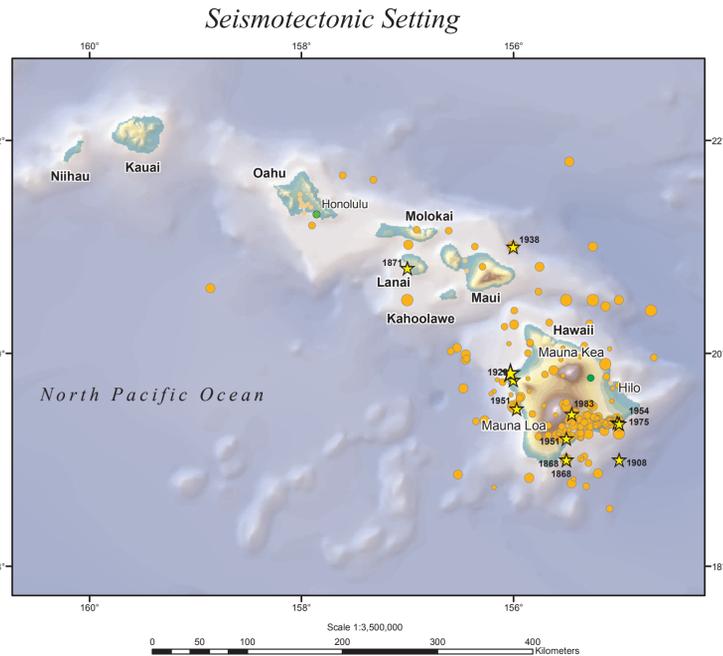


# M6.7 Hawaii Earthquake of 15 October 2006



Mainland, Hawaii Island, Pacific Ocean  
15 October 2006 17:17:49 UTC  
19.878° N, 155.935° W  
Depth 38.9 km  
Mw = 6.7 (USGS)

A strong earthquake occurred about 10 miles (15 km) north-northwest of Kailua Kona or 65 miles (100 km) west of Hilo, Hawaii at 11:07 AM MDT, Oct 15, 2006 (7:07 AM HST in Hawaii). The magnitude and location may be revised when additional data and further analysis results are available. No reports of damage or casualties have been received at this time; however, this earthquake may have caused damage due to its location and size.

#### EXPLANATION

- ★ 15 Oct 2006
- 2006 Earthquakes
- Earthquakes 1568 - 2005
- 3 - 3.99
- 4 - 4.99
- 5 - 5.99
- 6 - 6.49
- ★ M ≥ 6.5

