

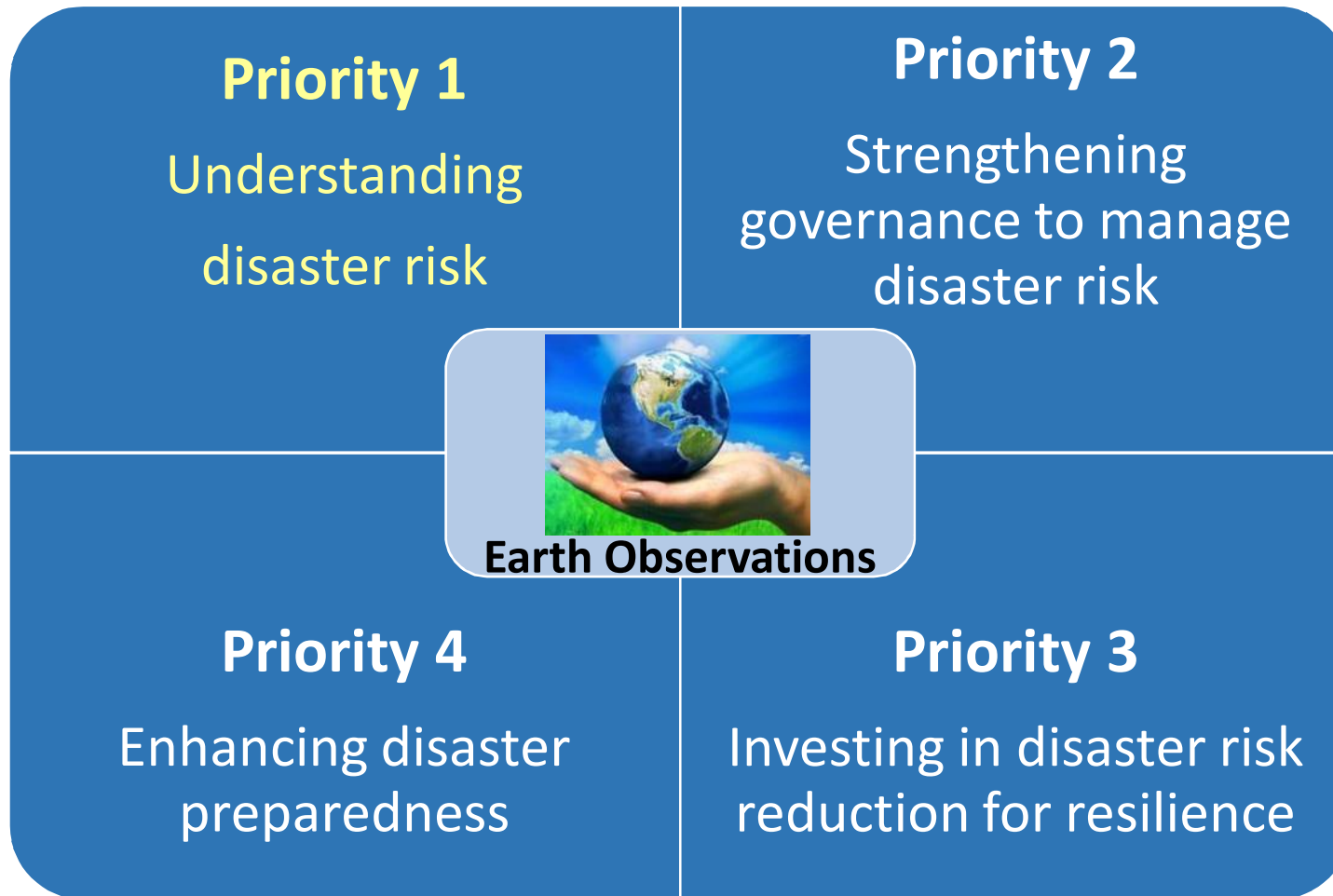


JPTM Meeting, Colombo, 19-21 January 2016

**Earth observations to support implementation of Sendai
Framework for Disaster Risk Reduction: 2015-2030**
IWMI Experience

