

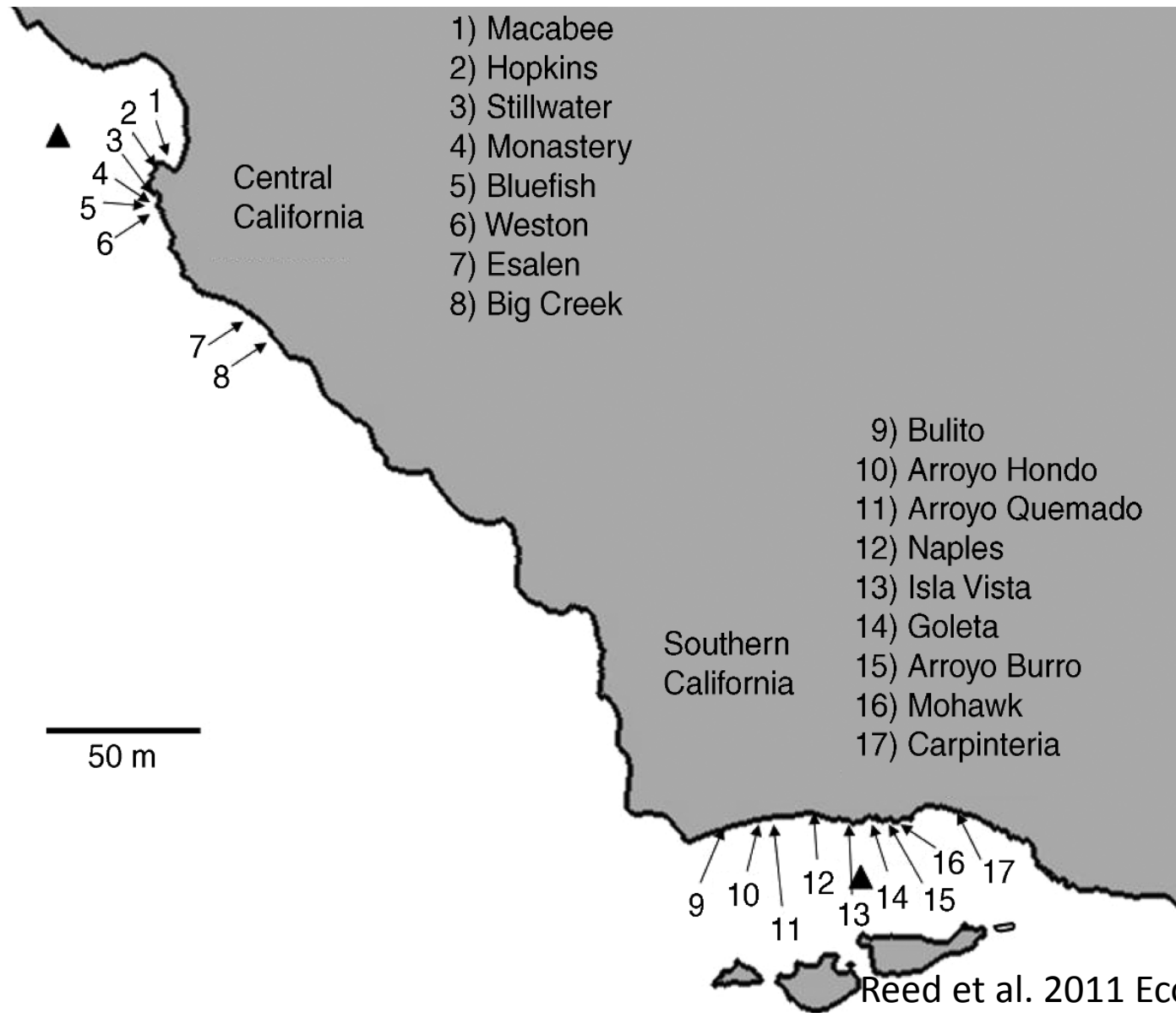
Using existing monitoring data to understand how wave energy affects nearshore communities

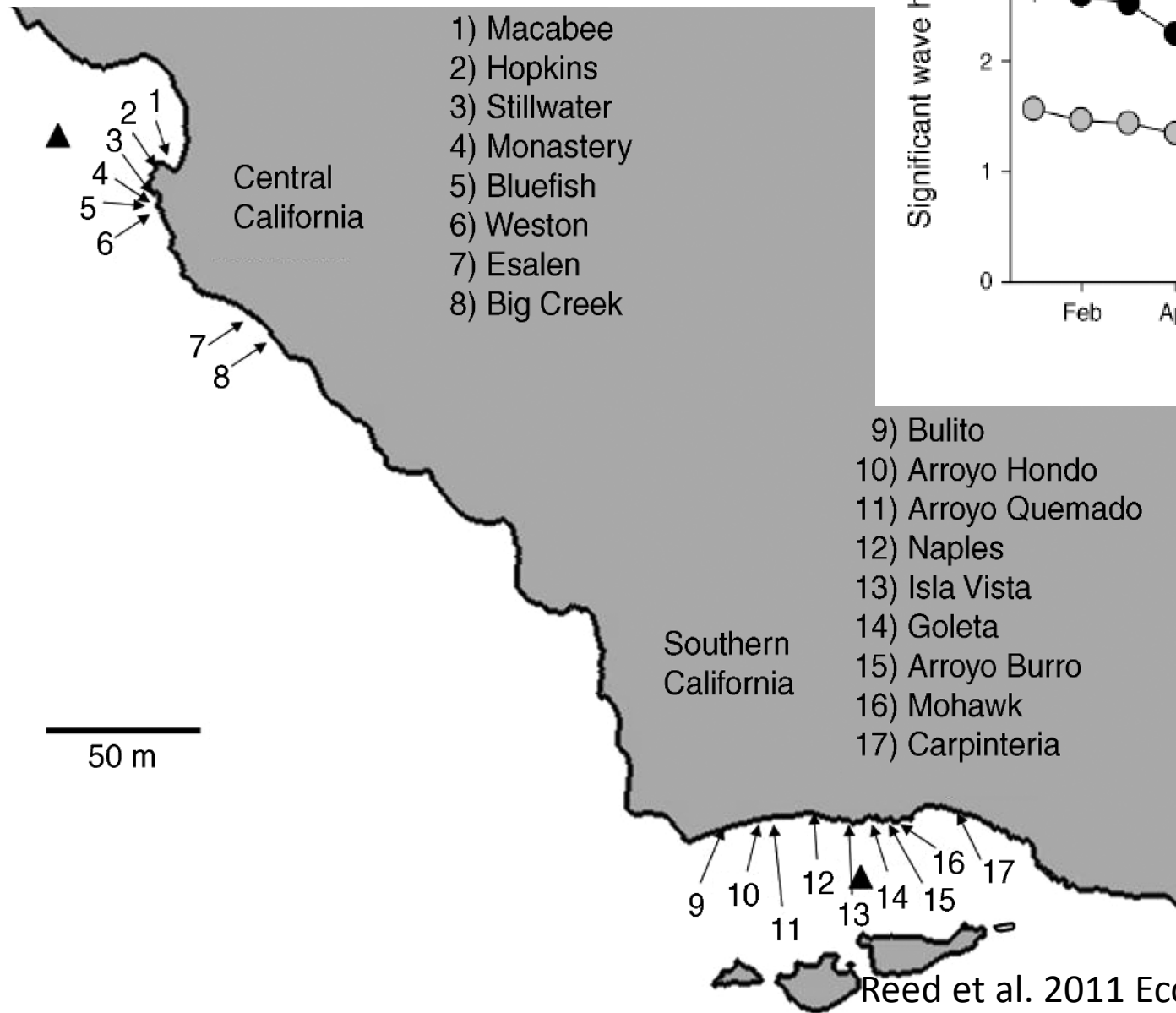
Kevin D. Lafferty
Fernanda Henderikx
Andrew Rassweiler
Libe Washburn





