ESCAP's Mandate to support EW4All

Early Warnings for All

Mandated by Member States of Asia and the Pacific

1

Develop early warning systems for all at the regional level

ESCAP Resolution 79/1:Accelerating climate action foí sustainable development (May 2023)

2

Develop a regional strategy in support of the global and country-level implementation of the four pillars of multi-hazard early warning systems

ESCAP Committee on Disaster Risk Reduction (July 25-27, 2023)

3

Building of national capacities by leveraging innovations, including digital and geospatial applications for multi-hazard early warning systems

ESCAP Committee on Disaster Risk Reduction (July 25-27, 2023)

4

Financial contributions to the ESCAP multi-donor trust fund to achieve early warnings for all

ESCAP Committee on Disasteí Risk Reduction (July 25-27, 2023)

ESCAP
Economic and Social Commission for Asia and the Pacific

ESCAP's Offer of Support to Member States

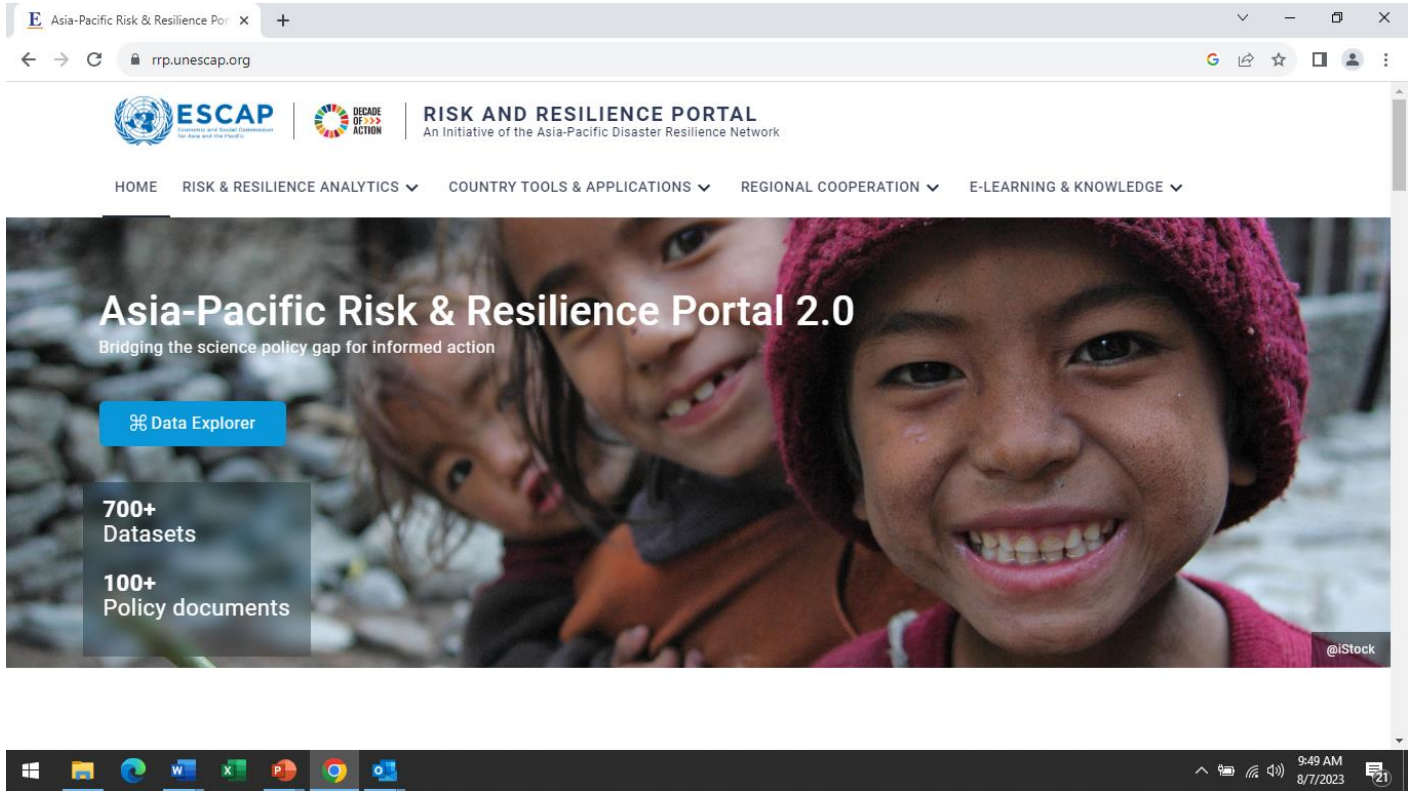
Risk knowledge and impact forecasting from transboundary EWS perspectives

Partnering with stakeholders –Governments, UN System, Global Leads, RIMES..

