Bio for Jason “Jay” R. Patton

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Dr. Jason “Jay” R. Patton has been studying paleoearthquakes and paleotsunami (prehistoric earthquakes and tsunami) for almost 20 years. Patton cut his teeth at the Humboldt State University, Department of Geology where he earned an M.S. while studying sediment stratigraphic evidence for earthquakes and tsunamis, working with Dr. Harvey Kelsey. This sedimentary evidence was found in southern Humboldt Bay, near Hookton Slough, northern California, and is probably related to the Cascadia subduction zone and faults closely related to this megathrust. About 15 years ago, Patton started volunteering for the development of educational and outreach products regarding tsunami hazards in northern California. Patton developed a geospatial model for tsunamis in northern California as a collaboration with Dr. Lori Dengler. The first relative tsunami hazard map for northern California was created by Patton and was published in the Eureka Times Standard and Mckinleyville Press and is used by the Redwood Coast Tsunami Working Group at the Del Norte and Humboldt County fairs to help educate the public about tsunami hazards in northern CA. Patton also contributed to the development of the tsunami hazard models in Oregon, considered the gold standard for tsunami hazard modeling. Patton continues to volunteer and contribute to tsunami hazard mapping in California with the California Geological Survey.

Patton continued to study subduction zone tectonics by coring in the deep sea (up to 6.5 km deep) along the subduction zones offshore of Sumatra and Cascadia. For this research, submarine landslide deposits (called turbidites) are used as marine sedimentary evidence for subduction zone earthquakes (earthquakes generate strong shaking, causing submarine landslides). For his Ph.D. work with Dr. Chris Goldfinger at Oregon State University, he published evidence for paleoearthquakes spanning 6.6 thousand years in the region of the 2004 Sumatra-Andaman subduction zone earthquake that sadly resulted in the death of almost a quarter of a million people. Patton continues to apply this method at other subduction zones and recently completed leg 1 of an international research cruise offshore of the Lesser Antilles (Caribbean) where the North America plate subducts westward beneath the Caribbean plate. Patton placed reports from the cruise on a blog at http://humboldt-jay.blogspot.com.