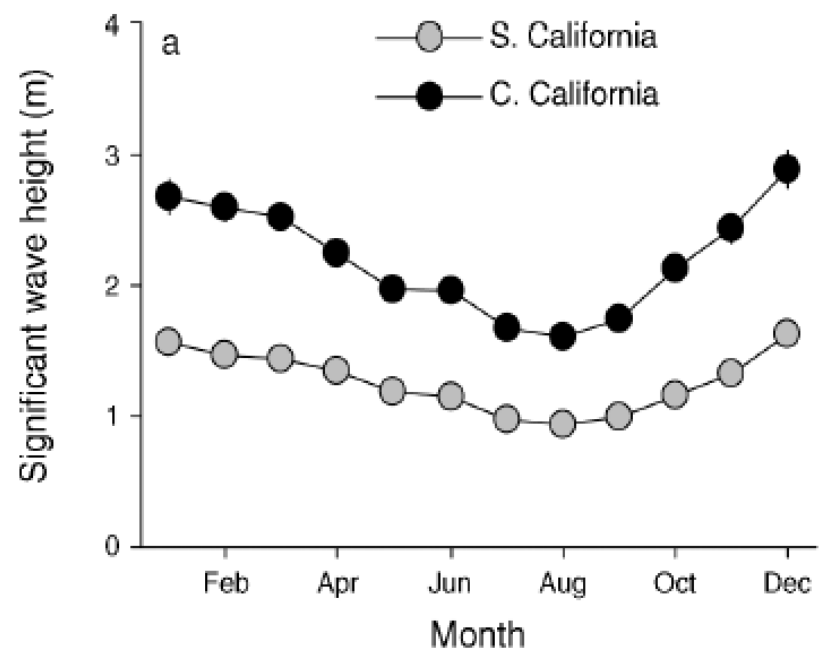


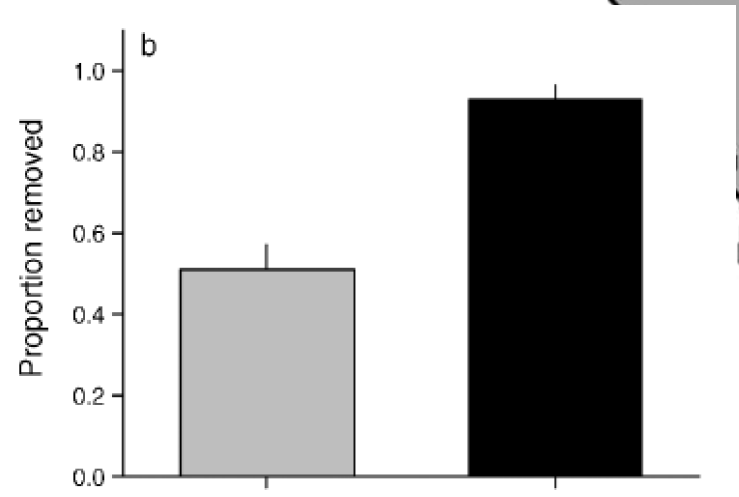
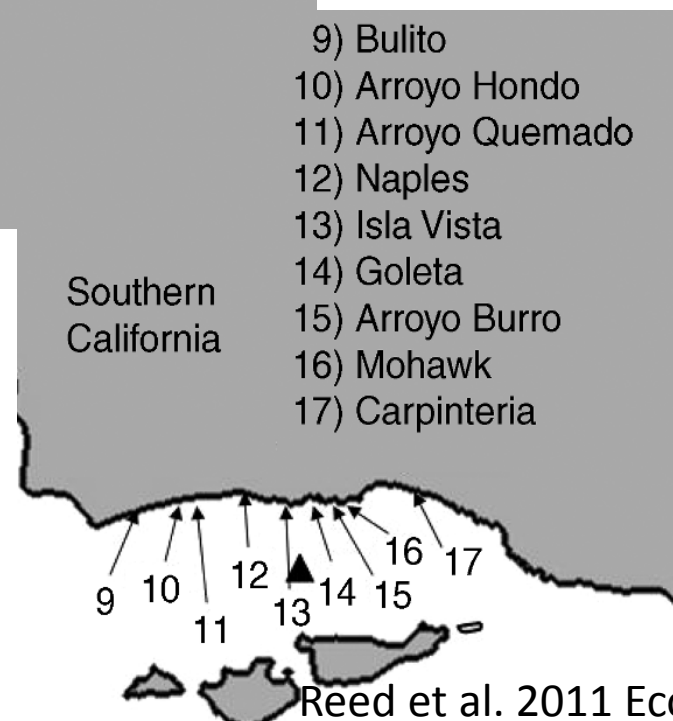
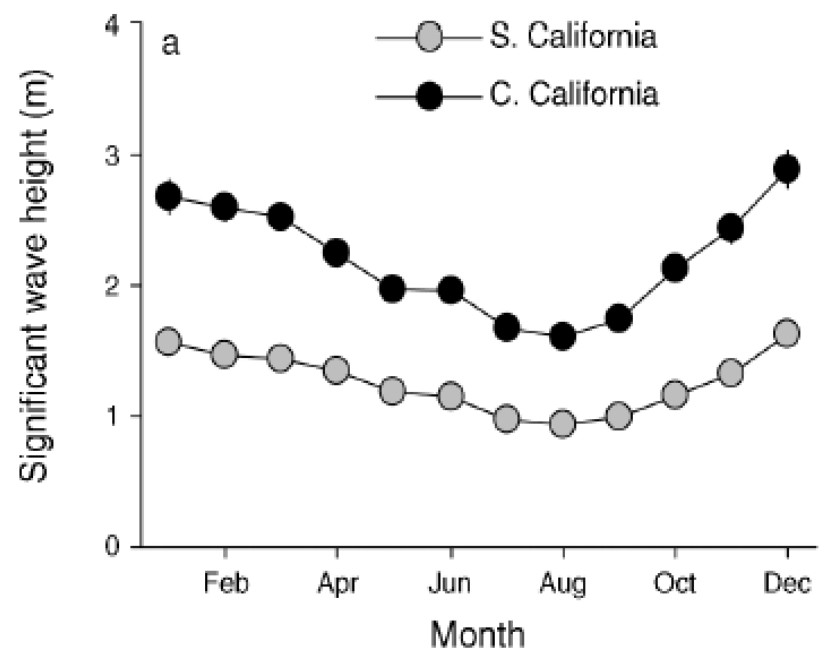
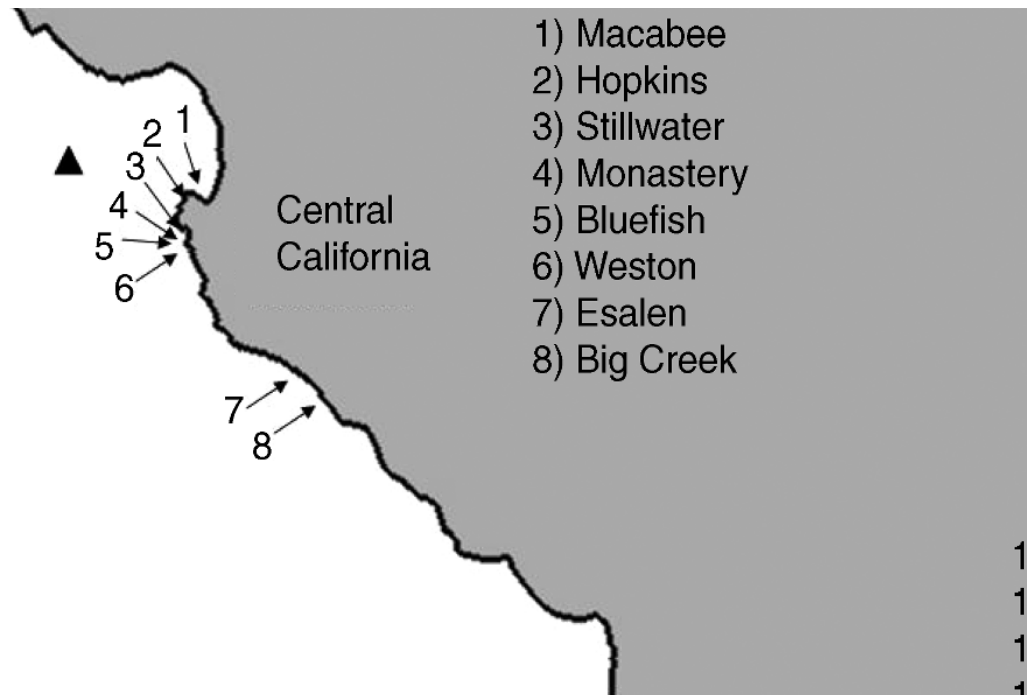




