WMO SPICE Teleconference

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| Date | 09.04.2015 | Time  | 14:00 – 17:00 (UTC+1) |
| Purpose | SPICE |
| IOC member attendees(strike though if not attending) | R. Nitu, B. Baker, ~~J. Hendrikx, H. Liang,~~ Y.-A. Roulet, F. Sabatini, ~~V. Vuglinsky~~ |
| IOC ex-officio member attendees(strike though if not attending) | S~~. Bilish (Australia)~~ C. Smith – ~~D. Yang~~ (Canada), ~~S. MacDonell (Chile)~~ O. Aulamo (Finland) ~~K. Iida (Japan)C. Zammit (New Zealand)~~ M. Wolff (Norway) ~~M. Karzynski (Poland)~~~~TBD (Russian Fed.)~~ ~~R. Rasmussen (USA) L. Lanza (Italy)~~~~S. Morin (France) A. Uriel - S. Buisan (AEMET-Spain)~~ ~~G. Diolaiuti, - D. Bocchiola (Italy/Nepal)~~~~S Han (Rep. Korea)~~ |
| Other Attendees(optional) | I. Rüedi, M. Earle, ~~F. Boudala, Andy Gaydos,~~ B. Goodison, J. Hoover, ~~P. Joe,~~ J. Kochendorfer, T. Laine, ~~S. Landolt,~~ A Senese, ~~E. Vuerich, A. Poikonen,~~ A. Reverdin, ~~Gyu-Won Lee,~~ Floor Heuvel, ~~Hee Jin, Kai Wong, L. Leppänen, H.-R. Hannula,~~ E. Mekis, ~~A. Kontu, Amal Samanter, J. Theriault~~ |
| Distribution | All attendees, IOC (including IOC ex-officio members) |
| Moderator | R. Nitu | Recorder | I. Rüedi |
|  |  |
| 2nd Teleconference |  |
| Participation |  |
| Moderator |  |

Meeting Records (A = Action / D = Decision / I = Information)

| **#**  | **A / I / D** | **Item Description** | **Owner** | **Due Date** |
| --- | --- | --- | --- | --- |
| 1. | **I** | Presentation by John on Transfer Functions- Proposed to do some screening of the data for gauges in single Alter, unshielded gauges, and other gaugeconfigurations. Care needs to be taken, as depending on chosen reference instrument and threshold, there are significant changes in the results.The sigmoid function derived from the data of multiple sites is very complex. | John |  |
| 2 | **I** | Applying the sigmoid transfer functions to rain data does work quite well. However, it is questionable, whether SPICE should develop TF for rain as well. It is indeed not expected that TF is going to be strongly dependent on temperature, but rather on precipitation intensity.It has not been tested whether the function would be working for summer rain data as well. | John |  |
| 3 | **A** | Advise whether independent TF should be developed for snow (function of wind) and mixed precipitation (function of wind and temperature).Consider impact of other sampling intervals and thresholds. | John / Guywon | May 2015 |
| 4 | **I** | In view of developing recommendations for network operation, we have on one side to look at what is commonly available in networks (wind-speed at 10-min or gauge height; regular averaging/archived interval -10 min, or more), but on another side also provide guidance on what could be achieved with automated systems and how precipitation measurement performances could be improved depending on the station/network design.  |  |  |
| 5 | **A** | All site managers to reply to Rodica’s e-mail on site team composition. | Site managers | 10 April 2015 |
| 6 |  |  |  |  |
|  |  | **For next teleconference(s)**:* **16.4. Non catchment type (Yves-Alain)**
* **23. 4. Intensity (Emanuele)**
* **30.4. Data sheet 3**
* **7.5. R0-R1 (Daqing)**