Analytical work: Asia-Pacific Disaster Report with specific focus on risk-impact-policy response and transboundary co-operation

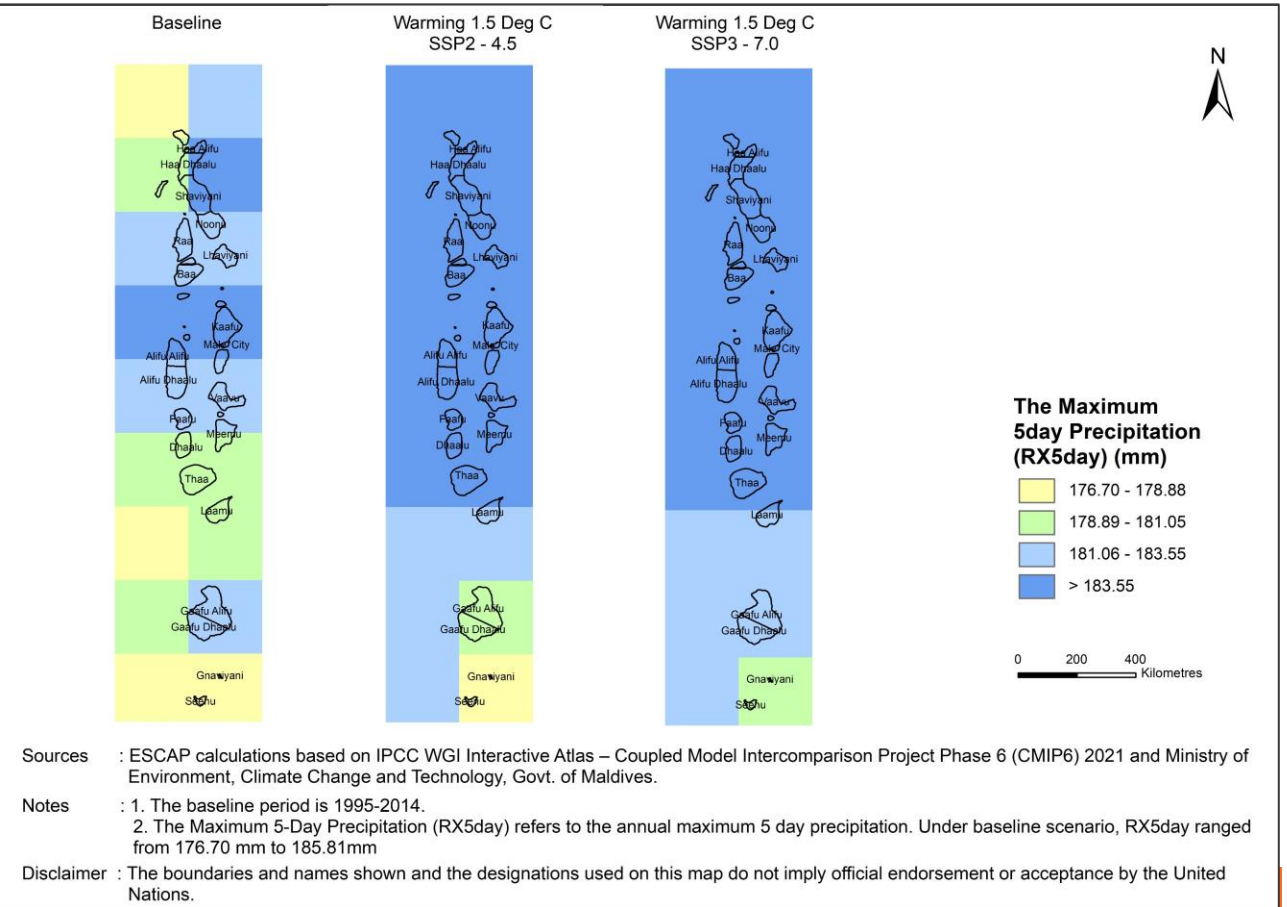
Digitalization: Customization of ESCAP's Risk and Resilience Data platform to enhance risk knowledge, impact forecasting **organize specialist training**

