cold side: plankton community B
warm side: plankton community A

nutrient upwelling

physical signal
(e.g. density)

biological signal
(e.g. biomass)

horizontal transport

physical scale: 10-30 km
biological scale: 2-10 km

In situ sampling

advected patch:
plankton community C → C'

advected patch:
plankton community D → D'

frontal enhancement patch:
plankton community E → E' + E'”