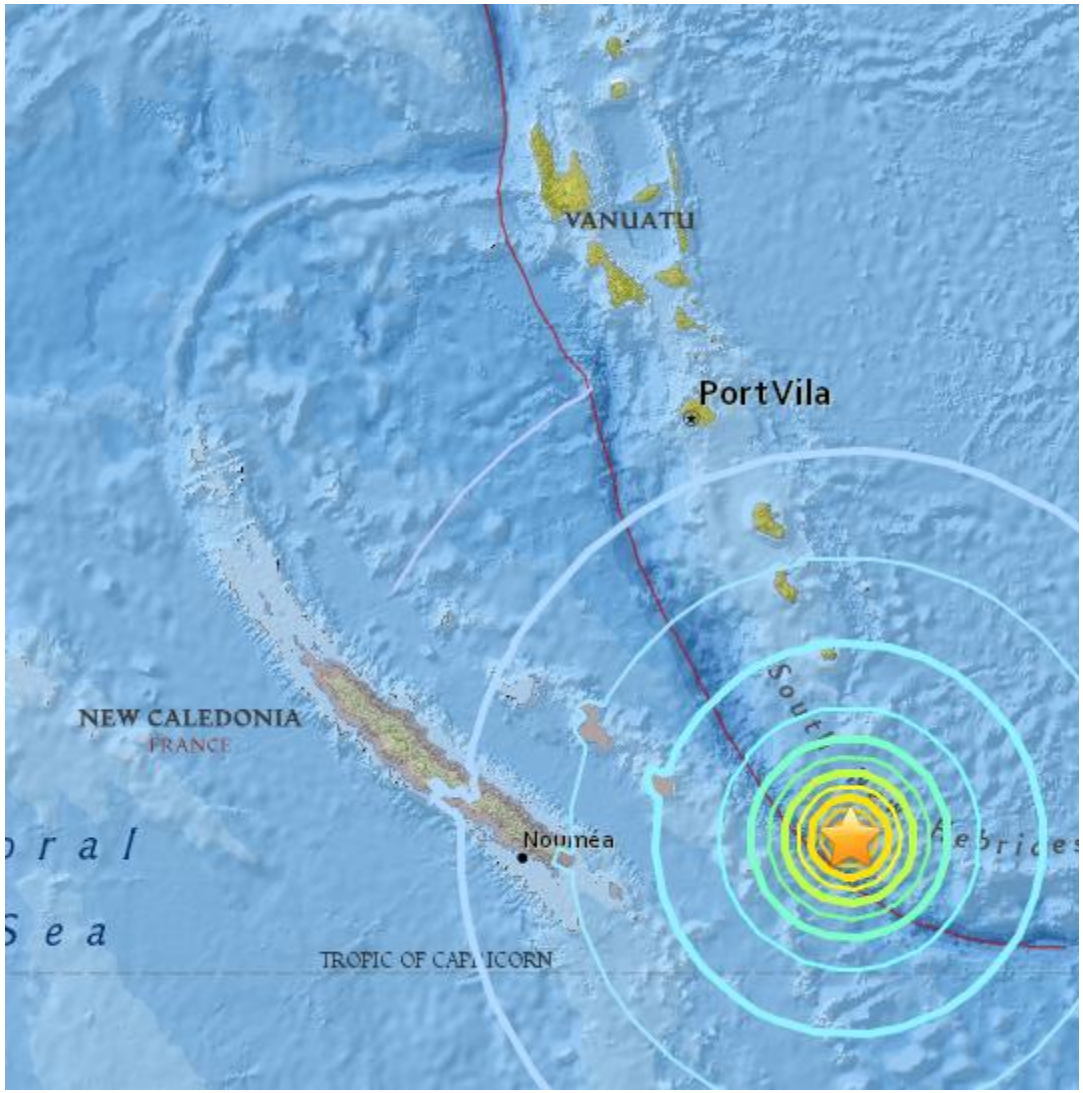
Magnitude 7.1 NEW CALEDONIA
Wednesday, August 29, 2018, 03:51:56 UTC



A magnitude 7.1 earthquake has occurred 231.2 km (143.7 mi) ESE of Tadine, New Caledonia at a depth of 26.7 km (16.6 miles).

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

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

Maré Island with a population nearing 6,000 experienced light shaking during the earthquake.

