

Achieving Aichi Biodiversity Target 11: The Importance of Spatial Data

Stocktaking, coordination and development of monitoring plan meeting for achieving Aichi Biodiversity Target 11 by 2020
Vilm, Germany
26 April 2019

www.unbiodiversitylab.org

Part 1

- Spatial data/Reporting process
- UN Biodiversity Lab and status maps

Part 2

- Preliminary analyses for gaps, commitments and opportunities
- Group discussion
- Plenary
- Conclusions


An aerial photograph of a river delta, showing a complex network of waterways and land. The water is a deep blue, while the land is a mix of green and brown. A semi-transparent dark grey box is overlaid on the lower half of the image, containing text.

Spatial data can play a powerful role for nature & development:

- Identify risks and assess trade-offs for conservation and sustainable use
- Support accountability for the Aichi Biodiversity Targets and the nature-based Sustainable Development Goals

UNDP analysis of post-2010 NBSAPs and Fifth National Reports (5NR):

- On average, < than 5 maps / 5NR, < than 4 maps/NBSAP
- 80% of 5NR and 70% of NBSAP do not have maps that support decision-making
- < than 4% of all maps focused on ecosystem services

A satellite-style map of the African continent and surrounding regions, including parts of Europe, the Middle East, and South America. The map shows various countries with their names labeled in all caps. A semi-transparent dark grey box is overlaid on the map, containing the text for the UN Biodiversity Lab. A thin teal horizontal line is positioned below the title text.

UN Biodiversity Lab:

1. Build spatial literacy to enable better decisions
2. Use spatial data as a vehicle for improved transparency and accountability
3. Apply insights from spatial data across sectors to deliver on the Aichi Biodiversity Targets and nature-based Sustainable Development Goals

The UN Biodiversity Lab



- Provides policymakers with FREE high-quality global spatial data layers and analytic tools
- Does NOT require GIS expertise
- Enables 137 governments to access spatial data for inclusion in their 6NR.
- Supports NBSAP implementation to achieve key conservation targets.

Access to ~ 100 Global Data Layers



Access to ~ 100 Global Data Layers



DATA CATALOGUE

SUCCESS STORIES

SUPPORT

ABOUT

MY PROJECTS

Select country/region

Apply Aichi Biodiversity Targets:

Aichi Biodiversity Target 5

Aichi Biodiversity Target 11

Aichi Biodiversity Target 12

Aichi Biodiversity Target 14

Aichi Biodiversity Target 15

Apply Themes:

Biodiversity

Climate & Carbon

Ecosystem Services

Human Impact

Land Cover

Marine



UNBiodiversityLab - World English

Filter views ...

Sort by Title Date Filter activated views

[Select a different project, category or country to display available data]



Access 18 Biodiversity Status Maps

The screenshot displays the UN Biodiversity Lab website interface. At the top, the navigation menu includes 'ABOUT', 'DATA', 'STORIES', 'USER GUIDE', 'SUPPORT', and 'MY PROJECTS'. The main content area features a world map with a dark overlay, and a sidebar on the left with the following sections:

- Select country/region**: A dropdown menu.
- Explore 18 biodiversity status maps created for your country.**
- Apply Aichi Biodiversity Targets:**
 - Aichi Biodiversity Target 5:
 - Aichi Biodiversity Target 11:
 - Aichi Biodiversity Target 12:
 - Aichi Biodiversity Target 14:
 - Aichi Biodiversity Target 15:
- Apply Themes:**
 - Biodiversity:
 - Climate & Carbon:
 - Ecosystem Services:
 - Human Impact:
 - Land Cover:
 - Marine:

At the bottom of the page, there are links for 'Privacy Policy' and 'Terms of Use', a copyright notice 'Copyright 2019 © United Nations', and logos for 'gef', 'UN environment', and 'mapx'.

Upload National Data Layers

UNBiodiversity Lab

DATA CATALOGUE SUCCESS STORIES SUPPORT ABOUT MY PROJECTS

ACLED_June_2018

File Home Share View

Pin to Quick access Copy Paste Copy path Paste shortcut Move to Delete Copy to Rename New folder Properties Open Select all Select none Invert selection

Clipboard Organize New Open Select

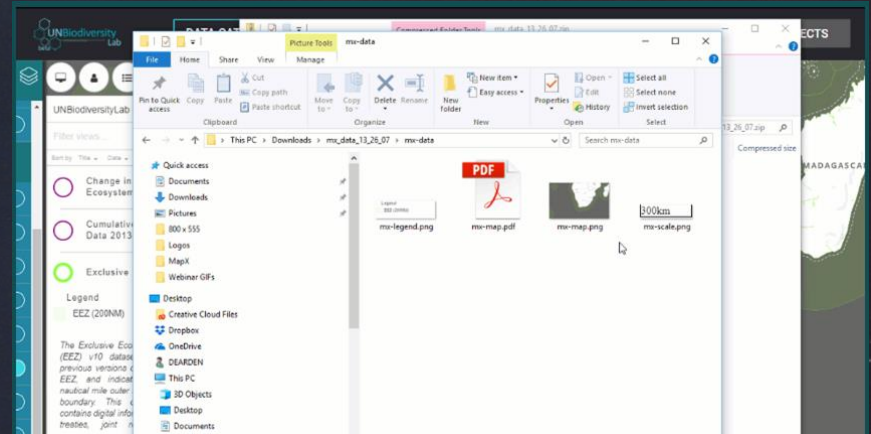
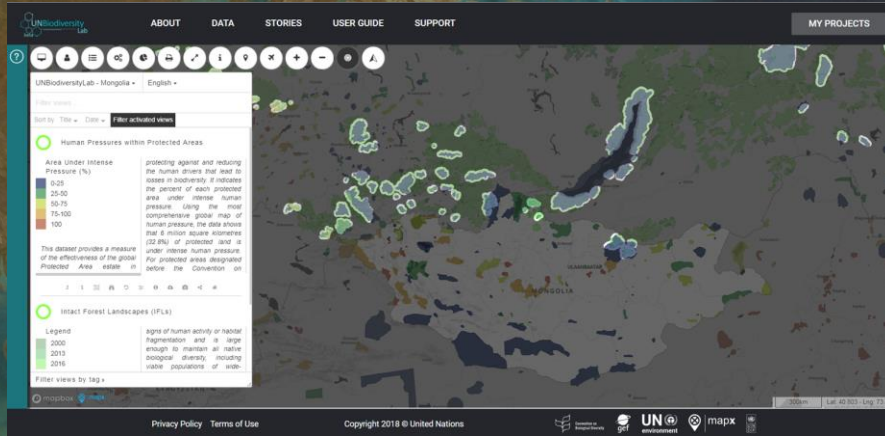
Name	Date modified	Type	Size
1900-01-01-2018-06-06-Democratic_Rep...	06/06/2018 12:14 ...	Microsoft Excel C...	5,138 KB
1900-01-01-2018-06-06-Democratic_Rep...	06/06/2018 12:15 ...	Microsoft Excel W...	2,120 KB
ACLED_Codebook_2017FINAL.pdf	06/06/2018 12:15 ...	Adobe Acrebat D...	642 KB
drc_ACLED_June_2018_p.geojson	06/06/2018 12:15 ...	GEOJSON File	11,601 KB

4 items 1 item selected 11.4 MB

NIGER CHAD SUDAN SOUTH SUDAN CAMEROON NIGERIA NIGERIA SOUTH SUDAN ADDIS ABABA CAMEROON GUINEA-BISSAU GABON DEMOCRATIC REPUBLIC OF THE CONGO RWANDA BURUNDI TANZANIA ANGOLA ZAMBIA MALAWI MOZAMBIQUE

+ Copy

Create maps & Integrate into Reports



Communicate Conservation Success

SOUTH AFRICA

Protecting Coastal and Marine Areas



Moldova

Combating Biodiversity Loss



ECUADOR

Using Spatial Data to Monitor Deforestation and Biodiversity Loss



Communicate Your Conservation Success



ABOUT DATA STORIES USER GUIDE SUPPORT

MY PROJECTS



Edit story map story map webinar

Map animation > JSON

Autoplay settings > JSON

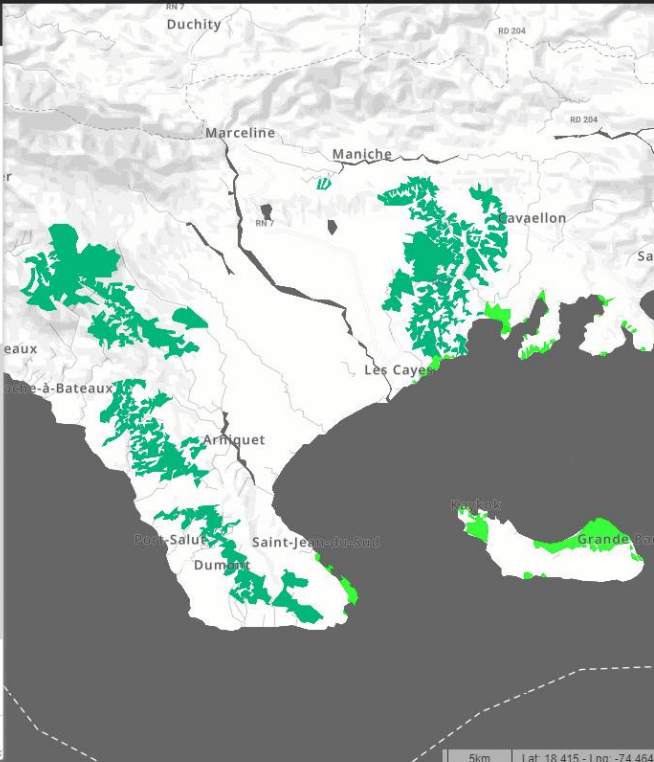
Step name
Haiti

3. > ✕ Step ↑ ↓ JSON

4. > ✕ Step ↑ ↓ JSON

5. > ✕ Step ↑ ↓ JSON

1 2 3 4 5 10 sails Unsaved draft Save Preview Close

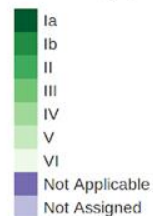


An aerial satellite-style image of a coastal region. The land is shown in shades of brown and tan, with intricate patterns of rivers and streams. The water is a vibrant blue, with lighter turquoise areas near the shorelines. The background is a dark, starry space.

