In this study, we examined the change of the ground surface of Japanese active volcanoes Sakurajima and Kirishima, both locate in Kyushu Island. Recently Sakurajima volcano became more active and the quantity of ash falls by it is increasing year by year. High possibility of further disaster of debris flows triggered by rain is predicted in the near future. In addition to that, there was a magmatic eruption of Kirishima on January 2011, and the assessment of the situation is strongly required. Even though the volcano frequently erupts, spaceborne SAR system can overcome the problem of the navigational safety due to the high altitude observation, and also allow the monitoring with few disturbances of flying ashes from volcanos since it employs microwave, furthermore enables wide area monitoring. For this study, we employed C-band SAR data acquired by RADARSAT-2 for the examination of ground surface change due to the volcanic activity (ash fall, pyroclastic flow) and sediment-related disaster (debris flow). RADARSAT-2 images acquired with Spotlight mode (1m resolution) and Multi-look fine mode (8m resolution) were examined. By performing continuous monitoring, we could generate the change detection images by employing time series data. Change detection images have revealed the regional and local changes, especially around the craters and in the river. Since we have ground truth data obtained by the ash fall observation, GPS measurement, and the monitoring camera installed in the site by Japan Meteorological Agency, the relationships between the changes and the physical phenomena are addressed in this paper.