural integrity.**ALASKA****SEE ALASKA TARGET LIST NEXT PAGE**

Alaska Target Set

AK	T#	1	61°21'18.39"N	50° 0'37.51"W	_____
AK	T#	2	61°34'31.92"N	149°43'29.15"W	_____
AK	T#	3	64°48'27.92"N	147°34'34.37"W	_____
AK	T#	4	58°54'10.55"N	153°22'35.11"W	_____
AK	T#	5	60°51'50.84"N	145°58'53.86"W	_____
AK	T#	6	60°57'14.73"N	147° 0'2.89"W	_____
AK	T#	7	59°27'15.61"N	151°43'30.28"W	_____
AK	T#	8	63°20'9.78"N	142°59'16.35"W	_____
AK	T#	9	57° 6'54.40"N	135°23'26.82"W	_____
AK	T#	10	57°29'48.03"N	134°34'6.66"W	_____

Task list from John Tinsley (Geologist, US Geological Survey)
Prepared for Lt. Col. Michael Lewis, Civil Air Patrol
24-Jul-06

State	Site No.	Latitude N	Longitude W	Feature	Geologic Event	Task Description
CALIF	CALIF	CALIF	CALIF	CALIF	CALIF	CALIF
CA-North	1	41- 47' 24"	121- 34' 00' 00"	Gillem Fault-Lava Beds NM	M 6.5 quake on Gillem Fault	Chk surface rupture along W side Tule Lake NWR
CA-North	2	38- 59' 53"	123- 41' 57"	Thrust faults at San Andreas near Point Arena, CA	M 7.5 quake on San Andreas	Check surface rupture and coastal landslides where San Andreas Fault approaches coastline
CA-North	3	40- 27' 36"	121- 30' 18"	Bumpass Hell Hot Springs	M 6.4 quake under Mt. Lassen	Chk and photo hot springs for new vents near Bumpass Hell and Little Hot Springs Valley (colorful areas) along S flanks of Mt. Lassen and Bumpass Mt.
CA-North	4	40- 33' 46"	124- 21' 18"	Landslide S of Eel River valley	M 6.9 quake vic Honeydew	Chk coastal landslide; photo recent movement by site of former Naval Communication Station

