



॥वसुधैव कुटुम्बकम्॥

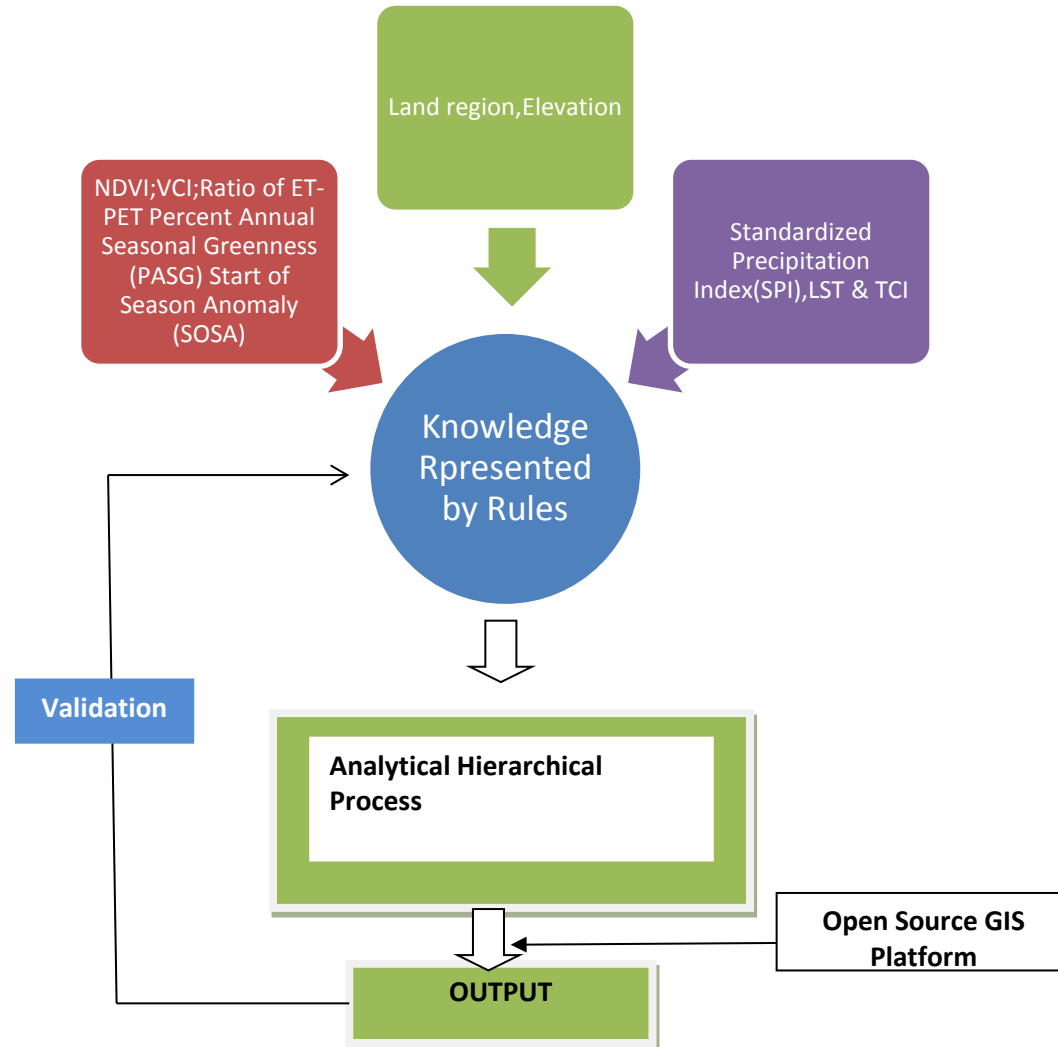
**Symbiosis Institute of
Geoinformatics,
Symbiosis International
University, India**



