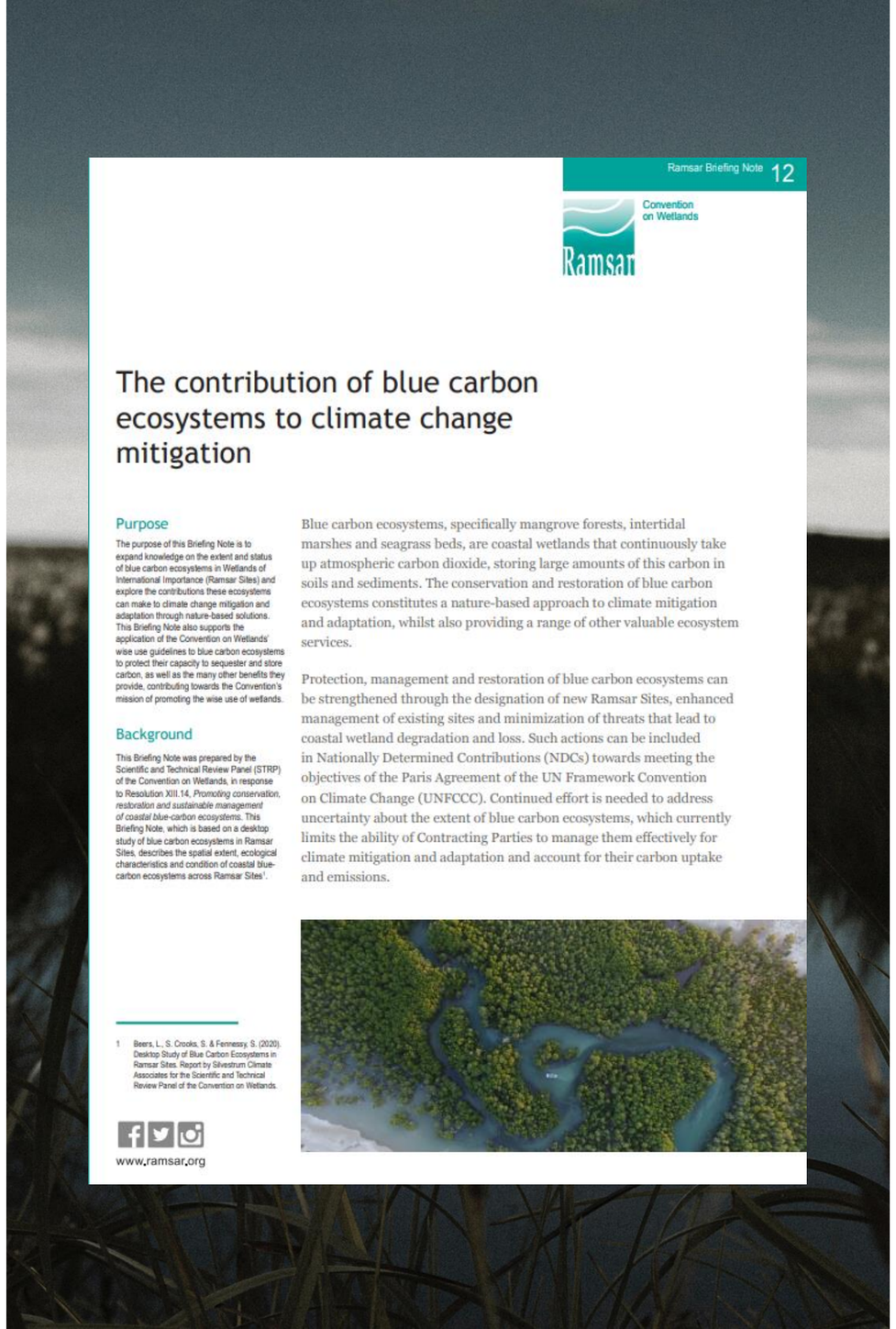


Ramsar Convention on Wetlands

Ramsar Briefing Note 12

The contribution of blue carbon ecosystems to climate change mitigation

Work by the STRP led by
M. Siobhan Fennessy, STRP, Kenyon College
Lisa Schile Beers, Silvestrum Climate Associates