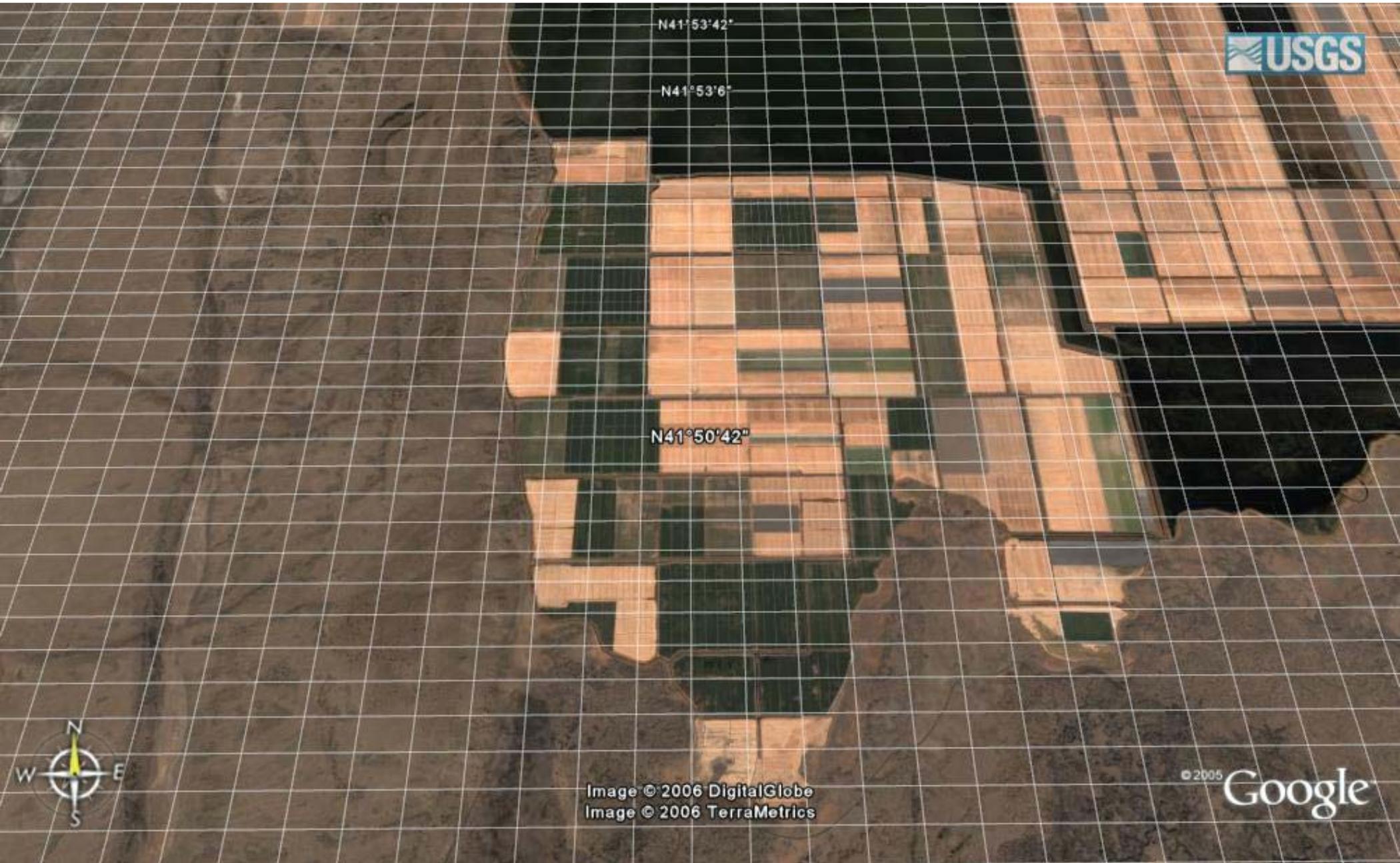
Note: These Tasks may include the USGS Geologist Transport Flight





Image © 2006 DigitalGlobe
Image © 2006 TerraMetrics

© 2005 Google



N41°53'42"

N41°53'6"

N41°50'42"



