



9 Sep. 2022

PRELIMINARY SATELLITE DERIVED FLOOD EVOLUTION ASSESSMENT



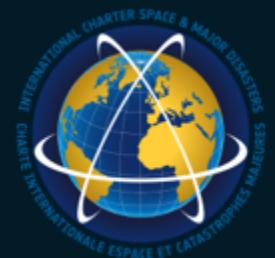
Islamic Republic of Pakistan

 Status: Increasing and receding flood waters observed

 Further action(s): continue monitoring






中國·CSCO



PAKISTAN



-  International boundary
-  Provincial boundary
-  Line of Control

Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties

EVOLUTION OF CUMULATIVE FLOOD IMPACT ASSESSMENT

[25 to 31 Aug.] Vs [01 to 07 Sep. 2022]



25 to 31 Aug. 22

~69,000 km²
Flood extent

~24 M
Population potentially exposed to floods

01 to 07 Sep. 22

~60,000 km²
Flood extent

~22 M
Population potentially exposed to floods

~1,700 km²
[01 to 07 Sep. 22]

~740,000
[01 to 07 Sep. 22]

~5 km²
[01 to 07 Sep. 22]

~9,000
[01 to 07 Sep. 22]

~5,800 km²
[01 to 07 Sep. 22]

~650,000
[01 to 07 Sep. 22]

~9,300 km²
[01 to 07 Sep. 22]

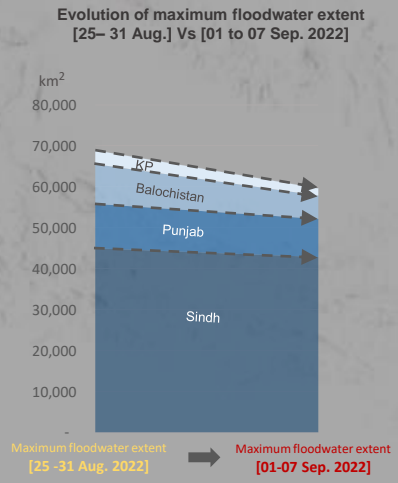
~3.5 million
[01 to 07 Sep. 22]

~43,000 km²
[01 to 07 Sep. 22]

~17 million
[01 to 07 Sep. 22]

■ Maximum floodwater extent [01 - 07 Sep. 2022]

