Mount Merapi is one of the most active volcanoes in the world, located 25-30 km north of densely populated area. Merapi volcano delivered its largest eruption in a century between 26 October and 4 November, requiring evacuation of more than 300,000 people. The intrusive magma erupted first on 26 October, and then eruptions occurred on 30 October, 3 November and the paroxysmal eruption on 5 November. These eruptions released large SO₂ and ash clouds, which affected local villages and international air traffic. Combined observations in real-time of phenomena associated with the main eruption and the response of a worldwide collaboration led by CVGHM, the MIAVITA European project and the USGS provided the basis for timely warnings and recommendations by CVGHM to local authorities, which saved tens of thousands of lives. Satellite data (TerraSAR, Radarsat, OMI, AIRS, Digital Globe and others), broadband and short-period seismic data, EDM, tilt and mini-DOAS data were discussed to understand the status of the volcano. Remote sensing data showed that the 2010 eruptions were much more explosive than those of the recent past and rates of extrusion much higher. Seismic data from a station 50 km south of Merapi showed in real time that the magnitude of the 4 November explosion was much larger than the 3 November explosion. This triggered the decision to extend the exclusion zone from 15 to 20 km. This multi-national cooperation proved to be of crucial importance for the successful crisis management, especially with such a large and rapidly evolving eruption.