

Investigating Cryospheric Evolution of the Victoria Land (ICE-VL), Antarctica

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The Polar Regions have been experiencing dramatic changes particularly including glacier retreating, ice thinning, declining in sea ice extent, and so on. Recent literatures illuminate that the melting rate of ice sheets and glaciers in the West Antarctic has accelerated, which may lead significant contributions to global sea level rise. The Jang Bogo Antarctic research station that is the Korea's first research center on the Antarctic continent, the second Korean over-wintering Antarctic station, has been built in Terra Nova Bay, Victoria Land, Antarctica, in March, 2014. It allows us to have unprecedented opportunity to continuously monitor the change of cryospheric environment in the region. In an attempt to understand the complex forms of interaction between the Solid Earth, the Oceans, the Atmosphere, and the Cryosphere, Korea Polar Research Institute has been operating integrated Cryosphere monitoring network over the Terra Nova Bay since December, 2010. The network is comprised of local broadband seismic stations, GPS stations, AMIGOS systems, Ocean Bottom Seismometers, and an Ocean Bottom Hydrophone. In addition to the observation, we perform satellite remote sensing and plan to conduct aerogeophysical surveys, oceanographic mooring, and AUV operation as well. In this workshop, we present the current status of our observational effort and its preliminary results.