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

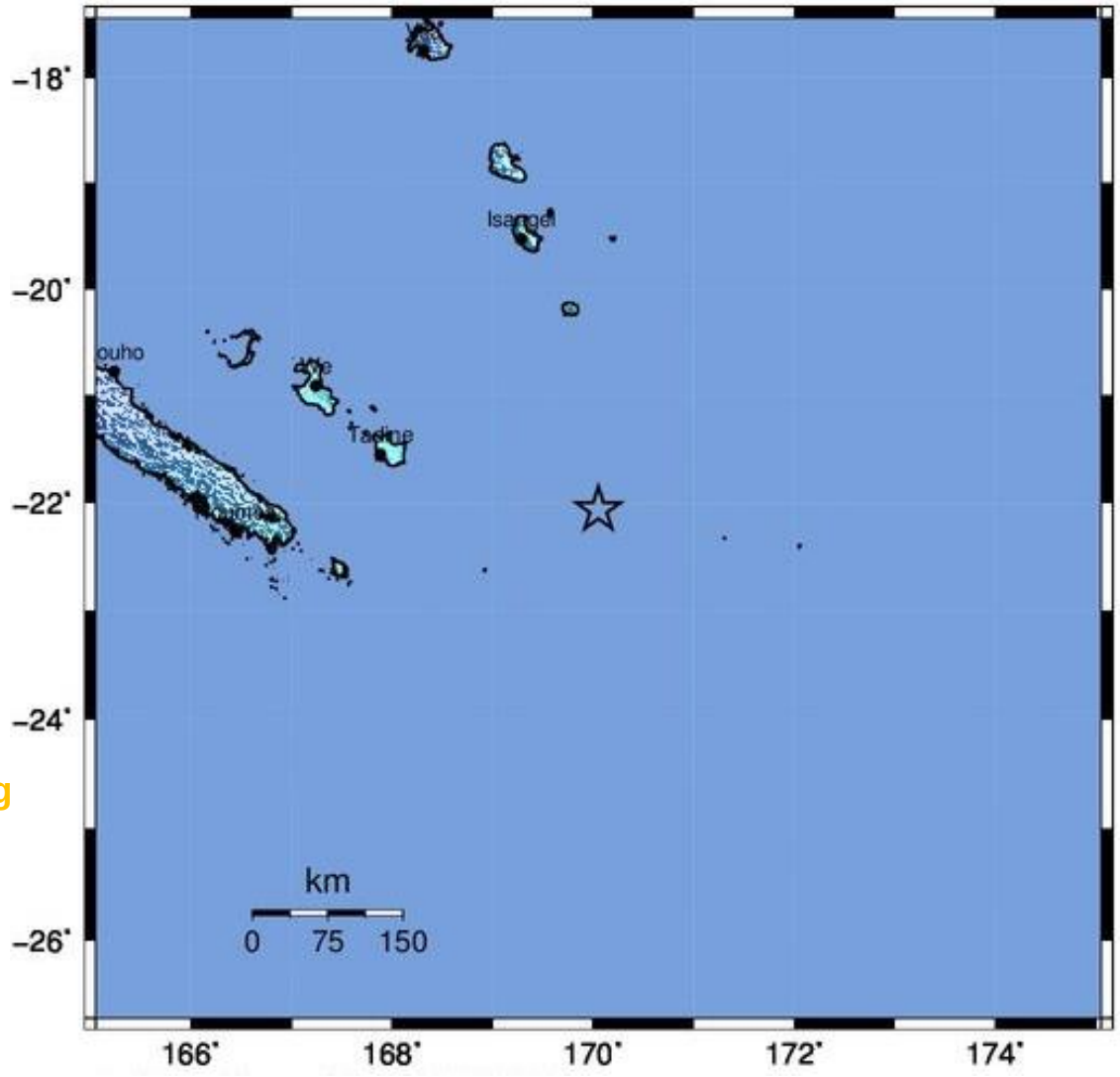

Image courtesy of the US Geological Survey

USGS Estimated shaking Intensity from M 7.1 Earthquake

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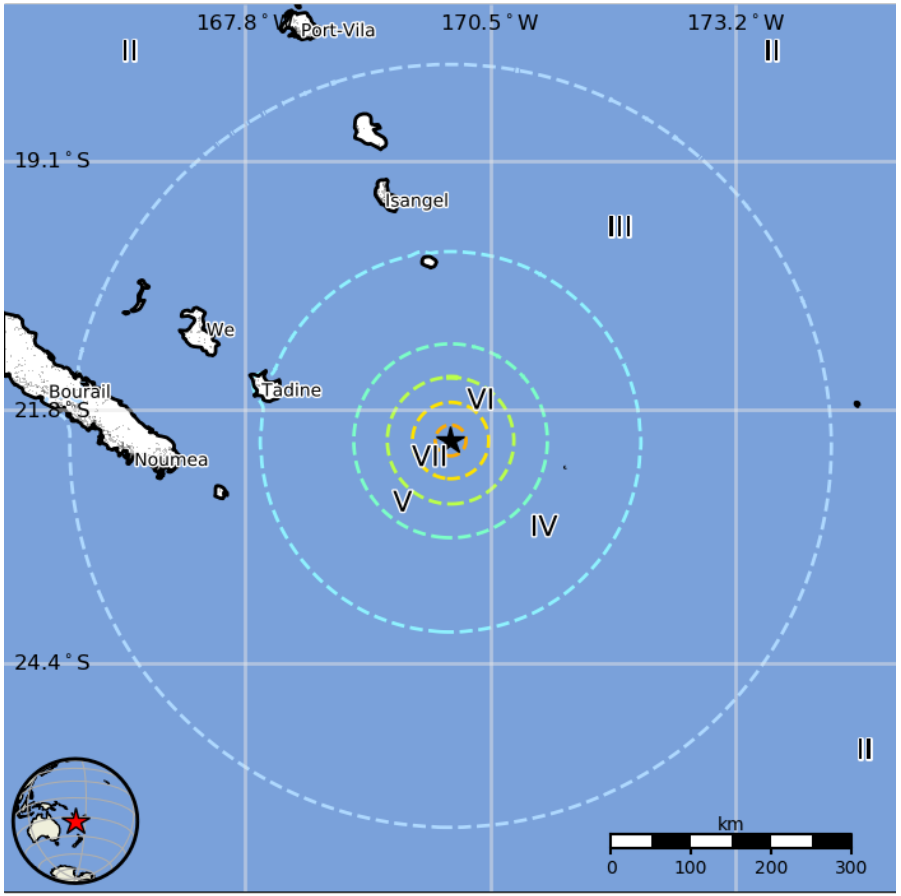
USGS PAGER
Population Exposed to Earthquake Shaking

The USGS PAGER map shows the population exposed to different Modified Mercalli Intensity (MMI) levels.

The USGS estimates approximately 6000 people felt light shaking from this earthquake.

MMI	Shaking	Pop.
I	Not Felt	--*
II-III	Weak	340 k*
IV	Light	6 k
V	Moderate	0 k
VI	Strong	0 k
VII	Very Strong	0 k
VIII	Severe	0 k
IX	Violent	0 k
X	Extreme	0 k



The color coded contour lines outline regions of MMI intensity. The total population exposure to a given MMI value is obtained by summing the population between the contour lines. The estimated population exposure to each MMI Intensity is shown in the table.