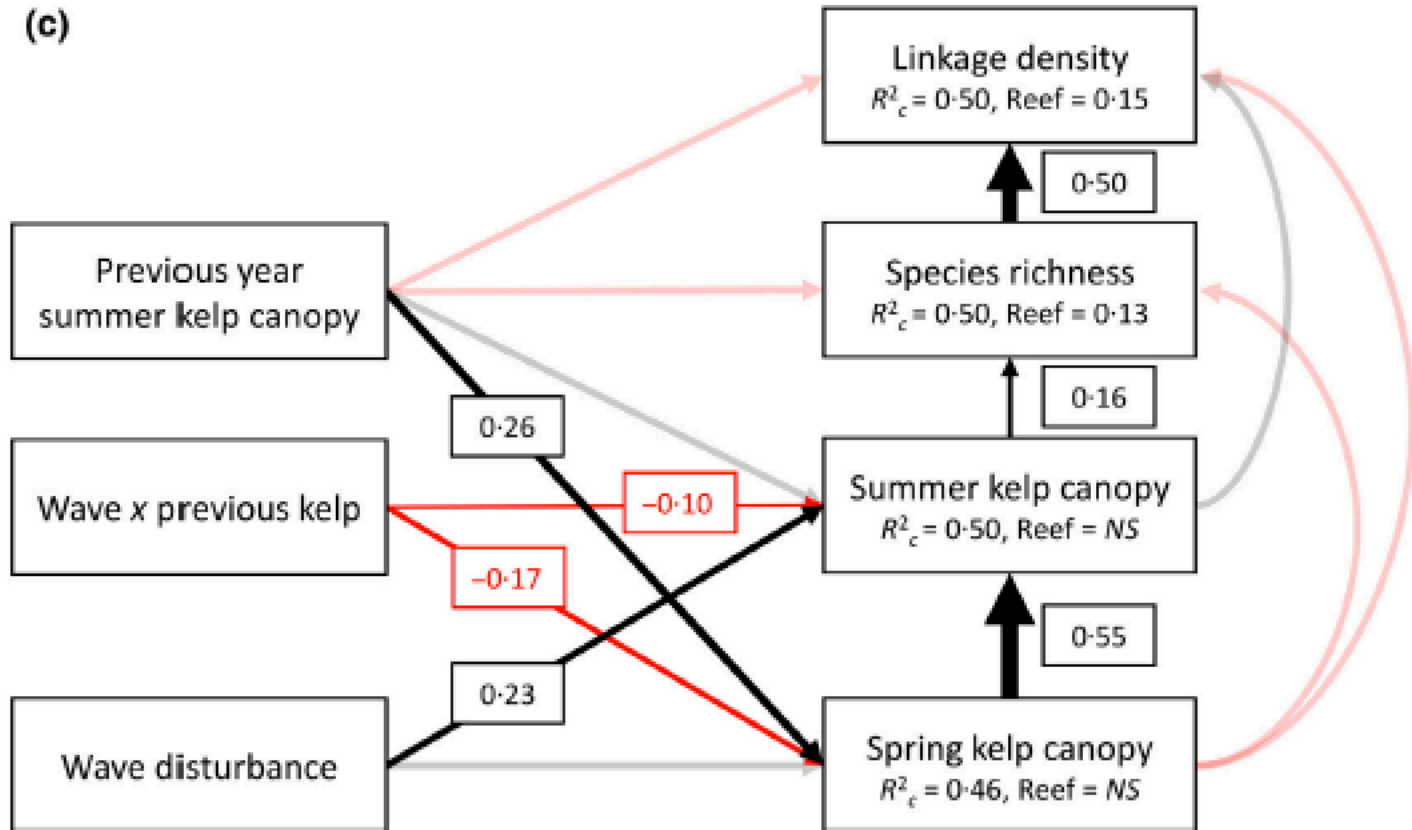
- 1) Macabee
- 2) Hopkins
- 3) Stillwater
- 4) Monastery
- 5) Bluefish
- 6) Weston
- 7) Esalen
- 8) Big Creek

- 9) Bulito
- 10) Arroyo Hondo
- 11) Arroyo Quemado
- 12) Naples
- 13) Isla Vista
- 14) Goleta
- 15) Arroyo Burro
- 16) Mohawk
- 17) Carpinteria





(c)



Channel Islands National Park Kelp Forest Monitoring Sites

1982 – present

Santa Barbara

Carpinteria

Ventura

Oxnard

New Anacapa
reserve (e. 2003)

Old Anacapa
reserve (e. 1978)



San Miguel

Santa Rosa

Santa Cruz

Anacapa



Legend

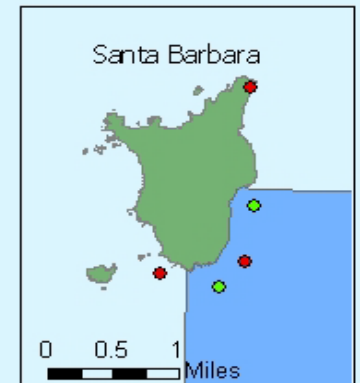
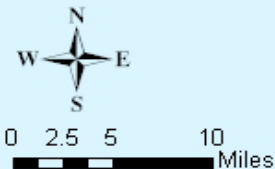
-  Park Marine Boundary
-  National Marine Sanctuary

NPS Kelp Monitoring Sites

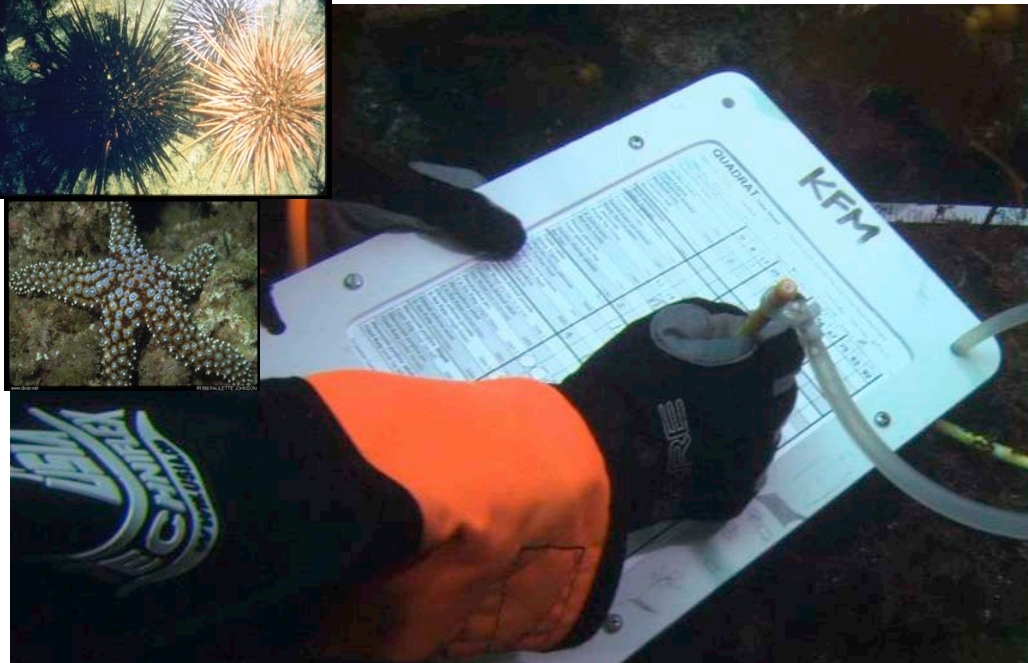
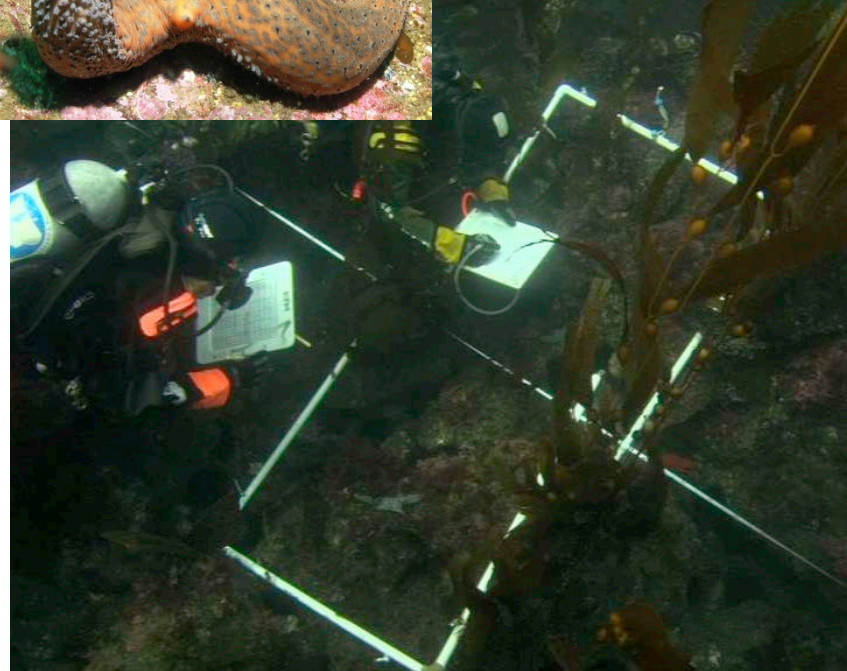
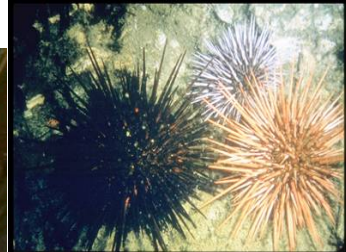
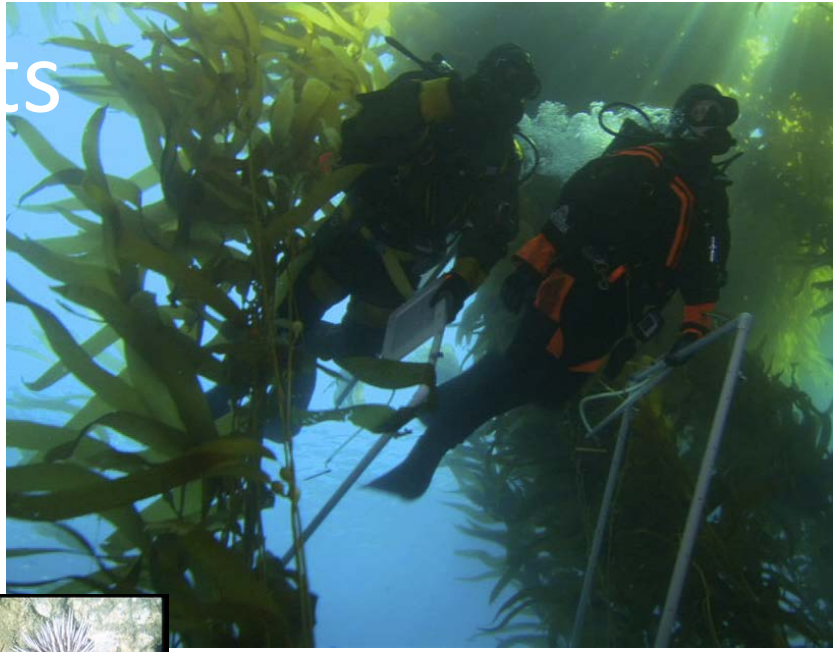
-  KFM Sites Estb 2005
-  KFM Sites Estb 1982

