**EXPORTS NE Pacific Context Situational Awareness**
**Date:**              **Mon- Aug 27, 2018 - JD 239**
**Creators:**          Dave Siegel,  Erik Fields

**Weather Forecast Summary:**
Tomorrow (Tue 8/28) will be cloudy,  wind ~22kt from the  W,  humid, and cool (14°C). Rain is predicted although forecasted amounts vary - ECMWF predicts <0.2",  GFS predicts ~0.6", while NEMS has 0.1-0.2" very late tomorrow.  Thursday winds should pick increasing to 20kt according to ECMWF; 18kt according to GFS; NEMS, however,  doesn't show any notable change.  Sat winds 22kt  from the W.

Wavewatch3 forecasts a SWH increase to 3m tuesday and back down to 2m till Sat when it increases to just shy of 4m.

**Oceanography Summary:**
<u>Ocean Color</u>:  No useful coverage, because of  clouds

<u>Upper Ocean Profiles</u>: Note that all near-real time SeaGlider data are only notionally processed and calibrated. SeaGlider CTD observations show SST values of ~14.1C and MLDs of ~35 m for the last available dive (147).  Over the past ten dives, there is some variability in mixed layer depth of 25 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 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 2 mg/m^3.  The last dive (147) the chlMax was  ~1.2mg/m^3 at 50m.  The 1% PAR depth is 71m for dive 147. 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. Some coherent mesoscale variations are seem in the microwave SST images.   North of PAPA, for today's image, the SST isotherms are kinked NW due to a mesoscale feature.

<u>Sea Level</u>:  Both absolute dynamic topography and sea level anomaly show that PAPA now sits nearly in the center of a large, coherent anti-cyclonic mesoscale eddy.  Currents north of PAPA where EXPORTS is operating coincide 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.

<u>Currents</u>: Mercator products show surface currents at 5.6 km/d to the E at PAPA while geostrophic currents from altimetry show smaller currents to the NNE.  Mercator surface currents are generally eastward across the entire 5 degree doman but less coherent than in

previous days.  At 95m Mercator is showing 2.7km/d to the ENE with less spatial organization than at 0m.  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 |
|------|------|------|------|------|------|------|------|
| Tue  8/28 | 22W | 14 | 3W | 100 | 0.1-0.5 | aug 28 forecast URL | high |
| Wed  8/29 | 14W # | 14 | 2W | 100 | -- | aug 29 forecast URL | medium |
| Thu  8/ 30 | 19NW * | 15 | 2W | 100 | -- | aug 30 forecast URL | high |
| Fri   8/31 | 17W | 14 | 2W | 100 | -- | aug 31 forecast URL | high |
| Sat   9/01 | 22W | 14 | 4W | 100 | -- | sep 01 forecast URL | medium |

 #Wed NEMS says ~6kt from N.
 *NEMS says 13W

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

## Glider219- Real time depth profiles
  Dive 146 2018-08-27 10:02-11:42 utc-9
  Start 50.62N 144.96W
  End   50.62N 144.97W
- 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 137-146  2018  Aug 25 07:24 utc-9  Aug 27 11:42 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 2017-08-27](#)
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.**