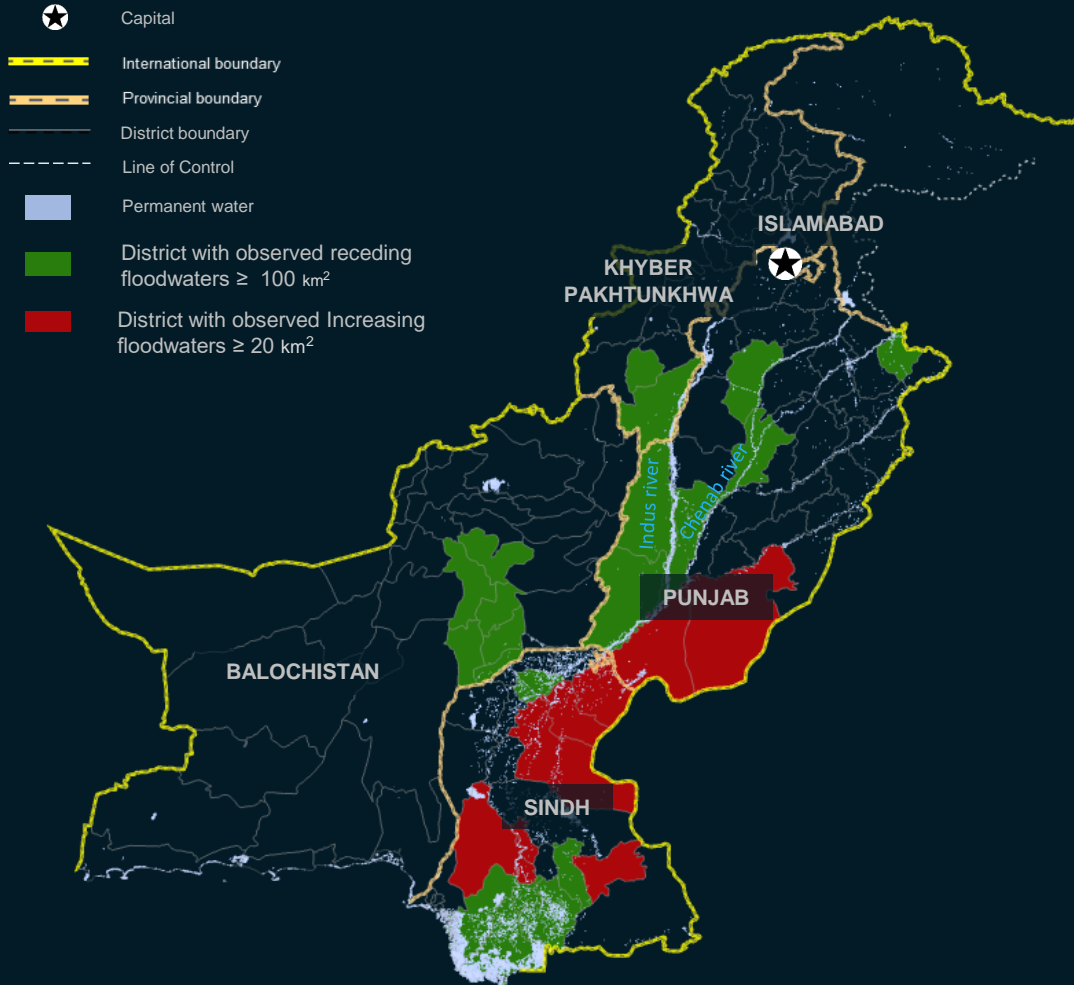
■ Maximum floodwater extent [25 - 31 Aug. 2022]



The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not been agreed upon by the parties. The boundary and names shown on this map do not imply official endorsement or acceptance by the United Nations.

EVOLUTION OF CUMULATIVE FLOOD IMPACT ASSESSMENT

[25 to 31 Aug.] Vs [01 to 07 Sep. 2022]



Punjab province

- Bahawalpur district ↑ 20 km²
- Rahim Yar Khan district ↑ 110 km²
- Rajanpur district ↓ 200 km²
- Muzaffargarh district ↓ 110 km²
- Dera Ghazi Khan district ↓ 300 km²
- Jhang district ↓ 110 km²
- Khushab ↓ 150 km²
- Sialkot ↓ 240 km²

Balochistan province

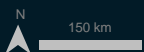
- Sibi district ↓ 120 km²
- Kachhi district ↓ 700 km²
- Lehri district ↓ 1,200 km²
- Jhal Magsi district ↓ 640 km²
- Jaffarabad district ↓ 130 km²
- Nasirabad district ↓ 900 km²

Sindh province

- Ghotki district ↑ 170 km²
- Sukkur district ↑ 130 km²
- Khairpur district ↑ 100 km²
- Umer Kot district ↑ 30 km²
- Matiari district ↑ 30 km²
- Jamshoro district ↑ 50 km²
- Hyderabad district ↑ 50 km²
- Shikarpur district ↓ 120 km²
- Mirpur Khas district ↓ 320 km²
- Badin district ↓ 660 km²
- Tando Muhammad Khan district ↓ 130 km²
- Thatta district ↓ 170 km²
- Sujawal district ↓ 830 km²

Khyber Pakhtunkhwa Province

- Tank district ↓ 150 km²
- D. I. Khan district ↓ 1,350 km²



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KASHMORE DISTRICT, SINDH PROVINCE

