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Recent Progress of PASCO's SAR Application Studies

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Great disasters (1995 South Hyogo Prefecture Earthquake, Mid Niigata Prefecture Earthquake in 2004, 2008 Iwate-Miyagi Nairiku earthquake, and 2004 Indian Ocean Earthquake, etc.) have increased worldwide in the recent years and caused huge damages. In the basic plan for earthquake disaster prevention, the Central Disaster Prevention Council emphasizes the necessity of the research and development activities for minimizing the risk and scale of the damages at different stages of the countermeasures, e.g., beforehand, disaster emergency response, and disaster recovery.

Based on these backgrounds, PASCO CORPORATION started organizing TerraSAR-X Workshops about various application studies since 2005. Application studies were selected especially from a viewpoint of National Land Environment and Disaster Prevention. This was the basis since most of the committee members are specialists of disaster prevention field. We also discuss the technical development plans of handling SAR data such as Differential Interferometry, Polarimetric aspects etc., during the workshops. TerraSAR-X is one of the sophisticated modest high-resolution SAR satellite launched in 2006, and second series as TanDEM-X with the same specification of TerraSAR-X, was also launched in 2010. More than thirty thousand imageries of the data were acquired for the past five years, and are available as reference in case of disaster occurrence.

We have adopted 16 research subjects so far, in the past couple of years we were focusing on the earthquakes, volcanoes, wind-storm and flood monitoring but recently we have also started dealing with environmental monitoring and notification of snow and ice events. In our presentation, we summarize the outcomes of five subjects in the second series of Workshops held in 2010. In addition to these workshops, we also introduce the progress of our internal project of Himalayan Glacier Lake monitoring using TerraSAR-X data, and the future plans.

Reference:<http://www.pasco.co.jp/products/survey/satellite/terrasarx/sar-conf/>