#### Quaternary Faults AGE

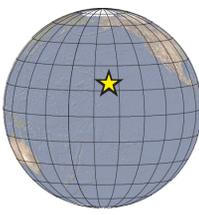
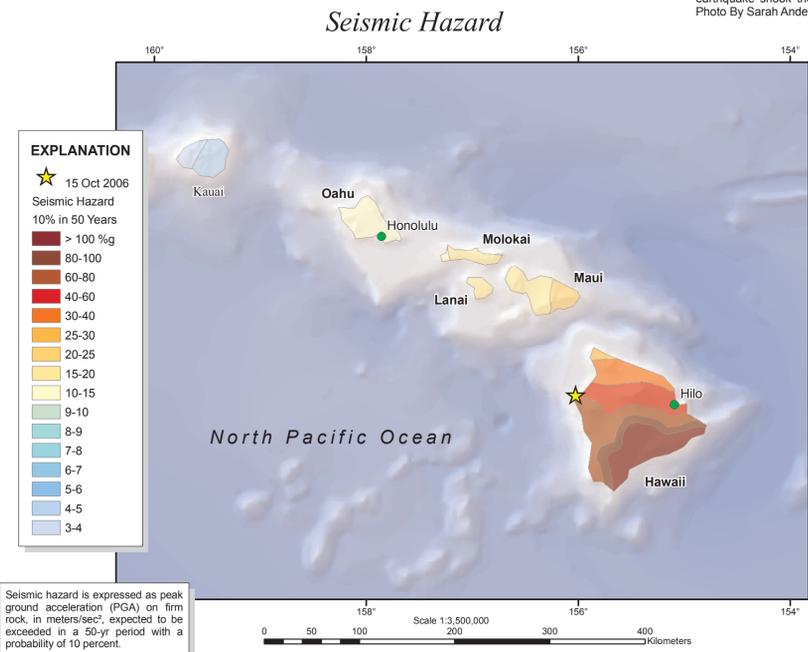
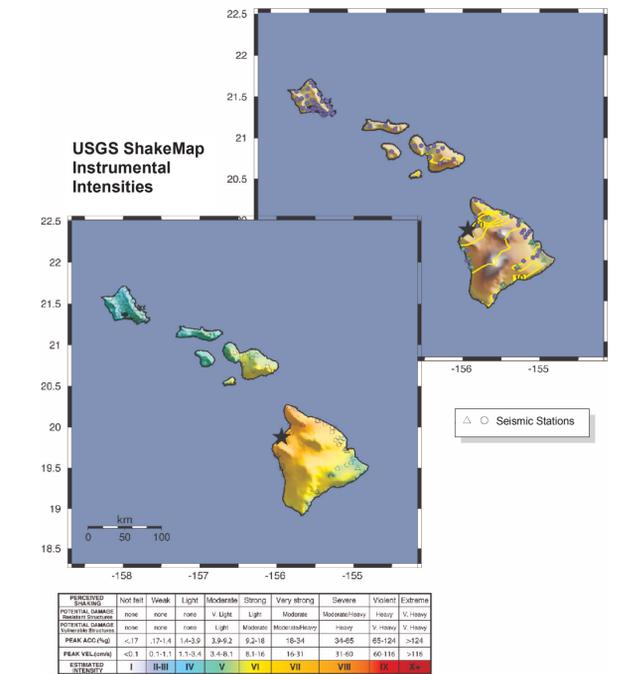
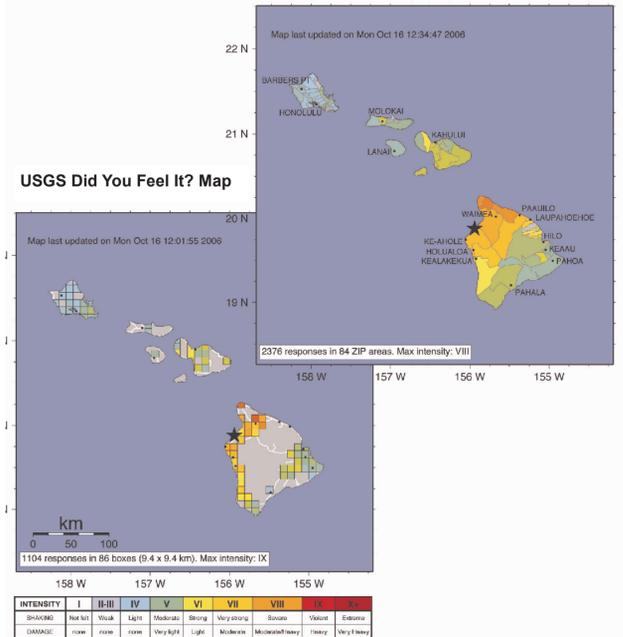
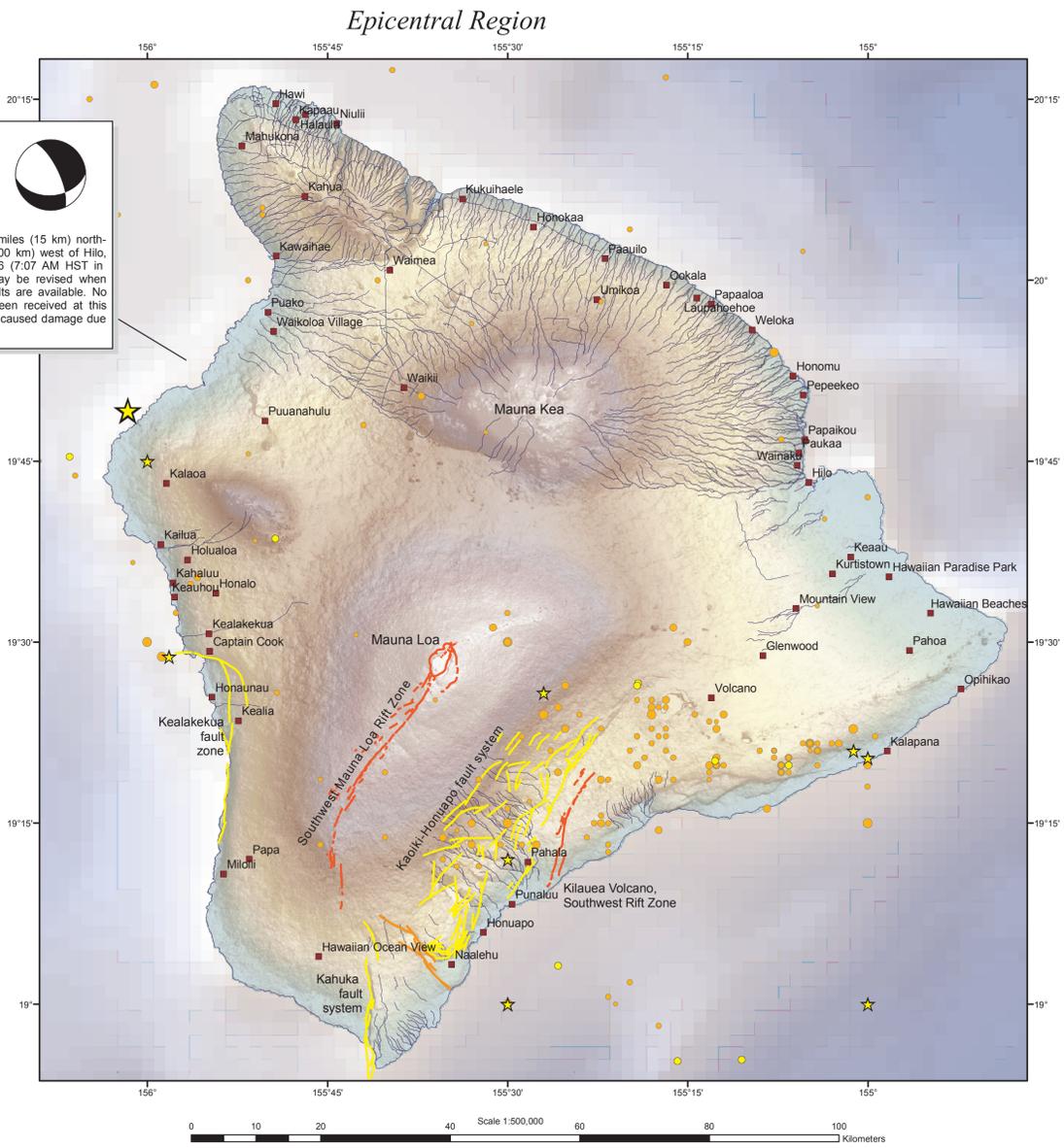
- <150 years
- <10,000
- <130,000