STATUS MAPS FOR ABT 11

Terrestrial Protected Area Network & National Coverage (%) - Oct 2018

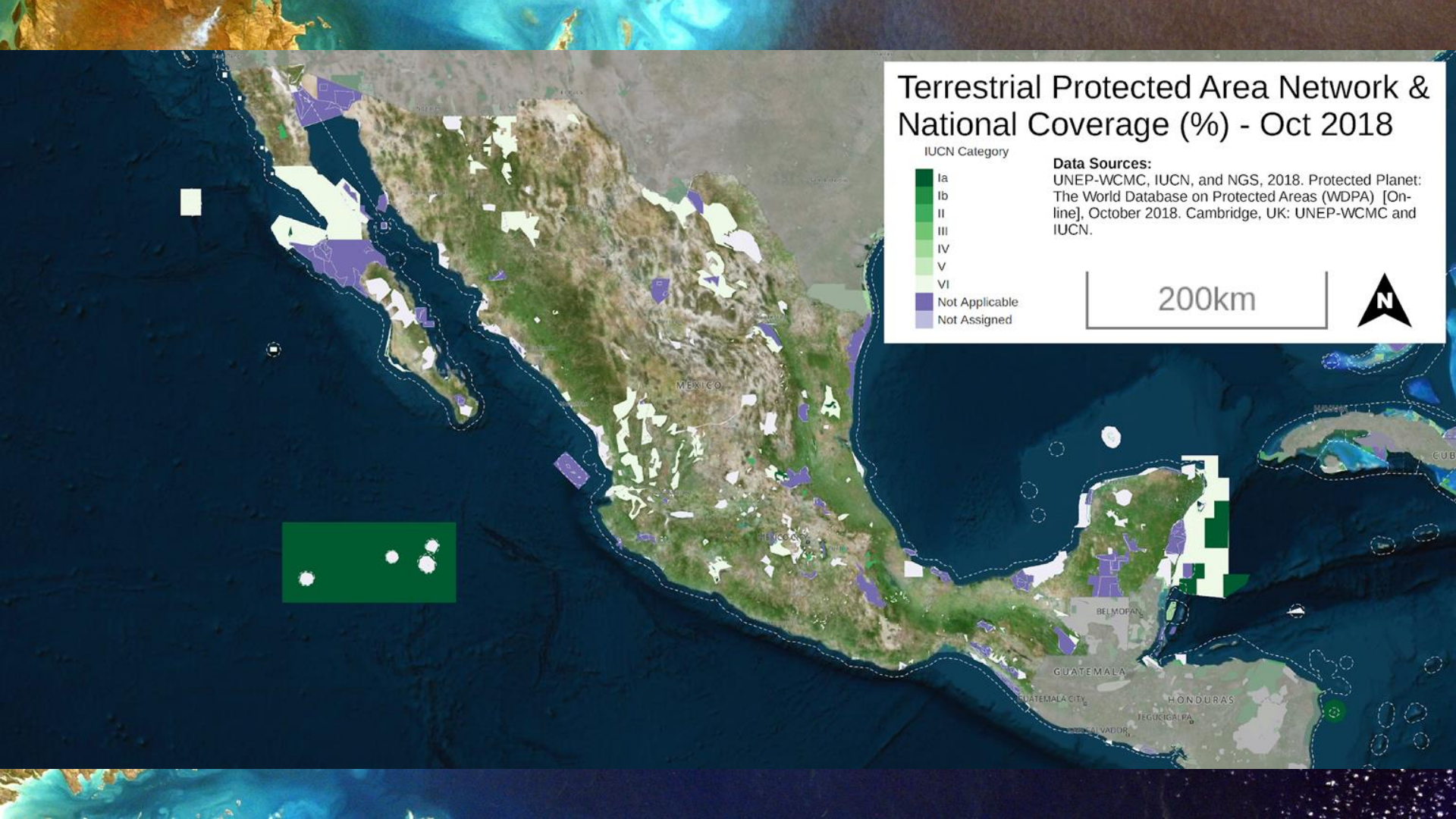
IUCN Category



Data Sources:

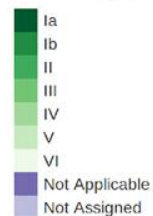
UNEP-WCMC, IUCN, and NGS, 2018. Protected Planet: The World Database on Protected Areas (WDPA) [Online], October 2018. Cambridge, UK: UNEP-WCMC and IUCN.

200km



Marine Protected Area Network & National Coverage (%) - Oct 2018

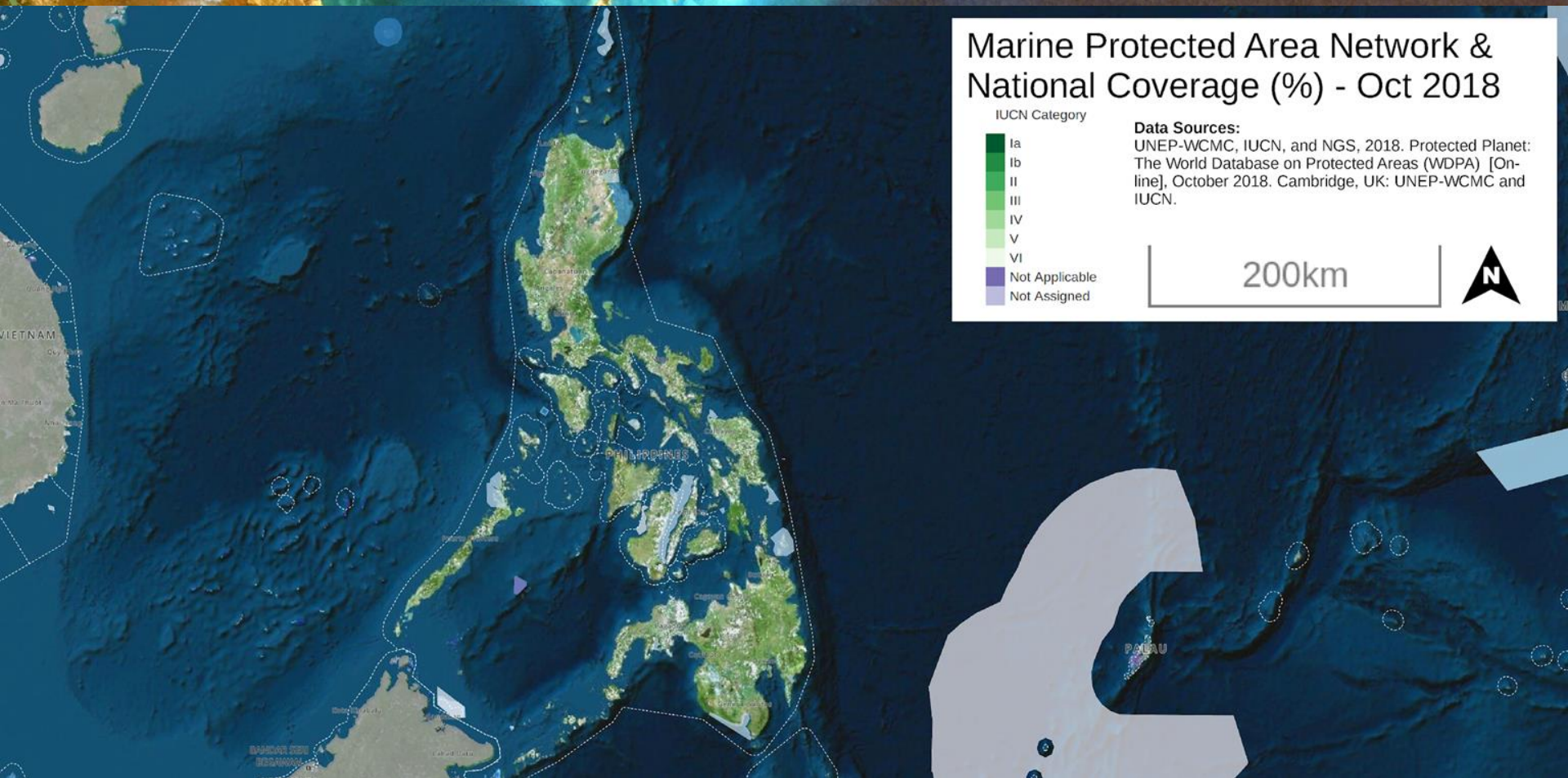
IUCN Category



Data Sources:

UNEP-WCMC, IUCN, and NGS, 2018. Protected Planet: The World Database on Protected Areas (WDPA) [Online], October 2018. Cambridge, UK: UNEP-WCMC and IUCN.

200km



Panthera onca Range and Protected Area Network – Oct 2018

Legend

 *Panthera onca*

IUCN Category

 Ia

 Ib

 II

 III

 IV

 V

 VI

 Not Applicable

 Not Assigned

Data Sources:

UNEP-WCMC, IUCN, and NGS, 2018.
Protected Planet: The World Database on
Protected Areas (WDPA) [On-line],
October 2018. Cambridge, UK: UNEP-
WCMC and IUCN.

Panthera onca. 2018. The IUCN Red List of
Threatened Species. Version 3.
<http://www.iucnredlist.org>.



