Western and Central Pacific
Dec 2018

Cyclones – 936 (analyzed)
Low (sub-gale) - 270 (28.8%)
Gale                   - 459 (48.9%)
Storm                - 163 (17.4%)
Hurcn Force     - 36 ( 3.8%)
Extreme Weather Avoidance - Pacific

1200 UTC 30 Dec

Storm Warning (formerly HF)
Winds to 50 kt
Seas to 36 ft

Hurricane Force Wind Warning
Winds to 65 kt
Seas to 32 ft 24 hours

A) Ships delayed westward passage through Bering Sea (~ 50 ships)

B) Eastward transit through Bering reduced

C) Ships heading SW to avoid HF Low

4 ships in avoidance area of
~ 421,000 n mi²
~ areas of TX, CA, MO combined

~ 549 vessels operating in image
Ensemble Use - Ocean Prediction Center

https://ocean.weather.gov/windprob.php

Winds - Probability of 25 kt or greater
Waves - Probability of Waves 9 ft or greater

Forecasters
- Aid in warning decisions using NAWIPS tools
- Focus on a “representative” deterministic solution
- Determine extremes (within ensemble envelope)
Ensemble Use – Ocean Prediction Center

For consideration

• CONOPS for Probabilistic Marine Hazards
  – FACETS

• Representative Probabilistic Guidance (NBM 4.0)
  – Wind speed and direction, wave heights, SLP (cyclones)
  – Guidance factoring both ETs and TCs (CaRDS 18-024)
  – Additional parameters (VSBY, T-STORMS, etc)