Image © 2006 DigitalGlobe
Image © 2006 TerraMetrics

© 2006 Google

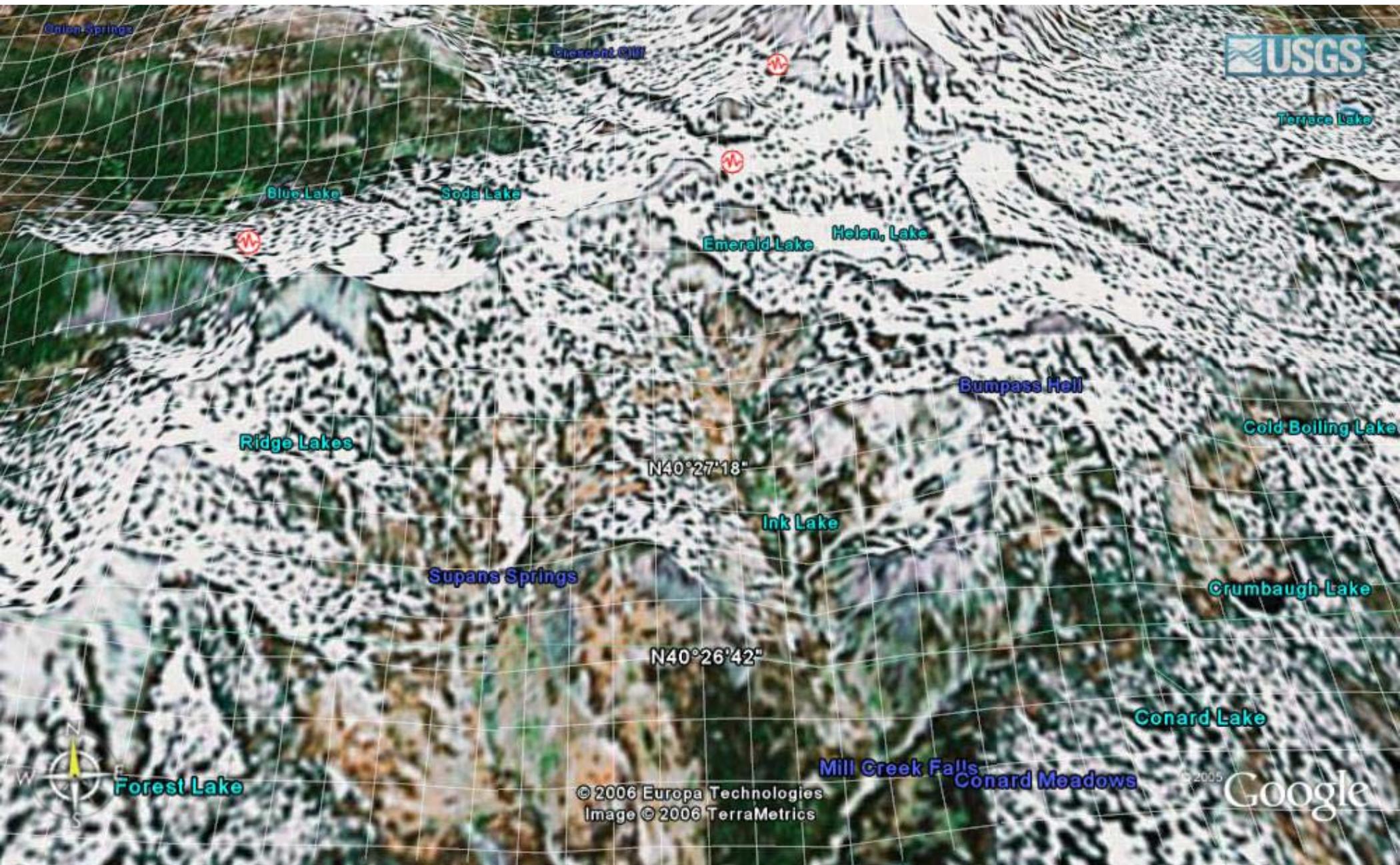


USGS



Image © 2006 DigitalGlobe

© 2006 Google



Galien Springs

Crescent Hill



Terrence Lake

Blue Lake

Soda Lake

Emerald Lake

Helen Lake

Bumpass Hell

Ridge Lakes

Cold Boiling Lake

N40°27'18"

Ink Lake

Supans Springs

Crumbaugh Lake

N40°26'42"

Conard Lake



Forest Lake

Mill Creek Falls

Conard Meadows

© 2006 Europa Technologies
Image © 2006 TerraMetrics

© 2005





USGS



Image © 2006 DigitalGlobe

© 2005 Google

CA-Centr	5	36- 50' 59"	121- 24' 25"	Dunne Park, Hollister	M 7.0 quake on Calaveras ft	Check park for new surface rupture or accelerated creeping affecting curbs in paved streets.
CA-Centr	6	36- 24' 18"	120- 59' 40"	Bitterwater Valley	M 6.5 quake on San Andreas	Chk and photograph fault for recent surface rupture;
CA-Centr	7	37- 15' 00"	122- 22' 12"	San Gregorio Fault at Pescadero, CA	M 7.0 quake on San Gregorio Fault;	Check area for surface rupture and for recent landslide displacements; photograph what is there.
CA-Centr	8	37- 30' 36"	122- 30' 36"	San Gregorio Fault at Pillar Point Headland	M 6.8 quake on SG fault	Chk and photo large landslide facing west between Pillar Point and Seal Cove for recent surface movements



N36°51'16"

N36°51'17"

N36°51'5"

N36°51'3"

N36°51'1"

N36°50'59"

N36°50'57"

N36°50'55"

