

EXPORTS NE Pacific Context Situational Awareness

Date: Fri- Sep 7, 2018 - JD 250

Creators: Dave Siegel, Erik Fields

Weather Forecast Summary:

Tomorrow (Sat 9/08) will be cloudy, wind ~5 early and increasing to 19kt (from the NW) in the evening,, cool (13°C), precip 0.09". Sunday some 19kt winds.

Wavewatch3 forecasts SWHs 2m or less through Thu.

Oceanography Summary:

Ocean Color: No coverage over EXPORTS. 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 ~13.9°C and MLD ~32m for the last available dive (199). Over the past ten dives, there MLD varied between 26 to 35 m -- this less variable than earlier in the cruise. Strong pycnoclines are seen just beneath the MLD, between 27 and 44 m, and then again between 100 and 123m. Salinity values slowly increase with depth over the upper 90 m showing none of the strong gradient seen in temperature. A strong stabilizing halocline is found between 97 and 143m.

The last dive (199) the chlMax was ~1mg/m³ at ~48m.. The 1% PAR depth is ~ 73m for dive 199 . Over the last 10 dives, the peak in chl fairly uniform between 34 and 60 m depth. Surface values range from 10% of the peak value to nearly uniform up to the surface.

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 - particularly SW of PAPA.

Sea Level: Both absolute dynamic topography and sea level anomaly show that PAPA now sits the NW portion of a large (100 km), coherent anti-cyclonic mesoscale eddy. EXPORTS is currently operating roughly 60 km NNE of PAPA and geostrophic currents there are very small, much less than currents at PAPA. Velocities from the eddy 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 4.8km/d to the NE.

Currents: Mercator products show surface currents at 8.0 km/d to the ESE at PAPA while geostrophic currents from altimetry show 4.8km/d to the NE. Spatial current patterns for the two products differ substantially as the Mercator products are predicting currents in the region near PAPA and the locations of mesoscale variations that are inconsistent with the altimetry's geostrophic currents. At 95m Mercator is showing 6.0km/d to the ENE. 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. UTC vs local issue. Windy.com acknowledge is error.)

[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
Sat 9/08	18NW	13	1WSW->2WNW	100	0.09	sep 08 forecast URL	medium
Sun 9/09	19NW	14	2WNW->NE	100	0.05	sep 09 forecast URL	high
Mon 9/10	15NW	14	2NE->S	0*	0.02	sep 10 forecast URL	medium
Tue 9/11	15WNW	14	2S	60	--	sep 11 forecast URL	high
Wed 9/12	15WN	13	2S	40	--	sep 12 forecast URL	high

*both ECMWF and GFS show clear skies Mon, however unlikely.

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

Glider219- Real time depth profiles

Dive 199 2018-09-07 09:05-13:46 utc-9

Start 50.65N 144.61W

End 50.65N 144.56W

- [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 189-199 2018 Sep 04 23:10 utc-9 Sep 07 13:46 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 2017-09-07](#)
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.