Species Distribution Models

https://github.com/VirginiaMorera/REDUCE_workshop

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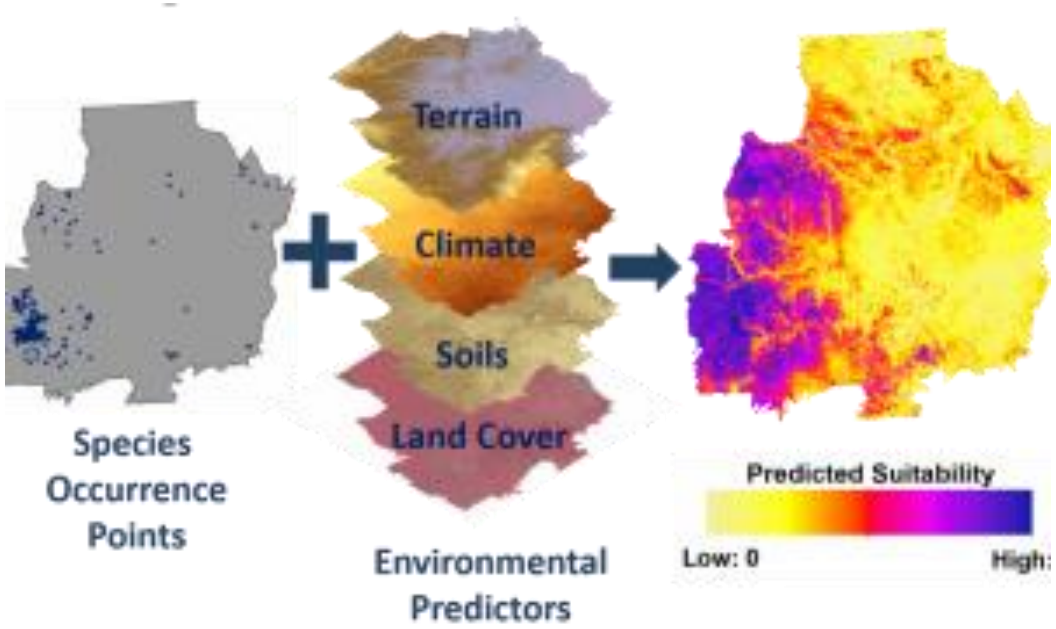
Introduce yourself :)

Outline of the course

Day 1	Hierarchical models
Day 2	Hierarchical models
Day 3	Applications to fisheries
Day 4	Animal movement
Day 5	Applications to conservation

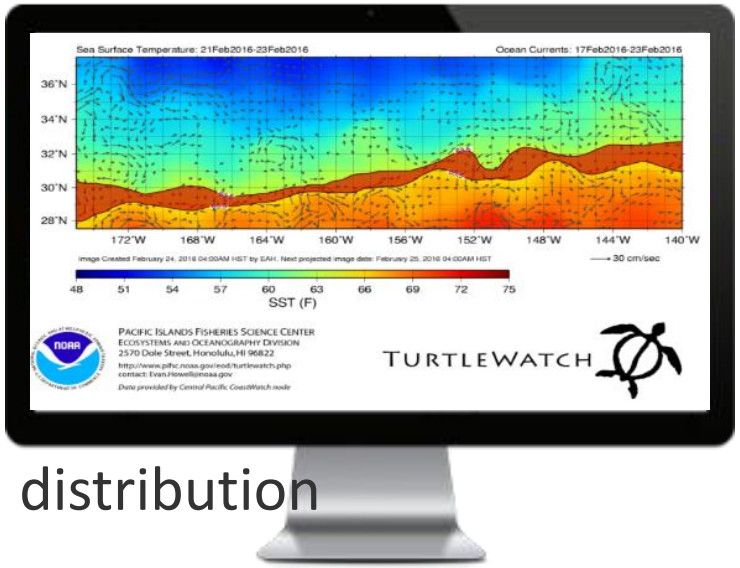
What is a habitat model?



