

2nd GRUAN Implementation-Coordination Meeting (ICM-2)
Payerne, Switzerland
2-4 March 2010

Item 7.2.6

Site report: Payerne, Switzerland

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Summary and Purpose of Document

This document contains an overview of the measurement programme at the Meteo Swiss site Payerne with respect to GRUAN requirements, and addresses the questions to be discussed in this session.

GRUAN ICM-2 site presentation: Station Payerne

1. Which of your existing radiosonde launches already meet the mandatory requirements (GCOS-121: once weekly best production quality radiosonde, once monthly stratospheric water vapour; recommended twice daily), and which additional launches need to be instigated or augmented?

Twice daily 00/12 LST: Swiss Radiosonde - analog sonde SRS 400 since 1990
Swiss Radiosonde - digital sonde SRS-C34 starting 2011

Once monthly nighttime: SnowWhite dew/frost point hygrometer
Parallel sounding with SRS-C34 and RS92

6 times annually nighttime: Flash and SnowWhite dew/frost point hygrometer
Parallel sounding with SRS-C34 and RS92
(SHOMING project UNI Bern)

Weekly nighttime: Parallel sounding with SRS-C34 and RS92
starting 2011

2. Which ground based measurements can you provide in addition to the mandatory GPS total water vapour column (microwave, FTIR, lidar, ...) and how can you use these additional observations to make sure that measurement uncertainty estimates will be consistent?

- Raman Lidar RALMO for water vapor profiling (1 profile every 30 minutes)
- Microwave radiometer for temperature and water vapor profiling (1 profile every 30 minutes)
- GPS receiver for integrated water vapor

Within the COST ES0702 project EG-CLIMET we have a COST-Swiss project "Integration of remote sensing and radiosonde profiling systems". A PhD student is working on this project in collaboration between MeteoSwiss and the University of Bern.

3. Do you have any limitations regarding the development of GRUAN launch protocols for routine and reference sonde launches (e.g. the use of autosonde launchers)?

There should be no limitations. We do not plan to have autosonde launchers for GRUAN activities.

4. Do you have any limitations regarding the development of uniform GRUAN data processing schemes for remote sensing observations?

We do not have limitations. However, it will take time to get to this point.

5. What local analysis can you provide to assure that measurements uncertainties will be consistent across the network (analysis of redundant observations either dual sonde launches or sonde + remote sensing observations)?

We think that weekly dual sonde launches (SRS-C34 and RS92) will assure consistent measurements between Payerne and the rest of the GRUAN network.

6. For sonde observations: Can you provide all raw data for central archiving?

Yes

7. For remote sensing observations: Will you be able to archive all raw data for possible future reanalysis and reprocessing?

Yes

8. What help do you need from the Lead Centre / WGARO / GCOS Secretariat in moving forwards?

Instructions about required data formats. When do we launch weekly or monthly sondes? Nighitime or daytime? Fixed schedule or fair weather or even clear-sky conditions only? Discussion needed.

9. Will you be able to host local intercomparison campaigns (yet to be scheduled)?

Yes, but not in the near future.

10. Are there any special infrastructure needs that should be addressed?

The reference sonde to be used in the future. What are the requirements of such a sonde?