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SENDAI FRAMEWORK: PRIORITIES FOR ACTION



SENDAI FRAMEWORK PRIORITY 1- Understanding risk

National Level:

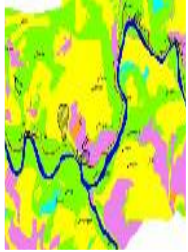
- 15 action points, many relevant to EO
- One directly relevant: promote real-time access to reliable data, make use of space and in situ information, including geographic information systems (GIS)

Global and Regional Levels:

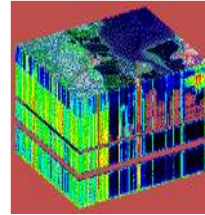
9 action points, many relevant to EO; Specific extracts:

- Maintain and strengthen in situ and remotely-sensed earth and climate observations
- Strengthen the evidence-base in support of the implementation of SFDRR;
- Promote scientific research of disaster risk patterns, causes and effects;
- Disseminate risk information with the best use of geospatial information technology

EARTH OBSERVATIONS FOR DISASTER MANAGEMENT



Spatially extensive mapping



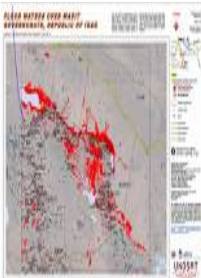
Beyond 'human eye' capability



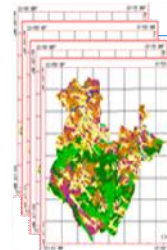
