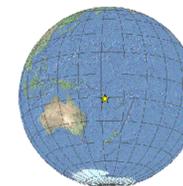
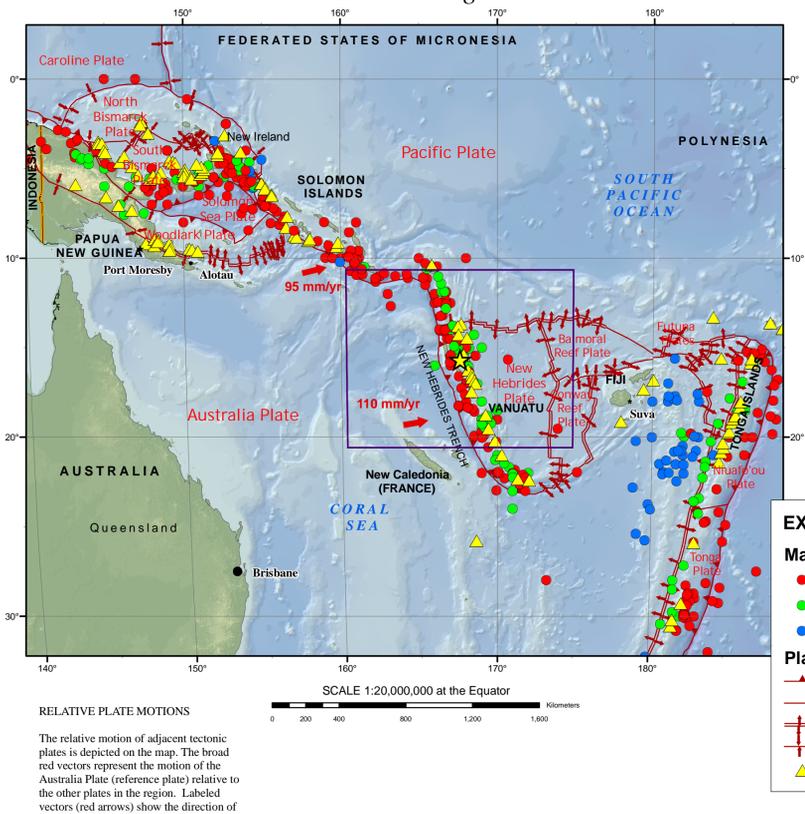