STRP Briefing Note 12

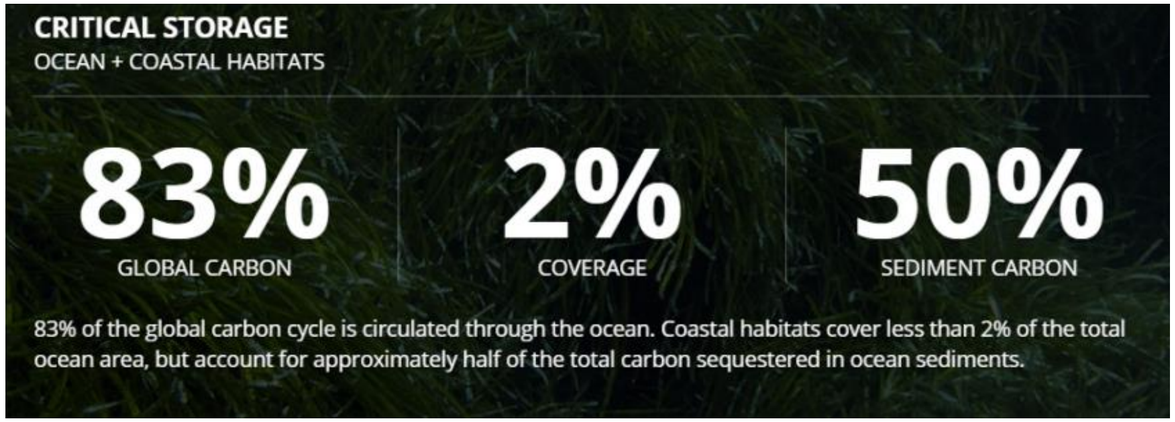
Provides knowledge on the extent and status of **blue carbon ecosystems** in Wetlands of International Importance and the contributions these ecosystems can make to climate change mitigation and adaptation.

Prepared by the STRP in response to **Resolution XIII.14**: *Promoting conservation, restoration and sustainable management of coastal blue-carbon ecosystems*.

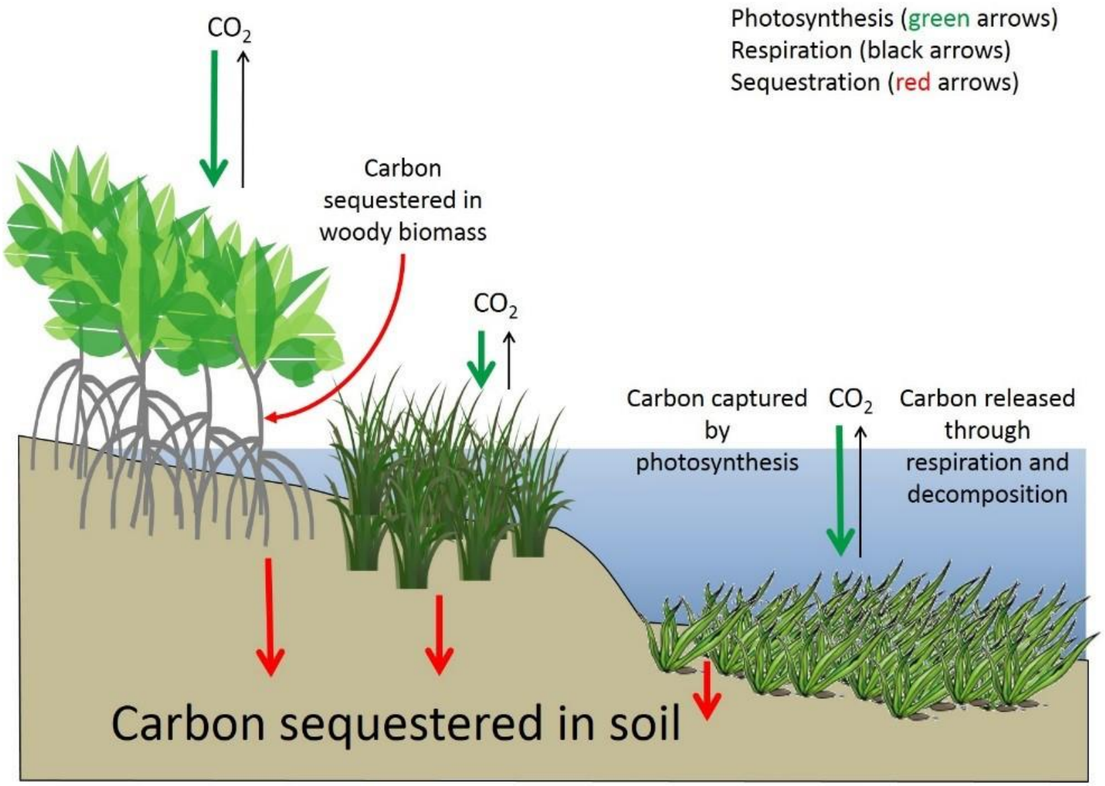
Blue Carbon Definition

Under the Ramsar Convention, blue carbon is "*the carbon captured by living organisms in coastal (e.g. mangroves, salt (intertidal) marshes and seagrasses) and marine ecosystems and stored in biomass and sediments*"