MPA Established 2003

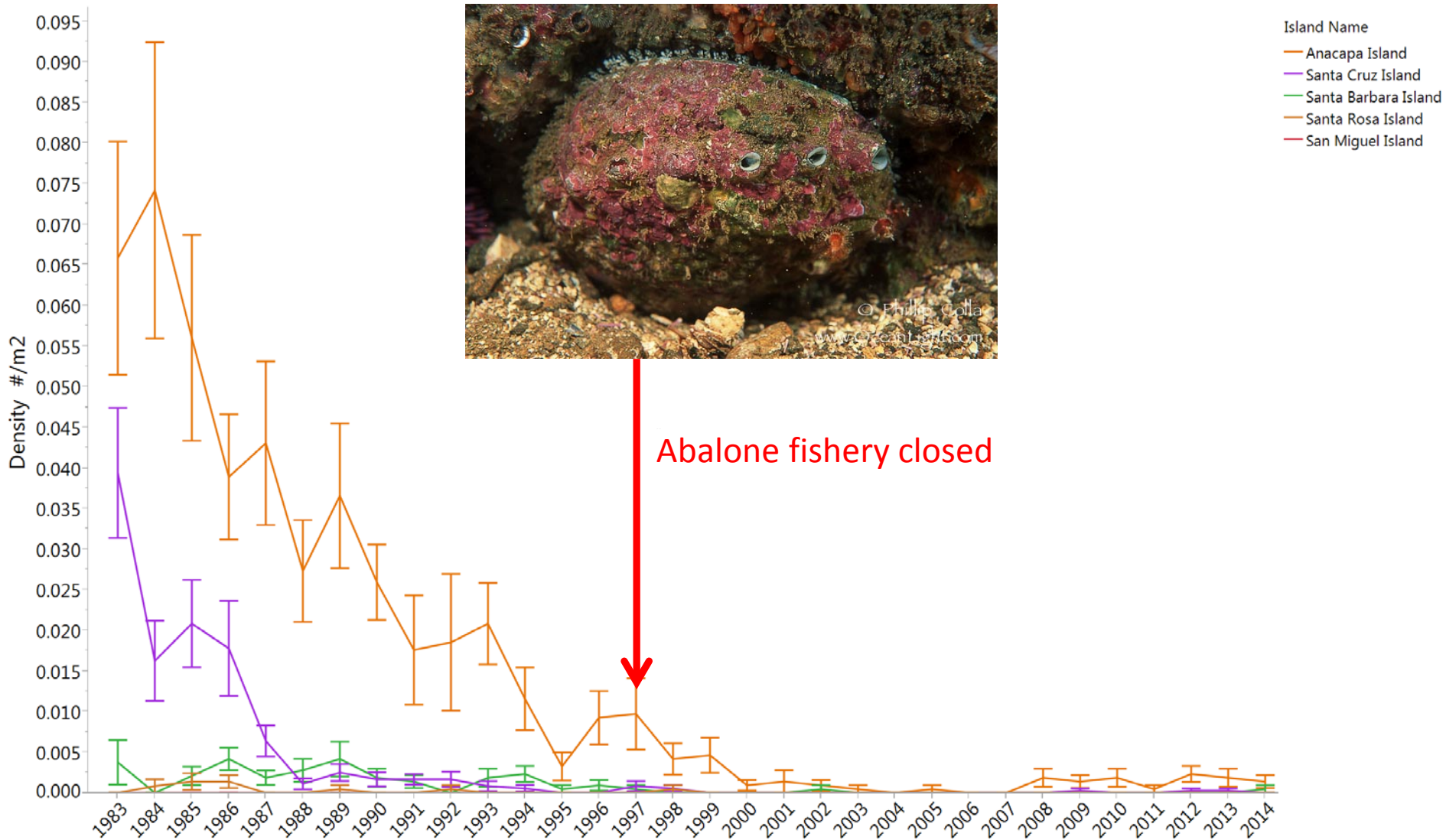
-  SMCA
-  SMR



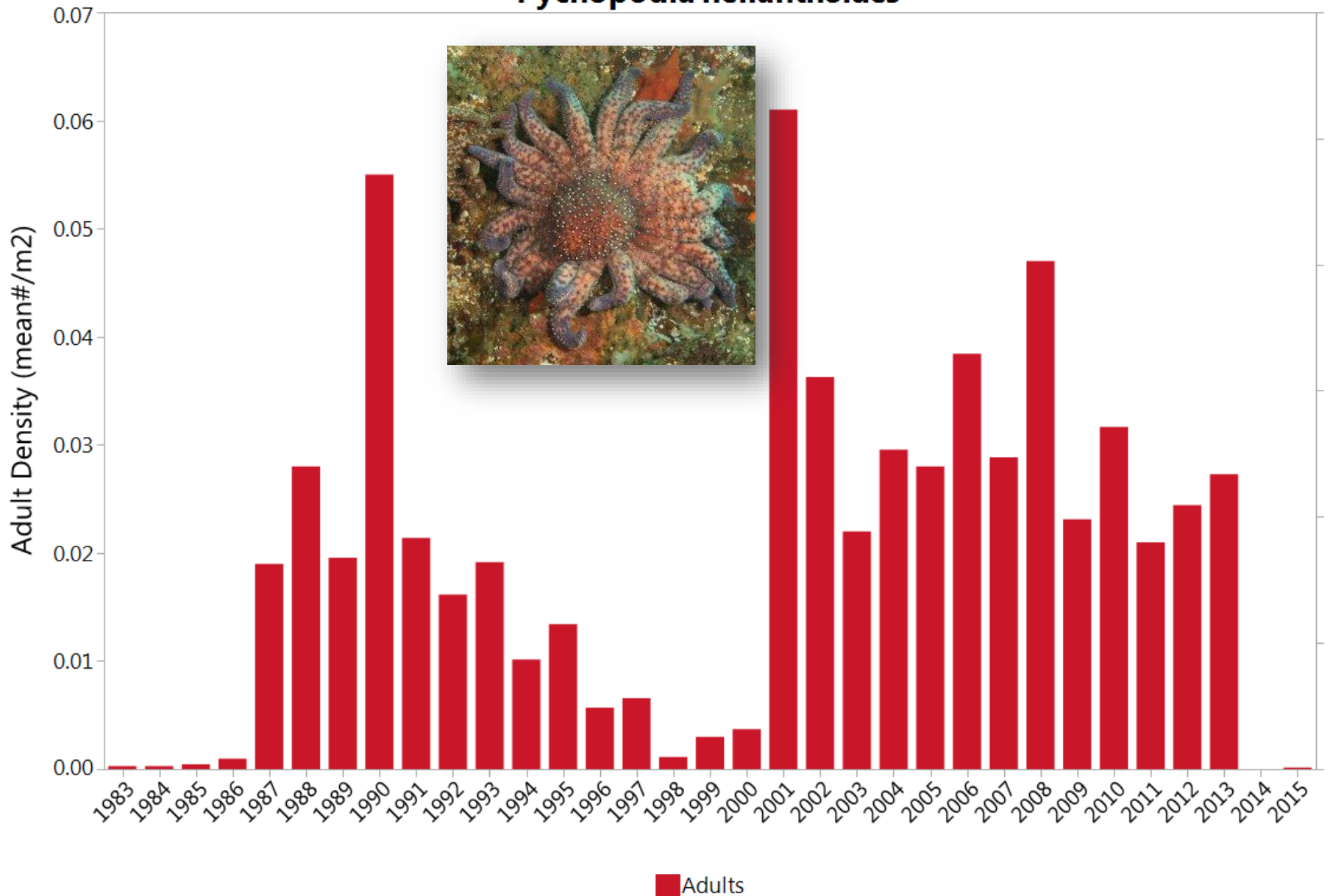
Qu...ts