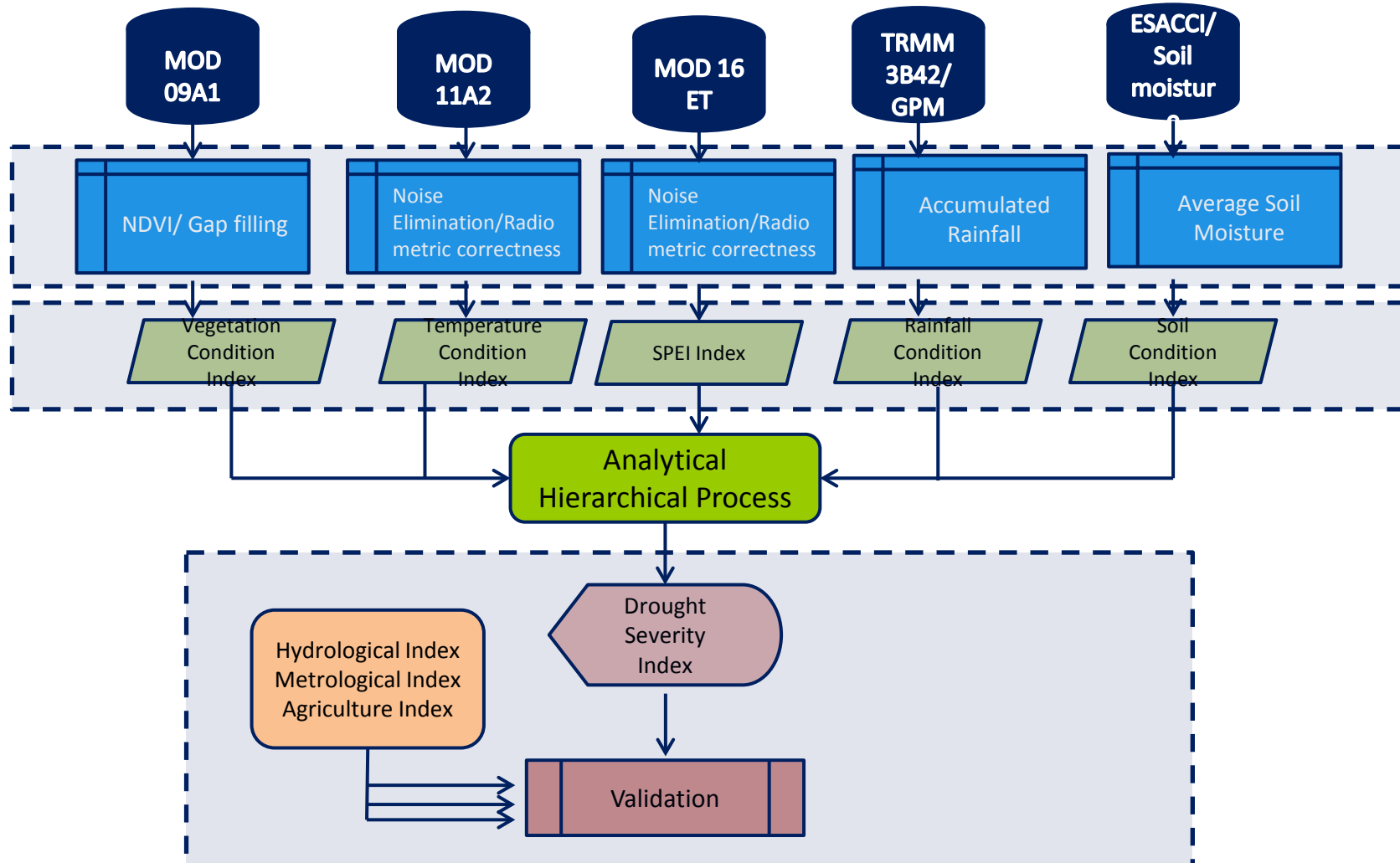
Objective

- ❖ **Increase the Resilience towards Disaster**
- ❖ **Development of the operational online prototype monitoring system;**
- ❖ **Capacity building, customization for national needs**

