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OPRI THE OCEAN POLICY RESEARCH INSTITUTE

# Harnessing the Environmental Values of Coastal Ecosystems

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*Photo: Coral Reefs (Palau)*



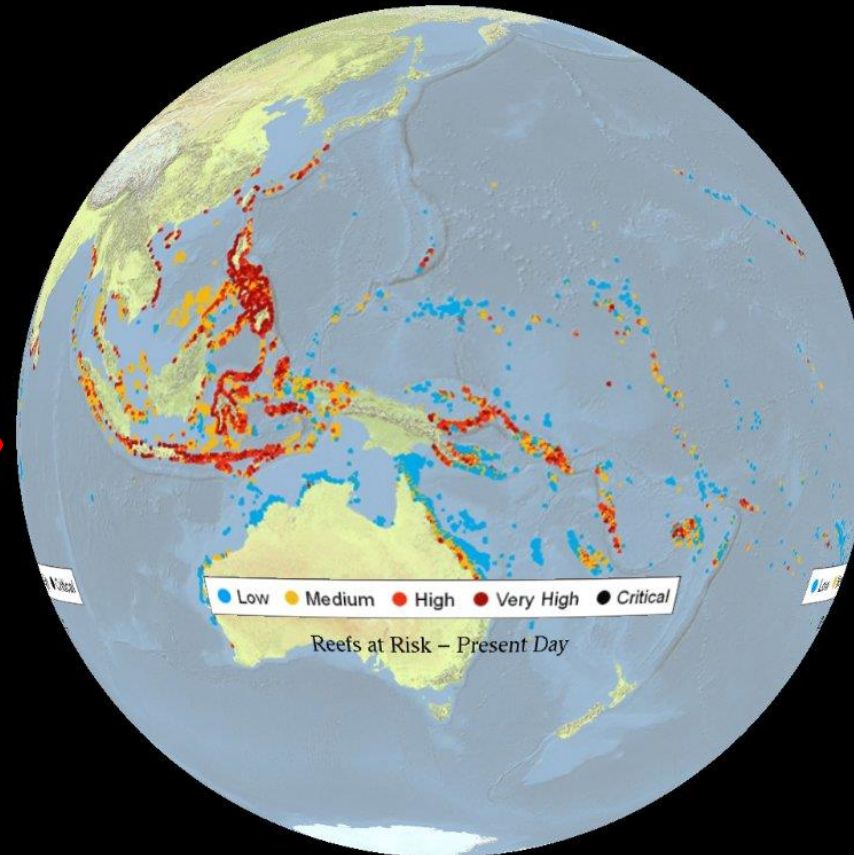
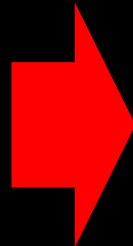
# Coastal Ecosystems at Risk...



Soil runoff



Predatory Starfish (COTS)



Coral Reef Risk Outlook (NOAA)



