

# SEA LEVEL RISE PHENOMENA MONITORING IN INDONESIA USING ALTIMETRY SATELLITE JASON 2

Khomsin<sup>1</sup> & Nur Rahman Haris Alfian<sup>2</sup>

<sup>1,2</sup>Geomatics Engineering Department – Institut Teknologi Sepuluh Nopember Surabaya  
Kampus ITS Sukolilo Surabaya 60111

<sup>1</sup>[khomsin@geodesy.its.ac.id](mailto:khomsin@geodesy.its.ac.id); <sup>2</sup>[nharisalfian@yahoo.com](mailto:nharisalfian@yahoo.com)

## ABSTRACT

Indonesia is one of the biggest maritime country in the world with the second longest coastline after Canada. Therefore, Indonesia has a lot of marine resources. But, in other sides, the position can be threatened for some cities such as Jakarta, Surabaya, Makasar, Medan, Balikpapan and other cities in coastal areas. This is caused by sea level rise phenomena. Based on Intergovernmental Panel on Climate Change (IPCC), on year 2001, sea level have raised 2.2 mm/year in the world (Ilk, etc, 2005)

To anticipate the problems, it is needed to study for knowing sea level change in Indonesia from time to time. Because of the largest area in Indonesia, conventional methods with in situ survey like tide observation are not effective and effisient. Therefore, to monitor sea level rise effectively and effisiently can use remote sensing technique with altimetry satellite data such as Jason-2.

In this research, the data which are used to observe sea level rise in some areas in Indonesian waters are the data from the Jason-2 altimetry satellite. Monitoring of sea level rise on the waters of Indonesia is conducted over a period of 4 years (2009-2012) by taking 20 points of observation. This research will expect to know the changes and trends of sea level rise during the period.

***Keyword : sea level rise, Jason-2, remote sensing, altimetry satellite***