Localised event detection



Access to difficult or dangerous sites



Near real time response



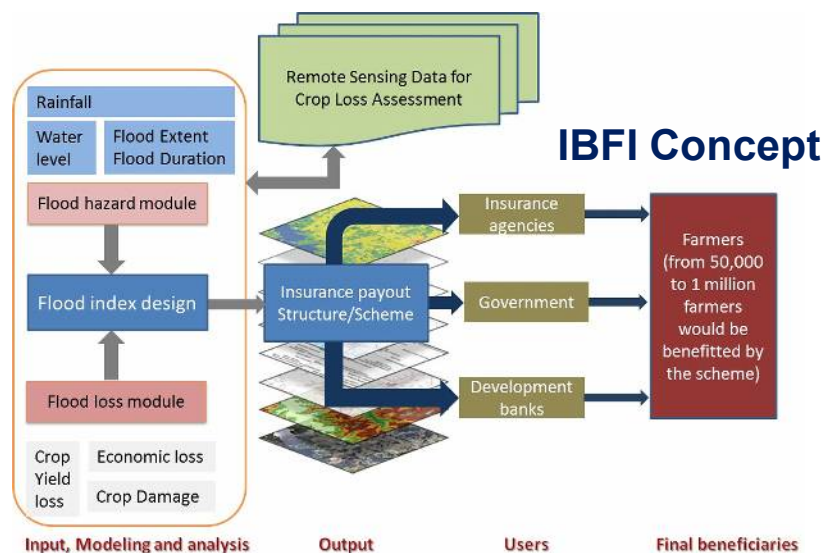
Geo-referenced and calibrated

EXAMPLES FROM RECENT / CURRENT IWMI RESEARCH

INDEX-BASED FLOOD INSURANCE IN INDIA (IBFI) TO ENHANCE AGRICULTURE AND LIVELIHOODS RESILIENCE

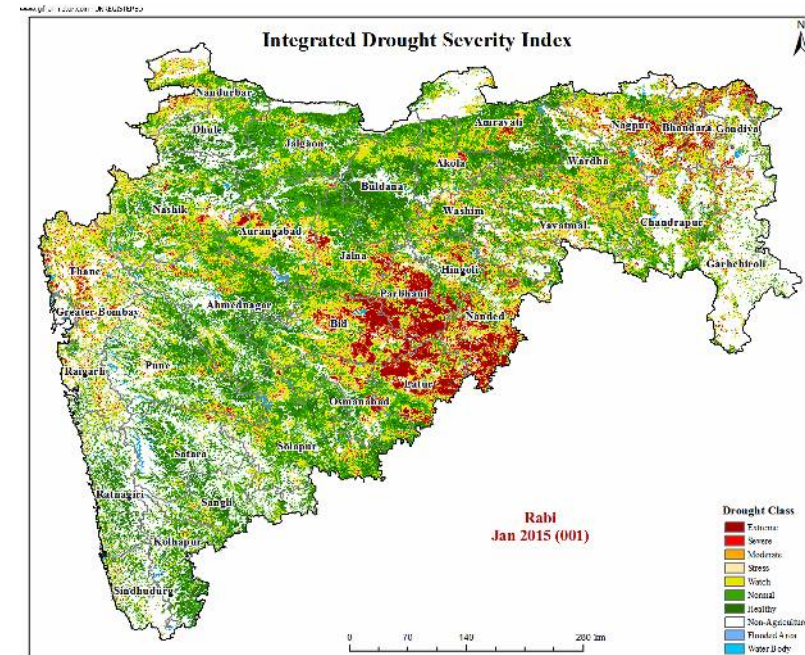
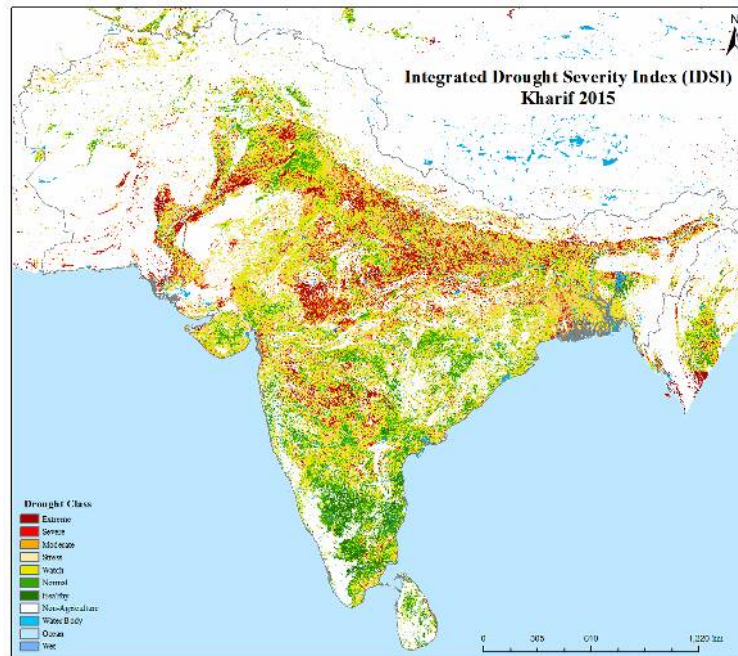
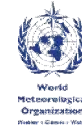


RESEARCH PROGRAM ON
Climate Change,
Agriculture and
Food Security



- Project period: 2015-2018; <http://ibfi.iwmi.org/>
- Pilot districts in Bihar. Pilot-scale trials to demonstrate that positive verifiable impacts emerge from IBFI
- Partners: International Food Policy Research Institute (IFPRI), Indian Institute of Technology (IIT)-Gandhinagar, Indian Institute of Water Management (IIWM-ICAR); Agriculture Insurance Corporation, MoA; Bajaj Allianz, Swiss Re
- Developing tools and strategies that support IBFI upscaling, integrated with existing and future flood control measures