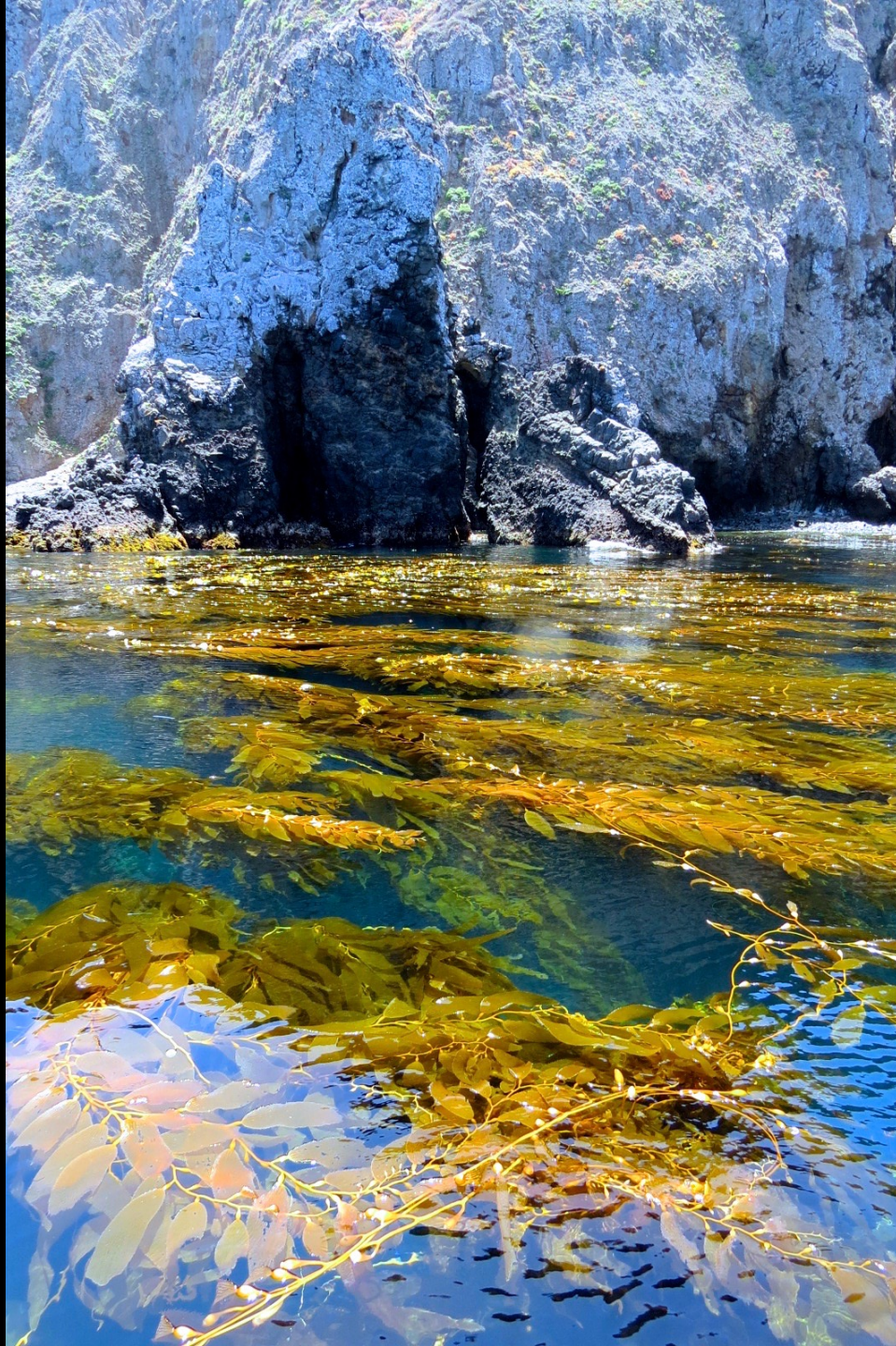


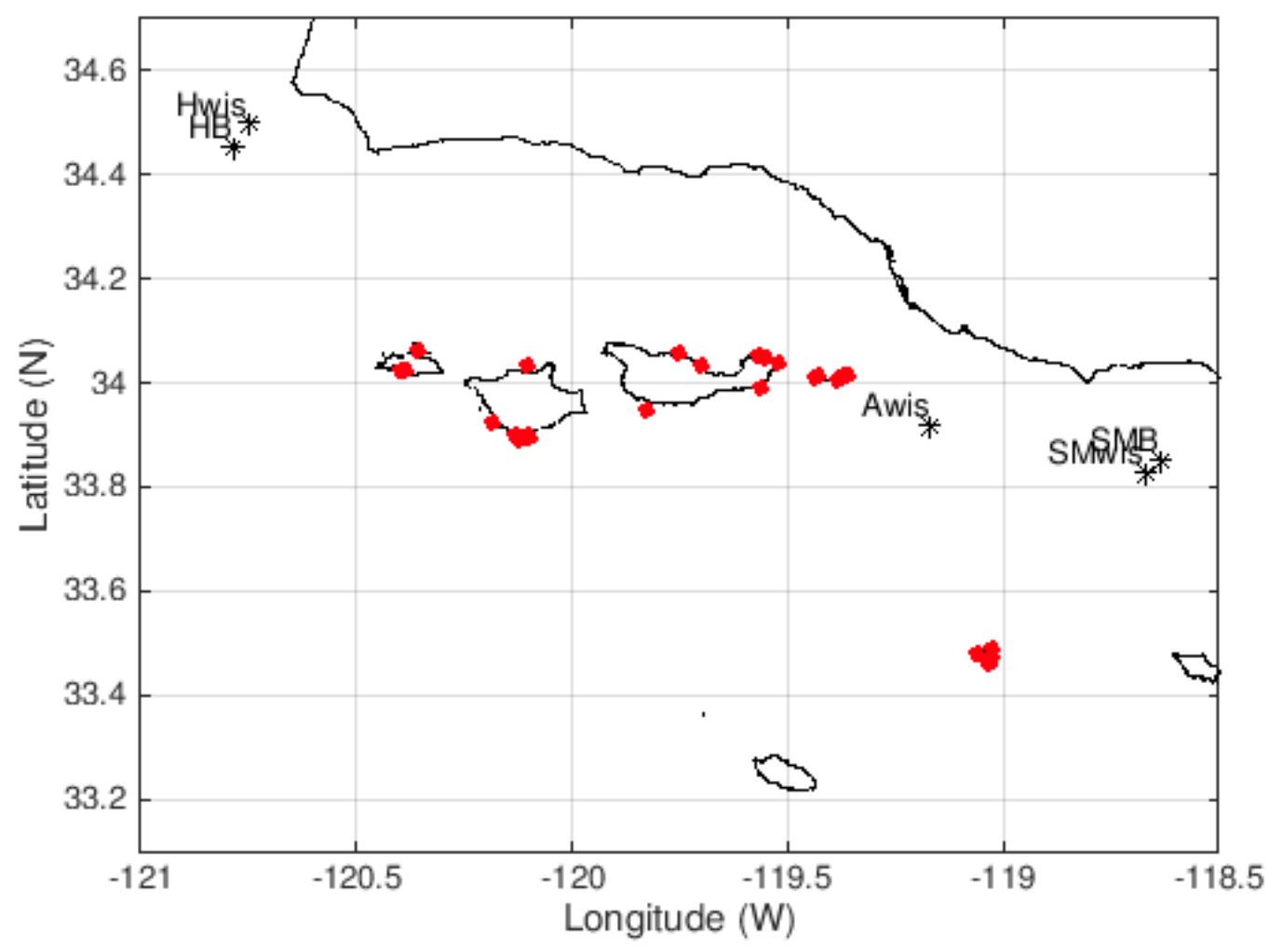
Pink Abalone Densities

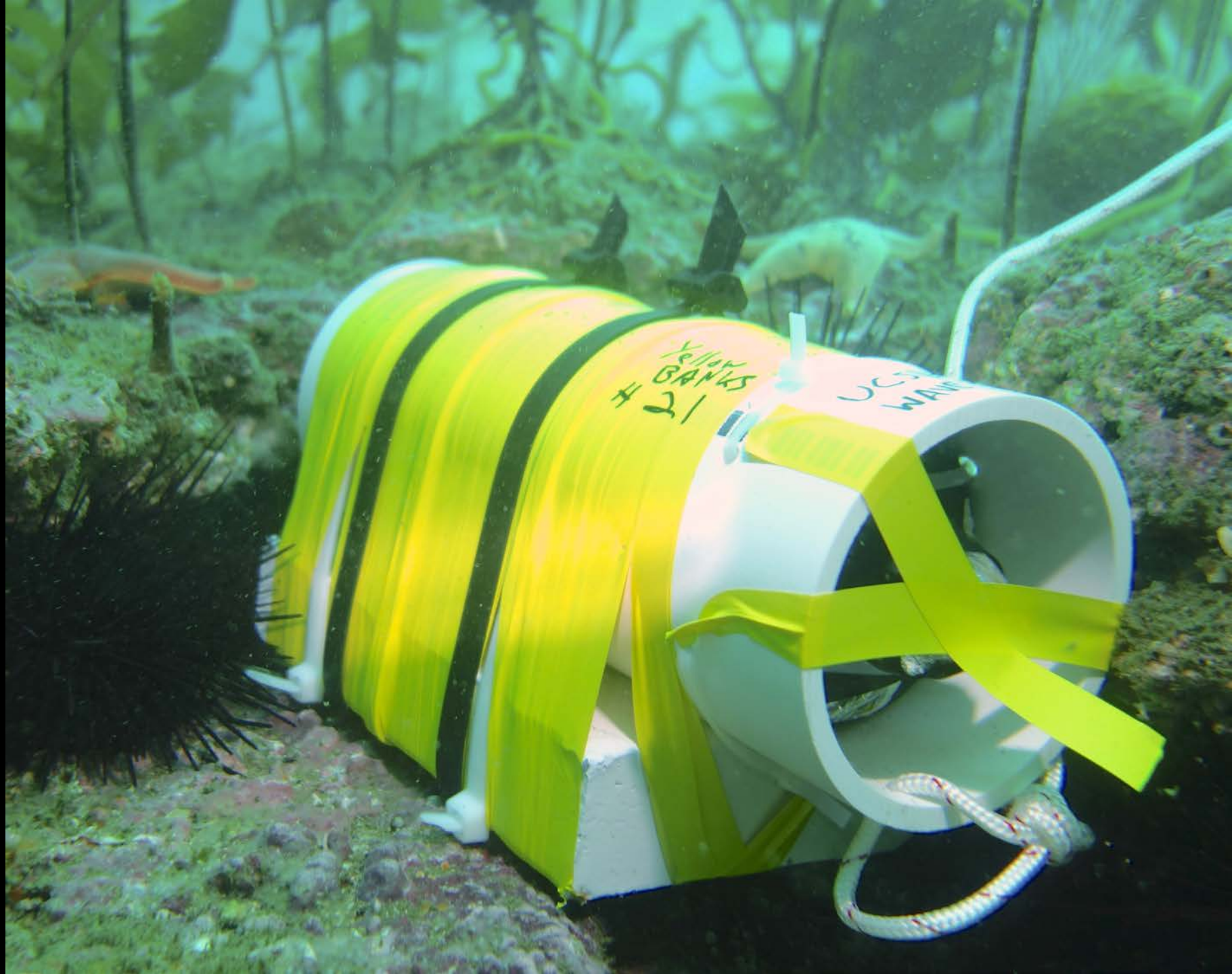


