



CLIMATE SERVICES USER FORUM

Climate Services for Disaster Management:

Turning Climate Information into Action for a Resilient Maldives

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OUTLINE OF PRESENTATION

*Climate Services for Disaster Management:
Turning Climate Information into Action for a Resilient Maldives*

1



INTRODUCTION

Setting the context for climate services in the Maldives

2



WHY CLIMATE SERVICES IN DRM?

The importance of climate information in disaster risk management

3



CLIMATE SERVICES FOR FORECAST BASED ACTIONS (FBA)

Using forecasts to act early and save lives & livelihoods

4



CLIMATE INFORMATION FOR VULNERABILITY AND RISK ASSESSMENTS

Informing decisions with risk and vulnerability insights

5



CLIMATE INFORMATION FOR POLICY SHIFTS

Supporting evidence-based policies for a climate-resilient Maldives

6



CHALLENGES AND OPPORTUNITIES

Key gaps, enablers and opportunities to strengthen climate services

7



CONCLUSION

Key takeaways and our shared commitment



OUR GOAL:

Better climate information. Early action. Reduced risk.
A safer, more resilient Maldives.



What Are Climate Services in DRM Context?

— Turning climate information into action for a resilient Maldives

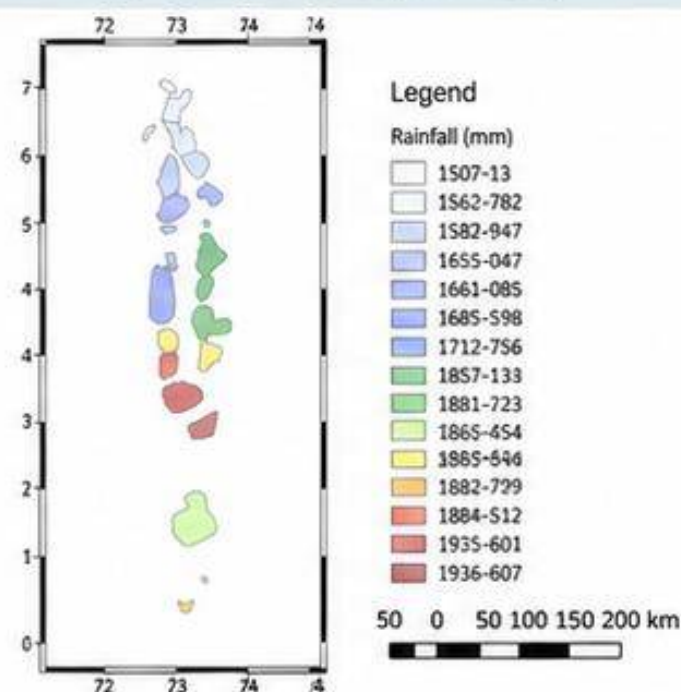


OBSERVE & UNDERSTAND

Historical & real-time climate information

Observed Climate Trends

Average Maximum Annual Rainfall Across the Maldives (1980 – 2019)



Long-term observations help us **understand variability** and establish baselines.



