

EXPORTS NE Pacific Context Situational Awareness

Date: Tue- Aug 28, 2018 - JD 240

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Weather Forecast Summary:

Tomorrow (Wed 8/29) will be cloudy, wind ~11kt from the W, humid, and cool (15°C).

Thursday winds increase to 20kt according to ECMWF; 18kt according to GFS; NEM winds peak at 16kts.. Sat winds 19kt from the W.

Wavewatch3 forecasts a SWH less than 2m tuesday and will stay 2m or less for the rest of the forecast period.

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 ~14.1°C and MLDs of 22 and 30 m for the last available dive (153). Over the past ten dives, there MLD varied between 22 to 35 m. Strong pycnoclines are seen just beneath the MLD, between 25 and 40 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 sea surface chl (top 10m) of the past 10 dives ranged from .06 to 1.26mg/m³ the mean .58 mg/m³ and std .40mg/m³. The last dive (153) the chlMax was ~1.4mg/m³ at 42m. The 1% PAR depth is 72m for dive 153. The glider has been operating N of PAPA.

SST: The microwave SST distribution shows a large-scale (NW to SE) temperature gradient near PAPA, with colder waters to the NW, warmer waters to the SE. Some coherent mesoscale variations are seen in the microwave SST images. North of PAPA, for today's image, the SST isotherms are kinked NW due to a mesoscale feature.

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 ~200 km across) and the velocities are still relatively small (4.4 km/day), so this feature is unlikely to have a big impact on dispersion of deployed assets.

Currents: Mercator products show surface currents at 8.2 km/d to the E at PAPA while geostrophic currents from altimetry show smaller currents 4.4km/d to the NNE. Mercator surface currents are generally eastward across the entire 5 degree domain but less coherent

than in previous days. At 95m Mercator is showing 2.6km/d to the ENE with 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
Wed 8/29	11W	15	<2W	100	--	aug 29 forecast URL	high
Thu 8/30	19NW	15	2W	100	--	aug 30 forecast URL	very high
Fri 8/31	12W	14	2W	100	--	aug 31 forecast URL	very high
Sat 9/01	19W	15	2W	100	0.1-0.2	sep 01 forecast URL	medium
Sun 9/02	12W	14	1W	100	0.0-0.1	sep 02 forecast URL	medium

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

Glider219- Real time depth profiles

Dive 153 2018-08-28 08:41-13:51 utc-9

Start 50.59N 144.97W

End 50.57N 144.93W

- [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 144-153 2018 Aug 26 22:36 utc-9 Aug 28 13:51 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 2017-08-28](#)
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.