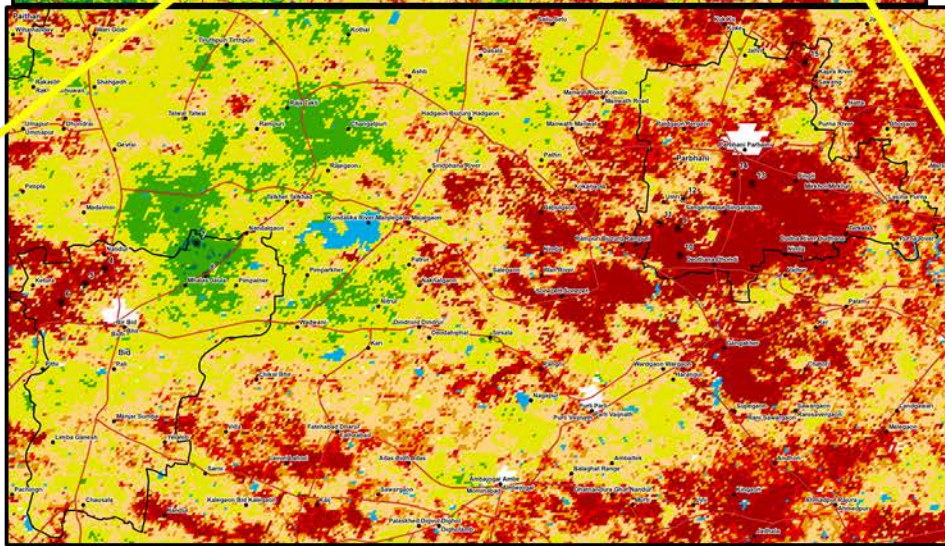
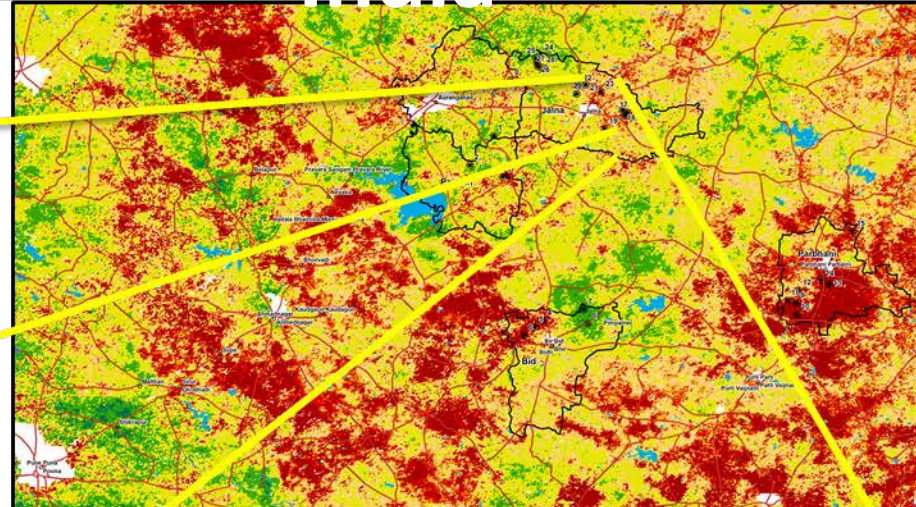
Drought Monitoring Framework