ASSESS & PLAN

Outlooks & projections for informed decision making

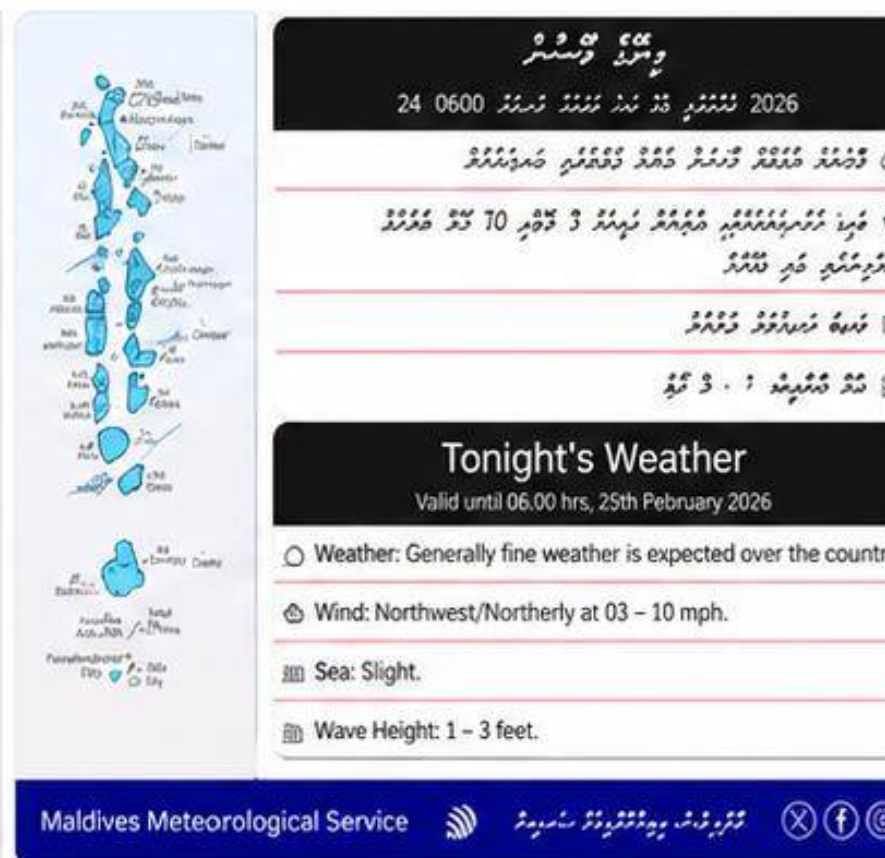


Outlooks and projections provide **early insights** to support planning, preparedness and resource allocation.



FORECAST & ANTICIPATE

Timely forecasts for early warnings

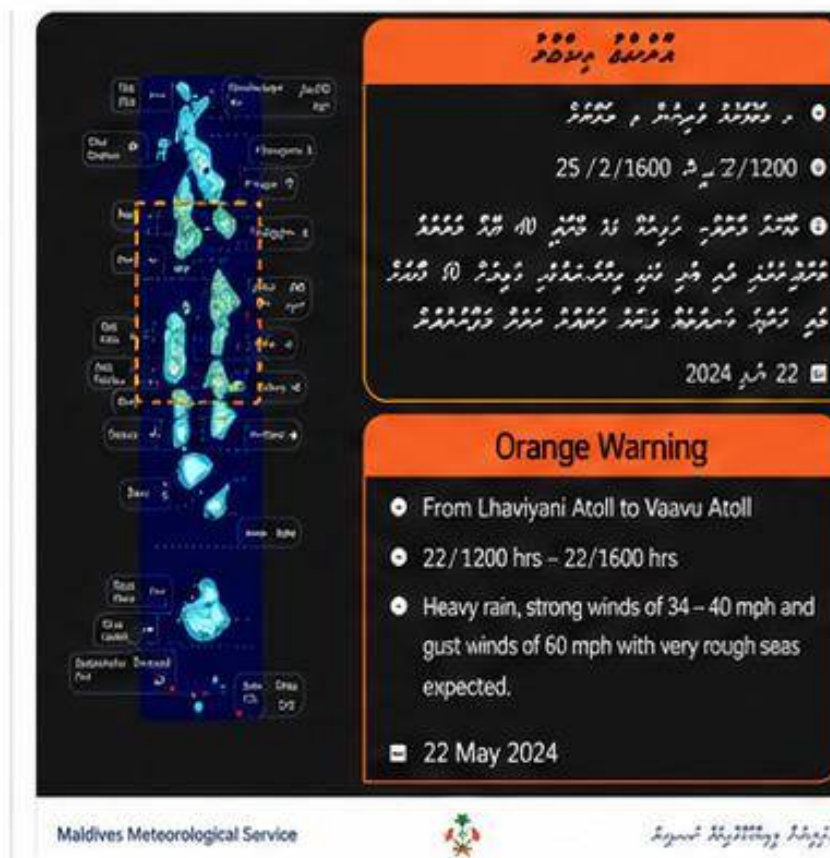


Timely forecasts enable **early warnings** to anticipate hazards and reduce potential impacts.



