

Preliminary Flood Mapping using Remote Sensing Data for the 2025 Southeast Asia Floods

リモートセンシングデータを用いた 洪水マッピング

Sesar P. D. Sriyanto, Dedy Zulkharnain Purnamaadi,
ZhongYuan Yang, Chia Yee Ho, Erick Mas, Wei Yuan,
Bruno Adriano, and Shunichi Koshimura

Disaster Geo-informatics Laboratory
International Research Institute of Disaster Science, Tohoku University



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Acknowledgements

Satellite Data



<https://global.jaxa.jp/>



<https://dataspace.copernicus.eu/>

International Cooperation Project



<https://global.jaxa.jp/>


Flood Extent Mapping Methods

The method is based on pixel-based image analysis of Synthetic Aperture Radar (SAR) data, such as Sentinel-1 and PALSAR-2.

Feature Paper

Article

8 February 2020



A Semiautomatic Pixel-Object Method for Detecting Landslides Using Multitemporal ALOS-2 Intensity Images

Bruno Adriano^{1,*}, Naoto Yokoya¹, Hiroyuki Miura², Masashi Matsuoka³ and Shunichi Koshimura⁴

¹ Geoinformatics Unit, RIKEN Center for Advanced Intelligence Project, Tokyo 103-0027, Japan
² Graduate School of Engineering, Hiroshima University, Higashi-Hiroshima 739-8527, Japan
³ Department of Architecture and Building Engineering, Tokyo Institute of Technology, Yokohama 226-8502, Japan
⁴ International Research Institute of Disaster Science, Tohoku University, Aoba-Ku, Sendai 980-8752, Japan

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Remote Sens. **2020**, *12*(3), 561; <https://doi.org/10.3390/rs12030561>

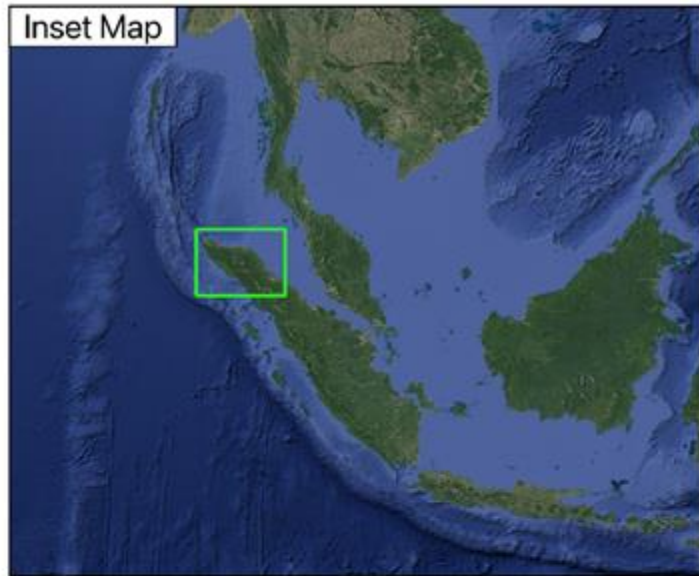
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<https://doi.org/10.3390/rs12030561>