Transboundary EWS: Strengthen building blocks of regional initiatives, integrate impact forecasting, anticipatory actions and South Asia SDG forum



Customizing Risk and Resilience Portal: EW4All Maldives

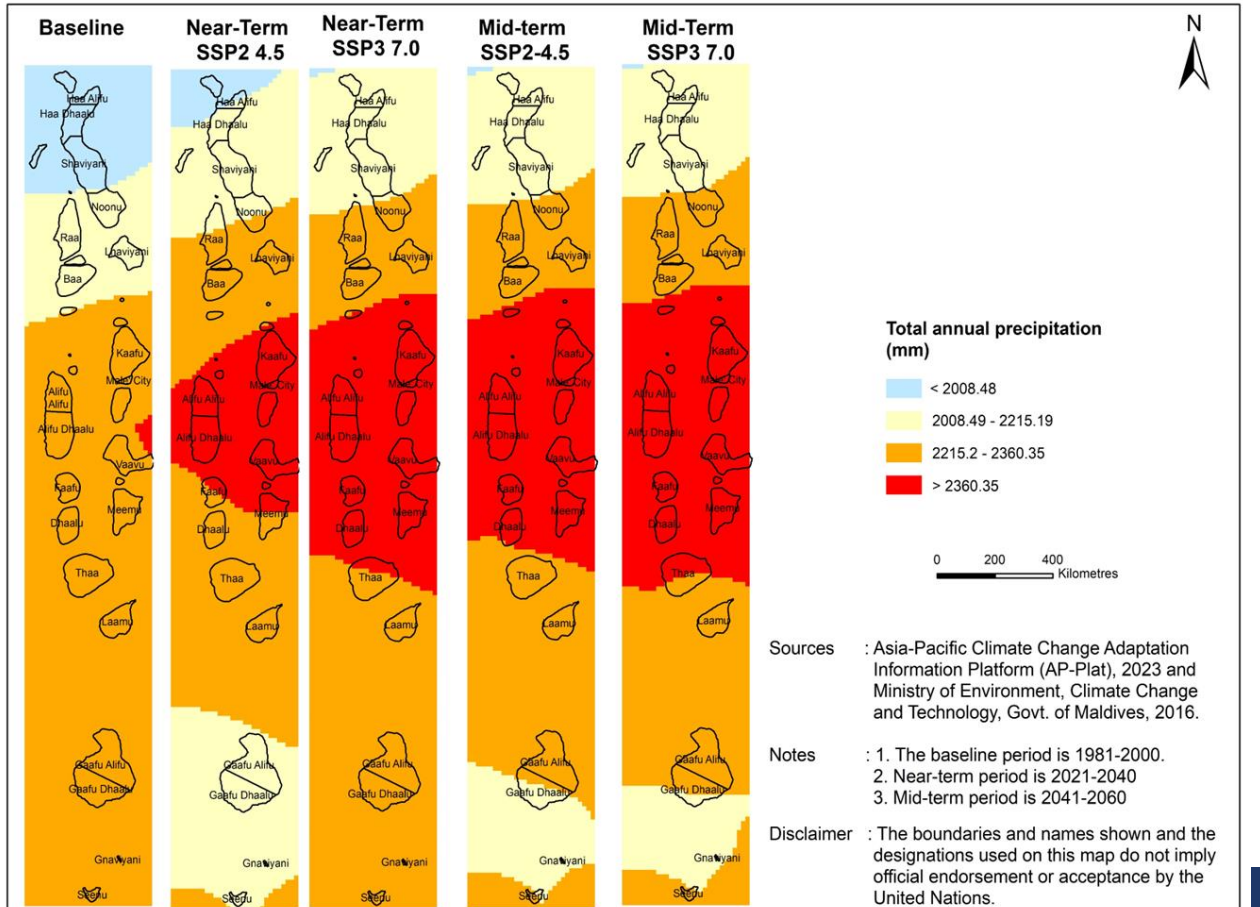
Downscaled climate projection data with a 5 km spatial resolution received from AP-Plat enabled a more granular analysis of risk hotspots (right) than the usual 100km spatial resolution (left)



Sources : ESCAP calculations based on IPCC WGI Interactive Atlas – Coupled Model Intercomparison Project Phase 6 (CMIP6) 2021 and Ministry of Environment, Climate Change and Technology, Govt. of Maldives.

