

97.93

98.13

98.33

98.53



## Respon Tanggap Darurat Bencana Berbasis Data Satelit Space-based Disaster Emergency Response

### BANJIR

Tapanuli Tengah,Humbang  
Hasundutan,Pakpak Bharat  
Provinsi Sumatera Utara, Indonesia

### Flood

Tapanuli Tengah, Humbang Hasundutan, Pakpak Bharat  
North Sumatra Province, Indonesia



5 km

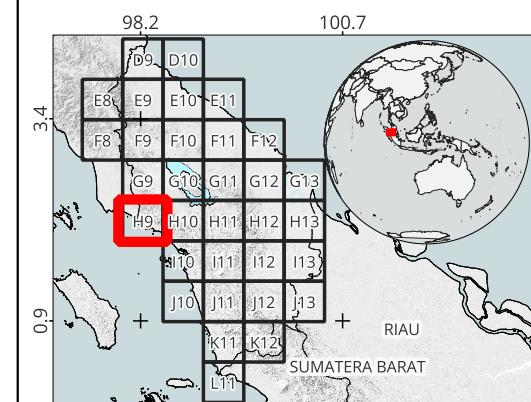
1:200,000  
Map scale for A3  
CRS: WGS84 (EPSG:4326)

### Legenda:

- |  |                                |  |                       |
|--|--------------------------------|--|-----------------------|
|  | Batas kabupaten                |  | Jaringan jalan primer |
|  | Danau                          |  | Jaringan jalan        |
|  | Estimasi area terdampak banjir |  | Road                  |

### Sumber Data: Data source:

1. Batas administrasi dari Badan Informasi Geospasial  
*Administrative boundary courtesy of Geospatial Information Agency (BIG)*
2. Jaringan jalan dan nama tempat dari Open Street Map  
*Road networks and nameplace courtesy of the Open Street Map (OSM)*



Deskripsi:  
Estimasi genangan banjir dilakukan dengan menganalisis perubahan nilai backscatter ( $\Delta$ dB) pada citra SAR Sentinel-1 sebelum (22 November 2025) dan sesudah kejadian (28 November 2025). Penurunan backscatter yang melampaui ambang batas yang ditetapkan, diidentifikasi sebagai genangan banjir. Hasil estimasi masih memerlukan validasi lapangan.

Description:  
Flood inundation was estimated by analyzing changes in backscatter ( $\Delta$ dB) in Sentinel-1 SAR imagery acquired before (22nd November 2025) and after the event (28th November 2025). A decrease in backscatter exceeding the predefined threshold was classified as flooded area. Estimated flood still needed to be verified further.

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