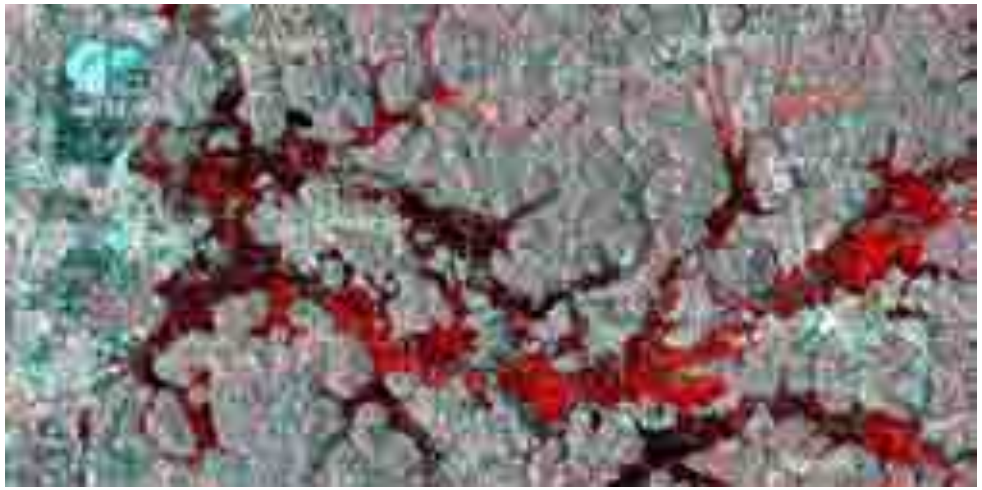
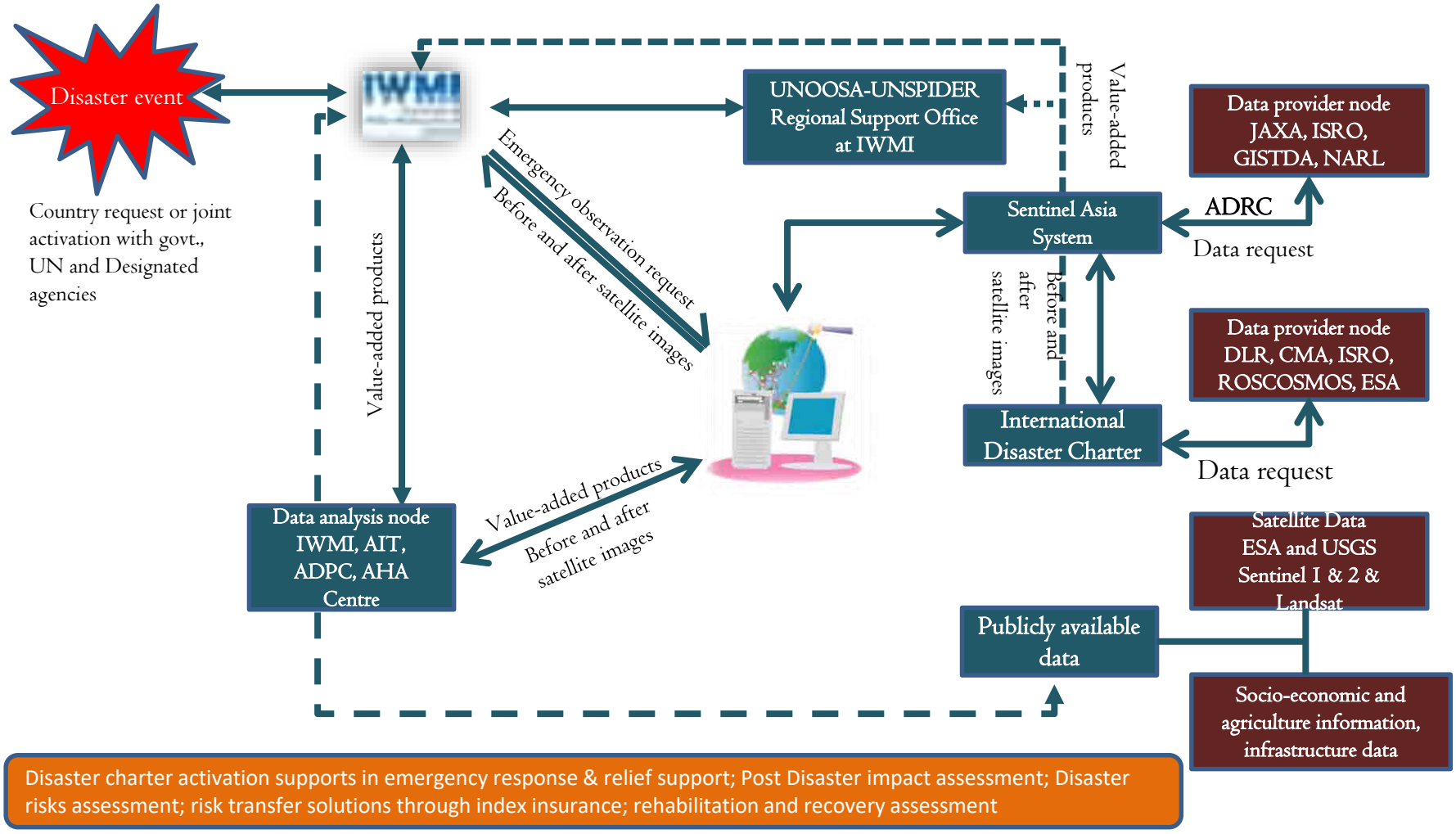
IWMI's Rapid Emergency Response Mechanism (RERM)



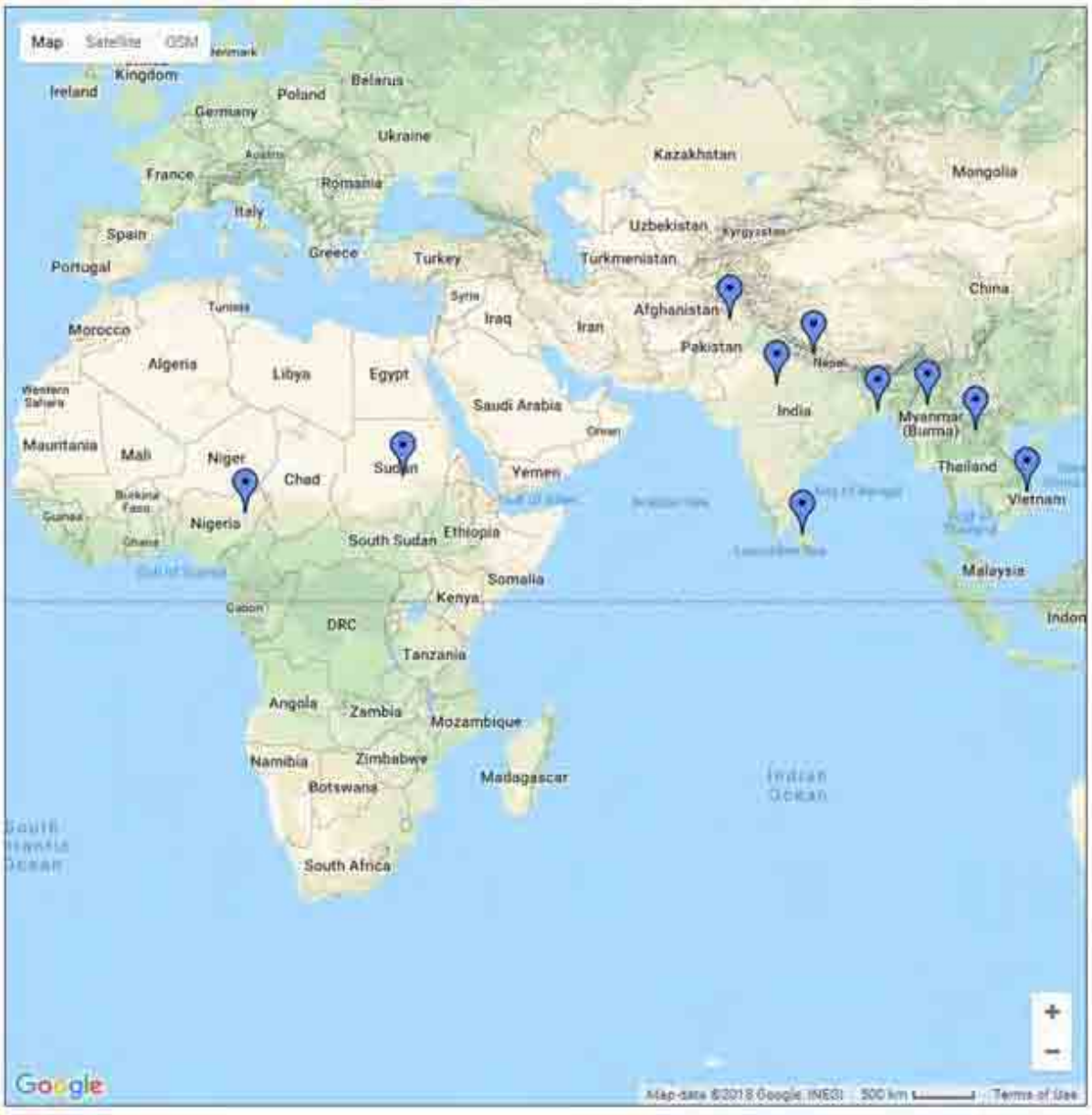
International Water Management Institute (IWMI), Sri Lanka
by
Niranga Alahacoon

IWMI Rapid Response mapping (RERM) Approach



Disaster charter activation supports in emergency response & relief support; Post Disaster impact assessment; Disaster risks assessment; risk transfer solutions through index insurance; rehabilitation and recovery assessment