**13.5. (Wednesday): meeting preparation (Rodica)** |  |  |

Open Actions (strike though actions that were complete since last teleconference, delete actions that were stroked through at time of previous teleconference)

| **#**  | **A / I / D** | **Item Description** | **Owner** | **Due Date** |
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|  |  | **DATA SHEETS** |  |  |
| 2 | **A** | **2 April 2015**For each instrument model, define an approach for merging (if the case) the results from units received directly from Instrument Providers and instruments included as a site contributions. We will have to account for different configurations.Will assess whether there are statistical differences (and how significant) between the performance of the same instrument model, from Instrument provider vs from a host site.Ideally: one data sheet per instrument model, regardless the origin. In practice: will be determined based on findings during analysis. | DAT |  |
| 5 | **A** | **2 April 2015**Include in the Data Sheets information on instrument performance limitations reflecting the findings from assessing data that is flagged, removed, or missing data, as well as the site logs and site experience, in general. This will support recommendations for future improvements. | All |  |
| 4 | **I/A** | **19 March 2015**Consider to include **plots for non-precipitation data**, as some instruments include specific algorithms, and some groups also apply specific software to deal with non-precipitation data.Explore different methodologies dealing with non-precipitation data and publish it as an annex to the final report. | Roy/Bruce | Aug. 2015 |
| 2 | **A** | **12 March 2015**Next step in analysis is to **separate by precipitation type and terminal velocity of the particles**. | Roy/Audrey | ??? |
| 4 | **A** | **26 Feb. 2015**Apply Guywon method on **error preparation** to data used by John to compare results | DAT | 31 March 2015 |
| 4 | **I/A** | **12 Feb. 2015**Use the Event Selection algorithm as currently defined; assess results by site and tailor to site specific findings, if needed, with full documentation. E.g. use of longer time periods, e.g. 1 hour, with the same threshold, especially for high wind speeds.**12 Feb. 2015**Need to **investigate whether a 30 min interval and 0.25 mm threshold are applicable to all sites** or a site dependent approach may be needed, to account for drier, windier climates (e.g. Bratt’s Lake)Common approaches for all sites would support the development of relevant transfer functions.**Feb 05 2015**To determine whether the present event selection method, based on a 30 min interval and 0.25 mm accumulation threshold, would be appropriate for trace events.Requirement for assessment of different time intervals and accumulation thresholds; relevant to different applications (e.g. climate). | Mareile/DAT | May 2015 / For the Final Report |
| 4 | **I/A** | **4 December 2014**The question was raised if SPICE datasheets should include intensity plots and if they can be represented with the same 30min event periods. Recommendation from Emanuele Vuerich, was to include intensity plots in the datasheets. 1min datasets should be generated first, and then aggregated to other time periods (5, 10, 20min), to avoid losing information (compared to aggregating the data directly in bigger time intervals).In proposal, intensity criteria from FI RI to be applied to calculate intensities for gauges in FWRS.Emanuele to investigate further the intensity component for datasheets.Questions: What is minimum accumulation time needed to produce a ‘reliable’ rate? How does this vary by gauge? Further, how do we define what is ‘reliable’? | Emanuele | TBD |
| 5.1 | **A** | **12 Feb. 2015****Mueller Hut reports data on an hourly basis**. The event selection algorithm will need to be tailored to account for this frequency of reporting. | DAT | For the final report |
| 9. | **A** | **12 Feb. 2015****Tipping Buckets** assessment and derivation of transfer functions require a careful approach, recognizing the fact that they normally need some time to catch up reporting the falling precip (delay between falling snow to melting and the accumulation and tipping of the buckets).The analysis needs to be structured to give them time to “catch up”. The 30 min event approach may not work for TBs.TBs output data based on the number and timing of the tipping of the buckets; thus, the temporal correlation between an event and the timing of the TB report (especially for the start of precip, and for light events), may need to be further assessed (a TBRG bucket tips only when full).Need to assess what happen when the funnel of a TBRG gets filled with snow (heavy events). | DAT/all | SPICE-IOC-6 meeting |