30km



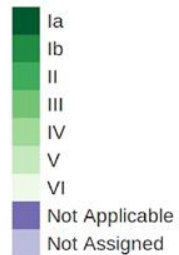
Protected Coverage of Key Biodiversity Areas (KBAs)

Key Biodiversity Areas (KBAs)



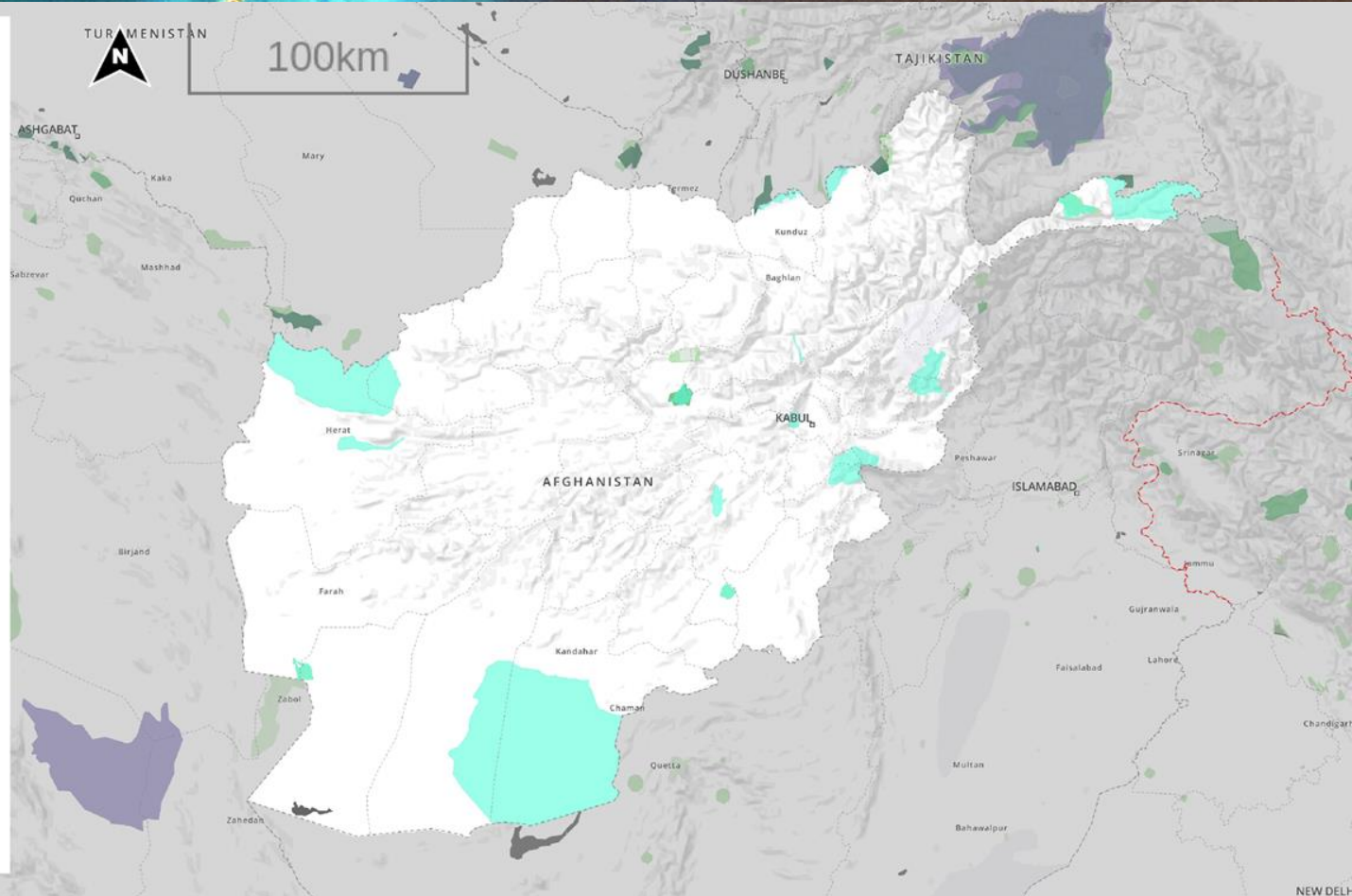
Protected Areas

IUCN Category



Data Sources:
UNEP-WCMC and IUCN, 2018. Protected Planet: The World Database on Protected Areas (WDPA) [On-line], October 2018. Cambridge, UK: UNEP-WCMC and IUCN.

Langhammer, P.F., Butchart, S.H.M., Brooks, T.M., 2018. Key Biodiversity Areas, in: Deltasala, D.A., Goldstein, M.I. (Eds.), Encyclopedia of the Anthropocene. Elsevier, Oxford, pp. 341–345.



DEMOCRATIC
REPUBLIC OF
THE CONGO

NAIROBI

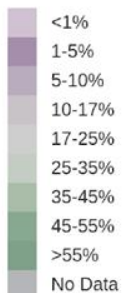
KIGALI

BUJUMBURA

ROBOMA

Protected Coverage of Ecoregions – Oct 2018

% Protected OCT 2018



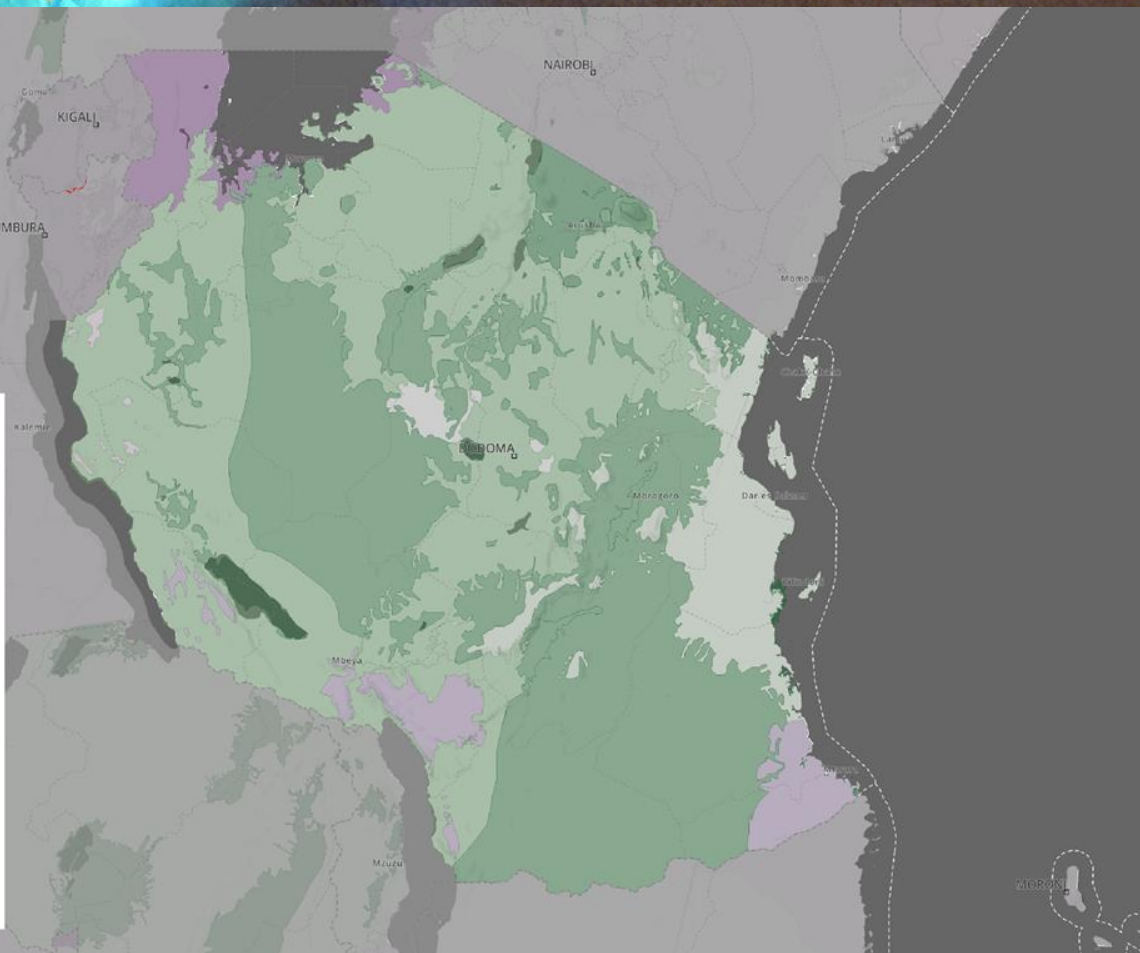
Data Sources:

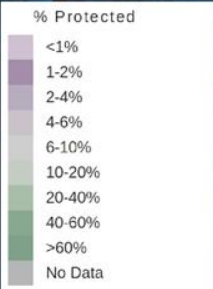
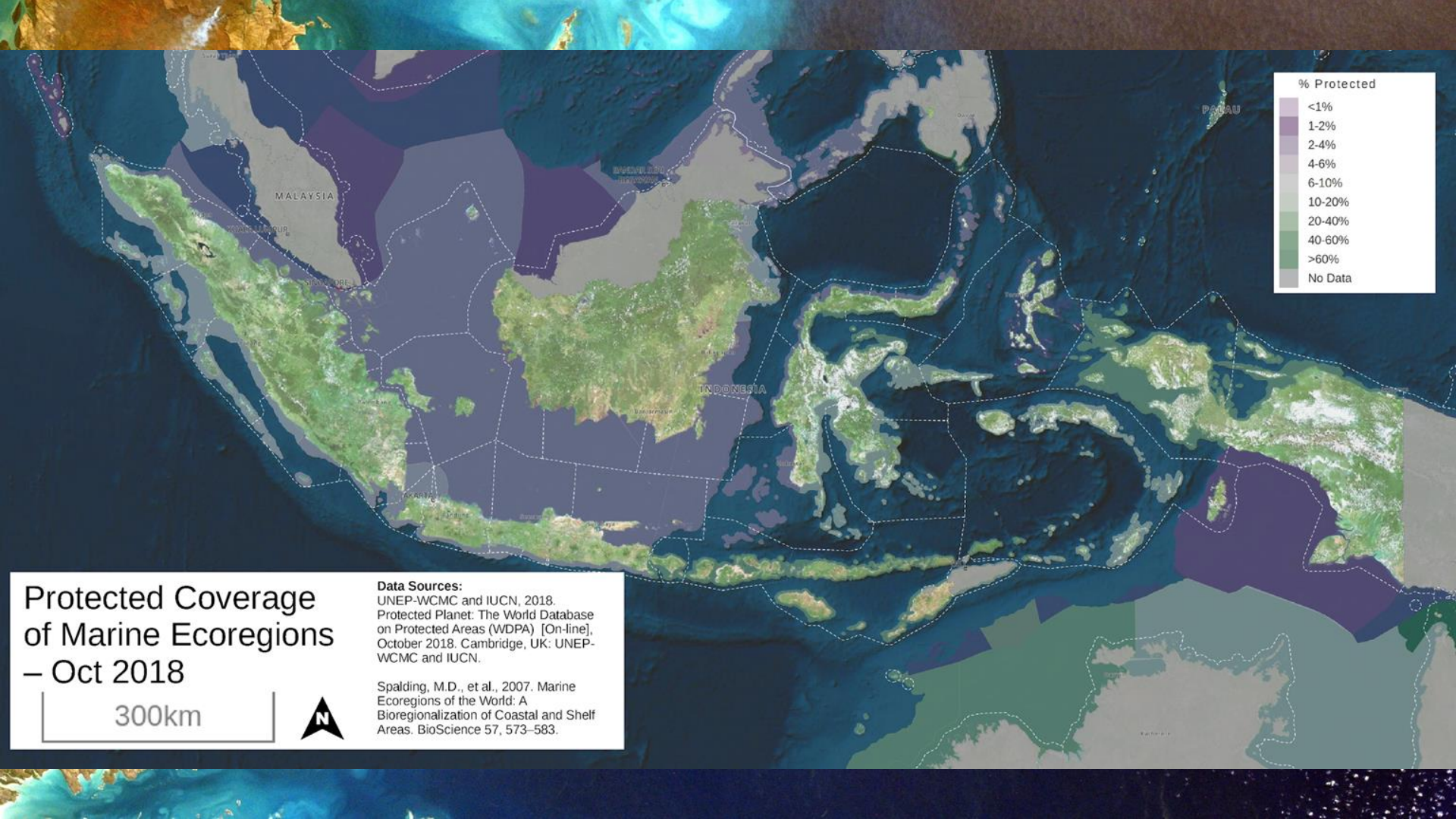
UNEP-WCMC and IUCN, 2018. Protected Planet: The World Database on Protected Areas (WDPA) [On-line], October 2018. Cambridge, UK: UNEP-WCMC and IUCN.

Dinerstein, E., et al., 2017. An Ecoregion-Based Approach to Protecting Half the Terrestrial Realm. *BioScience* 67, 534–545.



100km





Protected Coverage of Marine Ecoregions – Oct 2018

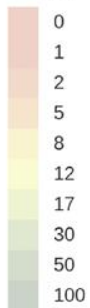
Data Sources:
UNEP-WCMC and IUCN, 2018. Protected Planet: The World Database on Protected Areas (WDPA) [On-line], October 2018. Cambridge, UK: UNEP-WCMC and IUCN.

Spalding, M.D., et al., 2007. Marine Ecoregions of the World: A Bioregionalization of Coastal and Shelf Areas. *BioScience* 57, 573–583.



Protected and Connected Coverage of Ecoregions – 2016

Protected Connected Land (%)

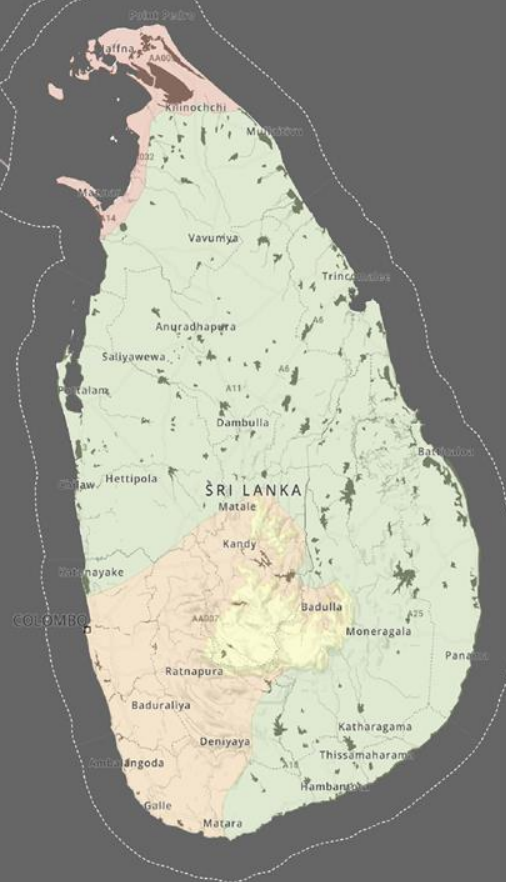


Data Sources:

UNEP-WCMC and IUCN, 2018. Protected Planet: The World Database on Protected Areas (WDPA) [On-line], October 2018. Cambridge, UK: UNEP-WCMC and IUCN.

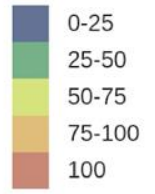
Saura, S., Bastin, L., Battistella, L., Mandrici, A., Dubois, G., 2017. Protected areas in the world's ecoregions: How well connected are they? Ecological Indicators 76, 144–158

50km

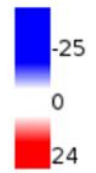


Protected Area Management Effectiveness

Area Under Intense Pressure (%)



Human Footprint Change 1993-2009



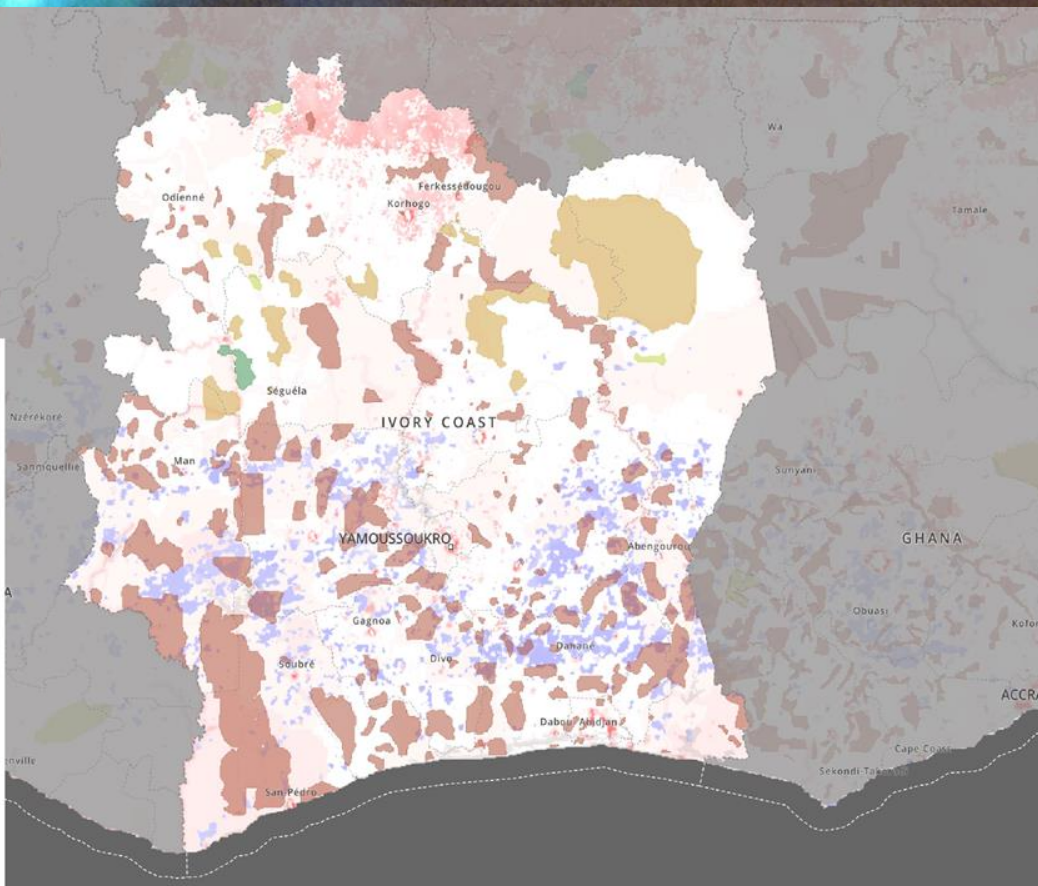
Data Sources:

Venter, O. et al., 2016. Sixteen years of change in the global terrestrial human footprint and implications for biodiversity conservation. *Nature Communications*, 7, pp.1-11.

Jones KR, Venter O, Fuller RA, Allan JR, Maxwell SL, Negret PJ, et al. One-third of global protected land is under intense human pressure. *Science*. 2018;360: 788-791.



50km



An aerial photograph of a coastline, likely in the Pacific Northwest, showing intricate patterns of turquoise water and brown, rocky land. The water is shallow and clear, revealing the seabed's texture. The land is rugged and appears to be composed of volcanic rock. The sky is a deep, dark blue, suggesting a clear day.