Guddu Barrage appears to be impacted

Image center:
69°42'54.579"E
28°25'3.498"N



WorldView-2 / 10 May 2021



Spot-6 / 1 Sep. 2022

KASHMORE DISTRICT, SINDH PROVINCE

Inundated agricultural area and inundated settlement observed

Image center:
69°33'6.792"E
28°18'56.228"N



GeoEye-1 / 26 Jan. 2021



Spot-6 / 1 Sep. 2022

KHAIRPUR DISTRICT, SINDH PROVINCE

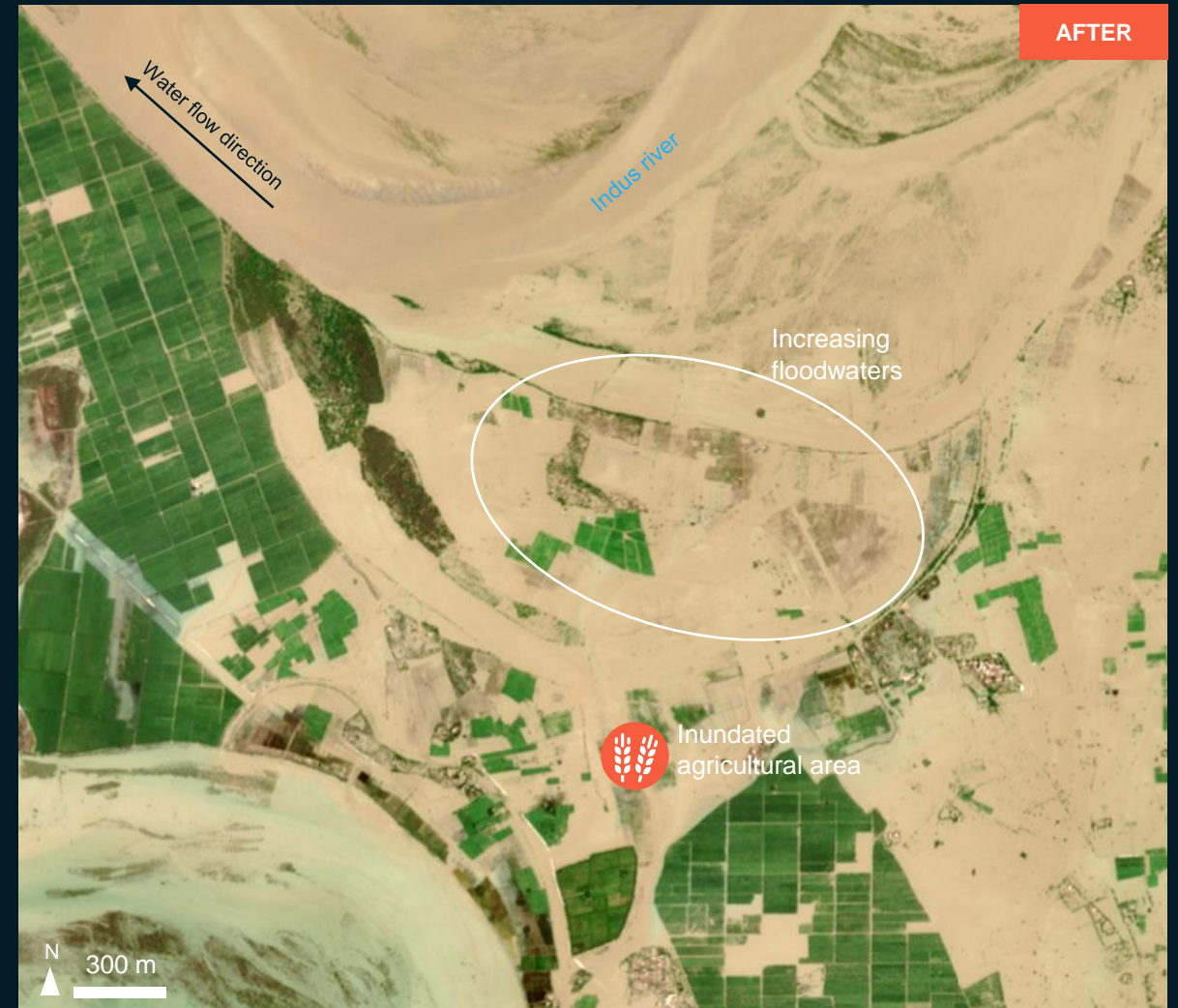
Image center:
68°23'23.952"E
27°33'49.546"N