| 10. | **D** | **12 Feb. 2015**The data analysis and reporting of results for TBs and non-catchment type instruments will need assessment methods that are likely different from those established for the WGs. | all | SPICE-IOC-6 |
| 3 | **I/A** | **Feb 05 2015**A number of sensors are reporting only intensity, while the reference is providing accumulation. Need to document in the Data Sheets how the accumulation is derived, and caveats. | DAT | May 2015 |
| 5 | **A** | **15 January 2015**Follow up on investigation of **minimum detectable signal**.**4 December 2014**Roy to present slides on the minimum detectable signal as a function of wind speed. | Rodica/ Roy | 11 Dec, 2014 |
| 12. | **A** | **12 Feb. 2015**Separate analysis will be conducted for lighter events | DAT/all | Final Report |
| 15. | **A** | **12 Feb. 2015**Everyone is encouraged to verify independently the procedures for the derivation of event datasets. If done provide feedback to DAT. | all | On-going |
| 4 | **A** | **9 October 2014**Provide a first draft of the interpretation of terminology used in the project objectives, relative to SPICE specifics, to be used as a starting point for the identification of graphs and analyses to be conducted for the preparation of Data Sheets.  | Roy | Oct 30, 2014 |
| 13. | **A** | **12 Feb. 2015**Encourage the Instrument Champions to become very familiar with the instruments that they champion and support the DAT with specific information on:* Details on instrument data output;
* Instrument configuration: specifics;
* Instrument diagnostics;
* Preliminary interpretation of the results derived.
 | Rodica | Feb 20, 2015 |
|  |  | **AVAILABILITY OF DATA** |  |  |
| 4 | **A** | **26 March 2015**Site managers to check that data (including QCed data) have been properly updated at NCAR and confirm to Anday that data are fine or any problems were identified. | All site managers | 15 April 2015 |
| 5 | **A** | **26 March 2015**Site managers uploading “old” data should inform Andy that they are doing so and should check that they are processed appropriately. | Site managers |  |
| 6 | **A** | **26 March 2015**Transfer **all outstanding data** to NCAR. | All site managers | 15 April 2015 |
| 7 | **A** | **26 March 2015**Provide password for NCAR data access to site managers | Andy/Audrey | 30 March 2015 |
|  | **A** | **26 March 2015**Apply QC to tipping buckets and optical sensors | Andy | 15 April 2015 |
| 6 | **A** | **5 March 2015**Develop QC’d manual measurement dataset for Marshall site (address evaporation and measurement times). **6 November 2014**Manual flagging of data is important when a jump is identified, especially because of capping. Procedure to enable site managers to input that information in the archive following identification of a jump by the QC procedure would be a possibility. Need to assess whether this would be feasible and who should be allowed to perform such flagging. The group suggested that site managers and data-analysers could do that. In case of “conflicts” the last edition would be the right one. If the case a data-analyst would flags data from another site, he would have to inform the site manager.  | Roy, Bruce, John | March, 2015/ 20 Nov. 2014 |
|  |  | **TRANSFER FUNCTIONS AND UNCERTAINTIES** |  |  |
| 2. | **A** | **26 Feb. 2015**Identify whether other sites have the same gauge model in multiple configurations, to allow for the application of the proposed method. (e.g. Bratt’s Lake, Haukeliseter, Sodankylä, etc). R2 and R3 references on each site provide 3 gauges, which could be used, for this analysis.Rain data will be required to further explore the uncertainty, using the method proposed. | Rodica/Audrey | April 2015 |
| 5 | **A** | **26 Feb. 2015**Compare obtained uncertainties with those obtained during the rainfall intensity intercomparison. | DAT? | 31 March 2015 |
| 2 | **A** | **19 Feb. 2015**Manual measurements (R1) of Marshall and automatic measurements (4 different R2s, 3 of which have Geonors and one with a Pluvio2) seem to exhibit differences.Review manual Marshall measurements vs automatic gauges in DFIRs, if appropriate. | Roy / Scott/ Kai | 15 March 2015 |
| 6. | **A** | **12 Feb. 2015**Revisit the noise study conducted by Mike to asses the noise floor | Mike | April |
| 7 | **A** | **4 December 2014**Mike to prepare and present R3 analysis from CARE site at a future telcon. | Mike | 11 Dec, 2014 |
| 11 | **A** | **25 September 2014**Try to get data from the first WMO intercomparison from sites with a shielded/unshielded pair. If available, these data will be sent to Roy for further analysis | Daqing |  |
|  |  | **CAPPING** |  |  |
