

# **Forecasting Focus Area**

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**Thanks to notetakers - Owen Cooper, Kristin Cummings**

# Data Management and Field Catalog

- **Catalog products:**

**GOES Rapid Scans (1 min) – these can be requested through NESDIS  
Brad Pierce (NOAA) – may provide GOES derived products (what?)**

**Remove TES O3 and CO**

**Check on MOPITT CO and IASI CO availability**

**Check on AIRS O3, water vapor, MODIS AOD, fire count availability**

**Add other Mesonets besides OK**

**Add radar vertical x-sections and polarimetric fields from NEXRADs**

**Add additional RUC products**

**Add TTU WRF, RAQMS (?)**

**Add fields from research and chemical models – vertical cross sections, tropopause height, equilibrium level, cloud top height, cloud base height, helicity**

- **Data Policy:**

**No good way to police use of data without permission from PI. However, there is an NSF Ethics policy.....**

**NASA and NSF program managers can provide reminders (and leverage) to those behind schedule in getting data submitted**

**Can data catalog web page allow multiple windows open at once. Fix possible.**

# Communications

- **Role of website and data catalog in communications – each regional forecast team submits to catalog**
- **Need consensus forecast – lead forecaster role includes doing this after looking at regional input**
- **Readytalk forecasting conference prior to Morning Briefing**
- **What if NCAR WRF run not available? Other WRFs can substitute except for tracers**
- **What if data catalog is down? Most products available from other sites**
- **What if internet goes down at SNL? Unlikely -- lines underground maybe meet at hotel?**
- **Twitter feed on DC3 website (don't need Twitter account)**
- **Nowcasters take over at takeoff**
- **Nowcasting updates to be sent through Chat to aircraft**
- **Same nowcaster should be talking with G-V and DC-8**
- **One nowcaster for current weather and one looking 30-60 min ahead**
- **Need Chat lines for each ground-based crew**
- **Falcon won't have Chat – only satellite phone or radio with radars**

# Forecasting Needs

- Tracers (from NCAR WRF, FLEXPART, MOZART, OMI) – tracer forecasters need to synthesize in early AM and present consistent story at Morning Meeting, focusing on selected region
- Decision on doing a downwind flight on following day needs to be made early as possible on day of convection flight
- Will 00Z WRF forecast be ready for days with 7 AM Morning Meeting and 6:20 AM forecast meeting? First 24 hours should be available. Otherwise, may have to rely on 12Z WRF run from prior day.
- Need to have 4 or 4:30 PM forecasting meeting to look at possibilities for next day
- NO2 product from GOME-2 available after 1130 CDT – which is after aircraft take off on downwind outflow flights – will need to send this guidance to aircraft
- OMI NO2 product will be useful for next day planning
- Is it necessary for Colorado forecasters to be online at 530 AM MDT on days of AL flights or downwind flights? Probably not.
- Trial forecast period - May 3, 4
- MOZART-4 products available on ACD web page
- Boundary Layer regional pollution forecasts?? NOAA CMAQ, RAQMS, FLEXPART
- Need list of tracer forecast questions analogous to weather forecast questions
- Education and outreach: KSU aviation students; Gretchen Mullendore student group at UND; SOARS students

# Operations Base

- **Rooms available for daily meeting, forecast briefings, mission planning**
- **NSF to support travel of regional nowcasters to Salina**
- **Can we get computer monitors for display of data catalog products?**

# Decision Making

- **Decision-making tool – Arthur Small/Hans Verlinde – statistical decision analysis**
  - Fly/No-fly, where to fly?**
  - Includes probabilistic forecasting and optimization algorithms**
  - WRF variables (CAPE, shear, RH, w) are input**
  - Probabilities of success determined for each region**
  - Best site, balanced portfolio, and safest choice determined**
- **DC3 PIs will make final decision after hearing met briefing, tracer briefing, decision-making tool, instrument and aircraft status at Morning Meeting**
- **What if storm happens just outside radar/lightning coverage region? Do we still work it?**