Fanapi Break Out Group:

ITOP Science Questions:

1. What are the air-sea fluxes for winds greater than 30m/s?

2. What is the surface wave field under typhoons?

3. What is the 3D response of the ocean?

4. How do ocean eddies affect this response?

5. How does the ocean affect typhoon intensity?

6. How does the cold wake of a typhoon diappear?

7. What is the biogeochemical impact of typhoons?

Additional: Preconditioning and feedback – cold wake (ITOP Science Question #5)

What data are there for this event? (not available yet on catalog)

**OCEAN**:

Cold wake cruise:

 -uwCTD

 -turbulence profiler

 -biogeochemical samples

 -underway ship data – met data

 -ADCP (a few different frequencies) – below 25m from surface, to 800m

 -10 XBTs

 -~15 CTD casts

 -Ship Radar (WAMOS) surface wave data (needs QC)

Air-deployed assets:

 -Lagrangian floats (4): T, S, w, surface waves, O2, ambient noise

 -EM-APEX (7): T, S, U, V

 -48 Drifters (QC not yet available!)

 -ADOS (14): SST, T (150m, 15m res), air-pressure, wind dir/speed

 -SVPb (14): SST, air pressure, drift

 -SVP2t (18): SST, sub T at 12.5m and 17.5m, drift

 -Super (2): SST, air P, wind dir/speed, T, U, V to 150m (solar rad)

 -possible global drifter array drifters

EASI/ASIS: wind speed/dir, T to 500m, air T, wave spectra, IR gas, CO2, H20 partial pressure, solar radiation (long and short), marine aerosol, air P, rel humidity

ITOP Moorings – meteorological data, velocity (200km from Fanapi track), wave

Satellite data (need data extraction):

 - Satellite altimetry

 -microwave

 -IR

 -ocean color

 -scatterometer – ASCAT, windsat

 - SAR – near misses, unknown in wake??

Seagliders:

 -10 deployments: T, S, O2, fluorescence, backscatter (need EOL link)

**ATM**

C130s:

 -dropsondes

 -AXBT

 -SFMR (? Available)

 -other flight data

DOTSTAR

 -flight level

 -dropsonde

Radar data from Taiwan (later in the storm, images – pull data out?)

Radar data from Japan, Okinawa? (need to archive before it goes away?)

Codar data from Taiwan – out to 100km from shore

Argo:

 -ITOP subset (still in realtime – pre-QC)

Satellite (images available at ITOP.org, but not data ? – data on request):

 -IR

 -visible

 -microwave

 -cloudSAT

 -windSAT

**What are special opportunities for understanding?**

Cold wake cruise

Drag coefficient vs. wind speed – compare with CBLAST?

\*note for Megi – Fanapi did not have wind much above 30m/s!

Inertial response

Vertical mixing response

Cold wake evolution

Why models failed at forecasting Fanapi?

EM-APEX close enough spacing to estimate momentum balance

4D coupled air-ocean analysis field? Never had this much data before…

**What tasks need to be done?**

Satellite data ITOP subset?? Pointers from images

 Jeff Hawkins –

 Mike Godin – subset netCDF files ITOP.org?

Wind field re-analysis

 Best track

 Wind field

 H\*winds/SAMURAI? – have better products, info missing, good for models?

Sea surface temperature maps

Get your QCed data on catolog by September, 2011!

 -what will be useful, raw on request

Standard format for data?

**What other breakout groups are needed?**

“Cold wake feedback on Typhoon structure/intensity”