#### Significant Earthquakes Mag ≥ 6.5

Year	Mon	Day	Time	Lat	Long	Dep	Mag
1868	03	29	00:15	19.1	-155.5		7.0
1868	04	03	02:25	19.1	-155.5		7.9
1871	02	20	08:42	20.80	-157.00	15	7.0
1908	09	21	06:31	19.00	-155.00		6.8
1929	10	06	07:51	19.75	-156.00		6.5
1938	01	23	08:32	21.00	-156.00		6.8
1951	04	23	00:52	19.20	-155.50		6.5
1951	08	21	10:57	19.48	-155.97		6.9
1954	03	30	18:41	19.35	-155.02		9 6.5
1975	11	29	14:47	19.34	-155.00		9 7.4
1983	11	16	16:13	19.43	-155.45		11 6.7



Clouds of dust and debris rise from the base of the cliffs of Waip'o Valley shortly after a large earthquake shook the big island Sunday morning. Photo By Sarah Anderson, Hawaii Tribune-Herald



**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.

### DISCUSSION

The Island of Hawaii is the youngest island in a chain of volcanoes that stretches about 3500 miles across the northern Pacific Ocean. The island chain results from a magma source that originates deep beneath the crust. The ocean crust and lithosphere above the magma source, part of the Pacific plate, move to the northwest with respect to the deep magma source. Over millions of years, new island volcanoes are formed and older volcanoes are carried away from the magma source, erode, and eventually subside beneath sea level.

The 15 October earthquake is probably not directly related to future volcanic eruptions. Non-volcanic Hawaiian earthquakes reflect the long-term accumulation and release of lithospheric stresses, rather than short-term processes associated with the motion of magma before or during an eruption. The long-term stresses consist in part of stresses generated in the crust and mantle by the weight of the volcanic structures that compose the islands. In that sense, most Hawaiian earthquakes that are not directly associated with eruptions are nonetheless broadly related to volcanic activity.

Earthquakes on the volcanic Island of Hawaii are not rare. The largest on record was the magnitude 7.9 1868 earthquake which triggered a tsunami that drowned 46 people and spawned numerous landslides that resulted in 31 deaths. In the vicinity of the recent earthquake, a magnitude 6.9 tremor struck on August 21st 1951 that damaged scores of homes on the Kona coast and triggered numerous damaging landslides.

#### DATA SOURCES

**EARTHQUAKES AND SEISMIC HAZARD**  
USGS, National Earthquake Information Center  
NOAA, National Geophysical Data Center  
IASPEI, Centennial Catalog (1900 - 1999)  
Handbook of Seismology and Earthquake Engineering  
Global Seismic Hazard Assessment Program

**FAULTS**  
Machette, personal communication 2004

**BASE MAP**  
NIMA and ESRI, Digital Chart of the World  
USGS, EROS Data Center  
Hawaii State GIS Dept

Map prepared by U.S. Geological Survey  
National Earthquake Information Center  
2006  
Map not approved for release by Director USGS