

Howard University Beltsville Research Campus

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Questions to be addressed by all sites:

1. Operations:
 - a) What is the site status in respect of the requirements outlined in GCOS121 and GCOS112 (priority 1 and 2)?
 - b) Which guidelines/manuals do you use when taking measurements, if any?
 - c) What is your data dissemination practice?
2. Needs: What do you need from lead centre / working group / secretariat?
3. News: Are there any scientific or organizational developments we should be aware of?

GCOS-112: Priority 1

Surface Variables: (T, RH, Wind)	<i>Available + redundancy; pre-flight calibration box</i>
CFH, RS92, Modem <i>RRS, LMS/SW, ATM, SW</i> <i>Ascent/Descent</i>	<i>Available;</i> <i>Operated, via collaboration</i> <i>Need clarification/protocol</i>
3-RH sensitivity regions? “Regions”	<i>Available (CFH + other);</i> <i>Need clarification</i>
“Redundancy” for T/RH.	MWR/Sonde/Lidar?
State-of-art?	<i>Need clarification</i>
Pressure/GPS/radar height on balloons?	<i>available + redundancy @ surface</i> <i>accuracy limited by manufacturer</i>
Ground-based GPS:	NOAA-net, Suominet, MWR(X2)

GCOS-112: Priority 2

BSRN quality surface radiation instruments	need “ certification ” and working on platform issues
MWR based T and q	Available
AERI:	<i>Not available</i>
LIDAR (Raman)	Available

Trace gas measurements	Available in collaboration with MDE and <i>balloon/Ozone</i> launch site.
Column aerosol (Sunphotometer)	No. <i>BUT</i> have MFRSR (& close to 3-AERONET)

GCOS-121: Initiation

Needed at Initiation

1 x weekly production radiosonde	Capable - Yes
1 x monthly UT/LS sonde launched with weekly radiosonde	CFH? - Capable <u>But</u> (<i>Cost ...</i>)

Desired

<i>**Regular 00 and 12 LST</i>	<i>** Is proximity to NWS/Sterling –adequate?</i>
Dual launch capability?	Yes
Periodic inter-comparison of a large range of sonde types	Yes

Needs/Clarification

2. What do you need from the Lead Centre ...?

- *Data storage – management.*
- *Data collection protocol*
- *Clarity in definitions:*
 - *Altitude “regions” definitions*
 - *State-of-the-art*
- *Accuracy is limited by manufacturer (GPS/Wind)*
- *Clarify procedures for operating CFH*
- *Foster Inter-GRUAN collaboration*

Beltsville: Not only sondes

3. Scientific/organizational developments?

WAVES-2006, 2007, 2008: <i>Water vapor experiments</i>	<i>Multi-instrument, multi-agency inter-comparison: Completed</i>
N-WAVES 2009: (NDACC - WAVES)	<i>lidar UT/LS val. using CFH and corrected RS92 - Ongoing</i>
Lidar winds experiment (2009)	<i>wind lidars, sondes, radars: Ongoing</i>
“SurfTRHRef” station:	<i>NIST traceable reference station for T/RH – Soon (ARM like)</i>

Beltsville: Not only sondes

3. Scientific/organizational developments?

ATM Sonde	<i>Planned: develop/implement</i>
Development of a Roaming Calibration	<i>GSFC UT/LS vapor profiling is being validated for use as mobile referencing for NDACC</i>
Satellite validation (AIRS, TES, Lidar, Sonde)	Collaboration with NOAA-NASA-other on validation
Consensus referencing	<i>No one technology is viewed as absolute truth (With NWS-Sterling)</i>
Trend Detection	<i>How long does it take to detect trends in water vapor?</i>

Data: procedures and use

b) Which guidelines/manuals do you use when taking measurements, if any?

Our guidelines/procedures are a combination of the following

- Adhere to manufacturers suggestions
- Best practice from NWS/Sterling, NASA, MDE, and what works best.

c) What is your data dissemination practice?

- Since we have many collaborators (including NASA/NOAA), we have used the AVDC data base in the past.
- *No restrictions beyond 1-yr on who will use the data with concurrence of PI.*