



JEUDI 02 OCTOBRE 2025 / 11h30 **Maria-José LAGUNES**, doctorante IRD à MARBEC

SargaDEB – Contributions of DEB (Dynamic Energy Budget) bioenergetic modeling to the spatio-temporal dynamics of the three holopelagic morphotypes of the genus *Sargassum*

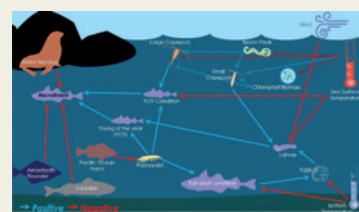
Holopelagic *Sargassum* morphotypes blooms have become a major concern since 2011, with unprecedented quantities of biomass being observed in the tropical Atlantic, resulting in economic, health, and ecological consequences. These events, characterized by large aggregations spreading across the tropical Atlantic and later stranding along the coastline, have been studied to understand the spatio-temporal variability of *Sargassum* morphotypes. While current models that include *Sargassum* advection dynamics provide valuable insights into the spatiotemporal variability, there is little understanding on the biological mechanisms behind the response to current environmental conditions. First, we developed a multi reserves DEB (Dynamic Energy Budget) model to simulate nutrient uptake and temperature response under different environmental conditions. We estimated model parameters and assessed their sensitivity to different types of data, providing information to guide experimental studies needed to better estimate model parameters.

Next steps include investigating the physiological differences between morphotypes and the integration of the DEB model into a drift model to simulate *Sargassum* sp. proliferation according to the environmental conditions encountered along its drift. This coupled approach will improve our understanding of the interplay between biological and physical drivers of inter- and intra-annual variability in *Sargassum* dispersal and biomass accumulation.

> accès zoom

<https://umontpellier-fr.zoom.us/j/92045795456>
ID de réunion : 920 4579 5456

> prochainement



Jeudi 09 octobre 2025 : Juliette Champagnat (Chercheuse Ifremer - MARBEC)
"Causal models as a scientific framework for next-generation ecosystem and climate-linked stock assessments"

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