Image courtesy of the US Geological Survey

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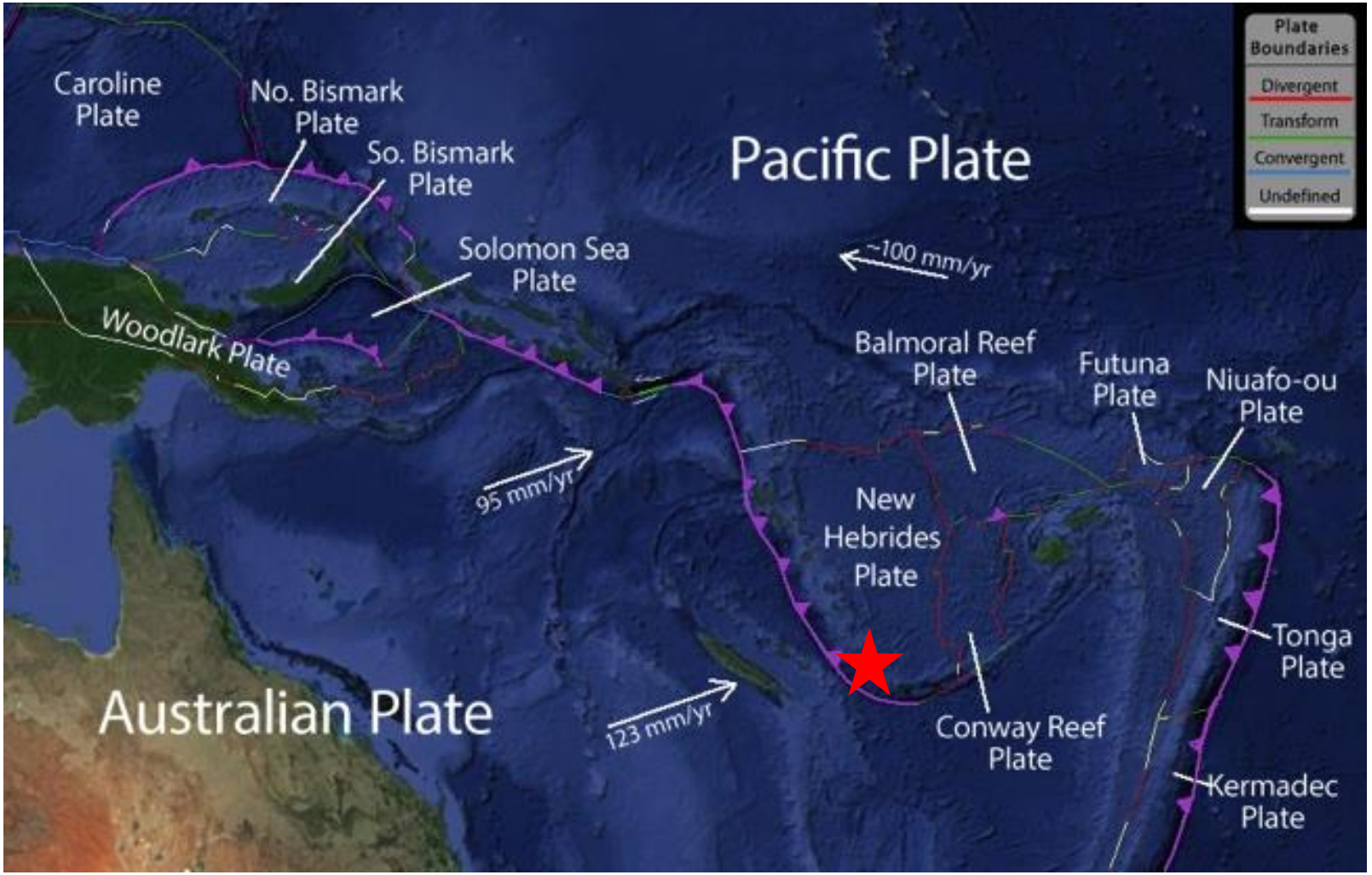
This regional map shows the complexity of major tectonic plates and microplates due to the convergence between the Australian and Pacific Plates. The red star indicates the epicenter of this earthquake.