IWMI RERM different countries



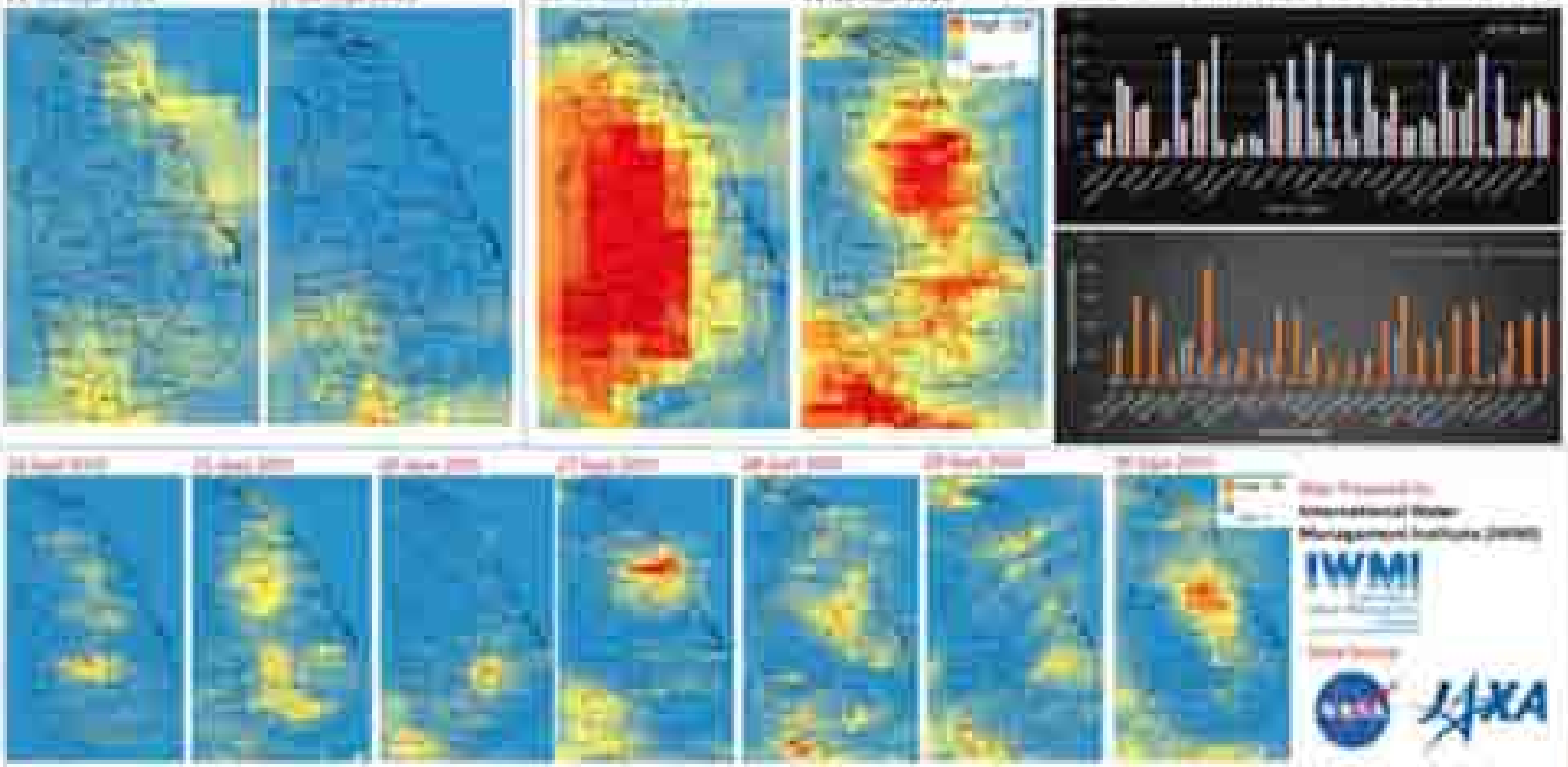
South Asia

- ❑ Sri Lanka
- ❑ India
- ❑ Pakistan
- ❑ Nepal
- ❑ Bangladesh

South East Asia

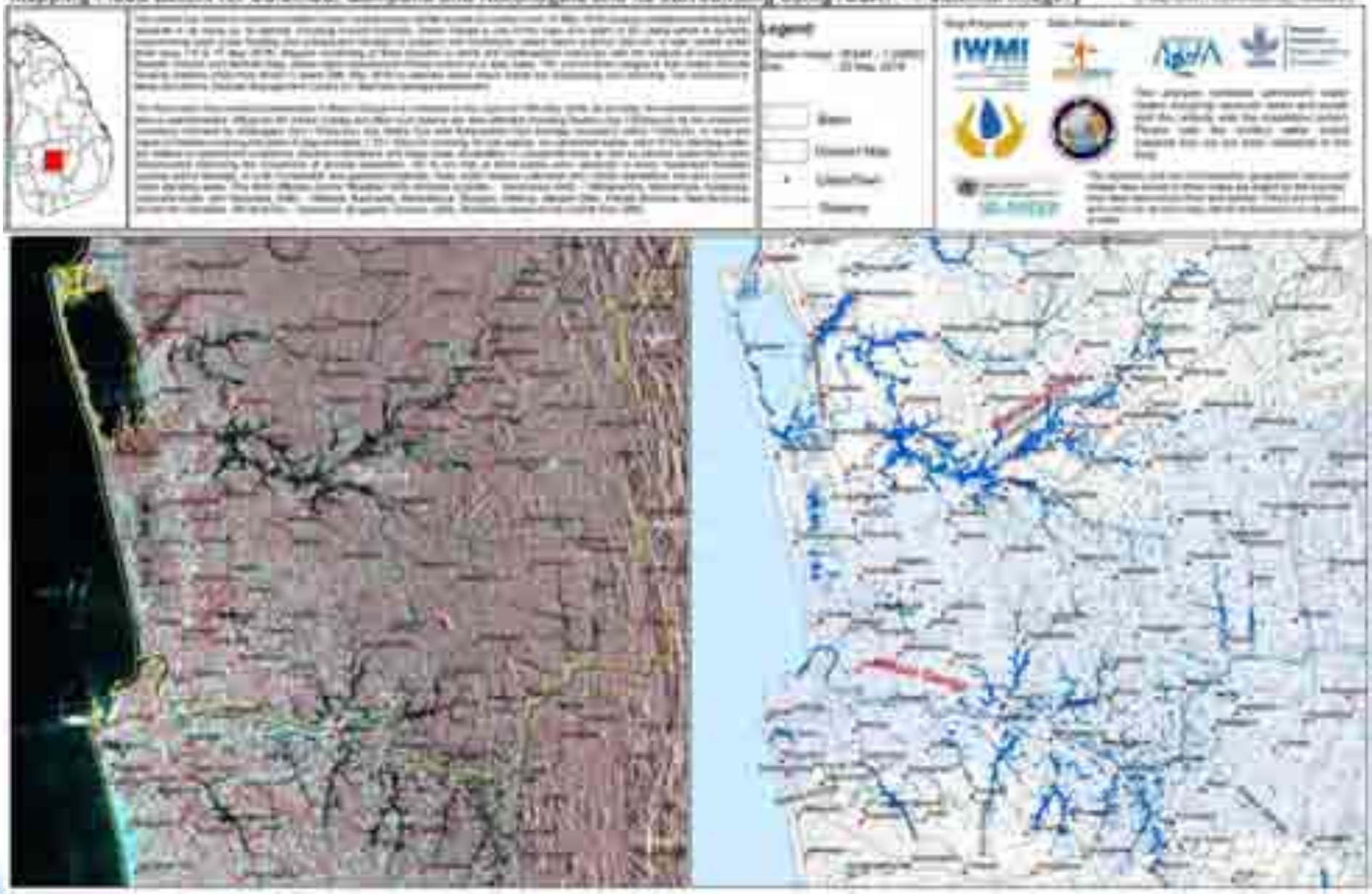
- ❑ Myanmar
- ❑ Laos
- ❑ Vietnam

2015 FLOODS IN SRI LANKA MONITORED USING SATELLITE RAINFALL ESTIMATES



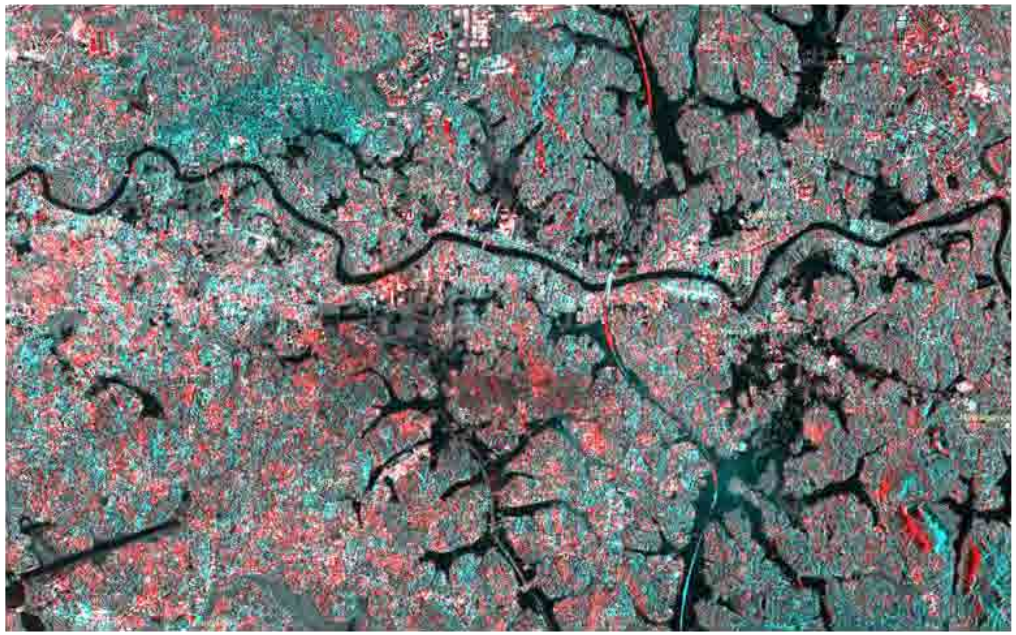
IWMI
NASA
JAXA

Sri Lanka Flood – 2016



Rapid assessment on flood impact

Current flood situation for major flood rivers and adminstriave units based on IRS RISAT and DLR TerraSAR-X1 Images (20th and 21st May 2016)