Also known as

Species distribution modelling OR Environmental niche modelling OR (Ecological) niche modelling OR Predictive habitat distribution modelling OR Climate envelope modelling

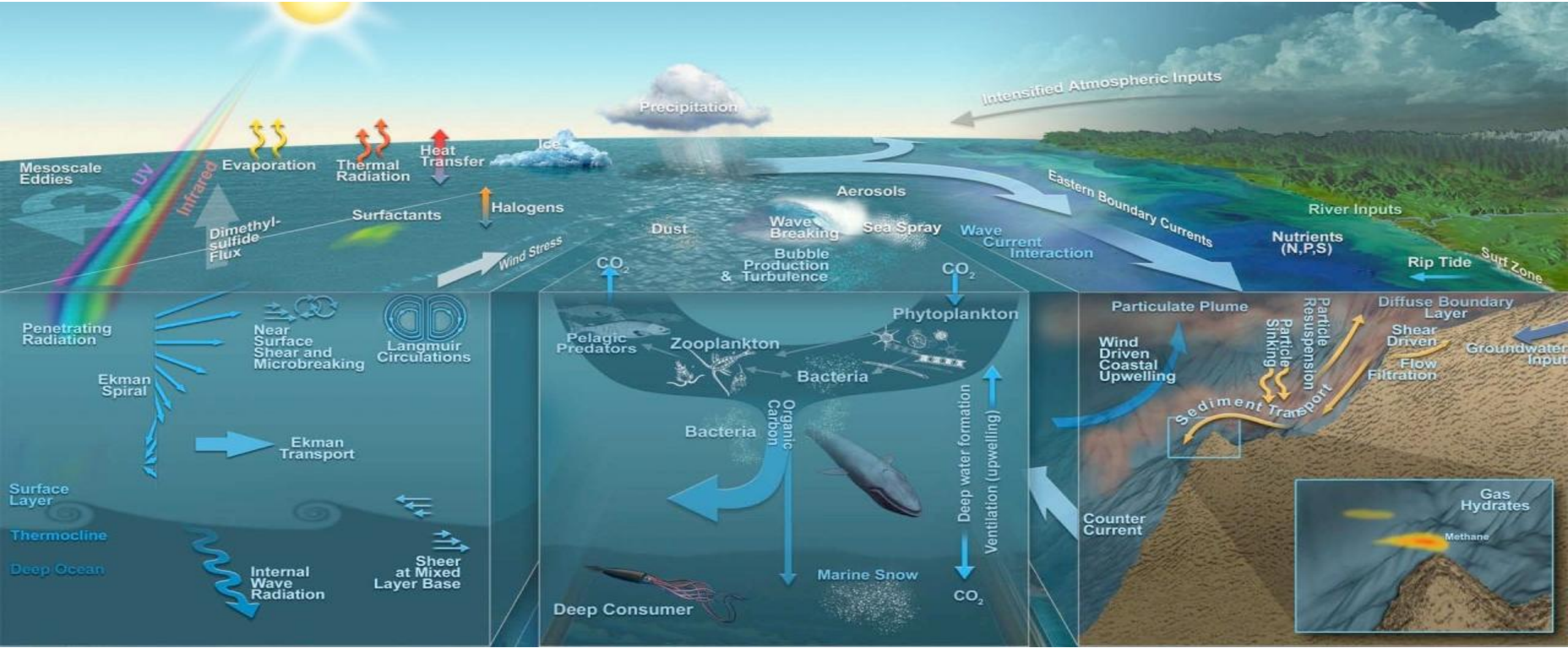
Why habitat models are used for?



- Assess effect of environmental drivers to animal movement and distribution
- Identify areas that should be prioritised for conservation
- Evaluating the potential of an invasive species to settle in particular areas
- Combined with future projections of changes of the natural environment, to predict how biodiversity will be affected by impacts such as climate change.