WARN & ACT

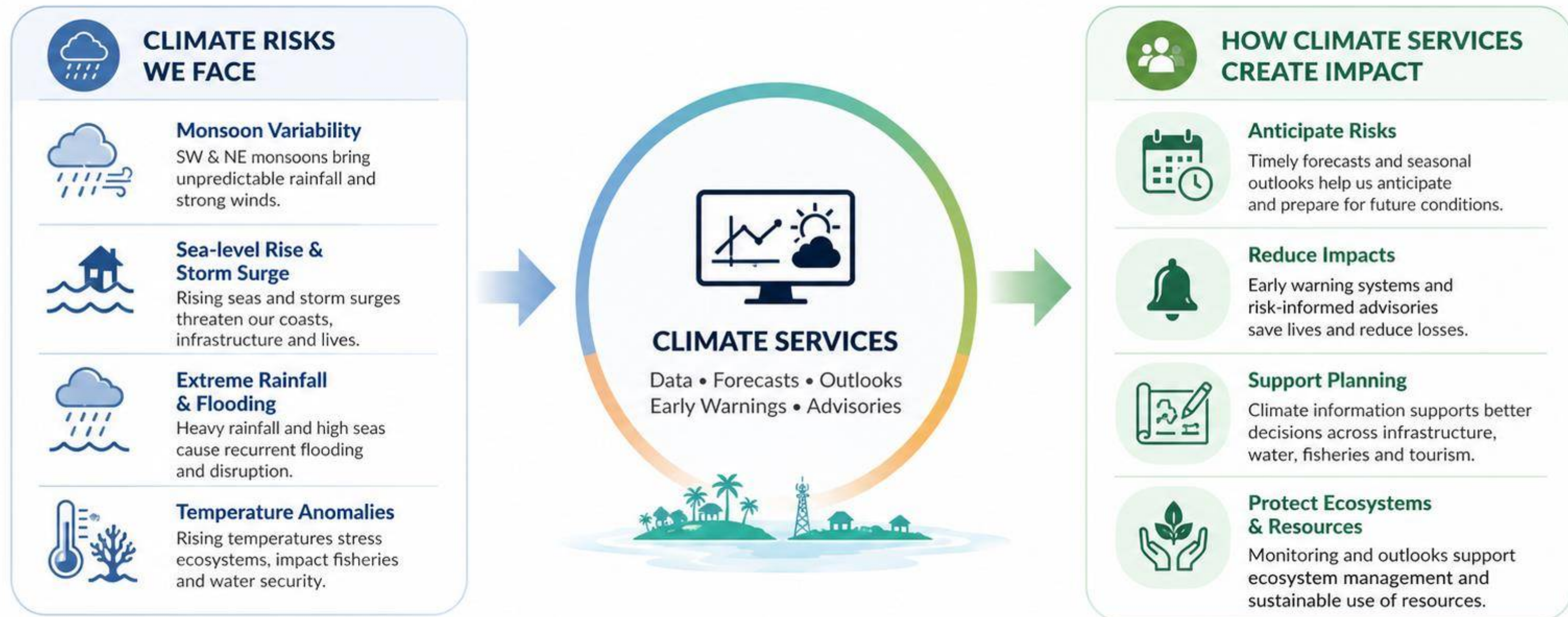
Warnings & advisories for protecting lives and livelihoods



Warnings and advisories enable **early action** and help protect lives, livelihoods and infrastructure.

Why Climate Services in Disaster Risk Management?

