

Toward Establishment of Regional Ocean and Climate Observing System (ROCOS) in the Indonesian Maritime Continent

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Abstract

The huge magnitude earthquake which caused tsunami Aceh 2004 was the hallmark for the Indonesian government to develop the so called 'Tsunami Early Warning System (TEWS)' in Indonesia. The program started in 2005 and BPPT came up with the idea to establish TEWS buoys along the southern coast of the Indonesian archipelago and put some in the internal seas such as the Flores and Banda Seas. There were several phases of development for the buoy construction but during the last 3 years BPPT sought other alternative technologies to monitor their ocean and atmosphere variabilities in order to mitigate ocean-atmosphere induced natural disaster, such as: tsunami, Indian Ocean Kelvin waves causing extreme high sea level along the southern coasts of Sumatra and Java, ocean climate extremes, etc. Cable based tsunameter experiments have been done in the waters south of Java since 2014 and also coastal acoustic tomography experiments to measure strong currents in the narrow strait helping a dangerous situation for local ferry transportation in the Bali strait and in the near future, in 2017, trying to monitor regional ocean phenomena of the Indonesian throughflow (ITF) transport variability in the Lombok strait. In this talk, we are going to present the history of these engineering works from the beginning until the latest developments that BPPT has done toward the establishment of regional ocean and climate systems (ROCOS) expected to be realized in the near future in part through the construction of the Maritime Continent Center of Excellence (MCCOE) on 13 November 2013. This was one of the ultimate goals of the SATREPS JST-JICA Program during 2010 – 2014 in Indonesia; another capacity building program that allowed us able to take advantage of buoy technology transfer from the Japan Agency for Marine-Earth Science and Technology (JAMSTEC).

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