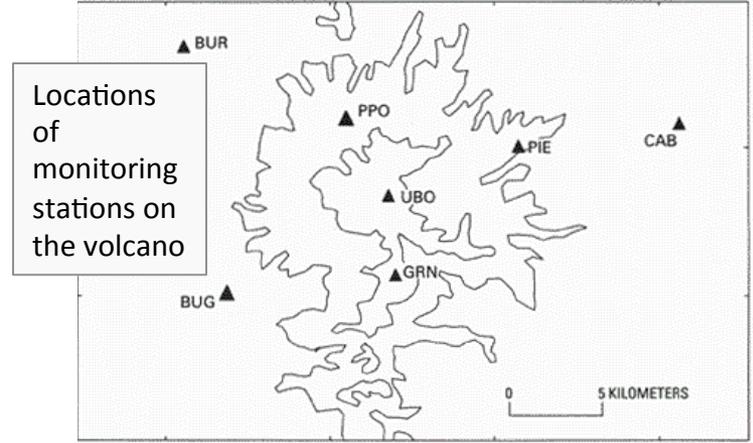
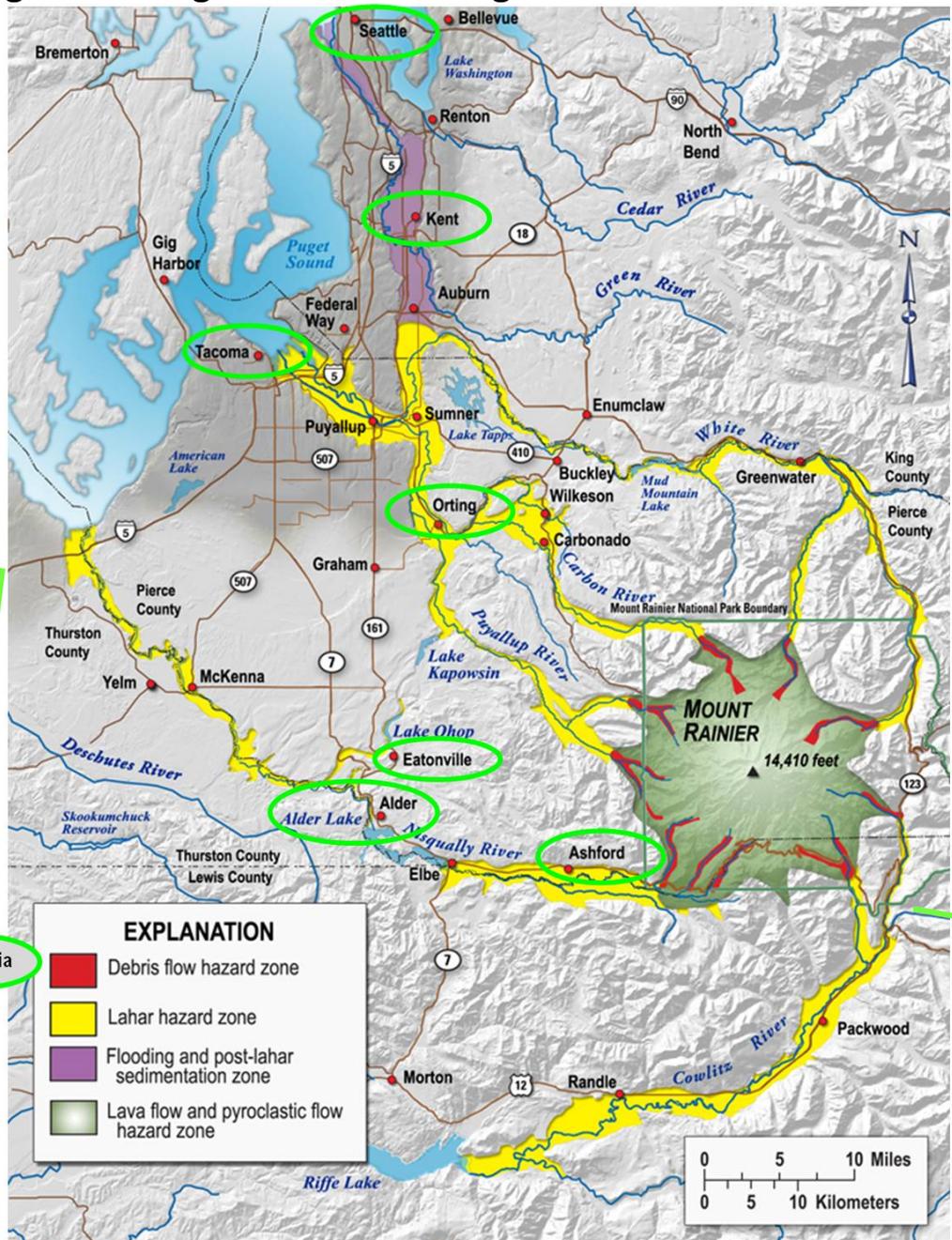


