

THE DEVELOPMENT OF DAM DEFORMATION MONITORING SYSTEM BASED ON INSAR

*Agustan Agustan*¹, Teguh Purnama Sidik², Ilham Alimuddin³, Edwin Alexander⁴*

¹ Indonesian Society for Remote Sensing (ISRS/MAPIN)

² Institut Teknologi Bandung

³ Universitas Hasanuddin

⁴ Ministry of Public Works and Housing

There are 215 dams in Indonesia that must be monitored for deformation. Continuous monitoring of dam deformation is one of the disaster risk mitigation efforts. One of the developing deformation monitoring techniques is based on remote sensing. This paper reports on efforts to develop a dam deformation monitoring system in Indonesia based on InSAR time series. The Bili-Bili Dam in South Sulawesi was used as a pilot project. Sentinel-1 data that available since 2014 was analyzed using the PS-InSAR method. The dam body provides strong and consistent backscatter energy clear interferometric points target. Preliminary results show the ability of the system can detect dam deformation in millimeter level and seasonal patterns are also clearly visible.

Keywords: dam monitoring, deformation, PS-InSAR, time series, sentinel-1