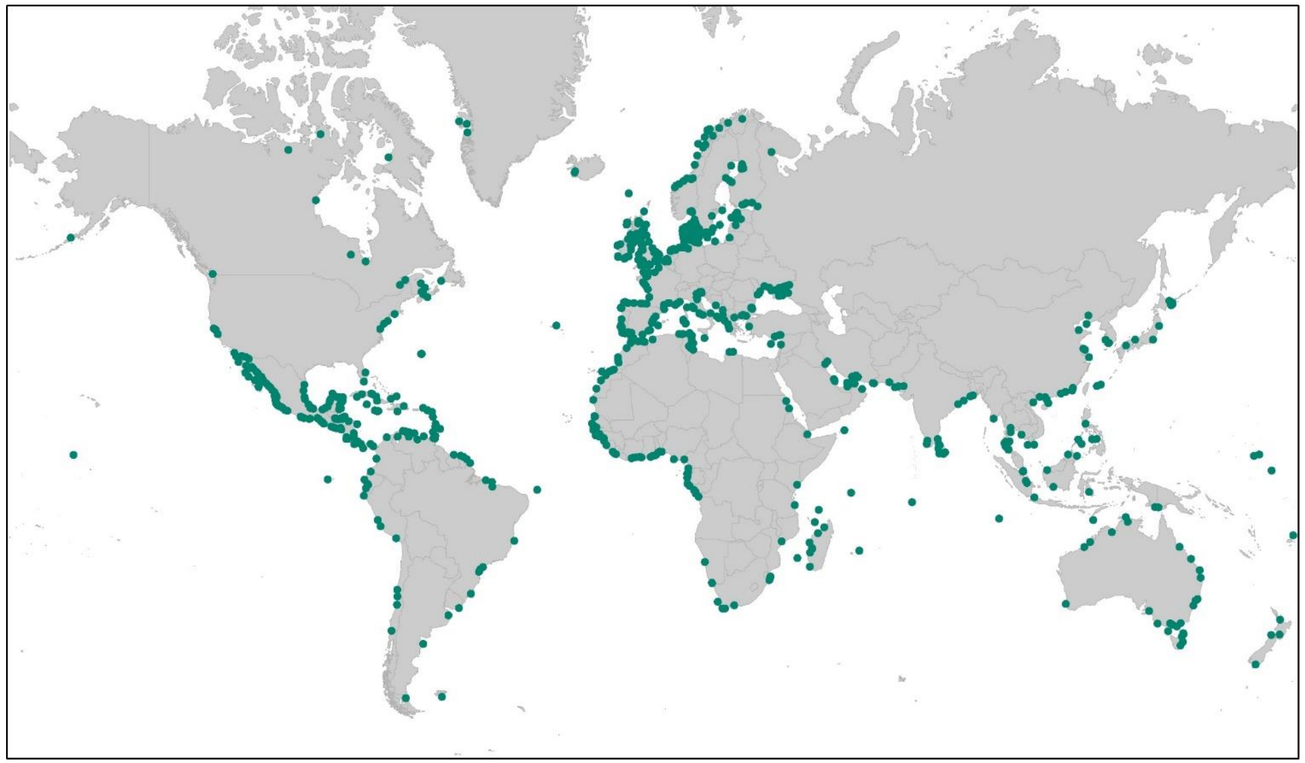
Blue Carbon Ecosystems provide critical carbon storage in vegetation and in soils/sediments



