

EXPORTS NE Pacific Context Situational Awareness

Date: Tues - Aug 14, 2018 - JD 226

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Weather Forecast Summary:

Tomorrow (Wed 8/15) will be cloudy, moderately windy (15 kts), humid, and cool (13°C). The winds are forecast to be <10 kts tonite from ENE and increasing throughout the week reaching >25kts over the weekend. The various forecasts diverge after but all show increasing and strong winds after Friday.

Moderate rain forecasted for Wed nite and during morning hours of Thurs (~0.3" total) and again the various forecasts diverge from one another.

Current SWHs ~2m from W and hold at these levels until Friday. These are expected to crank up Saturday evening and Sunday day around with SWHs of nearly 5m (WaveWatch3).

Oceanography Summary:

Ocean Color: Last good Chl image - July 3 - see below. Some patchy images from Viirs, Terra, and Aqua from Sunday show some definite spatial changes (S to N increases from 0.2 to > 0.6 mg/m³ over large spatial extent), but these are >200 km N of PAPA. No notable features around PAPA. No surprise, there are lots of 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 MLDs are ~25 m for the last available dive (dive 85). Strong pycnoclines are seen just beneath the MLD, between 40 and 50 m and between 90 and 110m. Salinity values slowly increase with depth over the upper 80 m showing none of the strong gradient seen in temperature.

Mixed layer Chl values seemed to stabilize over the last couple of dives at roughly 0.3 mg/mg³ with a good deal of variability over the past couple of days. The last dive (85) shows a strong ChlMax at ~60 m. 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 ~ 70m. As of the last dive 85, glider was NNW of PAPA heading to the SW corner of the butterfly pattern.

SST: Over the past few days, the SST distribution has changed a bit such that the large-scale temperature gradient is now largely aligned SW-NE near PAPA (warmer waters to the SE). Gradients at PAPA are still fairly weak although some organization in spatial patterns is found. Little evidence of coherent eddies in the SST data.

Sea Level: Both absolute dynamic topography and sea level anomaly show PAPA sitting ~50 km north of a weak, coherent mesoscale anti-cyclone (about 100-km in scale). The absolute geostrophic velocity associated with this feature is still fairly weak, ~2.8km/d to the NE but amongst the strongest velocities in the region. An anticyclonic feature is located to the NE of PAPA and a weak cyclonic feature is located to the ESE of PAPA, each more than 100 km from

the site. There is the clear signature of an anticyclonic eddy immediate south of PAPA in the Mercator products.

Currents: According to altimetry surface currents at Station P are ~2.8km/d to the NE; PAPA sits on the western edge of the anti-cyclone. Mercator products show strong downwind currents and surface currents are ~6.1km/d to the E at PAPA. At 95m Mercator is showing 5.2km/d to the NE.

Weather forecast details

[ECMWF,GFS,NEMS summary](#)

[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
Wed 8/15	10E->N	14	2WSW	100	0.0-0.1	aug15 forecast URL	high
Thu 8/16	14NNW *	14	1.5W	73	0.2-0.4	aug16 forecast URL	high
Fri 8/17	20S	14	1.5->3.5SSW	73	0.1-0.	aug 17 forecast URL	medium
Sat 8/18	30SSE	15	3.5->5SSW	100	--	aug 18 forecast URL	high
Sun 8/19	9W->N->9E	14	5->3SSW	100	--	aug 19 forecast URL	medium

*models vary wildly for thursday. Just grabbing the day summary from MeteoBlue (NEMS).

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

Glider219- Real time depth profiles

Dive 85 2018-08-14 08:16-13:04 utc-9

Start 50.09N 145.05W

End 50.08N 145.06W

- [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 76-85 2018 Aug 12 05:37 utc-9 Aug 14 13:04 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:

Last good Chl image: July 3 - JD 184 - Aqua - [URL](#) corresponding [sst](#)
 Aug 5 Chl image: JD 217- Aqua- [URL](#), corresponding [sst](#) and [Rrs555](#)
 “ “ NPP-S [URL](#) 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 2017-08-14](#)
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.