Proposed Methodology for Drought Monitoring



Drought Assessment and Prediction System for India



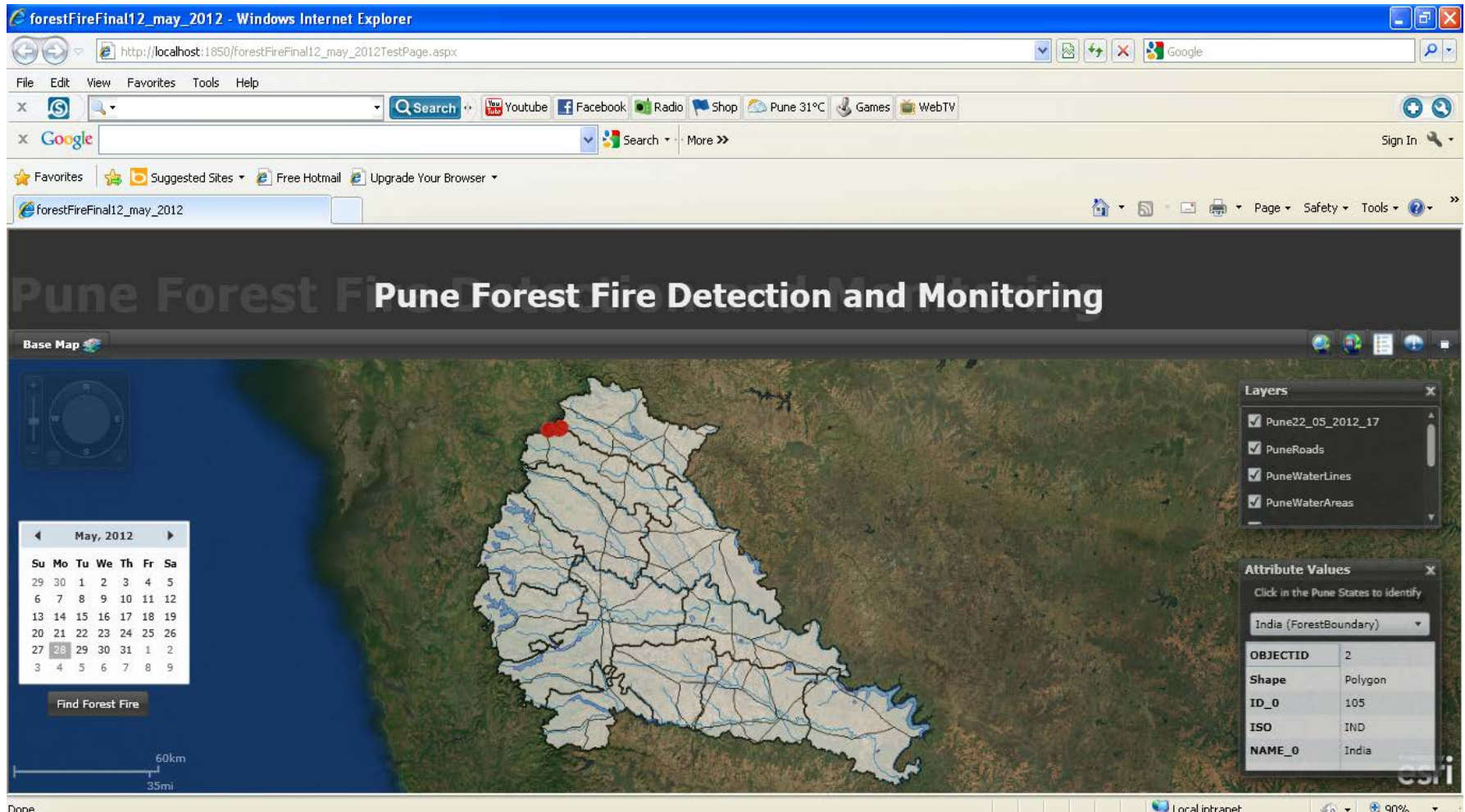
Legend

Drought Severity

-  Extremely Severe
-  Moderately Severe
-  Severe
-  Stress
-  Watch
-  Normal
-  Healthy
-  Settlements
-  Waterbody
-  City/Village
-  Major Roads
-  Field Points
-  Field Visit Taluks



Automatic Forest Fire Assessment



Automatic Forest Fire Assessment

Pune Forest Fire Detection and Monitoring

Base Map

May, 2012

Find Forest Fire

Messages LM015001

Call Add to Contacts

May 02,2012 8:53

Fire has occurred at Place:
Bhor Lat: 18.164 Long:
73.766 Date: 2012-05-02
Time: 08:45