Image © 2006 DigitalGlobe

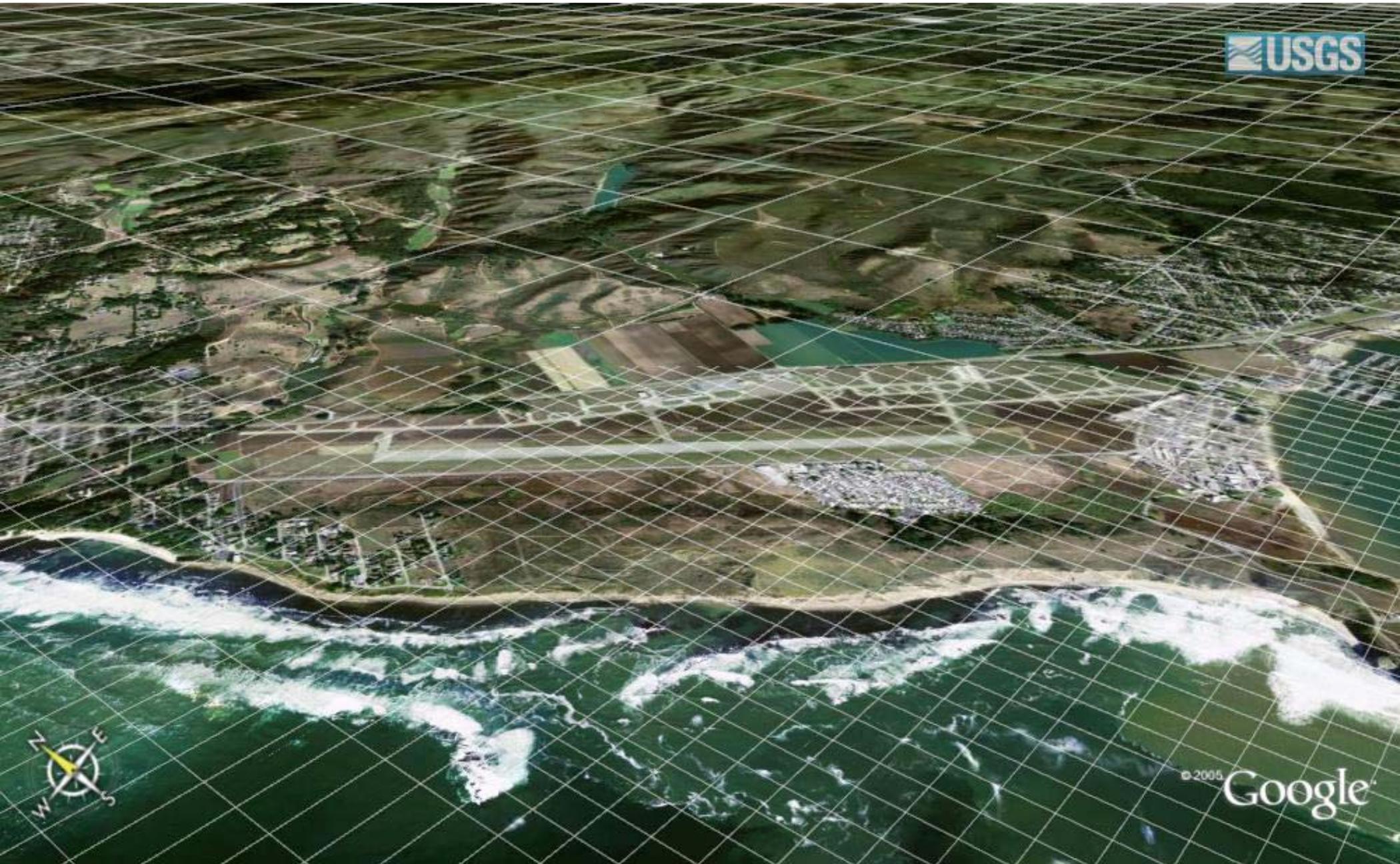
N36°50'53"