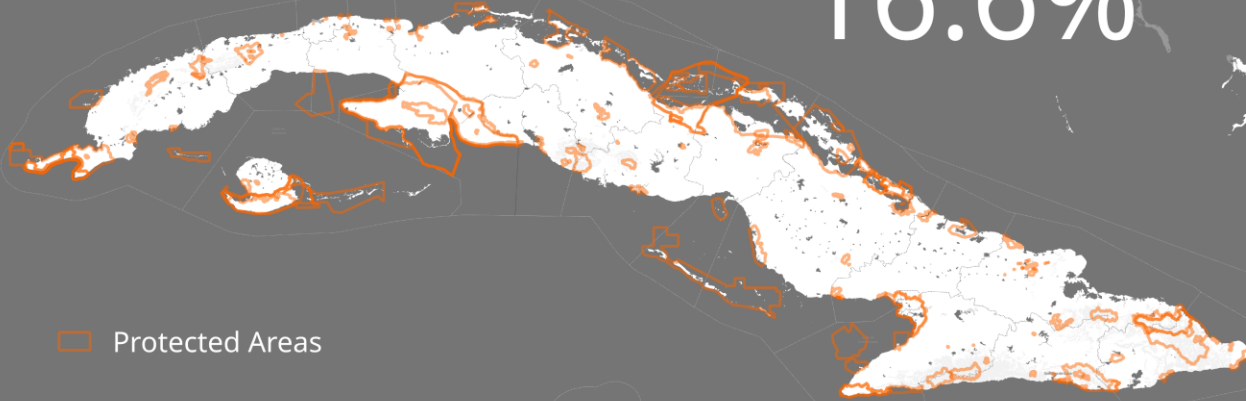
PART 2

PRELIMINARY ANALYSES FOR ABT 11 STATUS, GAPS, COMMITMENTS AND OPPORTUNITIES

Cuba: Protected Areas

Protected Area Coverage
(WDPA Jan 2019):

16.6%



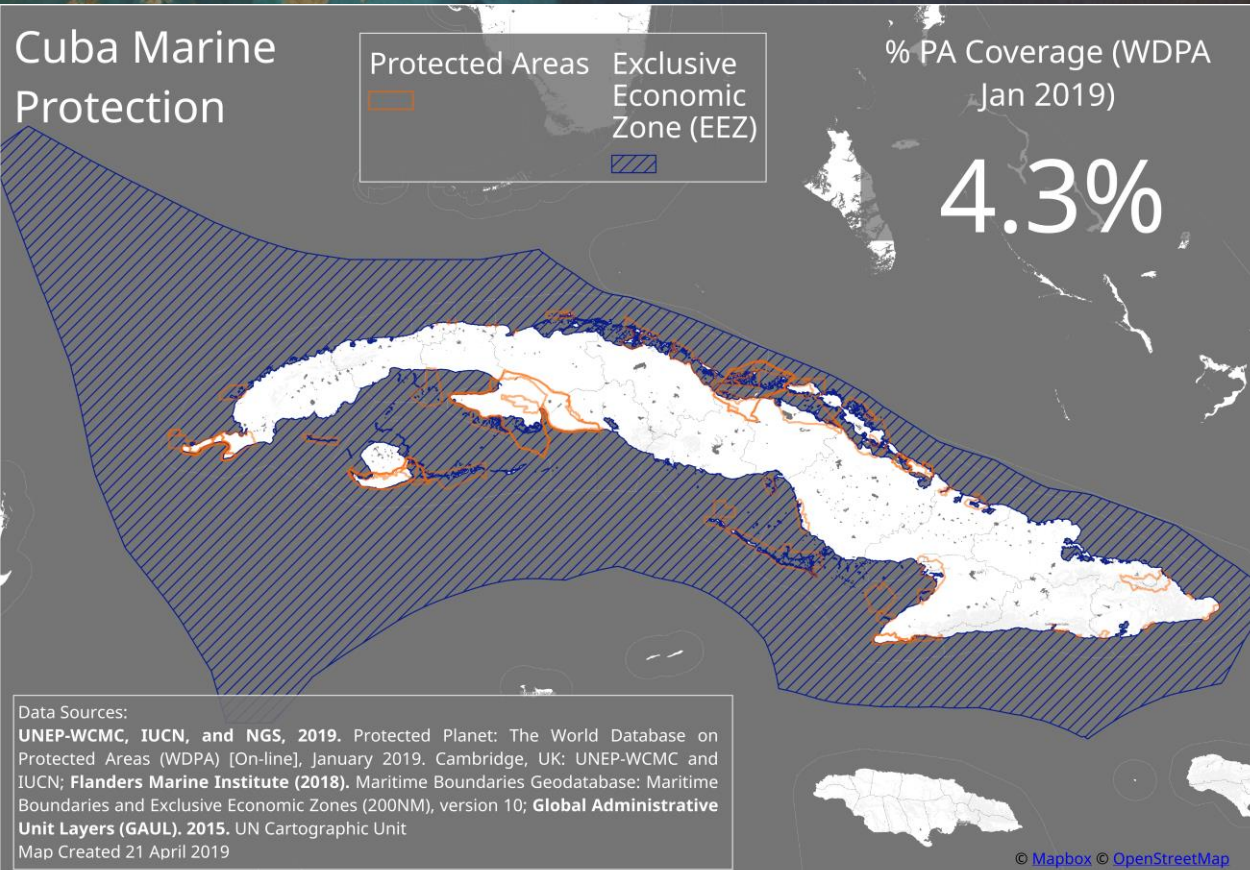
Protected Areas

Data Sources:

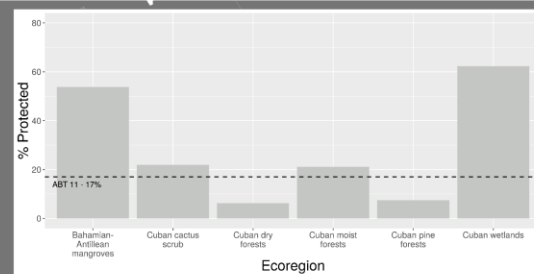
UNEP-WCMC, IUCN, and NGS, 2019. Protected Planet: The World Database on Protected Areas (WDPA) [On-line], January 2019. Cambridge, UK: UNEP-WCMC and IUCN; Flanders Marine Institute (2018). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 10; Global Administrative Unit Layers (GAUL), 2015. UN Cartographic Unit

Map Created 6 April 2019

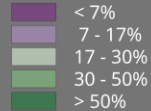
Marine PA coverage



Cuban Ecoregions' Protected Coverage



Ecoregion Protection (%)



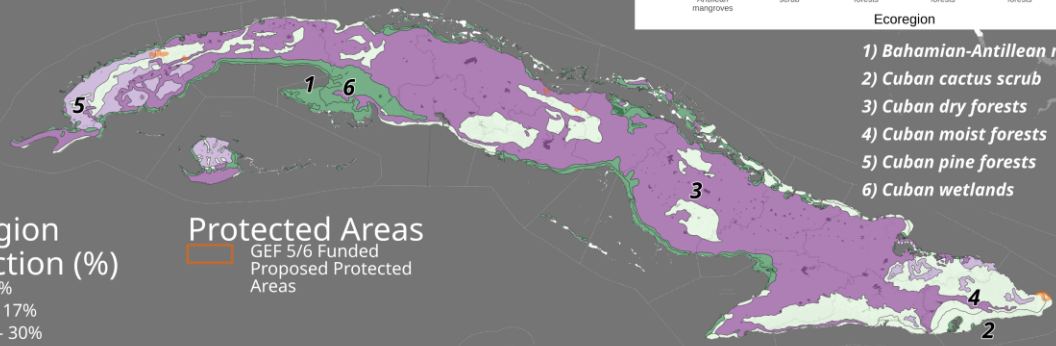
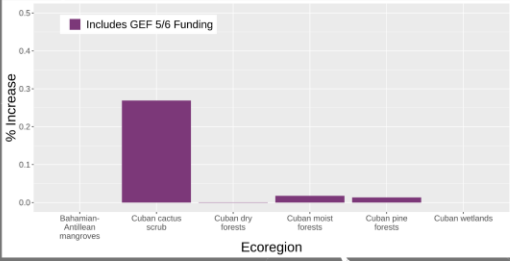
Data Sources:

UNEP-WCMC, IUCN, and NGS, 2019. Protected Planet: The World Database on Protected Areas (WDPA) [On-line], January 2019. Cambridge, UK: UNEP-WCMC and IUCN; **Dinerstein, E., et al. 2017.** An Ecoregion-Based Approach to Protecting Half the Terrestrial Realm. *BioScience* 67, 534-545; **Flanders Marine Institute (2018).** Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 10; **Global Administrative Unit Layers (GAUL). 2015.** UN Cartographic Unit
Map Created 18 April 2019

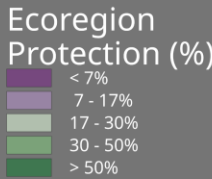
- 1) Bahamian-Antillean mangroves
- 2) Cuban cactus scrub
- 3) Cuban dry forests
- 4) Cuban moist forests
- 5) Cuban pine forests
- 6) Cuban wetlands

Ecologically representative

Cuban Ecoregions' Protected Coverage Commitments



- 1) Bahamian-Antillean mangroves
- 2) Cuban cactus scrub
- 3) Cuban dry forests
- 4) Cuban moist forests
- 5) Cuban pine forests
- 6) Cuban wetlands



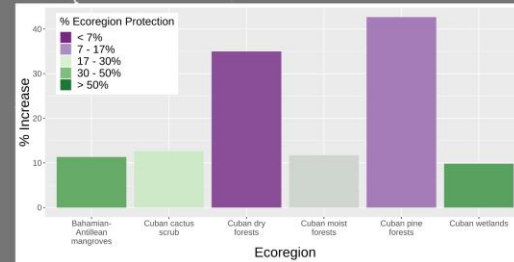
Data Sources:
UNEP-WCMC, IUCN, and NGS, 2019. Protected Planet: The World Database on Protected Areas (WDPA) [On-line], January 2019. Cambridge, UK: UNEP-WCMC and IUCN; **Dinerstein, E., et al. 2017.** An Ecoregion-Based Approach to Protecting Half the Terrestrial Realm. *BioScience* 67, 534-545; **Flanders Marine Institute (2018).** Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 10; **Global Administrative Unit Layers (GAUL). 2015.** UN Cartographic Unit
 Map Created 5 April 2019