May 09,2012 5:56

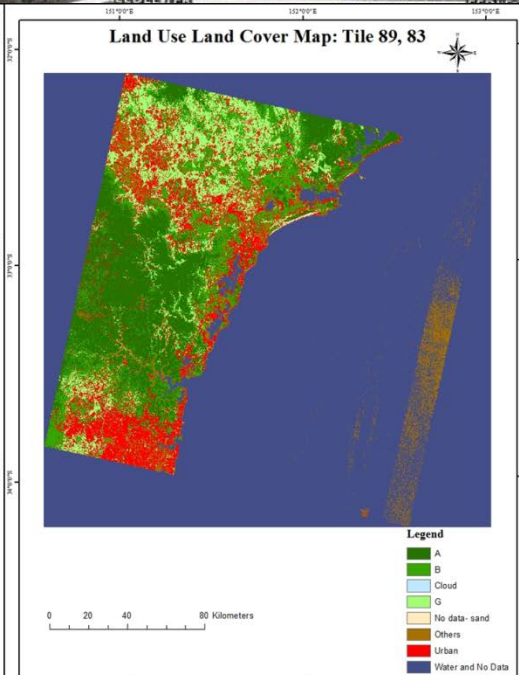
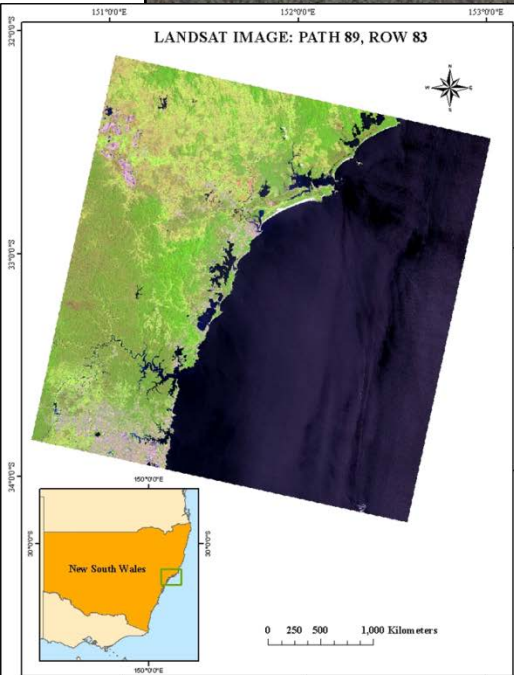
Fire has occurred at Place:
Wadgaon(Lat: 18.826
Long: 73.404) Date: 2012-
05-09 Time: 05:45

Send

- Date: 5th April
Near
Bimashankar
area
- location :19°
1'37.20"N,
73°42'0.00"E



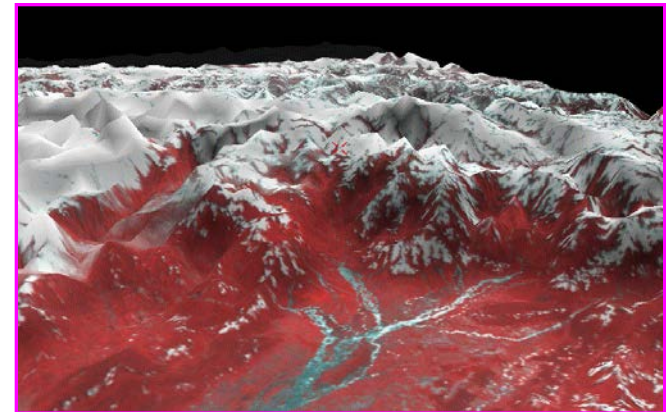
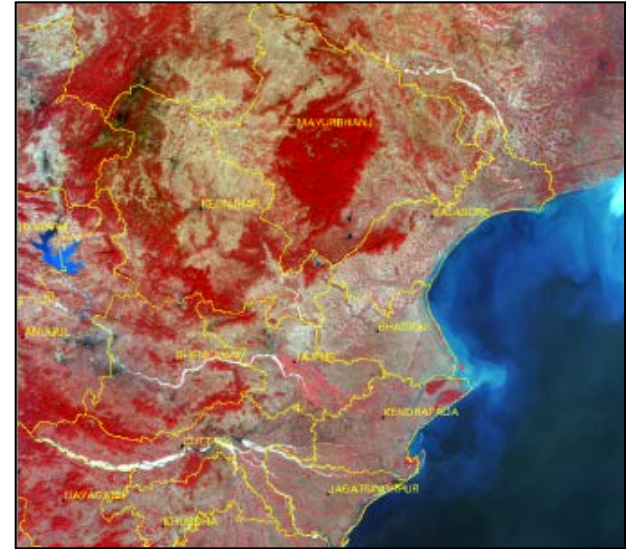
Bush Fire Assessment