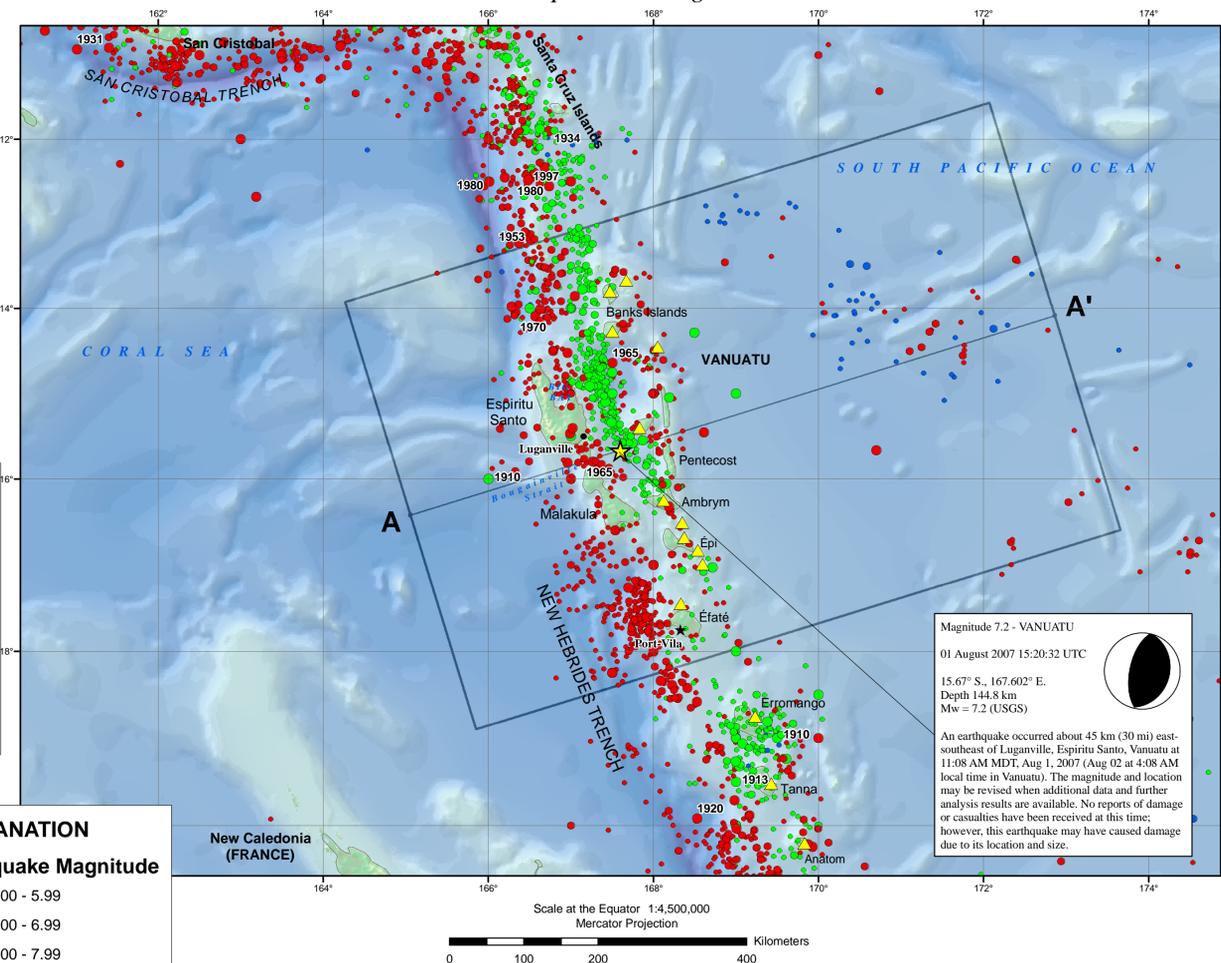
M7.2 Vanuatu Earthquake of 1 August 2007



