


8 December 2022




PRELIMINARY SATELLITE-DERIVED DAMAGE ASSESSMENT



Mount Semeru, 4th December 2022 Volcanic eruption,
East Java province, Indonesia

 Status: Pyroclastic flows and potential affected settlements
observed along the southeastern flank

 Further action(s): Continue monitoring

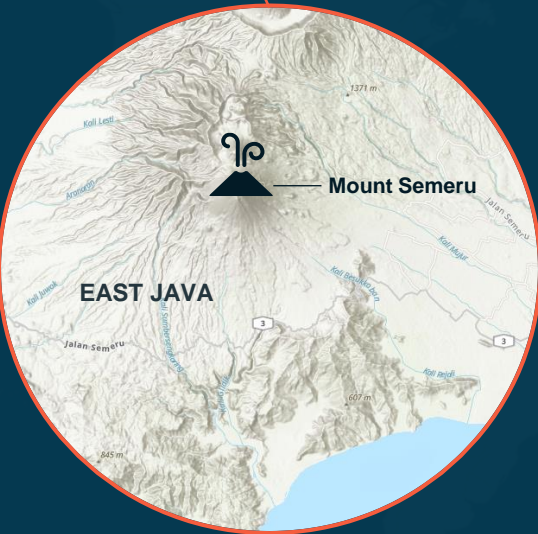


INDONESIA

INDONESIA





EAST JAVA