Turning climate information into action for a resilient Maldives

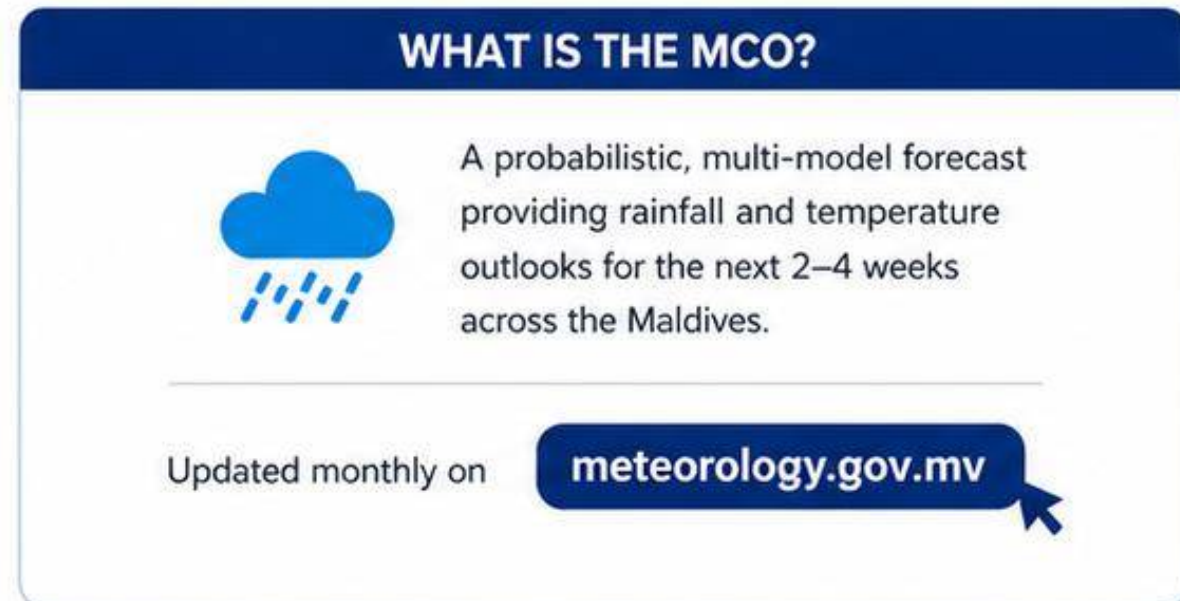
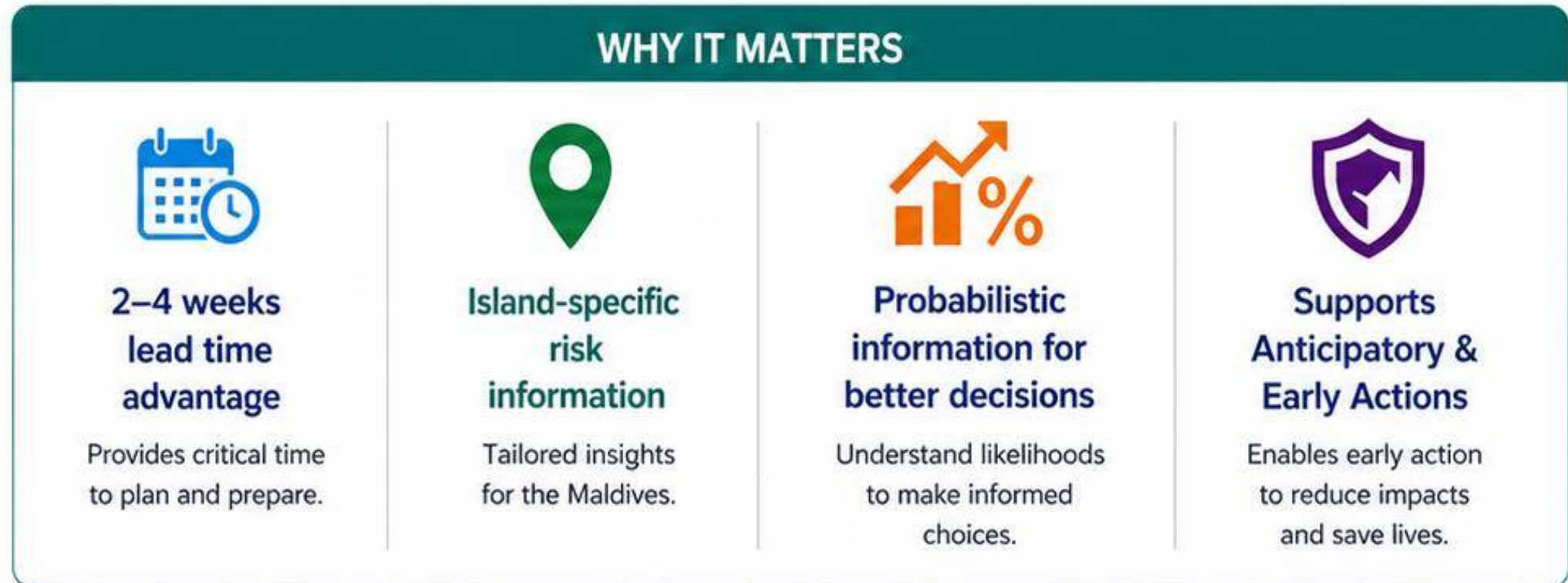
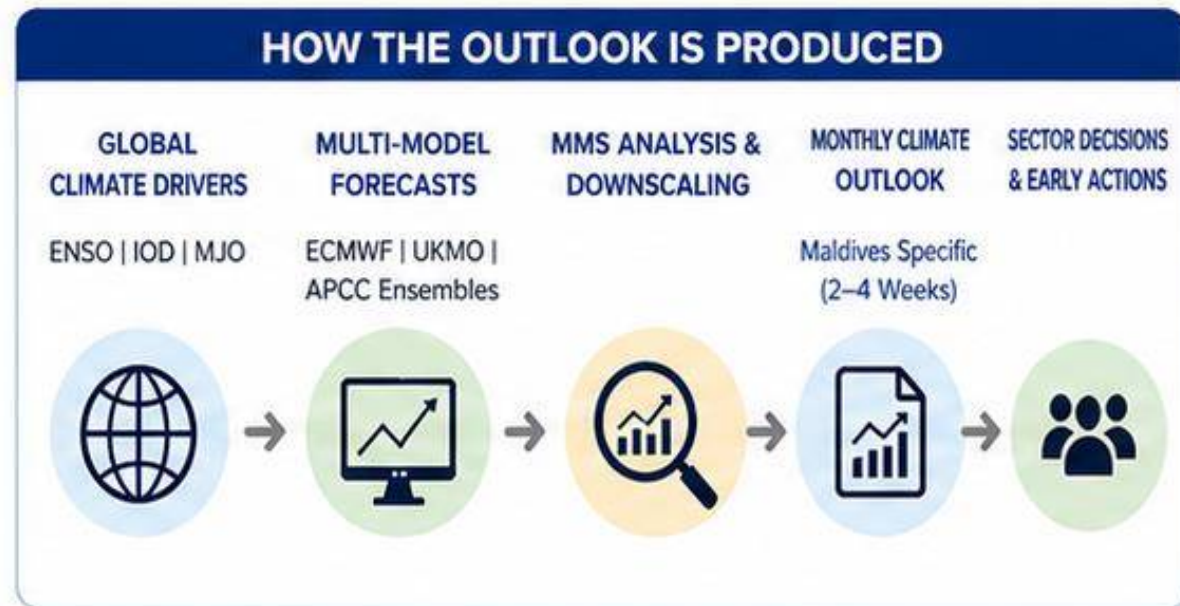