© 2005 Google









USGS



© 2005 Google

CA-South	9	36- 36' 00"	118- 09' 54"	Alabama Hills, Owens Valley New fault mapped recently	M6.5 quake, East Owens Vly	Chk faults for surface displacement, photo and report Note: Low sun angle helpful; 0700 hr should be good.
CA-South	10	33- 52' 33"	116- 17' 51"	Sky Valley, Indio Hills vic Coachella Valley	M 6.7 quake, Indio Hills Area;	South end of East Calif Shear Zone; many fault splays. Take photos looking N; prior to 0800 hr if possible. Nearest road jnctn = Dillon Road and 1000 Palms Rd
CA-South	11	33- 09' 45"	115- 35' 06"	Obsidian Butte, Imperial Vly New fault; Brawley Seis Zone	M 6.3 quake, swarm in area	This is a newly found fault. Chk and photo for surface rupture or new hot spring activity. Lo sun angle helpful. Recommend photo prior to 0800 if possible.
CA-South	12	33- 56' 30"	116- 47' 45"	San Gorgonio Pass FZ vic Banning, CA	M6.6 quake on Banning Flt	Chk for recent rupture along scarps and in recent washes, such as Millard Canyon. Take photos of scarps
CA-South	13	33- 49' 38"	116- 19' 52"	Scarp of Banning Flt, Willis Palms Oasis, Indio Hills	M 7.5 quake on Banning Flt Salton Sea to Wrightwood	Check for surface ruptures, photograph
CA-South	14	34- 39' 54"	116- 21' 24"	Lavic Lake Playa-Hector	M 7.1 quake	Check playa for recent faulting effects, photograph, and



N36°35'51"

N36°35'33"

N36°35'15"



Image © 2006 TerraMetrics

© 2005 Google



Image © 2006 DigitalGlobe

© 2006 Google





USGS

Image © 2006 DigitalGlobe

© 2005 Google



Image © 2006 DigitalGlobe

© 2005 Google



N34°39'18"

N34°38'42"

N34°38'6"



Image © 2006 DigitalGlobe
Image © 2006 TerraMetrics

©2006 Google

Mine Fault Zone

report.

OREGON	OREGON	OREGON	OREGON	OREGON	OREGON	OREGON
OR	15	43- 43' 21"	121- 13' 48"	Newberry Volcano	New swarms of quakes	Photograph crater; include any steam vents so we can learn of sites of new activity
OR	16	45- 24' 00"	121- 42' 00"	Mt Hood Volcano	Recent shallow quake swarms	Circle peak; photo crater and upper slopes for new fractures, steam vents, or other evidence of volc. Action
OR	17	42- 56' 19"	122- 08' 43"	Crater Lake, Wizard Island	Recent shallow quake swarms	Circle crater, photo island and crater slopes for evidence of recent rockfalls, fractures, steam vents, etc.



Newberry Volcano



Image © 2006 TerraMetrics
© 2006 Navteq
Image © 2006 DigitalGlobe

© 2005 Google



Hood River



© 2006 Navteq
Image © 2006 TerraMetrics
© 2006 Europa Technologies
Image © 2006 DigitalGlobe

©2005 Google



232

97

62

Wizard Island

Crater Lake

Phantom Ship



© 2006 Europa Technologies
Image © 2006 TerraMetrics
© 2006 Navteq
Image © 2006 DigitalGlobe

© 2005 Google

WASH	WASH	WASH	WASH	WASH	WASH	WASH
WA	18	46- 13' 00"	122- 11' 00"	Mt. St. Helens	Renewed seismic activity	Photograph new dome in crater; include steam vents so we can learn of sites of new activity
WA	19	46- 54' 00"	121- 46' 30"	Mt Rainier, vic	Renewed seismic activity	Photo of N side of mtn, to check for recent glacier and ice field melting; Fly at 10,000 ft
WA	20	48- 46' 37"	121- 48' 46"	Mt. Baker	Earthquake swarms in area	Check and photo steam vents to note new vents or developing vents and fractures.
WA	21	47- 15' 09"	122- 23' 45"	Tacoma Shipyardq	M 6.9 quake	Check for and photo liquefaction in pipeline corridor north of the railroad switching yard.
WA	22	46- 25' 00"	123- 57' 00'	N of mouth of Columbia River	M 7.1 quake	Chk for liquefaction in flats west of Louse Rocks and Round Island.
WA	23	44- 41' 30"	121- 47' 30"	Mt. Jefferson, Cascade Range	M. 6.8 quake in area	Circle peak, photograph for recent snow melting and new steam vents.