https://www.thebluecarboninitiative.org/



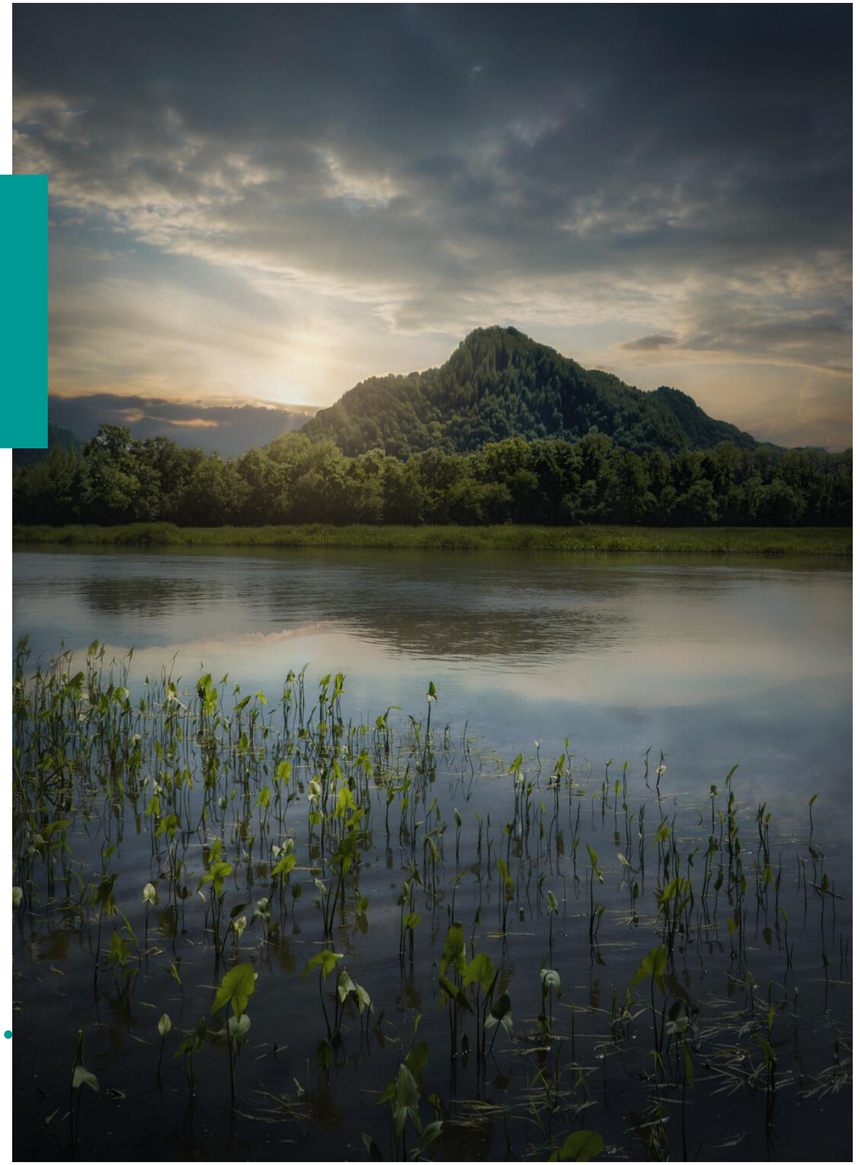
Distribution of Blue Carbon Ecosystems in the Ramsar Network



