Task Team of Site Representatives

Progress Report – January 2013

During the last 6 months most of the information and requests exchanged with site representatives were centered around the GRUAN manual and guide, the expansion of GRUAN to include new sites, and the assessment and certification of sites.

The composition of the task team has changed:

Marion Maturilli joined as the site representative for Ny-Ålesund

Hironobu Yokota was replaced by **Toru Ueda** (Tateno)

Murray Poulter replaced **Karin Kreher** and **Paul Johnston** (Lauder)

Task Team of Site Representatives

Progress Report – January 2013

Task: Find a site representative willing to serve as member of TT3 (Measurement Scheduling)
Status: *Completed. Rigel Kivi has joined TT3*

Task: Complete matrix of instruments and capabilities at each site. Post on GRUAN website
Status: *Completed.*

Task: Site representatives to sign off on the GRUAN Manual and Guide
Status*: In progress*
Milestone: *Obtain sign-off by 2/3 of site reps by 31 March, 2013*

Task: Compile information about the colocation of instrumentation at sites
Status: *In progress*
Milestone: *Draft manuscript prepared*

Update: *Co-location (Fasso/Madonna)*

A task was in the red in Peter's talk (Monday)

- I think it should be green because a draft paper is in progress.

Collocation. Identify if the instruments at a site are collocated or distributed and details of the distribution (distance, ownership, etc). Include maps etc. (TT sites)

* Some work on collocation for a subset of sites and its ramifications has been undertaken.
* Queries after production of report led to uncertainty in what was envisaged / required.

What has been done... Why this came about?

Update: *Co-location (Fasso/Madonna)*

Question: ***Need to quantify statistical differences of two profiles of a single variable?*** *(This is a GATANDOR project; TT sites helps with site Instrument maps)*

(a) Measured from two sensors on different platforms; same location/time)

e.g. lidar/sondes merging issues (GCOS112: 3-water vapor sensors/site)

(b) Measured from two sensors on same platforms (same location/time)

e.g. multi-sonde packages

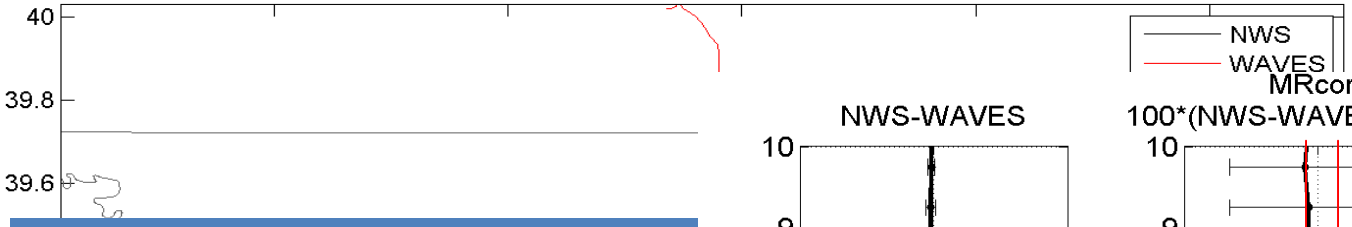
(c) Measured from two sensors on two ***different locations*** *(same time)*

e.g. Sterling (NWS) and Beltsville (GRUAN)

sensors: RRS/LMS6 and RS92 (On same balloon was reported before – WAVES2007 work)