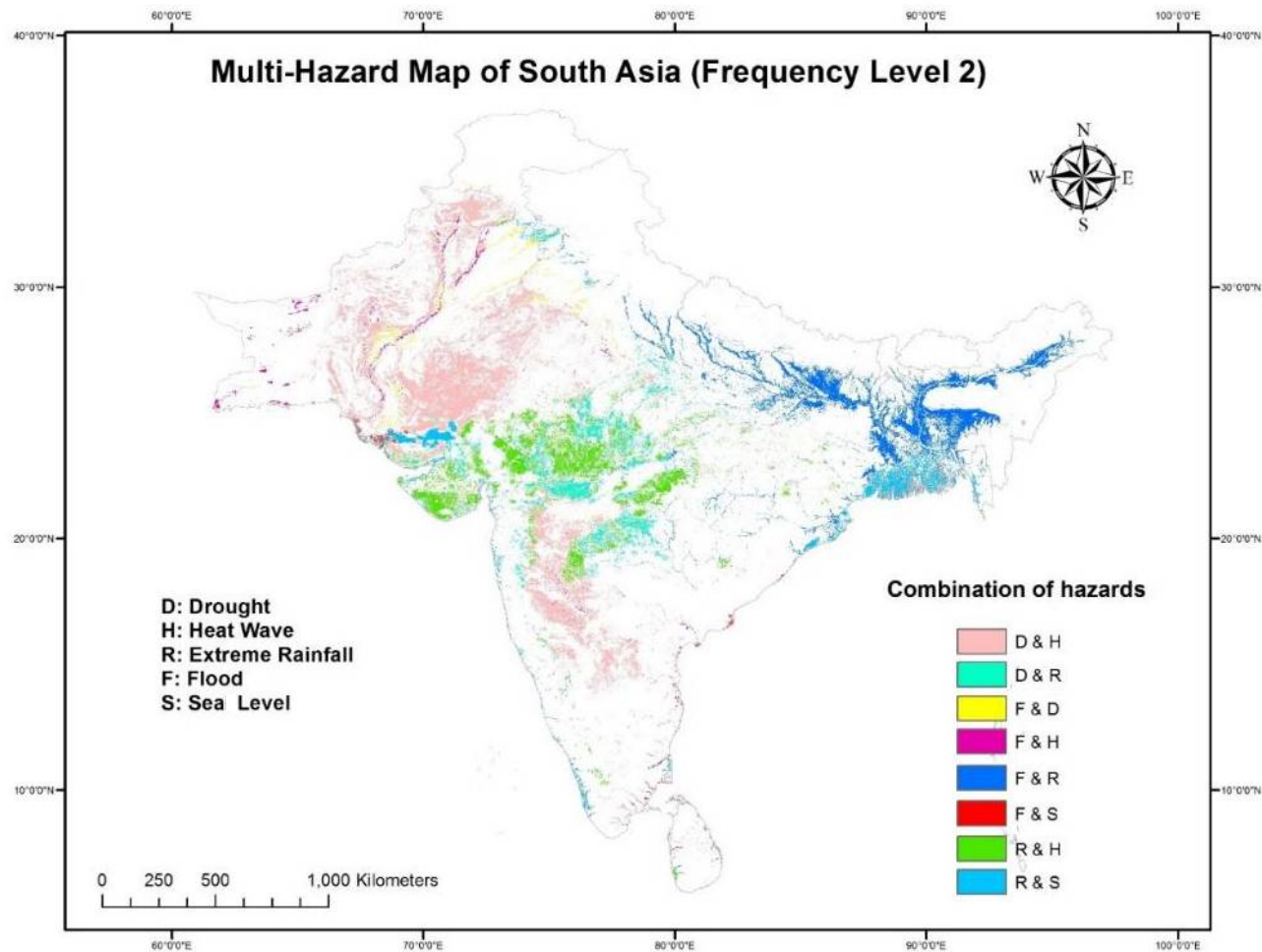
SOUTH ASIA DROUGHT MONITORING SYSTEM



2015, Jalna, Maharashtra

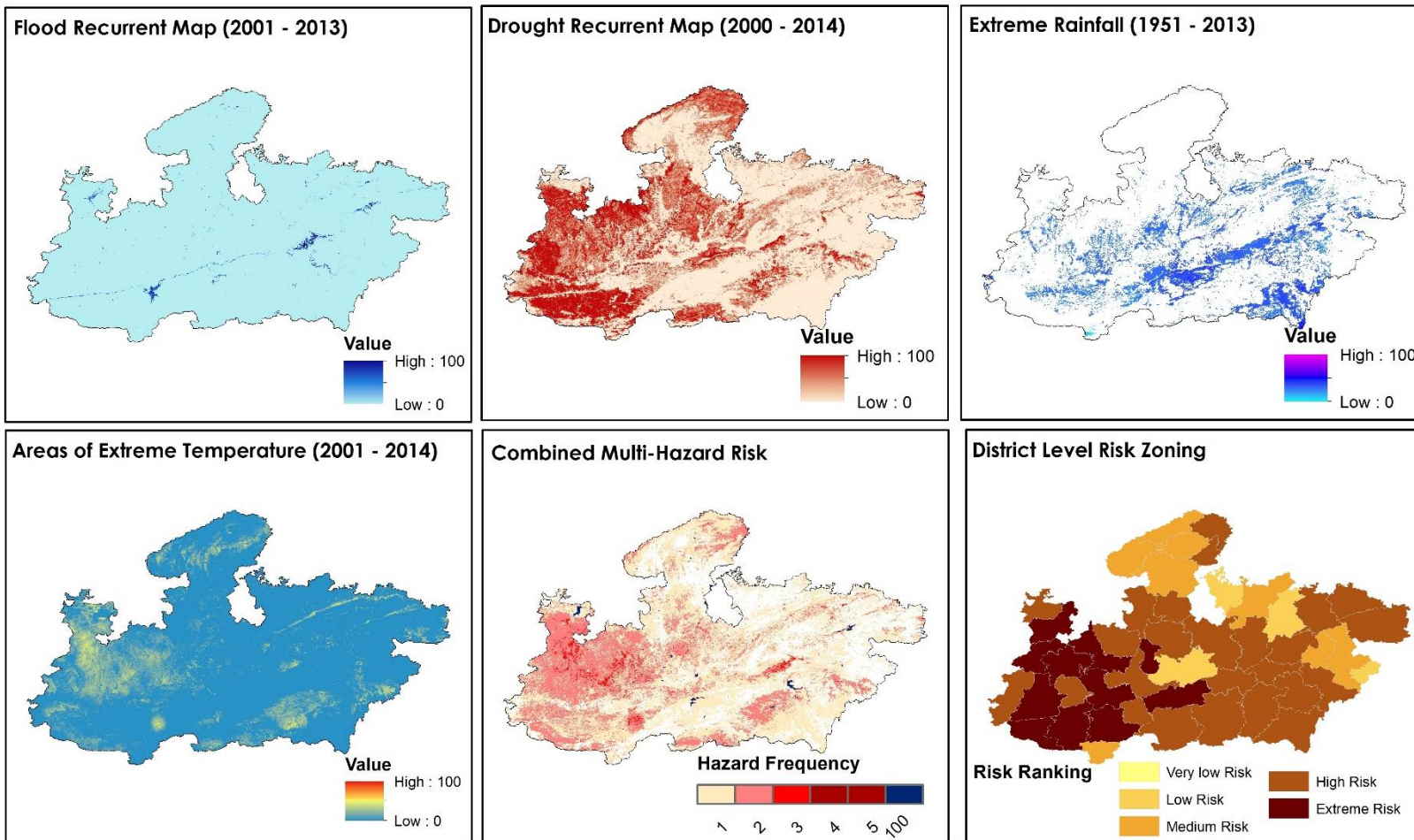
- First of its kind for entire South Asia with multisource remote sensing observations;
- Historical drought risk mapping and assessment covering SA countries (2000 – Current);
- Real-time monitoring of drought extremity and spatial extent;
- Influencing national policies and measures to deal with droughts, and promoting regional cooperation in drought management