Destructive fishing

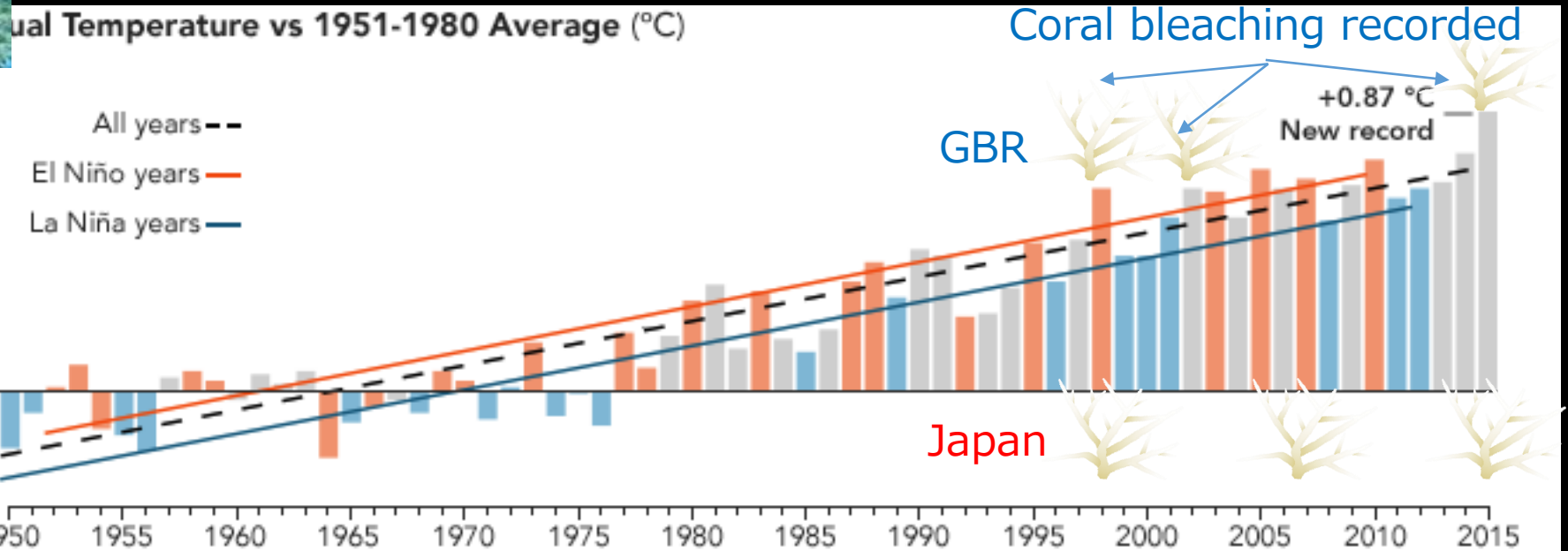


Overfishing



Coral bleaching

# Increasing occurrence of coral reef bleaching...

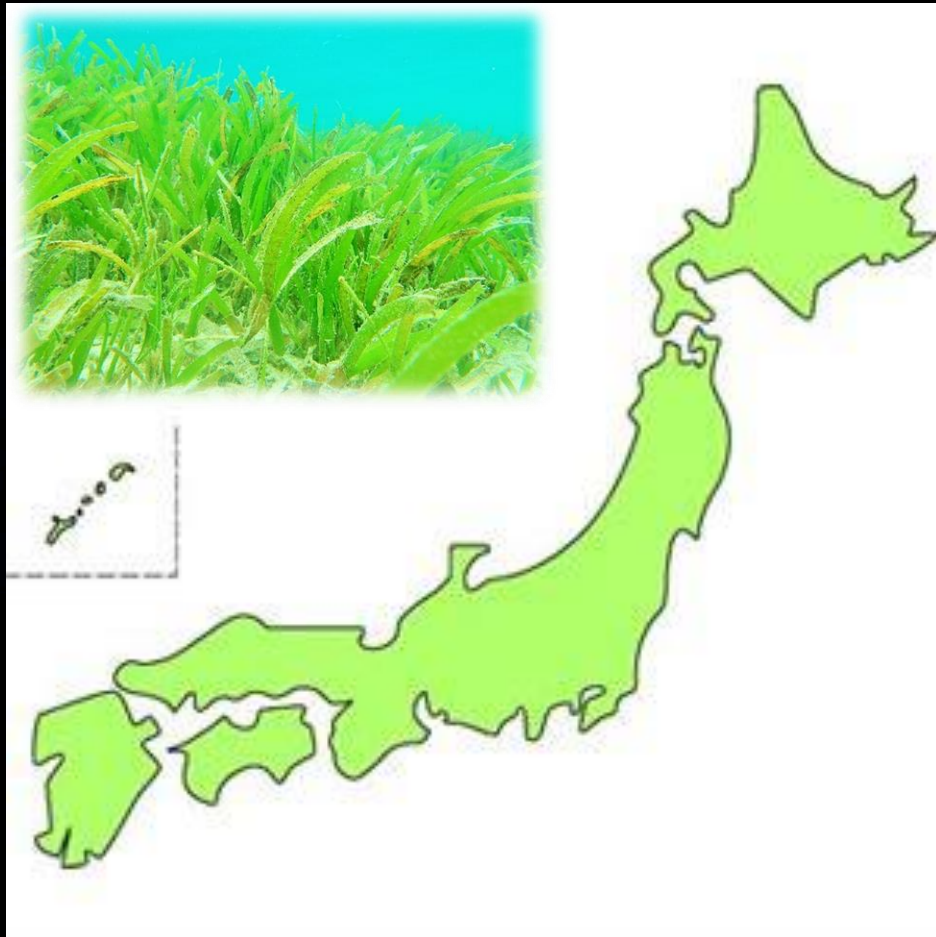


Over 90 % of corals bleached in the largest coral reefs in 2016 in Japan



# Coastal Ecosystems at Risk...

Global area of seagrass beds 300,000 km<sup>2</sup>=Similar size as that of Japan



We are losing 1.5 % of seagrass beds every year due to **pollutant and sediment loadings, coastal development, etc.**

→ Each hour, we are losing two football fields of seagrass!