Notes : 1. The baseline period is 1995-2014.
2. The Maximum 5-Day Precipitation (RX5day) refers to the annual maximum 5 day precipitation. Under baseline scenario, RX5day ranged from 176.70 mm to 185.81mm

Disclaimer : The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.



Sources : Asia-Pacific Climate Change Adaptation Information Platform (AP-Plat), 2023 and Ministry of Environment, Climate Change and Technology, Govt. of Maldives, 2016.

Notes : 1. The baseline period is 1981-2000.
2. Near-term period is 2021-2040
3. Mid-term period is 2041-2060

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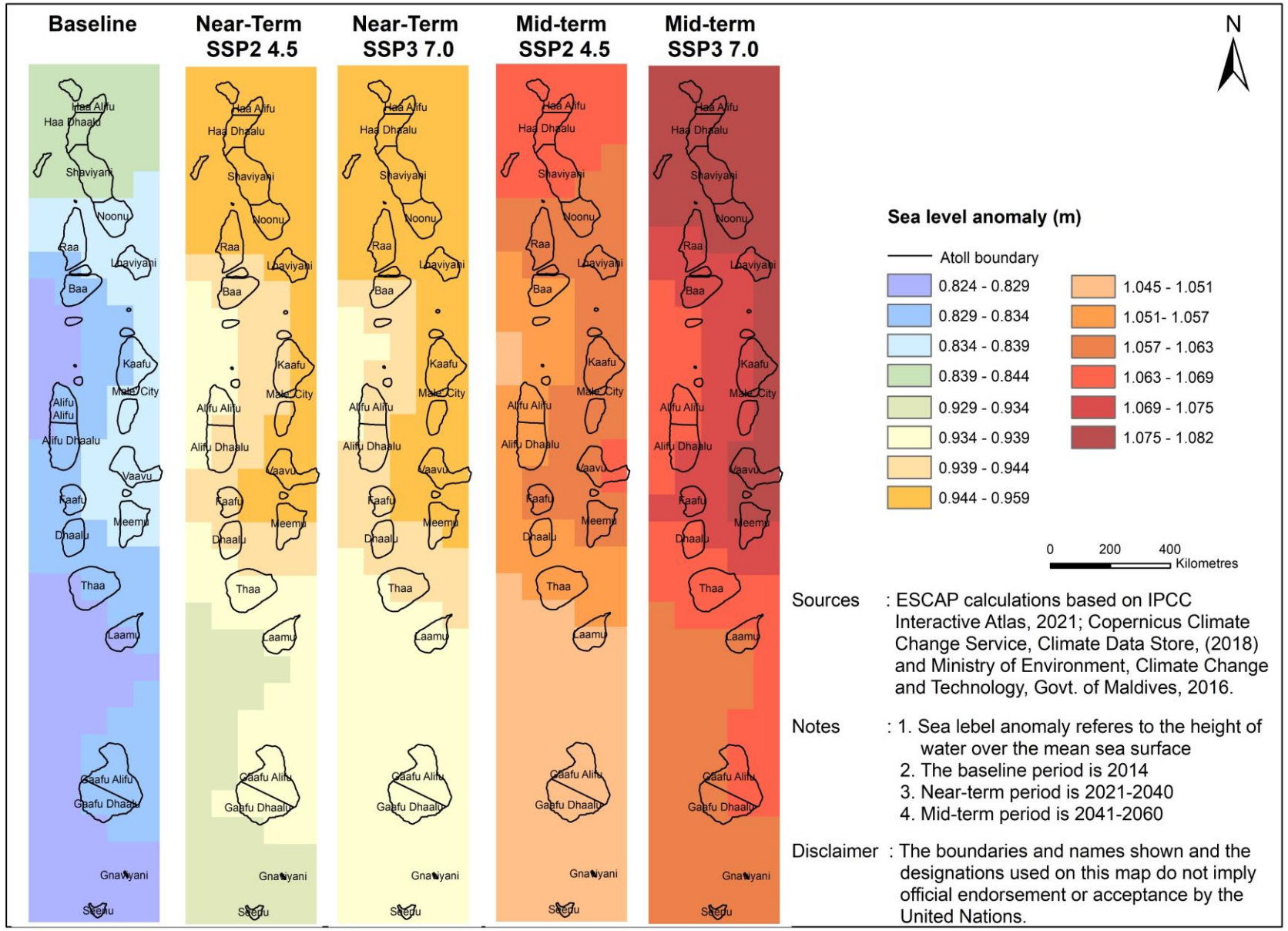
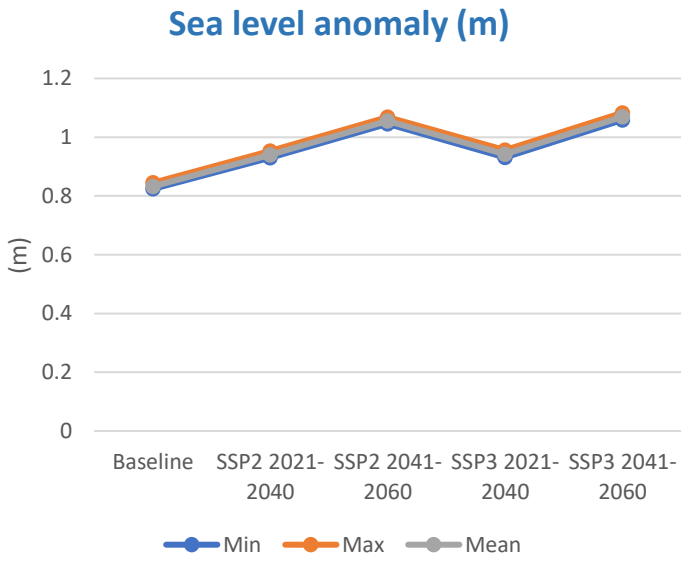
Risk analysis: Hazard - Sea Level Rise



