CALIFORNIA CURRENT ECOSYSTEM (CCE)

A coastal upwelling biome

Satellite derived Chl-*a*

Monterey Bay

Pt. Conception

San Diego

Lihini Aluwihare

(with the guiding hand of Mark Ohman and Kathy Barbeau)

Scripps Institution of Oceanography, UC San Diego
&
Georgia Institute of Technology
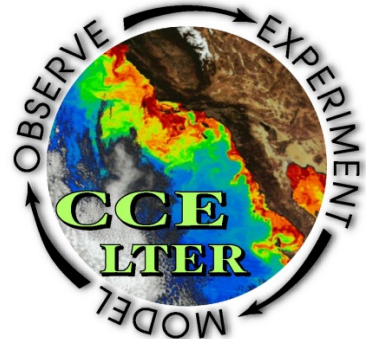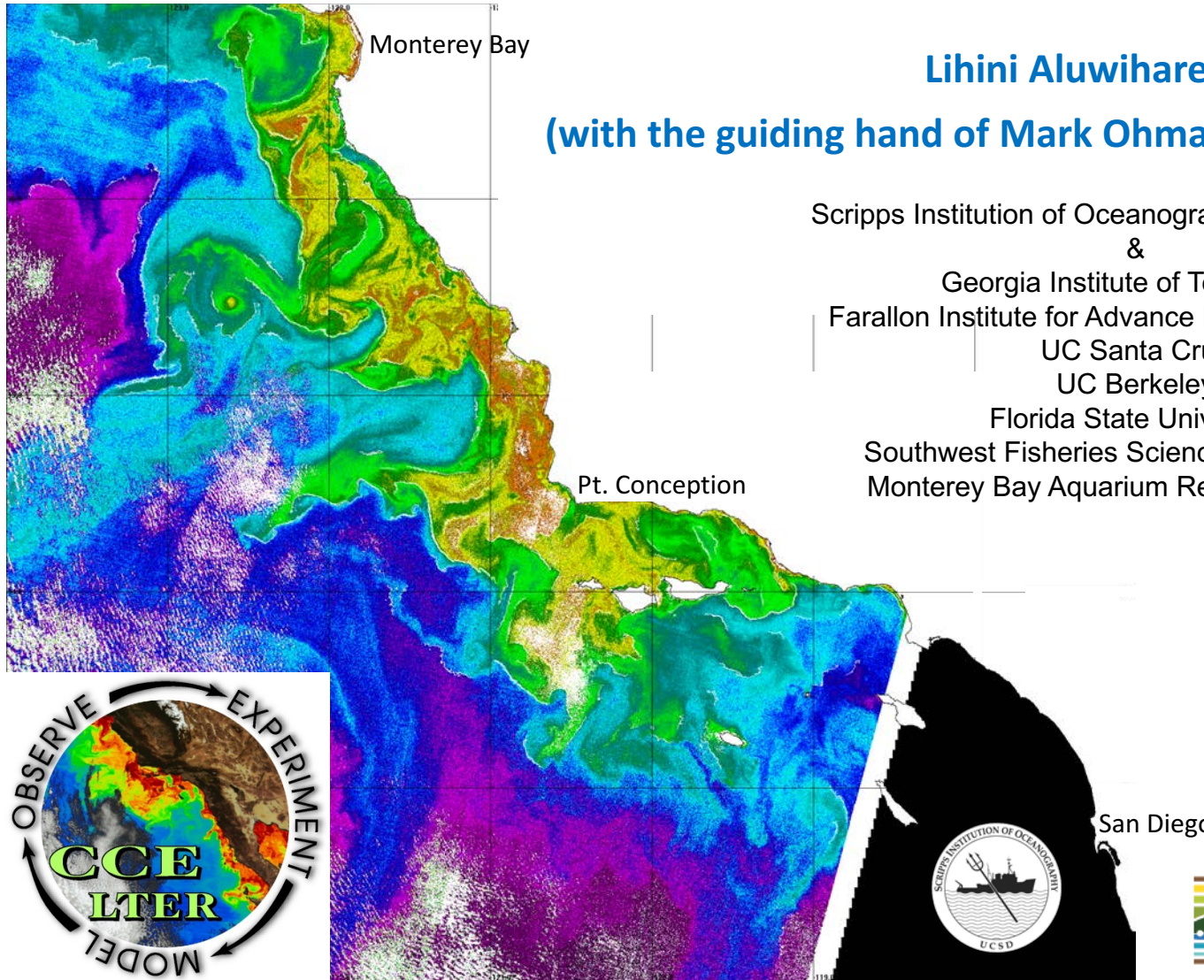Farallon Institute for Advance Ecosystem Studies
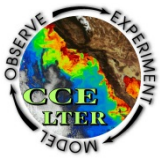UC Santa Cruz
UC Berkeley
Florida State University
Southwest Fisheries Science Center/NMFS
Monterey Bay Aquarium Research Institute

