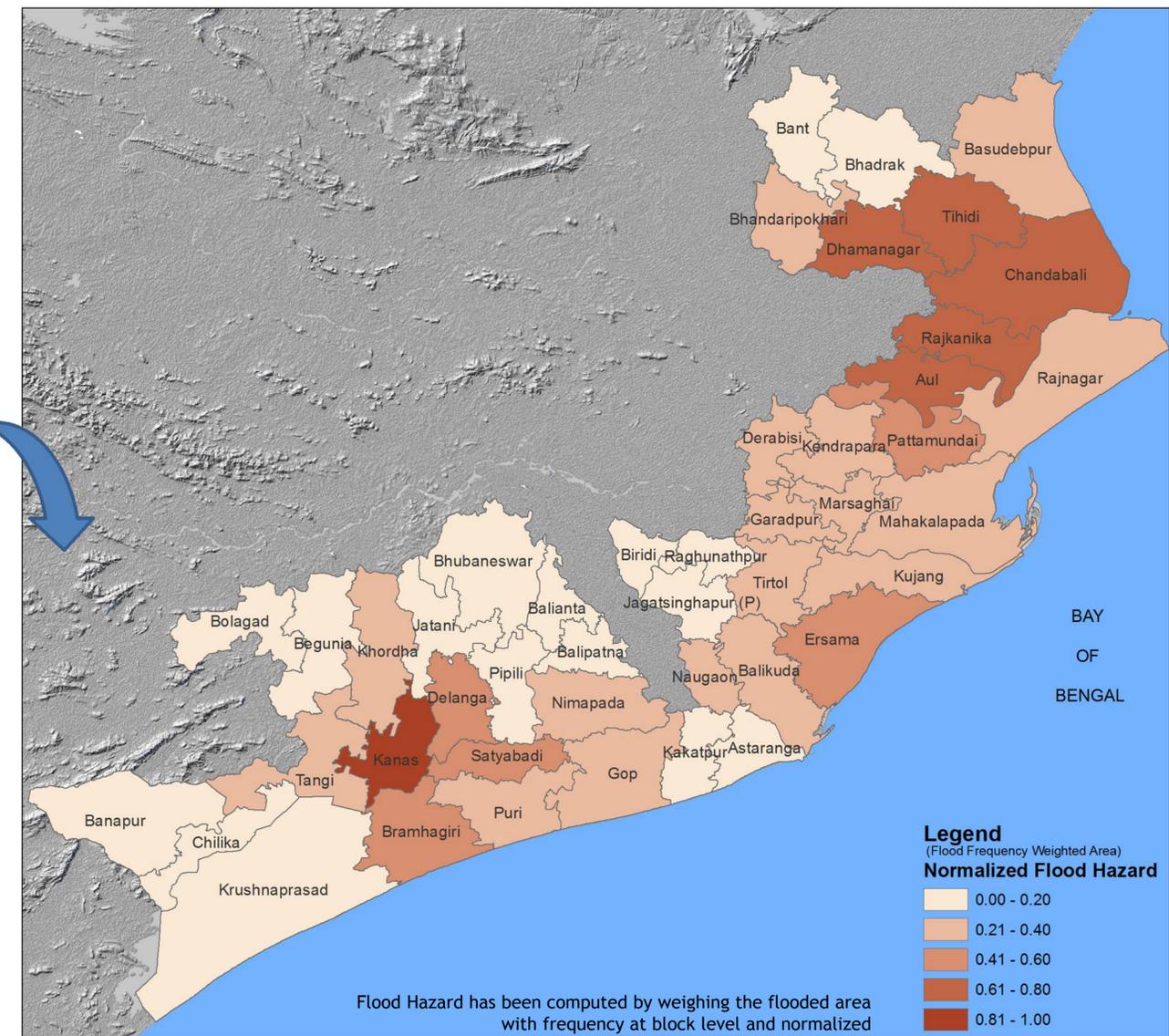
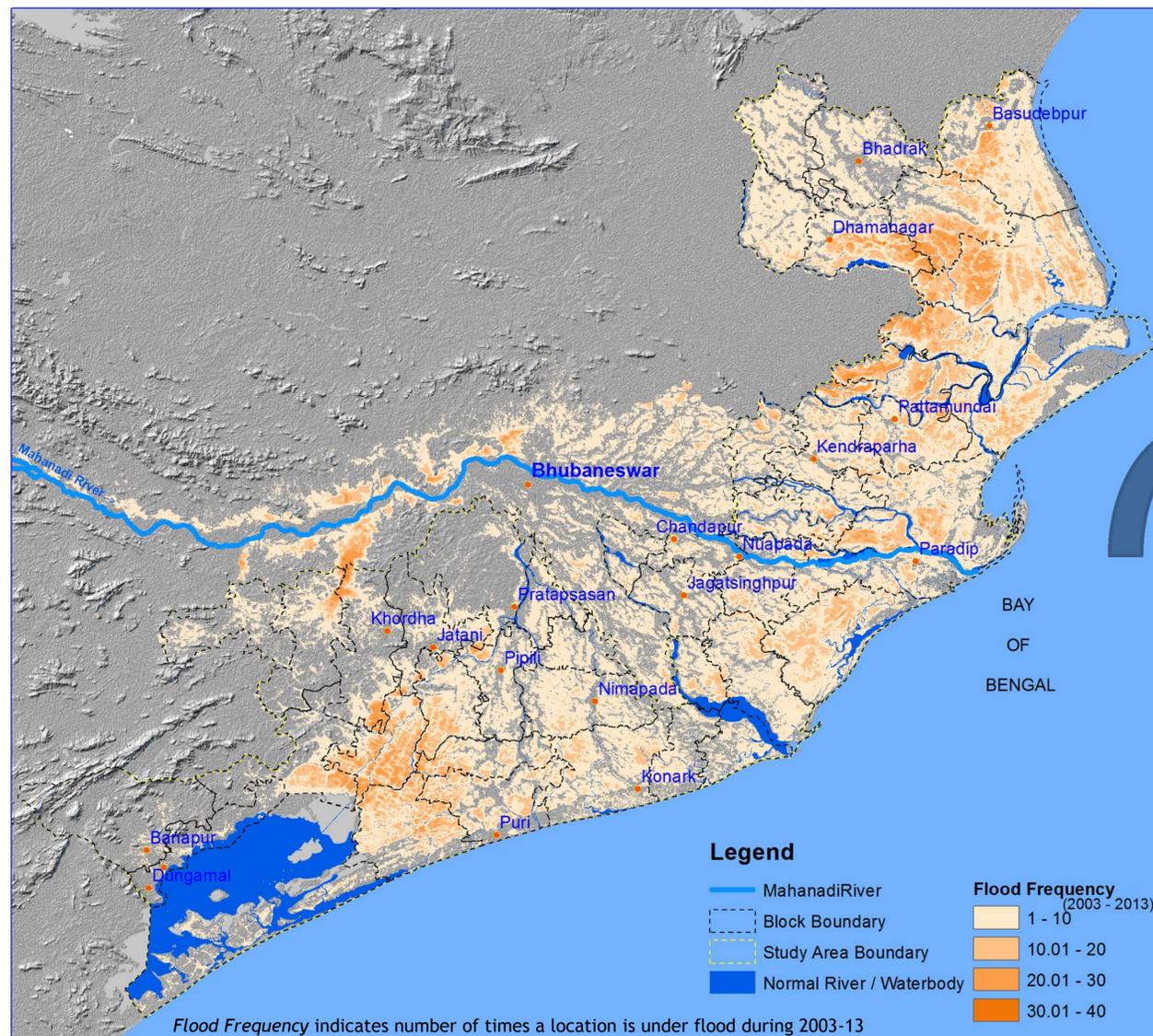
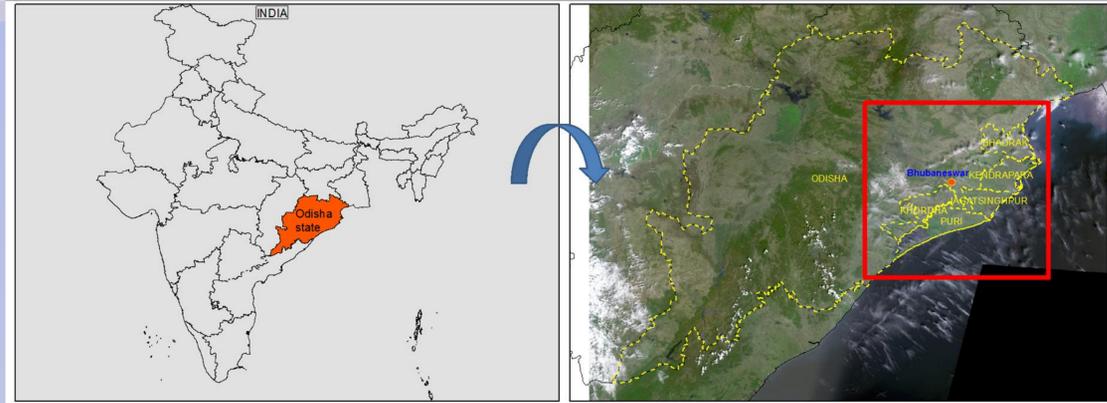


Spatial Flood Hazard quantification using multi-year satellite data

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Abstract:

India is one the high flood prone countries in the world and floods predominantly occur during monsoon season (June to September). Mahanadi Delta is one the frequently flood prone region to both riverine flooding & cyclone induced inundation. During past decade, severe floods were witnessed (2008, 2011). Inundation due to flooding causes loss of life & property and crop damage. The expected increase in frequency of high rainfall events and cyclones under climate change, pose enhanced hazard/exposure to deltaic regions. Therefore, characterizing the magnitude of exposure to flood/cyclone inundation is one of the primary information to be considered for climate change adaptation planning.

Satellite data based assessment of flood inundation is a well-established operational activity at National Remote Sensing Centre, Indian Space Research Organisation. In support of DECCMA study for IBD/Mahanadi deltas, archives of spatial flood inundation during 2003-13 available with NRSC were analysed to characterize the flood hazard in terms of frequency of occurrence at each geo-location. The frequency weighted flooded area under each administrative unit was used to quantify the flood hazard and for hotspots ranking. The methodology applied can be adopted for climate change scenario modelling.

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