

EXPORTS NE Pacific Context Situational Awareness

Date: Fri- Aug 24, 2018 - JD 236

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Weather Forecast Summary:

Tomorrow (Sat 8/25) will be cloudy, wind ~17kt from the W, humid, and cool (15°C). No precipitation forecasted till Wed. Days after will be similar, till either Mon evening (based on GFS) or early Tues morning (based NEMS and ECMWF) when wind picks up to ~20kts.

Wavewatch3 forecasts SWH 2m till Tues when it will increase to a peak of 3.5m then decrease Wed.

Oceanography Summary:

Ocean Color: On Wed there was a little bit of ocean seen by OC sensors at PAPA and south. Not where we are working. Satellite Chl signals were low and patchy - the scale used for the images was 0.1 to 0.35 mg/m³. But again the coverage was very sparse.

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 31 and 33 m for the last available dive (133). Over the past ten dives, there is some variability in mixed layer depth of 21 to 33 m. Strong pycnoclines are seen just beneath the MLD, between 25 and 39 m and between 95 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 95 and 115m.

The last dive (133) showed a broad ChlMax ~0.95mg/m³ centered at ~55 m (about 40 m thick). In the downcast there was an additional thin layer (5 meter) centered at 65m that peaks at 1.3mg/m³. Backscatter profiles show elevated mixed layer values and a small maximum beneath that (@ ~ 35 m) and decaying values beneath that. There was a strong signal corresponding to the high chl layer in the downcast. Chl profile has some recurring peaks at 40 and 65m. The 1% PAR depth is roughly 75m for dive 133. 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. Some mesoscale variations in microwave SST are seen in SST near PAPA. All large lateral SST gradients are located >50 km away from PAPA.

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 weak 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 ~5.6km/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 are 7.6km/d to the E at PAPA. At 95m Mercator is showing 4.2km/d to the NE with less 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
Sat 8/ 25	17W	15	2W	100	--	aug25 forecast URL	very high
Sun 8/26	14W	14	2W	100	--	aug26 forecast URL	very high
Mon 8/27	13W*	14	2W	100	--	aug 27 forecast URL	high
Tue 8/28	20W	14	2->3W	80	--	aug 28 forecast URL	high
Wed 8/29	21WNW	14	3.5->3W	100	0.4-0.8	aug 29 forecast URL	medium

*GFS has Mon winds picking up to 21kt from the west in the evening.

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

Glider219- Real time depth profiles

Dive 133 2018-08-24 08:46-14:09 utc-9

Start 50.43N 145.01W

End 50.45N 145.05W

- [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

Dives 121-126,130-133 2018 Aug 21 10:44 utc-9 Aug 24 14:09 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](#), [||grad\(sst\)|| 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 2017-08-24](#)
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.