Increasing floodwaters



Sentinel-2 / 31 Aug. 2022



Sentinel-2 / 5 Sep. 2022

KHAIRPUR DISTRICT, SINDH PROVINCE

Image center:
68°25'9.129"E
27°32'57.113"N



Inundated agricultural areas and inundated settlements observed



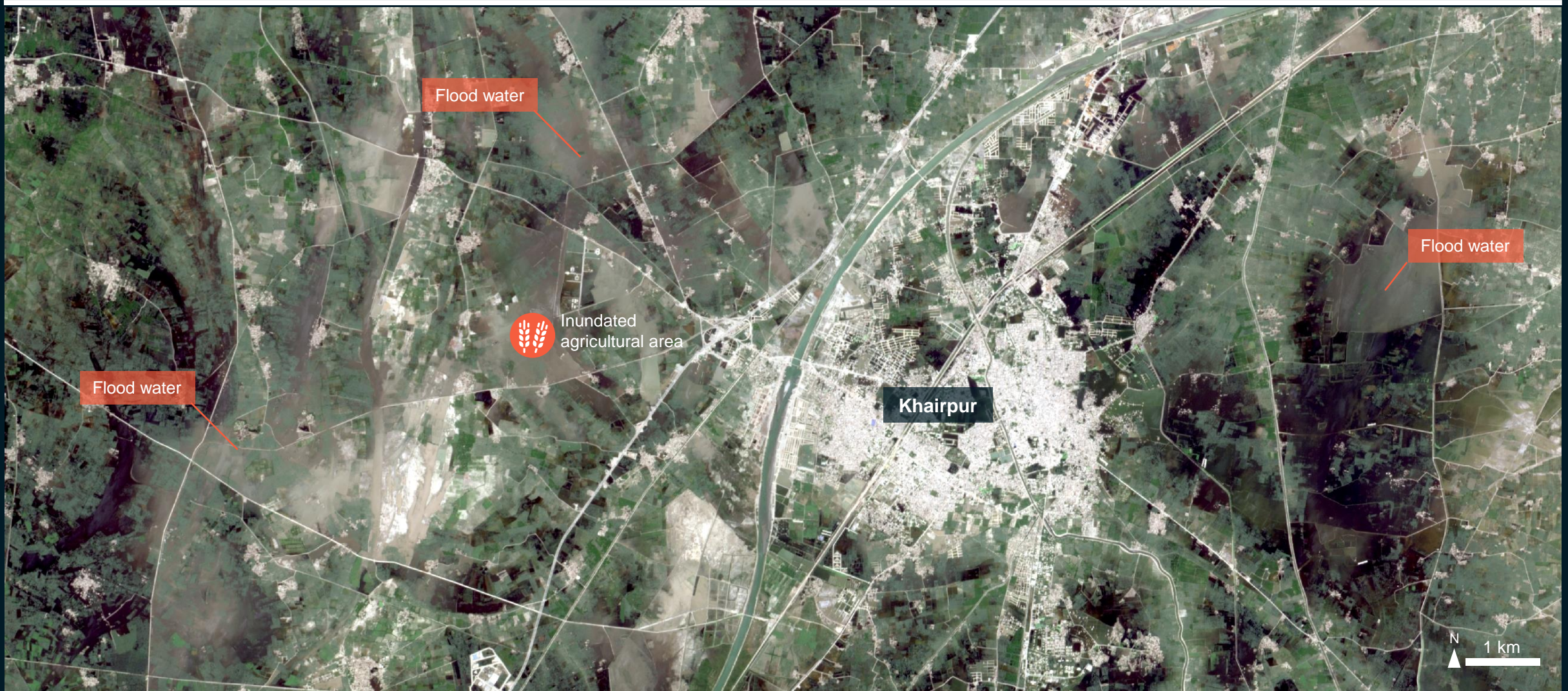
Jilin-1 / 3 Sep. 2022

KHAIRPUR DISTRICT, SINDH PROVINCE

Image center:
68°43'9.163"E
27°31'43.371"N



Inundated agricultural areas surrounding Khairpur city observed



Jilin-1 / 3 Sep. 2022

JAMSHORO AND SHAHEED BENAZIR ABAD DISTRICT, SINDH PROVINCE

Increasing floodwaters

Image center:
68°24'46.78"E
26°13'7.957"N



Sentinel-2 / 31 Aug. 2022

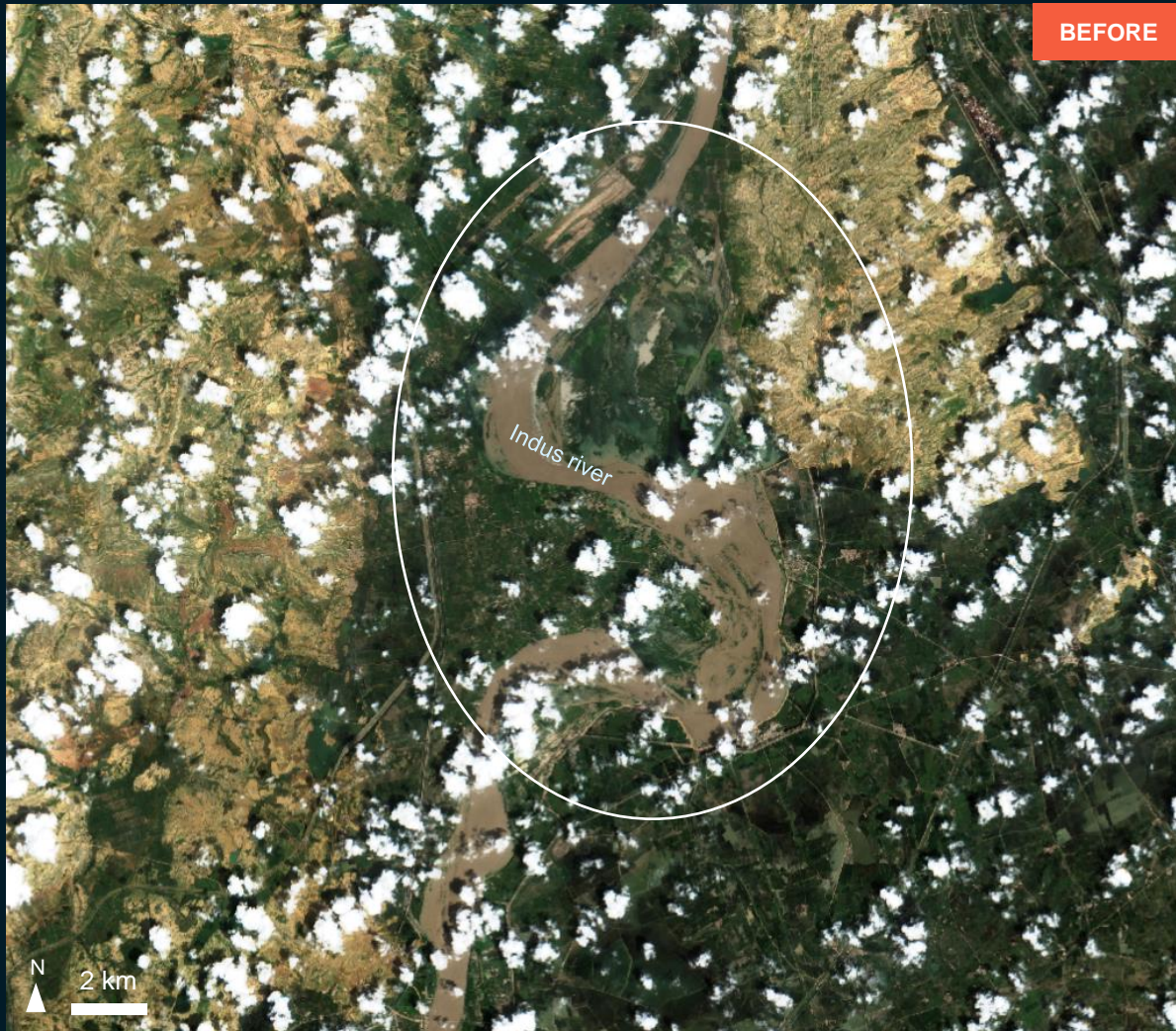


Sentinel-2 / 5 Sep. 2022

THATTA DISTRICT, SINDH PROVINCE

Increasing floodwaters

Image center:
68°20'8.124"E
25°8'33.457"N



Sentinel-2 / 31 Aug. 2022