Note: Fused images of two different dates (20th May and 21st May 2016) to determine flood receding areas. Black areas denotes areas in both the images are flooded and the light grey explains the withdrawal of standing waters along the Kelani Ganga river

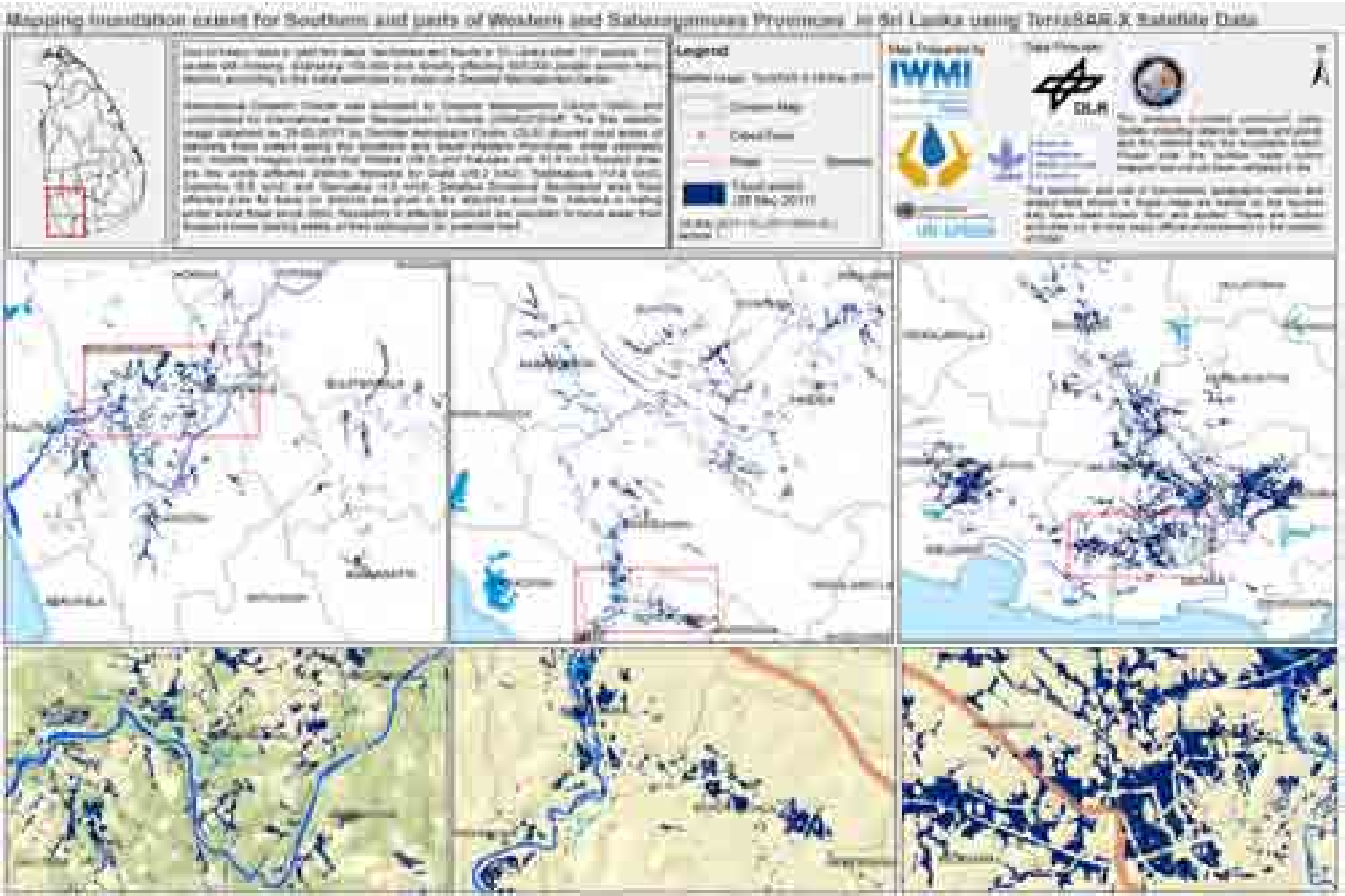
Statistics on basin wise flood affected areas for the AOI satellite imagery

Basin Name	Basin Area	Flood Affected area in sq.km
Attanagalu Oya	1087.81	165.319
Deduru Oya	2772.89	353.496
Kelani Ganga	2341.53	168.119
Rathambala Oya	556.21	59.003
Kalu Ganga	3079.08	100.707
Karsmbalan Oya	779.80	153.995
Maha Oya	1709.14	186.066
Total flood affeced area		1186.70

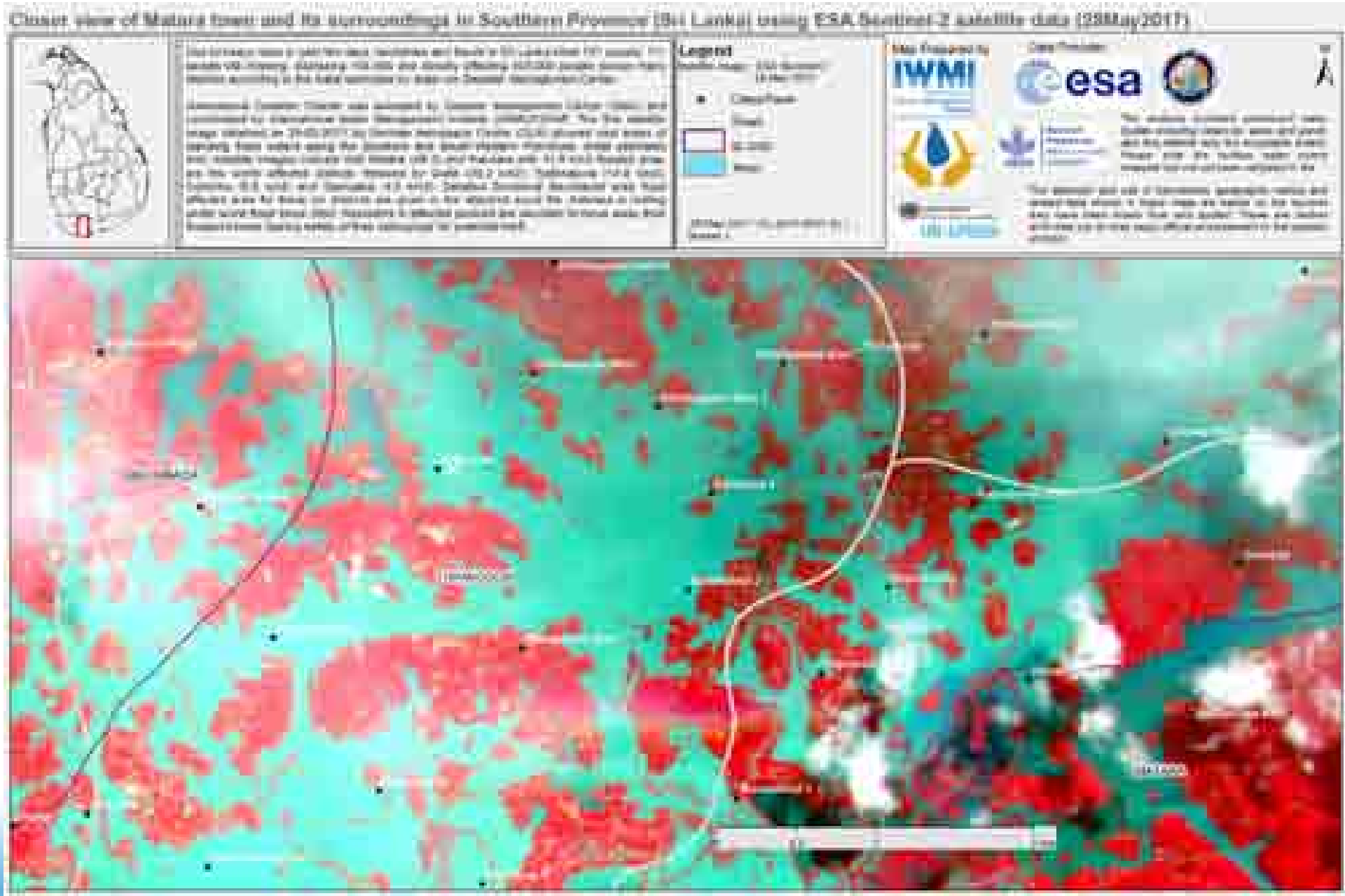
Statistics on district wise flood affected areas for the AOI satellite imagery

Basin Name	Flood Affected area in sq.km
Kurunegala	552.97
Gampaha	218.12
Puttalam	160.29
Colombo	94.53
Kegalle	83.21
Kalutara	79.13