Climate services transform climate risk from a reactive crisis into a manageable, informed decision space.



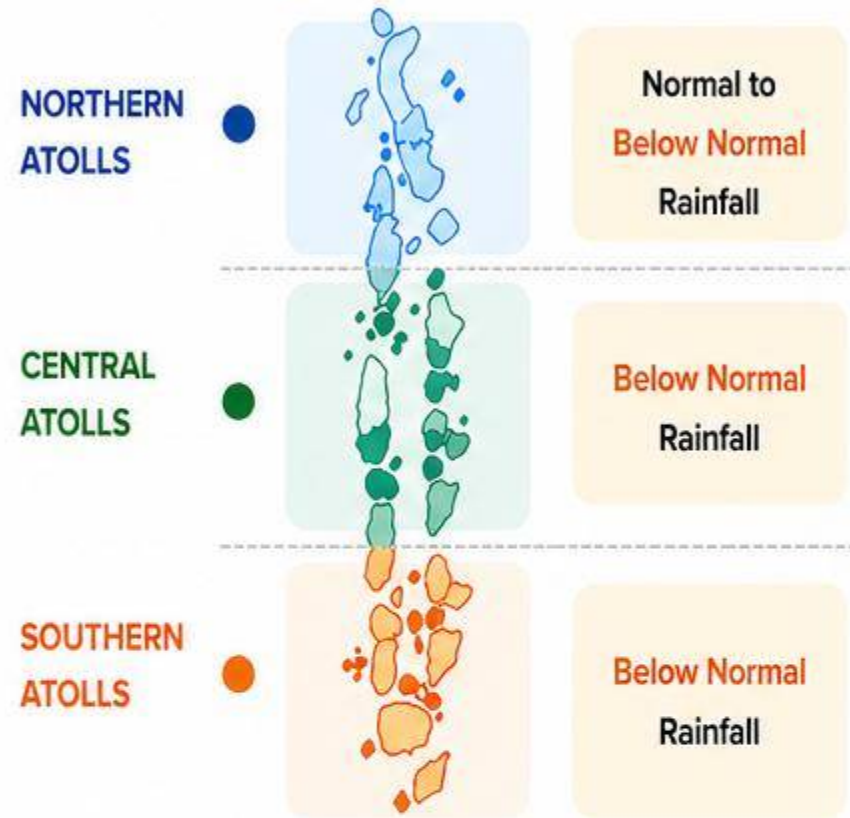
Monthly Climate Outlook: A critical Operational Product

Probabilistic, multi-model outlooks for rainfall and temperature for the next 2–4 weeks across the Maldives



