

Development of flood inundation model for flood hazard assessment

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1. Basics of Satellite data processing

Basics of Satellite data Processing (L5)

- Satellite band properties
- Layer stack (composite bands)
- Band combination (Visualization)
- Basics of Indices calculation (NDVI, NDWI)
- Flood area extraction

Basics

Processing (L5)

Landsat-7
Band 1
Band 2
Band 3
Band 4
Band 5
Band 6
Band 7
Band 8



Color Infrared:

Landsat 7
Landsat 5
4, 3, 2

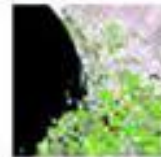
Landsat 8
5,4,3



Natural Color:

3, 2, 1

4,3,2



False Color:

5,4,3

6,5,4



False Color:

7,5,3

7,6,4



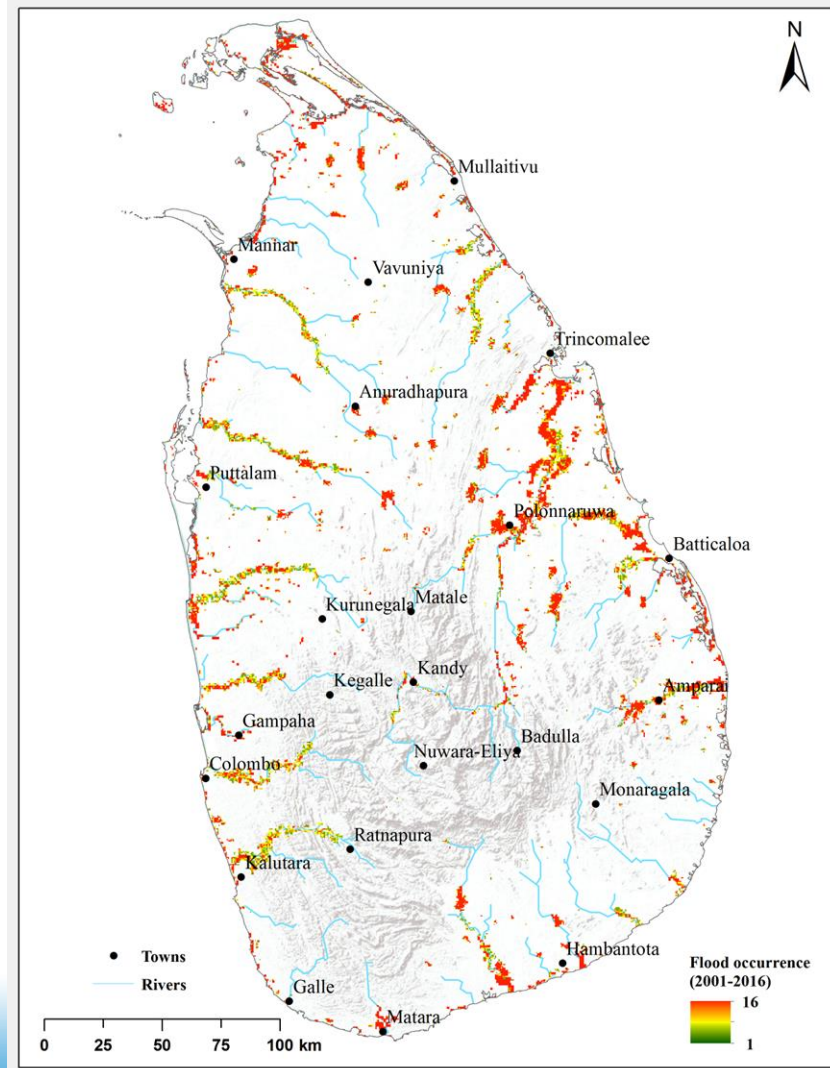
False Color:

7,4,2

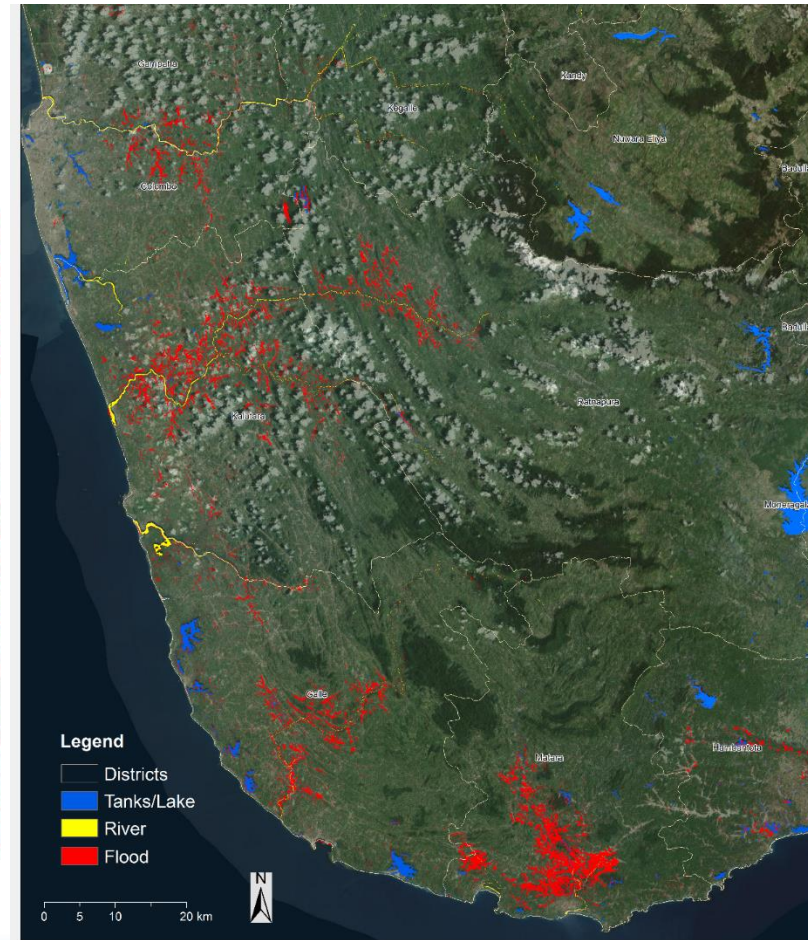
7,5,3

2.Flood Inundation Mapping and Hazard assesment

Historical Flood occurrence of Sri Lanka



SAR based Flood extent mapping



Dataset and steps

- Annual flood for 14 Years (2001-2014)
- Generate a annual flood frequency map