Living on the Edge: Unit 6: Convergent Plate Boundaries

Because of its elevation (4,392 m), relief, hydrothermal alteration, ice cap, glacier-fed radial valleys, and proximity to suburbs of the Seattle-Tacoma area, **Mount Rainier is the most threatening volcano in the Cascades**. Its next eruption could produce volcanic ash, lava flows, and *avalanches of intensely hot rock and volcanic gases, called pyroclastic flows*. Some of these events swiftly melt snow and ice and could produce torrents of meltwater that erode loose rock and become *rapidly flowing slurries of mud and boulders known as lahars*, which is the greatest risk at the volcano, rather than from an eruption itself.

http://volcanoes.usgs.gov/volcanoes/mount_rainier/mount_rainier_hazard_49.html



"We call it low probability, high consequence," says Steven Bailey, Pierce County, Washington's director of emergency management. "It's a low probability it's going to occur in our lifetime. But if and when it does, the consequences are going to be huge."

www.geographyalltheway.com/igcse_geography/natural_environments/plate_tectonics/igcse_volcanoes_manage.htm

Centralia

Yakima

Living on the Edge: Unit 6: Convergent Plate Boundaries

The USGS has established an alert level system to communicate the likelihood of increasing or decreasing volcanic activity. Keep these alert levels in mind as you look through the geologic activity data attached.

Standard Volcano Icons

Ground-based Volcano Alert Levels

Normal Advisory Watch Warning

Aviation Color Codes

Green Yellow Orange Red

————— Increasing level of concern —————>

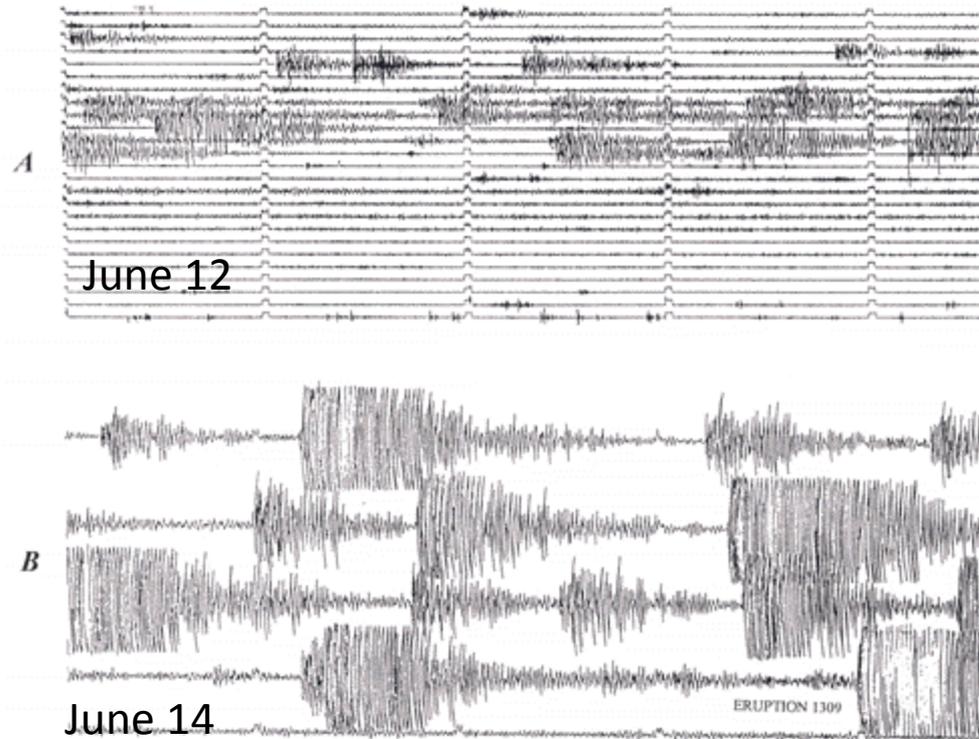
 Unassigned (Insufficient monitoring to make assessment)

