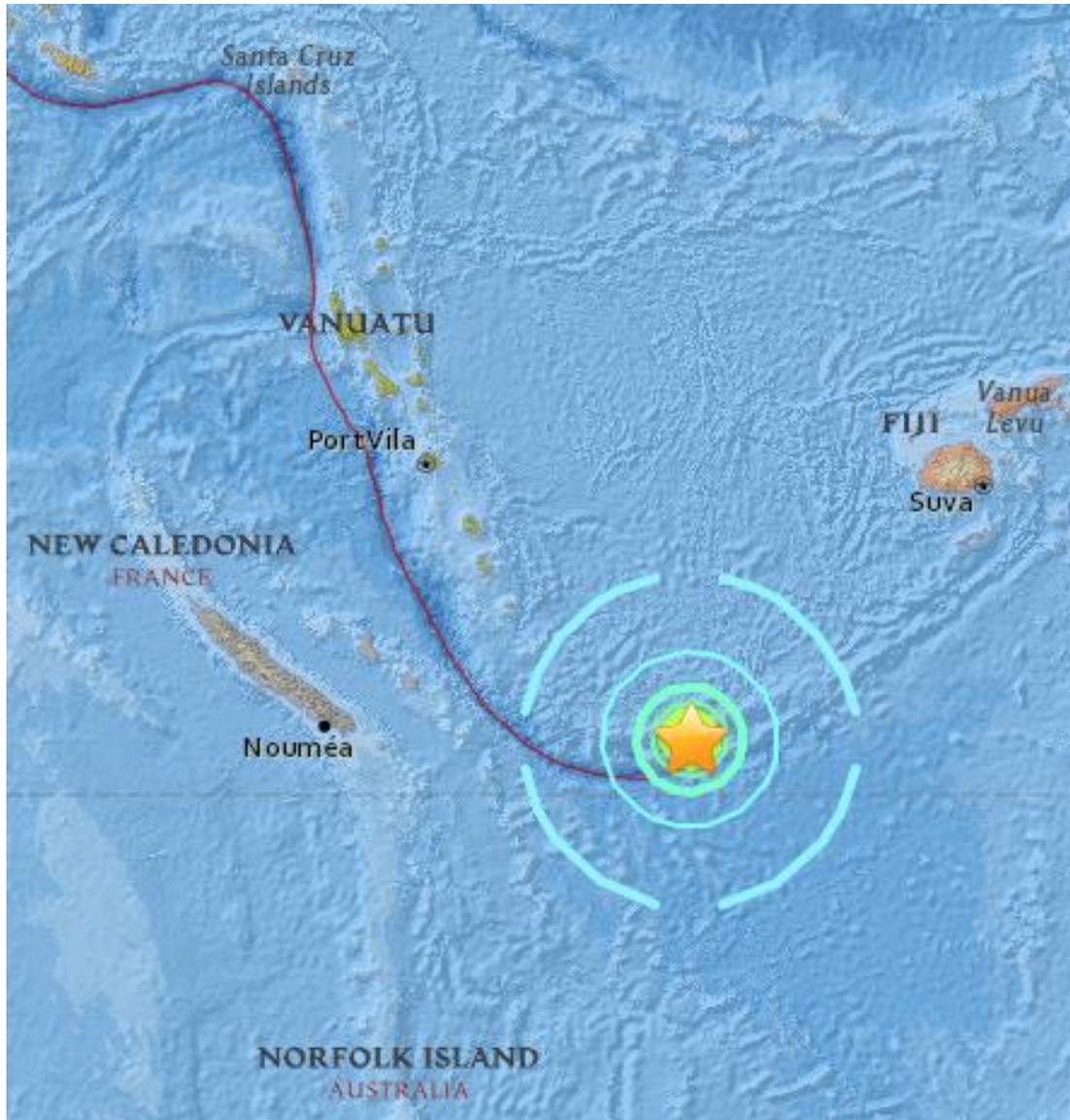


# Magnitude 7.2 NEW CALEDONIA

Friday, August 12, 2016, 01:26:35 UTC



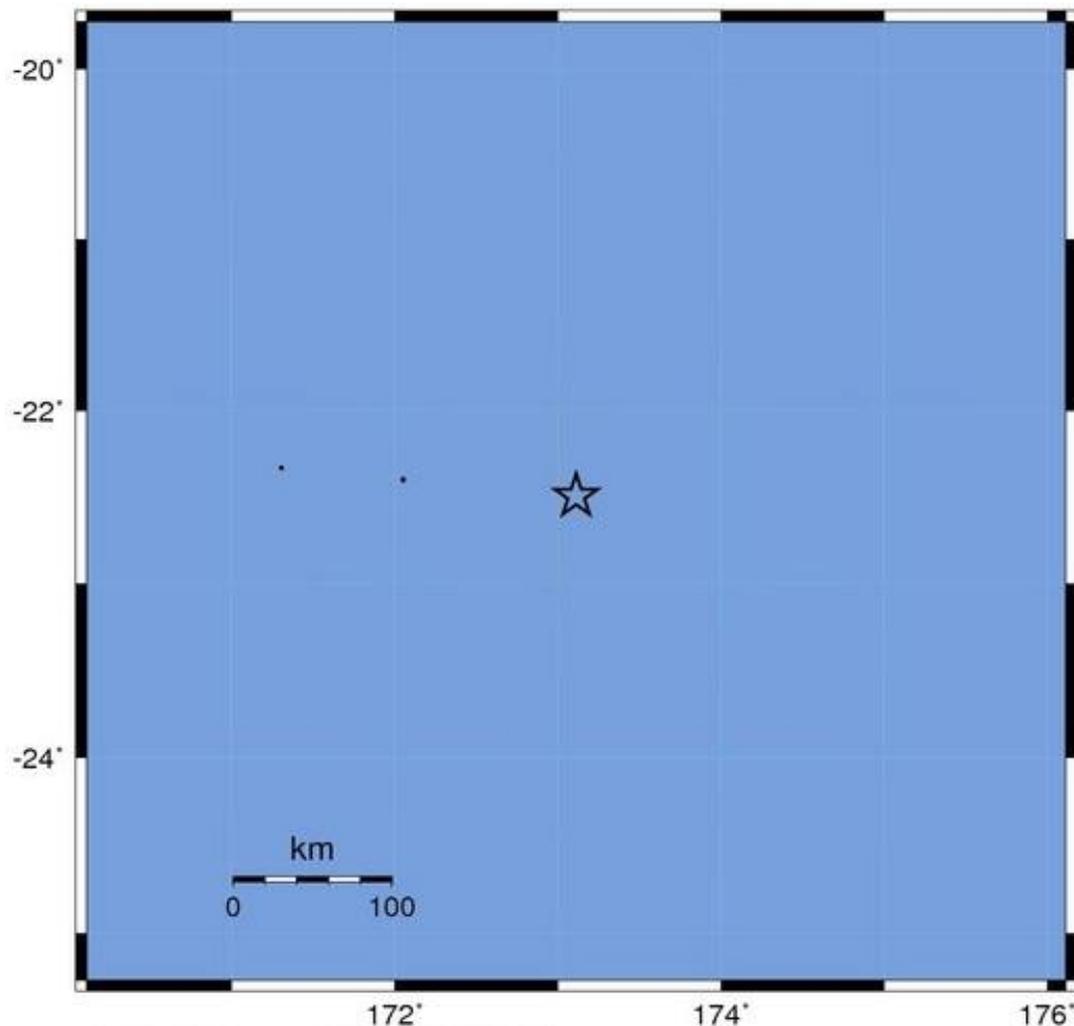
A major earthquake struck in the southwest Pacific Ocean 515.8 km (320.5 mi) southeast of Vanuatu.

There are no reports of damage and no threat of a tsunami.

The Modified-Mercalli Intensity scale is a twelve-stage scale, from I to XII, that indicates the severity of ground shaking.

There are no populated islands near the epicenter.

Modified Mercalli Intensity	Perceived Shaking
X	Extreme
IX	Violent
VIII	Severe
VII	Very Strong
VI	Strong
V	Moderate
IV	Light
II-III	Weak
I	Not Felt



Locations of earthquakes occurring between 1900 and 2014 are shown on this tectonic map of the Australia – Pacific convergent plate boundary in the southwestern Pacific Ocean.