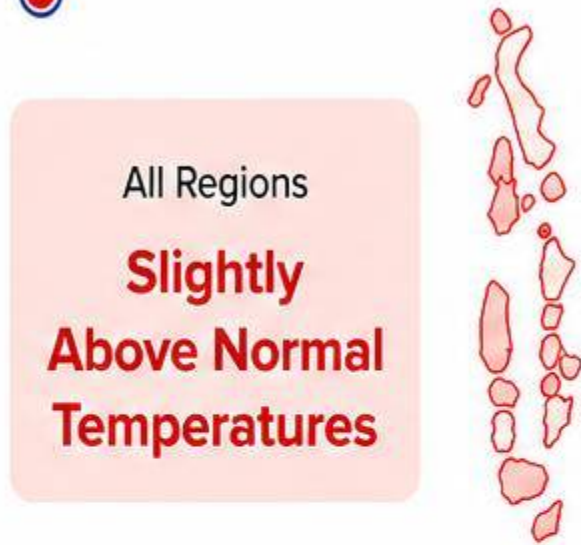
EXAMPLE FROM LATEST OUTLOOK

RAINFALL OUTLOOK

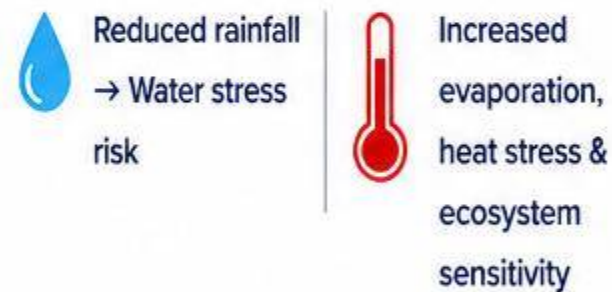


LEGEND ■ Above Normal ■ Normal ■ Below Normal

TEMPERATURE OUTLOOK



WHAT THIS MEANS



FROM OUTLOOK TO ACTION

IF BELOW NORMAL RAINFALL

- Activate water management plans
- Increase rainwater storage monitoring
- Pre-position water supply support if needed



IF ABOVE NORMAL RAINFALL

- Clear island drainage systems
- Prepare flood response teams
- Alert high-risk islands & communities



KEY TAKEAWAY




The Monthly Climate Outlook translates global climate signals into island-level risk intelligence to guide informed decisions and early actions in the Maldives.



Climate Services for Forecast Based Actions (FBA)

ANTICIPATORY ACTIONS (BEFORE HAZARD)

Triggered by Climate Outlook Thresholds

 <p>ABOVE-NORMAL RAINFALL / FLOOD RISK</p>	 <p>BELOW-NORMAL RAINFALL / DRY CONDITIONS</p>	 <p>ROUGH SEAS / WIND ANOMALIES</p>	 <p>EXTREME WEATHER OUTLOOK (HEAVY RAIN / STORMS)</p>
<p>OUTLOOK TRIGGER Rainfall forecast above normal</p>	<p>OUTLOOK TRIGGER Rainfall forecast below normal</p>	<p>OUTLOOK TRIGGER Wind / wave outlook above threshold</p>	<p>OUTLOOK TRIGGER Extreme weather potential indicated in outlook</p>
			
<p>ACTIONS</p> <ul style="list-style-type: none"> • Pre-position relief items in vulnerable islands • Drainage clearing in flood-prone areas • Strengthen early warning and community readiness 	<p>ACTIONS</p> <ul style="list-style-type: none"> • Water storage planning and optimization • Maintain rainwater harvesting systems • Plan desalination and water allocation 	<p>ACTIONS</p> <ul style="list-style-type: none"> • Issue fisheries advisories and safety alerts • Advise on best days to fish and safe zones • Communicate with fishers and harbor authorities 	<p>ACTIONS</p> <ul style="list-style-type: none"> • Pre-position relief items and emergency supplies • Check shelters and evacuation plans • Coordinate with local councils and partners
<p>IMPACT Reduced flooding, faster response, protected lives and livelihoods</p>	<p>IMPACT Secured water supply, reduced water stress</p>	<p>IMPACT Safer operations at sea, reduced economic loss</p>	<p>IMPACT Faster response, reduced disruption, stronger community resilience</p>

Climate Services for Forecast Based Actions (FBA)

