WMO SPICE Teleconference

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| Date | 05.03.2015 | Time  | 14:00 – 15:55 (UTC) |
| 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 |
| Distribution | All attendees, IOC (including IOC ex-officio members) |
| Moderator | R. Nitu | Recorder | J Hoover, R Nitu |
|  |  |
| 2nd Teleconference | **06.03.2015; 2:30 – 3:30 UTC** |
| Participation | **S Bilish** |
| Moderator | **R Nitu** |

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

| **#**  | **A / I / D** | **Item Description** | **Owner** | **Due Date** |
| --- | --- | --- | --- | --- |
| 1. | **I** | Presentation of sample datasheets (by instrument, multi-sites; site data sheets)Manufacturer datasheet for instruments provided by manufacturers. Plots: time series, scatter plot, catch ratio, box plot with sample size, catch ratio vs intensity, catch ratio contour plotMulti-site datasheet for one instrument installed at multiple sites. Catch ratio subplots for T < -2, -2 < T < 2, T > 2 for different sites. Additionally, use present weater instrument outputs to discriminate between precip types.Concept plots: catch ratio (CR) vs intensity; contour plots; linear regression plots with tolerance zonesManufacturer datasheets are a priority, to be generated by end August.Sensors from hosts will have Data Sheets, developed based on agreement with Site ManagersWill include sample size with box plot graphs. Either numbers or bar plotUse filtered data (30 minute period, min threshold 0.25 mm) for catch ratio plotsPlot CR with a measure of scatter for each wind speed interval (box plots), for each instrument  | Floor (Audrey) |  |
| 2 | **I/D** | Additional evaluation of Pluvio 2 data products conducted, to support decision on the derivation of reference data when the gauge in the reference is a Pluvio2.Assessments of data from several Pluvio2 units at CARE showed that the Bucket RT is very sensitive to evaporationAdditional work to be conducted to assess Bucket Rt vs Total NRT during preciptiaiton, using the event algorithm.  | Kai/Rodica |  |
| 4. | **I** | Assessment of additional methods for QC of SR50A data using sensor quality numbers. Estimates of snow depth measurement uncertainty using bias error, RMSE bias-removed RMSE, for various processing intervals (1 min, 5 min, 10 min, 30 min), using average and median | Rodica/Mike |  |
| 5. | **A** | Develop QC’d manual measurement dataset for Marshall site (address evaporation and measurement times).  | Roy | March, 2015 |
| 6. | **A** | 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 |
|  |  | **For next teleconference(s)**:* **12.3. R2-R3 (Roy, Bruce))**
* **19.3. Data sheet 2 (Roy/Bruce/FAME/Rodica) *(SoG & COST Grenoble !)***
* **26.3. Information on modelling results (Roy) and transfer function 2 (John)**
* **2.4. available for smaller group discussions on transfer functions**
* **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** |
| --- | --- | --- | --- | --- |
| **From teleconference of 26 Feb. 2015** |
| 2. | **A** | 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 |
| ~~3~~ | **~~I/A~~** | ~~Recalled uncertainty analysis performed by Guywon and presented during Sodankylä meeting. Rodica to share the presentation from Sodankylä.~~ | ~~Rodica~~ |  |
| 4 | **A** | Apply Guywon method to data used by John to compare results | DAT | 31 March 2015 |
| 5 | **A** | Compare obtained uncertainties with those obtained during the rainfall intensity intercomparison. | DAT? | 31 March 2015 |
| 8. | A | 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 |
| **From teleconference of 19 Feb. 2015** |
| 2 | **A** | 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** | Commissioning protocol of Formigal needs to be updated to include information on the R2 reference built in 2014 | Samuel B. | 31 March 2015 |
| **From teleconference of 12 Feb. 2015** |
| 1 | **A** | 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 |
| 4 | **I/A** | 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. | Mareile/DAT | For the Final Report |
| 5.  | **D** | 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. | Mareile/DAT | For the final report |
| 5.1 | **A** | 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 |
| 6. | **A** | Revisit the noise study conducted by Mike to asses the noise floor | Mike | April |
| 8. | **A** | 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. | TBD | SPICE-IOC-6 meeting |
| 9. | **A** | 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** | 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 |
| 12. | **A** | Separate analysis will be conducted for lighter events | DAT/all | Final Report |
| 13. | **A** | 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 |
