

EXPORTS NE Pacific Context Situational Awareness

Date: Thu- Aug 30, 2018 - JD 242

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Weather Forecast Summary:

Tomorrow (Fri 8/31) will be cloudy, wind 11kt from the W, humid, and cool (15°C). GFS says there will be some clear skies tomorrow. Sat winds 19kt from the W. GFS has rain all Sun and into Mon, but the other models don't.

Wavewatch3 forecasts a SWH ~2m for the next few days decreasing Sunday to 1.25. Tue SWH will increase from 1.5m to 2.5m.

Oceanography Summary:

Ocean Color: Yesterday no useful coverage, because of clouds. Today's images are not available yet.

Upper Ocean Profiles: Note that all near-real time SeaGlider data are only notionally processed and calibrated. SeaGlider CTD observations show SST values of ~14.2°C and MLD ~30 m for the last available dive (161). Over the past ten dives, the MLD varied between 22 to 36 m. Strong pycnoclines are seen just beneath the MLD, between 26 and 42 m, and then again between 100 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 97 and 138m.

The near-surface chl measurements from the glider have shown more variability (almost a factor of ten) over the past 10 dives than earlier in the deployment. The last dive (161) the chlMax was ~1mg/m³ at 45m. The backscatter has a spike at 45m. The 1% PAR depth is 70m for dive 161.

SST: The microwave SST distribution shows a large-scale (NW to SE) temperature gradient across the region, with colder waters to the NW, warmer waters to the SE. Some coherent mesoscale variations are seen in the microwave SST images.

Sea Level: Both absolute dynamic topography and sea level anomaly show that PAPA now sits nearly in the center of a large, coherent anti-cyclonic mesoscale eddy. Currents north and west of PAPA where EXPORTS is operating coincide with some of the strongest velocities in the area, to the NNE. It is also in a region of strong horizontal shear. The scales are still very large (the eddy is ~100 km across) and the velocities are still relatively small (~5km/d), so this feature is unlikely to have a big impact on dispersion of deployed assets. At PAPA the absolute geostrophic velocity is 4.7km/d to the NNE.

Currents: Mercator products show surface currents at 9.0 km/d to the E at PAPA while geostrophic currents from altimetry show smaller currents 4.3km/d to the NNE. Spatial current patterns for the two products differ substantially. Mercator surface currents are generally Southeastward across the entire 5 degree domain but less coherent than in previous days. At 95m Mercator is showing 6.8 km/d to the NE with even less spatial organization than

at 0m. Mercator products also shows PAPA with 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
Fri 8/31	11W	14	2W	100	--	aug 31 forecast URL	high
Sat 9/01	20WSW	15	2.5W	93	0.05	sep 01 forecast URL	very high
Sun 9/02	15NW	15	1.5W	100	0.5*	sep 02 forecast URL	high
Mon 9/03	9W	14	1.5S	100	0.8*	sep 03 forecast URL	medium
Tue 9/04	18SSW (gusts 28)	15	1.5->2.5S	100	--	sep 04 forecast URL	low

*GFS only.

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

Glider219- Real time depth profiles

Dive 161 2018-08-30 04:17-09:42 utc-9

Start 50.57N 144.85W

End 50.59N 144.88W

- [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 152-161 2018 Aug 28 03:02 utc-9 Aug 30 09:42 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](#),

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 2017-08-30](#)
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.