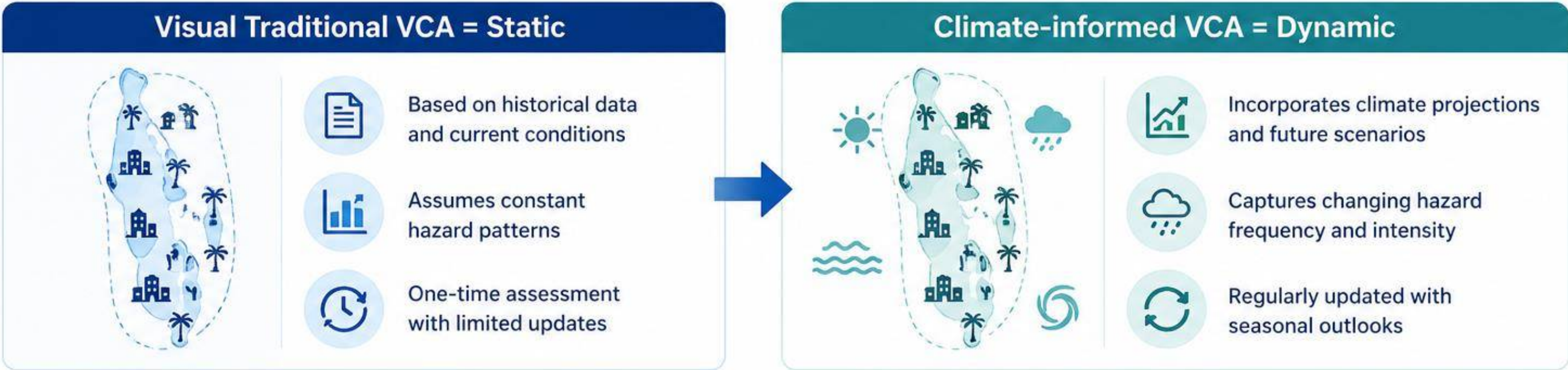


EARLY ACTIONS (WHEN RISK IMMINENT)

Acting Early Saves Lives and Reduces Impacts

 1. ACTIVATION OF ISLAND DISASTER COMMITTEES	 2. COMMUNITY ALERTS	 3. EVACUATION READINESS	 4. CRITICAL INFRASTRUCTURE PROTECTION
			
<ul style="list-style-type: none"> • Convene Island Disaster Committee • Review forecast and risk information • Assign roles and responsibilities • Coordinate with local authorities and key stakeholders 	<ul style="list-style-type: none"> • Disseminate timely warnings through multiple channels • Inform communities about expected risks and actions • Provide clear instructions on safety measures • Ensure vulnerable groups are reached 	<ul style="list-style-type: none"> • Identify and prepare safe shelters • Prepare transport and evacuation routes • Support for elderly, children, and persons with disabilities • Conduct headcounts and readiness checks 	<ul style="list-style-type: none"> • Secure power, water, and communication systems • Protect essential facilities (hospitals, schools, shelters) • Reinforce structures and remove hazards • Check backup systems and supplies
 OUTCOME Prepared leadership and coordinated response	 OUTCOME Informed communities take protective actions	 OUTCOME People evacuated safely and on time	 OUTCOME Reduced damage and service disruption

Climate Information for Vulnerability and Risk Assessments



→ Enables micro-level planning for each island, which is essential in Maldives' geography.


Climate Services for a Policy Shift

Using climate information to drive resilient, inclusive and sustainable development



CLIMATE SERVICES DIRECTLY SUPPORT:

- A. NATIONAL DRM POLICY**
 - Risk-informed planning frameworks
 - Integration into NDMA operational protocols
- B. CLIMATE ADAPTATION POLICY**
 - Supports NDCs and adaptation strategies
 - Aligns with UNFCCC reporting and resilience goals
- C. MULTI-SECTORAL POLICY INTEGRATION**
 - Fisheries
 - Health
 - Tourism
 - Water & sanitation



THE POLICY SHIFT

STATIC PLANNING
Based on historical data and past experience

↓

CLIMATE SERVICES INPUT
Timely forecasts, outlooks, risk assessments and sectoral climate information

↓

DYNAMIC, CLIMATE-INFORMED GOVERNANCE
Anticipatory decisions, adaptive policies and resilient development outcomes



