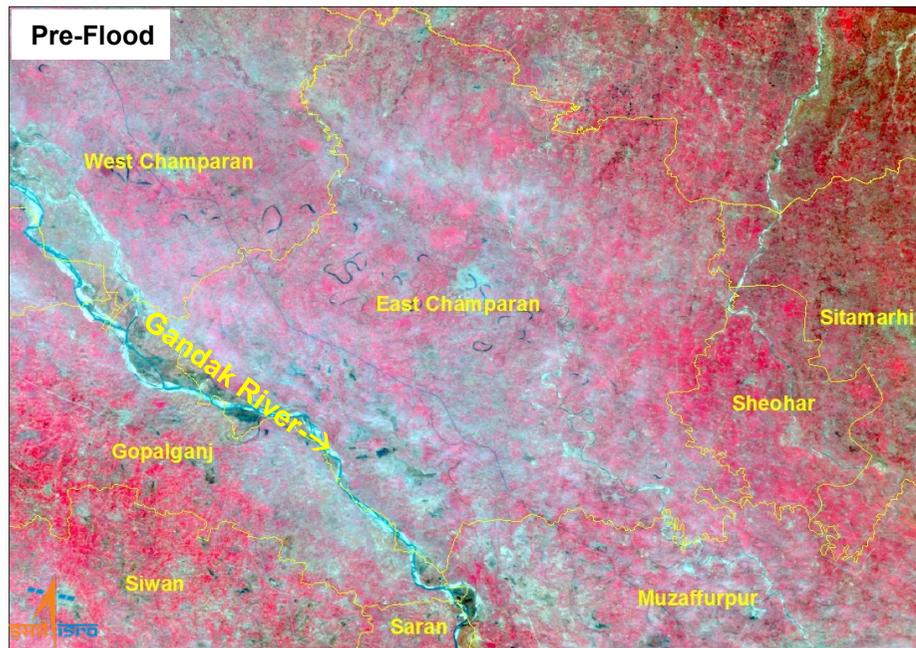


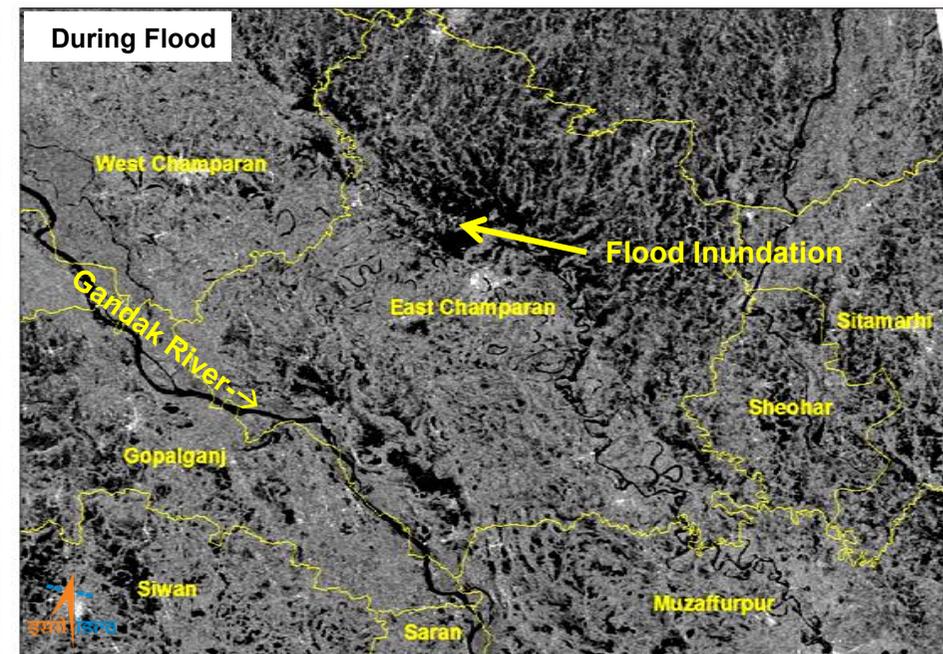
# BIHAR FLOODS - 2019

- Heavy incessant rains followed by rise in the water levels of River Mahananda, Bagmati, Kamla Balan, Adhwara, Kosi Burhi Gandak and Gandak and its tributaries has led to severe flood situation in more than 20 districts of State.
- NRSC acquired RADARSAT-2 ,Sentinel-1A and Resourcesat-2 (AWiFS,LISS-3) satellite data from 11<sup>th</sup> to 28<sup>th</sup> July,2019 to map & monitor the flood inundated areas.
- For flood map, please visit disaster support services at <https://bhuvan.nrsc.gov.in/>
- The following satellite images show Pre & During flood situation in parts of Bihar state.