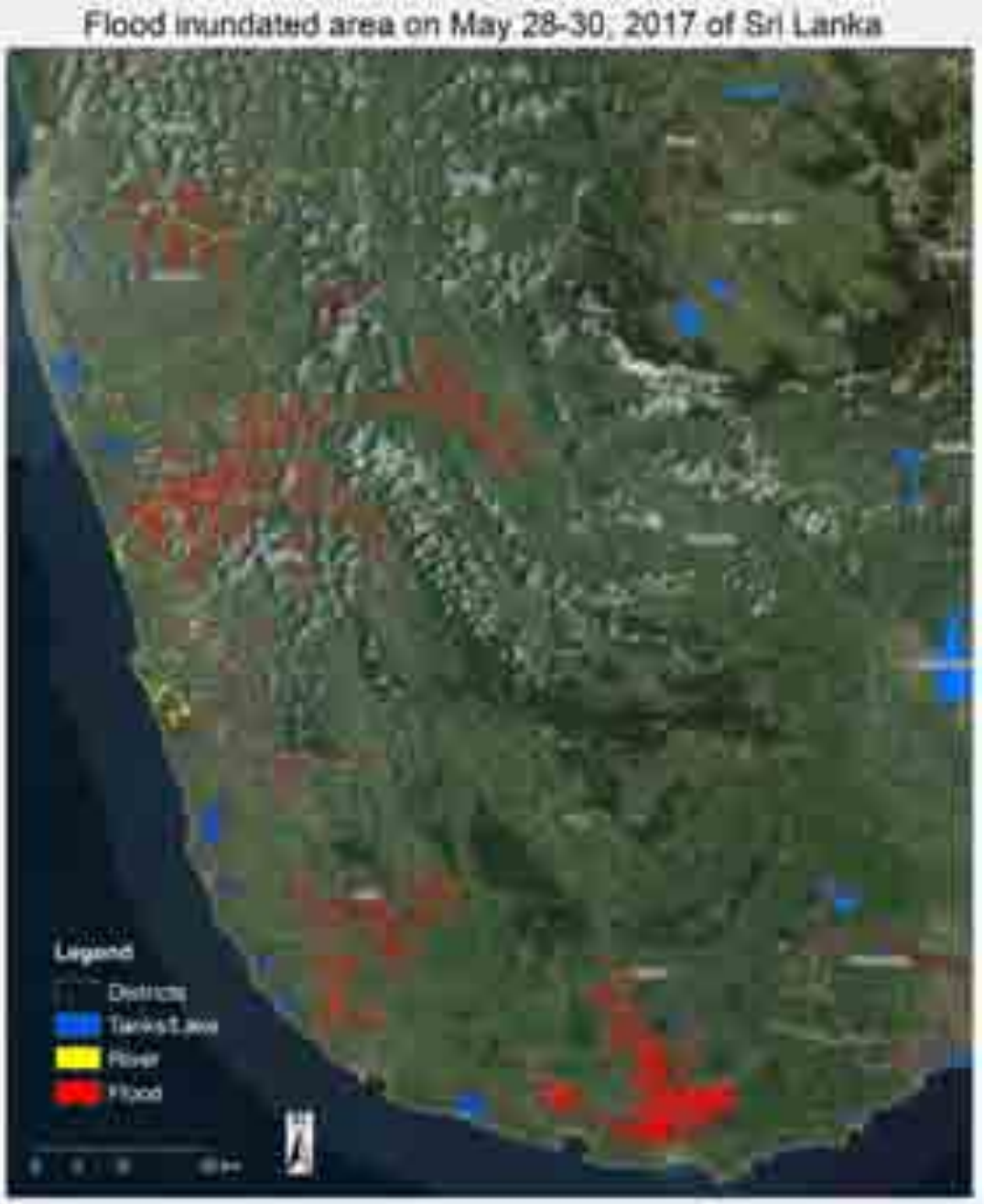
Sri Lanka Flood -2017



Sri Lanka Flood -2017



Total Flood extent 2017

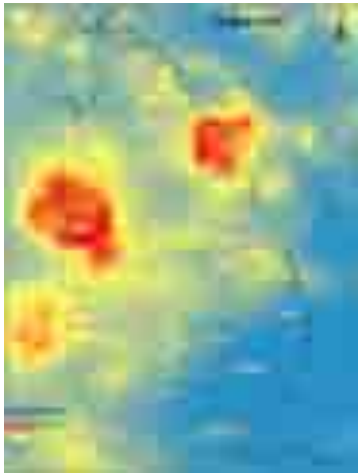


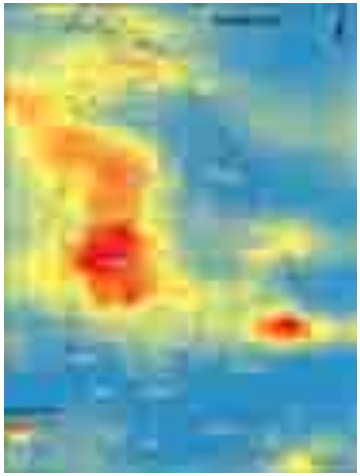
Sri Lanka Flood -2018

Satellite rainfall estimation from Global Precipitation Mission (GPM) revealed high rainfall in Sri Lanka caused by the usual strong monsoon over the period of week (20 to 26 of May 2018). Fifteen districts have been already affected by extreme rainfall and several major rivers as Kelani Ganga, Kalu Ganga, Gin Ganga, Nilwala Ganga have started to overflow and still under minor flood level. In addition main rivers, Mahaoya, Attanagalu Oya overflow and few major tanks spill are reported in Kurunagala and Puttalama district.

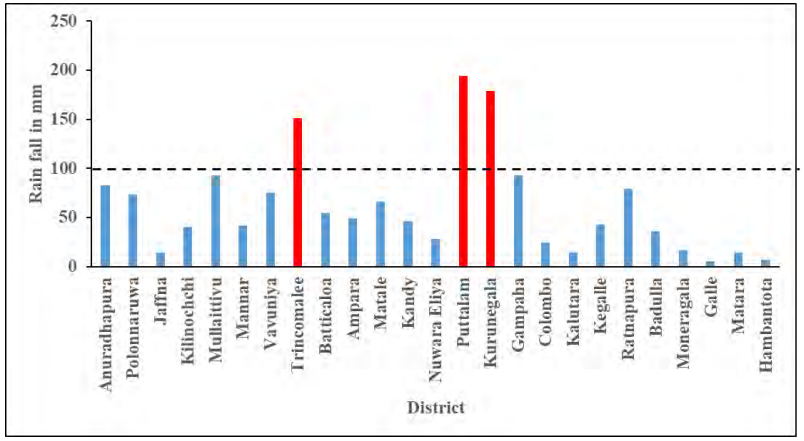
In last 24 hours (25 of May 2018) as per GPM estimates, precipitation has reduced and only three districts have recorded more than 80mm precipitation, which are as follows **Kurunagala (178.7 mm), Puttalam (194.30mm)**, Trincomalee (151.3mm) and all the other districts are less than 60mm.

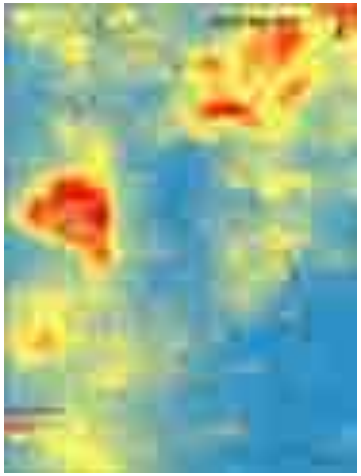
According to the Disaster Management Center (DMC) reports on 28th May 2018 at 13.00hrs, totally 174,310 peoples have been affected while 25 casualties reported so far.