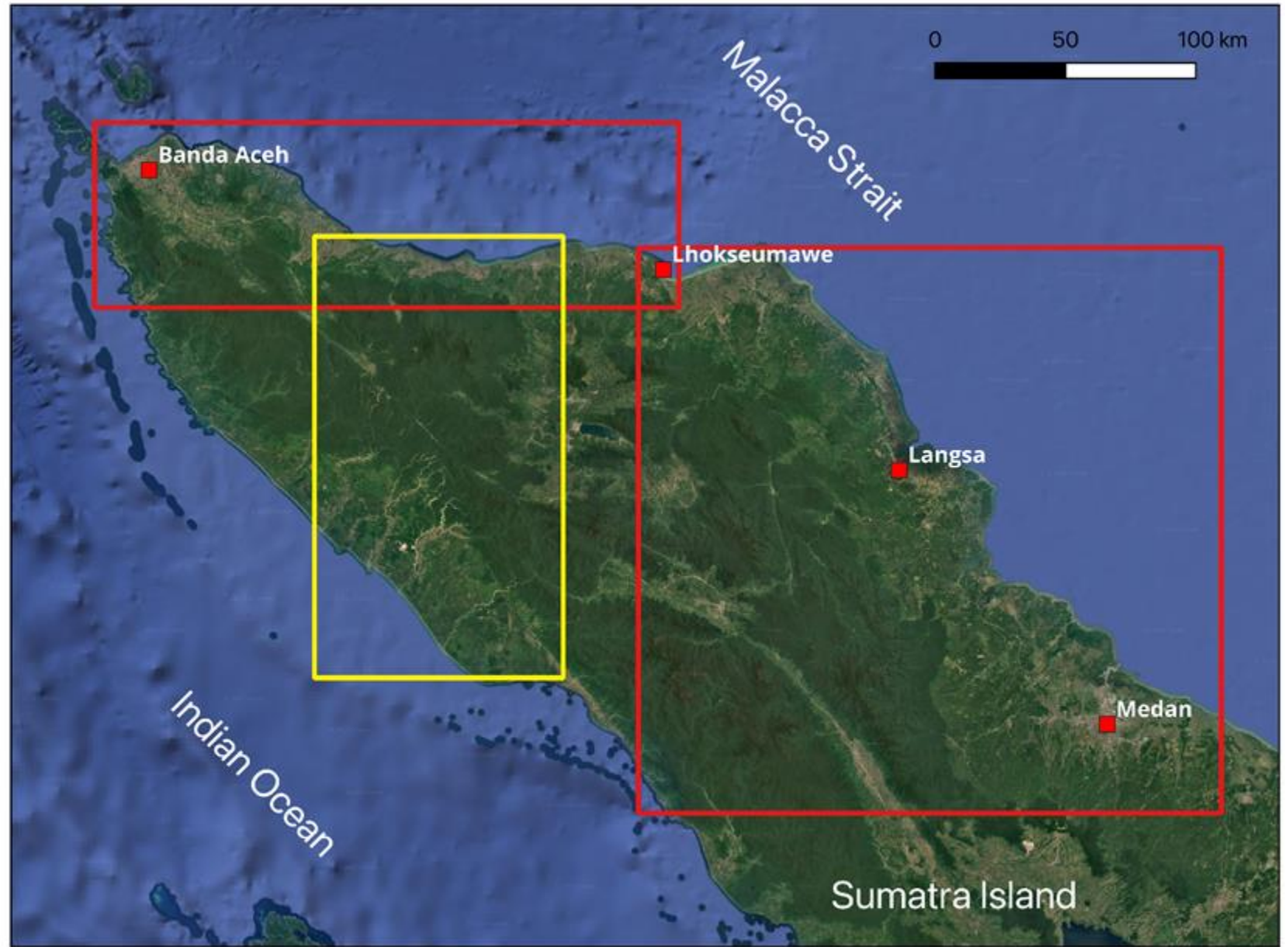
List of Data

Sensor	Pre-event	Post-event	Region	Source
Sentinel-1	Oct. 22, 2025	Nov. 27, 2025	Aceh	Copernicus EU
Sentinel-1	Oct. 23, 2025	Nov. 28, 2025	North Sumatra	Copernicus EU
PALSAR-2	Apr. 12, 2022	Dec. 02, 2025	Aceh	SentinelAsia
PALSAR-2	Apr. 12, 2022	Dec. 02, 2025	Aceh	SentinelAsia
PALSAR-2	Apr. 12, 2022	Dec. 02, 2025	Aceh	SentinelAsia