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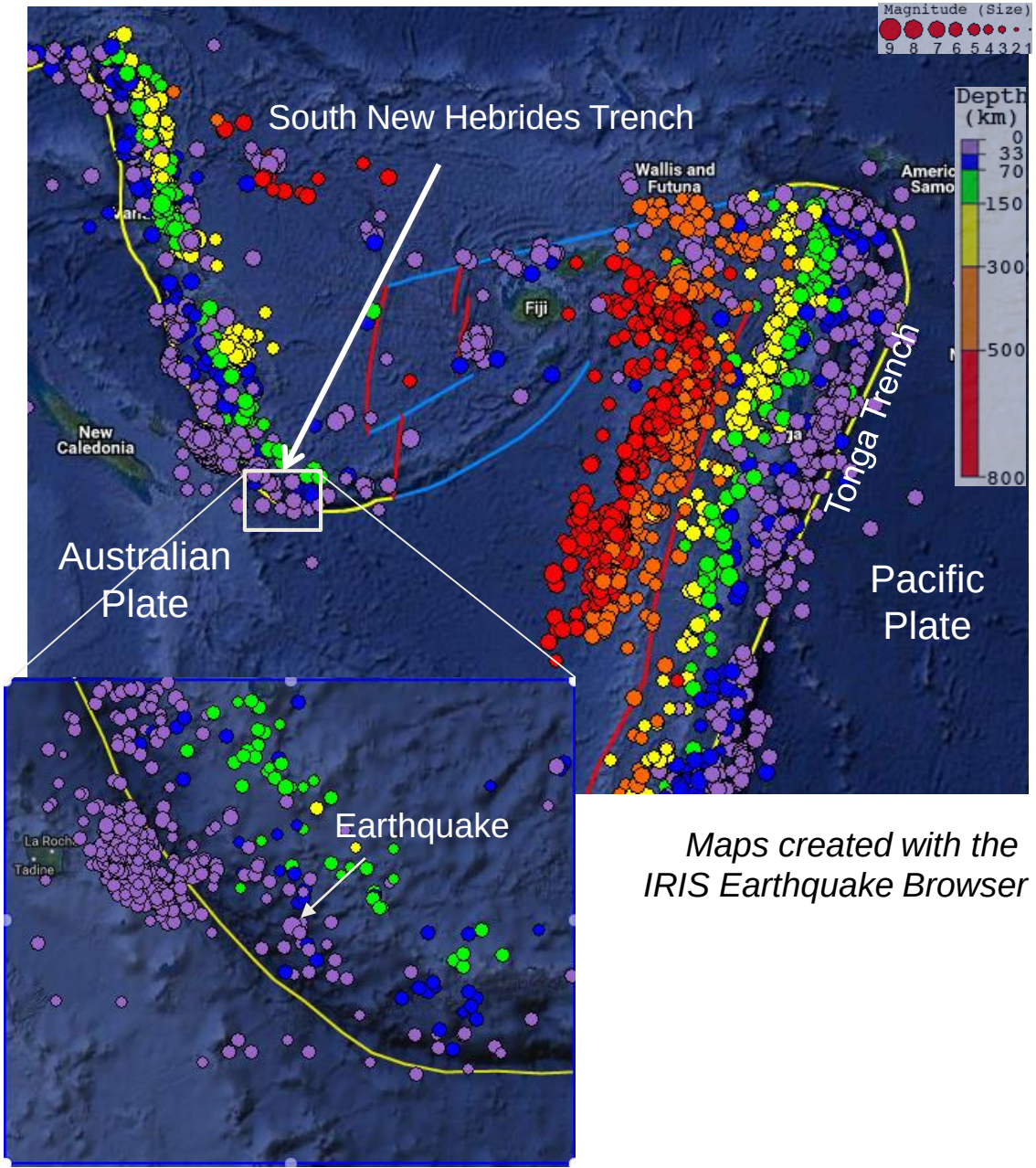
The epicenter of this earthquake is labeled on this seismicity map showing the most recent 3000 regional earthquakes.

Across the South New Hebrides Trench, earthquake depths increase from west to east where the Australian Plate subducts beneath the Pacific Plate.