EAST JAVA

Mount Semeru

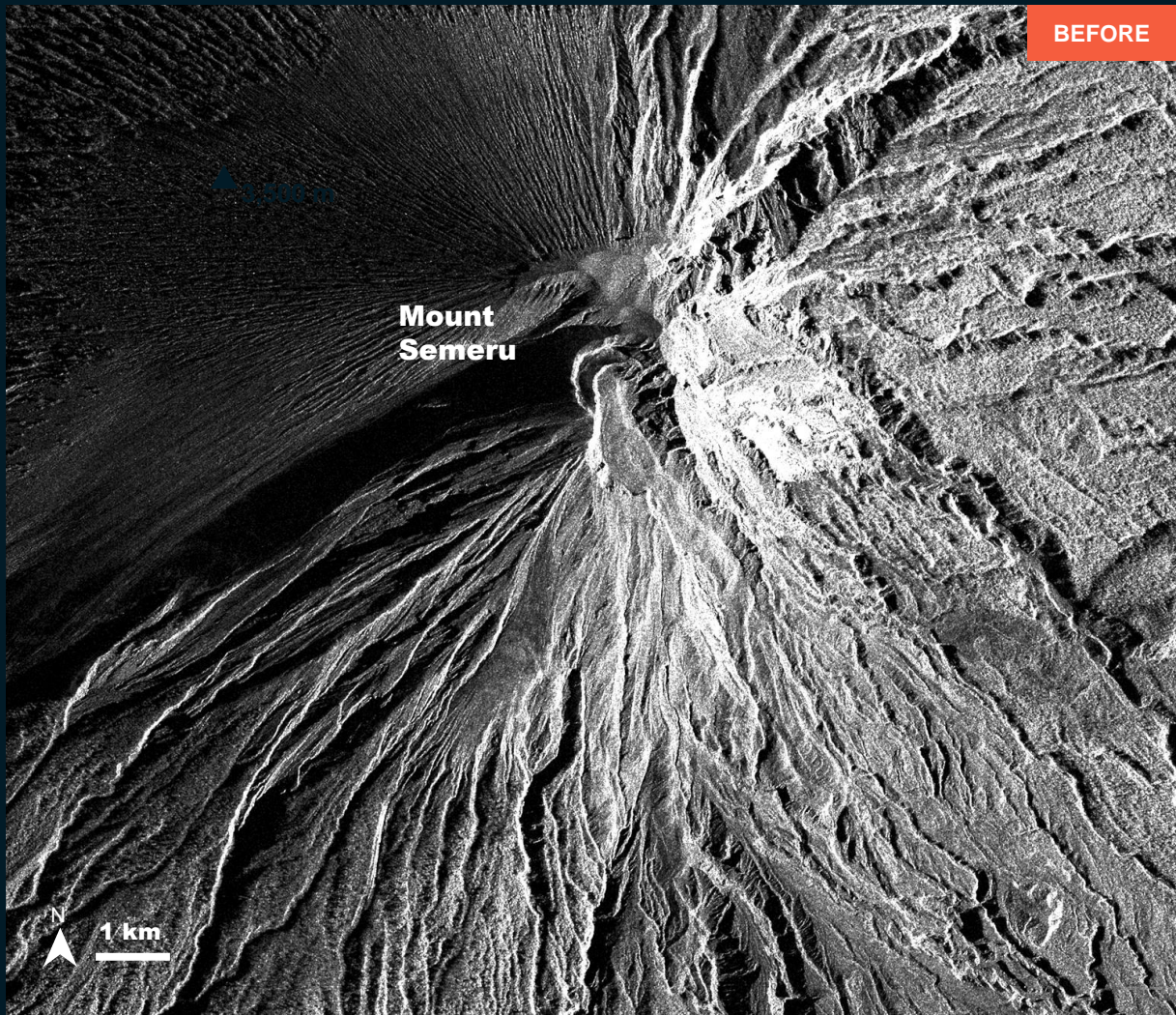
-  AREA OF INTEREST
-  PROVINCE

MOUNT SEMERU, EAST JAVA PROVINCE

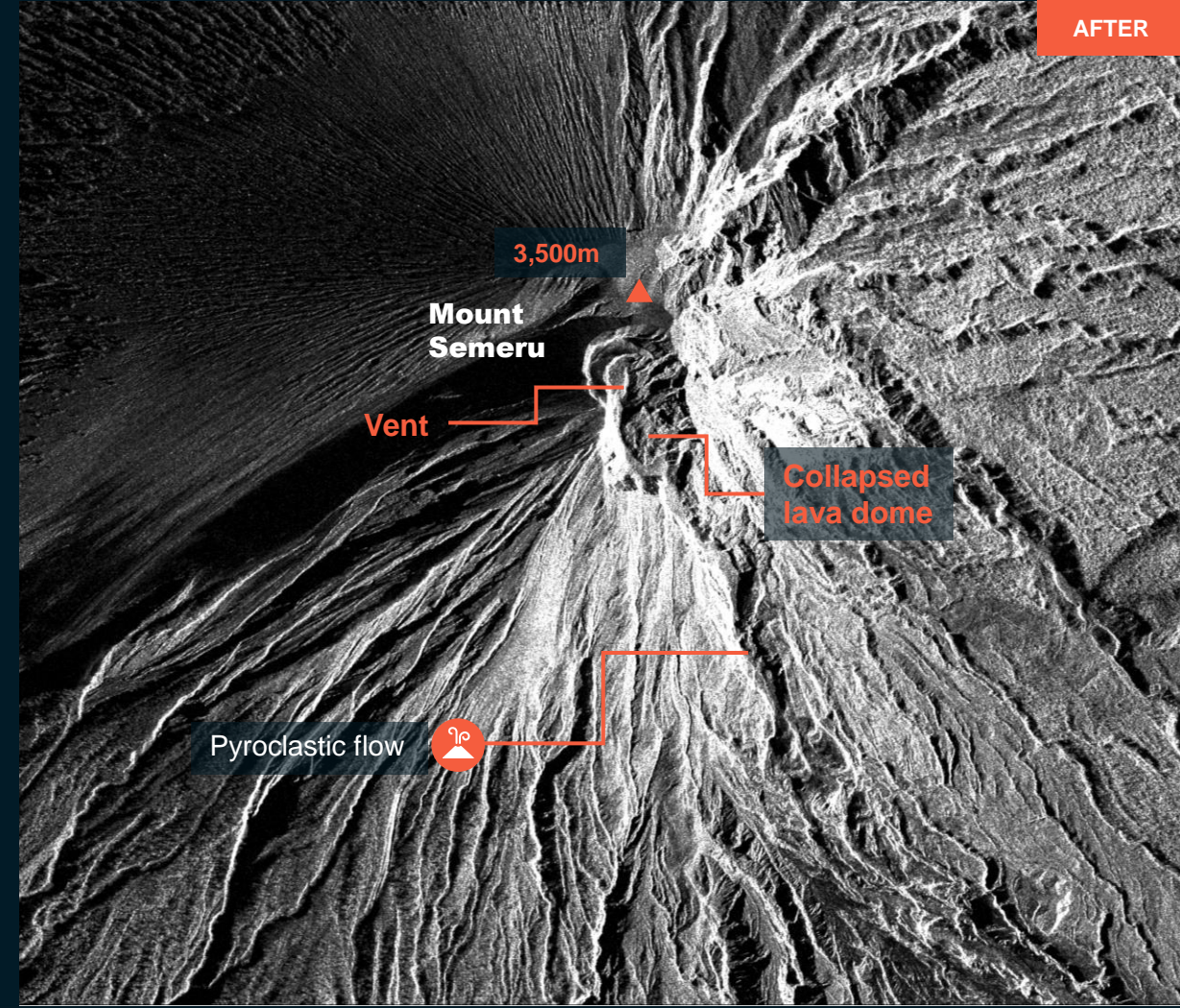
Mount Semeru and surrounding

Collapsed lava dome and pyroclastic flow along the southeastern flank

Image center:
112°56'46"E
8°11'17"S



BEFORE



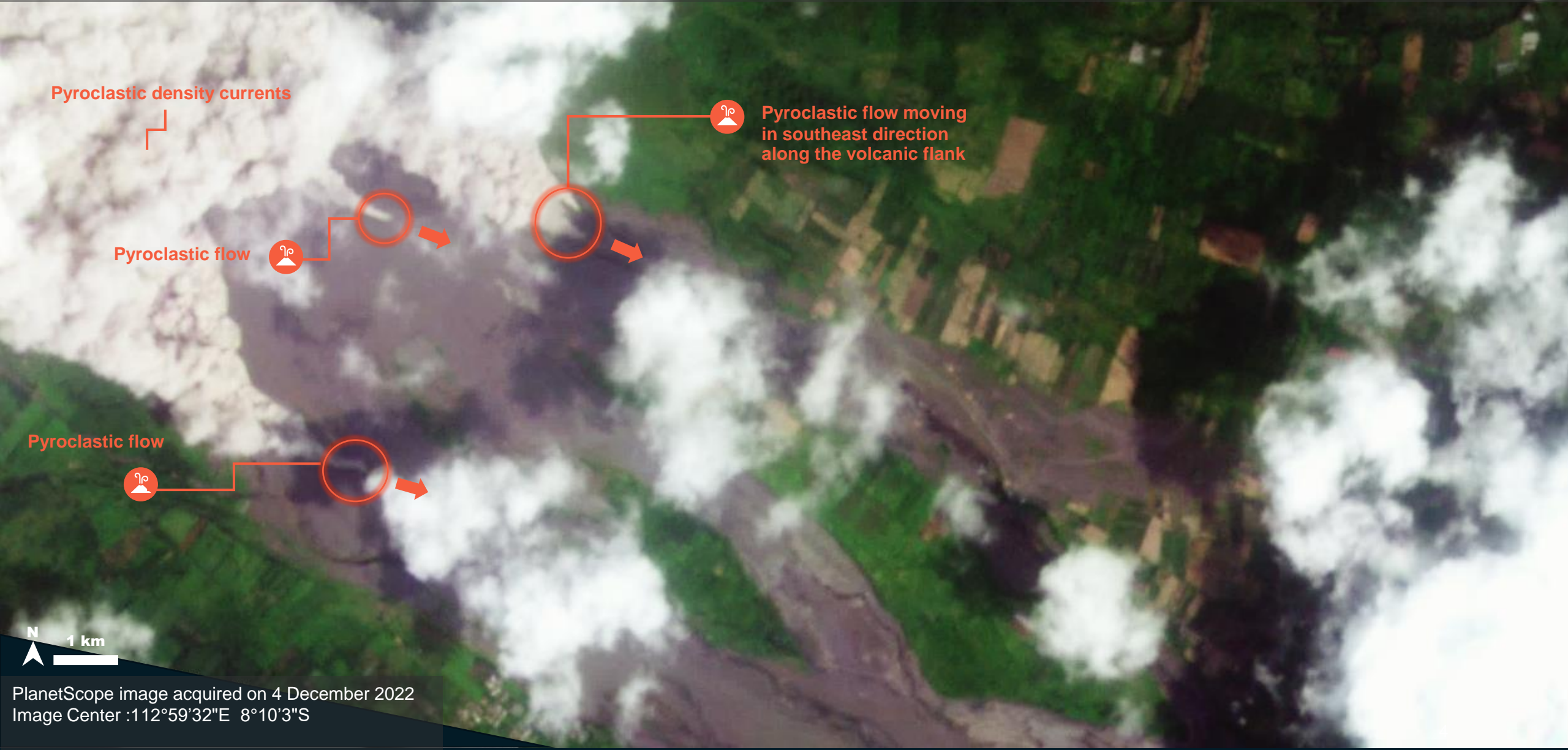
AFTER

TerraSAR-X / 13 November 2022

TerraSAR-X / 05 December 2022

MOUNT SEMERU, EAST JAVA PROVINCE

Affected agricultural fields by pyroclastic flows



Pyroclastic density currents

Pyroclastic flow moving in southeast direction along the volcanic flank

Pyroclastic flow

Pyroclastic flow



PlanetScope image acquired on 4 December 2022
Image Center : 112°59'32"E 8°10'3"S

