



Specific Hazards:

Handbook on Geospatial Decision Support in
ASEAN Countries



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ONE ASEAN ONE RESPONSE

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This publication has been issued without formal editing.

Preface

This handbook forms part of a series of knowledge products developed in collaboration with Association of Southeast Asian Nations (ASEAN) institutions and ASEAN member countries. The series is designed to increase skills and promote institutional development for countries wishing to embrace innovative space-based information in disaster risk management. The products can be used as training manuals and reference guides, addressing the needs of both geospatial information providers and disaster decision makers.

This handbook explains the techniques, methodologies and best practices for using geospatial information in support of decision making for disaster risk management. The focus is on specific hazards. While space-based information can significantly enhance disaster emergency response and preparedness, maps may often look similar. The nature of different types of hazards requires a range of theme-specific information or data sets that may not be immediately apparent, or available in one single map or information product. This handbook thus addresses the needs of disaster managers and geospatial information providers who must remain aware of the decision-making considerations for different hazard contexts.

ESCAP, in collaboration with United Nations partners and the ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management, has developed this handbook in response to the expressed needs of ASEAN countries. ESCAP worked in close collaboration with analysts with extensive regional and international experience in the provision of earth observation data and information to countries in the aftermath of disasters. It is based on standard techniques and methodologies used to develop such geospatial information products, and has been developed together with ASEAN counterparts, keeping the institutional and operational needs of the region in mind. Through extensive consultations, the techniques and methodologies have been field tested during simulation exercises conducted in 2016.

It is our hope that this handbook and its innovative techniques, methodologies and best practices, will significantly contribute to strengthening the disaster risk resilience of countries in the ASEAN region.

Acknowledgements

Under the overall guidance of Tiziana Bonapace, Director, of the Information and Communications Technology and Disaster Risk Reduction Division (IDD) of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), development of the handbook was coordinated by Syed T. Ahmed, Space Applications Section (SAS), IDD, ESCAP, through extensive consultation with experts from space agencies and national disaster management authorities (NDMAs) of the Association of Southeast Asian Nations (ASEAN) member countries. Initial background research was provided by an ESCAP consultant, Syams Nashrullah, while Valentina Spanu, also an ESCAP consultant, reviewed and finalized the handbook, working on the specific case studies for natural hazards and providing technical edits.

Substantive contributions and comments were received from Kaveh Zahedi, Deputy Executive Secretary for Sustainable Development, ESCAP, Keran Wang, former Chief of SAS, IDD; Werner Balogh, Chief, a.i., of SAS, IDD, and Khaled Mashfiq, Regional Liaison Officer, United Nations Institute for Training and Research (UNITAR) Operational Satellite Applications Programme (UNOSAT).

Further technical inputs were received from the GeoInformatics Centre of the Asian Institute of Technology (AIT), as well as space agencies and NDMAs from the ASEAN region for the relevant case studies and decision-making considerations that they normally encounter. The handbook has been cross-referenced with the Emergency Mapping Guidelines produced by the International Working Group on Satellite-based Emergency Mapping (IWG-SEM) and its specific section on floods.

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