ALERT LEVEL	DESCRIPTION
NORMAL	Volcano is in typical background, non-eruptive state <i>or, if changing from a higher level:</i> The activity has ceased and volcano has returned to non-eruptive background state.
ADVISORY	Volcano is exhibiting signs of elevated unrest above known background level; <i>or, if changing from a higher level:</i> Volcanic activity has decreased significantly but continues to be closely monitored for possible renewed increase.
WATCH	Volcano is exhibiting heightened or escalating unrest with increased potential of eruption, timeframe uncertain, OR eruption is underway but poses limited hazards.
WARNING	Hazardous eruption is imminent, underway, or suspected.

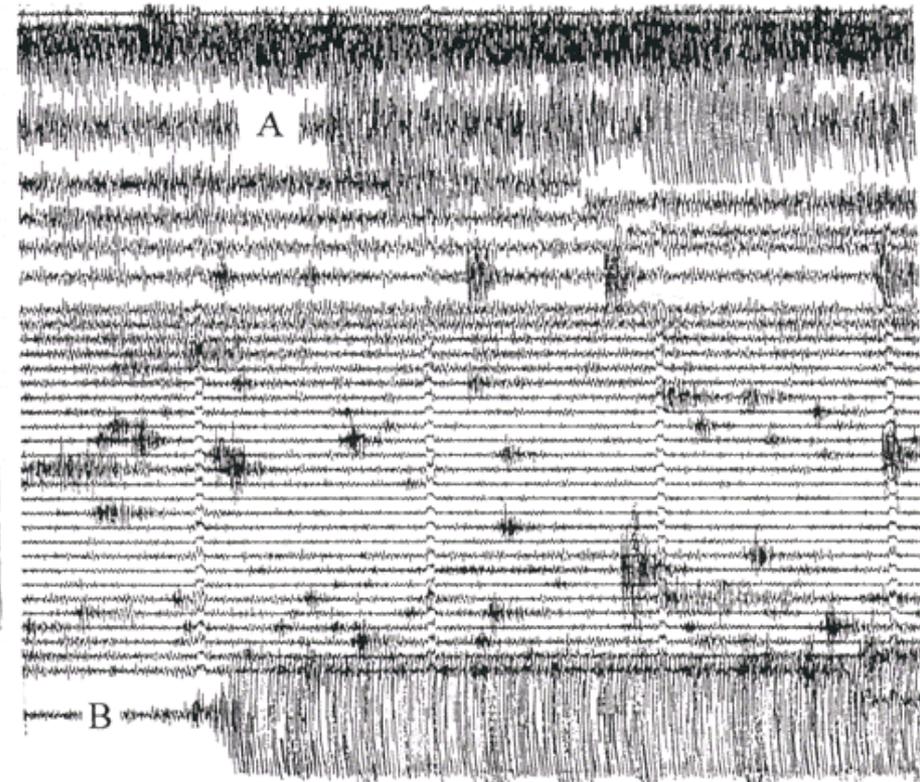
<http://volcanoes.usgs.gov/activity/alertsystem/index.php#alertlevel>

Note: Data included in the following handouts are from the USGS. References for specific figures and information can be obtained from your instructor.