The Pacific Plate subducts beneath the Australia Plate at the Tonga Trench whereas the Australian Plate subducts beneath the Pacific Plate at the North New Hebrides Trench. The August 12 earthquake occurred on a left-lateral transform fault that connects between these subduction zones.

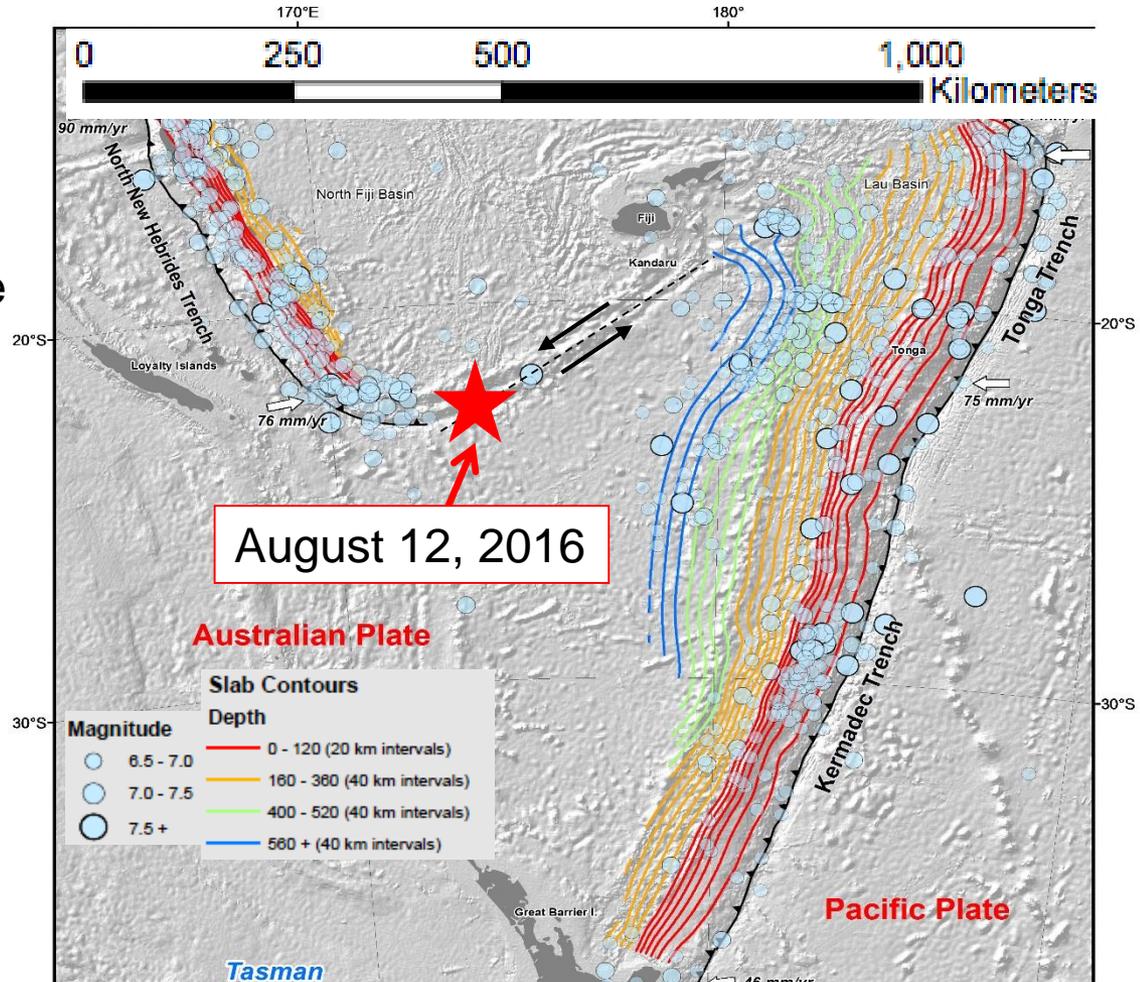