Ecologically representative

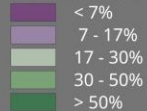
Ecoregion Name (terrestrial)	% of ecoregion in sub- region*	% protected globally (Jan 2019)/GAPS	Commitments
Bahamian-Antillean mangroves	51.4	48.4	48.4
Cuban dry forests	99.8	6.37	6.47
Cuban cactus scrub	100	21.7	28.7
Cuban moist forests	100	21.28	23.48
Cuban pine forests	100	7.57	7.67
Cuban wetlands	100	62.61	63.61

Ecologically representative

Cuban Ecoregions Protection Opportunities



Ecoregion Protection (%)



Protected Areas

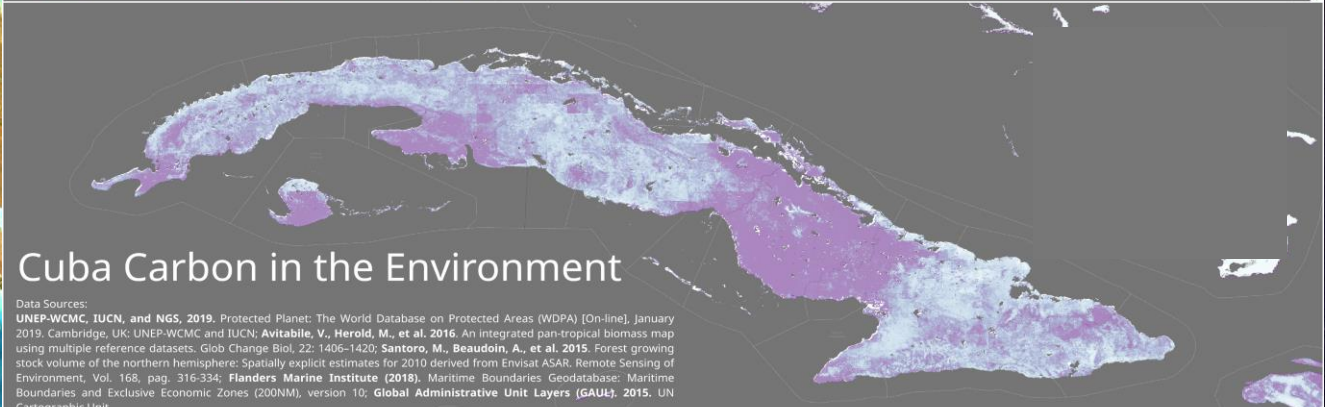
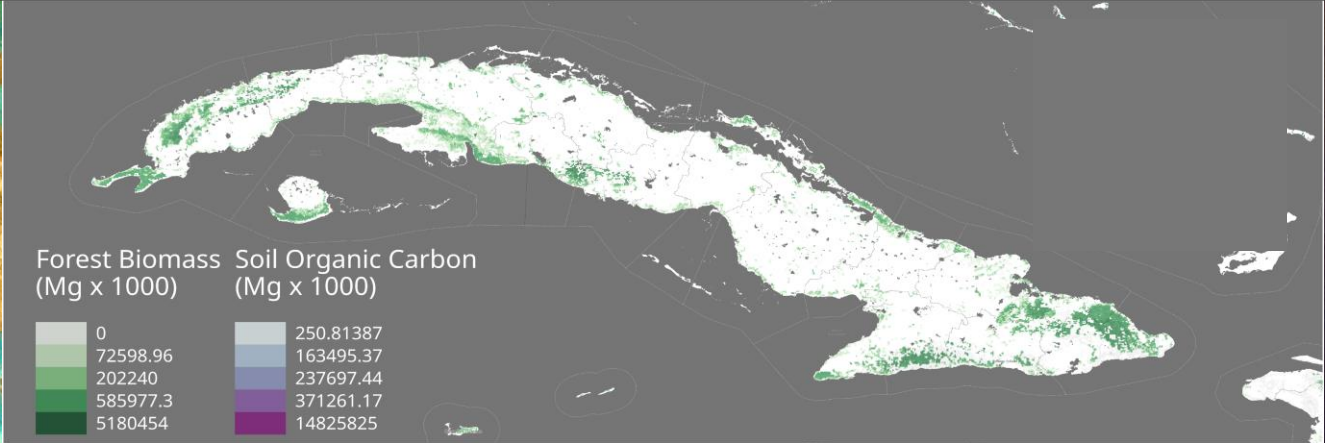


Data Sources:

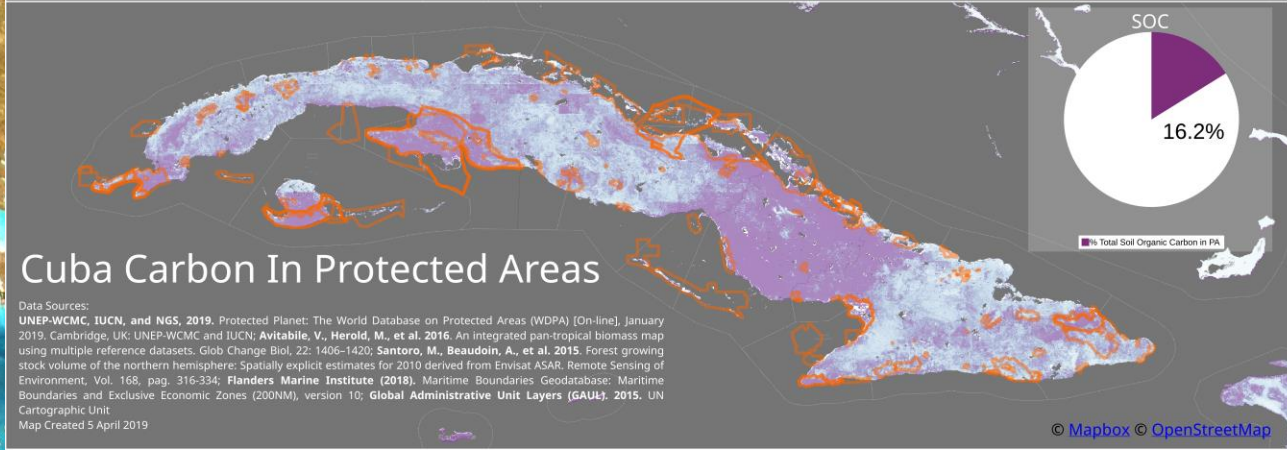
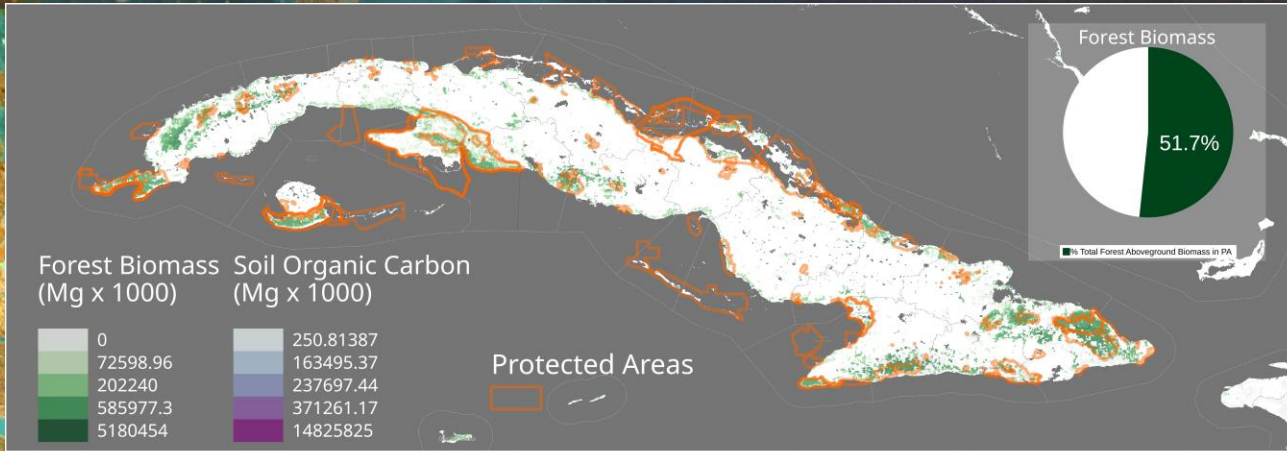
UNEP-WCMC, IUCN, and NGS, 2019. Protected Planet: The World Database on Protected Areas (WDPA) [On-line], January 2019. Cambridge, UK: UNEP-WCMC and IUCN; **Dinerstein, E., et al. 2017.** An Ecoregion-Based Approach to Protecting Half the Terrestrial Realm. *BioScience* 67, 534-545; **Flanders Marine Institute (2018).** Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 10; **Global Administrative Unit Layers (GAUL). 2015.** UN Cartographic Unit
Map Created 5 April 2019

- 1) Bahamian-Antillean mangroves
- 2) Cuban cactus scrub
- 3) Cuban dry forests
- 4) Cuban moist forests
- 5) Cuban pine forests
- 6) Cuban wetlands