Sterling/NWS Vs Beltsville

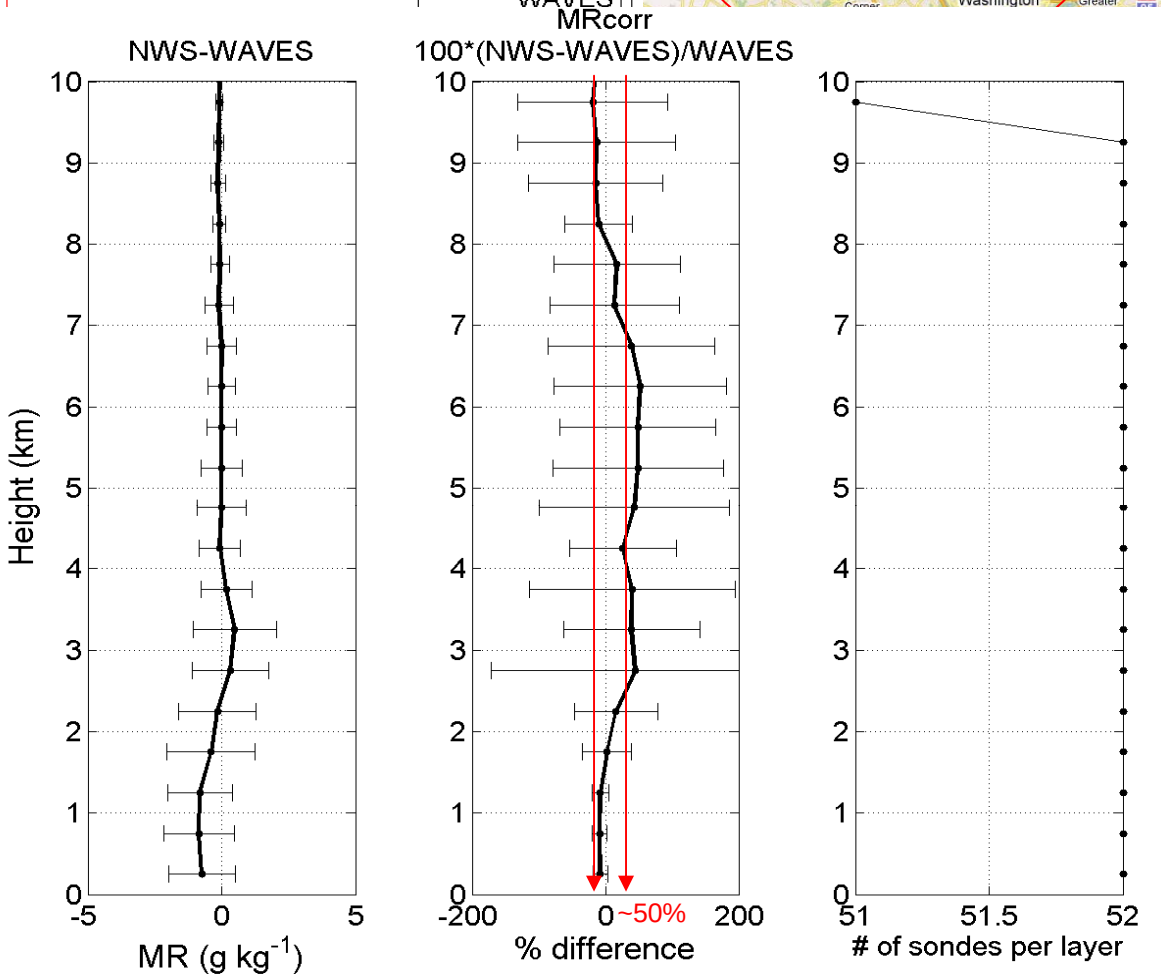
NWS & WAVES matching sonde locations
match window = ±180 minutes max height = 25 km



Mixing Ratio (ICM3):

