

EXPORTS NE Pacific Context Situational Awareness

Date: Sunday- Aug 12, 2018 - JD 224

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Weather Forecast Summary:

Tomorrow (Mon 8/12) will be cloudy (although the GFS and ECMWF forecasts agree on clear skies in the morning), humid, cool (14°C). The winds are forecast to be ~20kts from the SW and decrease Tues and get light and variable, after that the models disagree on direction of the flow for the rest of the forecast period. For the most part the winds will be low, but ECMWF has 17 kt wind with rain wed night into thurs morn. Rain late monday into tues. Possibility of rain wed and thurs depending on the model.

Today's SWHs ~1.7m from SW. SWH will stay in that 1.5-2m range and increase Mon to a peak of 3.5m and decreasing throughout tuesday back 2m.

Oceanography Summary:

Ocean Color: Last good Chl image - July 3 - see below. Some patchy images from Viirs, Terra, and Aqua from Sunday show some variability but 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 ~14.1C, the last (dive 76) and MLDs are pretty stable between 20 and 30 m for the past couple days. Mixed layer Chl values seemed to increase moderately for past couple of days and reached > 0.5mg/mg³ with some variability. ChlMax depths remain between 45 and 75 m again with a good deal of variability. Increases are also seen in surface layer optical backscatter with some large subsurface features consistent with the Chl Max (but mostly not). Another pycnocline is seen between 60 and 100m below the strong seasonal thermocline (roughly 25 m to 60m). Salinity values show a relatively uniform salinity profile to about 80 m. 1% light level was at ~75m. As of the last dive 76, glider was NE of PAPA heading N on the outer east edge of the bow.

SST: Over the past few days, the SST distribution has changed such that the large-scale temperature gradient is now largely aligned east-west around PAPA (warmer waters to the east). There is a relatively strong SST front just to the west of PAPA: a change of about 1° over 50 km. Gradients at PAPA are still fairly weak. Little evidence of coherent eddies in the SST data.

Sea Level: Both absolute dynamic topography and sea level anomaly show PAPA sitting just 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, ~5km/d to the NE but amongst the strongest velocities in the region. An anticyclonic feature is located to the NE of PAPA and a 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 ~3.4km/d to the NE; PAPA sits on the western edge of the anti-cyclone. Mercator products show surface currents 6.6km/d to the ENE at PAPA. At 95m Mercator is showing 5.8km/d to the NE.

Weather forecast details

[ECMWF,GFS,NEMS summary](#)

[sea state summary \(wavewatch3 CDIP for UW wave rider mooring\)](#)

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

NOTE wed,thu, fri the 3 models have 3 different directions for the wind and they don't really even agree on the speed except that they are less than 17kt and often as low as 3kt.

Date	Wind(kn) "from the"	Tair(°C)	SWH(m) "from the"	Clouds(%)	Precip(")	URL	predictability
Mon 8/13	20SW	14	2.5->3.5WSW	100	--	aug 13 forecast URL	very high
Tue 8/14	~15 W->LV	14	3->2WSW	100	0.4-0.8	aug 14 forecast URL	high
Wed 8/15	see note above	14	2->1.5SW	100	0.1-0.2	aug15 forecast URL	medium
Thu 8/16	"	14	1.5W	100	0.1-0.2	aug16 forecast URL	medium
Fri 8/12	"	14	1.5SE	100	--	aug 17 forecast URL	medium

LV=light and variable

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

Glider219- Real time depth profiles

Dive 76 2018-08-12 14:37-20:08 utc

Start 50.06N 144.91W

End 50.10N 144.90W

- [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 67-76, 2018 Aug 10 12:48z Aug 12 20:08z

- [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](#)

LAST Sunday's Chl image: Aug 5 JD 217- Aqua- [URL](#), corresponding [sst](#) and [Rrs555](#)

“ “ NPP-S [URL](#) corresponding [Rrs551](#)

Microwave SST: [URL 10 deg](#) & [URL 5 deg](#), $||\text{grad}(\text{sst})||$ [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 2017-08-12](#)
EXPORTS NRT Platform positions in [graphic](#) and [tex](#) format.