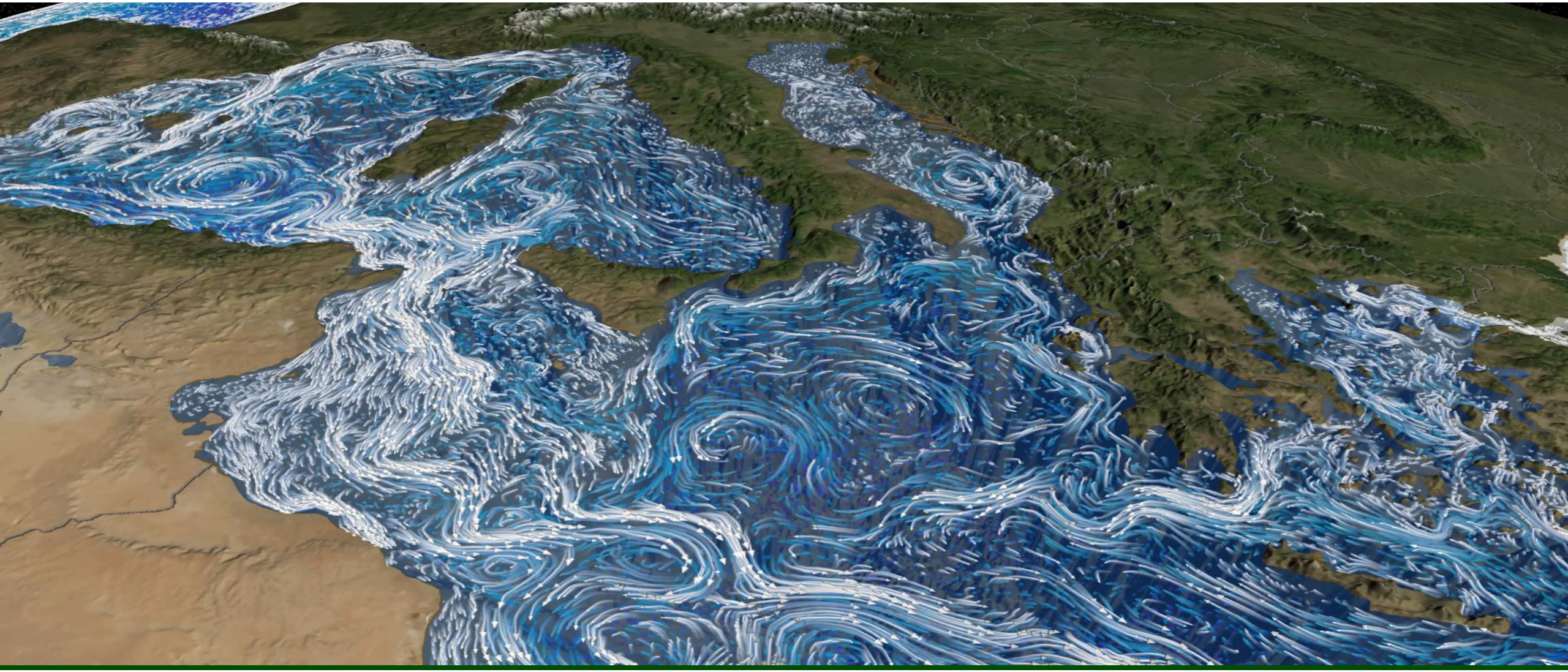
What are the particularities of marine realm for SDM?

Complex metocean variables (aerial, surface, sub-surface)



