

EO 4 Ecosystem Accounting 2022



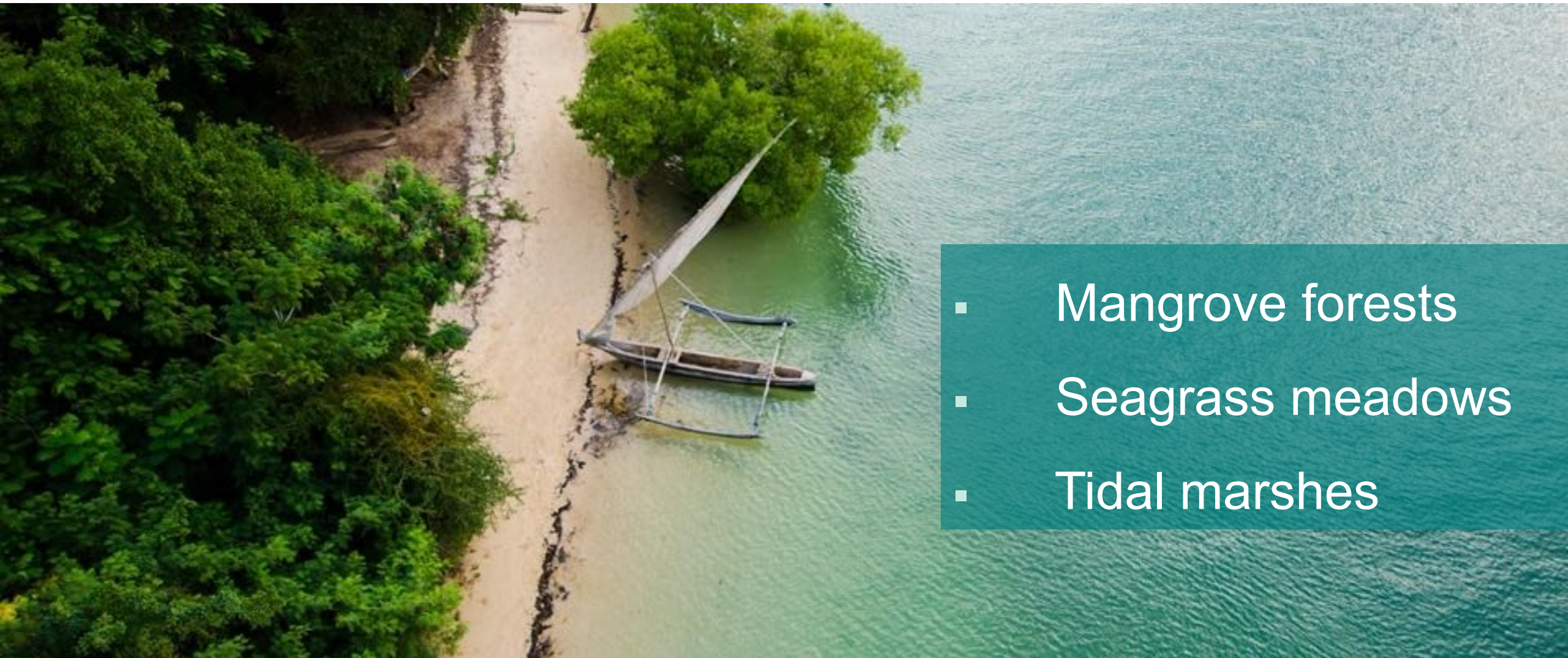
ASSESSING THE CONDITION OF BCE THROUGH EO – AN OVERVIEW



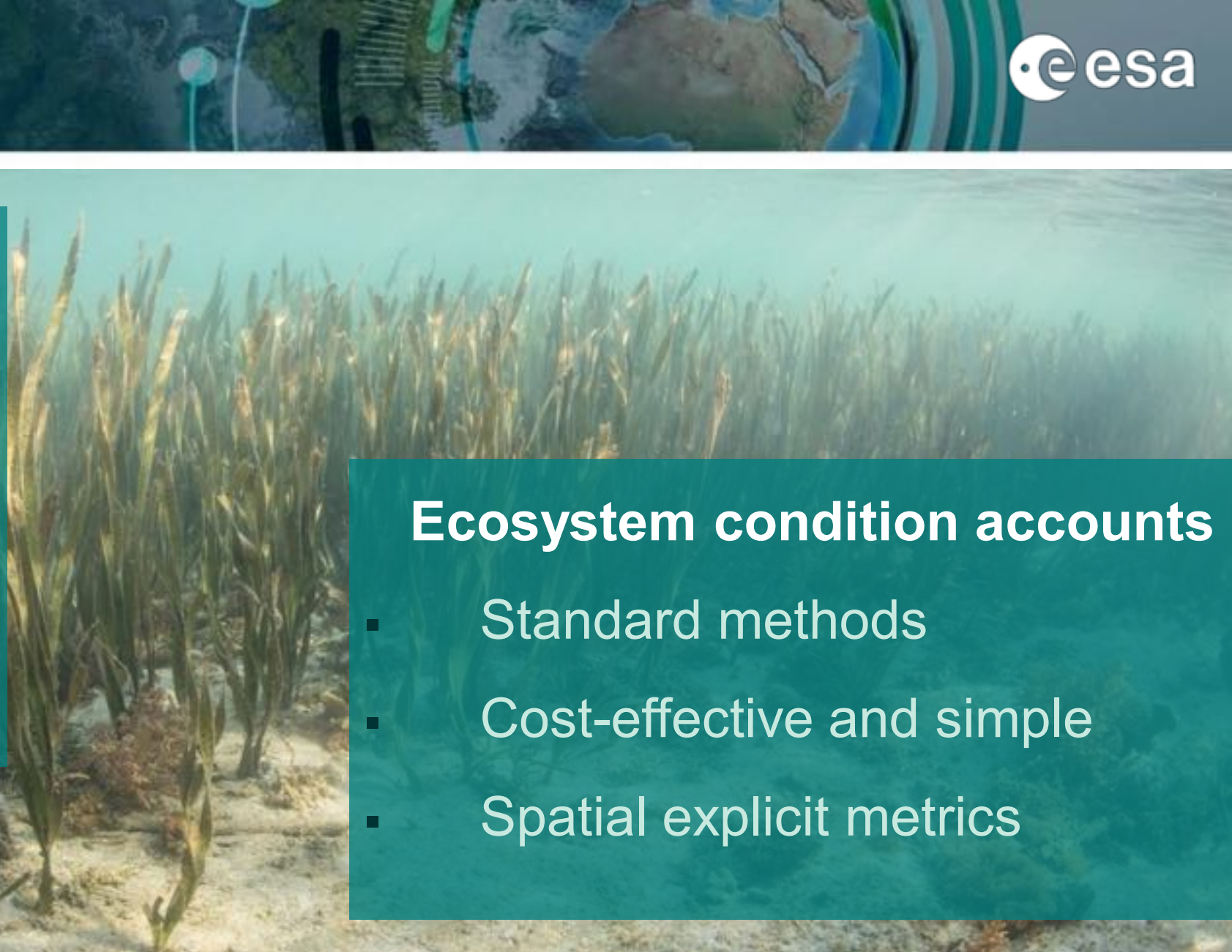