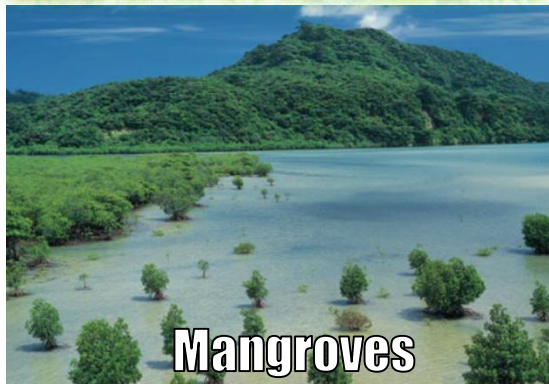


<https://ocean.si.edu/ocean-life/plants-algae/seagrass-and-seagrass-beds>

# Coastal Blue Carbon (BC) Ecosystems



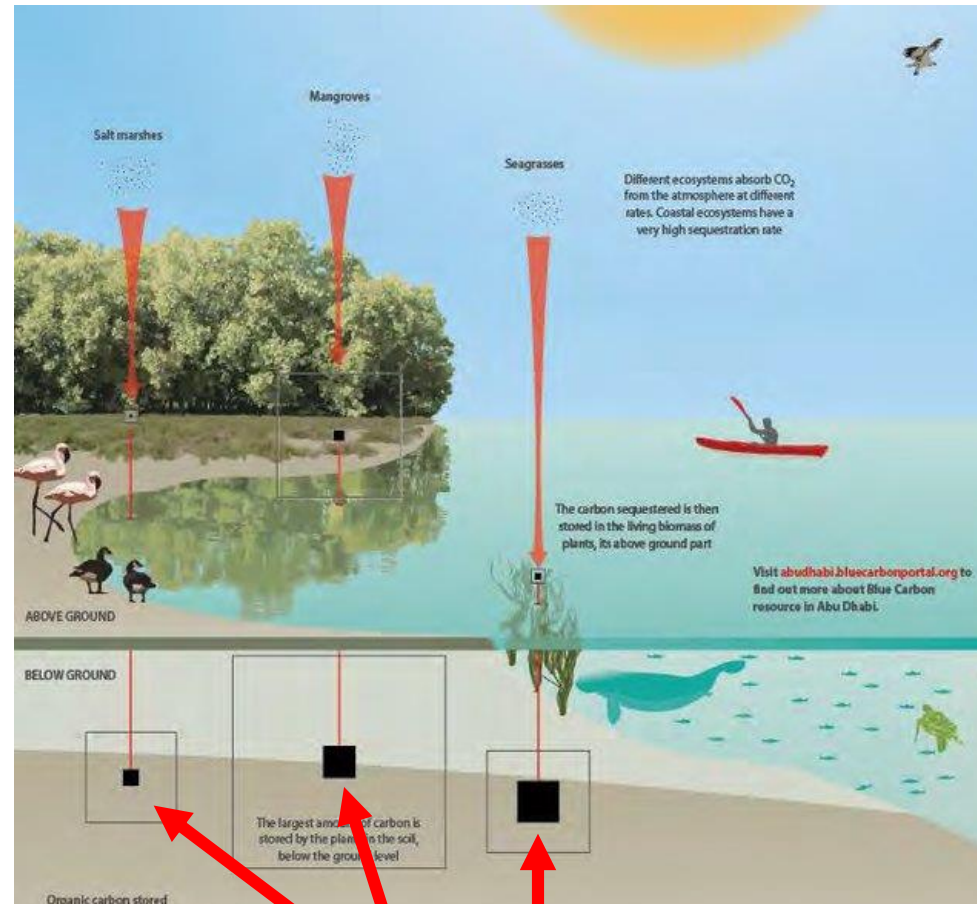