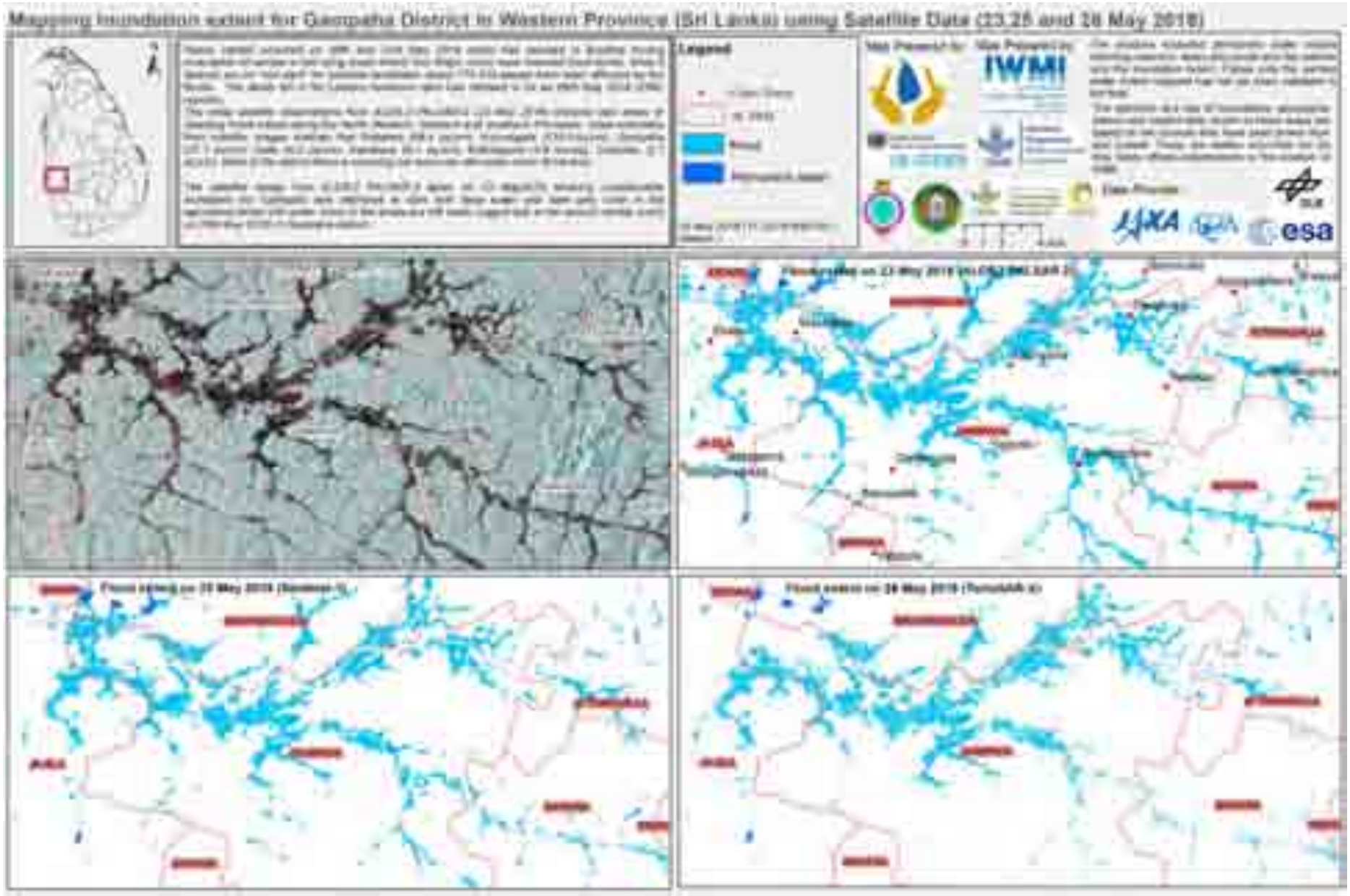
Accumulated rainfall of 25 May 2018



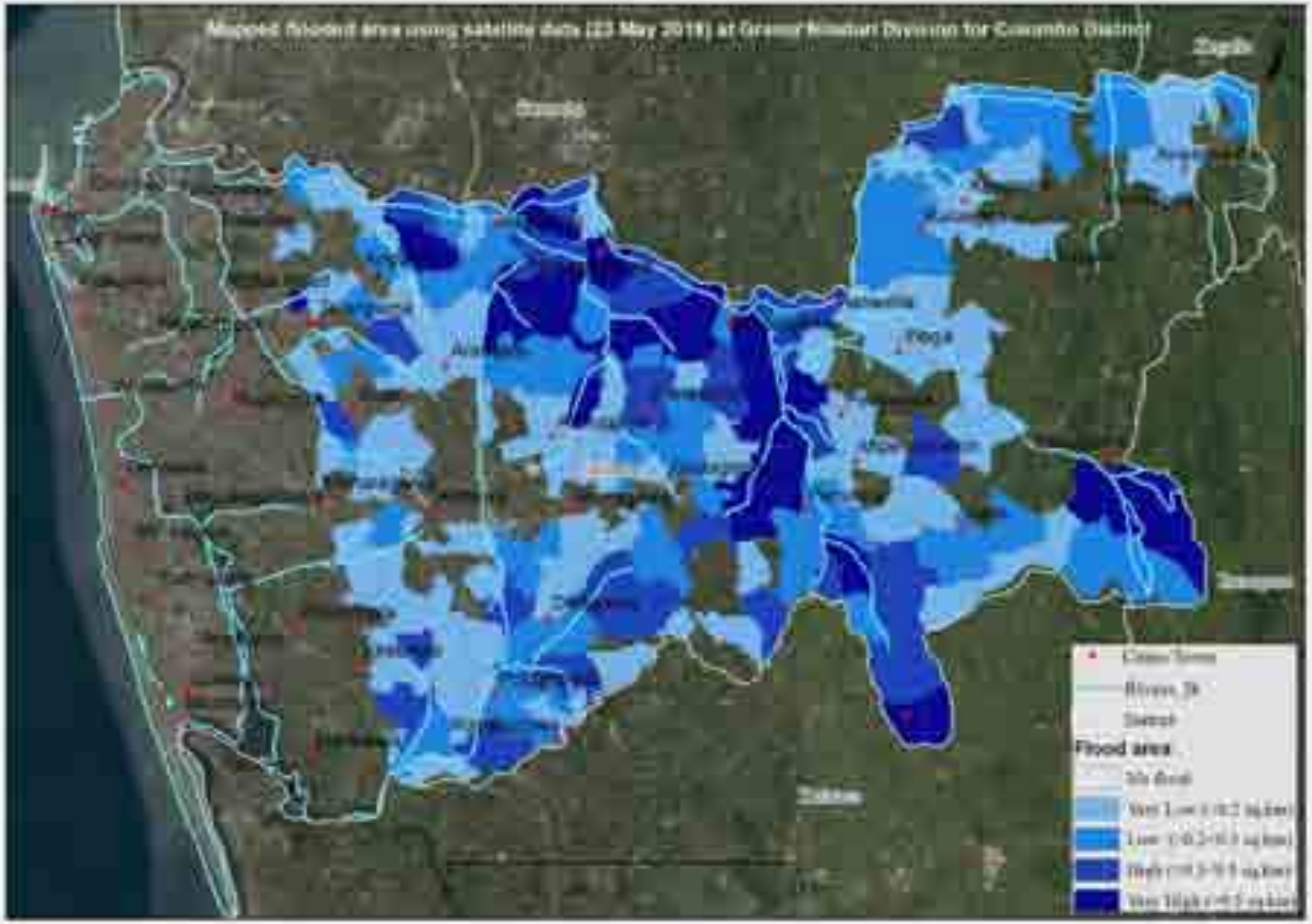


23 May 2018 – Version 5

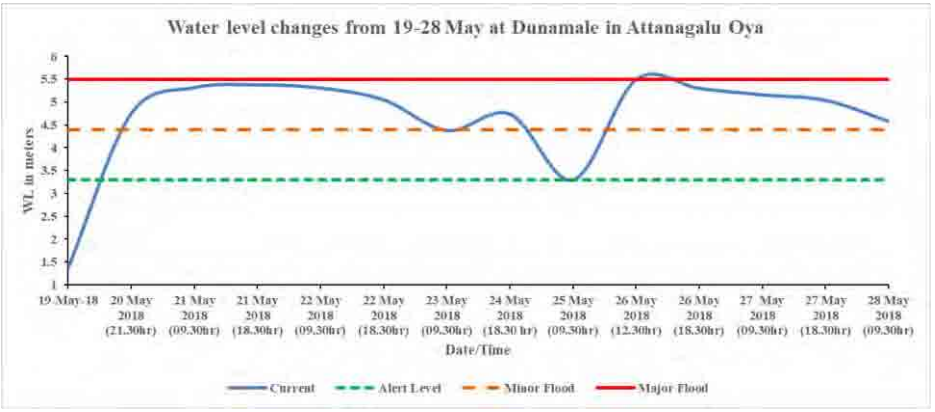
Sri Lanka Flood -2018

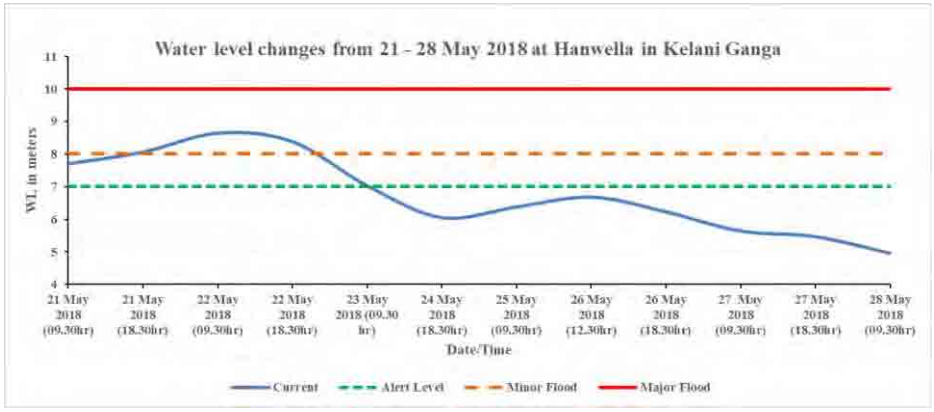


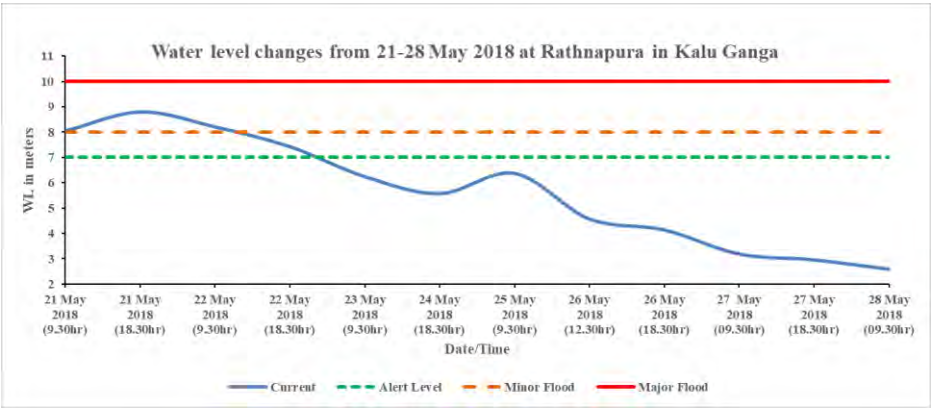