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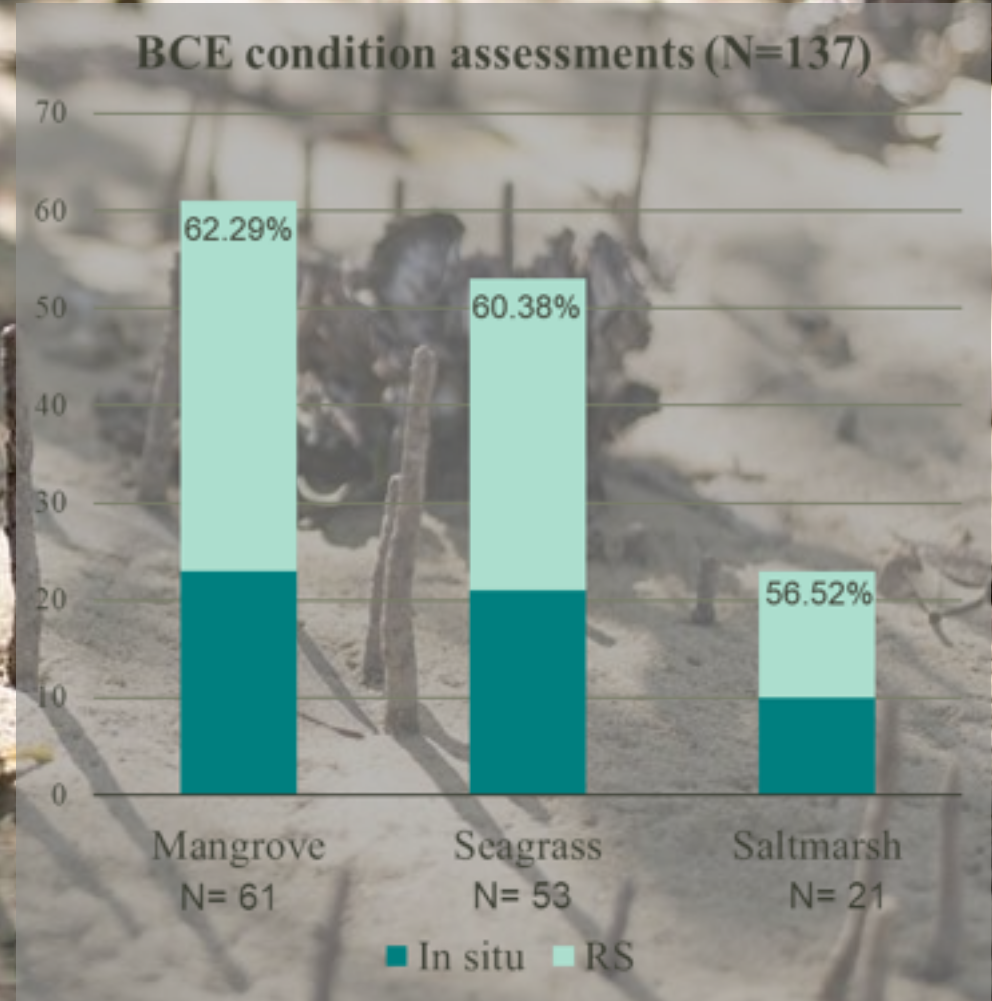
- Mangrove forests
- Seagrass meadows
- Tidal marshes