Pycnopodia helianthoides





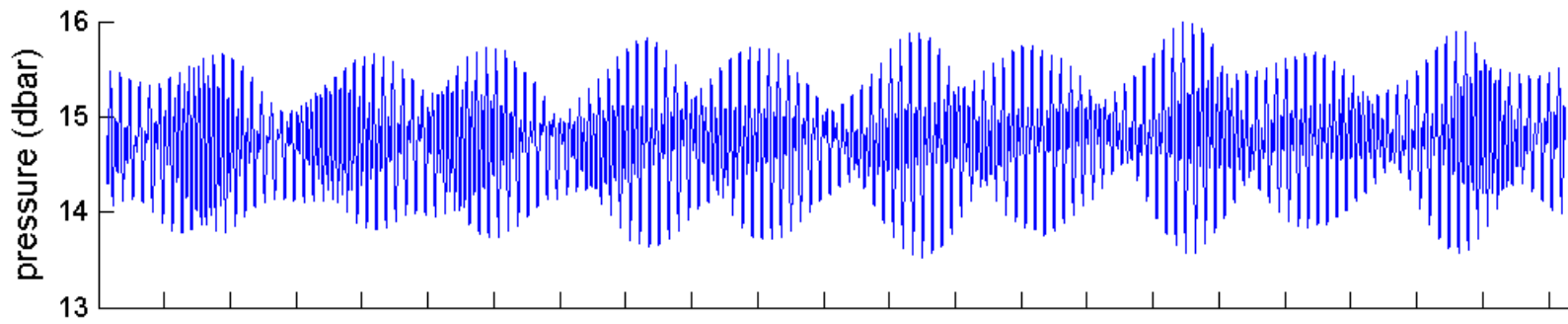


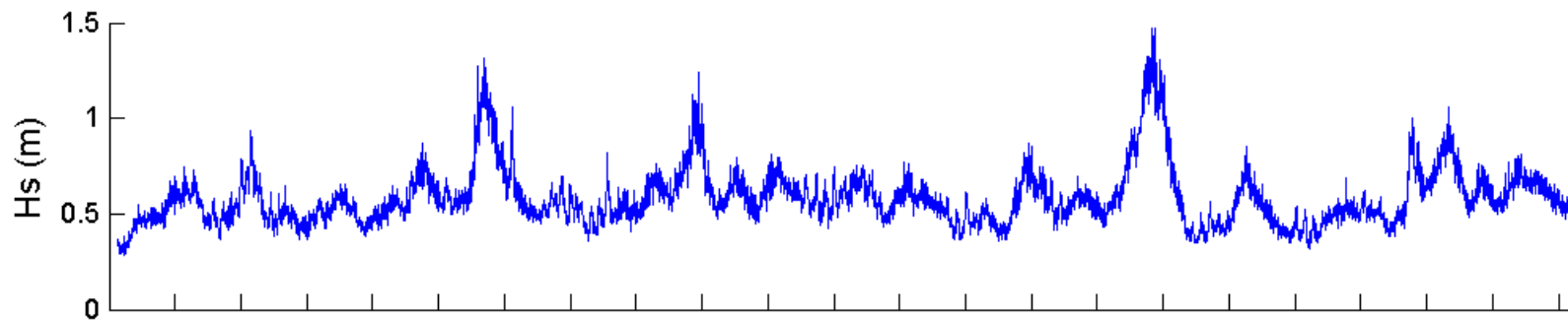
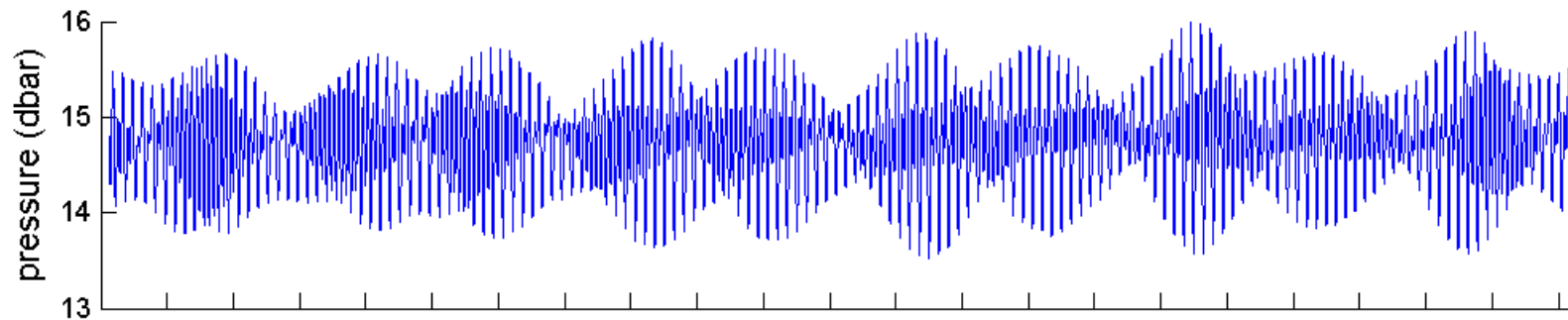