Image courtesy of the US Geological Survey

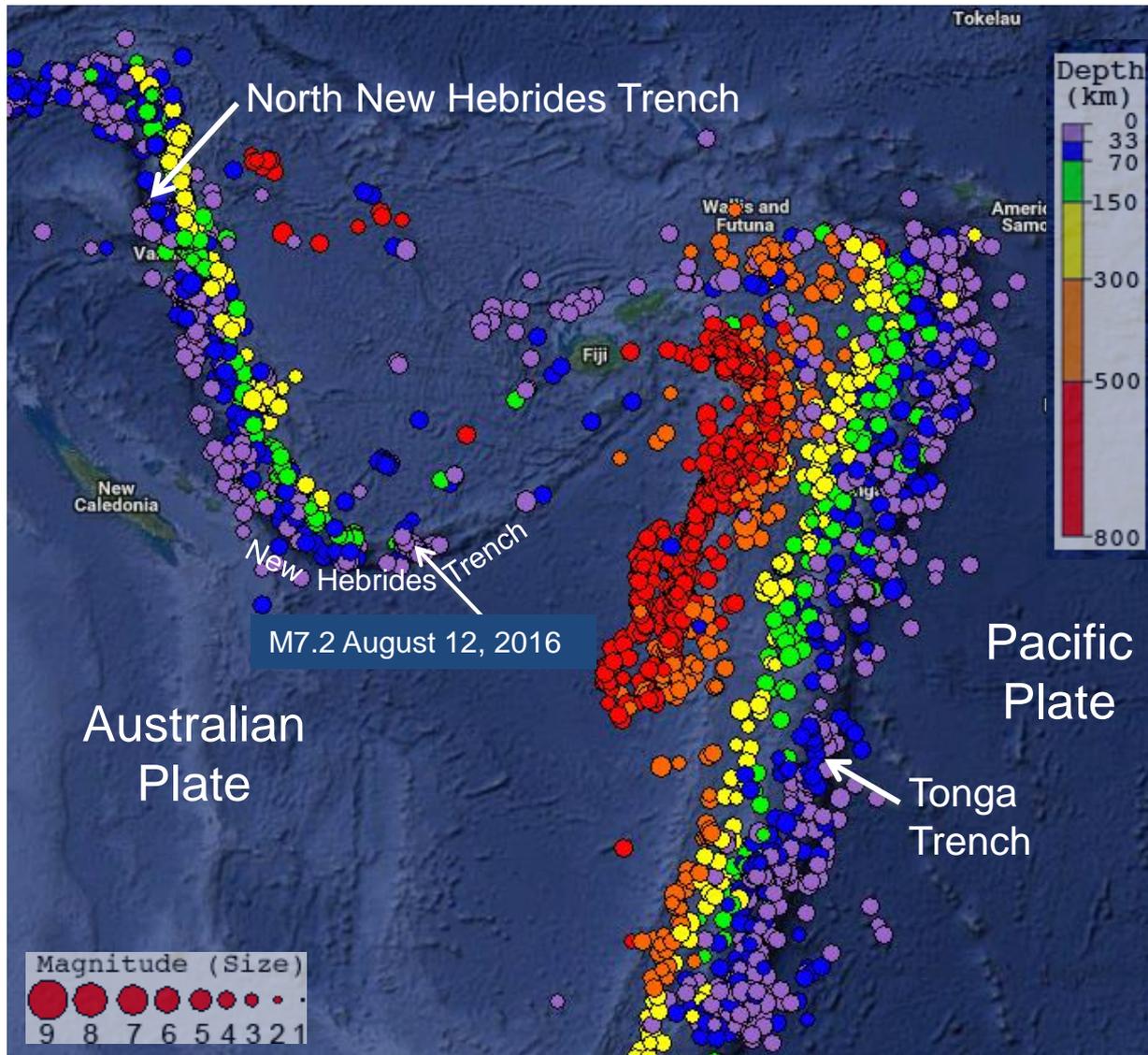
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Friday, August 12, 2016, 01:26:35 UTC

The epicenter of the August 12, 2016 earthquake is labeled on this seismicity map showing the most recent 3000 earthquakes in the surrounding region.