Resourcesat-2 AWiFS data of 13-Jan-2019



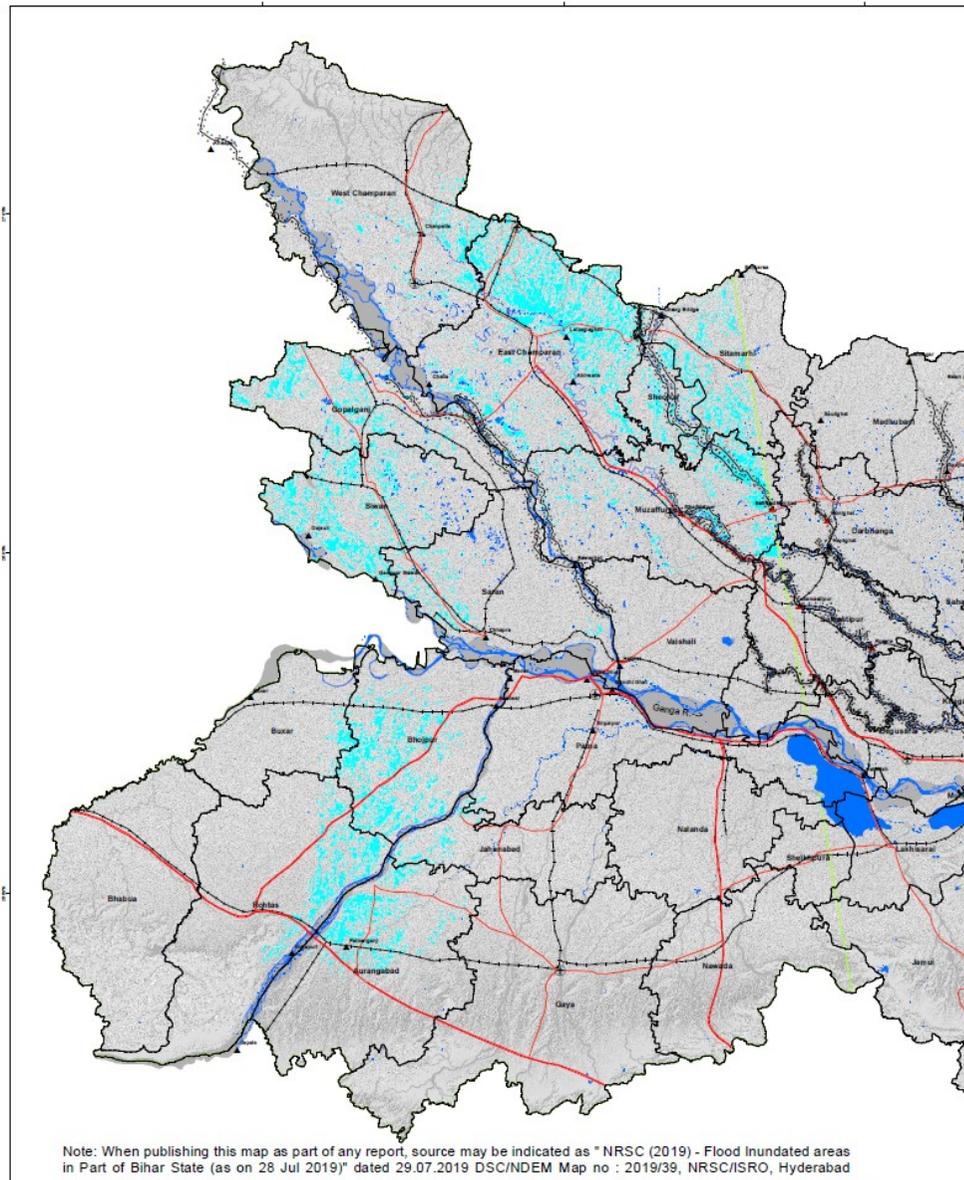
Radarsat-2 SAR data of 28-Jul-2019 (1800 Hrs)



# BIHAR FLOODS - 2019

## Flood Inundated areas in part of Bihar State

Based on the analysis of RADARSAT-2 SAR Image of 28-July-2019



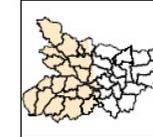
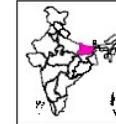
Note: When publishing this map as part of any report, source may be indicated as "NRSC (2019) - Flood Inundated areas in Part of Bihar State (as on 28 Jul 2019)" dated 29.07.2019 DSC/NDEM Map no : 2019/39, NRSC/ISRO, Hyderabad

For official use

DISASTER EVENT ID: 02-FLD-2019-BR  
MAP ID: 2019/39

Date of Issue : 29.07.2019

### Location Map



### About the Event

Heavy rains are reported in Bihar during fourth week of July 2019 and caused steady rise in water levels in parts of Bihar state. According to reports, River Mahananda, Bagmati, Adhwara and Burhi Gandak were reported to be flowing above danger level.

### Satellite Observations

This map highlights the inundated areas due to heavy rains in 14 districts of Bihar State as on 29 July 2019 .

### Satellite data used

Pre Flood: Satellite: ResourceSat-2  
Sensor: AWIFS  
Date of Pass: 13-Jan-2019

Post Flood: Radarsat-2 SAR - 28-Jul-2019  
1800 hrs IST

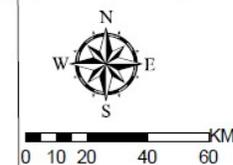
### Other data used

NRC Landuse/Landcover Data of 2014-15

Background Data: Shaded Relief

### Legend

- ✈ Airport
- District HQ
- State boundary
- - - District boundary
- Road cum Embankment
- Major Roads
- Other Roads
- Railway
- ▲ CWC River Gauge- Sewer Flood Situation
- ▲ CWC River Gauge- Normal Flood Situation
- Normal River/flow Bodies
- Flood Inundation
- Area covered by Satellite
- River Bank



This product is prepared on rapid mapping mode for immediate use and sharing amongst official agencies. This provides preliminary results.

Flood inundation may include rain water accumulation / flood water in low lying areas.

Districts with inundation less than 1000 ha are not included in the statistics

All geographic information has limitations due to the scale, resolution, date and interpretation of the original source materials.

No ground verification is done.

DSC / NDEM  
National Remote Sensing Centre, ISRO  
Dept. of Space, Govt. of India  
Hyderabad-500 037  
E-Mail: flood@npsc.gov.in  
www.npsc.gov.in

nrsc