

EXPORTS NE Pacific Context Situational Awareness

Date: Wed- Aug 22, 2018 - JD 234

Creators: Dave Siegel, Erik Fields

Weather Forecast Summary:

Tomorrow (Thu 8/23) will be cloudy, wind ~17kt from the W, humid, and cool (13.5°C). No precipitation forecasted. The rest of the forecast period will be similar tomorrow.

Wavewatch3 forecasts SWH 1.5-2m for the forecast period (next 5 days).

Oceanography Summary:

Ocean Color: no recent images 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 ~13.8C and MLDs of 28-31 m for the last available dive (120). Over the past ten dives, there is some variability in mixed layer depth between 25 and 32 m. Strong pycnoclines are seen just beneath the MLD, between 29 and 35 m and between 90 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 90 and 120m.

The last dive upcast (120) showed a broad ChlMax ~.9mg/m³ centered at ~50 m (about 40 m thick). Backscatter profiles show elevated mixed layer values and a small maximum beneath that)@ ~ 40 m) and decaying values beneath that. The 1% PAR depth is 75m for dive 120. The glider has been NNW of PAPA lately.

SST: 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). 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 ~6.8km/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 5.7km/d to the E at PAPA. At 95m Mercator is showing 4.85km/d to the NE with less organization than at 0m. 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
Thu 8/23	17W	14	1.5-2SSW	100	--	aug 23 forecast URL	high
Fri 8/24	17W	14	2W	100	--	aug 24 forecast URL	very high
Sat 8/ 25	17W	14	2W	100	--	aug25 forecast URL	very high
Sun 8/26	15W	14	2W	50	--	aug26 forecast URL	high
Mon 8/27	13W	14	2W	66	--	aug 27 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 120 2018-08-22 055:13-10:29 utc-9

Start 50.38N 145.08W

End 50.39N 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

Last 10 profiles dives 111-120 2018 Aug 20 08:29 utc-9 Aug 22 10:29 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](#), $||\text{grad}(\text{sst})||$ [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 2017-08-22](#)
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.