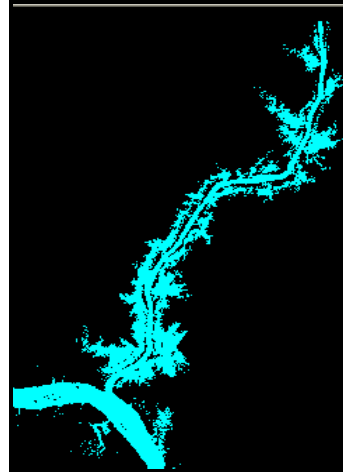
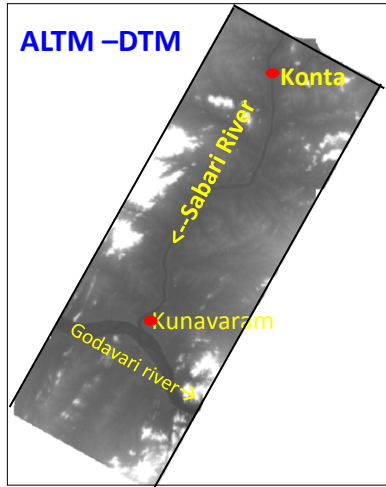
Imagery by Mapbox Terms & Feedback. Data by OpenStreetMap, under CC BY

Flood Disaster Management

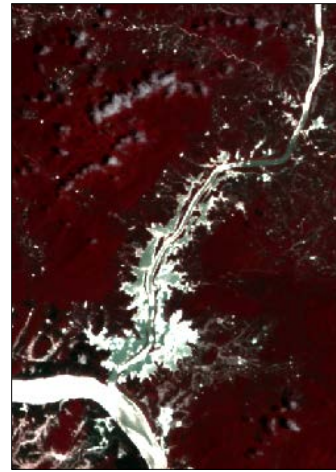
- Near real time flood inundation mapping
- Flood hazard zonation: Assam, Bihar , Orissa & U.P
- Flood Forecast Modeling- Inundation Modelling
- Scientific assessment of Flood Prone Area
- River Morphological Studies & River Bank Erosion
- Inventory & Monitoring of Glacial Lakes for possible Glacial Lake Outburst Flood



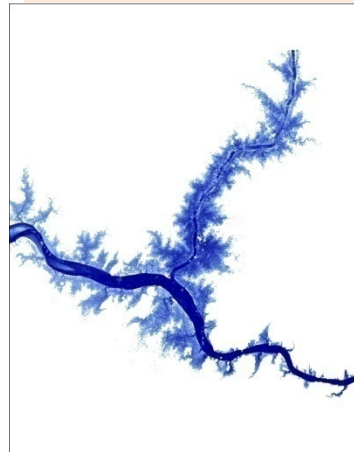
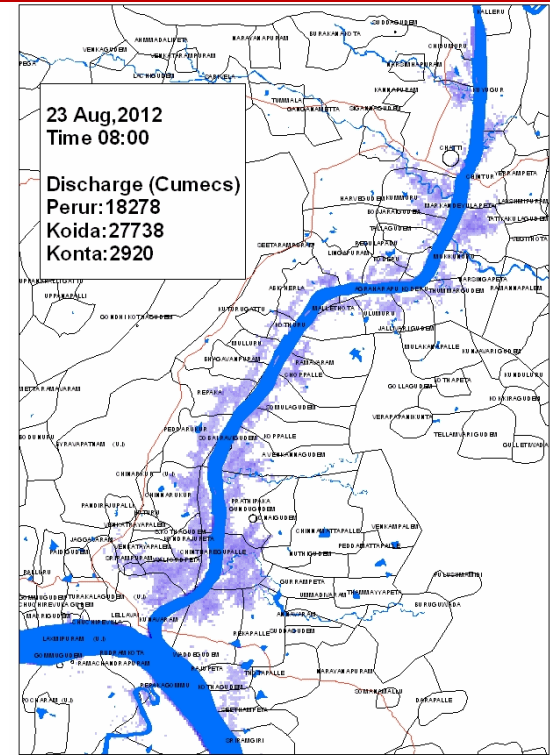
Flood Early Warning Flood Inundation Modelling



