EXPORTS NE Pacific Context Situational Awareness
Date: **Sun- Aug 26, 2018 - JD 238**
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Weather Forecast Summary:
Tomorrow (Mon 8/27) will be cloudy, wind ~10kt from the W, humid, and cool (14°C).   Tues the wind will pick up to the 21kts but drop back in the late morning to mid day. Light precipitation tues and wed <.1".

Wavewatch3 forecasts show SWH values holding at ~2m until Tues when it will increase to a peak of 3m then decrease after that.

Oceanography Summary:
<u>Ocean Color</u>: Yesterday there was some scant coverage to the west and SW or PAPA. The strongest chl signal (~.25mg/m^3) was far from PAPA.

<u>Upper Ocean Profiles</u>: Note that all NRT SeaGlider data are largely unprocessed and only notionally calibrated. SeaGlider 219 CTD observations show SST values of ~14.0C and MLDs of 28 and 37 m for the last available dive (141). Over the past ten dives, there is some variability in mixed layer depth of 24 to 37 m. Strong pycnoclines are seen just beneath the MLD, between 25 and 40 m and between 100 and 120m. Salinity values slowly increase with depth over the upper 90 m showing none of the strong gradient seen in temperature. There is a halocline between 97 and 138m.

The last dive (141) the upcast showed a maximum chl of ~1.mg/m^3 at 40m, but the chlMax was center around 60m (40m thick)and was about .8 mg/m^3. , the . Backscatter profiles for 141 show linear decrease from the surface value to the background value around 100m, with increased signal around 40m.   The chl for the last couple says show the chlMax peak at 60m of 1.2mg/m^3 and the notable feature of the scatter is also the peaks at 60m.

The near-surface chl measurements from the glider have shown more variability (almost a factor of ten) over the past 10 dives than earlier in the deployment. Surface values range from 0.1 mg/m^3 to nearly 1 mg/m^3. In the last dive (141), there was a big difference between surface values in downcast (0.2 mg/m^3) and upcast (0.8 mg/m^3).

 The 1% PAR depth is roughly 74m for dive 141. The glider has been operating N of PAPA.

<u>SST</u>: The microwave SST distribution shows a large-scale (NW to SE) temperature gradient near PAPA, with colder waters to the NW, warmer waters to the SE. Few coherent mesoscale variations in microwave SST are seen.   At PAPA, for today's image, the isotherms align more East-West making the local gradient more NNW to SSE. There is a relatively strong SST gradient located just to the south of PAPA.

<u>Sea Level</u>: Both absolute dynamic topography and sea level anomaly show that PAPA now sits right on the western edge of a large, coherent anti-cyclonic mesoscale eddy. PAPA coincides with some of the strongest velocities in the area, to the NNE. It is also in a region of strong horizontal shear. The scales are still very large (the eddy is ~200 km across) and the velocities are still relatively small (~5 km/day), so this feature is unlikely to have a big impact on dispersion of deployed assets. The range in SLA values from the high in the anti-cyclone to the low in the cyclone is small (~ 6 cm). Mercator products also show this anticyclone/cyclone circulation in the 95m figure but currents are much smaller and less spatially coherent.

<u>Currents</u>: Mercator products show surface currents at 6.6 km/d to the E at PAPA while geostrophic currents from altimetry show smaller currents to the NNE. Mercator surface currents are generally westward across the entire 5 degree doman. At 95m Mercator is showing 3.5km/d to the NE with less spatial organization than at 0m. Mercator products also shows PAPA at the boundary of a cyclonic and 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. This will be fixed. Utc vs local issue. Windy.com is aware.)
[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
Mon 8/27	10W	14	2W	100	--	[aug 27 forecast URL](#)	high
Tue 8/28	20W	14	3W	100	.1	[aug 28 forecast URL](#)	high
Wed 8/29	6N #	14	2W	100	--	[aug 29 forecast URL](#)	high
Thu 8/ 30	19NW *	15	2W	100	--	[aug 30 forecast URL](#)	very high
Fri 8/31	22WNW	14	2W	86	--	[aug 31 forecast URL](#)	high

#Wed ECMWF says 14kt from the WNW, others say ~6kt from N.
*NEMS says 14W

Comparison of weather forecasts at Station P of 7 different model runs - [6 day forecast model comparison](#)

Glider219- Real time depth profiles
  Dive 141 2018-08-26 05:21-10:47 utc-9
  Start 50.56N 145.09W
  End   50.55N 145.04W
  ● [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 132-141 2018 Aug 24 03:14 utc-9 Aug 26 10:47 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:

  [aqua chl](#) from yesterday, [corresponding Rrs555](#)
  [viirs chl](#) from yesterday, [corresponding Rrs551](#) and [sst](#)
   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 2017-08-26](#)**
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.