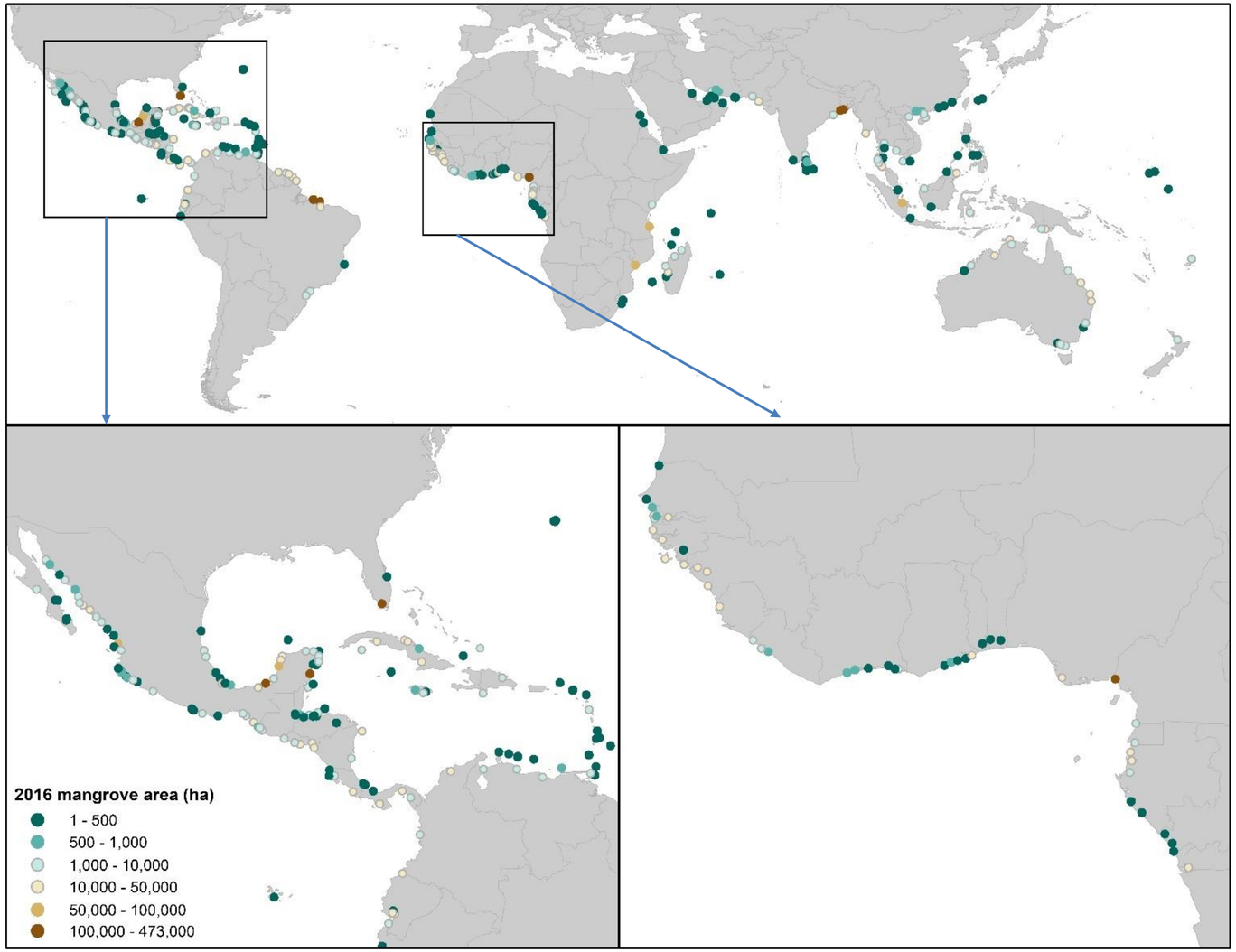
- Globally, blue carbon ecosystems (BCEs) cover an estimated 49 million hectares.
- However, and consistent with global data, BCEs located within Ramsar sites have not been fully mapped

Methods: The Challenges of Geospatial Data

- Most Ramsar sites had no spatial data (no digitized boundary) so >330 site boundaries were manually delineated
- Mangroves (301 sites): Global Mangrove Watch- mangrove extent assessed at seven yearly intervals (Bunting et al. 2018)
- Intertidal Marshes (547 sites): partial spatial data coverage at 230 sites (Mcowen et al. 2017)
- Seagrass beds (271 sites): no global dataset on extent. Partial coverage by World Atlas of Seagrasses (Green and Short 2003)



Distribution and Area (ha) of Mangrove Forests in Ramsar Sites



GMW 2016

Change in Mangrove Area and Carbon Storage in Wetlands of International Importance (1997-2016)

Ramsar Region	1997 to 2016 change (ha)	% Change 1997 to 2016	Total C stock (soil + biomass; tC ha^{-1})	Total C loss 1997 – 2016 (million metric tonnes, MT)
Africa	-31,299	-5%	399.51	-13.77
Asia	-15,537	-2%	426.44	-4.97
Europe	5,284	14%	522.84	1.92
Latin America & Caribbean	-51,082	-4%	514.81	-26.38
North America	-63,473	-8%	353.53	-27.85
Oceania	-2,123	-1%	378.22	-0.81
Total	-158,230	**-4%**	432.6	--

Accurate **global mapping of BCE**s remains a significant gap in the understanding of the overall geographic coverage, particularly for intertidal marshes and seagrass beds.

Policy gaps need to be addressed, such as the inclusion of **blue carbon ecosystems protection and restoration** in Nationally Determined Contributions and as part of national greenhouse gas inventories.

BCEs are considered '**hot-spots**' of carbon storage and they offer many other benefits, such as contributing to climate change adaptation, flood and shoreline protection, water quality protection.

Key Messages

Briefing Note 12 available via:

ramsar.org/about/strp-outputs

Thank you!