| 8. | A | **26 Feb. 2015**Samuel Buisan will be the SPICE focal point for capping events. Rodica distributed a template for everyone to capture information on capping on their sites.All team members are asked to document all capping events (including reflection on heating) and provide to Samuel B. | Samuel BuisanAll team members | On going |
|  |  | **PLUVIO2 DATA** |  |  |
| 8. | **A** | **12 Feb. 2015**Assess the Pluvio2 data products, to develop a more comprehensive reference data set for the R2, R3 Pluvio based. As defined during SPICE\_IOC-2, aim at defining a “SPICE” algorithm for Pluvio2.**13 November 2014**It was recognized that additional work is required to further assess the use of the Bucket RT data from Pluvio 2 gauges, eventually in conjunction with the other data fields produced by Pluvio2. | TBD Mareile/Audrey | SPICE-IOC-6 meeting |
| 10 | **A** | **Feb 05 2015**Provide feedback to Rodica on reference report | All | 18 Feb 2015 |
|  |  | **COMMISSIONING REPORTS** |  |  |
| 6 | **A** | **19 Feb. 2015**Commissioning protocol of Formigal needs to be updated to include information on the R2 reference built in 2014 | Samuel B. | 31 March 2015 |
| 6 | **A** | **22 January 2015**Some commissioning reports are still outstanding.  | Site managers |  |
|  |  | **GEONOR DATA PROCESSING (BY EXTENSION, ALL WG)** |  |  |
| 6 | **A** | **8 January 2015**Final report will have to provide guidance to Members on how to use the output of the 3 transducers, as some Members use only one wire.Compile documentation on processing of Geonor data.**13 November 2014**On the processing of Geonor data: many organizations/groups have been using more advanced processing to improve the Geonor accumulation report (CRN, NCAR, Norway, EC, etc), we acknowledge that we may/should revisit the algorithm to achieve similar improvements. At the minimum, we may use a standard dataset and process it with the algorithms we are aware of, and see the differences.**8 January 2015**Carry-out comparison on the difference in results if using one or three wires | Bruce/DAT | March 2015SPICE-6/Final Report |
| 2 | **A** | **24 Oct. 2013**The SPICE report will need to provide feedback on calibration procedures as stated in Geonor manual to inform those using these gauges. Key points:* Gauge levelling
* Compare 3-wire average (requires algorithm from DAT) or individual transducers with calibration load
* Comparison impacts procedure in manual: if errors more than 0.5%, Geonor recommends correction of *A*, *f0* coefficients
* Covering of gauge orifice during calibration
 | Rodica | In the Final report |
|  |  | **CALIBRATION OF INSTRUMENTS IN THE FIELD** |  |  |
| 5 | **A/I** | **20 November 2014**ll Site managers are reminded to perform calibrations/field controls and document the process and results.  | All | March 2015 |
|  |  |  |  |  |
| **From teleconference of 23 October 2014** |
| 9 | **A** | **23 October 2014**Adding of snow occurrence information to the manual observations table of PYRAMID site  | Guglielmina | Nov 7, 2014 |
| 10 | **A** | **23 October 2014**Sending of Forni data to Craig first (in any format) and then with the right NCAR format to NCAR. | Guglielmina, Antonnela | Next week to Craig, then as soon as possible to NCAR |
| 11 | **A** | **23 October 2014**The SR50, used to select snowfall events, will be changed for a similar model at Forni site as there may be issues with their current instrument | Guglielmina, Antonnela | For season 2014/2015 |
| 12 | **A** | **23 October 2014**Sending of elevation change as a result of the change in location of the Forni site. | Guglielmina, Antonnela | At the end of the summer season |
| 15 | **A** | **7 August 2014**Assess and discuss methods for tying together SoG with event selection; an NCAR or offline? | Craig | Next telecon |
|  |  | **OTHER TOPICS** |  |  |
| 7 | **I/A** | **9 October 2014**All project members are encouraged to publish results, from their sites, or on proposed methodologies, in the SPICE special issue and to inform the team about their plans. | All | On-going |
| 7 | **A** | **7 August 2014**Finalization of Sodankylä meeting report is still underway. Some presentation summaries are still missing from Antonella, Leena, Niina, Arkady. | ~~Antonella, Leena, Niina,~~ Arkady, Isabelle | 31 Aug. 2014 |
| 8 | **A** | **20 February 2014**Help raise resources for the CIMO Trust Fund to enable hiring someone for that. | All | On going |
| ~~12~~ | **~~A~~** | **~~23 Jan. 2014~~**~~Site Managers to send to Rodica picture that are representative of their sites, which would be used for presentations/posters on SPICE~~ | ~~Site Managers~~ | ~~on-going~~ |
| 16 | **A** | **19 Dec. 2013**Send Audrey proposals for any terms to be defined | all | ongoing |
| 1 | **A** | **20 Sept. 2012:** Look at vertical wind profile: compare measurements with observations at different heights | John | Aug 2013 |

**Attachments:**

None.