Question:
What portion of error is

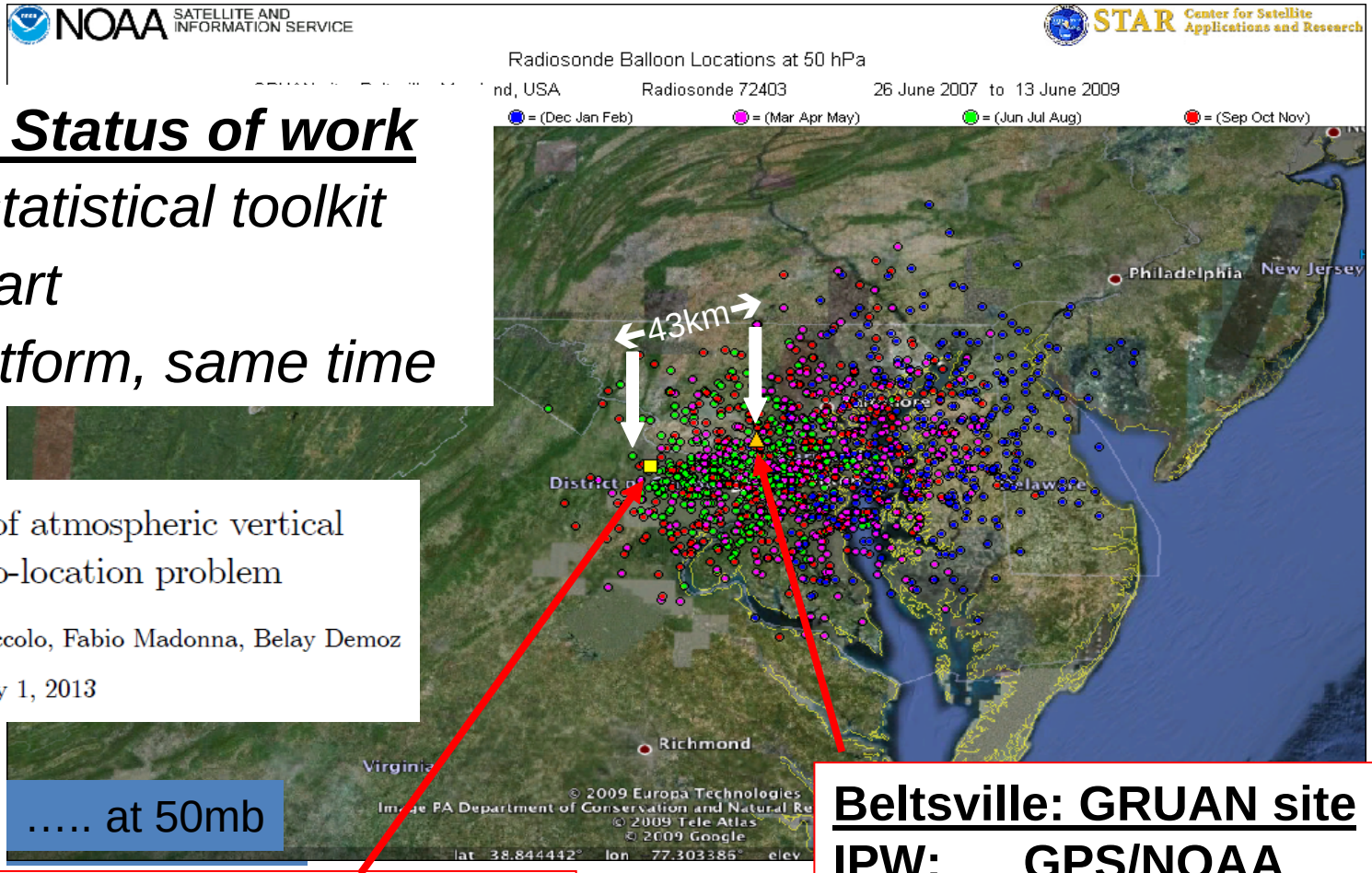
- ➔instrument
- ➔Atmospheric
- ➔Co-location
- ➔Noise
- ➔etc



Update: *Co-location (Fasso/Madonna)*

Fasso et al: Status of work

- *Develop a statistical toolkit*
- *40 miles apart*
- *different platform, same time*



Statistical modelling of atmospheric vertical profiles and the co-location problem

Alessandro Fassò, Rosalba Ignaccolo, Fabio Madonna, Belay Demoz

February 1, 2013

….. at 50mb

Sterling: NOAA/NWS Site

IPW: GPS/NOAA

Sonde: RRS (Routine)