Satellite Data Acquisition






- Cities
- Coverage Region
- PALSAR-2 Satellite
- Sentinel-1 Satellite



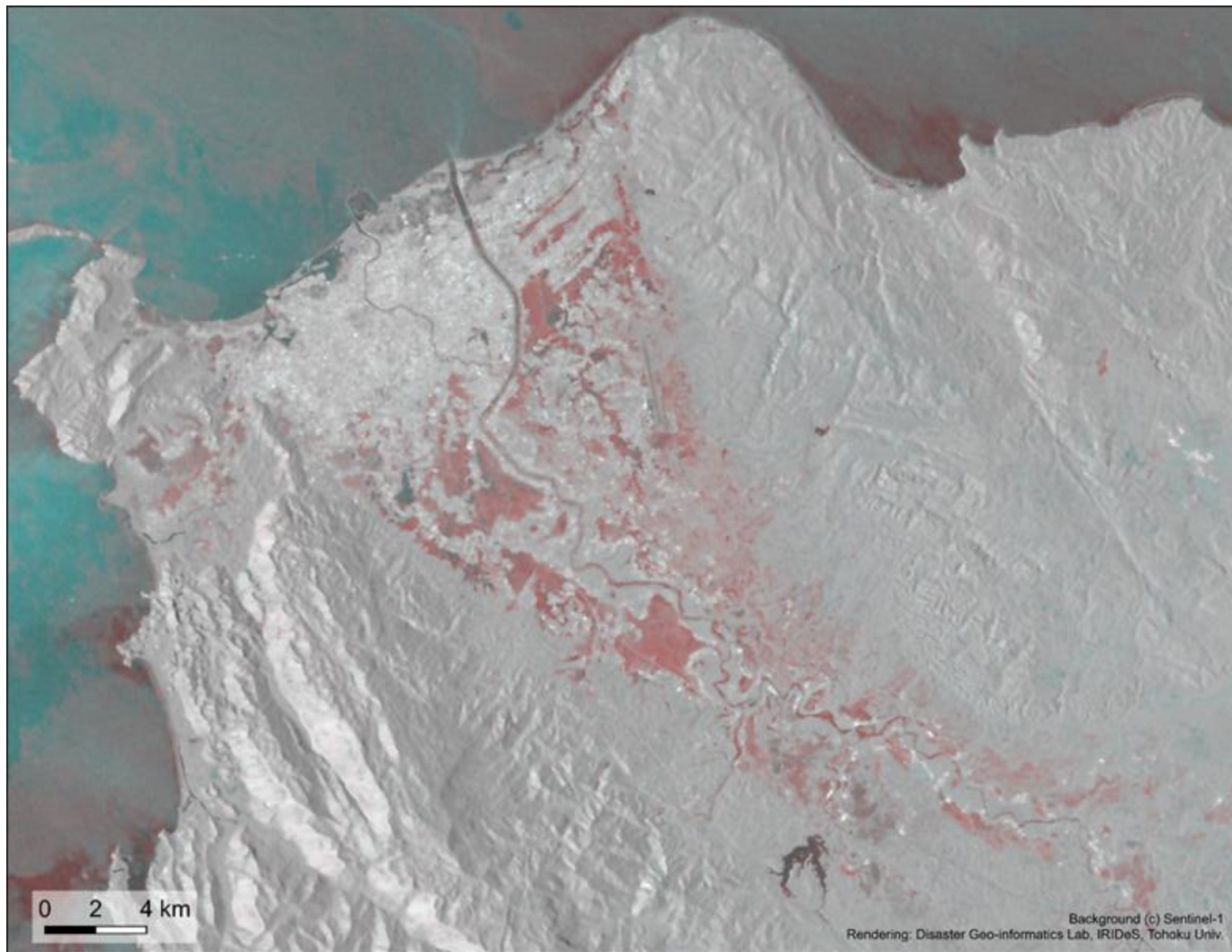
SAR Data Image Analysis

Color Composite Image (Sentinel-1)

-  Pre-event (Oct. 22, 2025)
-  Post-event (Nov. 27, 2025)
-  Post-event (Nov. 27, 2025)

Areas marked in red indicate a decrease in SAR intensity after the event, which are often linked to flooded regions.

Our method automatically identifies the red areas through pixel-based image analysis.



Web Mapping (<https://arcg.is/0CiPCK1>)

Flood Extent Map in Banda Aceh

 Flooded areas



Example of flooded area mapping
results using Sentinel-1 data in
Banda Aceh.

The results indicate widespread
flooding in the southeastern part of
the city through November 27 (post-
event Sentinel-1 data).