Earthquake depths increase from east to west across the Tonga Trench where the Pacific Plate subducts beneath the Australian Plate.



Maps created with the IRIS Earthquake Browser

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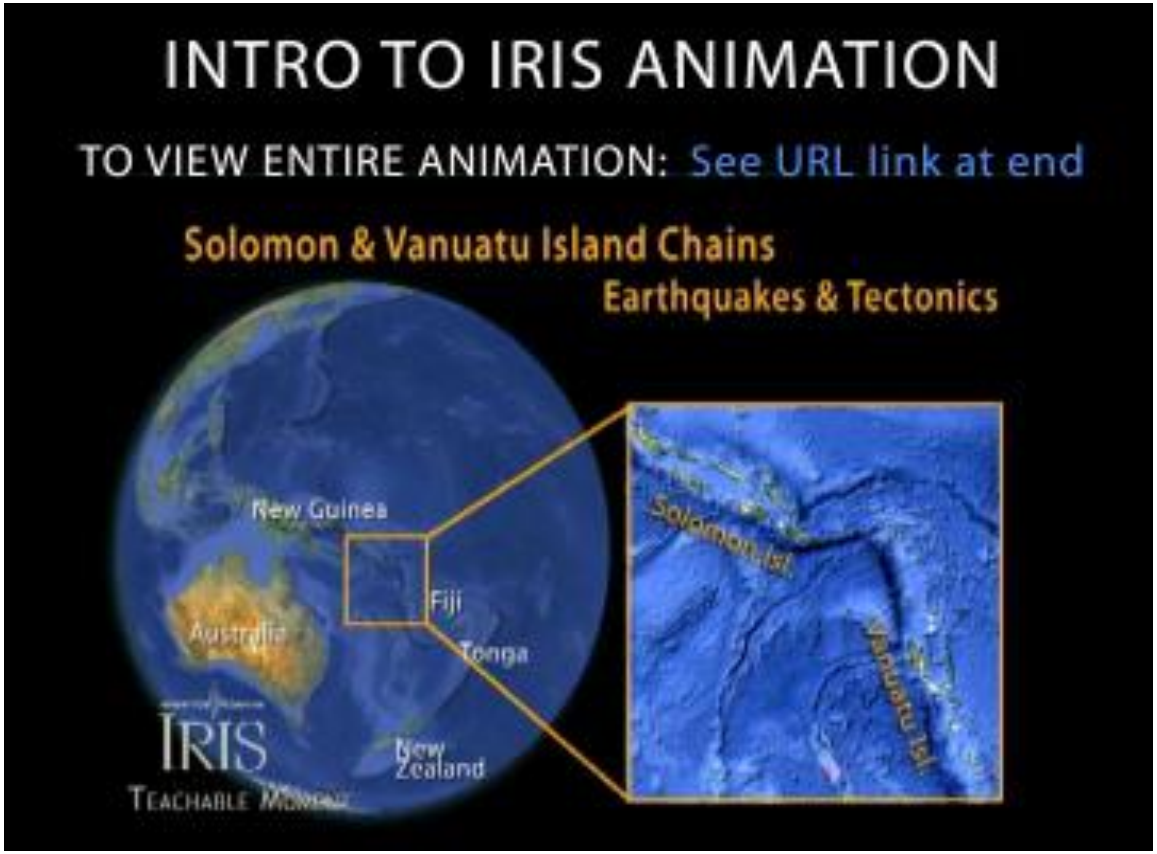
This short animation is part of a longer IRIS animation that looks at seismicity and tectonics of this region.

The full animation looks at three areas in cross section to reveal a change from:
1) Steeply dipping subduction along the New Hebrides trench
2) Strike slip motion along the Solomon Islands
3) Shallow subduction zone to the west.



Full animation: https://youtu.be/GUIPv1vUvlc

Or download: www.iris.edu/hq/inclass/search#type=1

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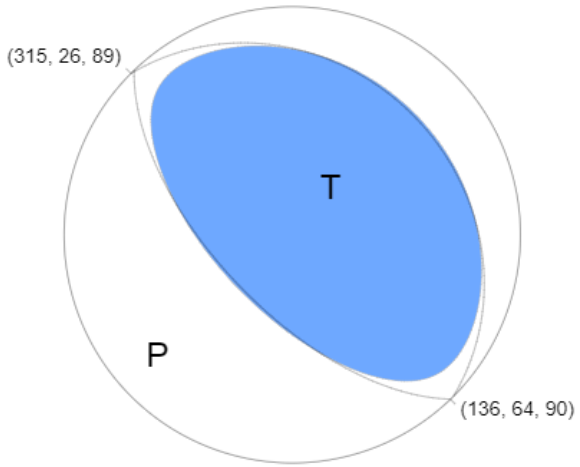
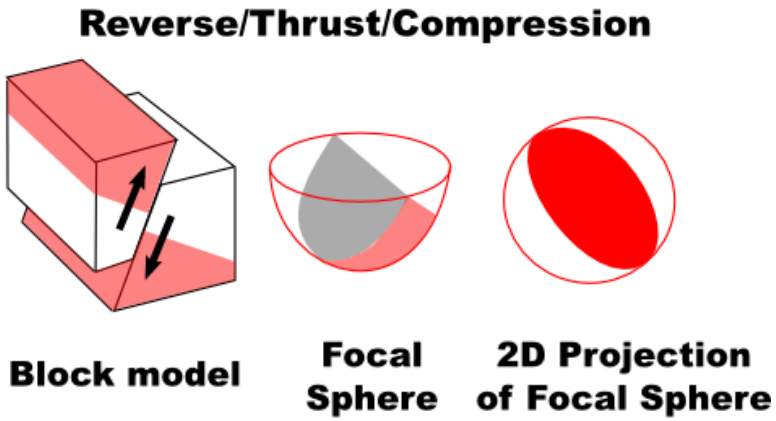
The focal mechanism is how seismologists plot the 3-D stress orientations of an earthquake. Because an earthquake occurs as slip on a fault, it generates primary (P) waves in quadrants where the first pulse is compressional (shaded) and quadrants where the first pulse is extensional (white). The orientation of these quadrants determined from recorded seismic waves identifies the type of fault that produced the earthquake.

The earthquake occurred as the result of thrust faulting on or near the plate boundary interface between the Australian and Pacific Plates.