The is high around the northern and eastern part of the central atolls and relatively low towns the southern atolls. the northern atolls such as Haa Alifu, Haa Dhaalu, Shaviyan, Noonu, Lhaviyani, Kaafu, Vaavu and Meemu atoll are most likely to be impacted more by sea level anomaly under future climate scenario.



The Impact-Based Forecasting Tool

Transforming Data into Action: AI-Driven Disaster Preparedness

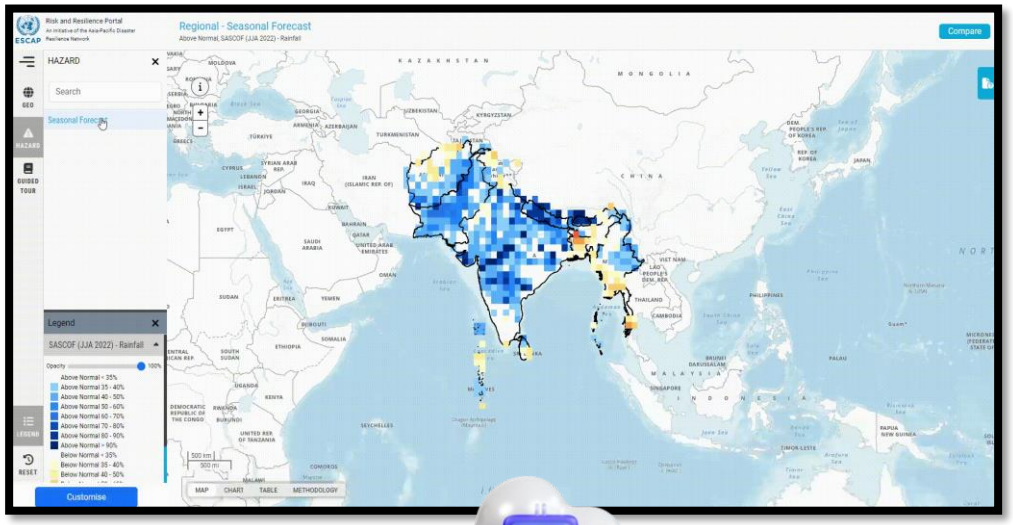
ESCAP Economic and Social Commission for Asia and the Pacific | DECADE OF ACTION