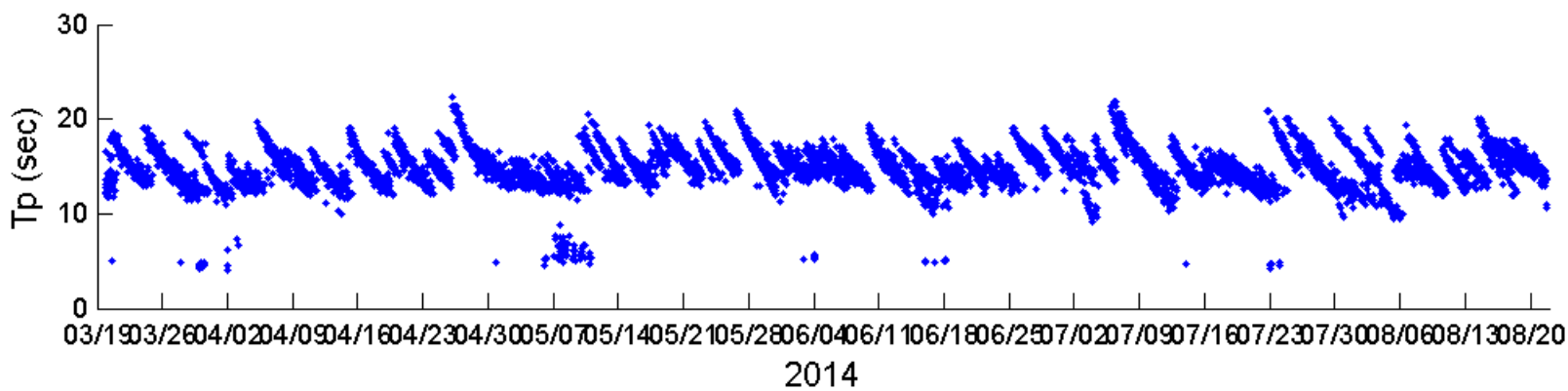
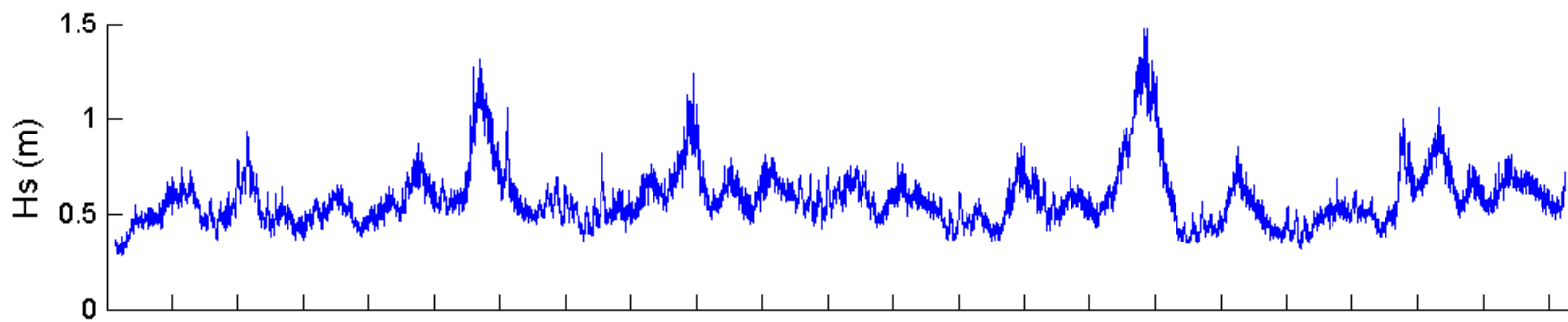
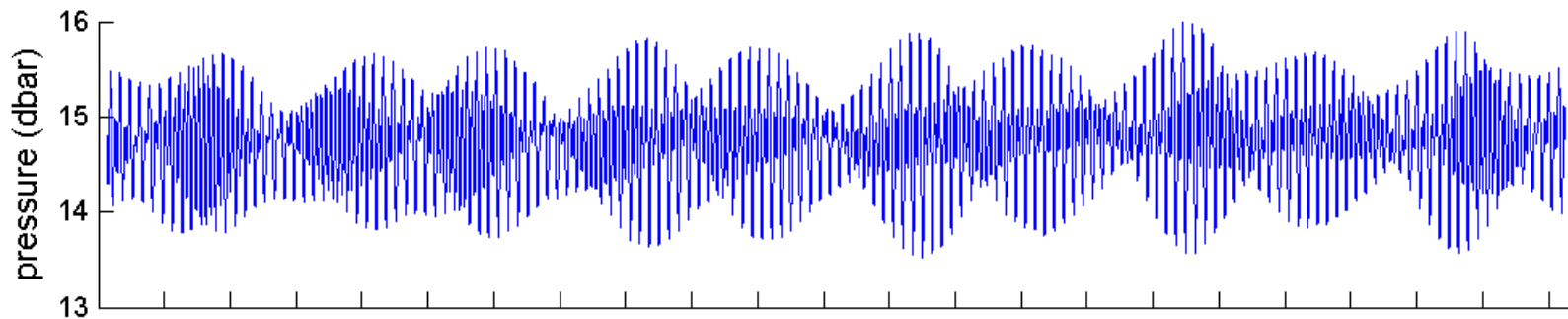
Yellow
BANKS
21

