

Oceanography– Research Priorities

1. How does dynamic rupture during the earthquake affect seafloor deformation? How does this seafloor deformation affect tsunami runup?
2. In order to do tsunami inversions, we need better distribution of offshore tsunameters, seafloor GPS, etc.
3. Use our new knowledge to revise probabilistic seismic hazard models
4. What is the impact of tsunami wave train on coastal damage? Why did so many coastal “defense structures” fail? How can we better design these structures? How do these structures operate during failure?



Japan and NZ Earthquakes RAPID and Research Needs Workshop
Arlington, VA Feb 9 and 10, 2012



Oceanography (2)

6. Better study deposits from previous tsunamis -- recalibrate geologic events in other regions (e.g., Cascadia). (Need enough information to understand along-shore variations)
7. Better understand co-seismic subsidence along the coastal zone
8. How do we take into account these massive events during construction of highways, evacuation routes, nuclear power plants, etc.?



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Oceanography (3)

9. Use radionuclide tracers to better understand ocean circulation in the Pacific; radioactive leaks continuing (as opposed to quake/tsunami that were relatively instantaneous); how does radioactivity accumulate in fish, etc.?
10. What is the impact of bottom roughness and sediment have on tsunami deposits?