RISK AND RESILIENCE PORTAL

MOVING FORWARD TOGETHER

INPUT*

- Population data
- Infrastructure data
- Hazard data
- Digital map
- Boundary data



OUTPUT

- Exposure and intensity zone of hazards
- Map & exportable table

The Impact-Based Forecasting Tool

GEOSPATIAL PRE-PROCESSING → PROCESS IDENTIFICATION → GEOSPATIAL EXPOSURE ANALYSIS

- Setting Coordinate Reference Systems
- Setting resolution
- Classifying hazard (based on intensities, create different hazard intensity zones)

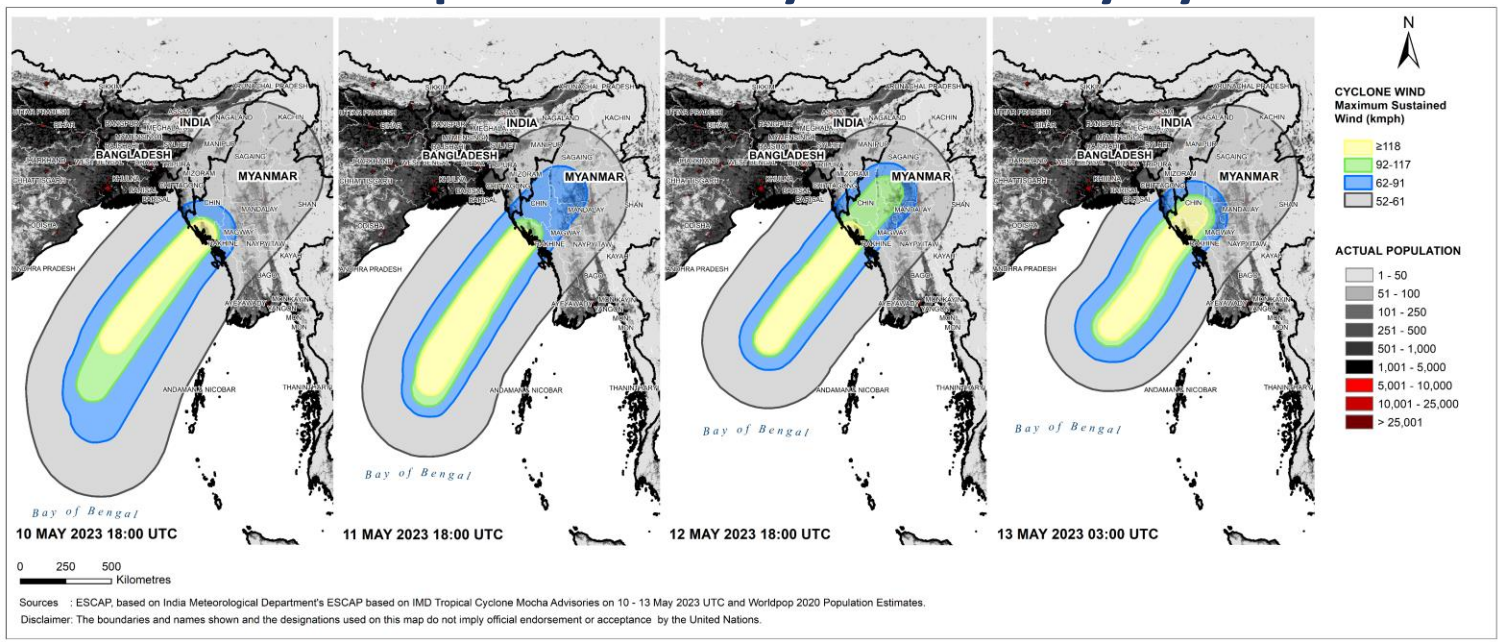
- Auto recognize type of infrastructure / population data

- Calculate exposure to all infrastructure and population
- Overlay & count exposure

