EXPORTS NE Pacific Context Situational Awareness
Date: **Sun- Sep 2, 2018 - JD 245**
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Weather Forecast Summary:
Tomorrow (Mon 9/03) will be rainy (~1"), wind 10kt from the WSW, cool (14°C).   Tuesday-
ECMWF is saying the wind will ramp up to 30 kts and will drop down to 20kt wed evening.
(GFS model wind don't get above 20 and NEMS says 17).   About an inch of rainfall is expected
Tue too.

Wavewatch3 forecast - nothing over 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 ~14.2°C and MLDs 31 m and
34m for the last available dive (178). Over the past ten dives, there MLD varied between 25 to
36 m (actually there was only one mld outside the range 30-36m) -- this less variable than
earlier in the cruise. 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 (178) the chlMax was ~1.2mg/m^3 at 49m. The 1% PAR depth is ~ 75m for dive
178. Over the last 10 dives, the peak in chl fairly uniform between 30 and 70 m depth. Surface
values range from 10% of the peak value to nearly uniform up to the surface.

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. Mercator
products show a patch of colder water with cyclonic vorticity pushing into the area near PAPA;
this is more difficult to see in the ir/microwave images.

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 4.4km/d
to the NNE.

Currents: Mercator products show surface currents at 8.6 km/d to the E at PAPA while
geostrophic currents from altimetry show smaller currents 4.4km/d to the NNE. Spatial

current patterns for the two products differ substantially.   At 95m Mercator is showing 5.5km/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
Mon 9/03	14SW	14	1.5S	100	0.9	sep 03 forecast URL	high
Tue 9/04	30N*	14	1.5S->2.5NE	100	1.1	sep 04 forecast URL	medium
Wed 9/05	25NNE*	14	2.5->1.5NE	100	0.24	sep 05 forecast URL	medium
Thu 9/06	14N	14	1.5SSE	100	--	sep 06 forecast URL	high
Fri 9/07	13W	14	1.25SSE ->1.5WNW	100	--	sep 07 forecast URL	high

*NEMS says only 17kt

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

Glider219- Real time depth profiles
 Dive 178 2018-09-02 08:54-14:33 utc-9
 Start 50.58N 144.81W
 End   50.55N 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 168-178 2018 Sep 01 00:58 utc-9 Sep 02 14:33 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 2017-09-02](#)**
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.