CCE LTER
OBSERVE EXPERIMENT MODEL

Mati Kahru SIO   OLCI on Sentinel-3A (ESA)   21 Sept. 2017

NATIONAL SCIENCE FOUNDATION
LTER NETWORK
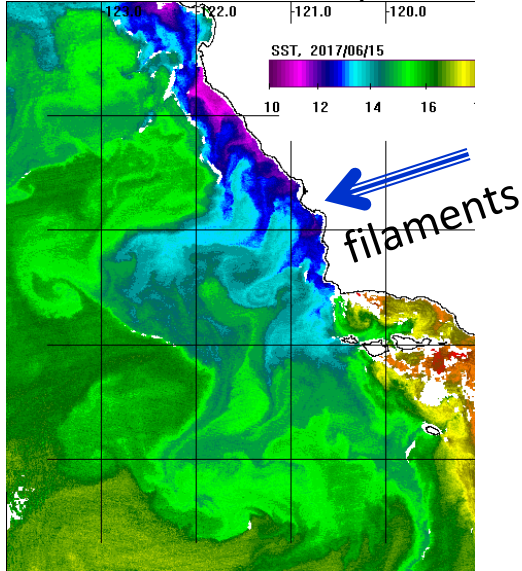LONG TERM ECOLOGICAL RESEARCH

Site News: Cross-shore fluxes associated with upwelling filaments

CCE Process Cruise P1706

1 June – 2 July 2017

Sea Surface Temperature

Chlorophyll *a*

filaments

Cycle 1

Cycle 2

Cycle 4

Cycle 3
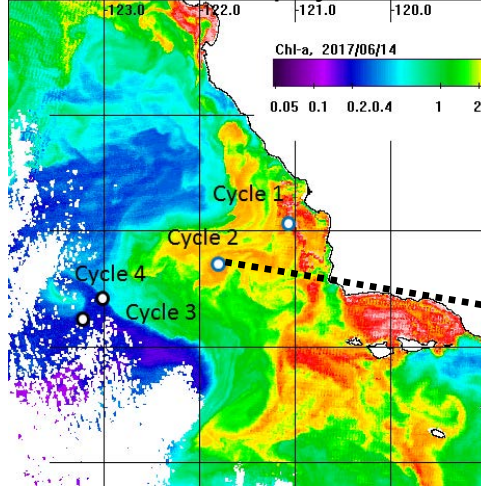
Lagrangian Process Study
(free-drifting autonomous measurements combined w/ shipboard experiments)

Driftarray
(in situ growth, grazing)
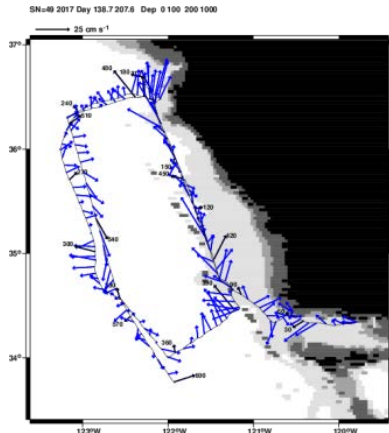
Drifting sediment traps