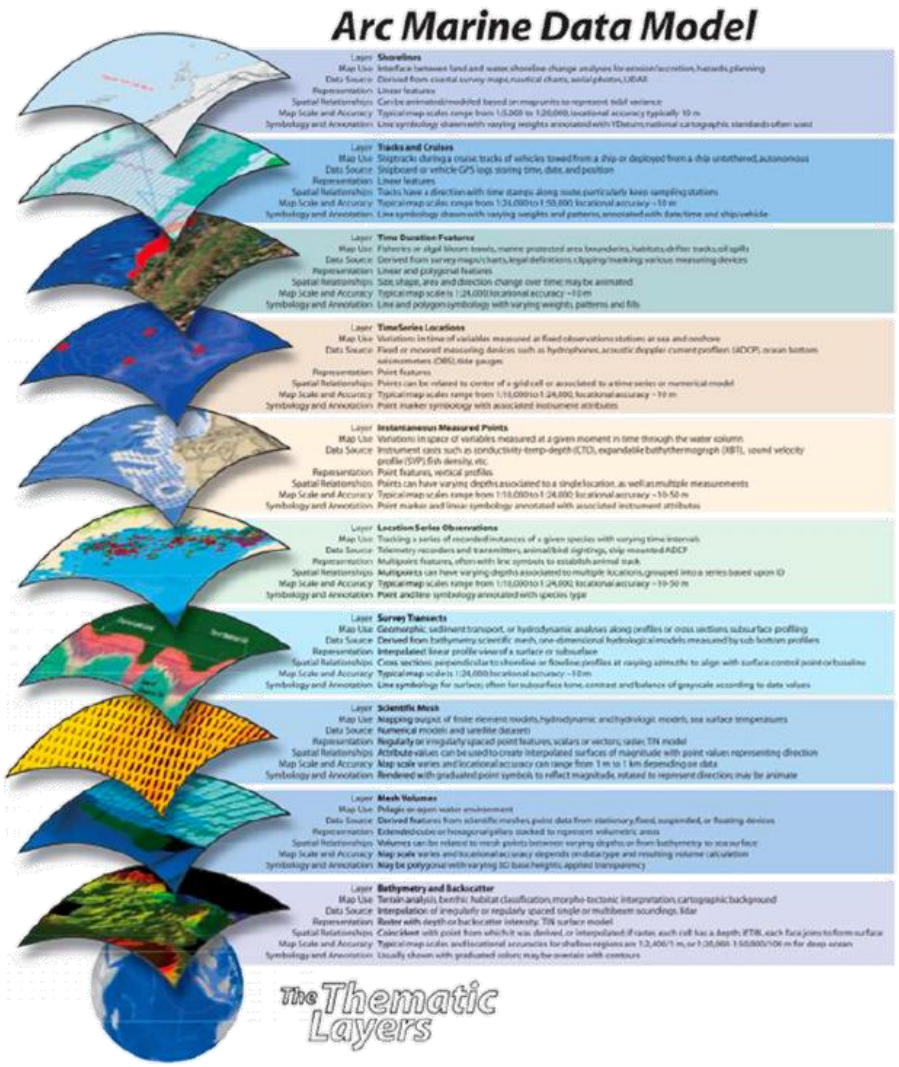
What are the particularities of marine realm for SDM?

