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Marine Protected Areas – supporting ecosystem-based climate change adaptation and mitigation

- Marine Protected Areas (MPAs) are **areas of the ocean set aside for long-term conservation aims**.
- MPAs **support climate change adaptation and mitigation** while **maintaining other ecosystem services**.
- Currently about **3.6% of oceans is protected** but only about **1.5% of oceans is covered by strictly, permanently protected MPAs**.
- Most existing MPAs **do not have enough human and financial resources** to properly implement conservation and management measures.
- **Increased political commitments** can help boost the governance of and resources available to MPAs.

What is the issue?

Marine Protected Areas (MPAs) – areas of the ocean set aside for long-term conservation aims – are the only **mainstream conservation-focussed, area-based measure to increase the quality and extent of ocean protection**. Large-scale, effective implementation of well-managed and strictly enforced MPAs, as well as networks thereof, serves as a core component of ecosystem-based solutions that support global efforts towards climate change adaptation and mitigation.

Establishing MPA networks is critical to maintaining climate change resistance and rebuilding ecological and social resilience. A particular challenge lies in their implementation – currently about 3.6% of oceans is protected but **only about 1.5% of oceans is covered by strictly, permanently protected MPAs**. This is far from the commitments of States made in relation to the Convention on Biological Diversity's (CBD) Target 11 of 10% MPA coverage by 2020, and even further from the recommendations made at the World Parks Congress 2014 of the need for 30% no-take MPA coverage worldwide. Most existing MPAs do not have enough human and financial resources to properly implement conservation and management measures. Added to this critical situation is a spatial disparity: **20 maritime countries have established around 80% of the surface of the MPAs** in the oceans. The High Seas, covering nearly half the Earth, still lack a framework through which MPAs can be established.

Lack of strictly and permanently protected MPAs limits our ability to support climate change adaptation and mitigation. To reduce the overall climate change impacts on oceans, dramatic cuts in CO_2 emissions are still urgently needed.

Why is this important?

While globally ambitious efforts are needed to reduce the use of fossil fuels, augment the use of renewable energy systems and enhance energy efficiency, **nature-based solutions in the form of MPAs and other area-based management can support climate change adaptation and mitigation while maintaining other ecosystem services**. For example, MPAs that protect coastal habitats such as barrier islands, coral reefs, mangroves and wetlands reduce human vulnerability in the face of climate change and provide the natural infrastructure (e.g. storm protection) on which people rely.

Strictly protected resource-oriented MPA networks in coastal carbon habitats (mangroves, seagrasses, salt marshes) can ensure that no new emissions arise from the loss and degradation of these areas whilst stimulating new carbon sequestration through the restoration of degraded coastal habitats.

MPAs, while not impervious to all climate change and ocean acidification impacts, provide areas of reduced stress, providing organisms with a better opportunity to deal with climate change. **Well-integrated MPA networks can increase species survival** by allowing organisms to move around and escape certain pressures. In addition, MPAs where stressors are controlled can be used as sentinel (research) sites to help **track the effects of climate change**, consistent with Parties' research and systematic observation obligations under the UNFCCC.

What can be done?

Measures to address current impacts of climate change on oceans include significantly cutting emissions to return to c.350 ppm, dramatically