CFE
(C Flux Explorer)

R/V *Roger Revelle*

CF calib
(C Flux calibration)

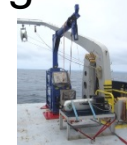## Autonomous coastal measurements and mesoscale mapping
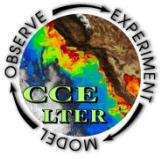*(gliders and towed profilers)*
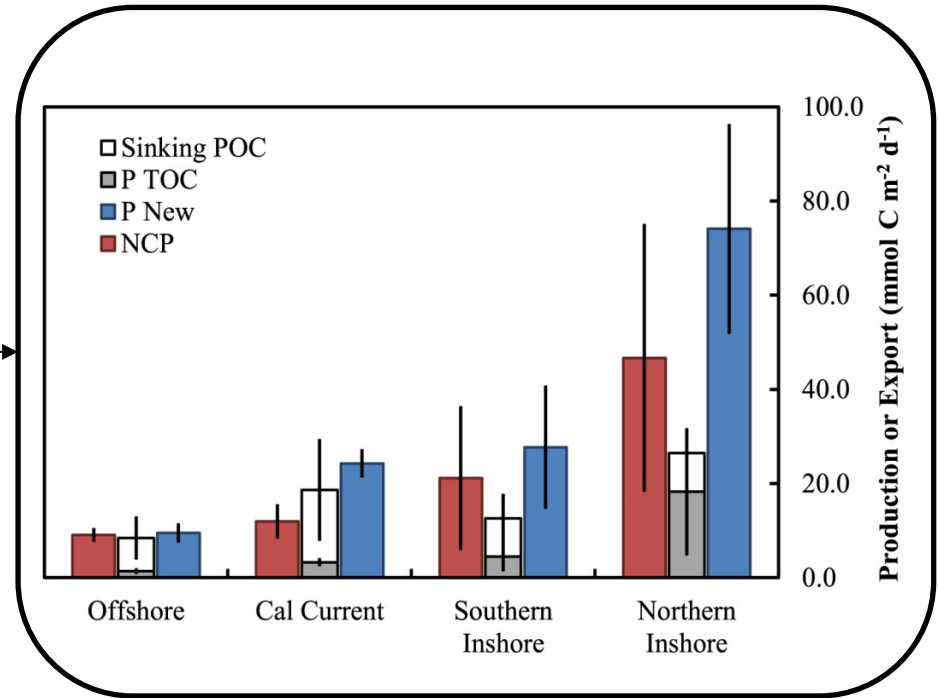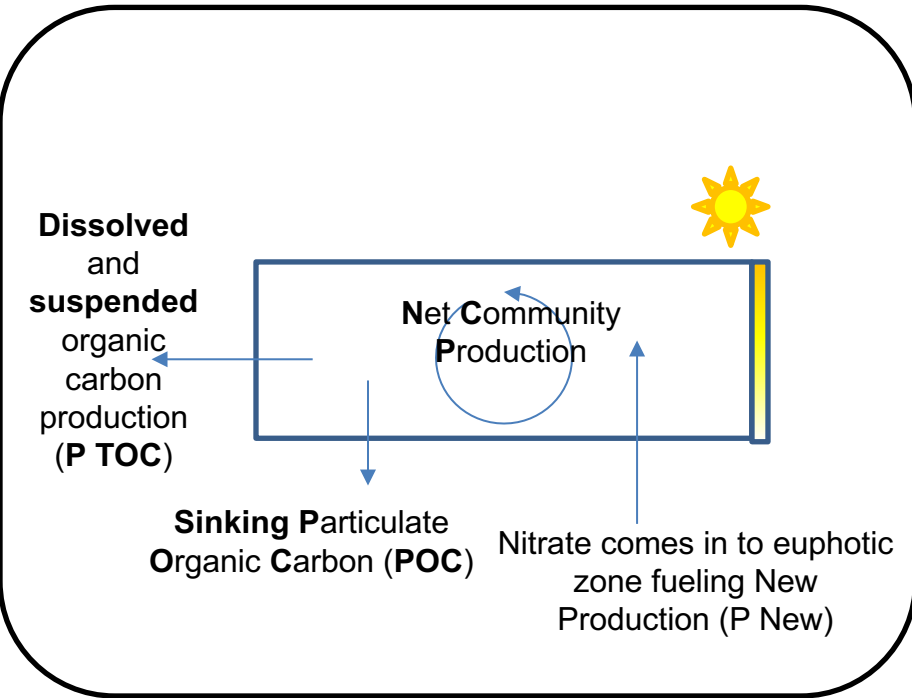
Spray ocean gliders