MULTIPLE RISKS ASSESSMENT - REGIONAL



MULTIPLE RISKS ASSESSMENT – LOCAL

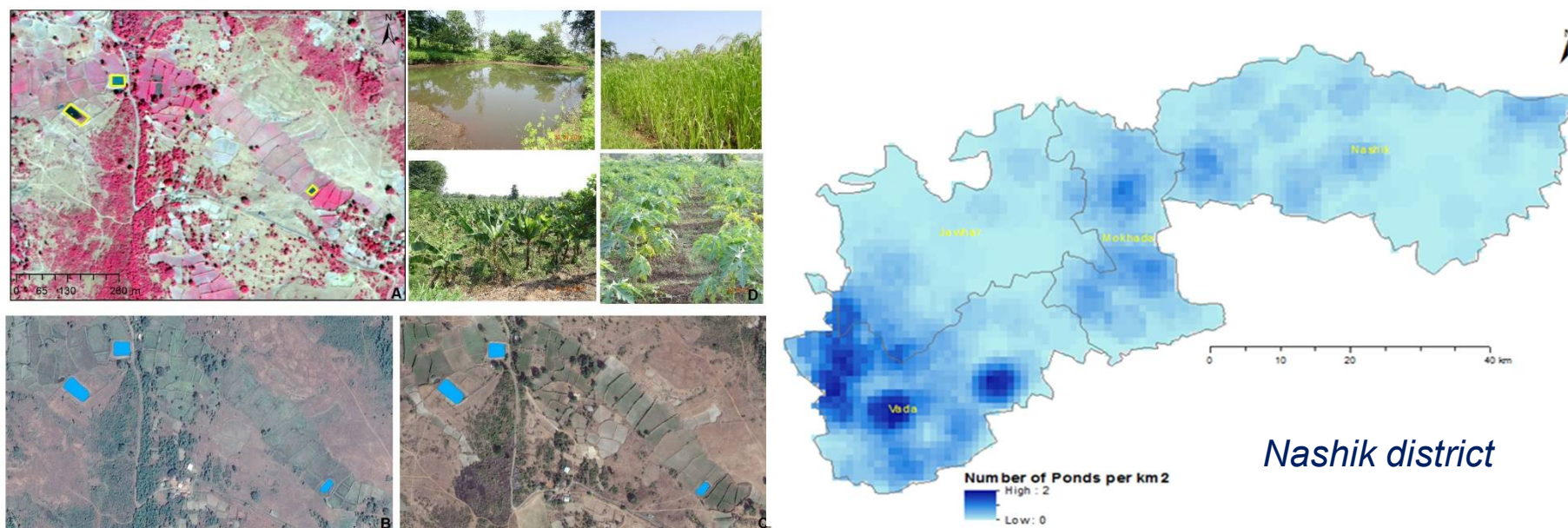
Madhya Pradesh



High to Extreme Risk Districts:

East and West Nimar, Dhar, Barwani, Ratlam, Mandsaur, Shajapur, Bhopal, Hoshangabad

FARM POND MAPPING USING SATELLITE DATA - MAHARASHTRA

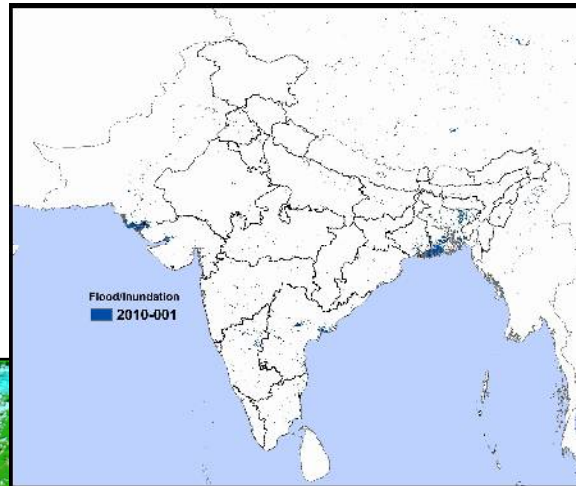


- Important part of farmers' adaptation to climate and water variability
- Total of 1100 ponds were mapped for 4 taluks in Nashik district. With and without polythene cover- identified
- Crop yield increases for various crops - due to introduction of ponds – assessed (6-50%)

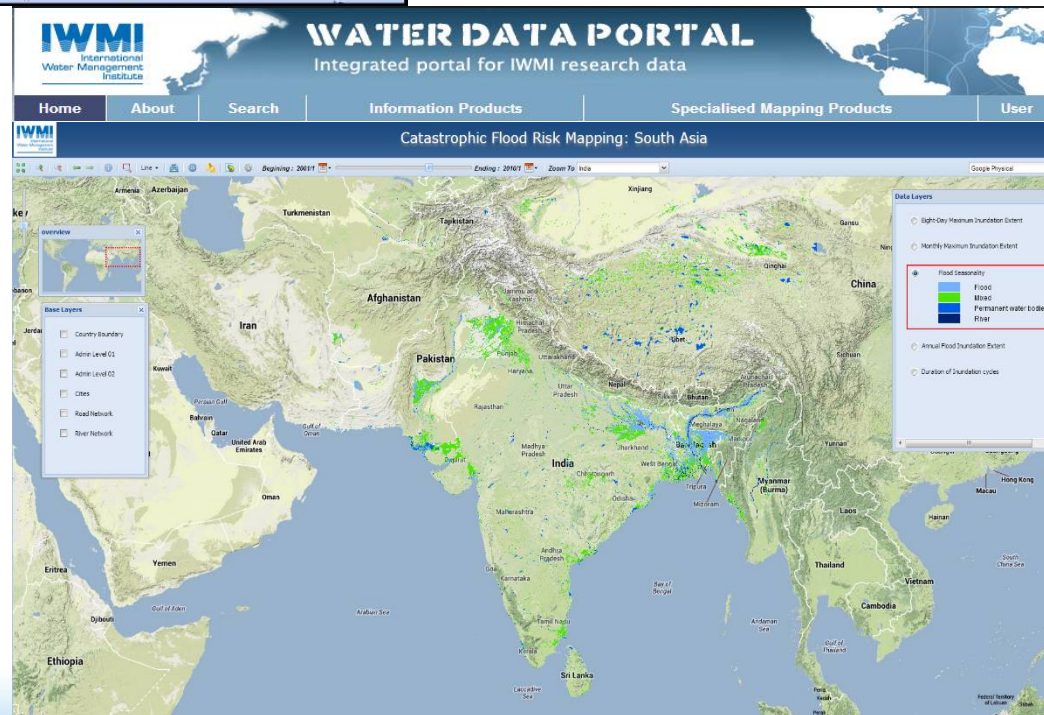
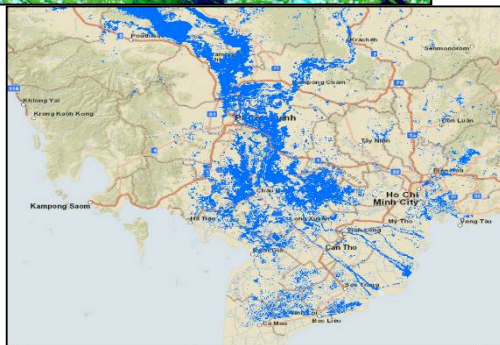
Source: IWMI



REGIONAL FLOOD RISK MAPPING - SA and SEA



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



SOME QUESTIONS FOR THE FUTURE

Can EO promote conventional observed data sharing ?

Can EO replace inefficient and untimely ground observations in the context of DRR in the nearest 15 years – the Sendai Framework “design life” ?

Can EO help make seven (or some) SFDRR targets more specific?