N46°49'48"

Point Success

N46°51'

Rainier, Mount

Liberty Cap

Rainier

N46°52'12"

N46°53'24"

N46°54'36"



© 2006 Europa Technologies
© 2006 Navteq
Image © 2006 TerraMetrics

© 2005

Google



Baker



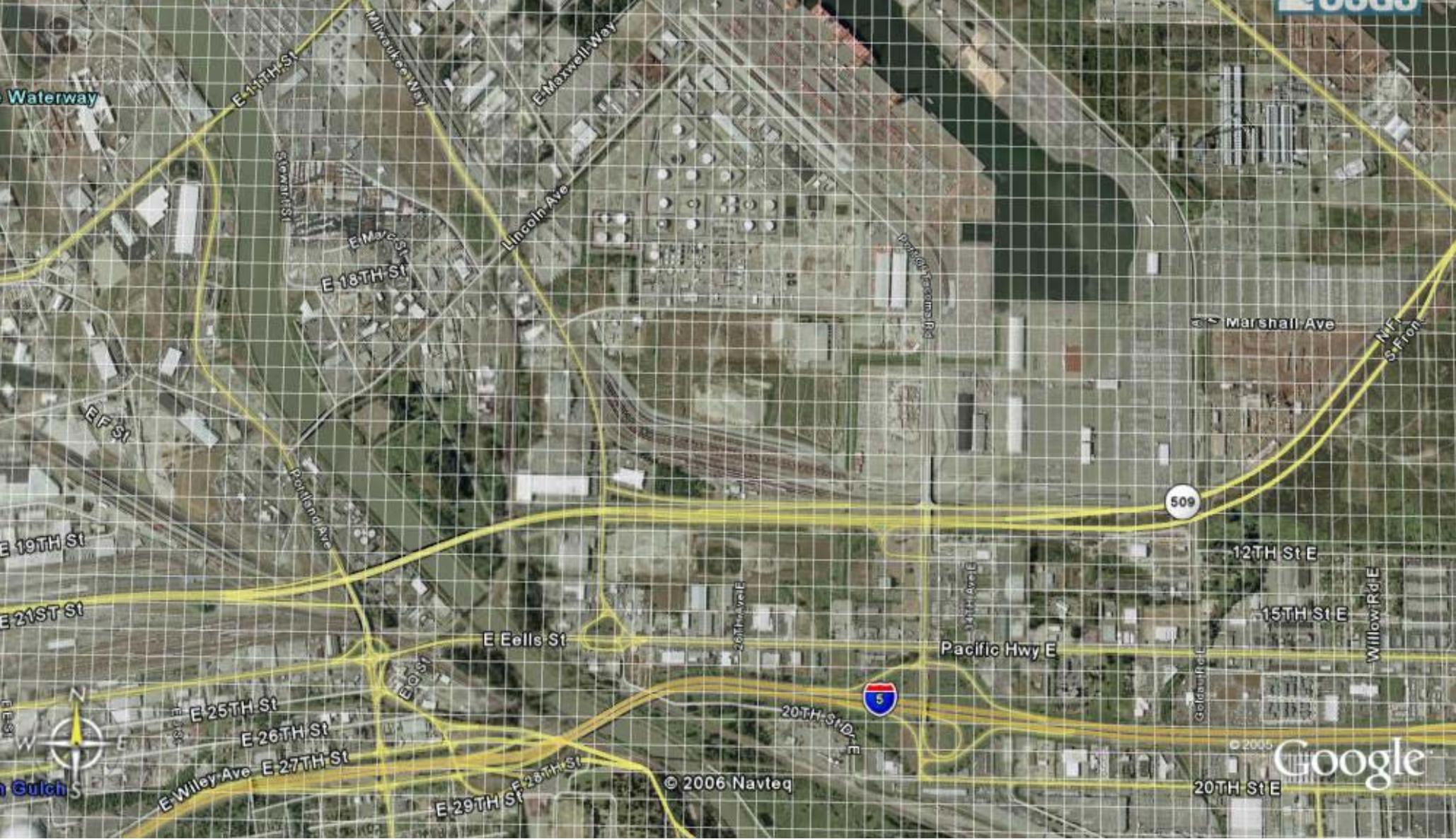
© 2006 Europa Technologies
© 2006 Navteq
Image © 2006 TerraMetrics

© 2005 Google



Puyallup Waterway

Waterway





124°15'



103

Louse Rocks

101

Round Island

4

401

© 2006 Europa Technologies
© 2006 Navteq
Image © 2006 TerraMetrics
Image © 2006 DigitalGlobe