Seagrass beds



Mangroves



Salt marshes



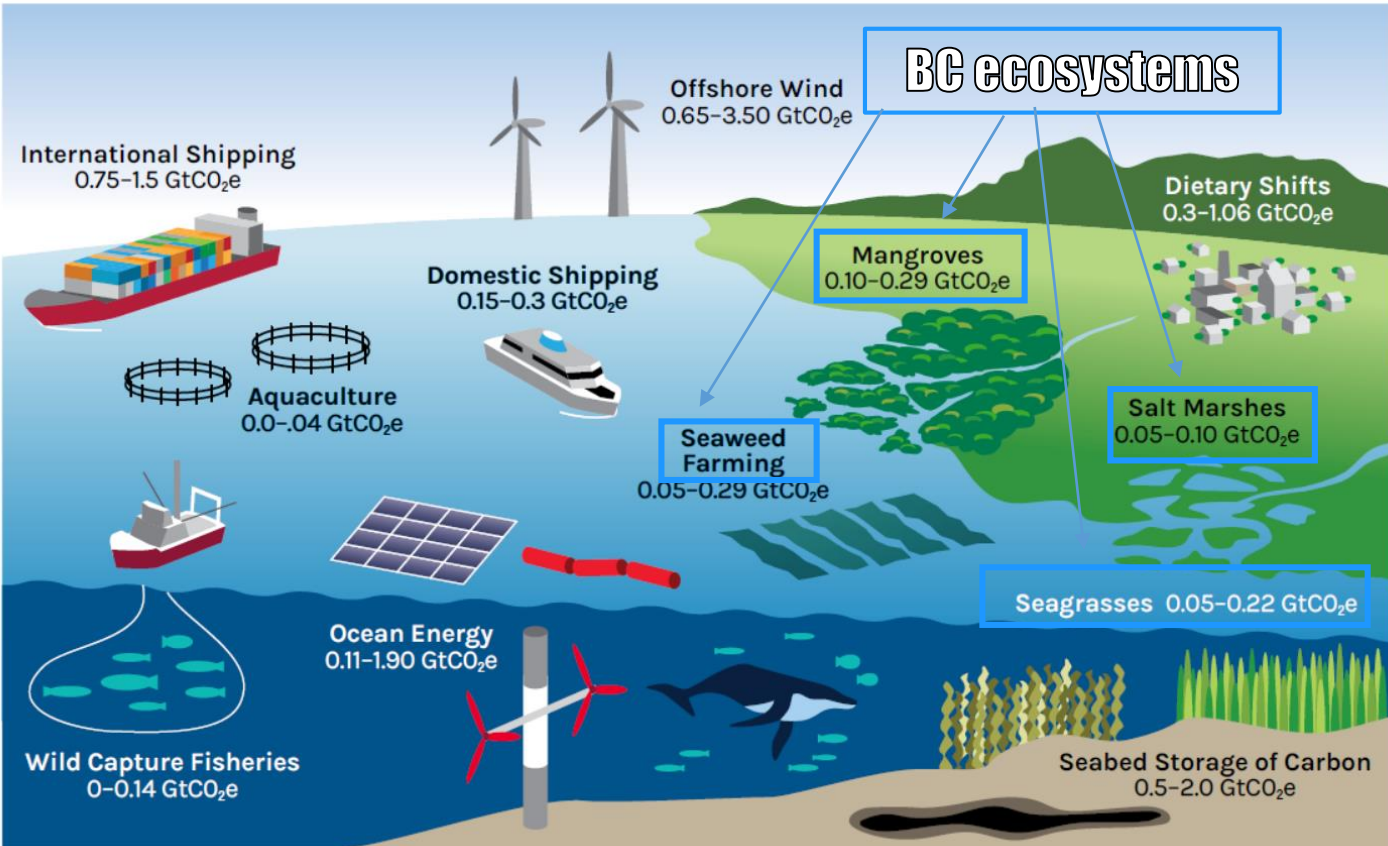
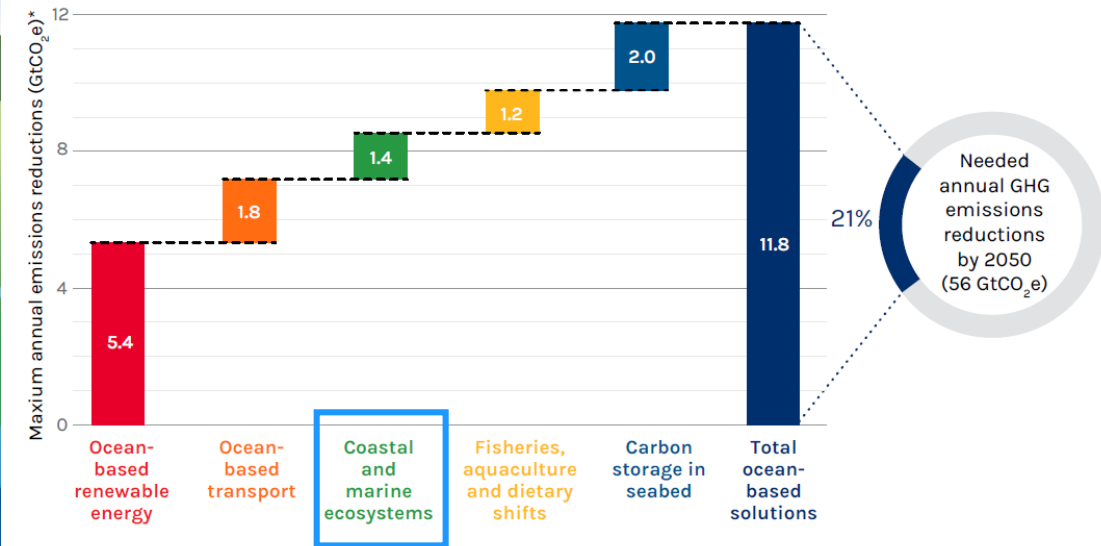
**The large amount of carbon is stored in the soil**