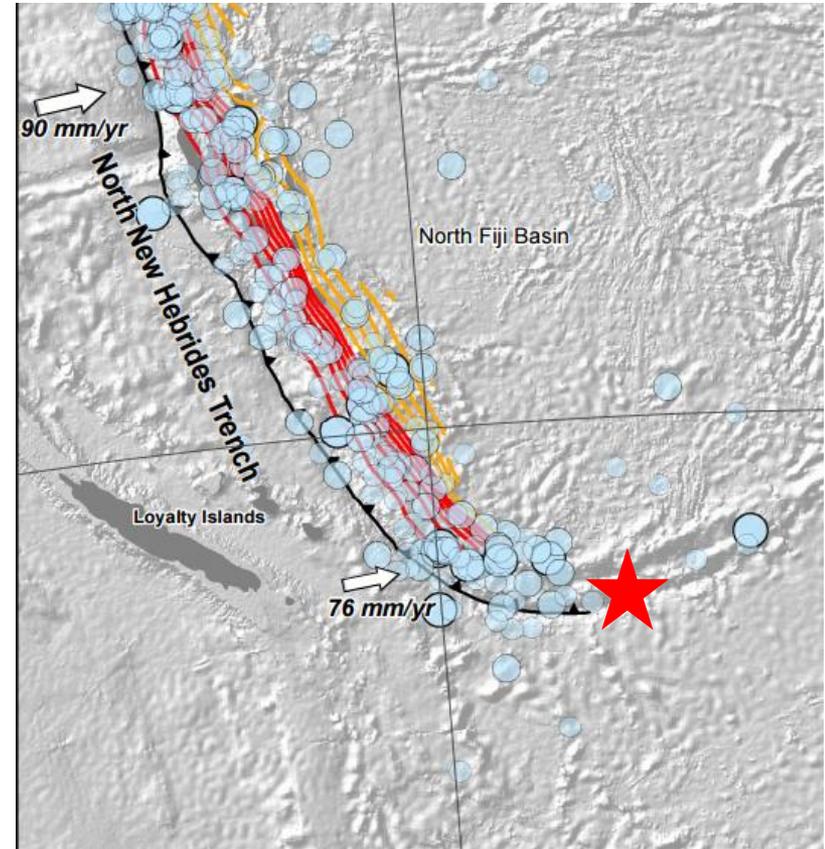
Earthquake depths increase from east to west across the Tonga Trench where the Pacific Plate subducts beneath the Australian Plate. Across the North New Hebrides Trench, earthquake depths increase from west to east where the Australia Plate subducts beneath the Pacific Plate.

The August 12 earthquake occurred along the New Hebrides Trench, a topographic feature associated with left-lateral strike-slip faulting along a transform fault that links the subduction zones.

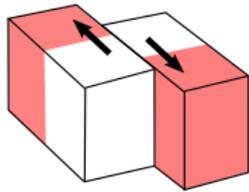


Map created with the IRIS Earthquake Browser

The focal mechanism solution indicates motion on a strike-slip fault. At the southern end of the North New Hebrides Trench, the plate boundary curves east into an oceanic transform-like structure.



