

**Call of all ISTI groups 14/4/16 @12Z (14 Berlin, 13 London, 8 New York)**

Present on call: Peter Thorne, Jared Rennie, Robert Dunn, Blair Trewin, David Lister, Victor Venema, Richard Chandler, Rachel Killick (Warren), Manuel Dienst, Albert Mhanda, Akiyo Yatagai, Kate Willett, Renate Auchmann, Michael de Podesta, Lisa Alexander, Xiaolan Wang, Colin Morice, Waldenio

Apologies in advance: Enric Aguilar, Albert Klein Tank, Matt Menne, Andrea Merlone, Manola Brunet, Steven Worley, John Christy

**ACTIONS**

Provide feedback on progress report

Provide feedback on rezatec site to Richard Chandler

## Agenda

### **1. Update on general progress from steering committee - Peter**

Progress has been slow and hard going. Do we need to refresh membership of steering committee to reinvigorate? The main challenge remains that without sustainable funding the whole enterprise is running solely on goodwill or because its aims align with funded resource.

A pair of papers on DTR just got accepted by JGR that use the databank holdings and NCEI's PHA. These should come out relatively soon.

My big SFI grant which would have been great got 3 superb reviews and one jelly review (poke it and it moves away on the plate) and got rejected still. I suspect because the funders didn't want to touch climate change. It would have helped push our aims forwards enormously, sadly.

I had a meeting at NCEI to discuss the databank strategy, which we'll cover under the next item of business here.

I presented an update as an invited presentation at a session at AGU fall meeting

I have been informed of at least three papers arising from the SAMSI workshop  
JR: More info? Result of our work in Boulder in 2014? Who is authoring?

PT: This info came from Robert Lund ... I believe you are an author on one of them :-)

JR: Ah yes

MM: That was the plan, but have not been in touch recently about the status of these--perhaps you have?

I have attended and participated in the EUSTACE first General Assembly and they are certainly going to produce some very interesting work.

Otherwise the steering committee activity has been fairly light. Really, until we get the benchmarks released there probably won't be much movement forwards in reality because having global benchmarks available is when we can really push and try to help the benchmarking group achieve its objectives.

Victor: I am optimistic that several people will participate in the benchmarking and thus in the generation of ISTI products. But only time will tell. This would, however, be a one time generation of homogenized data and we would need the homogenization to be performed regularly and maps and averages to be computed.

I am optimistic about individual scientists willing to play in our play garden. What we did not try much, or at least what I have not seen or done myself, is trying to convince weather services to build operational products build on the ISTI dataset. In that case we should probably not talk about playing in our garden, but about a world-leading weather services with global products

published at a product with their brand on it. Just like HadSST or ERSST builds on iCOADS. These groups would then have their name mentioned on the main graph in the IPCC report in 2020. Every dwarf group with this global ambition has a projection run for CMIP, with much less effort they could be much more visible on the international stage.

If several groups would build their products on the ISTI database, they would also have an incentive to provide some funds to keep ISTI running for basic tasks.

The minimum investment would be a new interpolation methods (Cowtan and Way) and reusing our QC and PHA. The next step would be an improved homogenization method. It would make it more interesting (and distinguish them from other products) if they would do something unique such as Tmax, Tmin and DTR, or daily homogenized data (currently only Berkeley and unpublished), or better merge of SST and LST.

Countries I could imagine being interested would be China (very active in recent years in homogenization and redoing the ISTI database merge effort to make their own global database), Norway (Ole Einar Tveito likes interpolation), UK (Britain rules the waves, but they already have CRU; Ed Hawkins could maybe merge SST and LST better), The Netherlands (once ruled the waves, and has largest daily dataset), France, Germany (middle power, about time to become a peaceful global player), Switzerland (rich, neutral, high quality work), Spain (once ruled the waves, active in homogenization, good relations with developing countries) and maybe Japan and India to keep up with China (Australia - definitely science interest, through the Bureau, Uni of New South Wales, or both, but maybe not the resources to do a lot?). Lisa: yes agree interested but limited resources

Albert: new products may be developed as part of new climate services projects, in particular in Europe possibilities may arise in Copernicus, ERA4CS, etc.