If we lose these ecosystems, carbon stored in the soil will be released into the atmosphere and accelerate global warming.



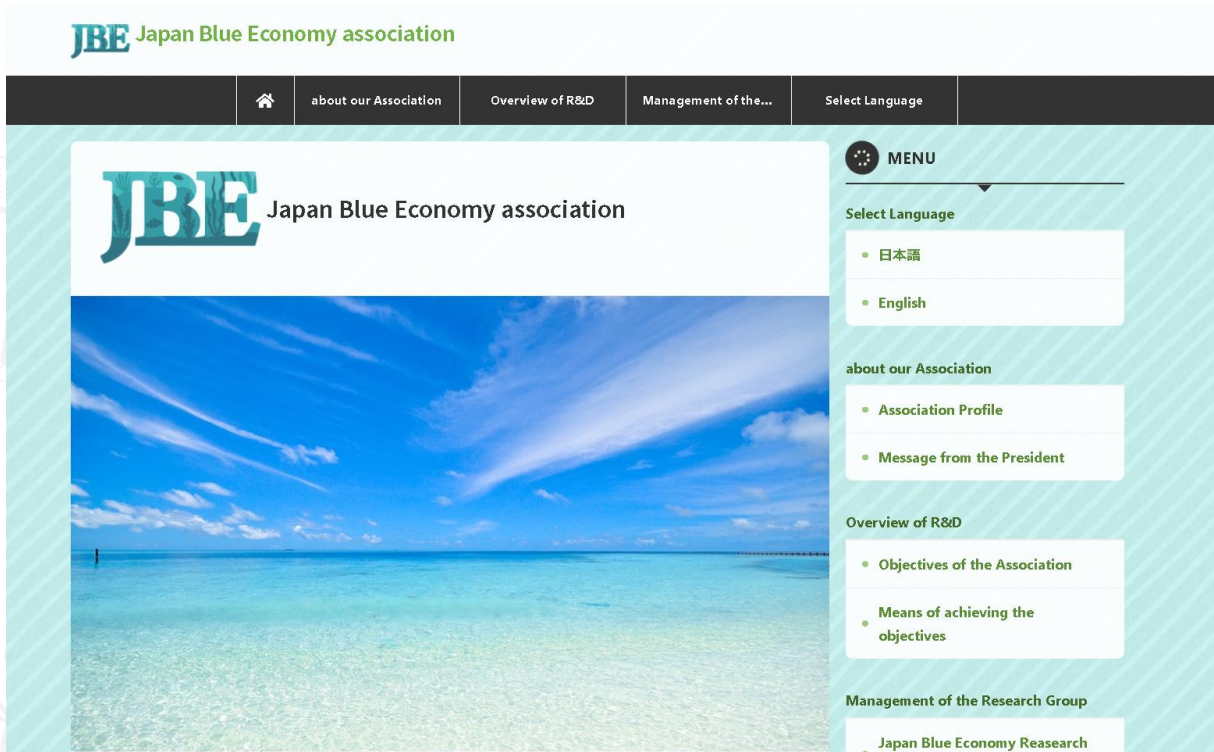
# Ocean as a Solution to Climate Change!