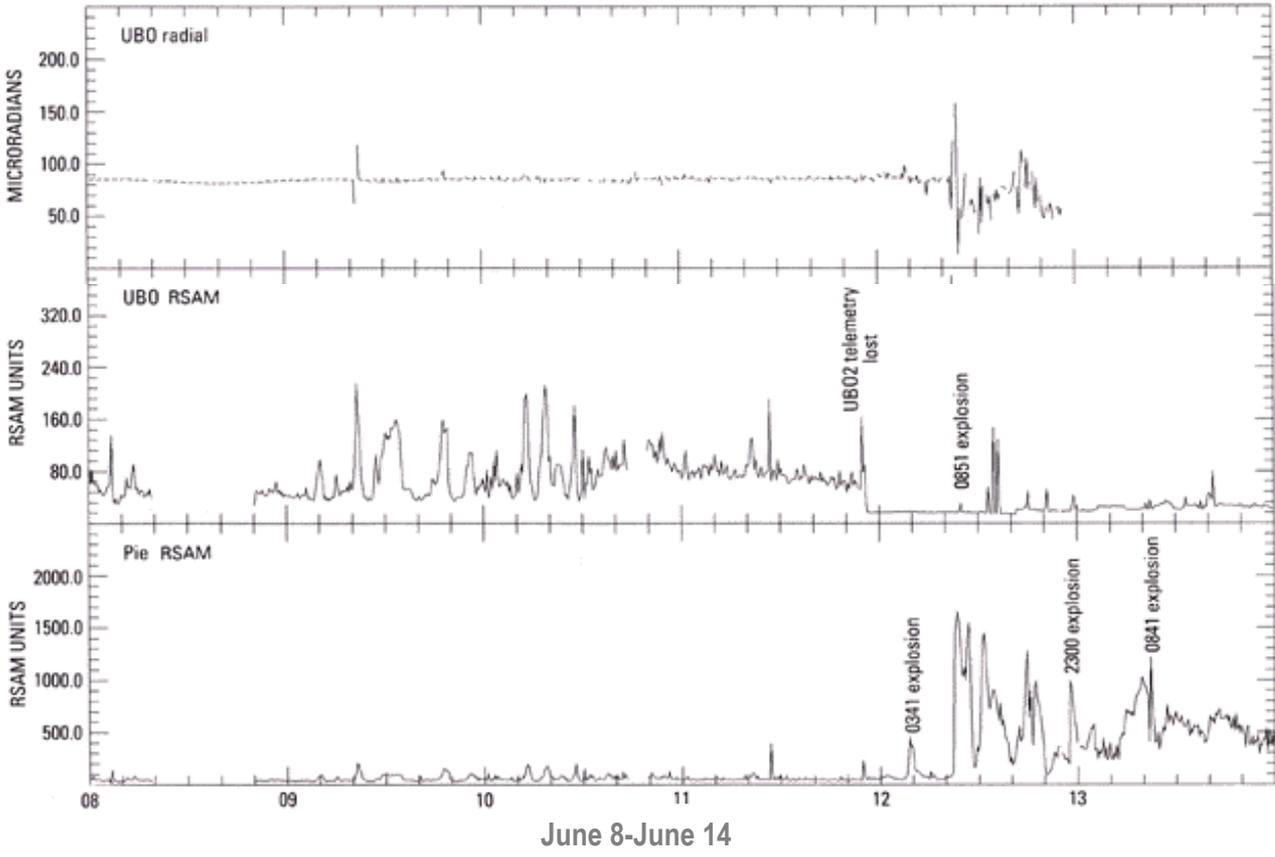
**SEISMIC- GAS-ASH - TILT
DATA SET 3:
THROUGH JUNE 15**



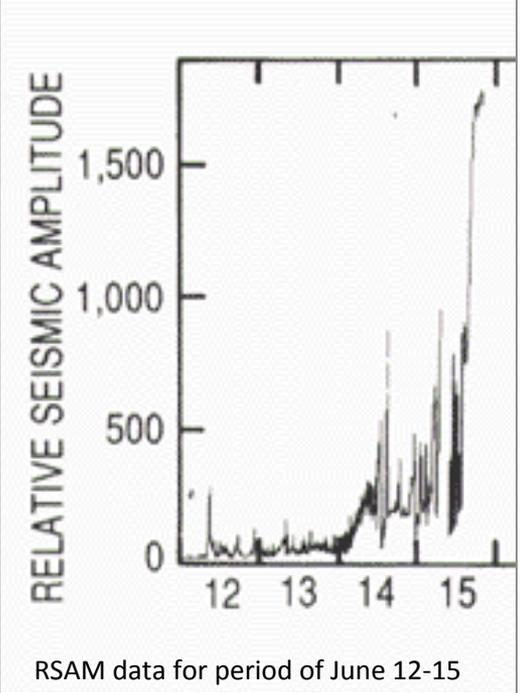
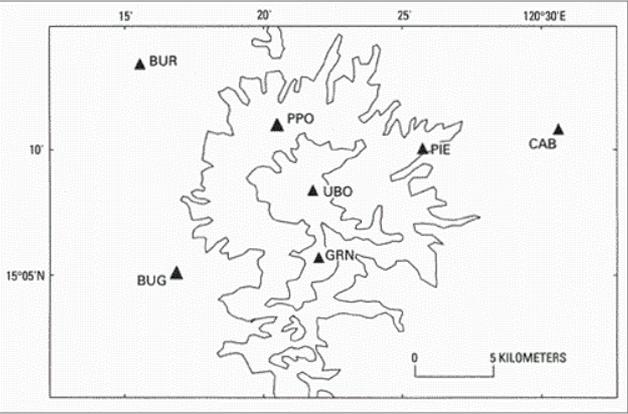
Sections of station CAB drum records showing long-period events on June 12 (A) and on June 14 (B). Time marks represent 1-min intervals.