Sri Lanka Flood -2018

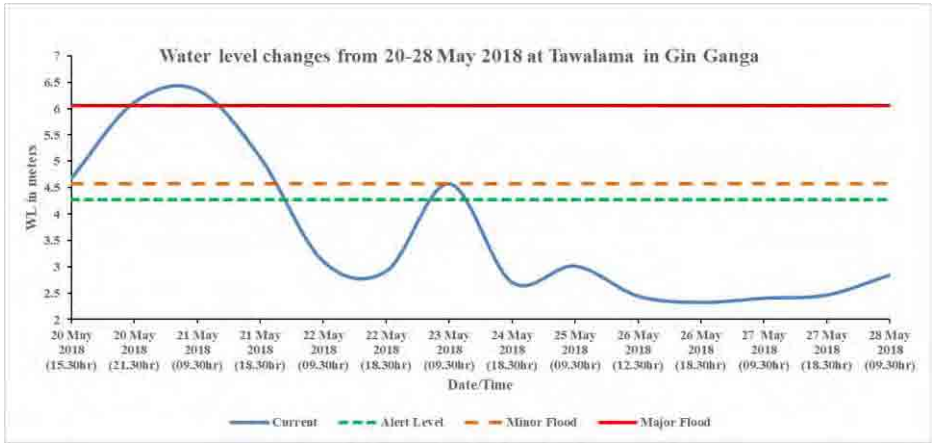


Sri Lanka Flood -2018





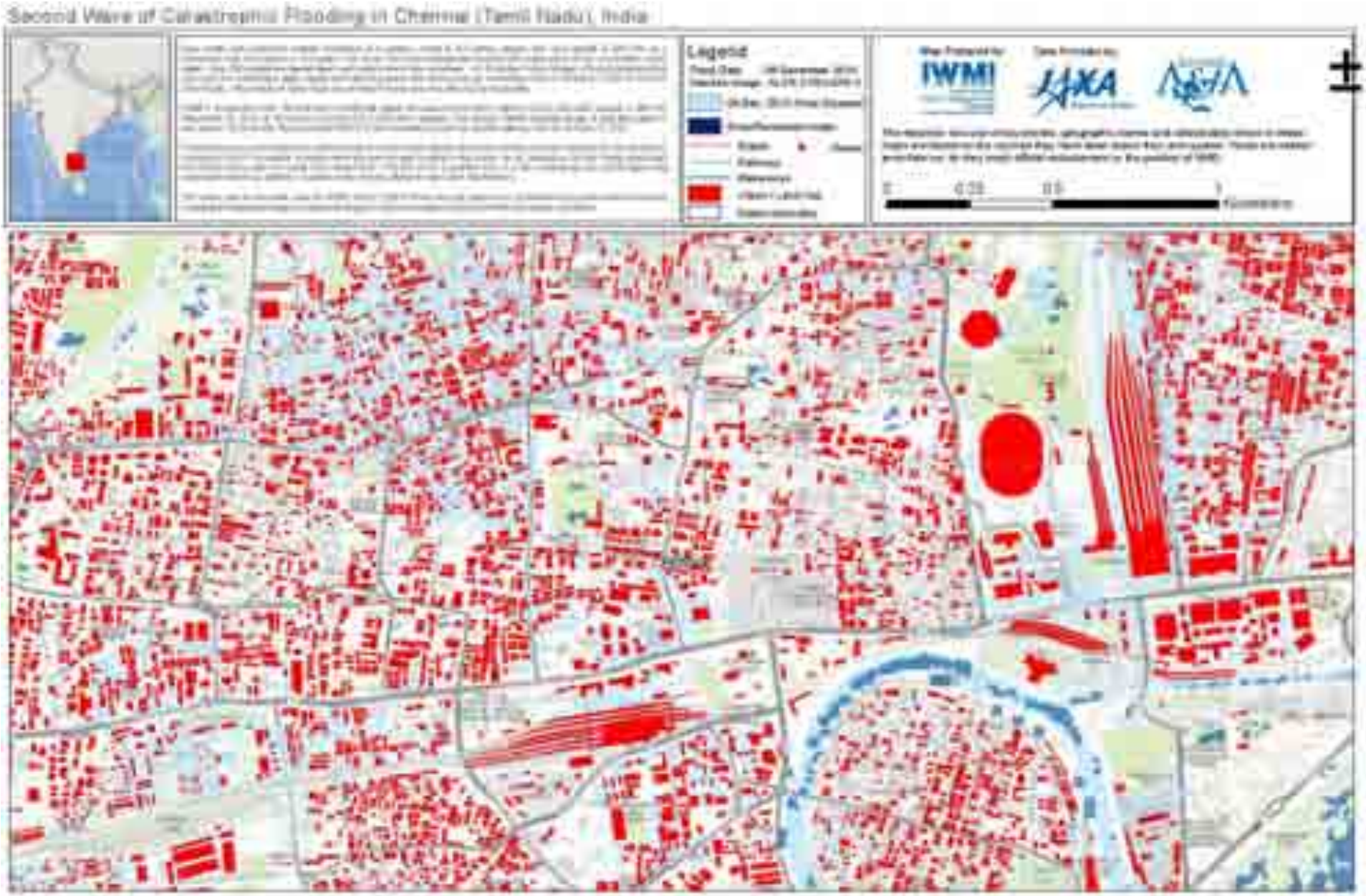




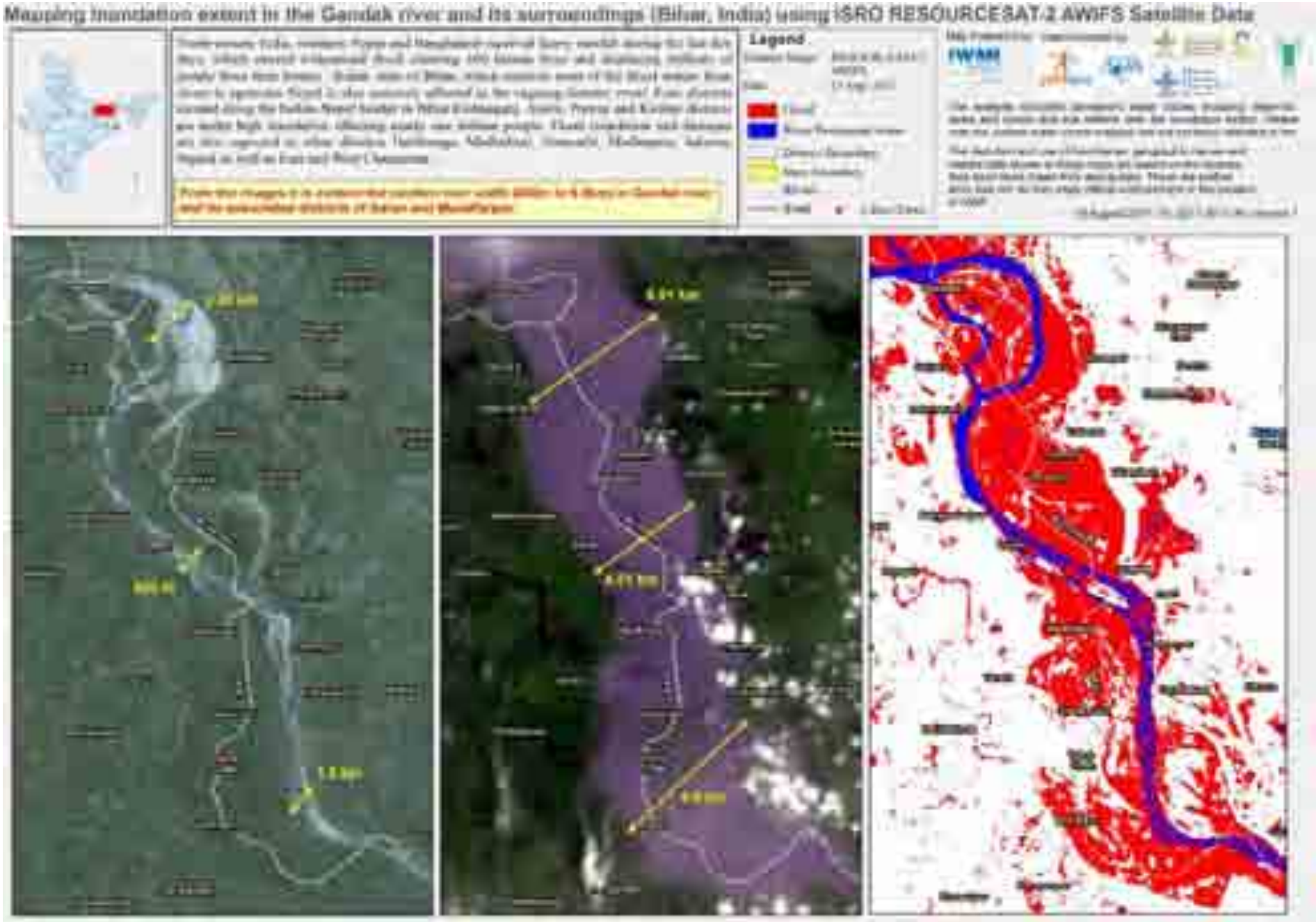
Data source – Irrigation Department Sri Lanka (Data received on 25 May 2018)