## **2. Update from databank WG - Jared**

Databank has been updated to version 1.1.0 back in October 2015. This included a new version of GHCN-Daily, updates to near real time sources (CLIMATS, etc) and small changes to the merge configurations. Updates are appended to current stations in the databank and made available to the public (via FTP) no later than the 11th of each month. Version 1.1.0 serves as the baseline for GHCN-Monthly version 4, and a public beta has been released.

Since October 2015, not much has been updated to the Databank. There are roughly 10-12 sources that require attention (converting to stage 2). In order to maintain trust between the WG and the data provider, getting these sources into the Databank is high priority, and will be addressed no later than Summer 2016.

There have also been talks about the next version of the merge, which will include these sources, along with changes to the merge. We have discussed the possibility of revamping the merge algorithm to more closely mimic what is done

with GHCN-Daily. This method would provide a more detailed analysis of a source brought into the databank, with a quasi-automated method to merge, withhold, and unique stations. While a considerable amount of time would be needed to do this on all sources (at least a couple of months), it would provide a more robust analysis, and would only require looking at a source once (unless it's updated).

No matter what is decided on the future of the merge, we seem to agree that the next version would be 2.0.0, and would require another journal article.

Peter: Role for ISTI in helping to do the semi-automated using local information?

Jared: Open in principle.

### *2a. Data rescue team*

Victor: It seems to be hard to get volunteers to digitise station data, while marine data works better. Is it maybe too boring to type station data? In case of marine data, you follow a ship/captain through its adventures in history. Also the surface stations projects got a large number of volunteers to collect metadata on the siting of stations.

Would it be an idea to put more emphasis on finding metadata? Would that make the task more interesting? To dive into the archives to see what kind of instruments were used, what happened to the surrounding. Does this fit to the breaks we could immediately present for the newly digitised data.

I just got an email of the World Urban Database and Access Portal Tools (WUDAPT) that ASTER data will be available at no charge. They plan on using that for their Local Climate Zone (LCZ; land-use/urbanization) classification. This classification would also be interesting for weather stations and a perfect task for citizen scientists.

<http://www.wudapt.org/wudapt/>

### **3. Update on POST activities - Victor**

Victor: POST is making good progress, if a little slower than planned, which happens to voluntary actions.

Currently we have 3 ongoing studies.

1. We are studying the influence of relocations, which likely cause cooling jumps, which counteract the influence of urbanization.

<http://variable-variability.blogspot.com/2016/03/cooling-moves-of-urban-stations.html>

2. We are studying the influence of the transition to Stevenson screens; it looks as if we underestimated the warming bias of early temperature observations.

<http://variable-variability.blogspot.com/2016/02/early-global-warming-transition-Stevenson-screens.html>

3. We are studying the ongoing introduction of automatic weather stations for temperature and precipitation.

<http://variable-variability.blogspot.com/2016/01/transition-automatic-weather-stations-parallel-measurements-ISTI-POST.html>

For the studies on the transition to AWS we have first results. For the study on the transition to Stevenson screens, we are gathering datasets. For the study on relocations, we are looking what data is there and what the best study design would be. In all cases we are looking for more collaborators, especially more parallel data from non-WEIRD\* countries is welcome.

\* Western, educated, industrialized, rich, and democratic countries

#### **4. Update from benchmarking WG - Kate**

Victor: The next task is the coding of the error worlds. Kate and I started this last year when I visited the UK MetOffice. Everyone can help finish it, you can find our current code at GitHub.

[https://github.com/SurfaceTemp/ISTI\\_Error\\_Worlds](https://github.com/SurfaceTemp/ISTI_Error_Worlds)

Peter: Perhaps would be useful to point out on what, specific, aspects help is being requested? Is it coding or is it in providing expert advice on what, precise, structure of breaks to add here?

Victor: Mainly coding in R: implementing the inhomogeneities according to the agreed specifications. BAWG members have the document; I am happy to send it to others.

We also still need some analysis to look if we can find any geographical patterns in break sizes or frequencies that we may want to reproduce.