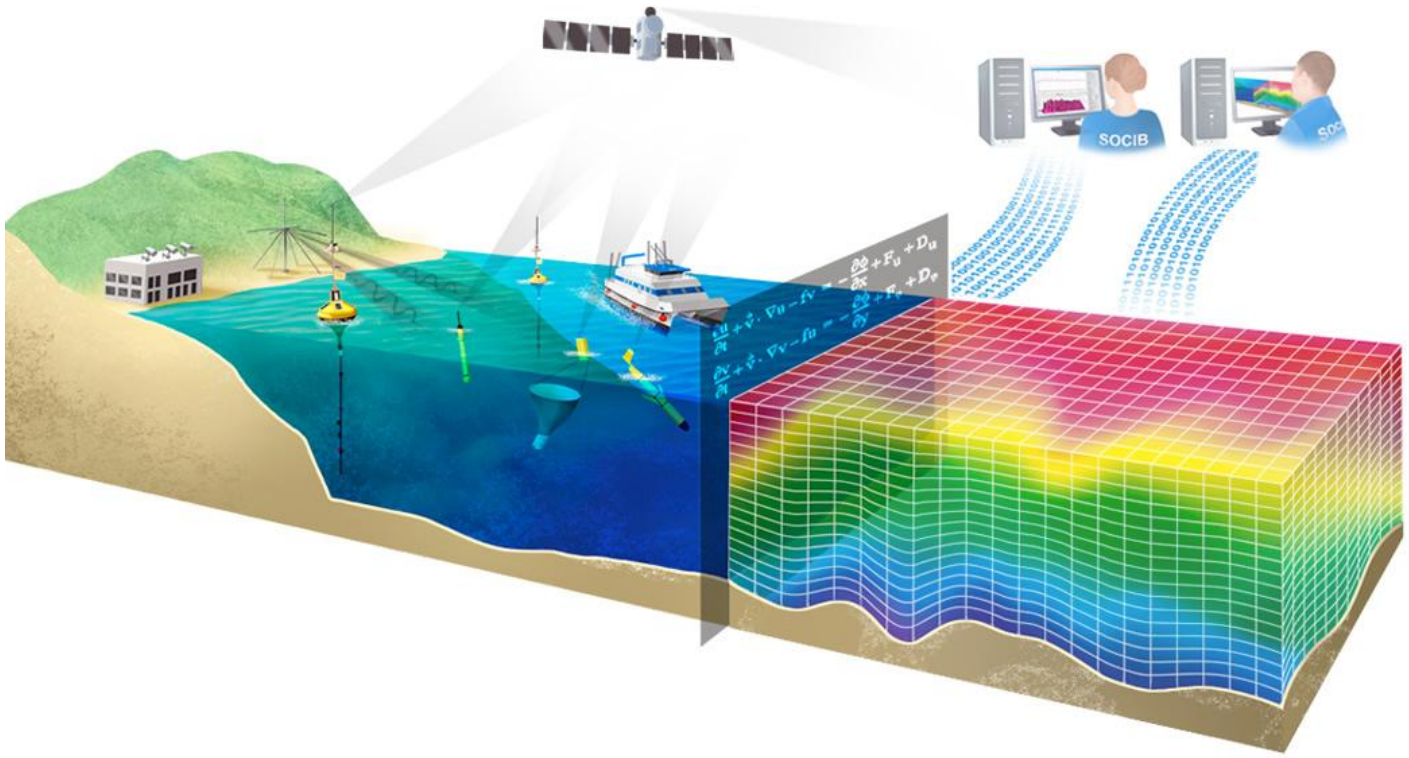
Highly dynamic environment



What are the particularities of marine realm for SDM?