Beltsville: GRUAN site

IPW: GPS/NOAA

MWR: 2 & 39 Channel

***Sonde: RS92,* CFH**

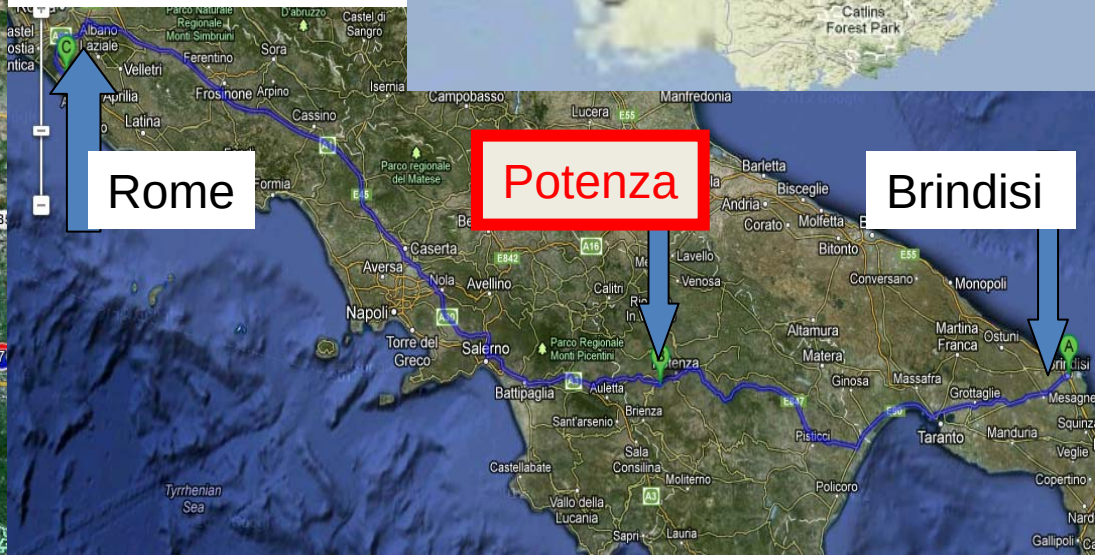
Raman: HURL/ALVICE

Questions asked?

- *Are all GRUAN site instruments co-located?*
- *What other variables do we need to do next? IPW?*
- *What locations/site to do to apply this "toolkit" next?*

Update: *Co-location (Fasso/Madonna)*

Other GRUAN sites this could apply …



Update: *Co-location (Fasso/Madonna)*

A request to all the site representative.

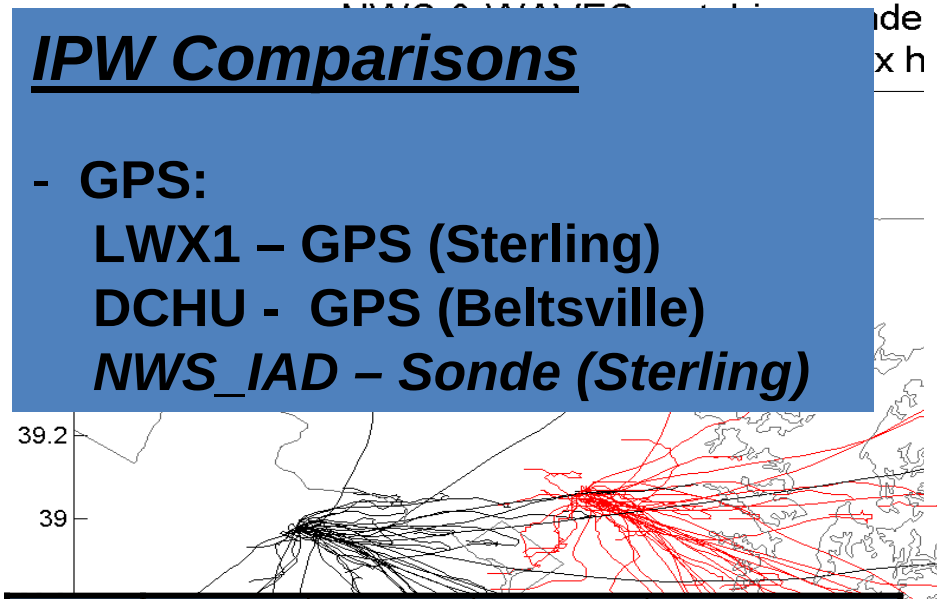
- If you have not done so, can you please submit such a map of your instrument location (e.g. here is for the LC – please add a scale!!).

END

IPW: Sterling-Beltsville

IPW Comparisons

- **GPS:**
  - **LWX1 – GPS (Sterling)**
  - **DCHU - GPS (Beltsville)**
  - ***NWS_IAD – Sonde (Sterling)***



Ratio	LWX/ DCHU	RRS/ LWX	CFH/ DCHU	RS92Corr/ DCHU
Avg.	0.953	0.994	1.023	0.979
Std. Dev.	0.094	0.132	0.085	0.099
Pts.	5179	3030	18	119