### Strike-Slip/Shear



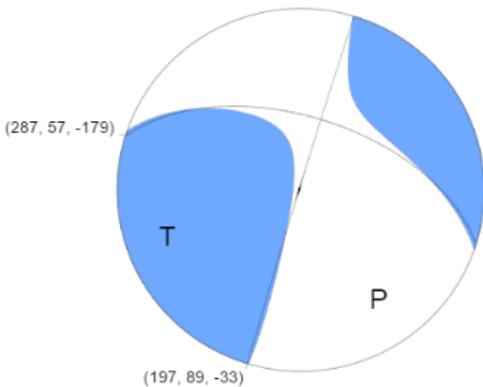
Block model



Focal Sphere



2D Projection of Focal Sphere



USGS WPhase Centroid Moment Tensor Solution

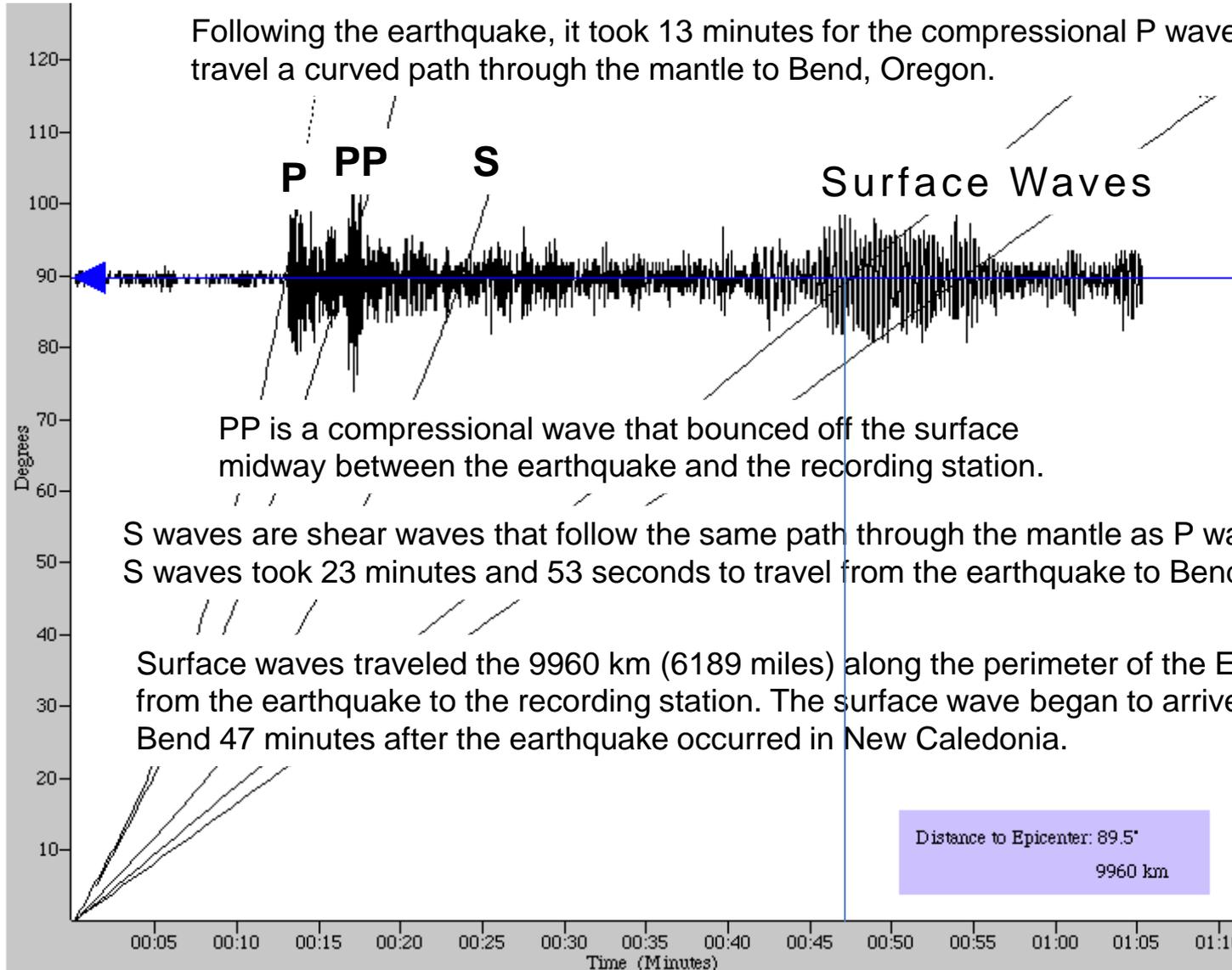
Shaded areas show quadrants of the focal sphere in which the P-wave first-motions are away from the source, and unshaded areas show quadrants in which the P-wave first-motions are toward the source. The letters represent the axis of maximum compressional strain (P) and the axis of maximum extensional strain (T) resulting from the earthquake.

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The record of the earthquake in Bend, Oregon (BNOR) is illustrated below. Bend is 9960 km (6189 miles, 89.5° ) from the location of this earthquake.

Following the earthquake, it took 13 minutes for the compressional P waves to travel a curved path through the mantle to Bend, Oregon.



PP is a compressional wave that bounced off the surface midway between the earthquake and the recording station.

S waves are shear waves that follow the same path through the mantle as P waves. S waves took 23 minutes and 53 seconds to travel from the earthquake to Bend.

Surface waves traveled the 9960 km (6189 miles) along the perimeter of the Earth from the earthquake to the recording station. The surface wave began to arrive in Bend 47 minutes after the earthquake occurred in New Caledonia.

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