

Haiti may face more major earthquakes

Dan Vergano, USA Today, 10-25-10

Haiti faces a risk of more major quakes, seismologists report, warning more seismic stress remains coiled in one of the island's major faults.

The Jan. 12, Magnitude 7.0 quake killed more than 200,000 Haitians and caused \$8 billion in damage. In the journal *Nature Geoscience*, a team led by Eric Calais of Purdue University finds that the tragedy occurred along a fault separate from one responsible for past major quakes. That means more large quakes may strike the island.

"The earthquake was initially thought to have ruptured the Enriquillo–Plantain Garden fault of the southern peninsula of Haiti," says the study, which used Global Positioning Satellite and radio interferometry measures to precisely map the quake. "We show that the earthquake instead ruptured an unmapped north-dipping fault, called the Léogâne fault," says the study. "As the Enriquillo–Plantain Garden fault did not release any significant accumulated elastic strain, it remains a significant seismic threat for Haiti and for Port-au-Prince in particular."

A second *Nature Geoscience* study led by Carol Prentice of the U.S. Geological Survey adds weight to the finding. In a look at Haitian streambeds displaced by the quake, the team used satellite images, aerial photos, LIDAR and field investigations to compare the 2010 event to past major quakes in the 1700's. They find the 2010 quake did not cause the kind of displacements on the surface as large past events:

The 12 January 2010 earthquake did not release any strain accumulated since the last earthquake on the Momance or Dumay sections, and may not have fully released accumulated shear strain on the Dufort, Goave or Miragoane sections either. These sections of the fault remain capable of generating an earthquake >Mw 7.0 (greater than Magnitude 7.0), and, in the case of the Momance and Dumay sections, which are closer to Port-au-Prince, potentially causing stronger ground shaking in the urban area than the 12 January event.