

Addressing Climate and El Niño-related Risks in Southeast Asia (ACER-SEA)

February 2024 to July 2025



Schweizerische Eidgenossenschaft
Confédération suisse
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Swiss Agency for Development
and Cooperation SDC

Context

In Southeast Asia, geospatial data is commonly used to improve disaster risk management (DRM), climate change adaptation (CCA) and development practices. However, the successful integration and application of spatial data is often impeded by technical, institutional and financial challenges.

With the ever-increasing amount of spatial data available on the internet and accessible through web-applications, computer-software and mobile apps, it is becoming increasingly important to assess the validity and utility of such data for operational and field purposes.

Expected Outcomes

The project aims at empowering subnational decision-making processes and strategies for DRR and CCA in Southeast Asia through the use of geospatial data based on Earth Observation and Artificial Intelligence. This will be achieved by better understanding data availability and priority needs among key beneficiaries, and by utilising geospatial data and advanced modelling to generate actionable insights that focus on capacity building among beneficiaries.

The project aims to foster the effective use of geospatial data, drive risk-informed initiatives, strengthen regional cooperation and enhance disaster and climate resilience at subnational level. The project will involve local governments, disaster risk monitors, key decision-makers and SDC project implementers in Lao PDR and Indonesia and have wider implications for the Lower Mekong and Southeast Asian regions.

Budget

CHF 310'000

Duration

February 2024 to July 2025

Locations

Laos and Indonesia

SDC's focal points

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SDC partners with ADPC and Geoneon to use innovative technologies (Earth Observation and Artificial Intelligence) for risk-informed and climate-smart actions in Southeast Asia Satellite - © Sentinel 2 - esa.int

Through an innovative partnership with the Asian Disaster Preparedness Center (ADPC) and Geoneon, SDC supports the creation of high-quality geospatial data products to advance risk-informed and climate-smart decision-making in development cooperation and disaster management in priority subnational areas in Laos and Indonesia, contributing to and complementing efforts under the SERVIR Southeast Asia project co-created between USAID, NASA, and ADPC.

Outputs

Output 1: Delivering tailored geospatial products with operational value for subnational authorities, encompassing GIS-files, detailed maps and comprehensive disaster and climate risk analyses

Following consultations with experts, stakeholders, and beneficiaries, this project aims to create customized geospatial knowledge products, including GIS file formats, data layers, digital project files, and map layouts, along with imagery. These products will have practical value for subnational authorities and field implementers. Before implementation, the geospatial products must undergo field testing and ground validation to ensure their effectiveness in prioritizing scarce resources, designing targeted intervention strategies, and scaling up risk-informed and climate-smart solutions. High-quality operational geospatial data is essential for understanding how, where, and when climate and disaster risks manifest in specific locations.

Output 2: Provide strategic recommendations for the integration of GIS and remote sensing into field-based development cooperation, as well as disaster risk and climate initiatives.

Stakeholder consultations and field-based exchanges with development practitioners and disaster authorities will be conducted to generate insights into the barriers and potential applications of geospatial data in subnational decision-making processes. These consultations will be structured to ensure that the resulting knowledge products are tailored to the needs of end-users. Recommendations will be designed to be relevant for local stakeholders, aiming to integrate GIS, remote sensing, and AI into field-based development cooperation approaches, as well as DRR and CCA initiatives.

Output 3: Organize interactive workshops for subnational authorities and beneficiaries in Lao PDR and Indonesia, designed to foster dialogue, build capacity, and engage stakeholders.

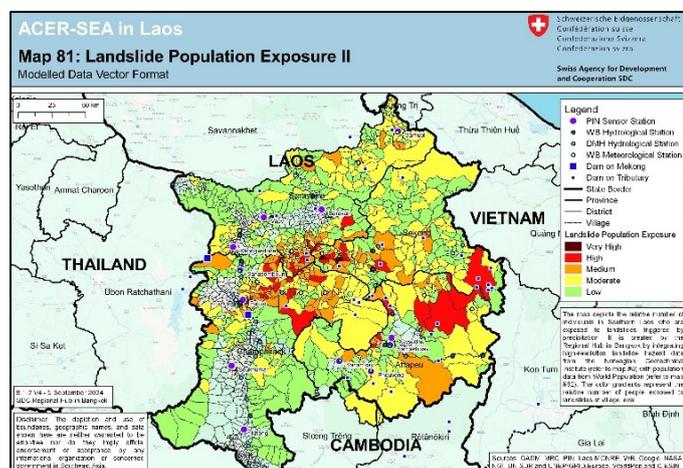
The project will conduct a series of local-level workshops for authorities, stakeholders and beneficiaries. The goal of these workshops is to share expert knowledge on the generated geospatial products, obtain feedback and to create synergies among involved stakeholders for practical follow-up.

Output 4: Arrange a regional workshop in Bangkok centered on the use of geospatial technology and GIS for subnational risk assessments and development purposes.

To ensure visibility and uptake of the innovative work, a regional workshop with multiple stakeholders will be organized in Bangkok. A variety of organizations from the network of ADPC and SDC, including concerned ministries, MRC and ASEAN, will have the opportunity to learn and exchange on the insights generated through this project.

Output 5: Develop operational subnational guidelines outlining recommendations for incorporating geospatial data into disaster and climate risk assessments in the region.

A series of recommendations and guidelines for different target groups and will be created. Thereby, it will be ensured that they align with and complement existing risk assessment methodologies, fostering their acceptance and utility in integrating geospatial data into local decision-making processes and practices.



Example of a landslide population exposure map created by the SDC Regional Thematic Hub in Bangkok to support the project

Project partners

ADPC

The Asian Disaster Preparedness Center (ADPC) is an autonomous international organisation established for scientific, educational, developmental, and humanitarian purposes with a vision of safer communities and sustainable development through DRR and climate resilience in Asia and the Pacific.



Geoneon

Geoneon is a technology firm based in Hobart, Australia, that leverages advanced Artificial intelligence (AI), Earth Observation and Data Fusion to map climate risk and monitor vegetation.



Locations

Through ACER-SEA’s innovative approach, this project aims to create in-depth insights regarding two pilot regions.



Map with the focus regions for the ACER-SEA project in Southern Laos and West Sumatra, Indonesia

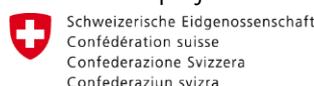
In Laos, the project focuses on the four Southern provinces. In this region, SDC is financing multiple projects including one on dam safety and another one on early warning systems.

In Indonesia, this project focuses on the West Sumatra province. This province is the focus area for several DRM activities implemented by the SDC’s direct action project in collaboration with Badan Nasional Penanggulangan Bencana (BNPB), the National Disaster Management Authorities of Indonesia.

In both target regions, the project aims at increasing the availability, accessibility and utility of reliable high-resolution flood, landslide, climate, exposure and vulnerability data, which could contribute to data-driven DRR and CCA, science-based EWS, anticipatory action and forecast-based financing. This includes building local capacities to interpret and use geospatial data for informed decision-making, while leveraging support from national and regional DRM and forecasting agencies, including the AHA Centre and MRC.

Further information

Link for SDC-project database, [here](#) or:



Link for SERVIR SEA-website, [here](#) or:

