(a) Importance of Weather Data for WIBCI
(b) Challenges of data in developing countries
(c) Some innovative ways of managing data for developing index insurance products.

Presented by
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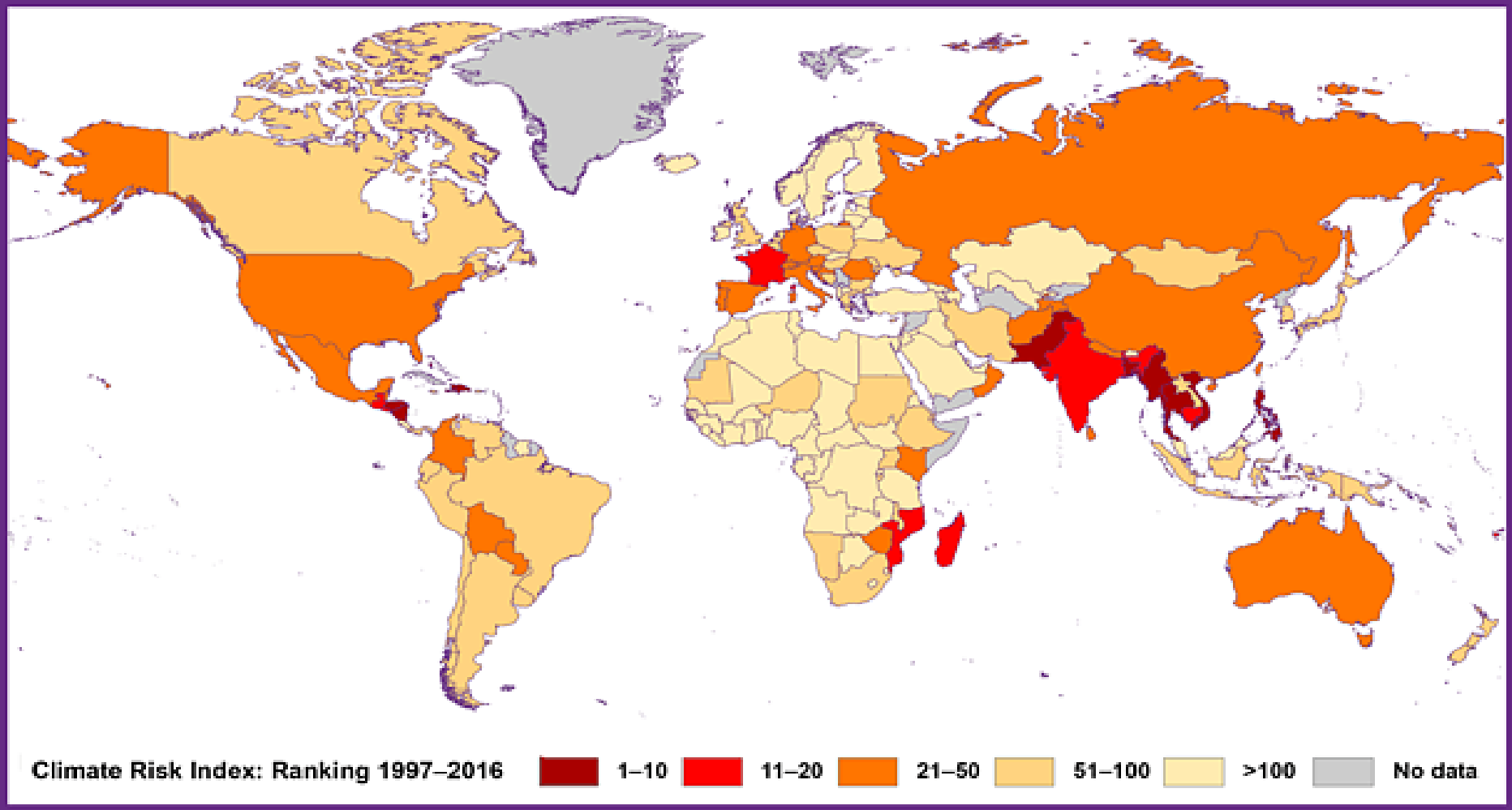
GERMANWATCH

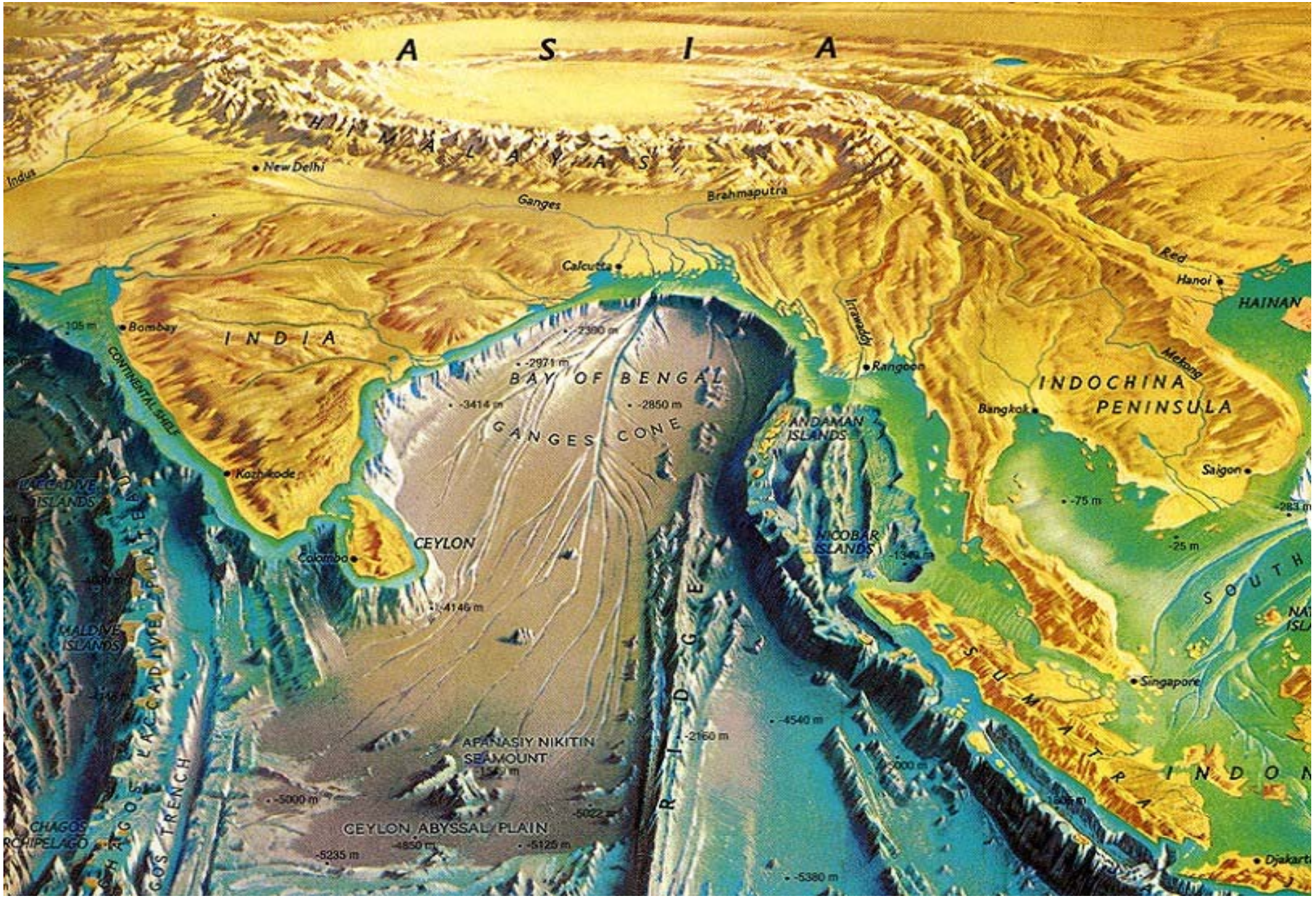
Climate Risk Index 2018



WorldRiskIndex

Rank	Country	Risk (%)
1	Vanuatu	32.00
2	Tonga	29.08
3	Philippines	24.32
4	Solomon Islands	23.51
5	Guatemala	20.88
6	Bangladesh	17.45
7	Timor-Leste	17.45
8	Costa Rica	16.74
9	Cambodia	16.58
10	El Salvador	16.49
11	Nicaragua	15.74
12	Papua New Guinea	15.45
13	Madagascar	14.46
14	Brunei Darussalam	14.08
15	Afghanistan	14.06

Bangladesh is highly vulnerable for natural disaster due to its critical geographical location

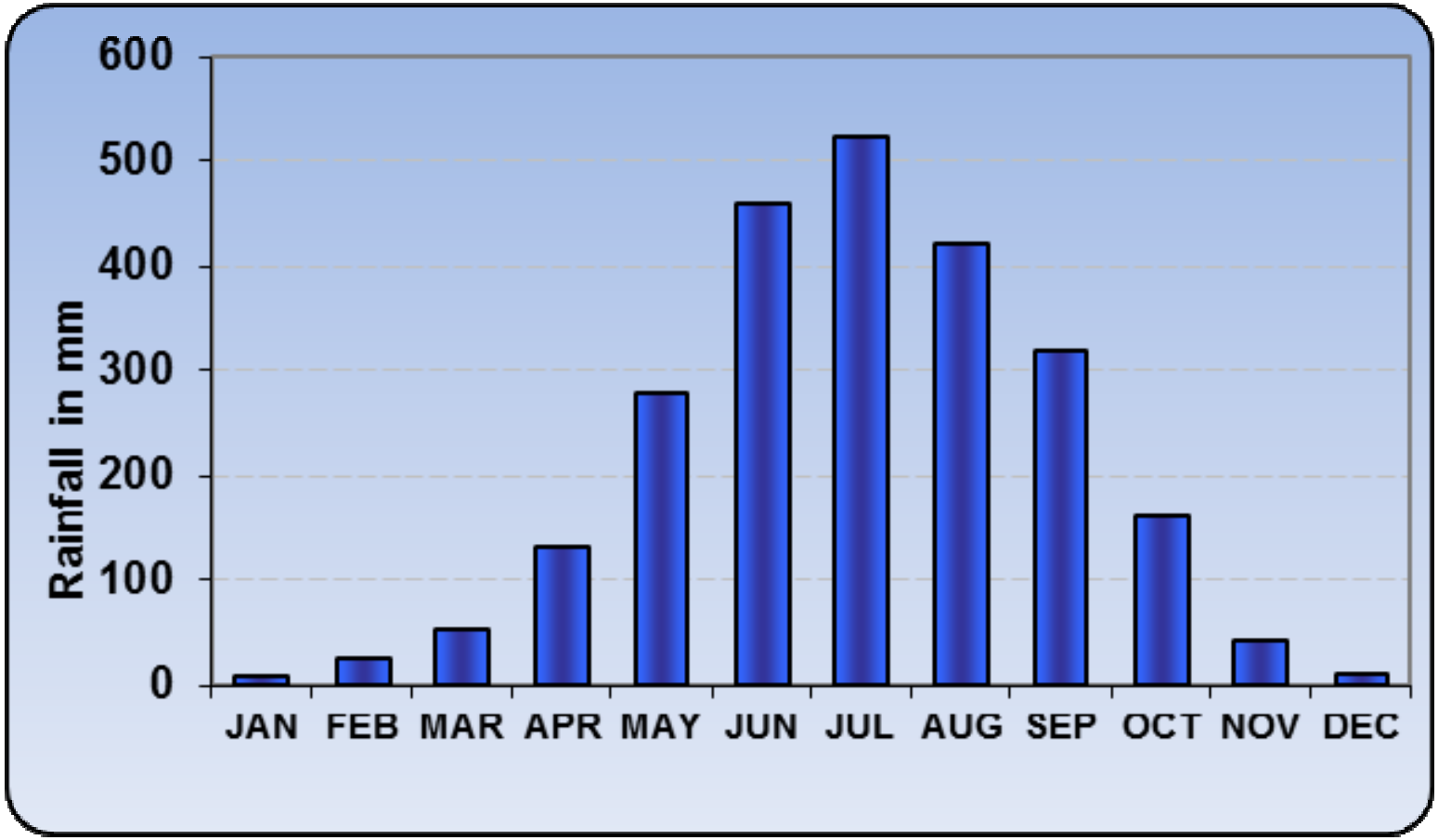


Why Weather Index Based Crop Insurance?

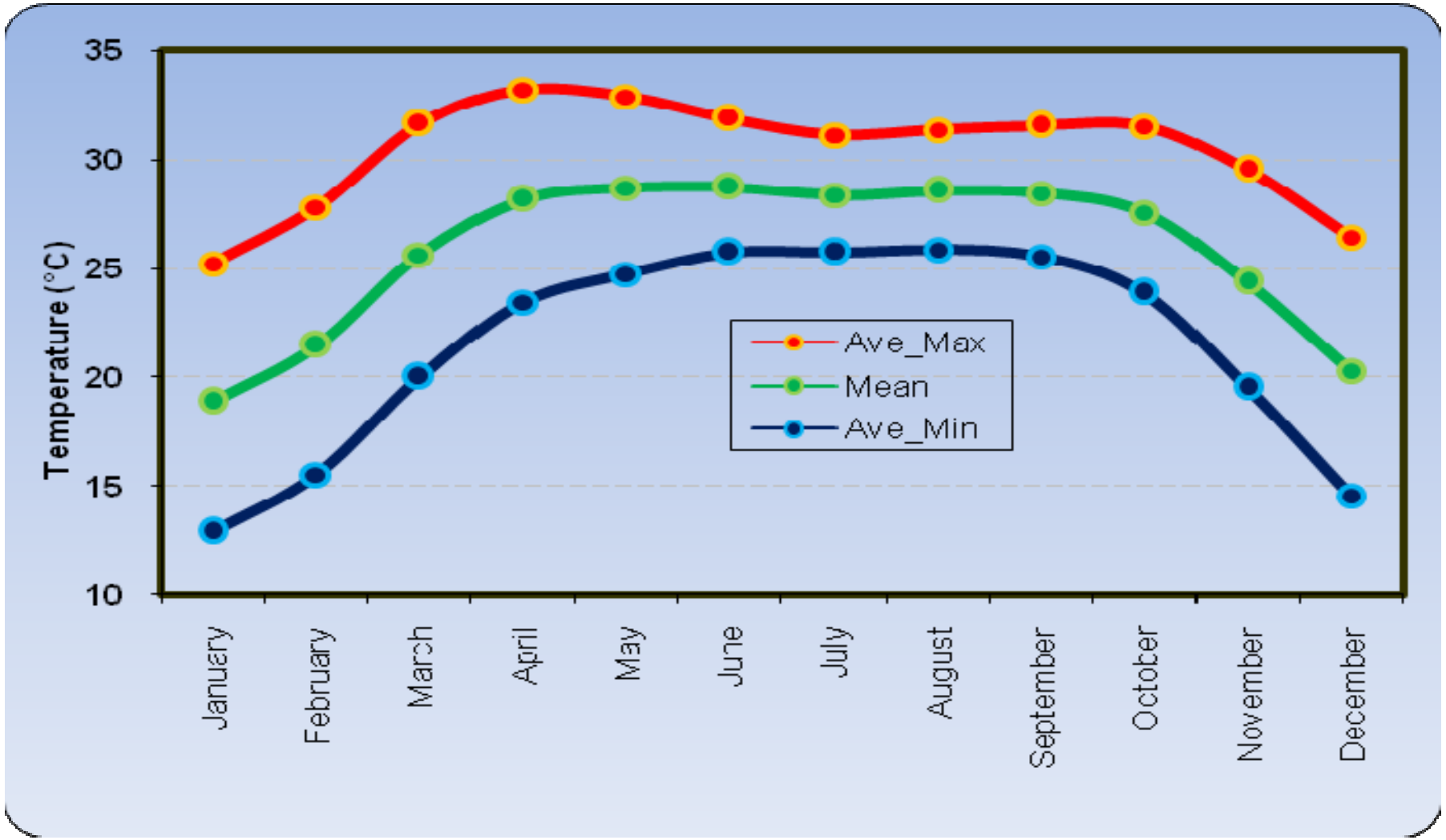
Weather index-based insurance is an attractive approach to managing **weather** and **climate** risk because it uses a **weather index**, such as **rainfall, temperature, wind, humidity** etc. to determine payouts and these can be made more quickly and with less argument and less moral hazard with very less administrative cost than is typical for conventional **crop insurance**.

Transparency. Index insurance contracts usually allow the policyholder direct access to the information on which the payouts will be calculated. Trust is strengthened by transparency. No on-farm loss adjustment. This is a primary advantage of index insurance, as on-farm loss adjustment is quite complex and costly and may not be credible in many low-income countries. Lack of adverse selection. Adverse selection occurs when potential insured parties have hidden information about their risk exposure that is not available to the insurer, who then becomes more likely to erroneously assess the risk of the insured. Traditional insurance encourages high-risk producers to insure, while risk and premium are calculated on the average producer. Index insurance requires that all insured farmers within the defined area have the same insurance payout conditions, regardless of their specific risk exposure. Hence, insurers and clients benefit from reduced adverse selection. Lack of moral hazard. Moral hazard occurs when individuals engage in hidden activities that increase their exposure to risk as a result of purchasing insurance, or attempt to influence the claims outcome. These hidden activities can leave the insurer exposed to higher levels of risk than had been anticipated when premium rates were established. With WII, there is no benefit in individual producers trying to

Monthly Distribution of Rainfall over Bangladesh



Monthly Maximum, Mean & Minimum Temperature over Bangladesh



Major Severe Weather and Natural Disasters in Bangladesh

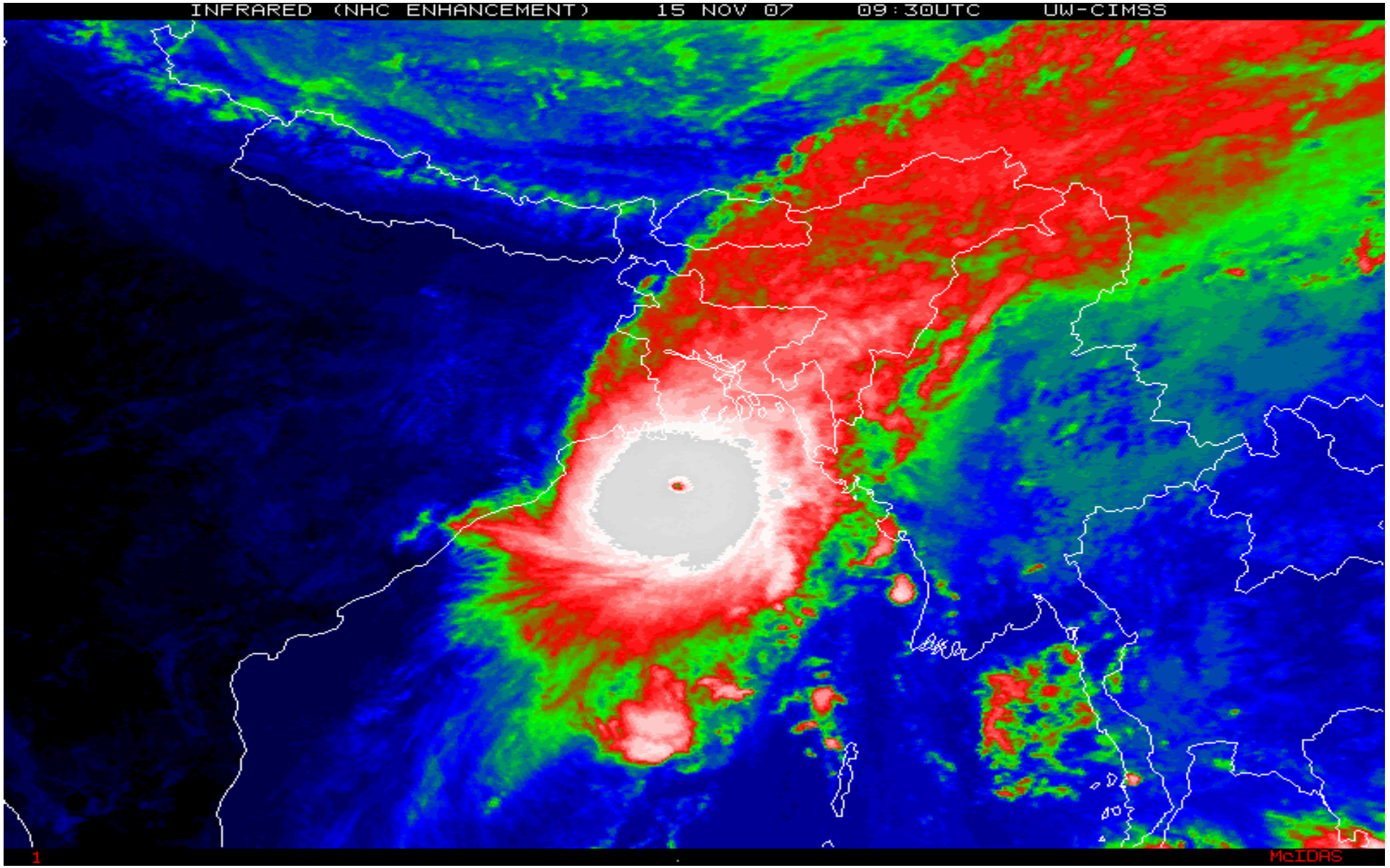
Tropical cyclone, Storm surge, Tidal bores, Floods, Flash flood, Nor'westers, Tornadoes, Thunder, Droughts, Heat waves, Cold waves, Heavy rain, River erosion, Earth quakes & Tsunami, Land-slides.

Seasonal distribution of Natural Disasters in Bangladesh

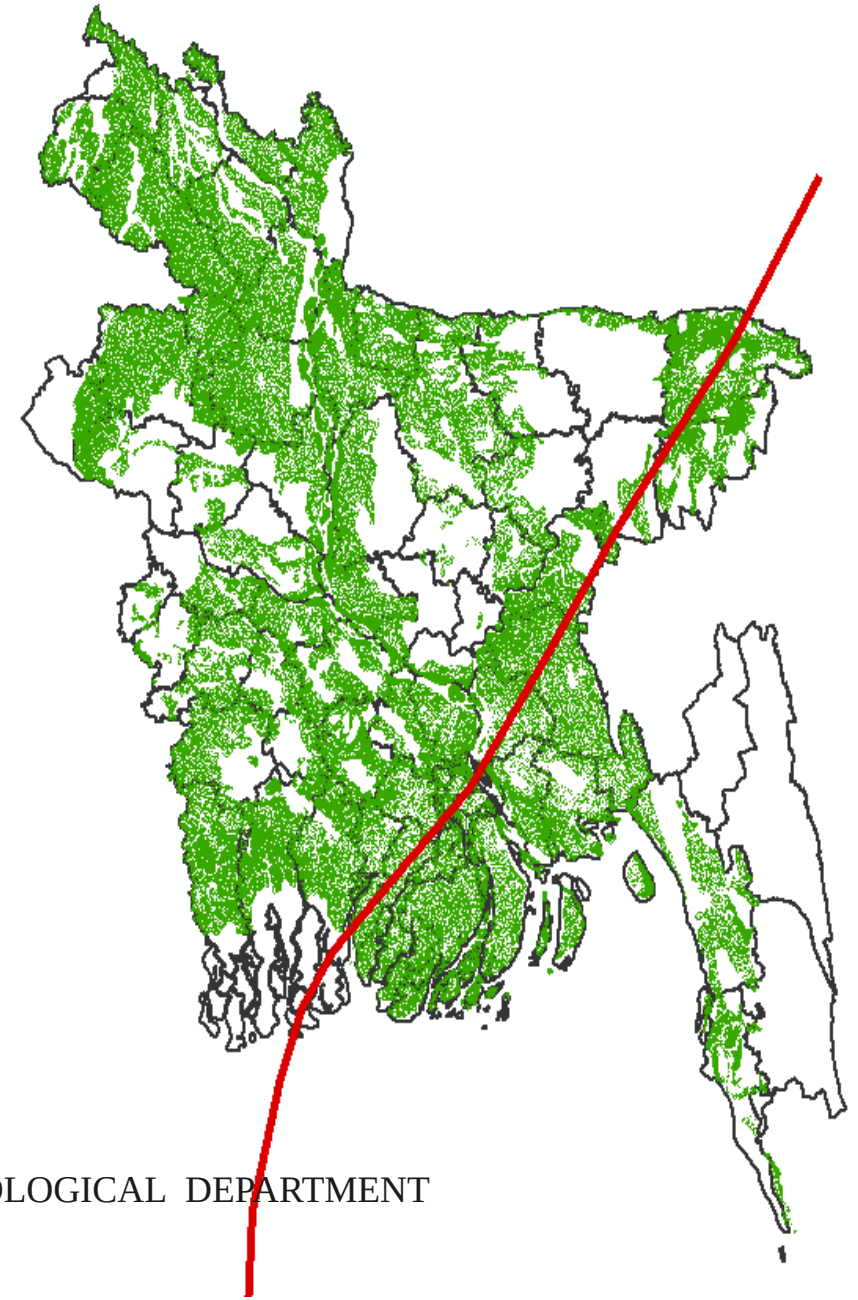
Seasons	Period	Weather Events	Rainfall
Summer (Pre-monsoon)	March - May	Nor'wester, Tornado, Hail, Cyclone, Heat Wave, Flash Flood Thunder/Lighting	19%
Rainy Season (Southwest Monsoon)	June – September	Heavy rain, Monsoon Depression, Flood	71%
Autumn (Post-monsoon)	October – November	Cyclone, Tornado	8%
Winter (Northeast Monsoon)	December – February	Abnormal Dryness (Drought), Cold Wave	2%

4. Some initiatives of Agro-met Division

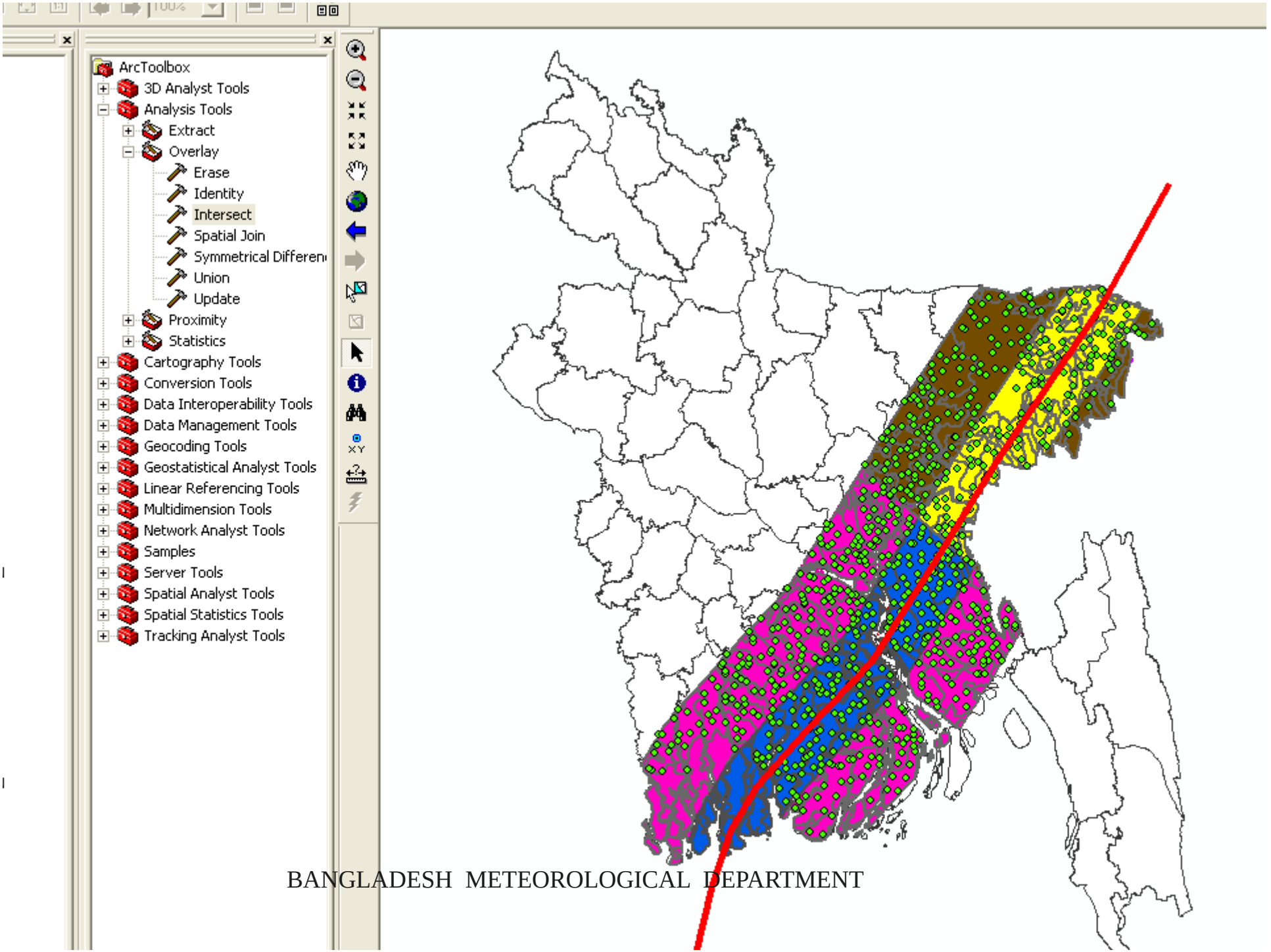
(a) Damage assessment of amon crops due to SIDR



Estimation of Aman area through NOAA-NDVI



BANGLADESH METEOROLOGICAL DEPARTMENT


ArcToolbox
3D Analyst Tools
Analysis Tools
Extract
Overlay
Erase
Identity
Intersect
Spatial Join
Symmetrical Differen
Union
Update
Proximity
Statistics
Cartography Tools
Conversion Tools
Data Interoperability Tools
Data Management Tools
Geocoding Tools
Geostatistical Analyst Tools
Linear Referencing Tools
Multidimension Tools
Network Analyst Tools
Samples
Server Tools
Spatial Analyst Tools
Spatial Statistics Tools
Tracking Analyst Tools
XY

Damaged Zones

High 1

Wind 200~240 km/h, Buffer 25 km

High 2

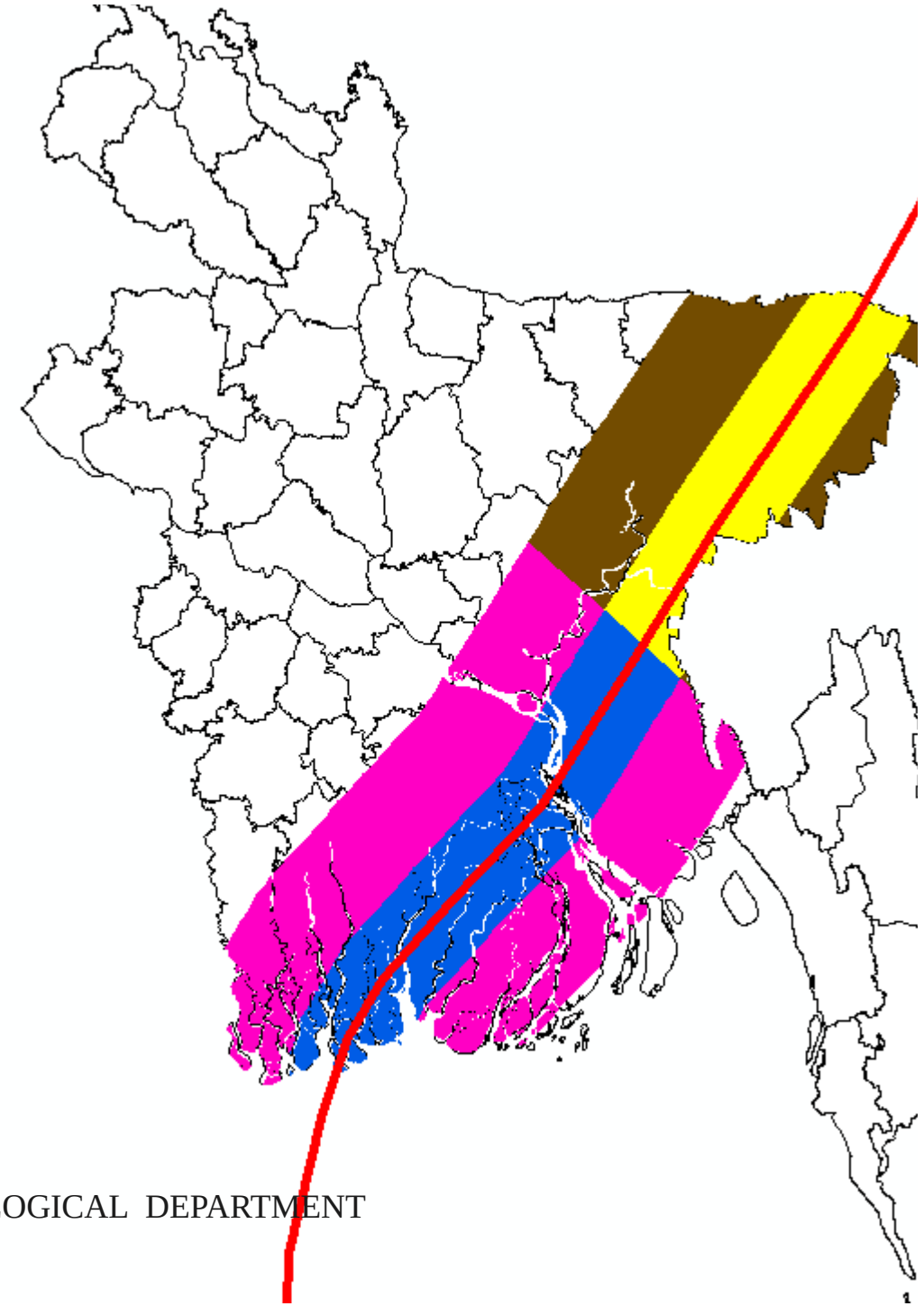
Wind 150~200 km/h, Buffer 75 km

Low 1

Wind 100~150 km/h, Buffer 25 km

Low 2

Wind 50~100 km/h, Buffer 75 km



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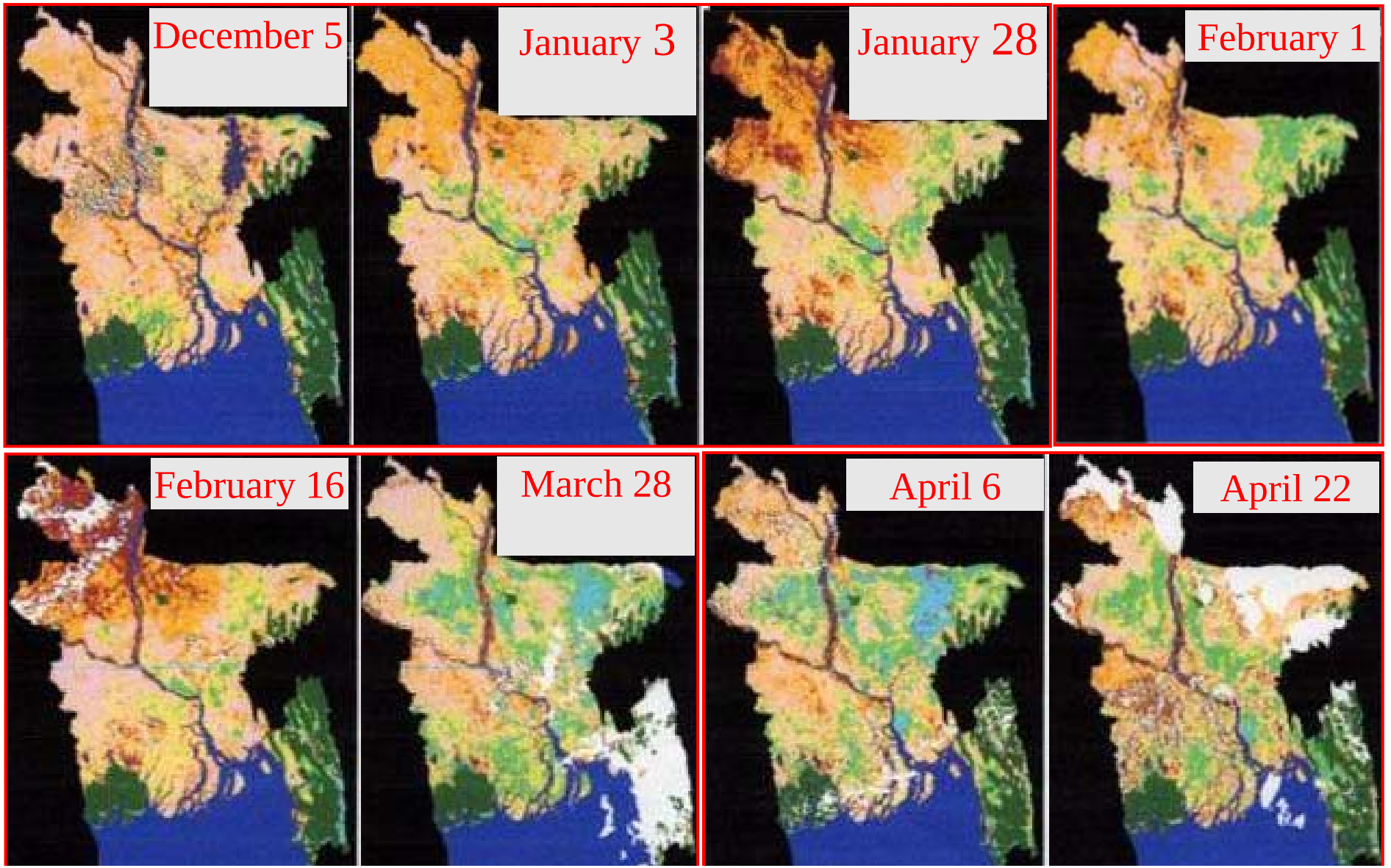
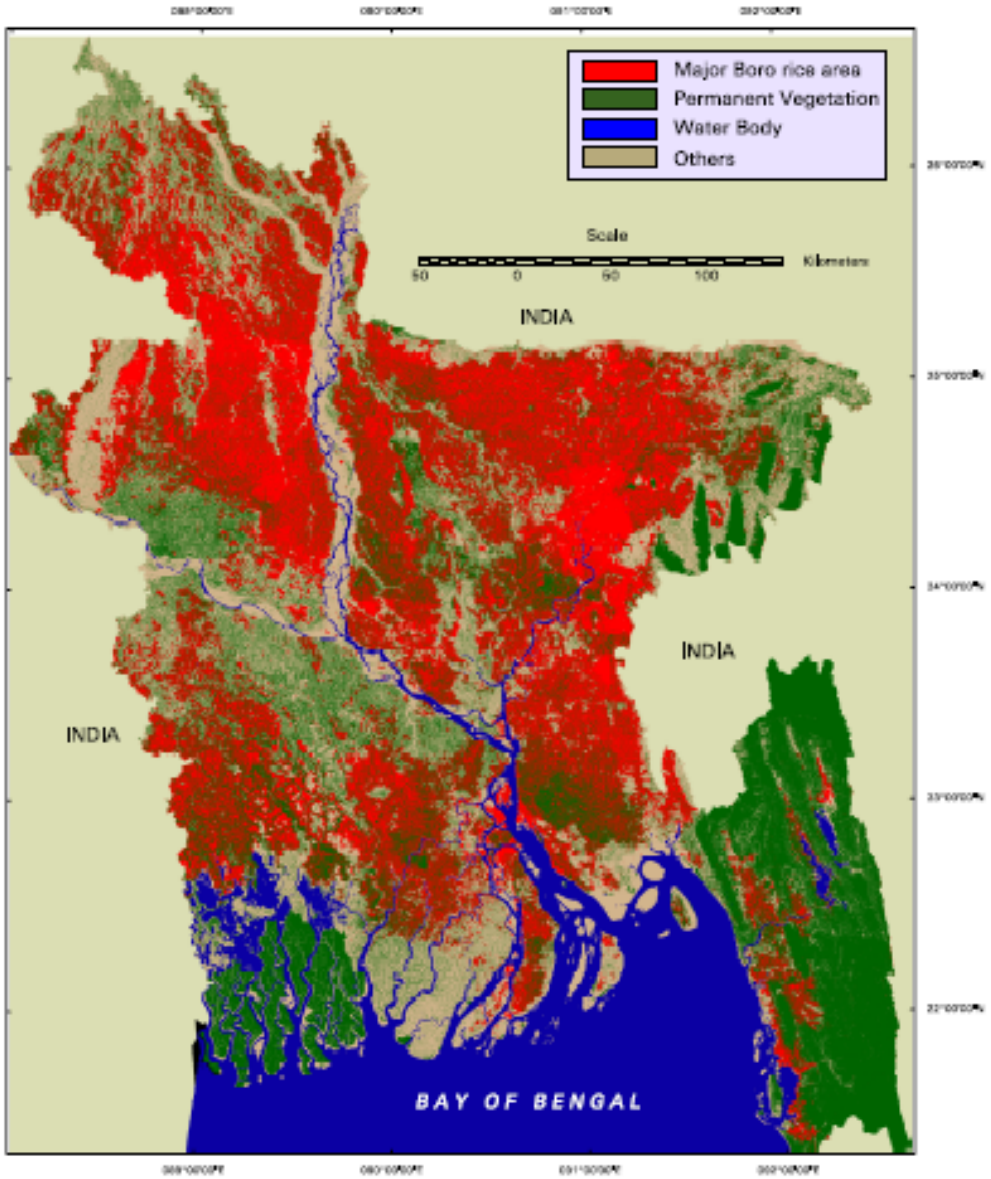
Crop monitoring: NOAA NDVI temporal sequences

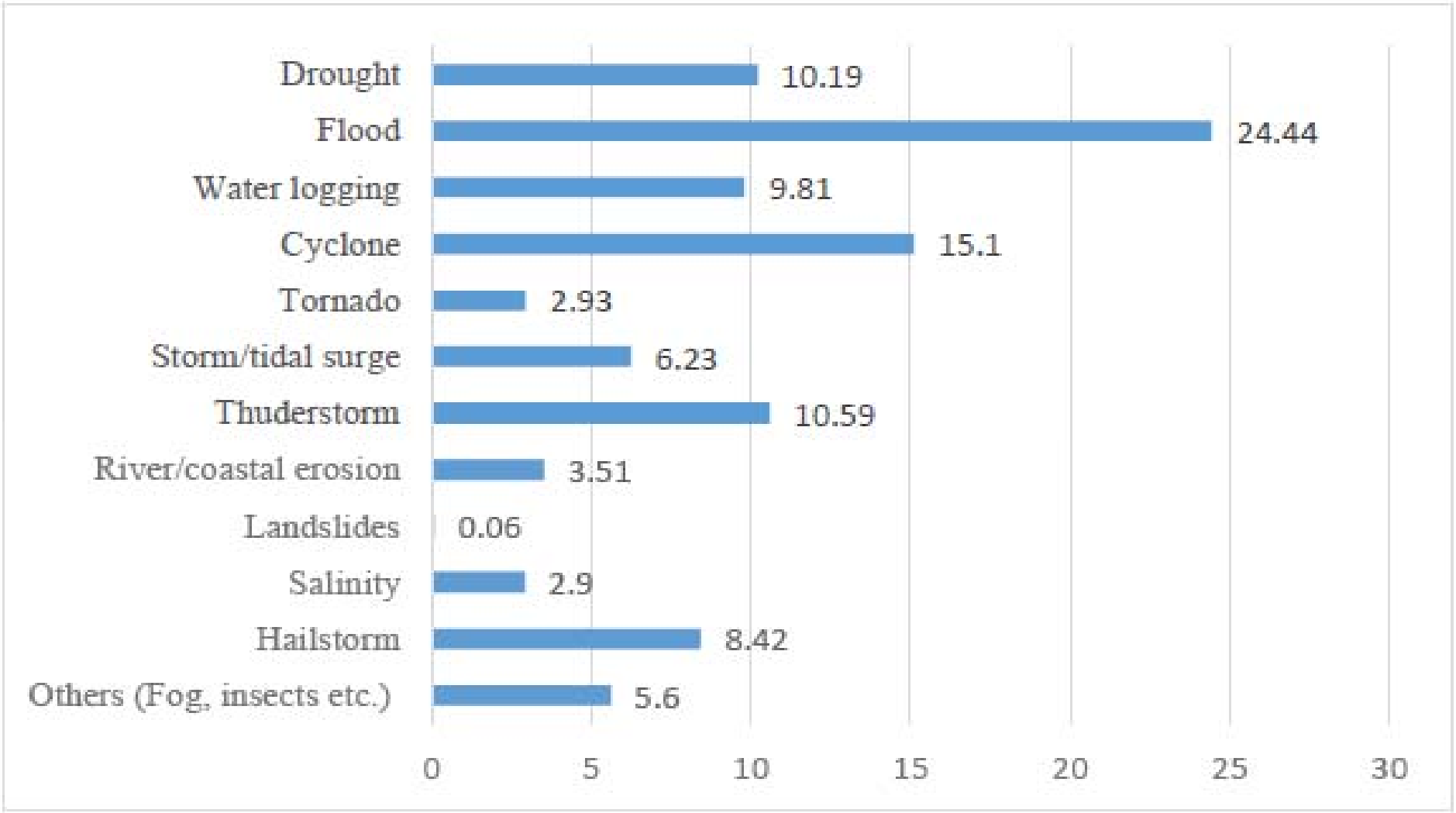


Satellite Based Boro Rice Area 2017



Year	Boro (lac ha)
2016-17	47.80

SDG-13: Climate Action: Take urgent action to combat climate change and its impacts



Percentage of disaster affected households by disaster categories 2009-'14

Thanks
for your patience
hearing