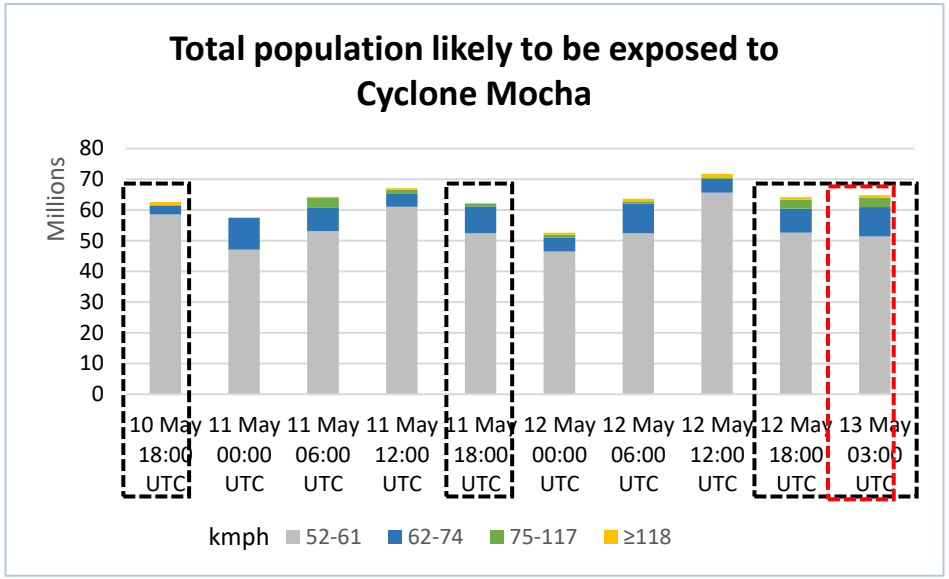
*Georeferenced raster data

Impact forecasting:

Estimation of Population likely to be hit by Cyclone Mocha

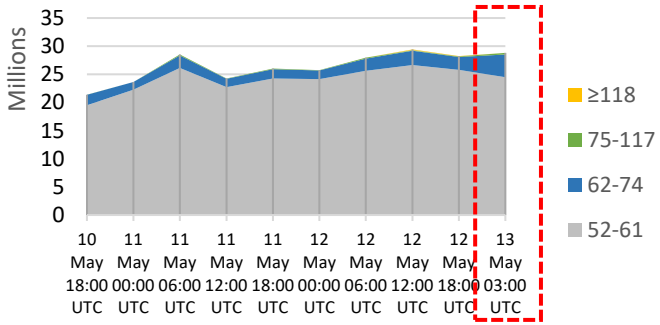


By using the data from RSMC Delhi – IMD, we were able to estimate the number of people likely to be affected by Cyclone Mocha from 10 to 13 May 2023, every 6 hours.
Generated by algorithm on spatial datasets, **the automation process enables rapid quantification of potential exposure in multiple sectors.**

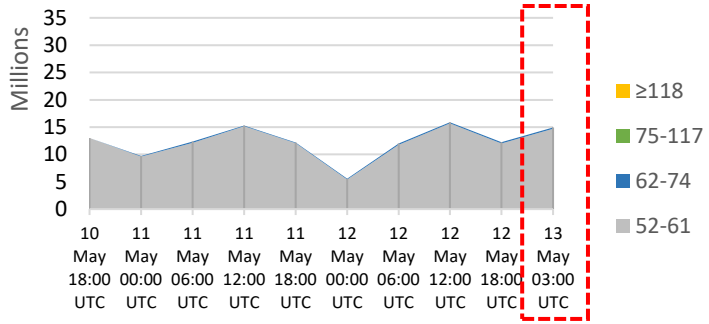


Based on the latest advisory on **13 May, 03:00 UTC**, we quantified that **65 million** people were likely to be affected.
29 million in Bangladesh, 15 million in India, and 26 million in Myanmar.

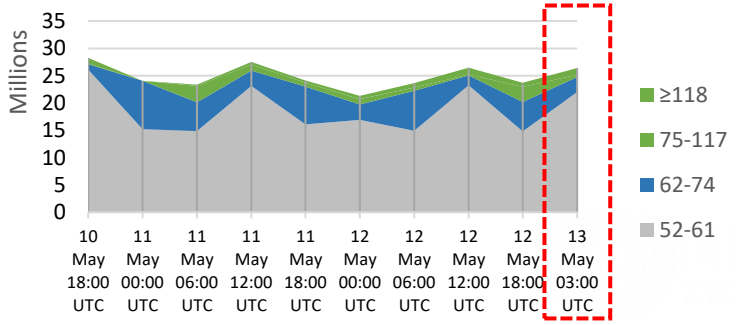
Bangladesh



India

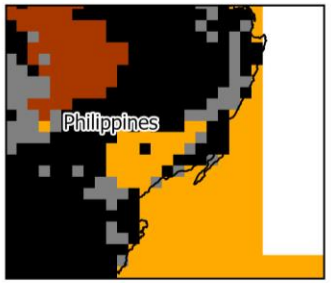


Myanmar



IBF at ASEANCOF-22 (2024)