MOUNT SEMERU, EAST JAVA PROVINCE

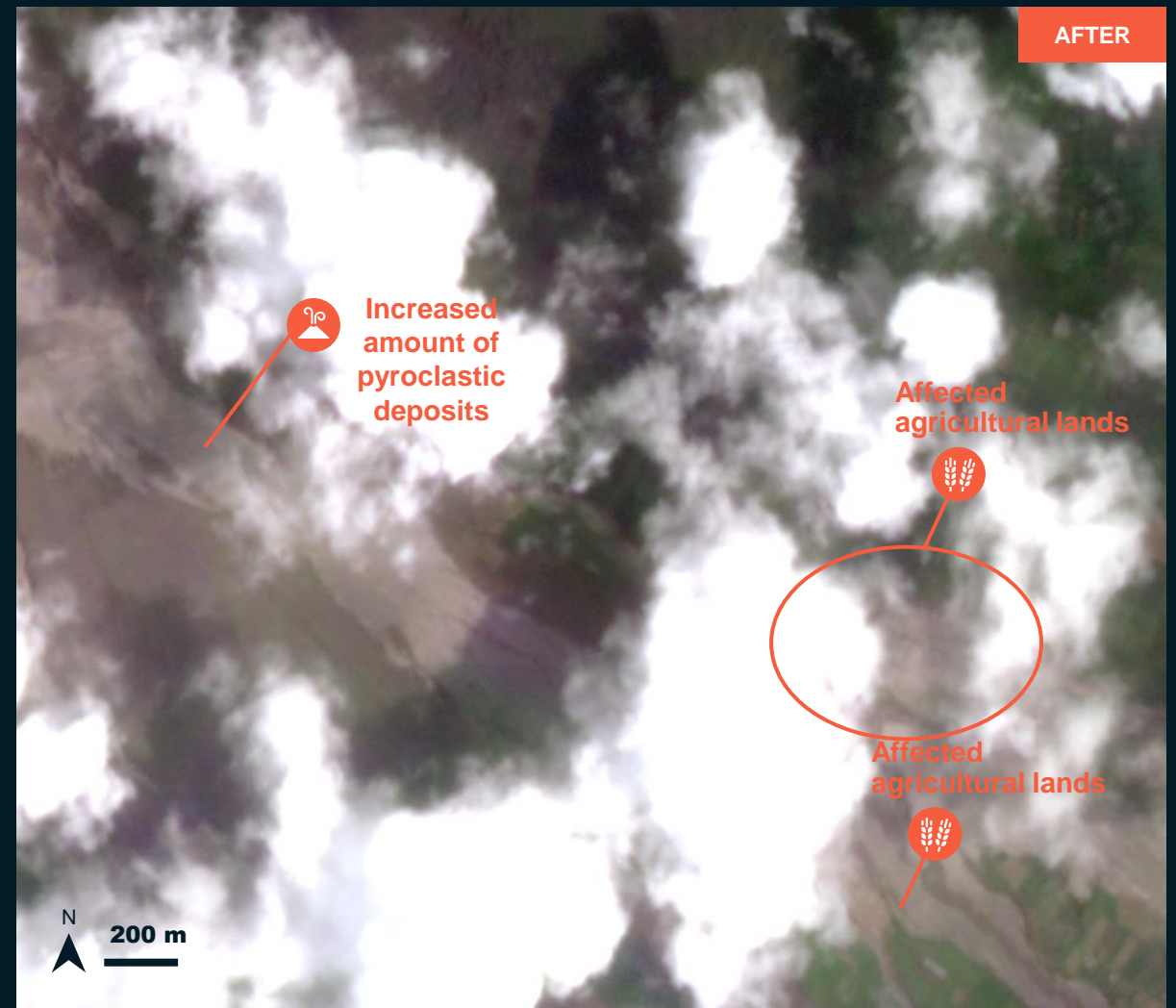
Mount Semeru and surrounding

Pyroclastic flow and increased amount of lava deposits

Image center:
112°59'209"E
8°9'42"S



PlanetScope / 04 December 2022



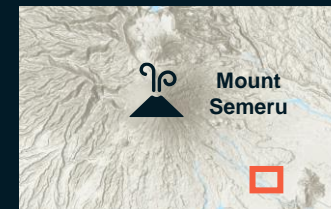
PlanetScope / 05 December 2022

MOUNT SEMERU, EAST JAVA PROVINCE

Mount Semeru and surrounding

Affected settlements and increased amount of pyroclastic deposits

Image center:
113°0'14.709"E
8°10'16.381"S



WorldView-2 / 04 May 2022



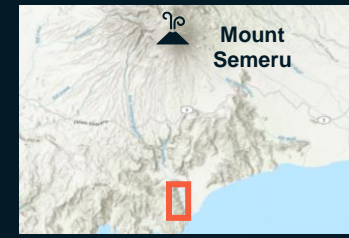
PlanetScope / 05 December 2022

MOUNT SEMERU, EAST JAVA PROVINCE

Mount Semeru and surrounding

Increased amount of river flow and sediment deposits along the coastline

Image center:
112°56'22"E
8°20'5"S



Sentinel-2 / 26 November 2022



Sentinel-2 / 05 December 2022

SUMMARY OF FINDINGS

- Collapsed lava dome and pyroclastic flow observed along the southeast flank of the volcano as of 5 December 2022;
- Affected agricultural fields observed as of 5 December 2022;
- Affected settlements close to the stream Kali Besuksemut observed as of 5 December 2022;
- Increased pyroclastic deposits observed as of 5 December 2022;
- Increased sediment deposits along the coastline as of 6 December 2022.

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Data sources:

(1) Satellite Image (Post-event)

PlanetScope : 4 Dec. 2022 at 02 :24 UTC and 5 December 2022 at 01:51 UTC
Resolution: 3 m
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Source: USGS

TerraSAR-X : 5 December 2022 at 22:05 UTC
Resolution: 3 m
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Source: DLR

Sentinel-2 : 5 Dec 2022
Resolution: 10 m
Copyright: Contains modified Copernicus Sentinel Data [2022]
Source: ESA

(2) Satellite Image (Pre-event)

TerraSAR-X : 13 November 2022 at 22:05 UTC
Resolution: 3 m
Copyright: TerraSAR-X © DLR e.V. (2022), Distribution Airbus DS Geo GmbH
Source: DLR

Sentinel-2 : 26 Nov 2022
Resolution: 10 m
Copyright: Contains modified Copernicus Sentinel Data [2022]
Source: ESA

Google Earth

(3) Ancillary data

Administrative boundaries: Badan Pusat Statistik (BPS - Statistics Indonesia), HDX

Analysis: United Nations Satellite Centre (UNOSAT)
Production: United Nations Satellite Centre (UNOSAT)

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