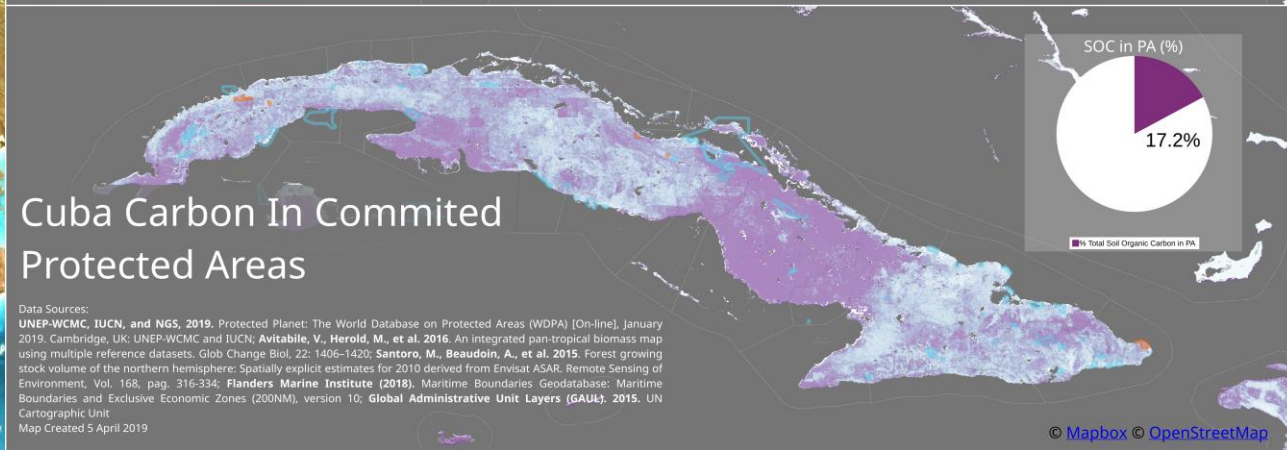
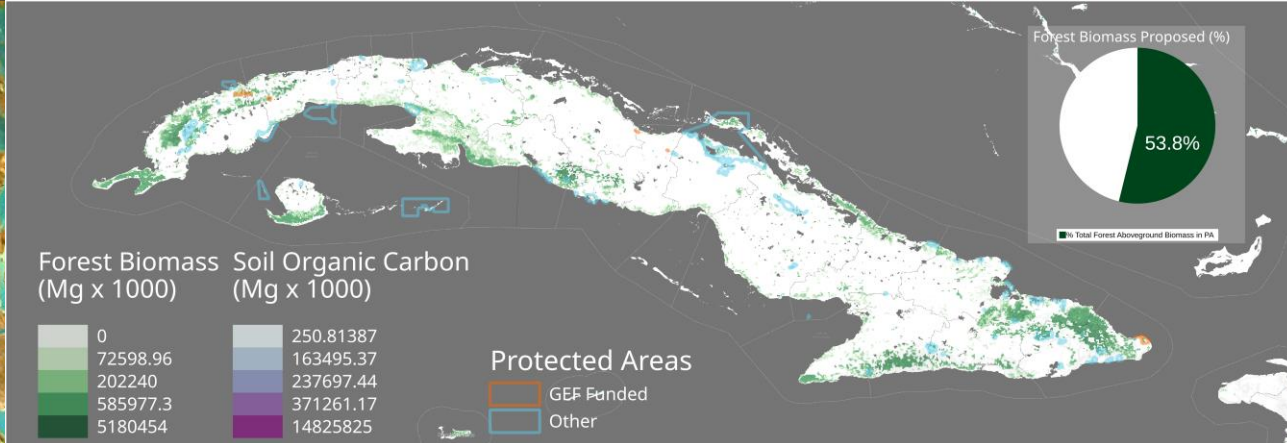
Areas important for ecosystem services – Carbon



Areas important for ecosystem services – Carbon

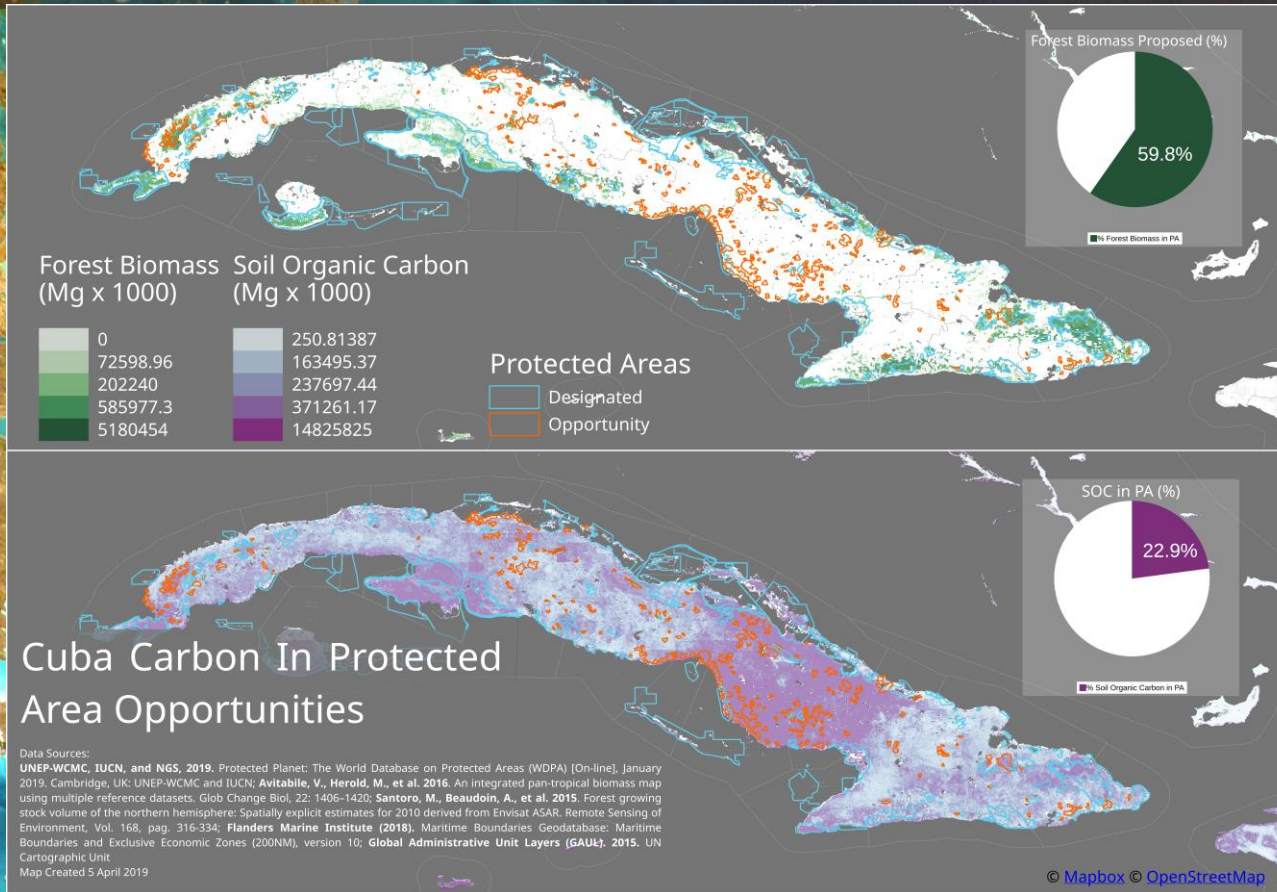


Areas important for ecosystem services – Carbon

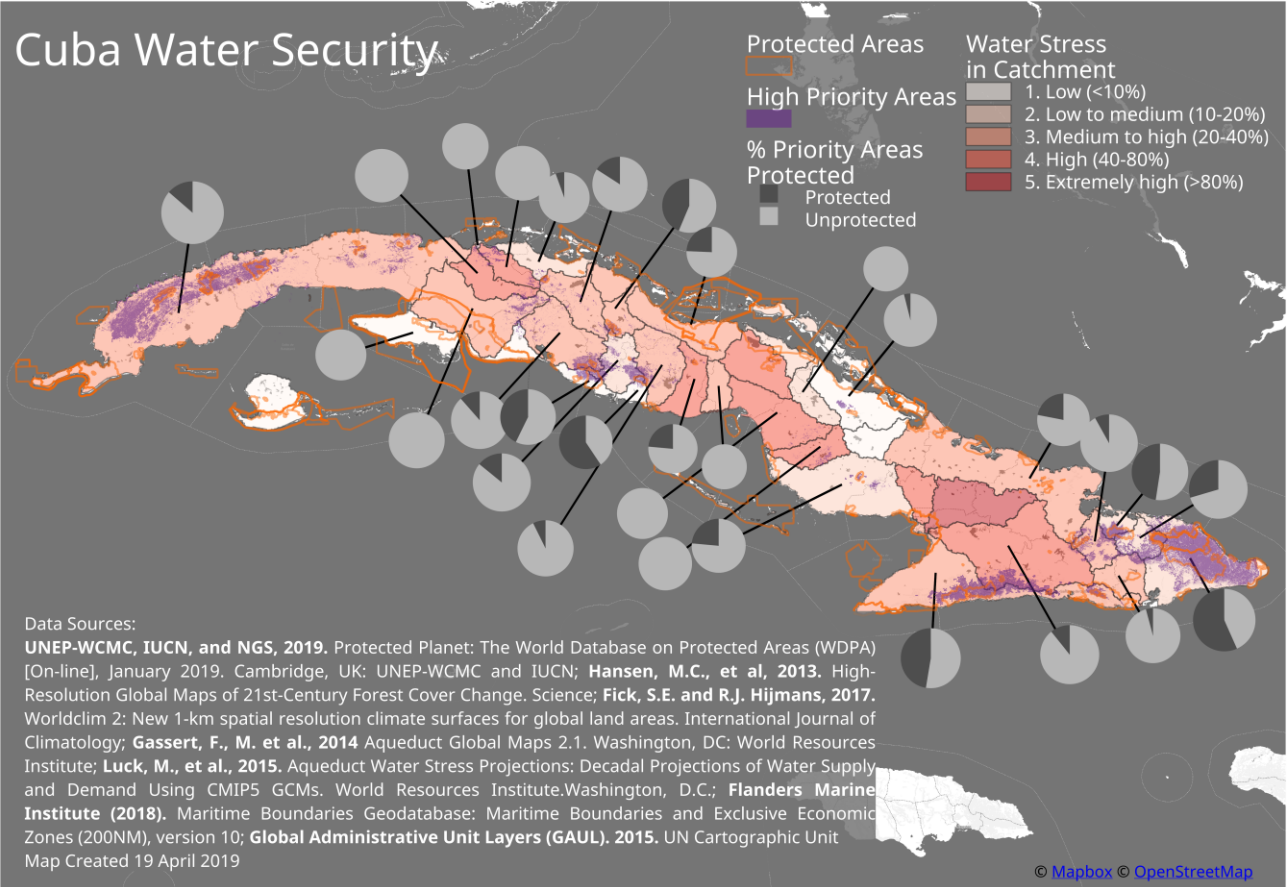


Data Sources:
 UNEP-WCMC, IUCN, and NGS. 2019. Protected Planet: The World Database on Protected Areas (WDPA) [On-line]. January 2019. Cambridge, UK: UNEP-WCMC and IUCN; Avitabile, V., Herold, M., et al. 2016. An integrated pan-tropical biomass map using multiple reference datasets. Glob Change Biol, 22: 1406–1420; Santoro, M., Beaudoin, A., et al. 2015. Forest growing stock volume of the northern hemisphere: Spatially explicit estimates for 2010 derived from Envisat ASAR. Remote Sensing of Environment, Vol. 168, pag. 316-334; Flanders Marine Institute (2018). Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 10; Global Administrative Unit Layers (GAUL), 2015. UN Cartographic Unit
 Map Created 5 April 2019