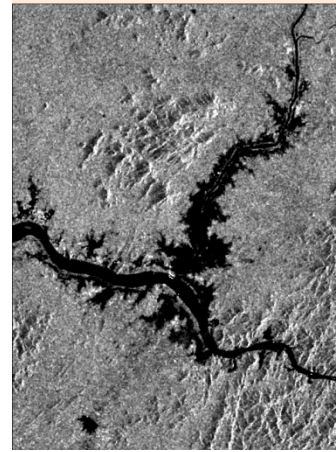
Simulation Results
23 Aug, 2012
Time 06:00



Resoursat-2
23 Aug, 2012
Time 10:30



Simulation Results
06-Aug-2013
Time 06:00



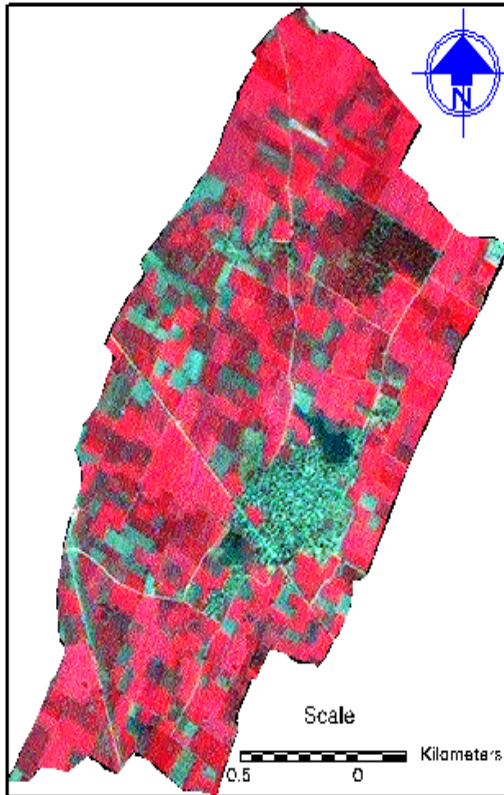
Radarsat-2
06-Aug-
2013
Time 06:00

NEXT: Further, this is being extended to Devi River in Odisha State

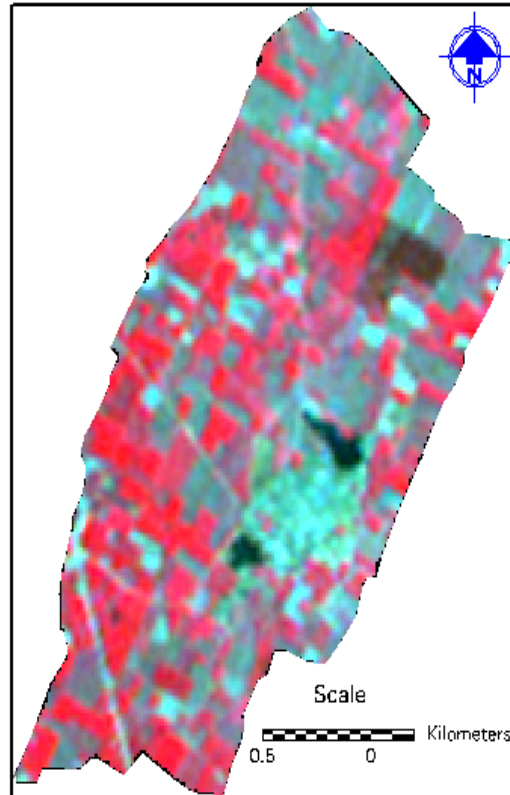
RESULT:
Upto 90% accuracy

Post-disaster management

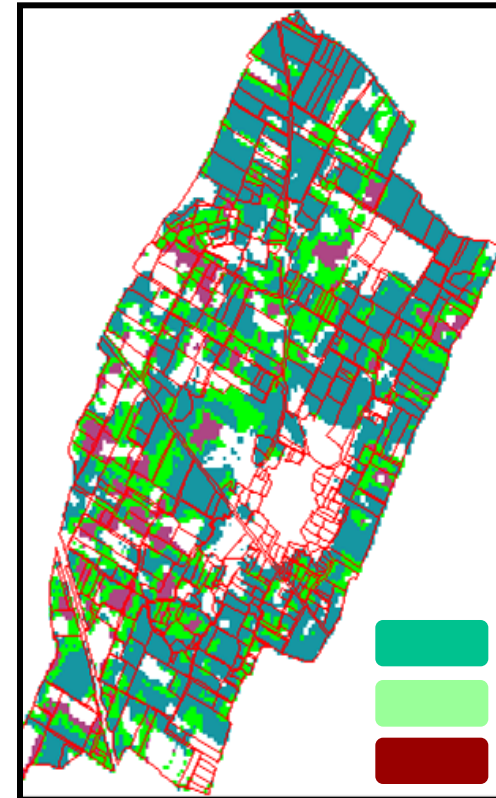
Pre-Hail Storm



Post-Hail Storm



Damage category



- Severe
- Moderate
- Slight

Hail storm damage assessment of Potato crop in Narhara village

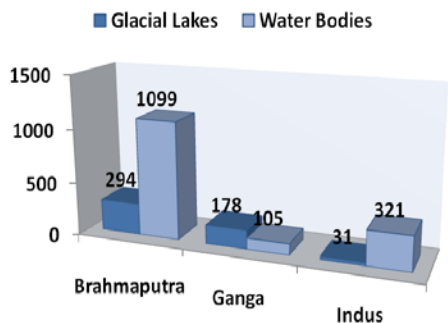
Monitoring of Glacial Lakes in Himalayan Region of Indian Rivers

Inventory

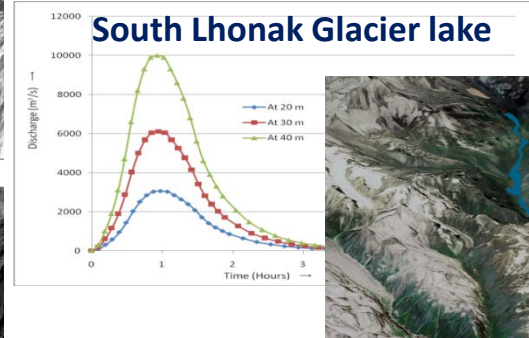
