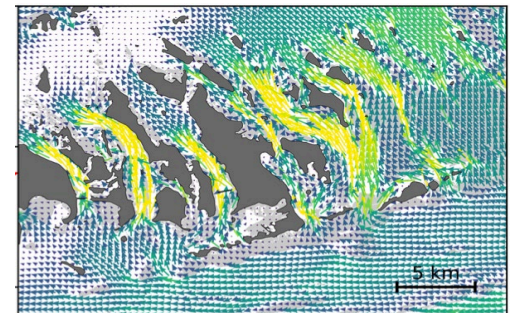
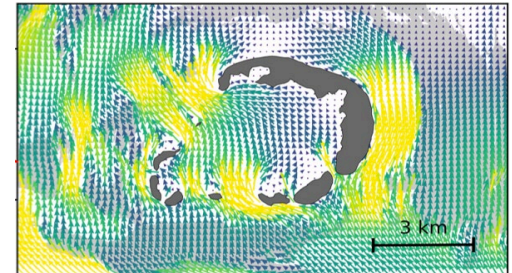


Using fine scale hydrodynamic modeling to characterize the transmission patterns of SCTLD within the water column of the Florida Reef Tract.

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Project goals

1. Conduct a meta-analysis on existing laboratory transmission data to parameterize epidemiological models
2. Develop an epidemio-hydrodynamic model and simulate the disease dynamics over two time periods:
 - a) 6 months in 2014 (onset of the disease) and
 - b) 12 months in 2018 (data-rich period) and predict disease propagation based on epidemiological parameters estimated from existing data

Key outcomes

- Transmission meta-analysis provided important SCTL D ecology data: ~44% transmission, ~10 days after exposure.
- Epidemio-hydrodynamic modeling can explain the transmission of SCTL D among reefs; neutrally buoyant particles in barotropic currents are the most likely mode of transport for disease agents.
- If SCTL D came from another location to Virginia Key, most particles come from the South, but our model suggest that particles released immediately north could also have affected the area during the modeled time period.