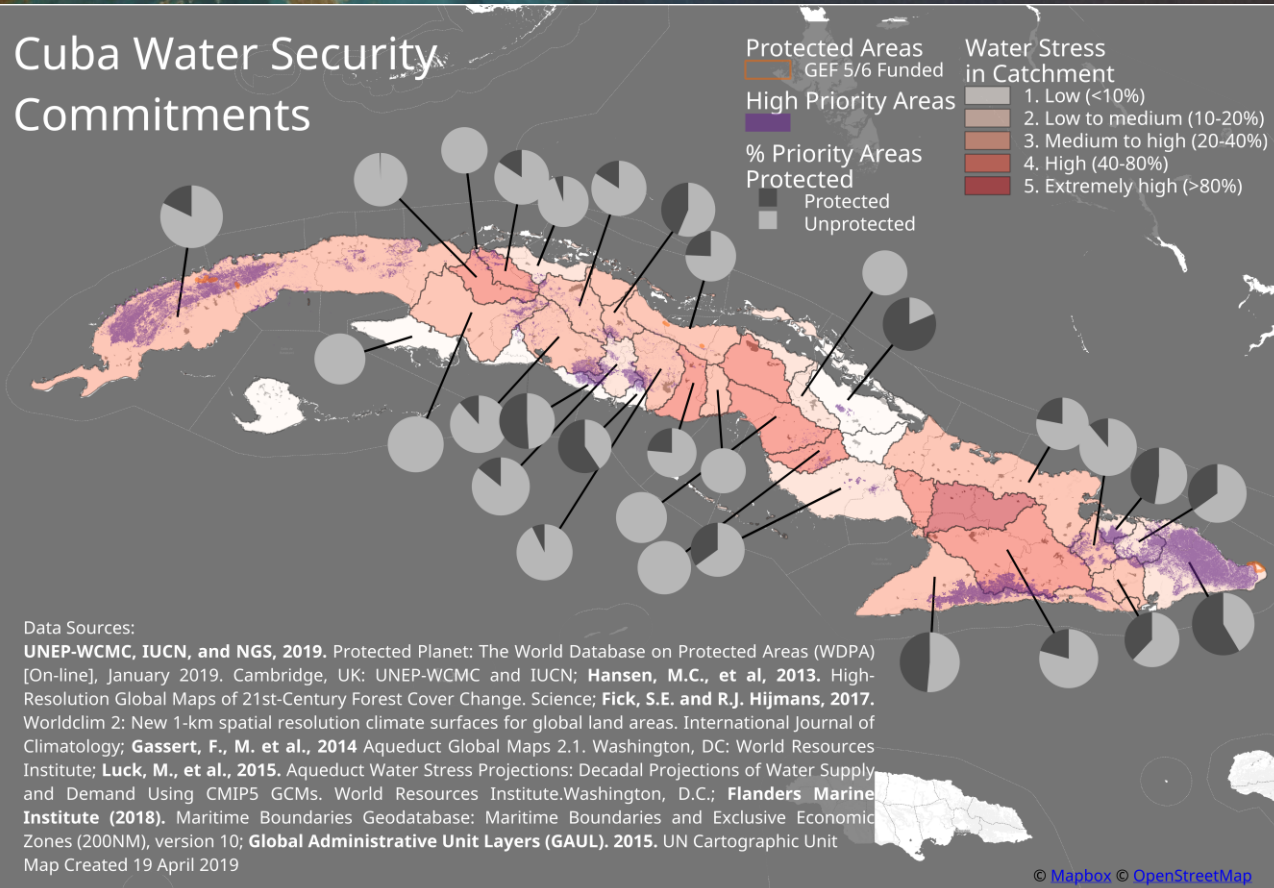
Areas important for ecosystem services – Carbon



Areas important for ecosystem services – *Water*

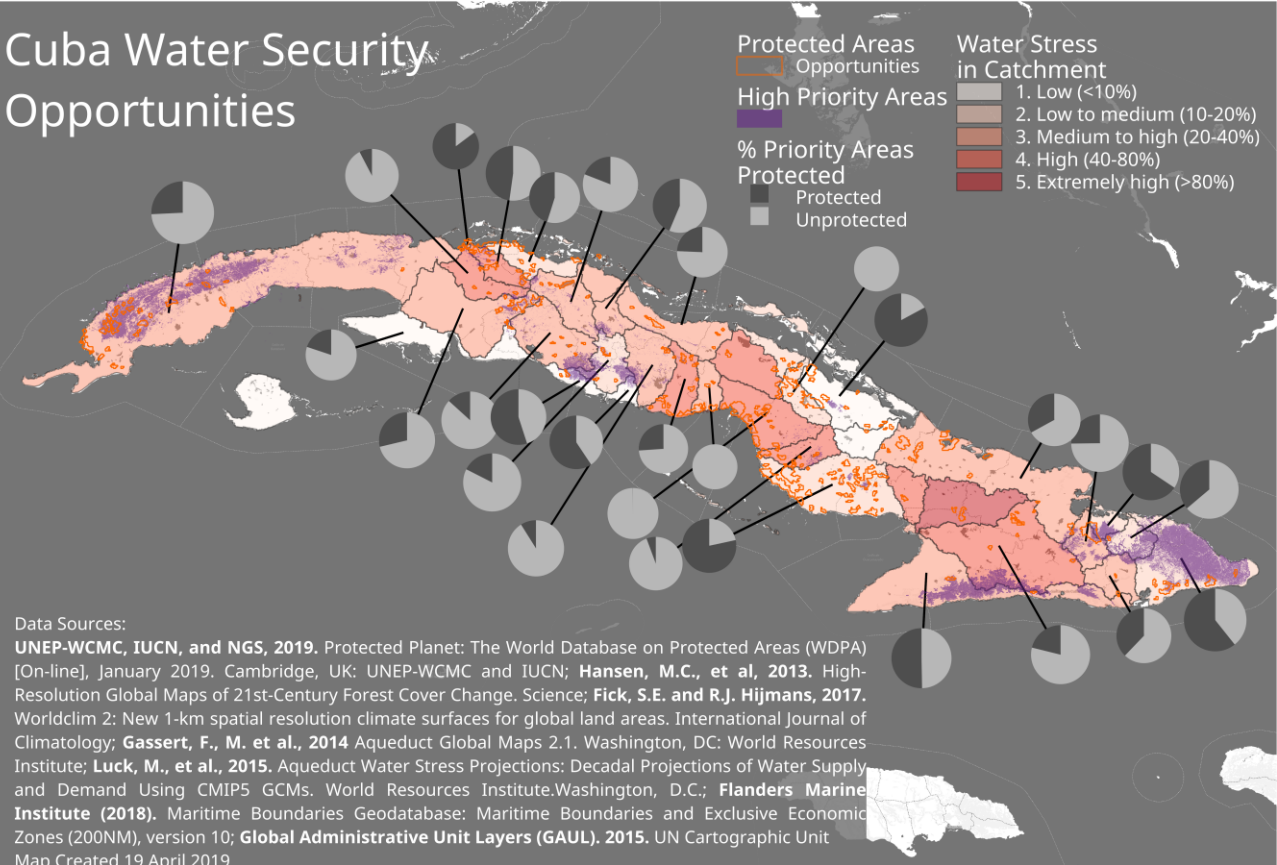


Areas important for ecosystem services – *Water*



Areas important for ecosystem services – *Water*

Cuba Water Security Opportunities



Data Sources:
UNEP-WCMC, IUCN, and NGS, 2019. Protected Planet: The World Database on Protected Areas (WDPA) [On-line], January 2019. Cambridge, UK: UNEP-WCMC and IUCN; **Hansen, M.C., et al, 2013.** High-Resolution Global Maps of 21st-Century Forest Cover Change. Science; **Fick, S.E. and R.J. Hijmans, 2017.** Worldclim 2: New 1-km spatial resolution climate surfaces for global land areas. International Journal of Climatology; **Gassert, F., M. et al., 2014** Aqueduct Global Maps 2.1. Washington, DC: World Resources Institute; **Luck, M., et al., 2015.** Aqueduct Water Stress Projections: Decadal Projections of Water Supply and Demand Using CMIP5 GCMs. World Resources Institute. Washington, D.C.; **Flanders Marine Institute (2018).** Maritime Boundaries Geodatabase: Maritime Boundaries and Exclusive Economic Zones (200NM), version 10; **Global Administrative Unit Layers (GAUL). 2015.** UN Cartographic Unit
Map Created 19 April 2019

A satellite-style map of the Pacific Ocean region, showing landmasses in brown and green and ocean waters in various shades of blue. A dark, semi-transparent rectangular overlay covers the upper and middle portions of the image, serving as a background for the text. The text is white and clearly legible against the dark background.

Questions for reflection

Could these maps:

1. Help us to identify new areas that should be protected?
2. Help us to ensure that new PAs not only help us to meet ABT 11 but also are key for climate change mitigation, water security, livelihoods?
3. What other datasets we need to refine the analyses?

Thank you/ Gracias

www.unbiodiversitylab.org