

EXPORTS NE Pacific Context Situational Awareness

Date: Sat- Aug 25, 2018 - JD 237

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Weather Forecast Summary:

Tomorrow (Sun 8/26) will be cloudy, wind ~10kt from the W (note NEMS says 17kt), humid, and cool (14°C). Monday will be similar, Tues the wind will pick up to the 21kts, maybe 24kt depending on the model. Wed the winds will be back down. No precipitation forecasted, till Tues ~0.2". The NEMS model is predicting another 0.2" or so on Wed .

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

Oceanography Summary:

Ocean Color: no coverage due to clouds.

Upper Ocean Profiles: Note that all NRT SeaGlider data are largely unprocessed and only notionally calibrated. SeaGlider 219 CTD observations show SST values of ~13.9C and MLDs of 25 and 35 m for the last available dive (137). Over the past ten dives, there is some variability in mixed layer depth of 23 to 35 m. Strong pycnoclines are seen just beneath the MLD, between 25 and 40 m and between 99 and 117m. 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 95 and 127m.

The last dive (137) showed a ChlMax ~1.25mg/m³ centered at ~63 m (about 40 m thick). Backscatter profiles show elevated mixed layer values and the upcast had a strong peak at 65m matching the chlMax. The 1% PAR depth is roughly 75m for dive 137. The glider has been operating N of PAPA.

SST: The microwave SST distribution shows a large-scale (SW to NE) temperature gradient near PAPA, with colder waters to the NW, warmer waters to the SE. Few coherent mesoscale variations in microwave SST are seen. Lateral SST gradients are aligned SW to NE matching the large scale SST fields. .

Sea Level: Both absolute dynamic topography and sea level anomaly show that PAPA continues to sit between two coherent mesoscale eddies; an anti-cyclone (about 100-km in scale) to the east and a cyclone to the NW. The range in SLA values from the high in the anti-cyclone to the low in the cyclone is still small (~ 6 cm).

The absolute geostrophic velocity at PAPA from altimetry is ~5.4km/d to the NNE; velocities are strongest at PAPA. Mercator products also show this anticyclone/cyclone circulation in the 95m figure but currents are much smaller and less spatially coherent.

Currents: Mercator products show surface currents at 8.0 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 domain. At 95m Mercator is showing 3.8km/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.

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 8/26	10W*	14	2W	100	--	aug26 forecast URL	high
Mon 8/27	10W	14	2W	100	--	aug 27 forecast URL	high
Tue 8/28	20WSW	14	2->3W	100	.2	aug 28 forecast URL	high
Wed 8/29	13N #	14	3-2W	73	--	aug 29 forecast URL	medium
Thu 8/30	10W	15	2W	26	--	aug 30 forecast URL	high

*Sun NEMS forecasts 17kt, #Wed ECMWF says 8NW decreasing till mid-day 2kts from the WSW and increases to 7kt from the W.

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

Glider219- Real time depth profiles

Dive 137 2018-08-25 07:24-12:38 utc-9

Start 50.52N 145.14W

End 50.52N 145.18W

- [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 125-126,130-137 2018 Aug 23 09:21 utc-9 Aug 25 12:38 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 8/22, [corresponding Rrs555](#)

[viirs chl](#) from 8/22, [corresponding Rrs551](#)

Microwave SST: [URL 10 deg](#) & [URL 5 deg](#), $||\text{grad}(\text{sst})||$ [5 deg URL](#)

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 2017-08-25](#)
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.