

EXPORTS NE Pacific Context Situational Awareness

Date: Friday- Aug 3, 2018 - JD 215

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Weather Forecast Summary:

Rain tonight and morning. Tomorrow (Sat 8/4) will be cloudy, humid, cool (14°C), with >20kt winds from the NW turning from the N. A strong low is to the North and it will be moving SE passing to the East of PAPA in the coming days. All forecasts project moderate rain tomorrow morning and tapering off into the week. SWH are 3m and will increase to as much as 5m in the next couple days.

Oceanography Summary:

Ocean Color: Last good Chl image - July 3 - see below.

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 ~13.8C, shallow MLDs (~18m), strong seasonal thermocline from roughly 10 m to 50m, while the salinity values are relatively uniform salinity profile to about 70 m. 1% light level was at ~ 78m. A strong (> 1 mg/m³) and thick (~25 m) chlorophyll max is seen centered at ~60 m.

SST: Merged SST imagery available. Strong SST gradients persist to the east and south of PAPA; these have strengthened over the past few days. The large-scale NW (cold) to SE (warm) gradient are breaking up with a warm filament extending to the west and north of PAPA. PAPA is now located near the center of a low SST anomaly. This is a large feature, at least a couple hundred km's across, perhaps too large to be a single mesoscale eddy. The Mercator SST does show warmer water moving to the north to the west of PAPA, but PAPA is not located in the center of the temperature minimum.

Sea Level: Both dynamic topography and sea level anomaly show PAPA sitting on the western edge of a large, coherent mesoscale anti-cyclone. The geostrophic velocity associated with this feature is still fairly weak, ~5 km/d to the North but amongst the strongest velocities in the region. A cyclonic feature is located to the NE of PAPA and another cyclonic feature is located to the SE of PAPA. Both features are over 100 km away and unlikely to affect the area immediately around PAPA. There is a signature of an anticyclonic eddy immediate south of PAPA in the Mercator products.

Currents: According to altimetry surface currents at Station P are ~5 km/d to the North; PAPA sits on the western edge of the anti-cyclone. Altimetric and Mercator products are show rather dissimilar patterns. Mercator products show currents 16km/d to the E at PAPA and throughout the domain(?). At 95m Mercator is showing 9.6km/d to the NE and more highly variable.

Weather forecast details

[ECMWF,GFS,NEMS summary](#)

[sea state summary \(wavewatch3 22km\)](#)

[sea state summary \(ECMWF WAM 13km\)](#)

Date	Wind(kn)	Tair(°C)	SWH(m)	Clouds(%)	Precip(“)	URL	predictability
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Sat 8/04	25NW	14	3-4WNW	93	0.1-0.2	aug 4 forecast URL	high
Sun 8/05	20NE	15	4WNW	100	--	aug 5 forecast URL	high
Mon 8/06	18ENE	15	5WNW	100	--	aug 6 forecast URL	medium
Tue 8/07	10NE	15	4.3WNW	60	--	aug 7 forecast URL	high
Wed 8/08	<5W	15	3WNW	50	--	aug 8 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 38 2018-08-03 15:41 to 21:14Z

Start 50.04N 144.95W End 50.02N -144.92W

- [location](#)
- [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 2 days of profiles overlaid (up to dive 37)

- [Temperature](#)
- [Salinity](#)
- [O2](#)
- [Chl](#)
- [fraction of surface PAR \(upcasts\)](#)
- [fraction of surface PAR \(downcasts\)](#)

PMEL mooring

Last week of hourly air temp, wind, current, sss, sst - [PMEL stack time series plot](#)

Note - air pressure seems too high...

Satellite Imagery:

Last good Chl image: July 3 - JD 184 - Aqua - [URL](#) corresponding [sst](#)

Microwave SST: [URL 10 deg](#) & [URL 5 deg](#), $||\text{grad}(\text{sst})||$ [5 deg URL](#)

Microwave+IR 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](#)

Link to Situational Awareness data stockpiled for today on the google drive [sitAware for 2017-08-03](#)

EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.