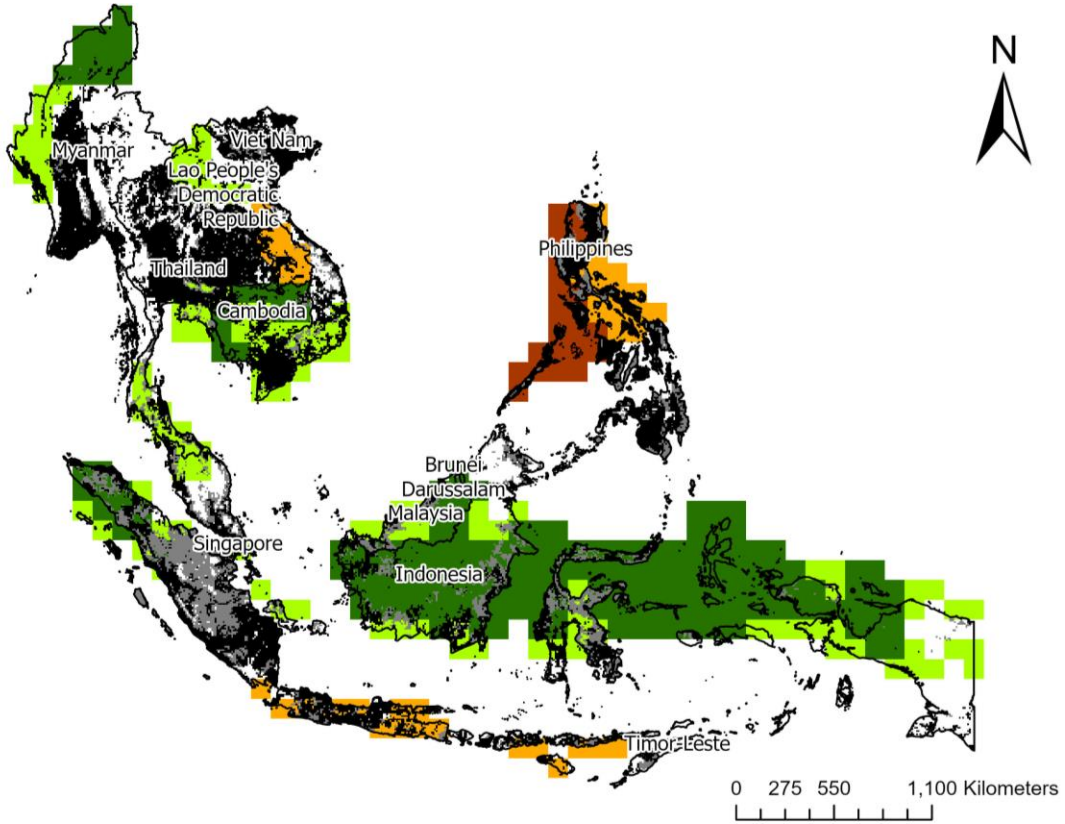
Rice production exposure based on JJA 2024 seasonal forecast



Rice production (metric ton)
- 0 - 10
- 10 - 500
- 500 - 117,640

Probability of AN rainfall
- Near normal
- Normal to Above Normal
- Above Normal

Probability of BN rainfall
- Near normal
- Normal to Below Normal
- Below Normal



Country	% of rice crop exposed to Below Normal rainfall	
	Below normal	Normal to Below Normal
Brunei Darussalam		
Indonesia		32%
Cambodia		
Lao PDR		45%
Myanmar		
Malaysia		
Philippines	25%	42%
Singapore		
Thailand		2%
Timor-Leste		
Viet Nam		

Sources: ASEANCOF-22 Seasonal Outlook Rainfall Data for June to August 2024, International Food Policy Research Institute (IFPRI) 2024, "Global Spatially-Disaggregated Crop Production Statistics Data for 2020 Version 1.0.0 and UN Geospatial

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