9 June 2021

PRELIMINARY SATELLITE-DERIVED FLOOD ASSESSMENT

Guyana

Status: Water increase of several rivers

Further action(s): continue monitoring
FLOODS OVER GUYANA

Legend
- Region boundary
- International boundary
- River
- Satellite detected water as of 06 June 2021 (Joint ABI/VIIRS)
- Cloud mask
- Area of interest

Background: ESRI Basemap
AOI 1-1 Region 2 / Pomeroon-Supenaam

Water increase along the Moruka river

Sentinel-1 / 1 May 2021

Sentinel-1 / 6 June 2021

Water increase observed
AOI 1-2 Region 2 / Pomeroon-Supenaam

Inundated agricultural area

Before 1 May 2021

After 6 June 2021
AOI 2-1 Region 3 / Essequibo Islands-West Demerara

Inundated agricultural area

Sentinel-1 / 1 May 2021

Image center:
58°11'22.3"W
6°47'5.596"N

Sentinel-1 / 6 June 2021

Georgetown

Demerara River

Inundated agricultural area
AOI 2-2 Region 4 / Demerara-Mahaica and 5 / Mahaica Berbice

Inundated agricultural area along the Mahaica, Mahaicony and Abary rivers

Before

Sentinel-1 / 1 May 2021

After

Sentinel-1 / 6 June 2021

Water increase observed

Mahaica river

Mahaicony river

Abary river
AOI 3-1 Region 10 / Upper Demerara-Berbice

Potentially affected structures observed along the Berbice river

Sentinel-2 / 18 Mar 2021

Water increase

Potentially affected structures

Sentinel-2 / 6 June 2021

Kwakwani town
AOI 3-2 Region 10 / Upper Demerara-Berbice

No floods observed along the Demerara river

Sentinel-1 / 1 May 2021

Terra SAR-X / 8 June 2021
AOI 4-1 Region 7 / Cuyuni-Mazaruni

Floods observed upstream of Peters Mine hamlet

Sentinel-1 / 1 May 2021

Before

Sentinel-1 / 6 June 2021

After

Water increase observed

Peters Mine

Image center:
59°24'33.968"W
6°16'50.952"N
AOI 4-2 Region 7 / Cuyuni-Mazaruni

No floods observed along the Rio Cuyuni river
SUMMARY OF FINDINGS

• Inundated agricultural fields observed in the coastal Regions (2, 3, 4 & 5) north-east of Guyana as of 06 June 2021;

• Increased water level of the Moruka river, Pomeroon-Supenaam (Region 2) as of 06 June 2021;

• Potentially affected structures observed along the Berbice river in Kwakwani town, Upper Demerara-Berbice Region as of 06 June 2021;

• No floods observed along the Demerara and the Rio Cuyuni rivers, Regions 7 & 10 as of 08 June 2021;

• Floods observed upstream of Peters Mine hamlet, Cuyuni-Mazaruni Region as of 06 June 2021.
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Data sources:

(1) Satellite Image (Post-event)

Sentinel-1 & Sentinel-2 / 06 June 2021
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Source: ESA

TerraSAR-X / 08 June 2021
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Source: CSA / RCM-2

(2) Satellite Image (Pre-event)

Sentinel-1 / 01 and 06 May 2021 & Sentinel-2 / 18 Mar 2021
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Source: ESA

ESRI Basemap

(3) Ancillary data

Administrative boundaries: Guyana Lands and Surveys Commission, HDX
Populated places: OpenStreetMap
Waterways: OpenStreetMap

Analysis: UNITAR-UNOSAT
Production: UNITAR-UNOSAT