EXPORTS NE Pacific Context Situational Awareness
Date: **Wed- Sep 5, 2018 - JD 248**
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Weather Forecast Summary:
Tomorrow (Thu 9/06) will be cloudy, wind ~20kt from the N, cool (14°C). Sat and Sun might also have 20kt winds as a low forms, passes PAPA, then intensives to to the NW.

Wavewatch3 forecasts 3m SWH dropping to 2m tomorrow. After that, SWH will be 2m or less except Sun, 2.5m.

Oceanography Summary:
Ocean Color: Yesterday no useful coverage, because of clouds. Today's images are not available yet.

Upper Ocean Profiles: Note that all near-real time SeaGlider data are only notionally processed and calibrated. SeaGlider CTD observations show SST values of ~14.1°C and MLD ~33m for the last available dive (190). Over the past ten dives, there MLD varied between 25 to 36 m -- this less variable than earlier in the cruise. Strong pycnoclines are seen just beneath the MLD, between 27 and 44 m, and then again between 100 and 123m. Salinity values slowly increase with depth over the upper 90 m showing none of the strong gradient seen in temperature. The small (~0.1 ppt) near-surface fresh layers seen in some of yesterday's glider profiles were not observed today. A strong stabilizing halocline is found between 97 and 143m.

The last dive (186) the chlMax was ~1.13mg/m^3 at 36m. The 1% PAR depth is ~ 70m for dive 190. Over the last 10 dives, the peak in chl fairly uniform between 30 and 60 m depth. Surface values range from 10% of the peak value to nearly uniform up to the surface.

SST: The microwave SST distribution shows a large-scale (NW to SE) temperature gradient across the region, with colder waters to the NW, warmer waters to the SE. Some coherent mesoscale variations are seem in the microwave SST images - particularly for the region ~60km NW of PAPA where EXPORTS is operating. The isotherms look like an instability wave is propagating down them, they are wavy with an amplitude of 100km to the NE of the 5deg image. PAPA is in a "cold" cusp of the wave where the EXPORTS operating region (where the Lagrangian Float is) is in a "warm" cusp of the "wave".

Sea Level: Both absolute dynamic topography and sea level anomaly show that PAPA now sits the NW portion of a large (100 km), coherent anti-cyclonic mesoscale eddy. EXPORTS is currently operating roughly 50 km north and west of PAPA and geostrophic currents there are to the NNE and small in magnitude than currents at PAPA. Although this is a large eddy, its velocities are still relatively small (~5km/d), so this feature is unlikely to have a big impact on dispersion of deployed assets. At PAPA the absolute geostrophic velocity is 4.7km/d to the NE.

Currents: Mercator products show surface currents at 9.0 km/d to the SSW at PAPA while geostrophic currents from altimetry show smaller currents 4.7km/d to the NE. Spatial current

patterns for the two products differ substantially as the Mercator products are predicting southward currents in the region near PAPA and the locations of mesoscale variations are inconsistent with the altimetry's geostrophic currents.   At 95m Mercator is showing 5.1km/d to the NE. Mercator products also shows PAPA with an anticyclonic circulation but the patterns are more confused compared with the altimetry products.

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Weather forecast details

ECMWF,GFS,NEMS summary (note NEMS is offset 10hrs. UTC vs local issue. Windy.com acknowledge is error.)
sea state summary (wavewatch3 CDIP for UW wave rider mooring)
sea state summary (ECMWF WAM 13km)

Date	Wind(kn) "from the"	Tair(°C)	SWH(m) "from the"	Clouds(%)	Precip(")	URL	predictability
Thu 9/06	19N	14	3->2N	100	0.04	sep 06 forecast URL	high
Fri 9/07	14W	14	1.5SSE->W	100	0.21	sep 07 forecast URL	high
Sat 9/08	24NW	13	2W	100	0.4	sep 08 forecast URL	medium
Sun 9/09	21NW	14	2.5W->NNE	80	0.07	sep 09 forecast URL	medium
Mon 9/10	15NW	14	2S	47	0.07	sep 10 forecast URL	high

Comparison of weather forecasts at Station P of 7 different model runs - 6 day forecast model comparison

Glider219- Real time depth profiles
  Dive 190 2018-09-05 04:50-10:17 utc-9
  Start 50.56N 144.77W
  End   50.58N 144.73W
- locations/dates/times
- chlor_a
- fraction of surface PAR
- fraction of saturated O2
- Temperature
- Salinity
- Sigma0
- Optical scatter
          Note: all NRT glider data are using manufacturers offsets / cal constants
Last couple days, dives 181-190 2018 Sep 03 02:14 utc-9 Sep 05 10:17 utc-9
- Locations
- chlor_a
- fraction of surface PAR

- [fraction of saturated O2](#)
- [temperature](#)
- [Salinity](#)
- [Sigma0](#)
- [Blue scatter](#)
- [Red scatter](#)

PMEL mooring
Last week of hourly air temp, wind, current, sss,sst - [PMEL stack time series plot](#)

Satellite Imagery:
      Microwave SST: [URL_10_deg](#) & [URL_5_deg](#),

Merged Satellite Altimetry:
      Absolute Sea Level & Geostrophic Velocity - [10 degree box](#) & [5 degree box](#)
      Sea level anom & anom currents - [10 degree box](#) & [5 degree box](#)

Mercator Ocean Products:
      Surface currents, SST & SSH: [10_degree](#) & [5_degree](#)
      95 m currents & salinity: [10_degree](#) & [5_degree](#)

Today's Situational Awareness data **on the google drive [sitAware for 2017-09-05](#)**
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.