USGS WPhase Centroid Moment Tensor Solution

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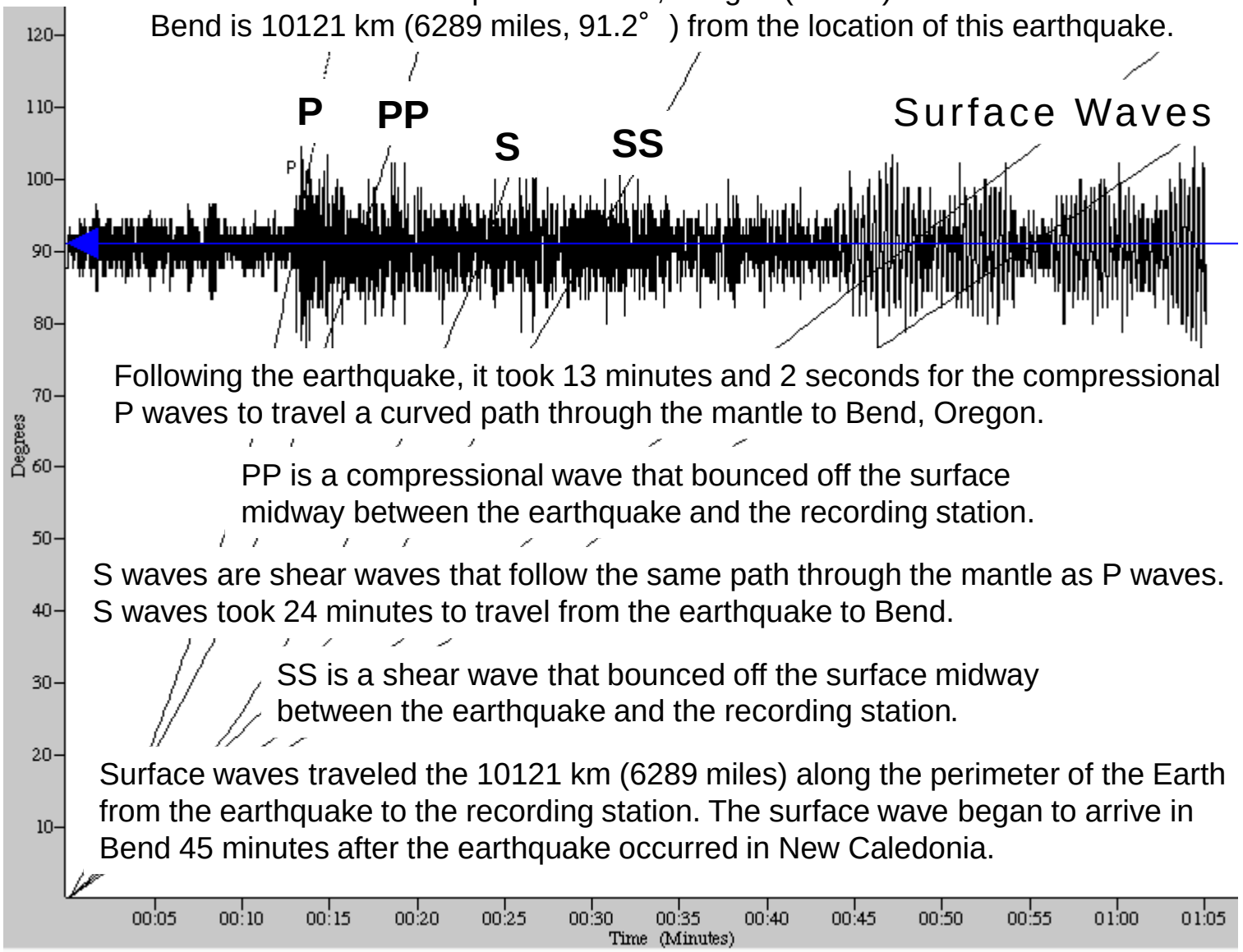
The record of the earthquake in Bend, Oregon (BNOR) is illustrated below. Bend is 10121 km (6289 miles, 91.2˚) from the location of this earthquake.



Following the earthquake, it took 13 minutes and 2 seconds 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 24 minutes to travel from the earthquake to Bend.

SS is a shear wave that bounced off the surface midway between the earthquake and the recording station.

Surface waves traveled the 10121 km (6289 miles) along the perimeter of the Earth from the earthquake to the recording station. The surface wave began to arrive in Bend 45 minutes after the earthquake occurred in New Caledonia.

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