# Can we predict fisheries-wildlife interactions in dynamic seascapes?

Marine wild-capture fisheries operate in heterogeneous and dynamic systems. The distributions of both target species and non-target species are driven by multiple interacting processes, which influence the spatio-temporal dynamics of fishing behaviour, and the relative risk of unwanted interactions with threatened, endangered and protected species.

Dynamic predictive modelling of the relative likelihood of occurrence of target and non-target species with respect to physical conditions can inform dynamic management. This project uses high-resolution physical data fields from a data-assimilative Regional Ocean Modelling System (ROMS) for the East Australia Current region (UNSW) to elucidate the drivers underlying fisheries-wildlife interactions in Australia's Eastern Tuna and Billfish Fishery.
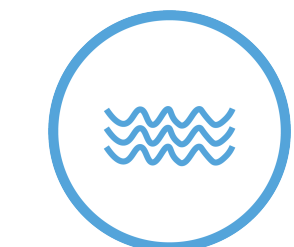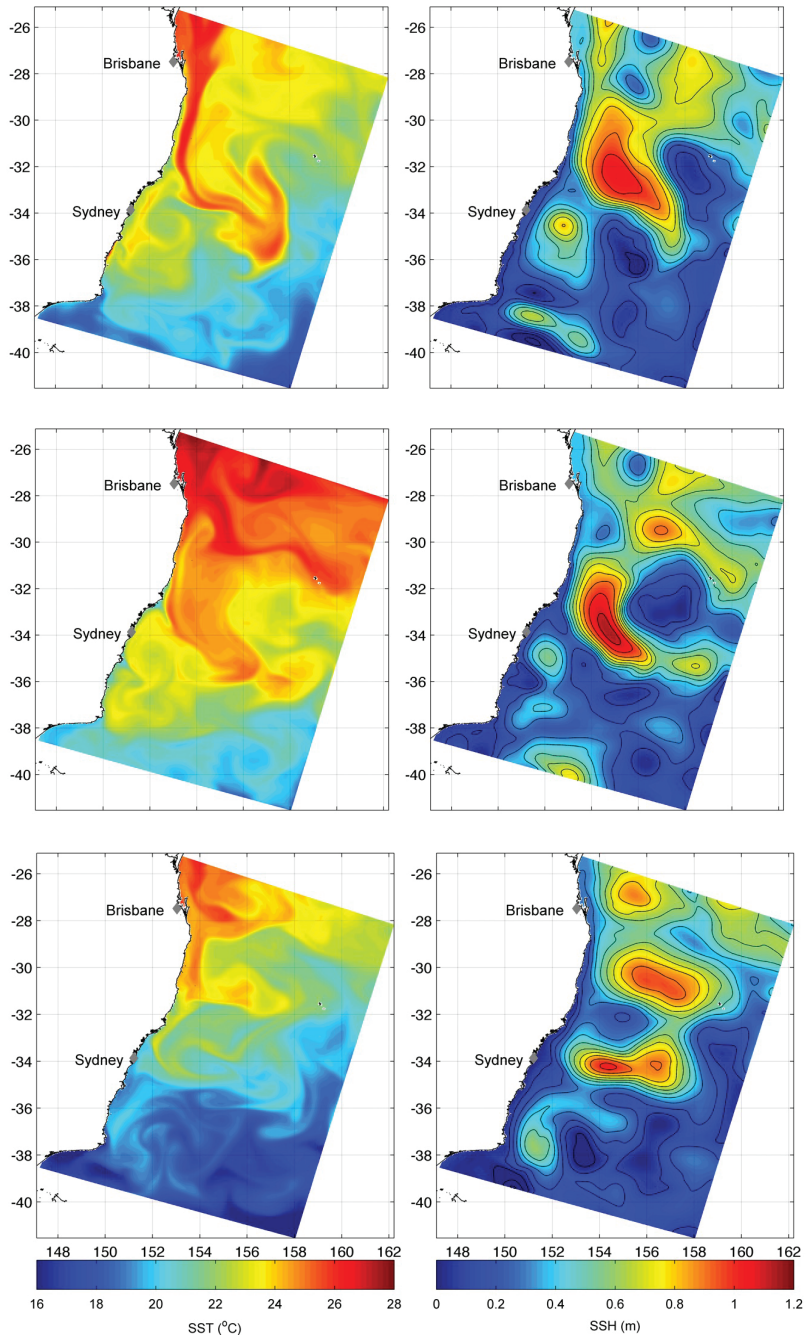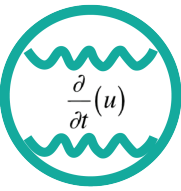
Ocean state & variability
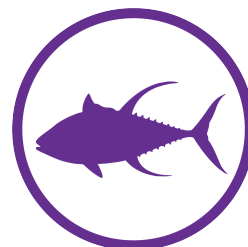
Fishing effort

Marine megafauna habitats

$\frac{\partial}{\partial t}(u)$

Satellite remote sensing

Ocean models

Fisheries logbooks, EM

Vessel tracking (AIS, VMS)

Satellite tracking

Dr. Kylie Scales
kscales@usc.edu.au
@KylieScales