WMO SPICE Teleconference

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| Date | 02.04.2015 | Time | 14:00 – 15:20 (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. Honda (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)~~  ~~Hyelim Kim (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** |
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| 1. | **I** | Presented the latest plan for the data sheets. It is based on the following principles:   * Only one datasheet per instrument model * Concentrate first on data sheet for manufacturers * Prepare site datasheets to describe the site experiment configuration and how this has worked (planned versus actual); e.g. heater configuration vs performance from season to season. | Audrey |  |
| 2 | **A** | 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 |  |
| 3 | **I** | Eventually, it is expected that transfer functions would also be included in the datasheets. |  |  |
| 4 | **I** | The August version of the datasheets that will be shared with the manufacturers will not include transfer functions, but only information on the performances of the gauges, and possibly include some curve-fitting, for example for the catch efficiency. The datasheet may still evolve after that time, based on the feedback received from the manufacturers, as well as based on the additional analysis carried out by the project team. |  |  |
| 5 | **A** | 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 |  |
| 6 |  |  |  |  |
|  |  | **For next teleconference(s)**:   * **9.4. Transfer function 3 (TBD)** * **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** |  | | | |  |
| 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~~** | **~~Feb 05 2015~~**  ~~Provide feedback to Rodica on datasheet proposal, proposing additional type of plots and information that you would like to see in these datasheets (reflecting operational, applications, and research needs)~~ | ~~All~~ | | | | ~~Feb18, 2015~~ |
| ~~6~~ | **~~A~~** | **~~Feb 05 2015~~**  ~~Start the development of data sheets with a sample for one instrument and discuss the results; based on these adjust strategy for moving forward.~~ | ~~Audrey, Mike, Mareile, Rodica~~ | | | | ~~March 12, 2015~~ |
| ~~4~~ | **~~A~~** | **~~20 November 2014~~**  ~~Apply, as a test case, the proposed procedures to some qc-ed data sets to demonstrate application and potential of the proposed method using the dynamic field calibration method.~~ | ~~Emanuele~~ | | | | ~~15 Feb. 2015~~ |
| ~~6~~ | **~~A~~** | **~~9 October 2014~~**  ~~Use the opportunity of the review of data availability for assessing the type of plots and analysis that needs to be conducted for meeting project objectives. E.g. developing plots to assess whether there are similarities between climates on different sites, assessment of results on a site by site basis, followed by the corroboration of results, etc~~ | ~~all~~ | | | | ~~End of October~~ |
| 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 |
| ~~6.~~ | **~~A~~** | **~~5 March 2015~~**  ~~SPICE-6 meeting to take place, as planned, May 19-23 (or 18-22). Location to be firmed up by March 12.~~ | ~~Rodica~~ | | | | ~~March 12 2015~~ |
|  |  | **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 |
| ~~4~~ | **~~I/A~~** | **~~22 January 2015~~**  ~~Have a (series of) teleconference of the transfer function subgroup to finalize way forward for TF and to agree on who is doing what. Subgroup tentatively composed of: John, Daqing, Roy, (Mike), Bruce, Craig, Yves-Alain (W. Audrey and Floor), (Eva), Guywon?,Samuel B.~~ | ~~Bruce/Mareile~~ | | | | ~~Feb. 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 Buisan  All team members | | | | On going |
|  |  |  |  | | | |  |
|  |  |  |  | | | |  |
| ~~1~~ | **~~A~~** | **~~12 Feb. 2015~~**  ~~Roy to assess whether NCAR can store all data and graphs generated by SPICE. Roy will follow up with Andy. If not, alternatives need to be explored.~~ | ~~Roy~~ | | | | ~~Feb 26~~ |
|  |  | **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 |
| ~~8~~ | **~~A~~** | **~~Feb 05 2015~~**  ~~Volunteer as “instrument champion” for instruments you are familiar with.~~ | ~~All~~ | | | | ~~19 Feb. 2015~~ |
| 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 | | | |  |
|  |  |  |  | | | |  |
| ~~6~~ | **~~A~~** | **~~15 January 2015~~**  ~~Recommendation for all SPICE participants to review previous telecons. Actions/decisions could serve as ‘pointers’ for how to proceed with different assignments. Look for items that tie in with specific tasks.~~ | ~~All~~ | | | | ~~On going~~ |
|  |  | **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 2015  SPICE-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**  All 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** | Adding of snow occurrence information to the manual observations table of PYRAMID site | Guglielmina | | | | Nov 7, 2014 |
| 10 | **A** | 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** | 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** | 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.