Policy shifts from static planning → dynamic, climate-informed governance



STRONGER POLICIES

Evidence-based, risk-informed and future-ready



RESILIENT SECTORS

Fisheries, tourism, health, water and more



SUSTAINABLE DEVELOPMENT

Supports NDCs, UNFCCC reporting and resilience goals



BETTER OUTCOMES

Protect lives, livelihoods and strengthen national resilience

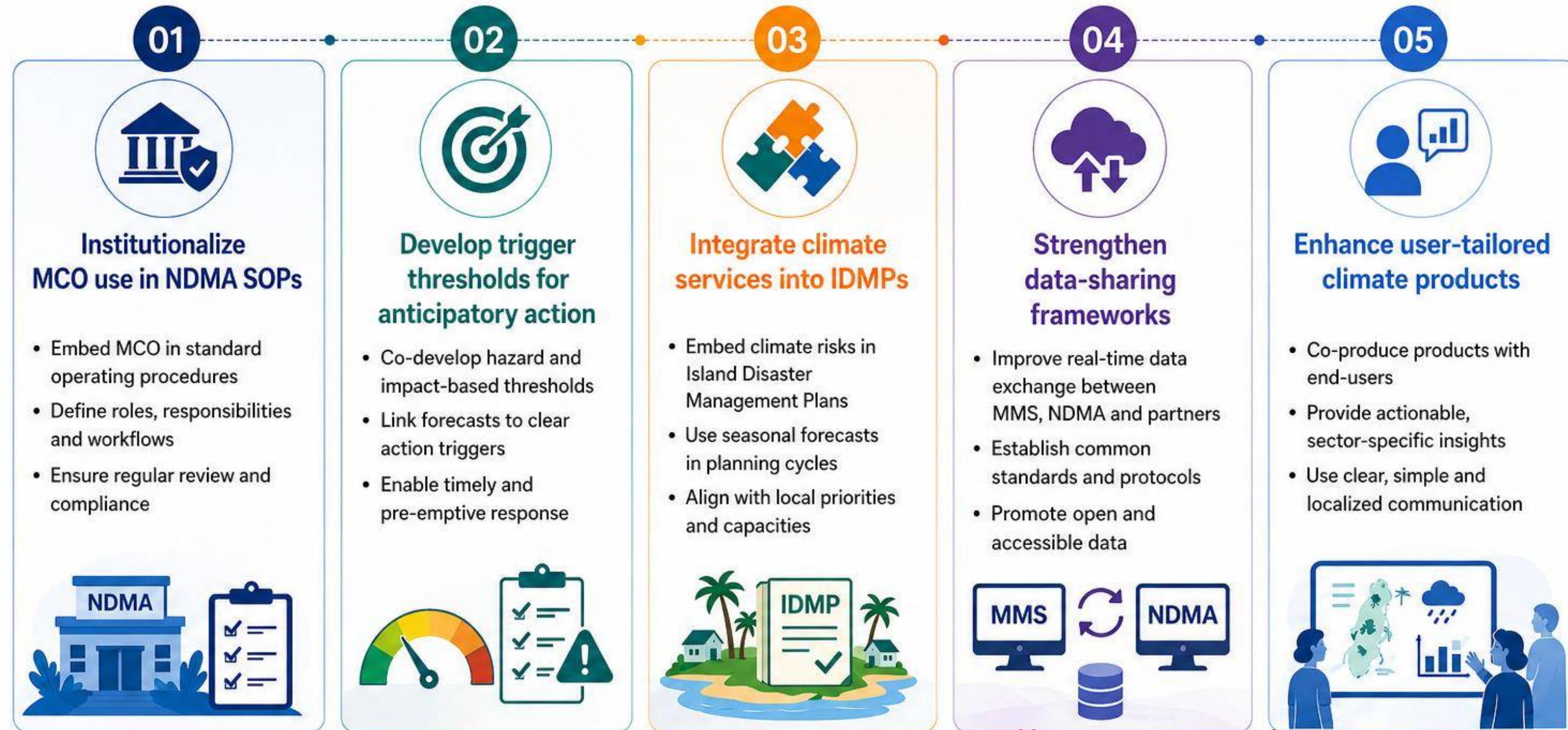
Key Gaps & Opportunities

Strengthening Climate Services for Action in the Maldives



Way Forward

Strengthening Climate Services for Disaster Risk Management (DRM)



<https://stats.ndma.gov.mv/>



Climate services are not just forecasts — they are decision-making tools that transform disaster management from reactive response to anticipatory resilience in the Maldives.





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From Forecast to Action: Bridging Science and Decision-Making



Thank You!