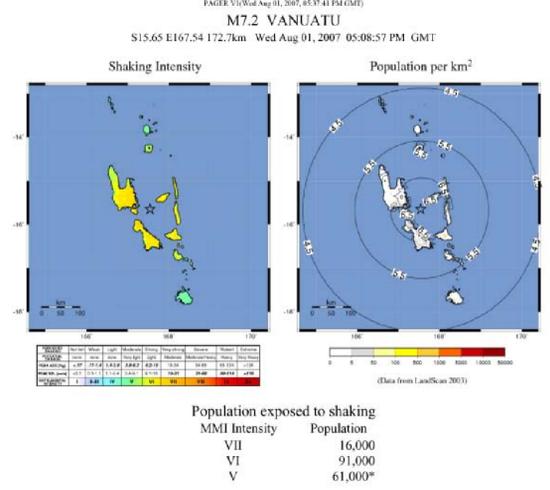
Tectonic Setting



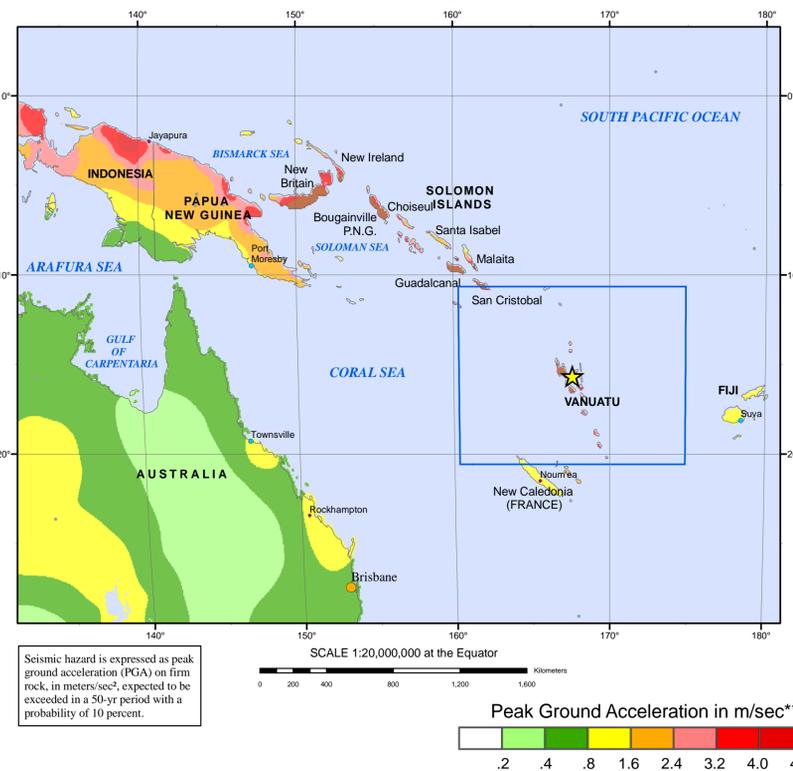
Epicentral Region



Prompt Assessment of Global Earthquakes for Response (PAGER)



Seismic Hazard



DISCUSSION

This intermediate-depth earthquake occurred within the lithosphere of the Australia plate, which is subducting to the east-northeast beneath the New Hebrides arc and the North Fiji Basin. The lithosphere of the New Hebrides arc and North Fiji Basin consists of zones of deformation and small tectonic plates that accommodate the convergence of the much larger Australia and Pacific plates. The Australia plate moves east-northeast with respect to the interior of the North Fiji Basin with a velocity of about 100 mm/y. The subducted Australia plate is seismically active to a depth of about 300 km in the region of the August 1, 2007 earthquake.

Earthquakes, such as this one, that have focal-depths between 70 and 300 km are commonly termed "intermediate-depth" earthquakes. Intermediate-depth earthquakes represent deformation within subducted plates, rather than deformation at plate boundaries. Intermediate-depth earthquakes typically cause less damage on the ground surface above their foci than is the case with similar magnitude shallow-focus earthquakes, but large intermediate-depth earthquakes may be felt at great distance from their epicenters.

DATA SOURCES

EARTHQUAKES AND SEISMIC HAZARD
USGS, National Earthquake Information Center
NOAA, National Geophysical Data Center
IASPEI, Centennial Catalog (1900 - 1999) and extensions (Engdahl and Villaseñor, 2002)
HDF (unpublished earthquake catalog) (Engdahl, 2003)
Global Seismic Hazard Assessment Program

PLATE TECTONICS AND FAULT MODEL
PB2002 (Bird, 2003)
Finite Fault Model, Chen Ji, UC Santa Barbara (2007)

BASE MAP
NIMA and ESRI, Digital Chart of the World
USGS, EROS Data Center
NOAA GEBCO and GLOBE Elevation Models

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Bird, P., 2003, An updated digital model of plate boundaries: *Geochim. Geophys. Geosyst.*, v. 4, no. 3, pp. 1027- 80.

Engdahl, E.R. and Villaseñor, A., 2002, *Global Seismicity: 1900 - 1999*, chap. 41 of Lee, W.H.K., and others, eds., *International Earthquake and Engineering Seismology*, Part A: New York, N.Y., Elsevier Academic Press, 932 p.

Engdahl, E.R., Van der Hilst, R.D., and Buland, R.P., 1998, Global teleseismic earthquake relocation with improved travel times and procedures for depth determination: *Bull. Seism. Soc. Amer.*, v. 88, p. 722-743.

DISCLAIMER

Base map data, such as place names and political boundaries, are the best available but may not be current or may contain inaccuracies and therefore should not be regarded as having official significance.