| 15. | **A** | Everyone is encouraged to verify independently the procedures for the derivation of event datasets. If done provide feedback to DAT. | all | On-going |
| **From teleconference of Feb 05 2015** |
| 3 | **I/A** | 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 |
| 4 | **A** | 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 |
| 5 | **I/A** | 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). | All | May 2015 |
| 6 | **A** | 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 |
| 8 | **A** | Volunteer as “instrument champion” for instruments you are familiar with. | All | 19 Feb. 2015 |
| 10 | **A** | Provide feedback to Rodica on reference report | All | 18 Feb 2015 |
| **From teleconference of 22 January 2015** |
| 4 | **I/A** | 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 |
| 6 | **A** | Some commissioning reports are still outstanding.  | Site managers |  |
| **From teleconference of 15 January 2015** |
| ~~4~~ | **~~A~~** | ~~Look into potential for update on uncertainty analysis from Gochang team.~~  | ~~Rodica~~ |  |
| 5 | **A** | Follow up on investigation of minimum detectable signal. | Rodica |  |
| 6 | **A** | 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 |
| **From teleconference of 8 January 2015** |
| 6 | **A** | 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. | Bruce | March 2014 |
| 7 | **A** | Carry-out comparison on the difference in results if using one or three wires | DAT | Dec. 2015 |
| **From teleconference of 4 December 2014** |
| 4 | **I/A** | 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 |
| 7 | **A** | Mike to prepare and present R3 analysis from CARE site at a future telcon. | Mike | 11 Dec, 2014 |
| 8 | **A** | Roy to present slides on the minimum detectable signal as a function of wind speed. | Roy | 11 Dec, 2014 |
| **From teleconference of 20 November 2014** |
| 4 | **A** | 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 |
| 5 | **A/I** | All Site managers are reminded to perform calibrations/field controls and document the process and results.  | All | March 2015 |
| **From teleconference of 13 November 2014** |
| ~~5~~ | **~~D/A~~** | ~~First-pass datasets processed with the current QC will be produced for Haukeliseter, Marshall, CARE, Formigal and Sodankylä. These first-pass datasets could be delivered in two different ways : QCed datasets (Time + Data + Flags) and event selection datasets.~~ ~~These datasets will be provided as a starting point for the following analysis steps :~~ | ~~Audrey/Floor~~~~(Mike)~~~~Audrey/Mareile/ Floor/ (Mike)~~ | ~~QCed datasets :~~~~December~~~~Event selection datasets :~~~~Mid-December~~ |
| 7 | **A** | 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.  | Mareile/Audrey | March 2015 |
| 8 | **A** | 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. | DAT | Final report |
| **From teleconference of 6 November 2014** |
| 6 | **A** | 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 | 20 Nov. 2014 |
| **From teleconference of 23 October 2014** |
| ~~2~~ | **~~A~~** | ~~Craig and Samuel to follow up on data catalogue; update where necessary~~ | ~~Craig, Samuel~~ | ~~Nov 7, 2014~~ |
| ~~3~~ | **~~A~~** | ~~Input from site managers required re: derivation of output data (sampling rates, processing at logger level)~~ | ~~Site managers~~ | ~~Dec 5, 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 |
| **From teleconference of 9 October 2014** |
| 4 | **A** | 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 |
| 6 | **A** | 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 |
| 7 | **I/A** | 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 |
| **From teleconference of 25 September 2014** |
| 11 | **A** | 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 |  |
| **From teleconference of 7 August 2014** |
| 7 | **A** | 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 |
| 15 | **A** | Assess and discuss methods for tying together SoG with event selection; an NCAR or offline? | Craig | Next telecon |
| **From teleconference of 20 February 2014** |
| 8 | **A** | Help raise resources for the CIMO Trust Fund to enable hiring someone for that. | All | On going |
| **From teleconference of 23 Jan. 2014** |
| 12 | **A** | 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 |
| **From teleconference of 19 Dec. 2013**  |
| 16 | **A** | Send Audrey proposals for any terms to be defined | all | ongoing |
| **From teleconference of 24 Oct. 2013** |
| 2 | **A** | 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 |
| **From teleconference of 20 Sept. 2012** |
| 1 | **A** | Look at vertical wind profile: compare measurements with observations at different heights | John | Aug 2013 |

**Attachments:**

None.