

10th Joint Project Team Meeting (JPTM2025)

Rapid Flood Mapping for Flood Response, Lessons from the 2024 Floods in Bangladesh and Nepal

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The 2024 Flood Events in South Asia: Kathmandu Valley

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Nepal

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More than 200 dead in Nepal floods, as parts of Kathmandu left under water



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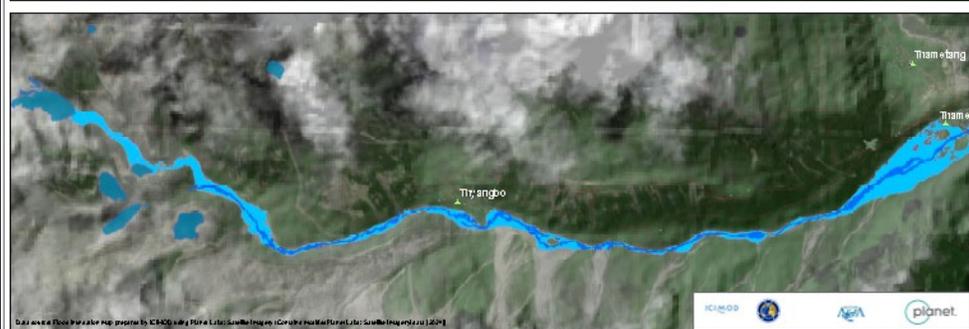
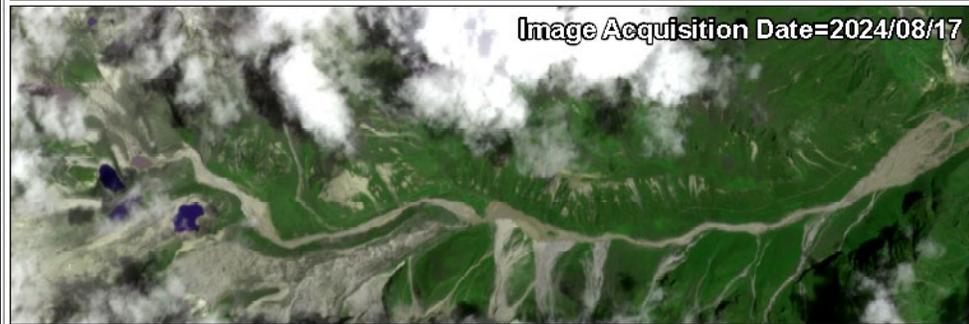
The 2024 Flood Events in South Asia: Kathmandu Flood



The 2024 Flood Events in South Asia: Bangladesh Floods



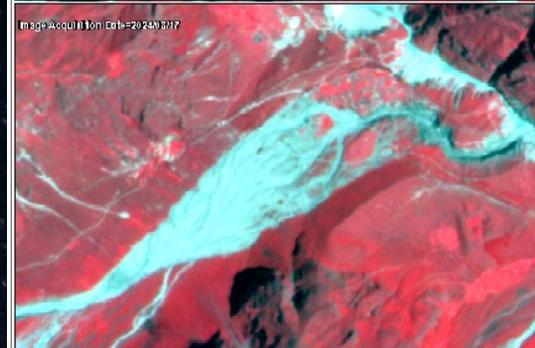
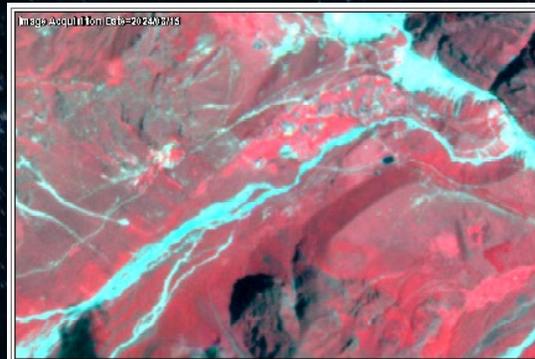
Why Rapid Flood Mapping Matters: Thame Flood Case



Legend

Normal river flow	Other building	Glacial lake
Flood inundated area	Flood affected building	Trail