To stay under a 1.5°C change relative to preindustrial..



Source: Hoegh-Guldberg et al. (2019)

**Ocean actions could contribute ~21% of annual GHG emissions reductions by 2050. Blue Carbon could contribute to 12 % out of it.**

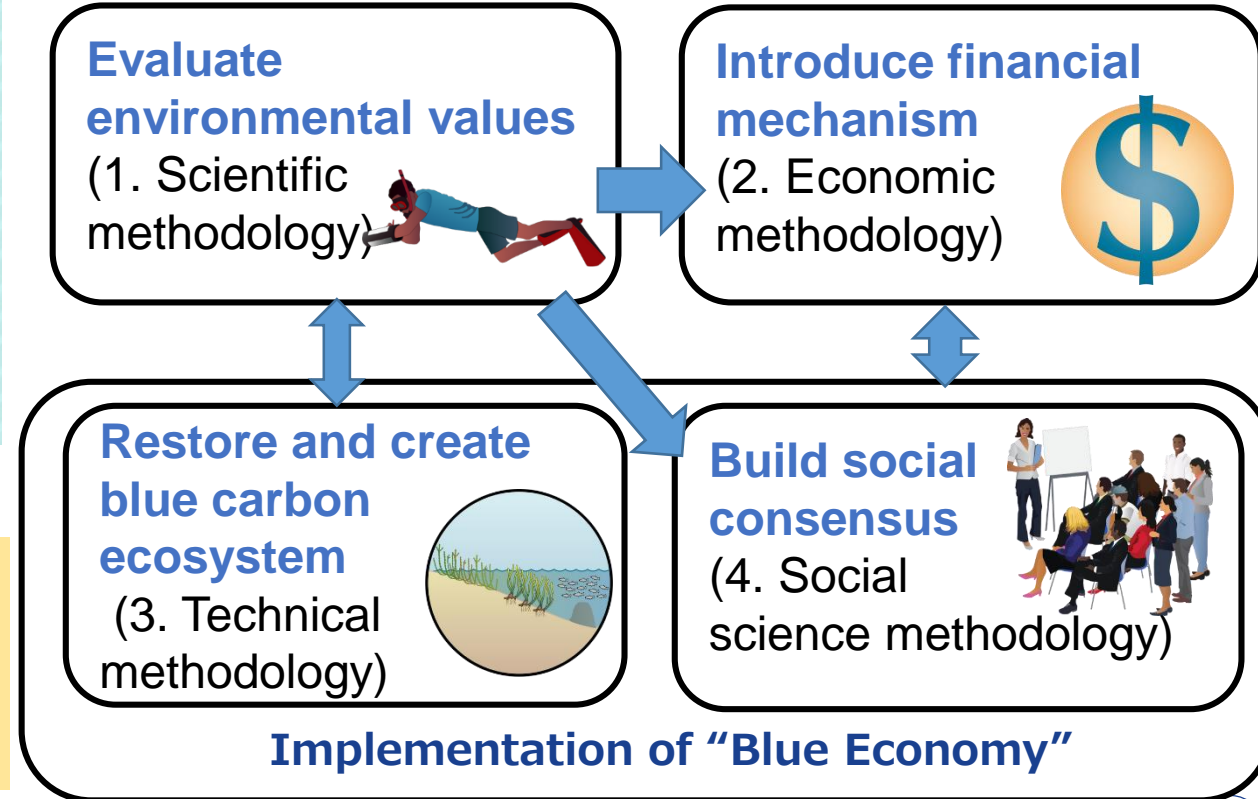


<https://www.blueeconomy.jp/en/>

## Blue Economy

Policies or tools to promote sustainable use of ocean and marine resources in harmony with **socio-economic** development