Station PIE drum record showing (A) the eruption signals for the small eruption at 0341 and (B) the first explosive eruption at 0851 on June 12, 1991. Time marks represent 1-min intervals.



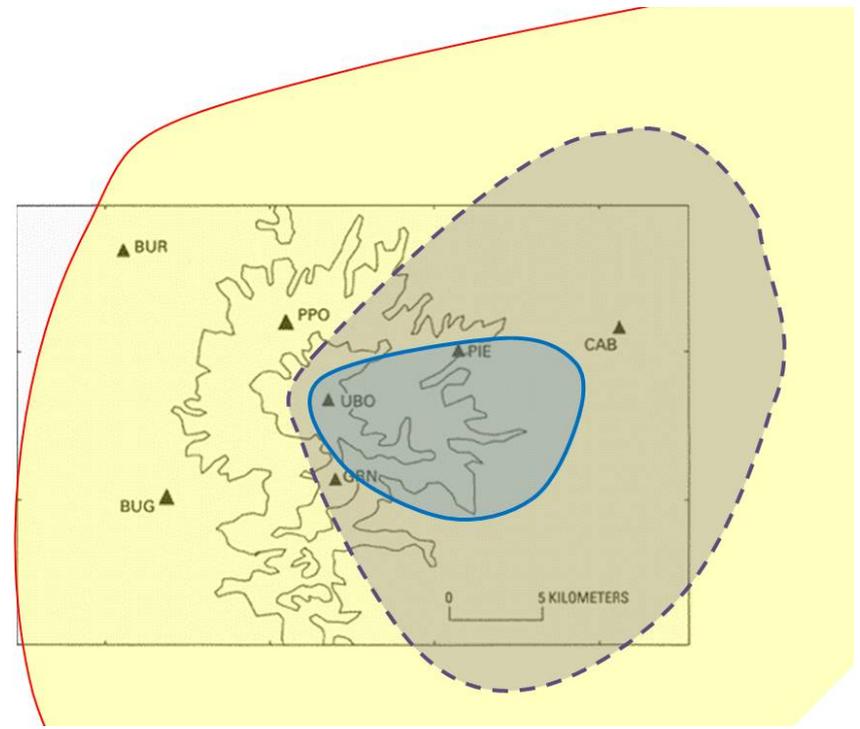
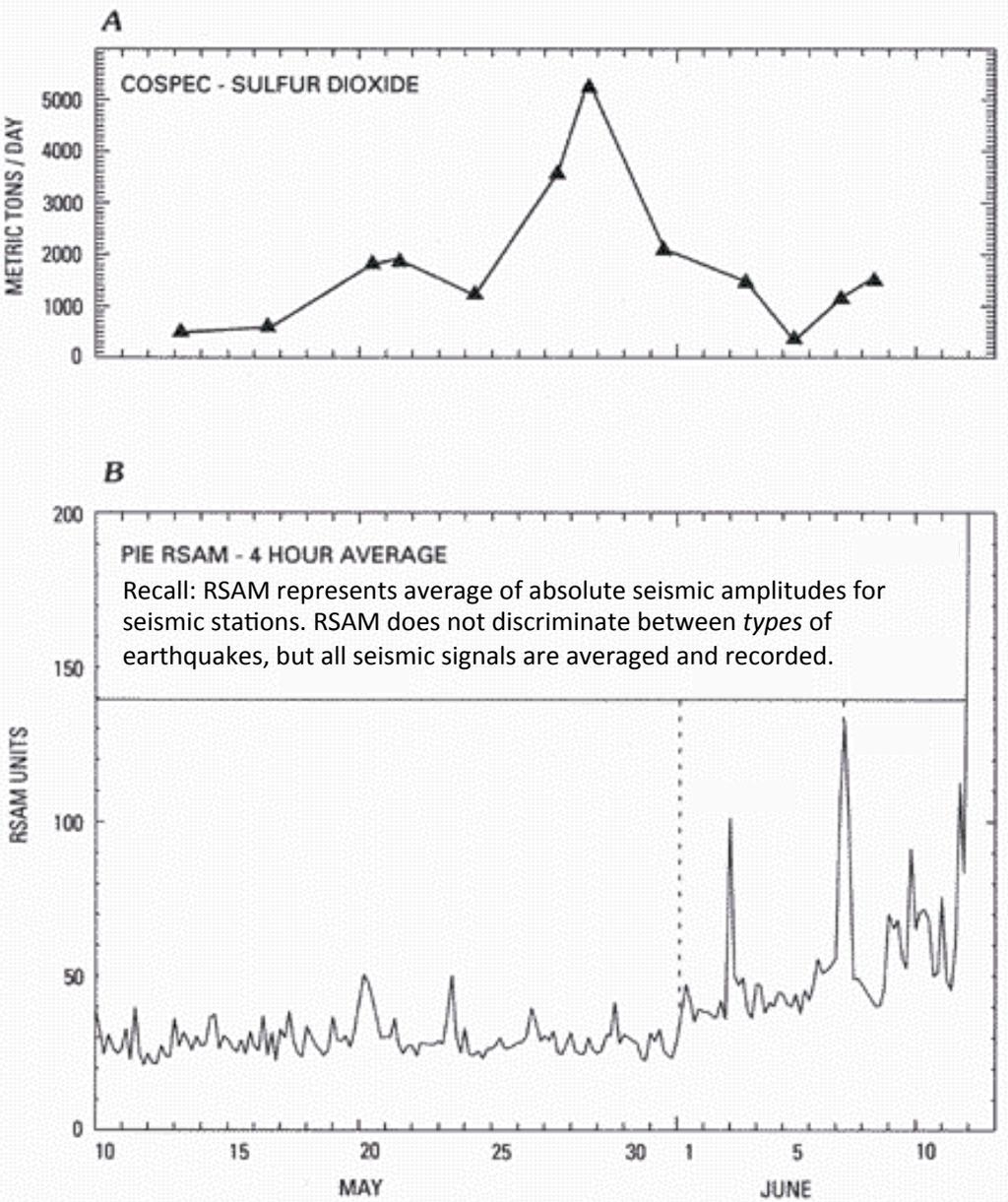
Left: UBO tiltmeter with Real-time Seismic Amplitude Measurement (RSAM) data from UBO and PIE seismometers, east side of volcano.