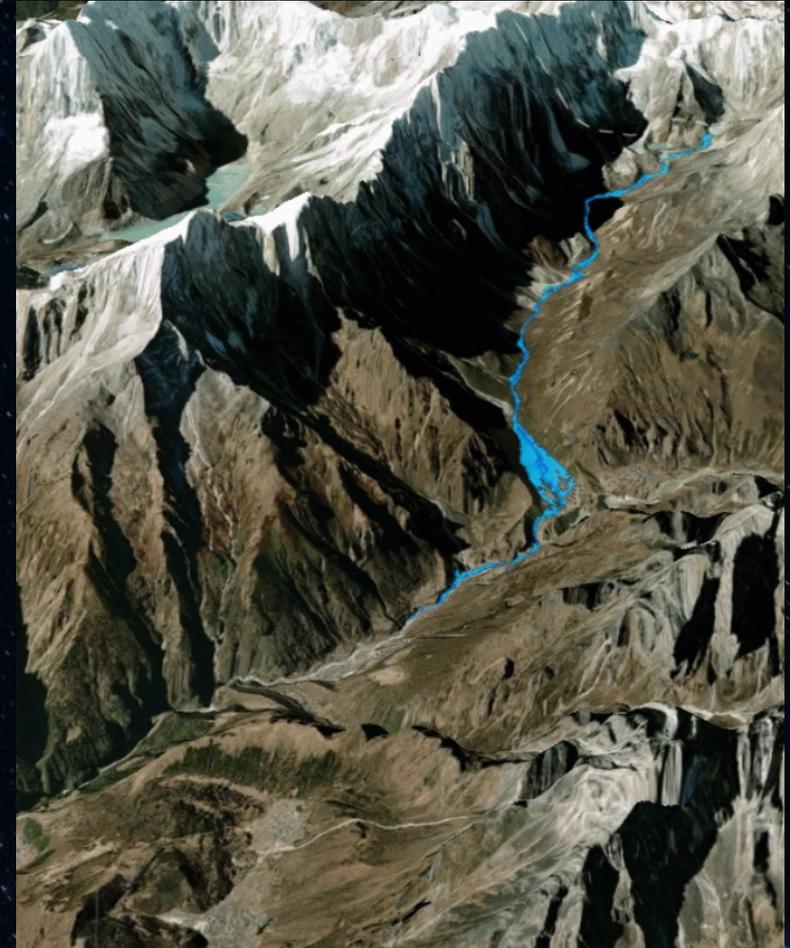
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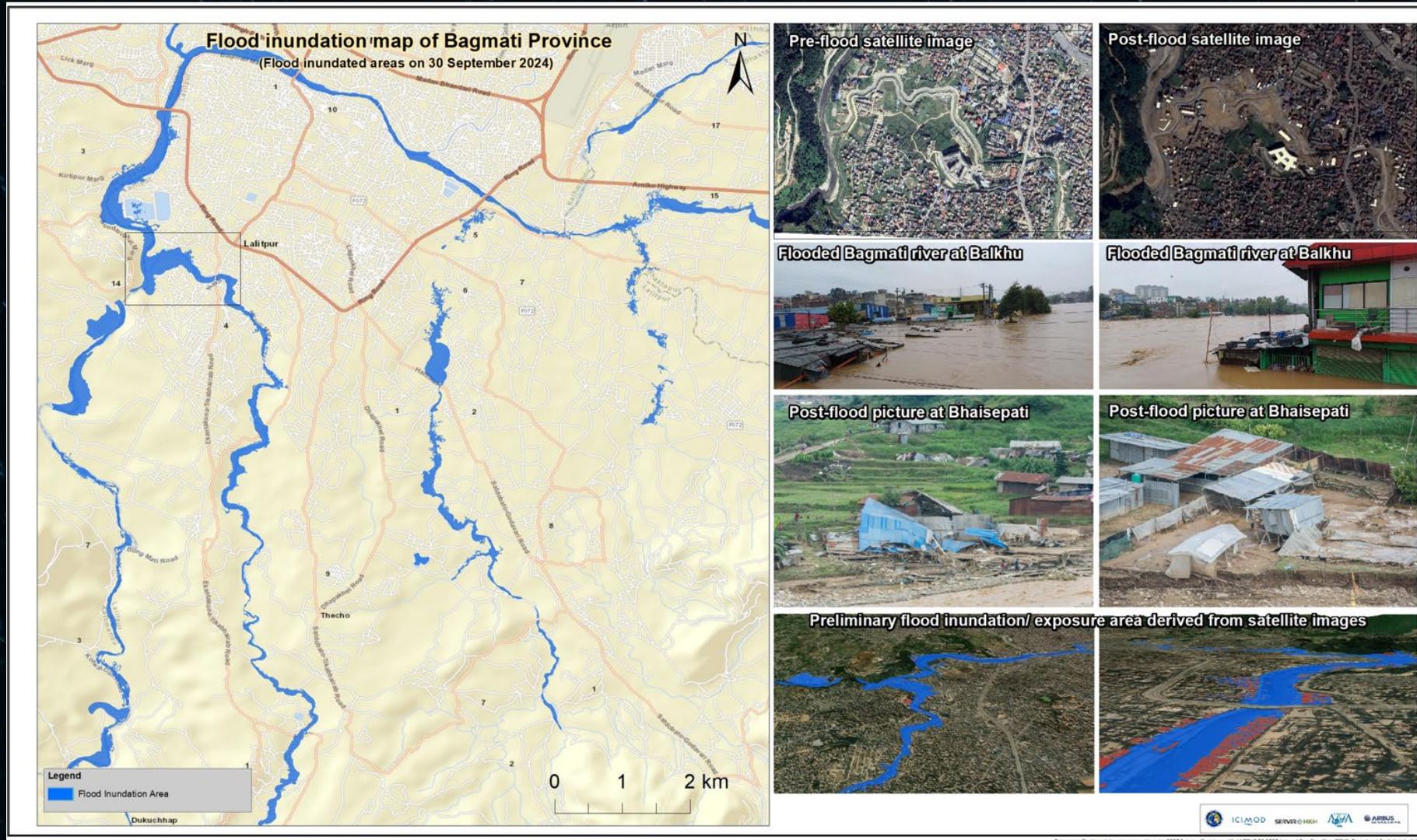
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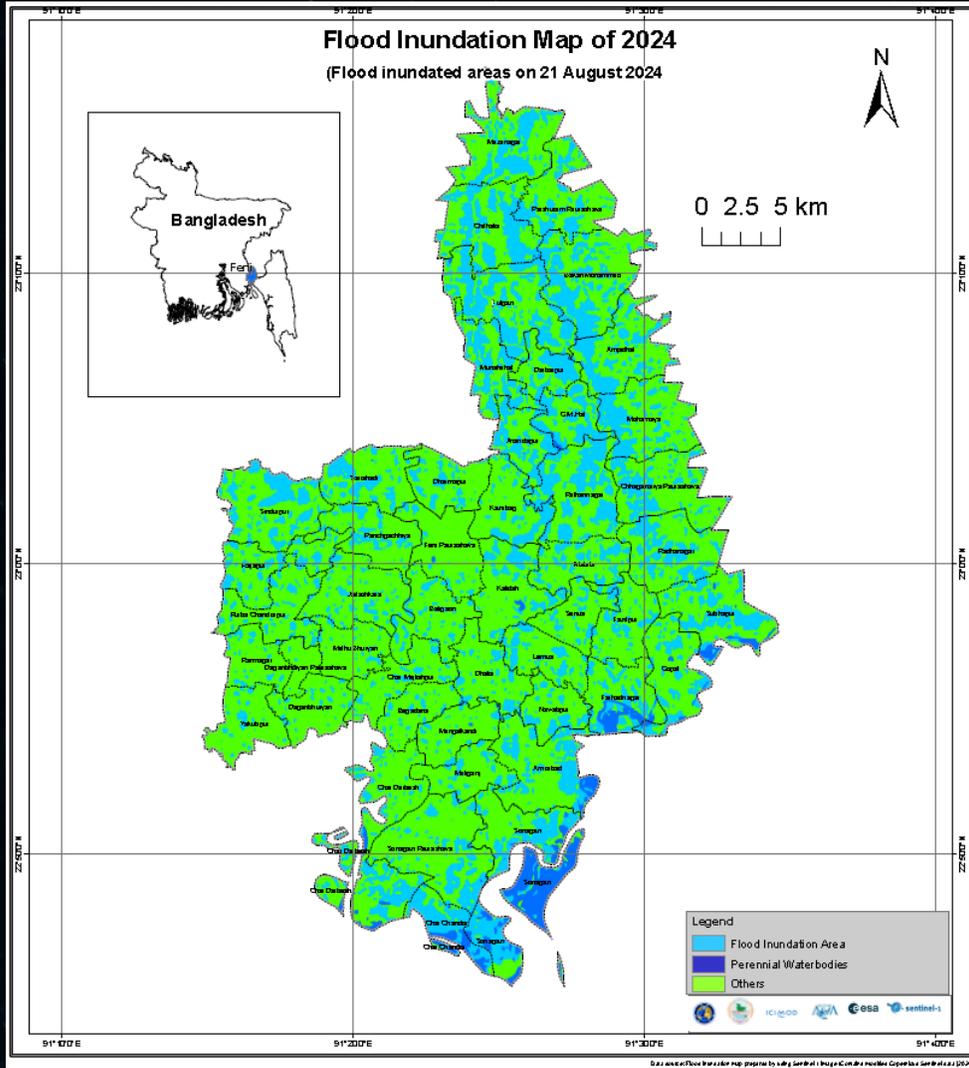
Why Rapid Flood Mapping Matters: Kathmandu Urban Flood Case



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Rapid Flood Inundation Mapping for Effective Management: A Machine Learning and Pixel-Based Classification Approach in Feni District, Bangladesh

Kabir Uddin, Sazzad Hossain, Birendra Bajracharya, Bayes Ahmed, Md. Khairul Islam

First published: 15 June 2025 | <https://doi.org/10.1111/jfr3.70087> | VIEW METRICS

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ABSTRACT

In Bangladesh, where floods frequently occur, there is a severe annual risk to community displacement, agriculture, fisheries, livestock, public health, and food security. Extreme flooding events are becoming more common due to a combination of human induced

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Operational Challenges in Rapid Flood

Mapping Timing, data availability, and validation constraints



Satellite data is critical for rapid emergency response. Strong inter-agency coordination improves the usability of mapping outputs. Institutional commitment and timely activation are essential.

Floods in Nepal are often short in duration.

In the 2024 event, severe flooding began on 26 September, but by 29 September river conditions had largely normalized. Without satellite imagery acquired during peak flood days, accurate inundation mapping remains challenging.



EXTREME TEMPORAL CONSTRAINTS

Nepal floods are often short; severe conditions can normalize in just three days.



Thank you