KW: Zero progress on this since last year as I've been too busy with other deadlines. These should wrap up sometime during May at which point I'm back on to benchmarking. The clean world code is working. I still need to submit the paper on that. Waiting to hear back from co-authors (who have also been extremely busy so not a grumble) but its been >6months so I need to poke them. There is a chance that they may find issues but the code does spit out ~30000 time series that look like the station data so we must be close.

#### **5. Overview of very belated progress report - Peter**

This document was sent with the call reminder Tuesday pm UK time.

It still requires a degree of review and input. Please advise where the status of the report is incorrect paying particular attention to a. what we achieved and b. the timeline of what we intend to deliver. For the latter this is our chance to, if necessary, (re-)extend time horizons once more.

There are several open items:

- i) Please note papers, talks and posters not presently noted in the first section.
- ii) Daily-CLIMATS - any update?
- iii) new sources to GHCN-Daily action from last year: what is current status?

MM: My plan for GHCN-Daily is to add the new datasets from KMNI (LACA&D and SACA&D) and do a re-merge of ECA, which is a bit overdue as there are many stations that have been added in the last 18 months. This can be done before we take on the new monthly stage 3 merge late this year and should not be too heavy a lift since we already have a process for integrated ECA&D. Note that we have also made a request via Albert for ECA&D to produce a "non-blended" version of their monthly data, which would help both ISTI and CRUTem.

Is there anything we have achieved, even if not an action that was foreseen, which is missing on the present draft?

I'll post this as 'final' next Friday so please get any comments in by 20th.

## **6. Maynooth University ACRE / lots of acronyms including ISTI meeting - Peter**

Maynooth will be hosting this meeting. The first half will be a classic ACRE type meeting but the second half will really be focussed upon what concrete steps are required as a community to realise the ICOADS-for-land vision of a set of collated holdings across both timescales (sub-daily, daily, monthly) and variables (temperature, humidity, pressure, precipitation etc.). It'll happen June 20th-24th.

## **7. Updates from call participants on any items of relevance not already covered above**

Peter - GCOS AOPC took place in Asheville NC last week. The primary aim was to discuss the IP. There may be interesting things come out for us viz:

- i) The ICOADS-for-land effort
- ii) Articulating as a recommendation need for independent datasets
- iii) Possible exploration of a surface reference network concept (may be an AOPC task team)

Matt Menne and myself sit on this panel and Albert Klein-Tank is outgoing vice-chair.

Albert: ongoing activities in South-America and Southeast-Asia to include new daily data in LACA&D and SACA&D; we are working on the first versions of daily gridded data products for these regions similar to E-OBS for Europe.

Blair: would be interested to know if there's any indication of last year's WMO Congress resolution leading to any countries making more data available? WMO-60

Andrea

MMC 2016 "Metrology for Meteorology and Climate" is announced, as joint event with WMO - CIMO TECO, Madrid 26 September - 29. Sessions on instrumental

uncertainty in climate records can be hosted. Someone willing to chair or promote a session? Just drop me an email.

Arctic climate records. Campaign and an "Arctic Metrology workshop" planned in 2016 (May and October) to improve traceability of data records in Arctic Environment (where observations shows amplified climate evolution). An interesting test site to improve traceability and quantity of influence evaluation. If Polar Regional Climate Centre gets off the ground then this may provide another channel for sourcing Arctic (and Antarctic) data.

EMPIR call 2016. a Proposal on Reference Grade Stations (Ground based - land) was submitted under the name "MetROS" Metrology for Reference Observing Sites. Results of first stage expected in few weeks.

Victor: Is any of us next week at EGU? Looking for a day to have dinner with people interested in station data quality:

<http://doodle.com/poll/draubv6in84tb4w3>

XW: I will be there.

RK: I'll be there.

Richard: status of the rezatec activity?

Ah, yes. They sent me some improved code in December, and I've had no time to look at it yet. Their latest version of an interface is at [redacted] if anyone is interested.

RK: Wow!

Send any feedback to Richard Chandler.

## **8. AOB**