RSAM data for period of June 12-15

SEISMOLOGY AND GAS

DATA SET 3, THROUGH JUNE 15



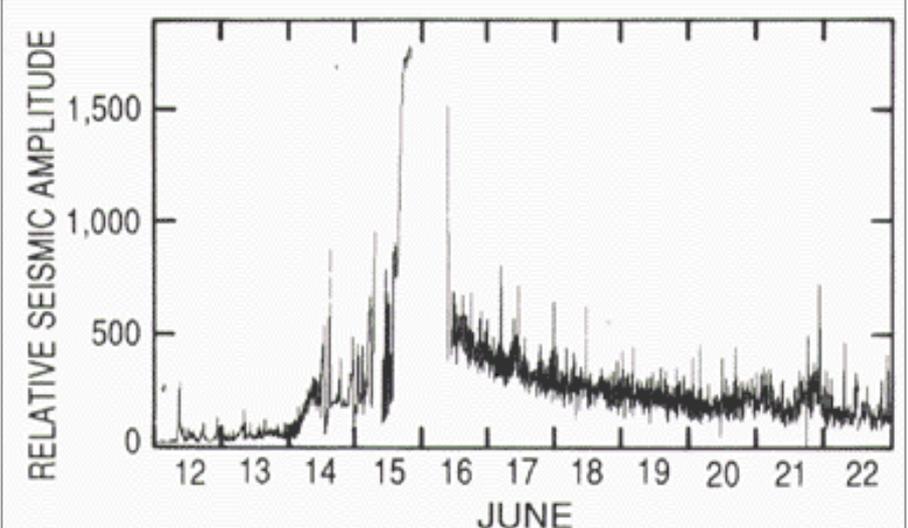
Outline of areas affected by ash (tephra) fall from April 2 (outer solid red line) and the area that received light, intermittent tephra fall up to June 12 (dashed line). Inner (blue) solid outline is estimate of 1cm thick ash fall.

