

EARTH OBSERVATION SYMPOSIUM (B1)  
International Cooperation in Earth Observation Missions (1)

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APPLICATIONS OF SATELLITE REMOTE SENSING AND GEOGRAPHIC INFORMATION  
SYSTEMS FOR SUPPORT OF MARITIME SECURITY IN THE TRI-BORDER AREA OF  
SOUTHEAST ASIA

**Abstract**

The tri-border area (TBA) of Southeast Asia is comprised of three states – the Philippines, Indonesia and Malaysia – and two main bodies of water – the Sulu Sea and the Celebes Sea. As a major route for commerce, navigation and settlement, the region is also highly contributory to transnational dissident, terrorist and criminal activity. With maritime transportation greatly contributing to the vital role of Asia in world trade, the monitoring of offshore and coastal vessel activity is imperative in protecting the natural environment and its resources and in enhancing regional and global maritime stability. The increased global coverage and reduced costs of space-based Earth observations, particularly synthetic aperture radar (SAR), combined with geographic information systems (GIS), continue to be of growing interest to the world's naval forces, port authorities, and numerous stakeholder agencies for increasing maritime domain awareness. The purpose of this study is to identify improved ways to utilize existing civil and commercial space assets and programs to support information sharing and operational cooperation on maritime monitoring across multiple sectors in the TBA. Assessments of the security challenges faced by the TBA with regards to the objectives, plans and operation of regional maritime agencies as well as satellite image interpretation and geospatial analysis of maritime activity are conducted. This study examines the debates and decisions that have shaped the activities of cooperative maritime operations in the TBA and the policy issues that must be addressed in order to determine the future goals, use, organization and advancement of space assets for integrated support of maritime security in the region.