

Observation - Modeling Synergy

- White paper on observation-model integration by the DYNAMO Modeling Working Group
(http://www.eol.ucar.edu/projects/dynamo/documents/model_obs_white_paper_final.pdf)
- Field data input to operational analyses: soundings, surface met
- Special post-field reanalyses (JAMSTEC, NCEP, ECMWF?)
- Forcing data:
 - A: 3D - IOP (Richard Johnson, Paul Ciesielski)
 - B: Single column (Gan) - EOP (ShaochenXie, Courtney Schumacher)
- Validation data:
 - A: Gridded - water vapor (Paul Ciesielski), surface flux (KhelifDjamal)
 - B: Averaged over the sounding-radar array - e.g., Q1/Q2, div, q, rainfall (Richard Johnson, Paul Ciesielski)
 - C: *Radar based cloud statistics* (Courtney Schumacher and radar Pls)
 - D: Vertical profiles - upper ocean mixing (Jim Moum, Ren-Chieh Lien); mixed-layer structure (all ships); u, v, T, q (all sites)
 - E: Point measurement - surface radiation,
- Observationally based parameterization improvement - air-sea fluxes (Chris Fairall);

Action Items

Atmospheric Observations:

1. Procedure of sounding launched - exchange procedures of different countries and institutes and standardize them: *Masaki Katsumata (JAMSTEC), Jim Moore (EOL), Chuck Long (PNNL), P.M. Muraleedharan (NIO) - February 2011*
2. AMF2 soundings - 1 per day using 350g balloons: *Chuck Long - February 2011*
3. Real time raw soundings exchange between NIO and EOL via emails: *P.M. Muraleedharan (NIO) and Jim Moore (EOL) - December 2010*
4. Backup sounding equipments: *P.M. Muraleedharan (S. Kayna), Chuck Long (Gan), Chris Fairall (Revelle), Jim Moore (Diego Garcia) - February 2011*
5. Inquiry of raw sounding data from Indonesia - ?? (NCEP)contact ?? (BMKG)-??
6. Japanese graduate student helpers for AMF2 sounding launches at Gan- *KunioYoneyama, Chuck Long, Chidong Zhang - February 2011*
7. Soundings from Male by Taiwan/EOL - *Paul Ciesielski - December 2010*
8. Identify support need for French Falcon from the Gan radar operation - *Jean-Philippe Duvel, Courtney Schumacher - November 2010*
9. Increase sounding at Nairobi, Kenya from 1/day - 2/day - *KunioYoneyama- February 2011*
10. Seychelles sounding frequency: 4/day for the SOP, 2/day for the IOP - *KunioYoneyama, Vincent Amelie, SelvanPillay- February 2011*
11. Procedure of decision making toward switching radar scanning strategy - *Courtney Schumacher and radar Pls - February 2011*
12. Sounding supplement for S. Kanya during port call of R. Revelle - *Jim Moore, P.M. Muraleedharan- February 2011*

Action Items

Oceanic Observations:

1. Uniform biogeochemical water sampling frequency (6 hourly) onboard Revelle to maintain a stationary time series at 0°, 80.5°E - *Jim Moum, PrasannaKuma- February 2011*
2. Move the RevellePinkel cruise to follow the 2nd stationary cruise - *Jim Moum- December 2010*
3. Decide on the ship to pick the UK sea gliders and have a backup plan - *KunioYoneyama and ship Pls - February 2011*

Air-Sea Interaction:

1. Turbulence measurement for direct estimate of air-sea fluxes - *Prasanna Kumar - February 2011*

Aircraft operation:

1. Communication between French Falcon and Gan radar Pls - *Jean-Philippe, Courtney Schumacher, Jim Moore - February 2011*

Action Items

All Observations:

1. Complete the list of instruments - *Chidong Zhang, KunioYoneyama* - *February 2011*
2. Instrument intercomparison (ship-ship, ship-island) strategy - *Chris Fairall and a working group* - *February 2011*
3. Synchronization of facilities in time, standardize data unit - *Jim Moore* - *February 2011*
4. Finalize the ship rotation plan - *KunioYoneyama, Chidong Zhang, PrasannaKumar, Jim Moum* - *December 2011*

Action Items

Modeling and Forecast:

1. A complete list of all participating forecast and research models -
Sue Chen, Tomoe Nasuno, Jean-Philippe - January 2011
2. Model intercomparison strategy (e.g., target period, domain, fields)
- *Tomoe Nasuno, Sue Chen, and modeling working group - February 2011*
3. List of field observations for model validation (as done for radars)
- *Tomoe Nasuno, Sue Chen, and modeling working group - February 2011*
4. Availability of real time analysis and forecast products from Indian operations center - *Prasanna Kumar, P.M. Muraleedharan- February 2011*
5. Availability of forecast/analysis products with high-resolution nested domain over the sounding-radar array - *Jean-Philippe Duvel- February 2011*
6. MJO forecast products for weekly webconferencing- *Chidong Zhang, Jon Gottschalck- November 2010*
7. Dry run of MJO weekly forecast - *Chidong Zhang, Jon Gottschalck, Steve Williams - November 2010*
8. Stretched NICAM forecast for part of Nov 2010 - March 2011sent to NCEP MJO forecast team - *Tomoe Nasuno, Jon Gottschalck - November 2010*

Action Items

Data Policy/Management:

1. Identify CINDY/DYNAMO Pls - *KunioYoneyama, Chidong Zhang, Prasanna Kumar, Jean-Philippe Duvel- February 2011*
2. International CINDY/DYNAMO data policy - *KunioYoneyama, Steve Williams - February 2011*
3. Indian Data Center compliance to CINDY/DYNAMO data policy - *Prasanna Kumar - February 2011*

Field Operation:

1. Operations Committee (responsibilities: facilitate weekly internet conferencing; monitor, update, and assess operation status; monitor data flow and compliance to data policy,)- *KunioYoneyama, Chidong Zhang, Jim Moore - February 2011*
2. Virtual operations center - *KunioYoneyama, Chidong Zhang, Jim Moore - February 2011*

Issues to be Settled

1. Cruise time of S. Kanya (December 2010)
2. Cruise time of M. Dufresne (December 2010)
3. Flight time of French Falcon (December 2010)
4. Final schedule of R. Revelle (January 2011)