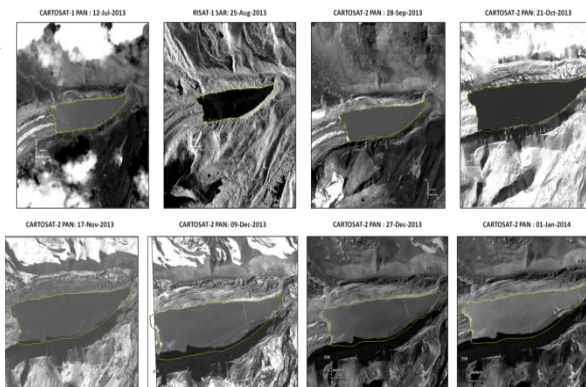
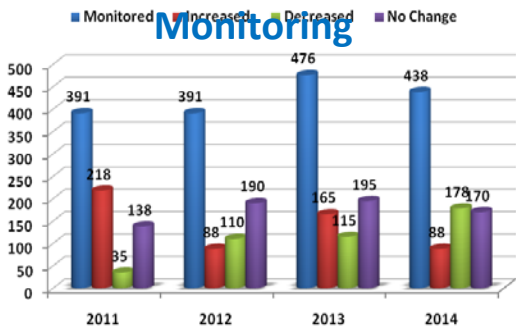


- ❖ Inventory of glacial lakes & water bodies (Area >10ha) using AWiFS data during the year 2009 :**2028 lakes**.
- ❖ Monthly (June to October) monitoring of Glacial lakes (> 50 ha.) during the years 2011 to 2014 :**477 Lakes**
- ❖ Provide Information to NRSC
- ❖ High Resolution close monitoring of two lakes (**South Lhonak lake & Pareechu lake**) since 2013
- ❖ Glacial lakes hazard assessment &GLOF study of South Lonak Lake in Teesta Basin

Basin wise distribution



Monitoring



Geospatial Capacity Building-Disaster Management

SYMBIOSIS INSTITUTE OF GEOINFORMATICS





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Thank you.

Geoinformatic Technology to increase the
Disaster Resilience