Sentinel-2 / 5 Sep. 2022

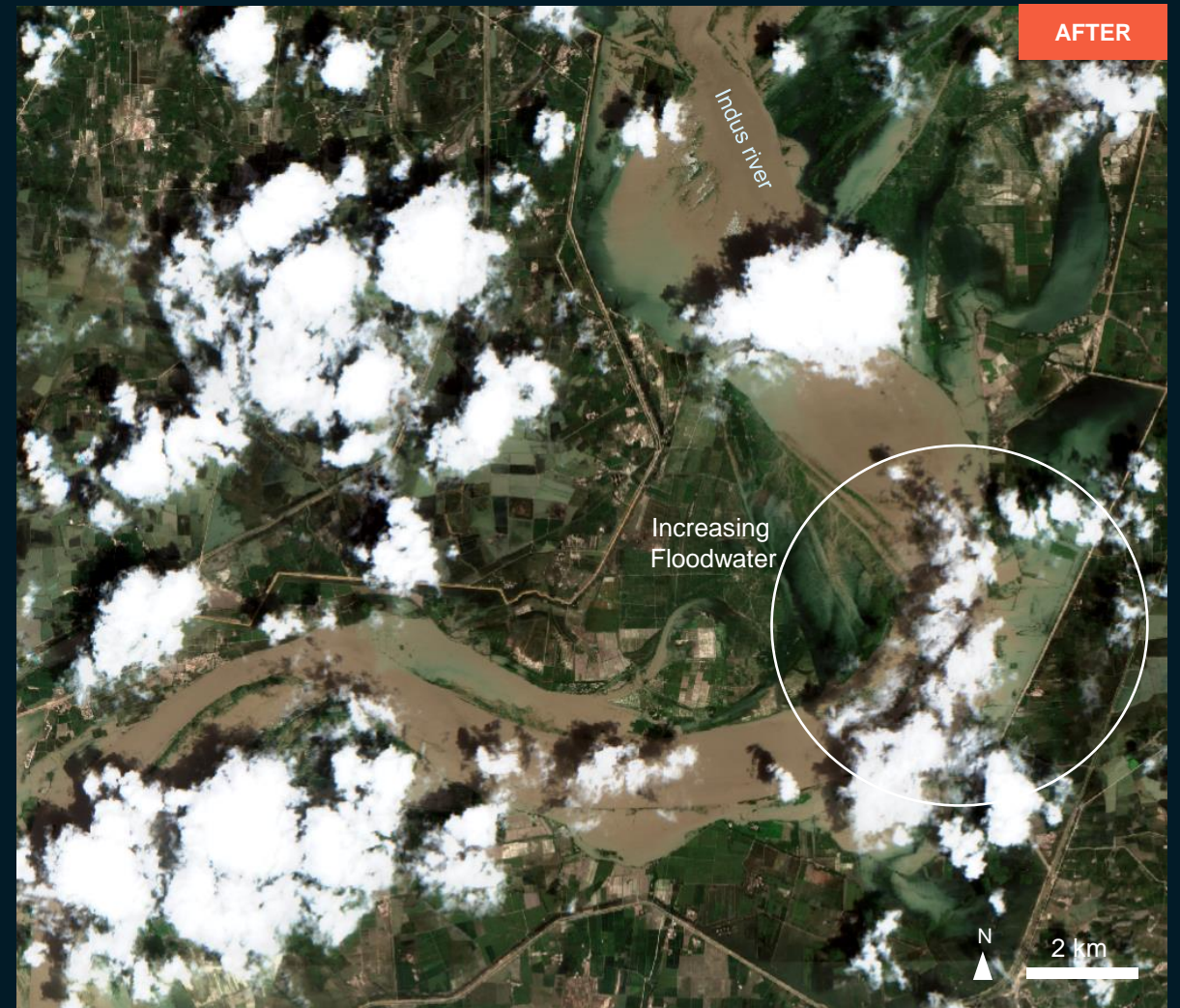
SUJAWAL DISTRICT, SINDH PROVINCE

Increasing floodwaters

Image center:
68°0'27.539"E
24°28'13.438"N



Sentinel-2 / 31 Aug. 2022



Sentinel-2 / 5 Sep. 2022

SUMMARY OF FINDINGS

Evolution of Cumulative Flood Impact Assessment (25 - 31 August Vs 01-07 September 2022):

- From 01 to 07 September 2022 approximately 22 million people remain potentially exposed or living close to flooded areas
- Based on satellite data from 25 - 31 August and 01-07 September, flood waters appear to be receding in many parts of the country, however, many districts in the southern province of Sindh still appear to be heavily affected by flooding and increasing flood waters.

Floods assessment in Sindh Province

- Large floods were observed all along the Indus river;