- Link to ES
- Pressure
- Nature-based solutions
- Blue carbon market

- ## Ecosystem condition accounts
- Standard methods
 - Cost-effective and simple
 - Spatial explicit metrics

- Literature review
- Published papers and grey literature



Variables and the need for integrated assessments

Category	Variable
Biological structure	Plant richness
	Plant diversity
	Macroalgae diversity
	Epiphyte and Macro-algae Abundance
	Phytoplankton diversity
	Benthic species diversity
	Crab abundance
	Crab burrow counts
	Fish abundance
	Fish diversity
Functional structure	Net Primary Productivity (NPP)
	Vegetation percentage cover
	Macroalgae Percentage Cover
	Vegetation activity
	Plant biomass
	Macroalgae Biomass
	Leaf Area Index (LAI)
	Canopy height
	Tree height
	Photosynthesis rate
	Seedling regeneration
	Shoot Biomass
	Shoot Density
	Leaf growth
	Leaf length
	Leaf necrosis
	Vegetation density
Internode Distance	
Leaf biomass	
Basal-area weighted height	
Diameter at Breast Height (DBH)	
Physicochemical structure	Water temperature
	Water salinity
	Water pH
	Water alkalinity
	Turbidity
	Soil salinity
	Dissolved oxygen
	Biochemical Oxygen Demand (DOB)
	Chlorophyll a
	Phosphorous concentration in water
	Phosphorous concentration in soil
	Nitrogen concentration in water
	Nitrogen concentration in soil
	Metal in water
	Metal in fish
	Metal in soil
	Microplastic concentration in water
Microplastic concentration in soil	

Remote sensing and condition variables

Category	Variable
Biological Structure	Plant richness
	Plant diversity
Functional structure	Net Primary Productivity (NPP)
	Vegetation percentage cover
	Macroalgae Percentage Cover
	Vegetation activity
	Vegetation biomass
	Macroalgae Biomass
	Leaf Area Index (LAI)
	Canopy height
Physicochemical structure	Photosynthesis rate
	Water surface temp.
	Water salinity



- Spatial resolution
 - Spectral resolution
 - Temporal resolution
- (Muller-Karger et al. 2018)

- Fragmentation and connectivity
(R-package ecochange – Lara et al.2022)
- Integrated assessments
- Define headline variables
- Develop guidelines, and decision rules
(including the pre-processing stage)



Thank you

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Africa Community of Practice
Centre for Sustainable Oceans