Seasoar

Moving Vessel Profiler

# Quantifying exportable organic carbon pools in the CCE

Organic things we do: particulate organic matter (POM) export, dissolved and suspended organic carbon (TOC), FDOM, stable isotopes of OM, environmental (inside and outside cells) metabolomics, active microbial community composition, transcriptomics, OM degradation, OM lateral fluxes etc.
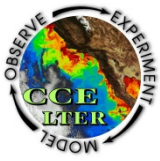
Interannual variability in mean surface PON concentrations in the CCE

PON anomaly relative to interannual (**M**ultivariate **E**NSO **I**ndex) and decadal (**N**orth **P**acific **G**yre **O**scillation) climate indices that are relevant for the CCE.
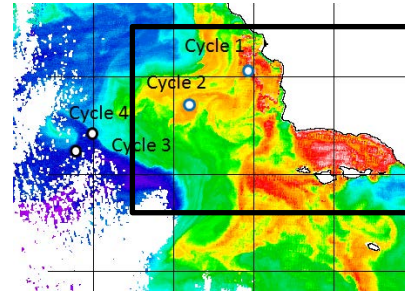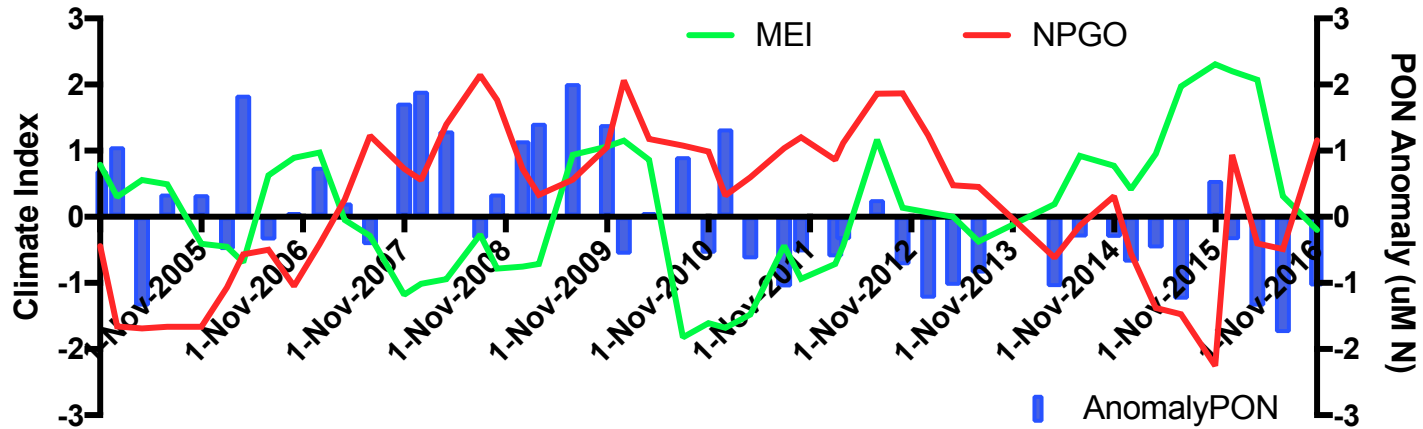
PON anomaly varies with nitrate anomaly at the base of the chlorophyll *a* maximum (data from the CalCOFI program as augmented by the CCE-LTER)