Diversity of sources and resolutions

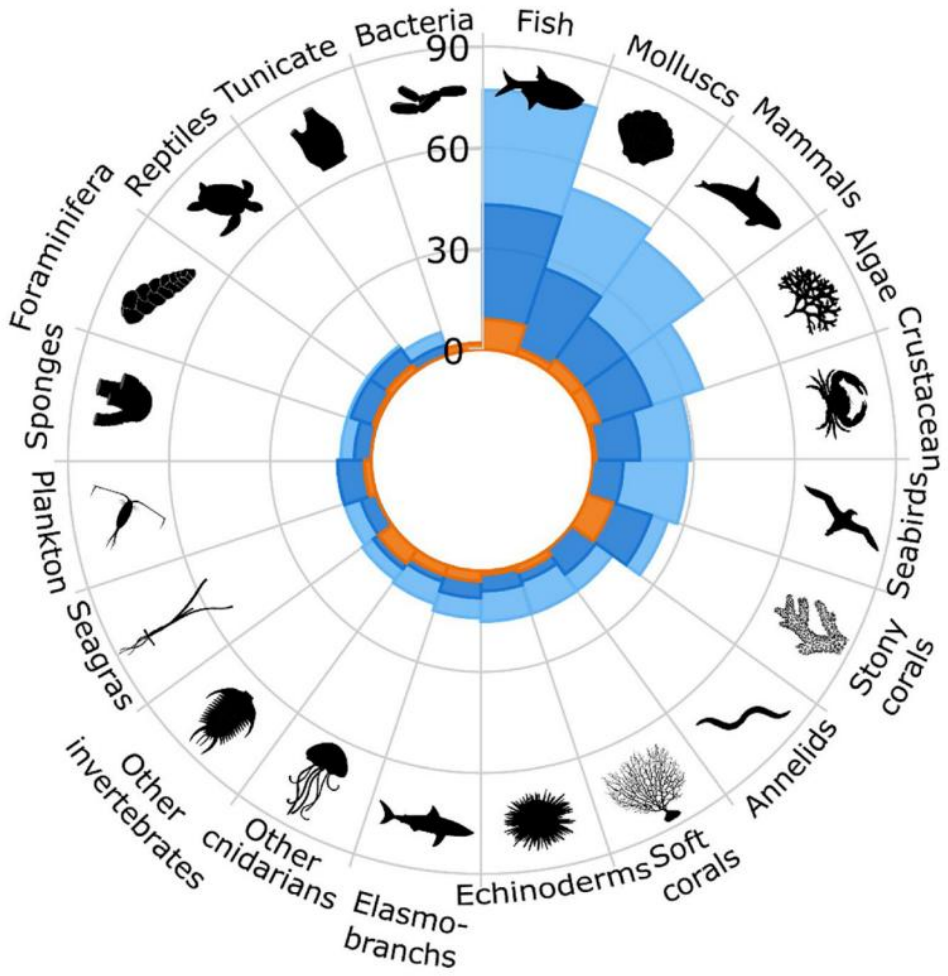




Remote sensing & in-situ observations vs. Numerical models

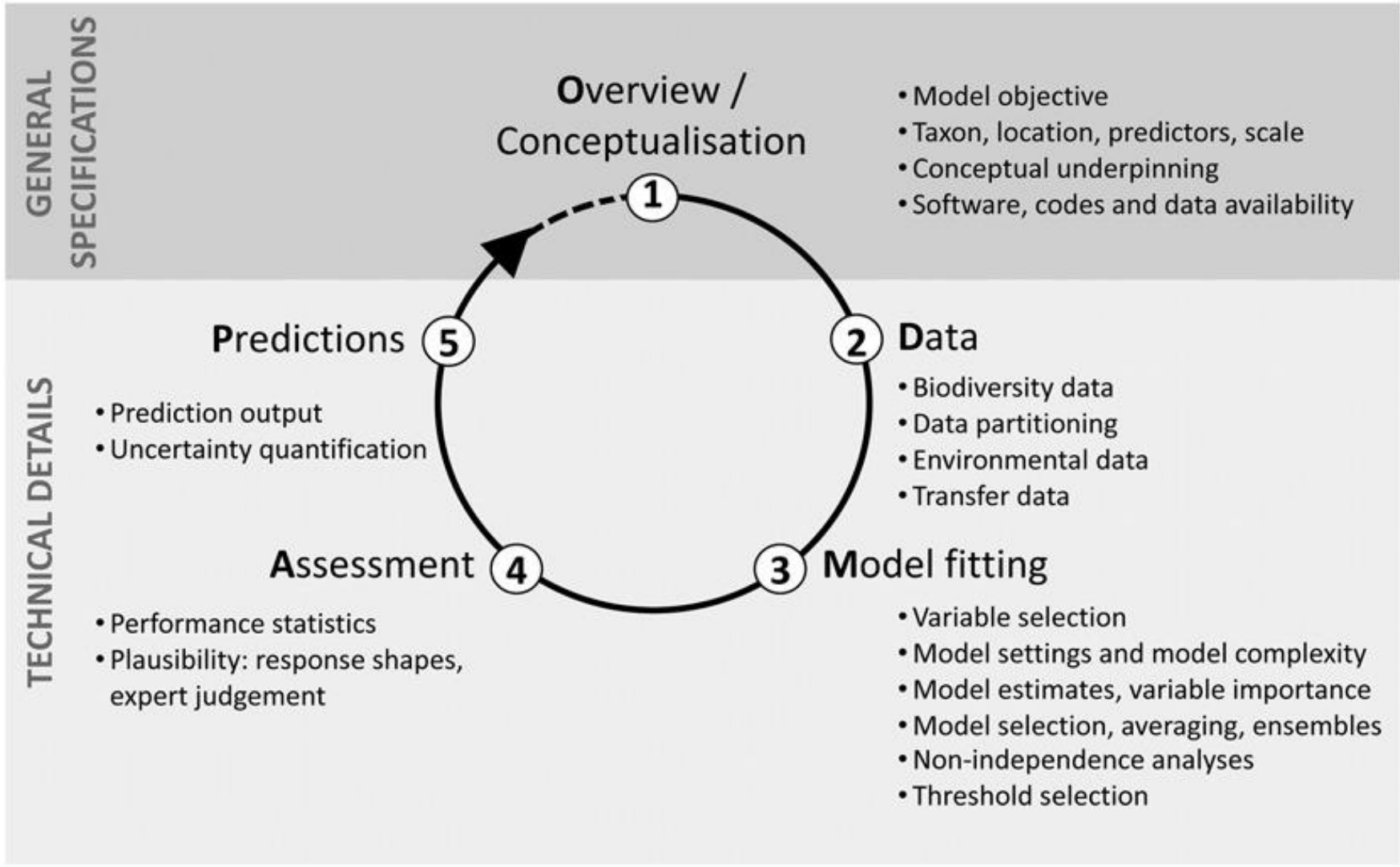
What are the particularities of marine realm for SDM?

Diversity of taxonomic groups



Melo-Merino. 2020. Ecological Modelling. https://doi.org/10.1016/j.ecolmodel.2019.108837

General workflow



Zurell et al. 2020. Ecography. https://doi.org/10.1111/ecog.04960