The Haiti Earthquake: Seismological Analysis Using R

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The catastrophic earthquake in Haiti on January 12, 2010 focused the world on geologic hazards in economically depressed regions of North America. In this presentation I will illustrate how R and several contributed packages can be used to quickly extract information on the distribution of earthquakes, provide graphical tools for visualization, and investigate wave propagation phenomena associated with this disaster. Contributed packages discussed here include **RSEIS**, for manipulation of seismic waveform data, **RFOC** for analysis of earthquake focal mechanisms, **GEOmap** for analysis of spatial data. Interactive parts of the analysis are supported by a simple GUI package, **RPMG**. The suite of programs is aimed at exploratory analysis that illuminates geologic/tectonic issues related to great earthquakes. Emphasis is put on graphical visualizations of complex data, from time series to spatial distributions of earthquake meta-data.