EXPORTS NE Pacific Context Situational Awareness
Date: **Sat- Sep 1, 2018 - JD 244**
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Weather Forecast Summary:
Tomorrow (Sun 9/02) will be cloudy, wind 10kt from the WSW, humid, cool (15°C), with some light precipitation (<.2" total). The models agree that tuesday the wind will get strong, but disagree when. ECMWF says late in the day, GFS says early, and NEMS says mid day, but all show it sticking around all day wednesday. Light rain is forecasted sun-wed (ECMWF totals sun .25", mon .5", tues .25", wed .32")

Wavewatch3 forecast 1.5m SWH till tue, then increase to 3m and then decrease wed. By thu it is forecast to decrease to 1m.

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 ~14.2°C and MLD ~30 m for the last available dive (172). Over the past ten dives, there MLD varied between 24 to 36 m. Strong pycnoclines are seen just beneath the MLD, between 28 and 39 m, and then again 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 (172) the chlMax was ~1.2mg/m^3 at 48m. The 1% PAR depth is 72m for dive 172.

SST: The microwave only SST imagery normally used was not available today. Merged IR/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. But many small scale variations seen in the ir/microwave SST images are likely artifacts from poor cloud screening.

Sea Level: Both absolute dynamic topography and sea level anomaly show that PAPA now sits in a large, coherent anti-cyclonic mesoscale eddy, NW of the center. EXPORTS is currently operating north and west of PAPA and currents there are to the NNE. 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 4.5km/d to the NNE.

Currents: Mercator products show surface currents at 11.0 km/d to the E at PAPA while geostrophic currents from altimetry show smaller currents 4.5km/d to the NNE. Spatial current patterns for the two products differ substantially. Mercator surface currents are generally westward across the entire 5 degree doman. At 95m Mercator is showing 5.9km/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. 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
Sun 9/02	10W	14	1.5W	100	0.25	sep 02 forecast URL	high
Mon 9/03	15WSW	14	1.5S	100	0.5	sep 03 forecast URL	medium
Tue 9/04	25N	14	1.5S->3NE	100	0.25	sep 04 forecast URL	medium
Wed 9/05	27N	14	3->2NE	86	0.3	sep 05 forecast URL	medium
Thu 9/06	15NW	14	2->1NE	66	--	sep 06 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 172 2018-09-01 10:26-12:01 utc-9
Start 50.57N 144.82W
End 50.57N 144.81W

- 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 163-172 2018 Aug 30 15:36 utc-9 Sep 01 12:01 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:
There was no microwave SST for today, being a holiday weekend, I grabbed the newest Ghrsst 1km sst (https://podaac.jpl.nasa.gov/dataset/JPL_OUROCEAN-L4UHfnd-GLOB-G1SST)

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 2017-08-31**
EXPORTS NRT Platform positions in graphic and tex format.