

EXPORTS NE Pacific Context Situational Awareness

Date: Sun- Aug 19, 2018 - JD 231

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Weather Forecast Summary:

Tomorrow (Mon 8/20) will be cloudy, rain ~0.2-.04", , very windy (25 kts), humid, and cool (16°C). GFS and NEMS have the wind dropping mid day tomorrow. ECMWF has it persisting a bit longer.

Current SWHs ~4m from the SW These should decreasing throughout tomorrow to 2.5m.

Oceanography Summary:

Ocean Color: no recent images due to clouds.

Upper Ocean Profiles: Please note that all NRT SeaGlider data are largely unprocessed and only notionally calibrated. SeaGlider 219 CTD observations show SST values of ~14C and MLD of 30 m for the last available dive (106). Over the past ten dives, there is some variability in mixed layer depth between 20 and 35 m. Strong pycnoclines are seen just beneath the MLD, between 25 and 40 m and between 100 and 115m. 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 100 and 115m.

The surface chl (mean of top 10m) the last couple days is often in the ballpark of .5-.8mg/m³. The last dive upcast (106) showed a strong ChlMax ~1.3mg/m³ at ~60 m and a spike in the near the surface to 2.5mg/m³. Increases are also seen in surface layer optical backscatter with some large subsurface features consistent with the Chl Max (but mostly not). 1% light level was at ~ 74m. The glider has been North of PAPA lately.

SST: No new SST today RSS mw sst processing is hung. (support has been emailed). From Friday - The SST distribution shows a large-scale temperature gradient that is aligned such that the temperature changes from NW to SE near PAPA (colder waters to the NW, warmer waters to the SE). A warm feature seems to be moving northward towards PAPA. It is like 50km wide and extends ~80km northward. It is maybe .5 warmer than the water it is pushing into. The surface fields from Mercator seem to agree.

Sea Level: Both absolute dynamic topography and sea level anomaly show that PAPA continues to sit on the west edge of a weak, coherent mesoscale anti-cyclone (about 100-km in scale). Now on side of PAPA opposite this anti-cyclone, is a weak cyclonic feature, so that PAPA is at the boundary between a weak anticyclonic and a weak cyclonic feature.

The absolute geostrophic velocity at PAPA from altimetry is ~7.6km/d to the NNE. There is an indication that this anticyclone may be merging with weaker features to the S and NE of PAPA. Mercator products also show this anticyclone/cyclone circulation in the 95m figure.

Currents: According to altimetry surface currents at Station P are ~7.6km/d to the NNE; PAPA sits on the western edge of the anti-cyclone. Mercator products show -surface currents are

17.5km/d to the NE at PAPA. At 95m Mercator is showing 5.6km/d to the NE. Mercator product now shows PAPA at the boundary of a cyclonic and an anticyclonic circulation.

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 8/20	25S	16	4->2.5SSW	100	0.2-0.4	aug20 forecast URL	high
Tue 8/21	15W	15	2SW	100	--	aug21 forecast URL	very high
Wed 8/22	10W	14	1.5SW	60	--	aug 22 forecast URL	very high
Thu 8/23	14W	14	1.5SSW	100	--	aug 23 forecast URL	high
Fri 8/20	14W	15	2W	100	--	aug 24 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 106 2018-08-19 03:58-09:25 utc-9

Start 50.38N 144.93W

End 50.38N 144.98W

- [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 10 profiles dives 97-106 2018 Aug 17 02:39 utc-9 Aug 19 09:25 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:

(no new SST today. RSS processing seems to have hung. I sent mail to support. **Link are to Friday's images.**)

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 2017-08-19 EXPORTS NRT Platform positions in \[graphic\]\(#\) and \[tex\]\(#\) format.](#)