Figures at left from Harlow et al., 1996; Figure at right modified from Paladio-Melosantos et al., 1996

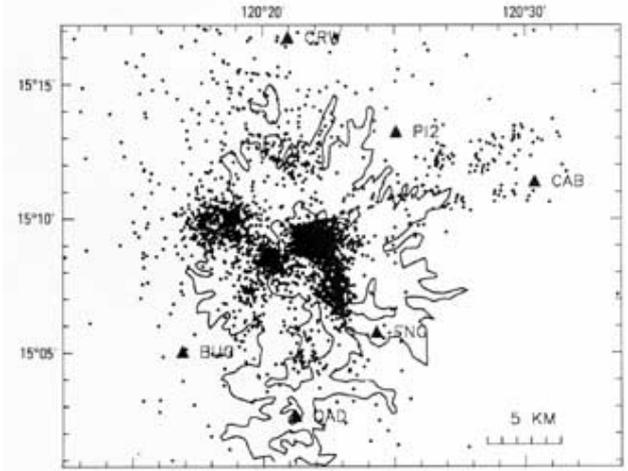
**OPTIONAL
SEISMIC- GAS-ASH - TILT
DATA SET 3:
THROUGH 1 YEAR
POST-ERUPTION**

SEISMIC, GAS and TILT Day 2

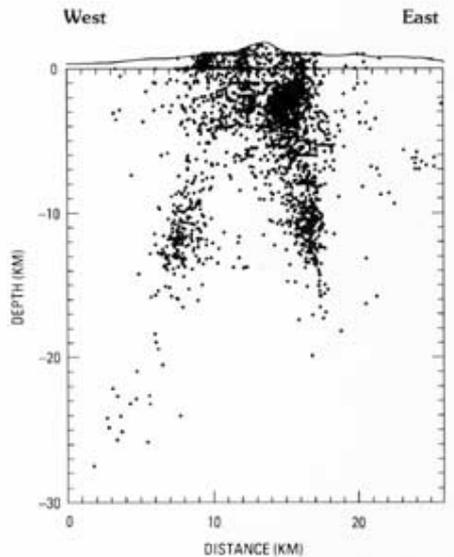
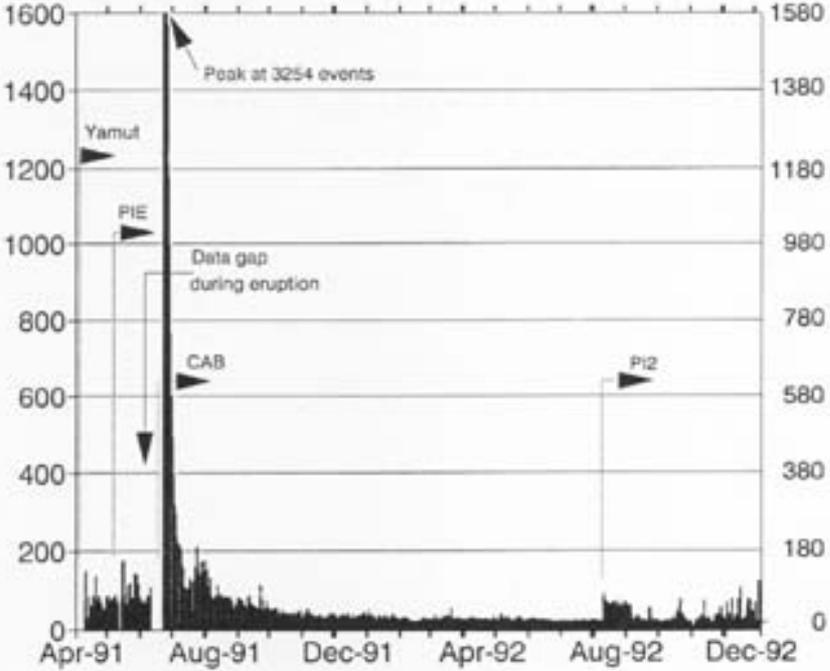
DAY 2 POST-ERUPTION SEISMIC ACTIVITY OPTIONAL USE IN ASSESSMENT ACTIVITY



RSAM (Realtime Seismic-Amplitude Measurement) data for period of June 12-22



Histogram of daily counts of high-frequency earthquakes at Mount Pinatubo April (before eruption) through December (20 months after eruption), taken from various discontinuous records. Left-hand scale, for Yamut, PIE, and PI2; Right-hand scale, for CAB.



Comparison of all the post-eruption seismicity recorded from June 29 through August 16. Cross section is oriented west to east and shows events within a 10-km-wide strip through the summit region. Triangles are stations of the post-eruption network.