Organically linking four methodologies below to evaluate environmental values of BC ecosystems and mobilize resources for the conservation and restoration:





# Yokohama Blue Carbon



横浜市記者発表資料

令和元年12月17日  
温暖化対策統括本部プロジェクト推進課

～海洋資源を活用した温暖化対策プロジェクト「横浜ブルーカーボン」～  
**海の公園のアマモのブルーカーボンによる  
カーボン・オフセットが実施されました。**

日本初

横浜ブルーカーボン・オフセット制度で認証された海の公園の公園管理区域内に生息するアマモによるブルーカーボン（12.3 t-CO<sub>2</sub>）のクレジットが日清オイリオグループ株式会社横浜磯子事業場とJXTGエネルギー株式会社根岸製油所に譲渡され、両社によりカーボン・オフセットが実施されました。

**First Blue Carbon Credit from Seagrass was  
sold to local companies to offset their activities  
(2019)**

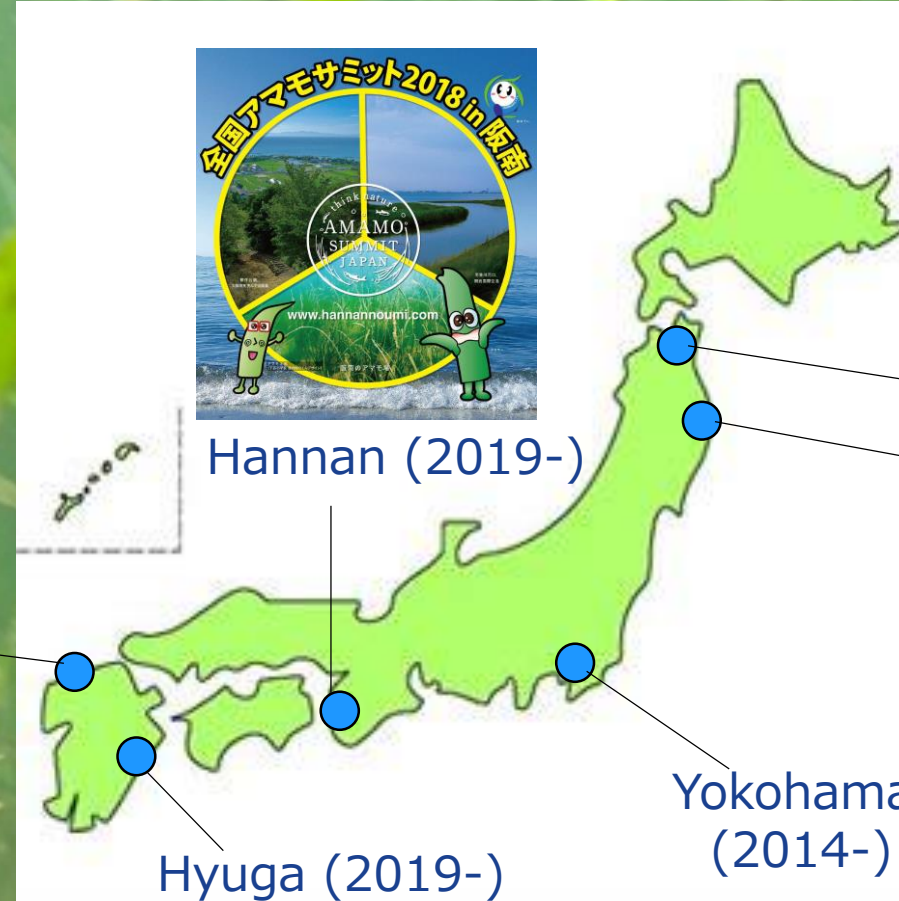
**Using the same methodologies, BC credits has already in operation in the City of Yokohama and started to realize blue economy.**



# Upscaling the BC-based blue economy in Japan



Fukuoka (2020-)



Yokohama Town (2019-)

Fudai (2019-)



Yokohama (2014-)

Hyuga (2019-)

Promoting and upscaling the incorporation of the BC environmental values in Japan.  
Target is to reflect the BC in NDC (Paris Agreement) in 2025.



# Thank you for your attention!

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