23 May 2018 – Version 5

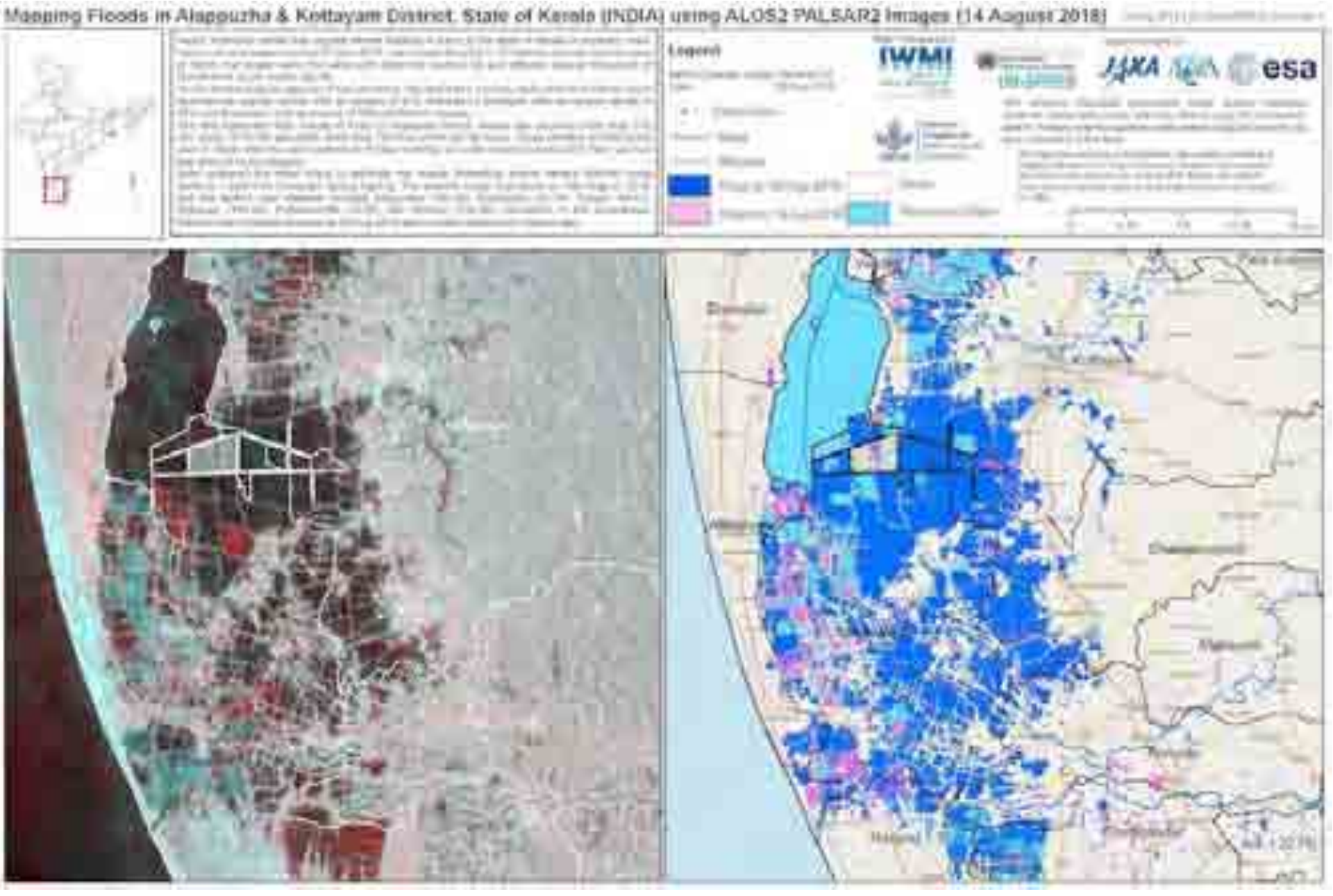
India Flood -2015



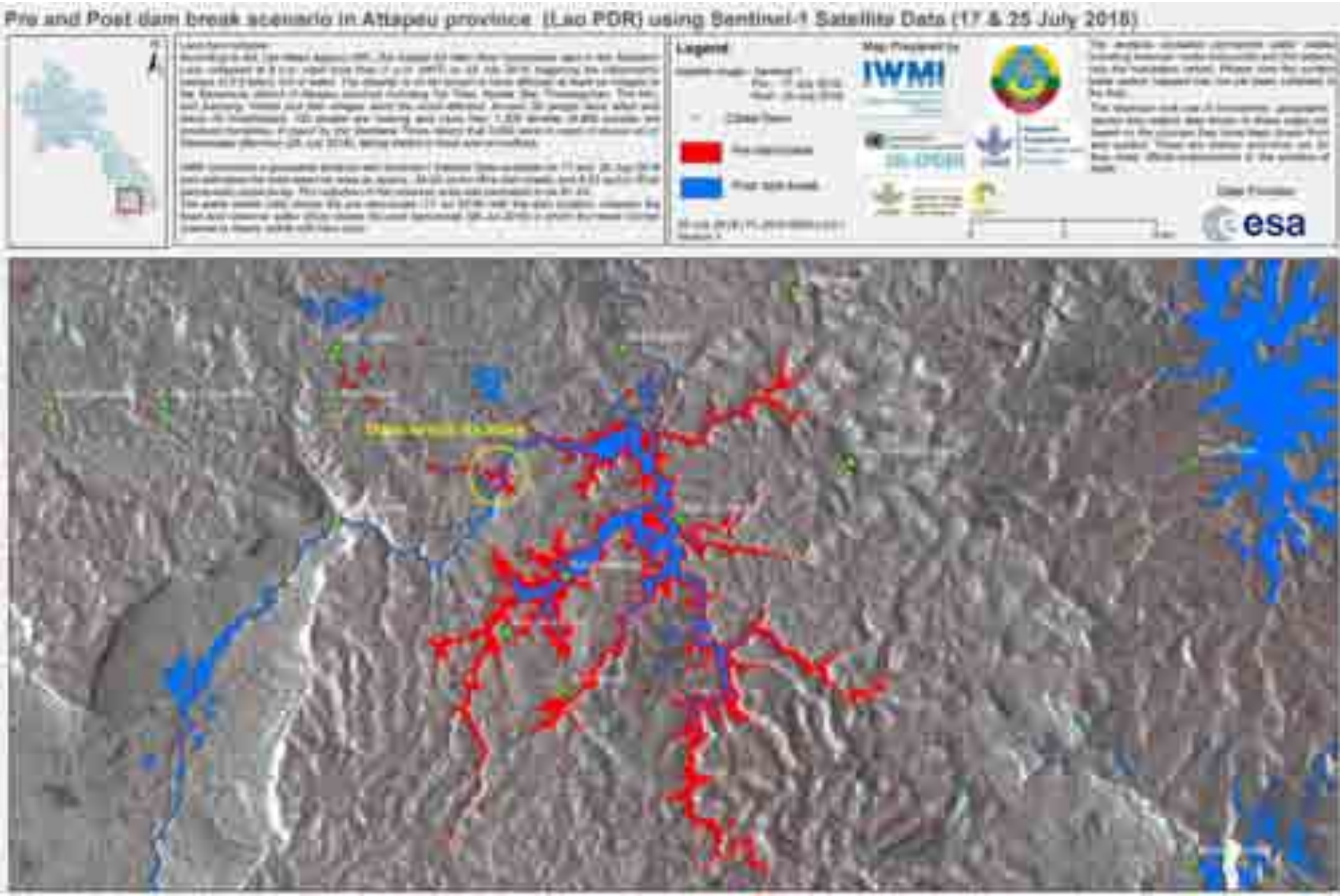
India Flood -2017



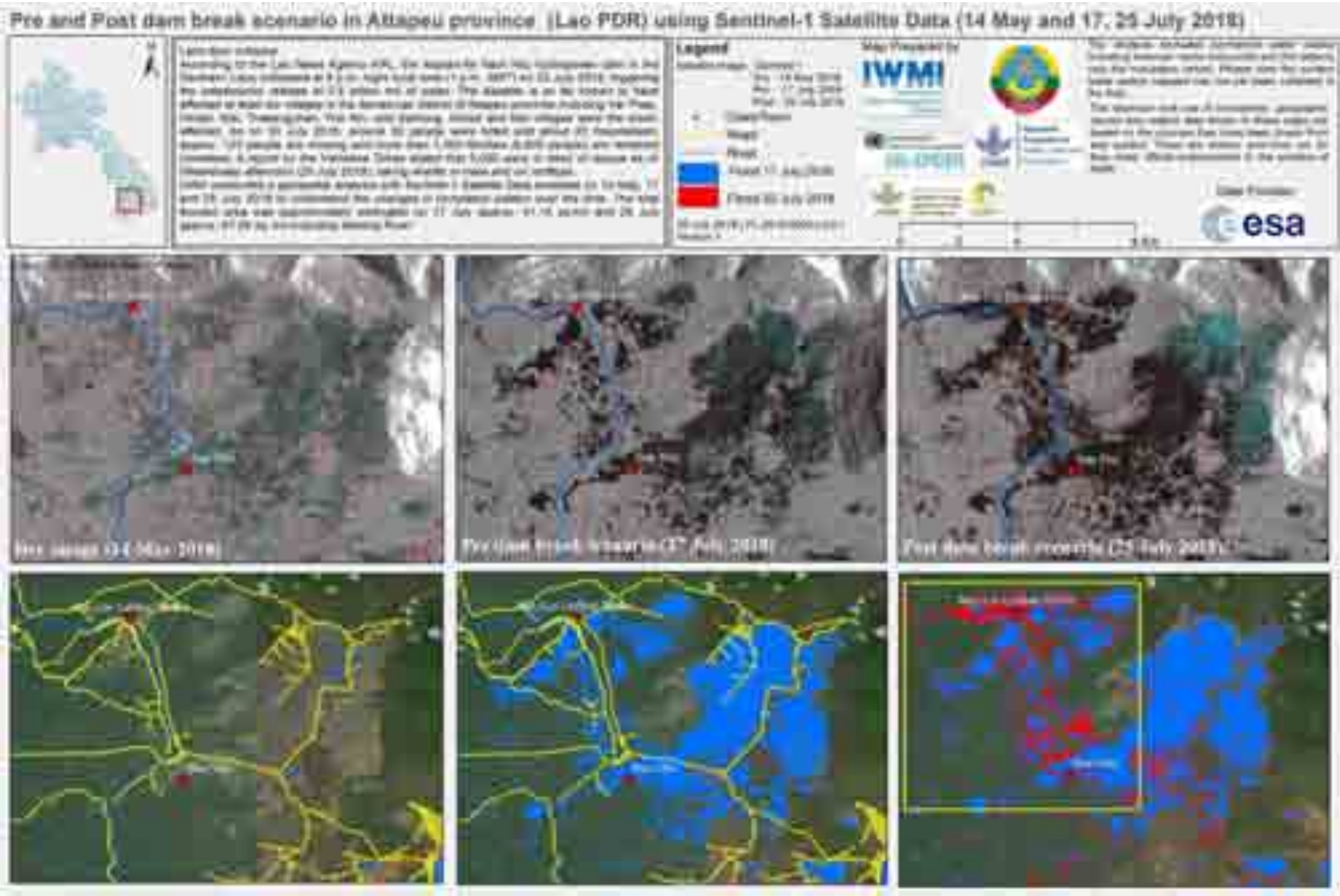
India (Kerala) Flood -2018



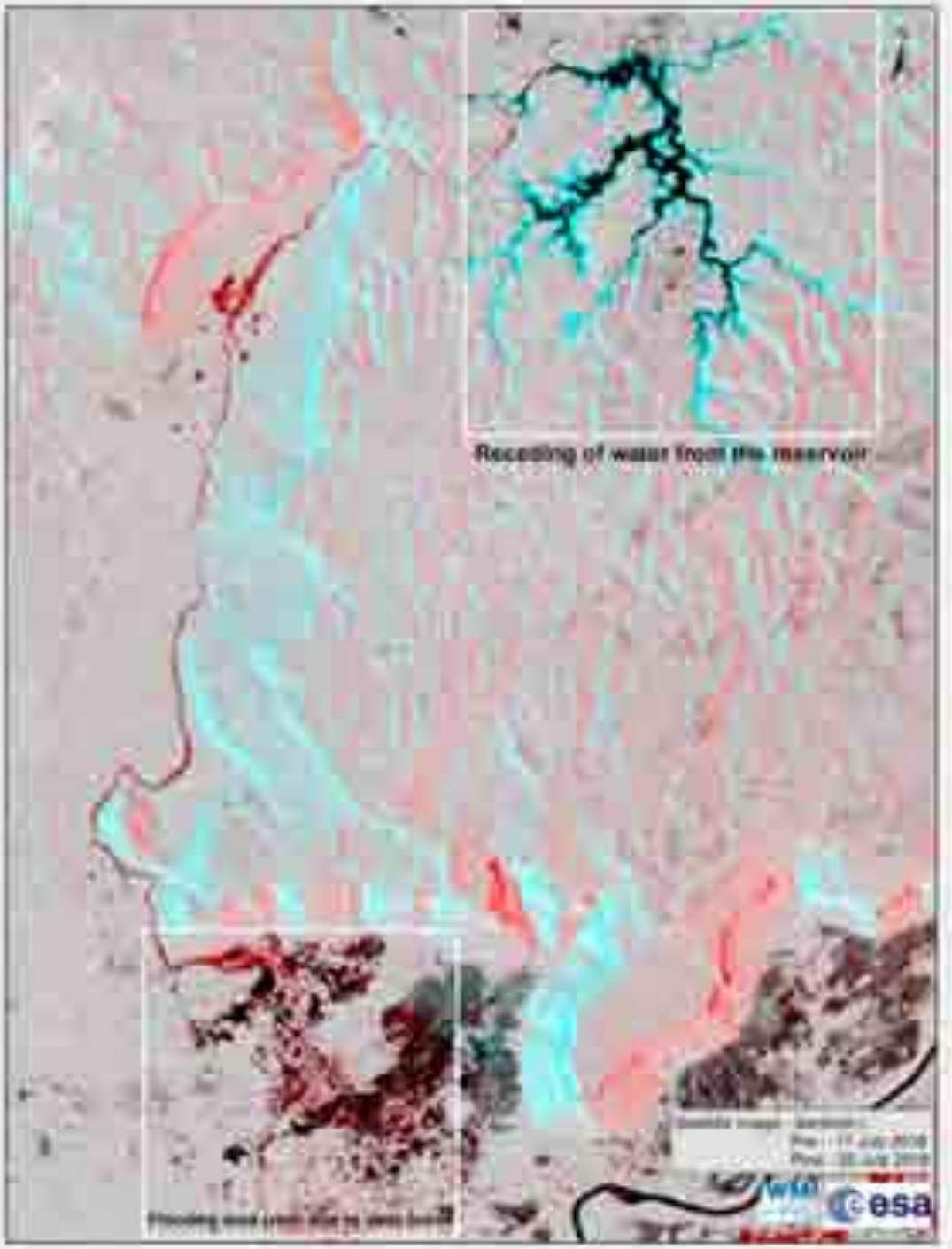
Lao PDR Dam break -2018



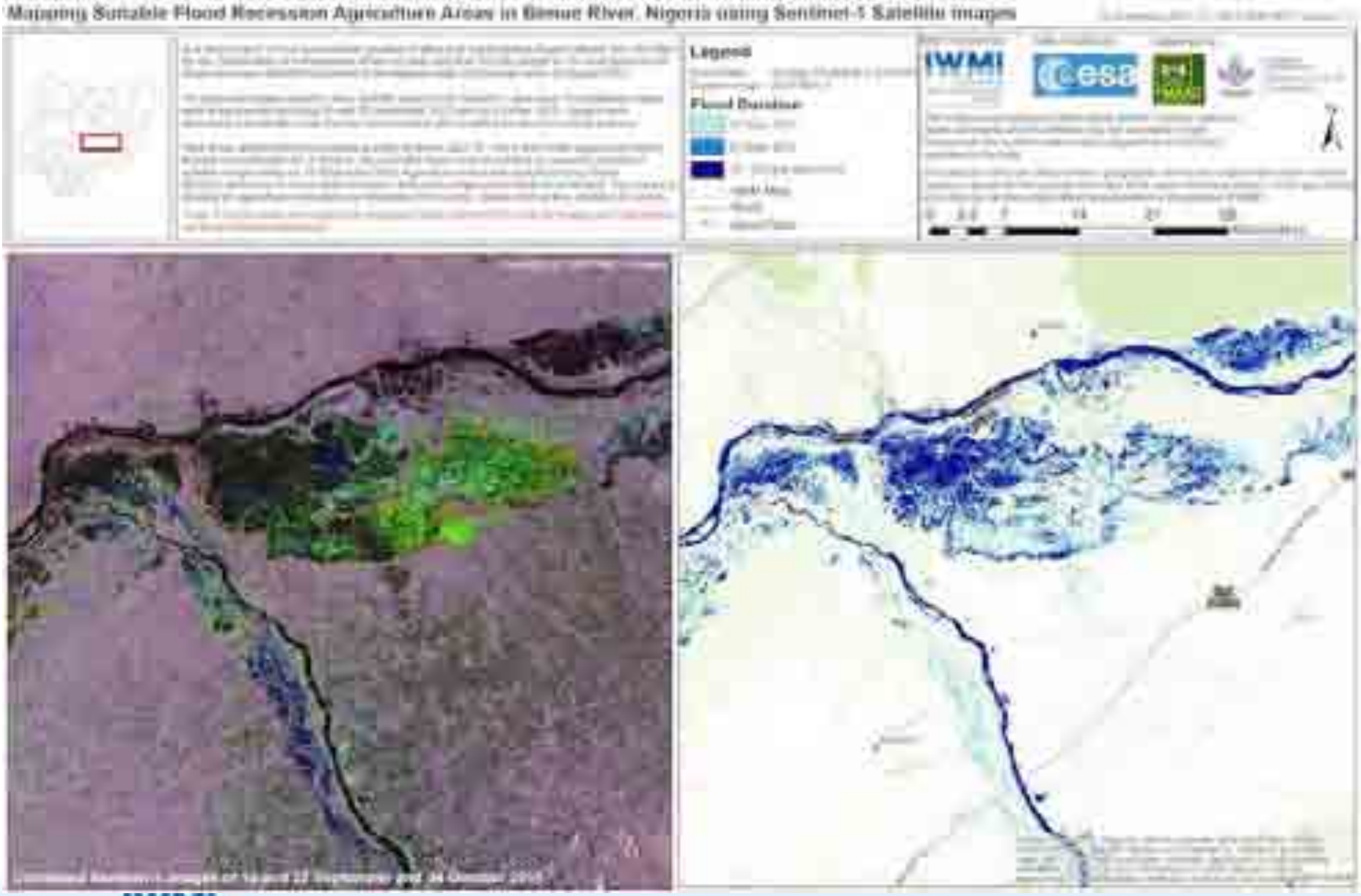
Lao PDR Dam break -2018



Lao PDR Dam break - 2018



Nigeria-2015



REGIONAL FLOOD RISK MAPPING - SA and

- Maping algorithm based on MODIS data
- 8-days maps of inundation extent
- Annual maps of maximum inundation
- Inter-annual variation of regional flooding extent


THANK YOU !
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Phone - +94773646536