© 2005 Google

403



W121°54'36"

Jefferson



© 2006 Europa Technologies
© 2006 Navteq
Image © 2006 TerraMetrics
Image © 2006 DigitalGlobe

© 2005 Google

HAWAII	HAWAII	HAWAII	HAWAII	HAWAII	HAWAII	HAWAII
HI	24	21- 19' 29"	157- 48' 14"	Honolulu, vic Loulu St and Kumukoa St	Landslide activity after heavy monsoonal season.	Photo streets upslope of Oahu Ave, look for patches in asphalt paving marking old landslide breaks.
HI	25	18- 58' 30"	155- 42' 36"	Kilauea Volcano, S margin	Recent Flow Activity	Photo new lava flows and check for new flow paths
HI	26	18- 59' 42"	155- 40' 15"	Kilauea Volcano, S. margin	Vegetated young lava flow	Photo sinuous trenches (lava tubes) for evidence of recent flow activity on S margin of Kilauea Volcano.



Kumu St

Kumuwai Pl

Manoa Rd

Nipo St



© 2006 Europa Technologies

Image © 2006 DigitalGlobe

© 2006 Navteq

© 2005

Google



N19°04'12"

N19°00'36"



© 2006 Europa Technologies
Image © 2006 TerraMetrics
Image © 2006 DigitalGlobe

© 2005 Google



N19°02'6"

Mamalu Pali

N19°01'30"

Pali o Mamalu

N19°00'54"

N19°00'18"

Pali o Mamalu

N18°59'42"

Awawa Kahao



© 2006 Europa Technologies
Image © 2006 TerraMetrics
Image © 2006 DigitalGlobe

© 2005 Google

NEVADA	NEVADA	NEVADA	NEVADA	NEVADA	NEVADA	NEVADA
NV	27	39- 39' 40"	118- 10' 00"	Dixie Valley Fault Scarps	M 6.7 quake under E side of valley	Check and photo fault scarps from earlier 20th century surface faulting, check for renewed surface fault rupture.
NV	28	39- 26' 42"	117- 06' 18"	South of Austin, NV area	M. 6.8 quake	Photo from Veatch Cyn to Marshall Falls to recon for surface rupture and landslides at base of mountains.
NV	29	40- 28' 07"	118- 18' 30"	Rye Patch Dam	M 6.9 quake	Photo dam looking N; check for unnatural leaks and photo dam to establish its structural integrity.



401

N40°20'7"

N40°28'5"



Google

© 2006 Navteq
Image © 2006 DigitalGlobe



N39°39'

121



© 2006 Europa Technologies
Image © 2006 DigitalGlobe
© 2006 Navteq
Image © 2006 TerraMetrics

© 2005 Google



722

50

Main St

7°09'54"



© 2006 Navteq
Image © 2006 TerraMetrics

© 2005 Google



401

19'27"

Rye Patch Reservoir



©2005 Google

© 2006 Navteq
Image © 2006 DigitalGlobe

Alaska Target Set

AK	T#	1	61°21'18.39"N	150° 0'37.51"W	_____
AK	T#	2	61°34'31.92"N	149°43'29.15"W	_____
AK	T#	3	64°48'27.92"N	147°34'34.37"W	_____
AK	T#	4	58°54'10.55"N	153°22'35.11"W	_____
AK	T#	5	60°51'50.84"N	145°58'53.86"W	_____
AK	T#	6	60°57'14.73"N	147° 0'2.89"W	_____
AK	T#	7	59°27'15.61"N	151°43'30.28"W	_____
AK	T#	8	63°20'9.78"N	142°59'16.35"W	_____
AK	T#	9	57° 6'54.40"N	135°23'26.82"W	_____
AK	T#	10	57°29'48.03"N	134°34'6.66"W	_____



AK T#3

AK T#8

AK T#1

AK T#2

AK T#6

AK T#7

AK T#5

AK T#4
Kukak

AK T#10

AK T#9

sitka.ak

© 2006 Europa Technologies
© 2006 Navteq
Image © 2006 NASA
Image © 2006 TerraMetrics

GOO
© 2006

60°20'31.25" N 140°59'27.45" W elev 10637 ft

Streaming 100%

Eye alt 156'