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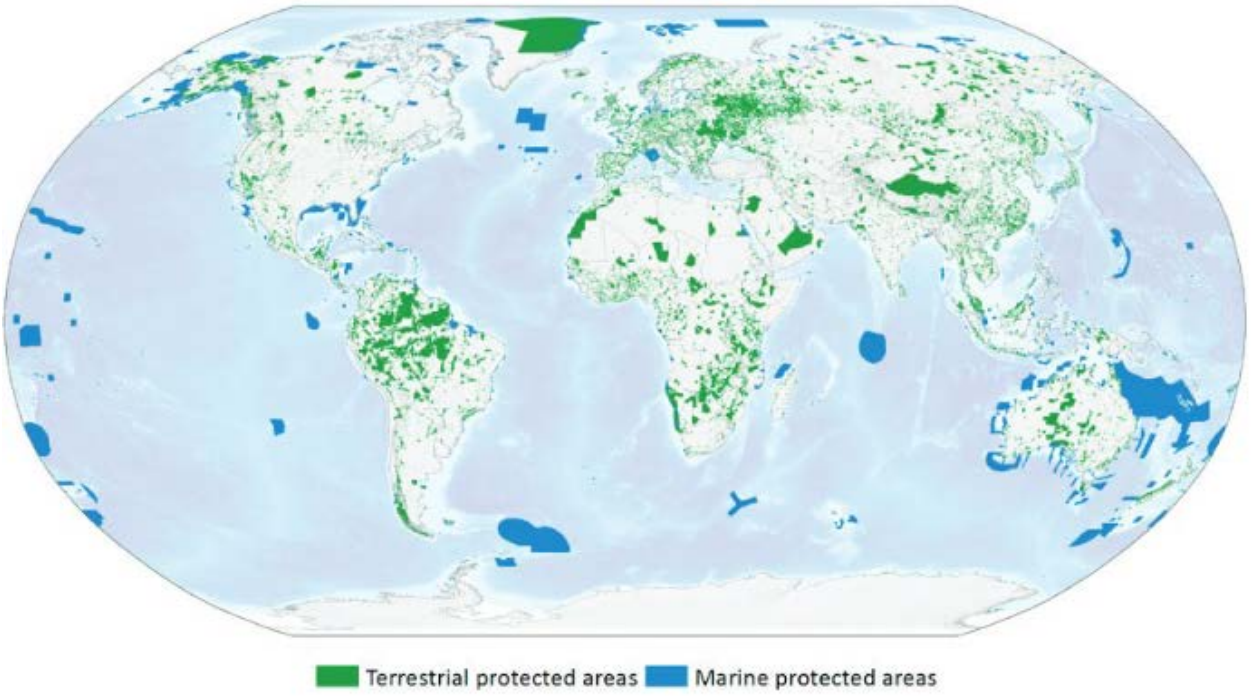

upscaling proper protection for marine ecosystems to retain resistance and rebuild resilience, as well as implementing sustainable practices for all industries and uses across 100% of the world's oceans.

National climate change plans and strategies for coastal states are well positioned to recognise the use of MPAs for ecosystem-based adaptation and mitigation as a 'no-regret' climate change strategy. Processes such as Integrated Coastal Zone Management (ICZM) and Marine Spatial Planning (MSP) can be used to meet the wider management challenges of achieving sustainable development and biodiversity conservation whilst delivering climate change adaptation and mitigation.

Adaptation strategies, including National Adaptation Plans and Programmes of Action, as well as mitigation efforts such as REDD+ (Reducing Emissions from Deforestation and Forest Degradation) and National Appropriate Mitigation Actions, provide opportunities to use MPAs as an implementation tool for ecosystem-based adaptation and mitigation.

Climate finance mechanisms enable increased support for the implementation of marine and coastal ecosystem-based adaptation and mitigation.

The Green Climate Fund (GCF) offers an opportunity for developing countries to receive support for mitigation and adaptation efforts, with a focus on biodiversity conservation as well as protected area management.

Coastal ecosystem protection could also benefit from the Poznan Strategic Program on Technology Transfer and the work of the Technology Mechanism.

Increased political commitments at different levels (national, regional and international) can help boost the governance of and resources available to MPA programmes, and ensure that MPAs are effective and sufficient in number to fulfil their potential as a key tool for climate change mitigation and adaptation.

Ahead lies the challenge to revise the global MPA strategy and emphasise the strong linkages between climate and biodiversity efforts, through existing international regimes such as the UNFCCC and CBD. A new Agenda for building a truly representative, consistent and resilient MPA network to face both climate change and the loss of biodiversity would be highly beneficial.

Where can I get more information?

- **iucn.org/marine**
- *Making waves: The science and politics of ocean protection*. Science, 2015.
- *Mediterranean Marine Protected Areas and climate change: A guide to regional monitoring and adaptation opportunities*
- *Scientific Guidelines for Designing Resilient Marine Protected Area Networks in a Changing Climate*
- *NOAA's Climate-Smart Sanctuaries: Helping the National Marine Sanctuary System address climate change*

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