- Guddu Barrage seem to be intact as of 1 Sep. 2022
- Inundated villages and inundated agricultural areas were observed along Indus river as of 5 Sep. 2022;
- The increasing floodwater along Indus river in Khairpur, Jamshoro, Shaheed Benazir Abad, Thatta and Sujawal districts observed as of 5 Sep. 2022.

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Data sources:

(1) Satellite Image (Post-event)

Satellite Data : NOAA-20/VIIRS
Imagery Date: 25 to 31 Aug. & 01 to 07 Sep. 2022
Resolution: 375 m
Copyright: NOAA/Suomi NPP
Source: NOAA

Satellite Data: Spot-6
Imagery Date: 1 Sep. 2022
Resolution: 1.5 m
Copyright: copyright: Includes material © AIRBUS DS (2022)
Source: Airbus DS

Satellite Data: Sentinel-2
Imagery Date: 31 Aug and 5 Sep. 2022
Resolution: 10 m
Copyright: Contains modified Copernicus Sentinel Data [2022]
Source: ESA

Satellite Imagery : Jilin-1
Acquisition Date : 3 Sep. 2022
Copyright: Chang Guang Satellite Technology Co., Ltd.
Source: Chang Guang Satellite Technology Co., Ltd. (CGSTL), ChinaGEOSS Data Sharing Network (ChinaGEOSS DSNet), Aerospace Information Research Institute of the Chinese Academy of Sciences (AIR) and Open Disaster Data Chain of the Chinese Academy of Sciences (ODDC)

(2) Satellite Image (Pre-event)

Satellite Data : WorldView-2
Imagery Dates : 10 May 2021
Copyright: 2021 Digital Globe
Source: Source: ESRI Basemap

Satellite Data : GeoEye-1
Imagery Dates : 6 Jan. 2021
Copyright: 2021 Digital Globe
Source: Source: ESRI Basemap

(3) Ancillary data

Administrative boundaries: OCHA
Analysis: UNITAR-UNOSAT
Production: UNITAR-UNOSAT

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