

ONR TCI conference call notes 2/24/15:

Jim Doyle, John Molinari, Ron Ferek, Joel Feldmeir, Pat Harr, Eric Hendricks, Greg Tripoli, Sharan Majumdar, Brian McNoldy, Steve Williams, John Molinari, Bob Creasy, Brett Hoover, Chris Velden, Jim Moore, Russ Elsberry, Zhaoxia Pu, Jon Moskaitis, Jason Dunion, Michael Bell, Mark Beaubien, Lee Harrison, Pete Black, Will Komaromi

- ONR TCI-DRI planning meeting starts at ~9am on 4/14. Two day meeting ends on 4/15. NRL needs your visit requests if you haven't sent it in already.
- HDSS obs from 2014 flights are available. NRL can distribute upon request or via ftp.

Support function requirements

- *Instrument and flight ops group*
 - Lee and Mark have handled the instrument for all flights for the instrument, but this is exhausting. Do they have to do it all the time? Forward deployment is intense. Would be good to have 2 people in field all the time for the instrument out of 4 available personnel at Yankee. Joel & Pete: HDSS direct support, need a couple people for non-HDSS in the field. Substantial training required to use / maintain instruments, 56pg training manual available, still prototype stage.
 - A related issue is flight ops stuff that Pete Black handled last year. He recommends 2 people at Ellington, and perhaps 3 people at forward operating bases, perhaps with rotating personnel. Instrument group and flight ops group should be separately defined.
- *Forecast group*
 - Worked well last year. Do we need to forecasters to be deployed to Monterey or to the flight ops location? If there is nothing going on, can we piggyback with HRD weather discussion at noon Eastern time (SHOUT will be on those HRD calls as well). Calls from late July to mid Oct, roughly same time as ops. NOAA will have G4 and one P3.
- *Real-time modeling tools*
 - Operational and research models, targeting tools, etc. We want to get those going early so they are running smoothly for the field phase. Need table of models, their characteristics, and timing of availability for use.
 - Chris Velden asks where we can get ECMWF (Sharan Majumdar and Chris Thorncroft made joint request to EC and they were accommodating). Russ Elsberry's 15 day ECMWF ensemble should also be available. 30 day ensemble has not proven particularly skillful in Atlantic. Also looking to have automated outflow forecast products from NRL.

- Could be uploaded to field catalogue in real time. NTS not as flexible as e.g. EOL, although a combination of both could prove useful.
- *Real-time data analysis*
 - Quick looks at data from HDSS. Can there be a well-defined process flow for doing this? SATCOM is necessary to look at data in real-time; this didn't work well last year but should be improved for 2015. Otherwise, you need to download the data files when the plane lands. Mark B. wants to make a D-file from the 4-antennas (like NCAR) and feed into ASPEN using Mike Bell's script or some other means. Do we want data to go to GTS; this could require more manual intervention in the data processing?
 - Radar data and radiosondes from Caribbean should not be overlooked
 - As in the modeling tools, a real time field catalogue would be useful to forecasters and mission scientists, while also making it easier to archive discussions and grab data for case studies once the season is over.
- *Real-time flight planning and monitoring*
 - Planning tracks/drops for individual flight, and planning when to have flights, flight sequences, forward deployments, etc. What software should be use for flight planning and flight monitoring? NASA MTS (we should be able to use this)? HRD? Leslie Lait's flight planner? Bob Creasey's tool? Flight plan overlays with products (satellite, model, etc) over map (e.g. Google earth) necessary. Guidelines for interacting with the pilots before and during the flight.
 - This year we have higher speed SATCOM with camera for real-time decisions
 - Need separate flight planning for real time / current mission of the day, with separate planning (separate working group?) for day 2/3

Field measurement plans

- Time period of measurements: mid-July through mid Oct
- Climatological perspective
 - Most targets late Aug- early Oct
 - MacDill and Ft. Lauderdale most likely within range of TC, especially later in season
- Resources available / number of sondes
 - ~1000 sondes, ~65 sondes per flight
 - Ft. Lauderdale will likely need to be removed, not enough support on ground
 - Working assuming we cannot overfly Cuba
- Number of flight hours / number of storms
 - ~12-15 flights
 - Have a couple hrs flight time with 600km range rings, "out and back" with 900km range rings

How long should we plan on having flights? Ron says mid-late July looks like when you want to be ready to go with science flights. Are there intermediate states of readiness that we can use? ... Pete seems not to think so. Should we have a shakedown/test flight dry run period in early July to work out the bugs with communications/instruments, etc.

Possibility of WB-57 HDSS demo flight in late April / May. Jason thinks NOAA planes will not be available for intercomparison because the instruments are being installed then.

Dan Cecil wants to fly HIRAD on WB-57

EOL field catalog or something similar would be useful as a centralized repository for forecast data, obs data, documents, etc.

SHOUT is last week in August through September; 5 weeks, 10 flights, focus on mature systems, outflow is one of the science objectives.

Ron has no news on deploying WB-57 to WestPac. Would depend on sharing deployment costs with another customer.

Ron recommends planning what to do for the “perfect storm” as an exercise. This can go into the ops plan, as Pat H. did for TCS08. Perhaps a set of cases instead of a single perfect storm.

Pete says it will take 3 days to pack everything up from a forward deployed site to another forward deployed site.

Jason wants to know about team structure (see below). We need to organize the groups soon if we want stuff to get done by the mid-April meeting.

Jason mentions we need a plan to coordinate with other agencies (Air Force, NOAA P3 and G4, Global Hawk). Maybe we can use what Marilyn set up for HS3.

NCAR guys and Dan Cecil need to be on distribution list.

We will try to figure out an optimal time of day to have the phone calls.

First cut at groups:

Instruments: Mark and Lee and Yankee colleagues

Forecasting: Chris Velden and Derrick

Modeling: NRL (Moskaitis/Doyle/Hendricks/etc)

Real-time data: John Molinari, Greg Tripoli, Sharan Majumdar and students

Flight Planning: Bob Creasey, Pete?

Flight Ops: Jason (but he will have lots of other duties)

Also needs to be a group for developing science hypotheses and associated flight plans.
Software for data processing group: Mark, Lee, Mike Bell, Jason D., and Bob