WAVE



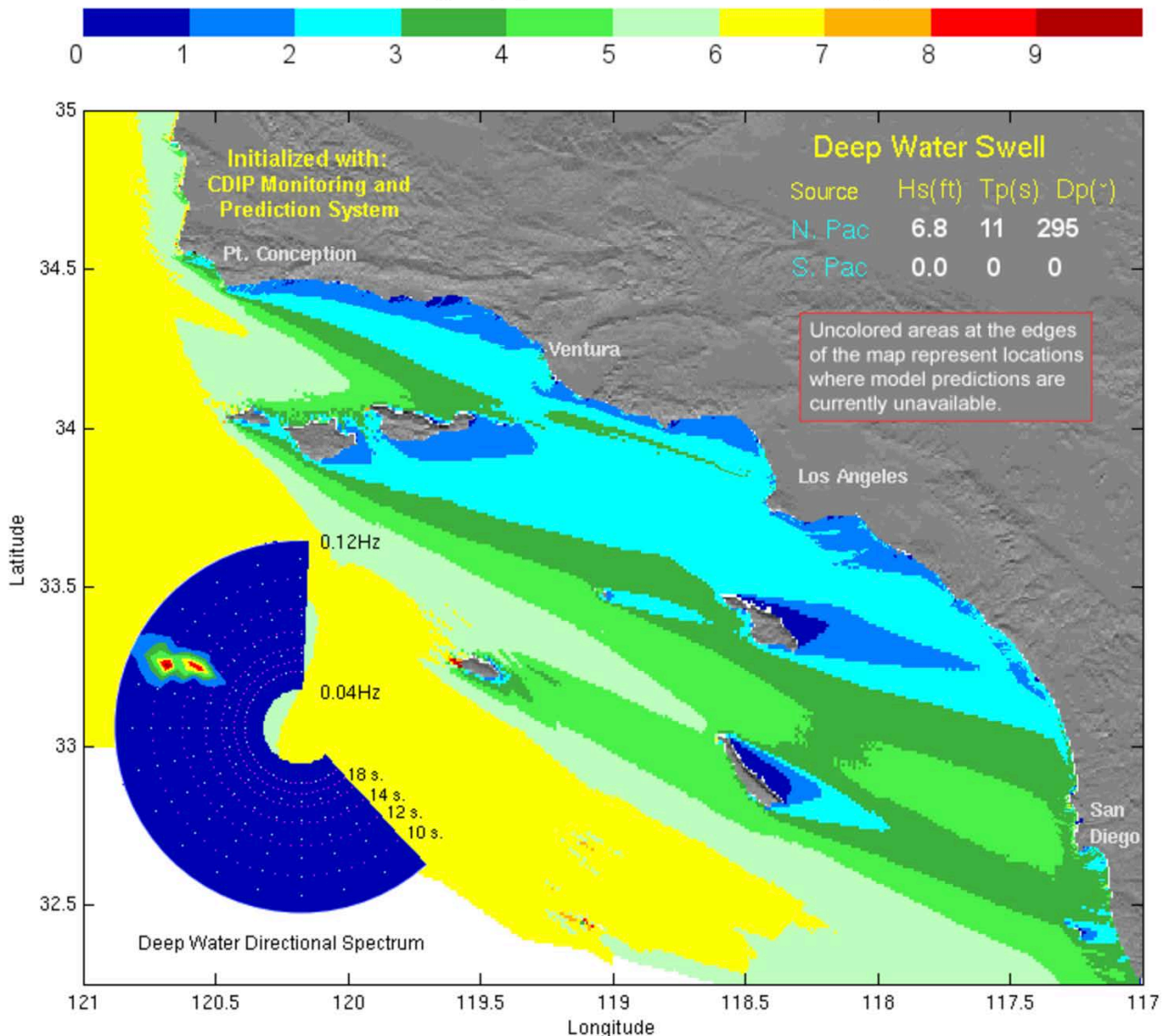




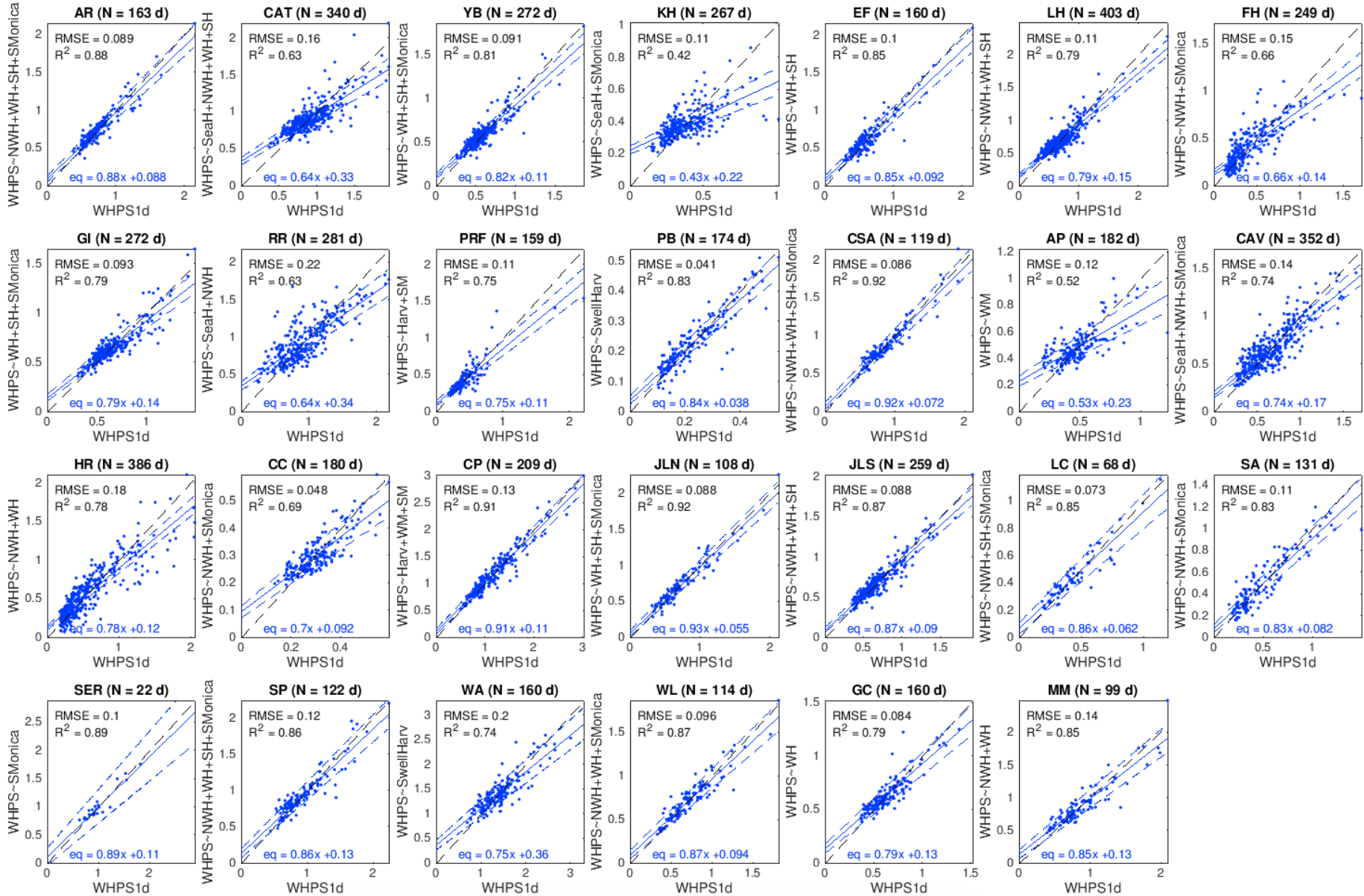


Analysis Time - 01 Nov 2016 : 0900 PDT

Swell Height (ft) – Southern California Bight



Best MLR Model against WHPS, before slope/int correction



| Sites | R2 | RMSE | N | Equation* |
|-------|------|------|-----|--|
| AR | 0.88 | 0.09 | 163 | 0.048NWH+0.47WH+0.58SH+0.31SMonica-0.032 |
| CAT | 0.63 | 0.16 | 340 | 0.076SeaH+0.12NWH+0.32WH+0.65SH+0.32 |
| YB | 0.81 | 0.09 | 272 | 0.19WH+0.53SH+0.14SMonica+0.19 |
| KH | 0.42 | 0.11 | 267 | 0.049SeaH+0.27SMonica+0.058 |
| EF | 0.85 | 0.10 | 160 | 0.23WH+0.69SH+0.28 |
| LH | 0.79 | 0.11 | 403 | 0.048NWH+0.27WH+0.75SH+0.27 |
| FH | 0.66 | 0.15 | 249 | 0.28NWH+0.11SMonica-0.063 |
| GI | 0.79 | 0.09 | 272 | 0.16WH+0.35SH+0.3SMonica+0.17 |
| RR | 0.63 | 0.22 | 281 | 0.59SeaH+0.073NWH+0.15 |
| PRF | 0.75 | 0.11 | 159 | 0.075Harv+0.9SM+0.13 |
| PB | 0.83 | 0.04 | 174 | 0.11NWH+0.074WH+0.028 |
| CSA | 0.92 | 0.09 | 119 | 0.12NWH+0.32WH+0.54SH+0.34SMonica+0.026 |
| AP | 0.52 | 0.12 | 182 | 0.12NWH+0.27WH+0.35SH+0.089 |
| CAV | 0.74 | 0.14 | 352 | 0.12SeaH+0.21NWH+0.34SMonica-0.11 |
| HR | 0.78 | 0.18 | 386 | 0.35NWH+0.12WH+0.0045 |
| CC | 0.69 | 0.05 | 180 | 0.072NWH+0.17SMonica+0.049 |
| CP | 0.91 | 0.13 | 209 | 0.22Harv+0.93WM+0.78SM-0.03 |
| JLN | 0.92 | 0.09 | 108 | 0.44WH+0.68SH+0.17SMonica+0.093 |
| JLS | 0.87 | 0.09 | 259 | 0.085NWH+0.41WH+0.65SH+0.17 |
| LC | 0.85 | 0.07 | 68 | 0.16NWH+0.28SH+0.14SMonica+0.026 |
| SA | 0.83 | 0.11 | 131 | 0.22NWH+0.24SMonica-0.11 |
| SER | 0.89 | 0.10 | 22 | 0.57SMonica+0.38 |
| SP | 0.86 | 0.12 | 122 | 0.11NWH+0.32WH+0.52SH+0.43SMonica+0.0094 |
| WA | 0.74 | 0.20 | 160 | 0.24SeaH+0.25NWH+0.49WH+1.1SH+0.23 |
| WL | 0.87 | 0.10 | 114 | 0.11NWH+0.45WH+0.28SMonica+0.027 |
| GC | 0.79 | 0.08 | 160 | 0.099NWH+0.3WH+0.56SH+0.18 |
| MM | 0.85 | 0.14 | 99 | 0.2NWH+0.52WH+0.22 |

