

ISTI steering committee call

11/14/14

13Z (14 CEST, 8EST)

Present on call: Peter Thorne (PT), Victor Venema (VV), Kate Willett (KW), Albert Mhanda, Blair Trewin (BT), Xiaolan Wang (XW), Michael de Podesta (MdeP), Richard Chandler (REC), Jay Lawrimore (JL)

Apologies in advance: Andrea Merlone (AM), Rob Allan (RA)

### **Carried over actions from prior calls**

**ACTION:** ERA-Clim phase 1 data receipt is still pending. Jared to follow up with Stefan Bronniman.

**ACTION** KW/JR/BT follow up on WOW/Amateur obs being ingested into ISTI databank e.g., <http://wow.metoffice.gov.uk/>

**ACTION:** Databank WG to consider viability of survey of degree to which NMSs have open archives and under whose auspices it may best be achieved. CCI?

**ACTION:** Jay to advise when NCDC basement inventory is available online.

**ACTION:** Databank and benchmarking WGs to submit progress reports by end of October.

[Only applies to benchmarking group report, databank group report is published.]

### **New actions**

**ACTION:** Kate to investigate imputation of pseudo-elevation from an appropriate digital elevation source to stations without elevation info to enable their inclusion in benchmarks and advise.

**ACTION:** Victor Venema to create terms of reference and membership roster for an expert team on parallel measurements under the Databank WG using present terms of reference for the various ISTI groups (available on [www.surfacetemperatures.org](http://www.surfacetemperatures.org)) as a template. Databank WG and Steering Committee to approve inter-sessionally.

**ACTION:** PT to lead preparation of annual review document by January

**ACTION:** All chairs of teams to draft and circulate to their teams a new version of the Implementation Plan covering 2015-2018. Peter Thorne to lead production with final draft for discussion by Jan 2015.

**ACTION:** interested parties to discuss offline with Andrea Merlone (Peter, Victor, Kate, Jay (or Mike Palecki), Richard, Michael) helping Meteomet to proceed with their recipe effort appropriately.

**ACTION:** Design set of 1-siders on ISTI (PT), databank (JL review the one Jared has done), benchmarking (KW), parallel measures (VV). For handouts at COP meeting and elsewhere. Need by 28th Nov for COP. JL to ask NCDC graphics if they can make a consistent set of four flyers for Kate to take.

**ACTION:** All to review the data rescue strategy document from WMO available at [http://www.wmo.int/pages/prog/wcp/wcdmp/documents/IDARE\\_wcdmp83.pdf](http://www.wmo.int/pages/prog/wcp/wcdmp/documents/IDARE_wcdmp83.pdf) and provide feed back to Rob Allan by Dec 1st

## Agenda

### 1. Review of action items from previous calls

#### 1.1 Last steering committee call

<http://www.surface temperatures.org/steering-committee/Steering%20committee%20call%C2%A0150414.pdf?attredirects=0&d=1>

#### Actions from prior calls still open

**ACTION:** ERA-Clim phase 1 data receipt is still pending. Jared to follow up with Stefan Bronniman.

Pending update. Carry over

**ACTION** KW/JR/BT follow up on WOW/Amateur obs being ingested into ISTI databank e.g., <http://wow.metoffice.gov.uk/>

Not done - I did instigate some kind of chat with all people data but then failed to find a date when everyone could make and then forgot.

To be carried over

**ACTION** KW to join mailing list of CHARMe and keep informed.

*Done. PT has an invite to the final meeting. Not clear whether will attend or not.*

*KW: When is it? Can/should one of us go instead? I'm in Peru :).*

*PT: What are you doing in Peru? Searching for Paddington bear? :-) Its December 9th-10th at ECMWF. I have said I can go under GAIA-CLIM auspices if they pay my T+S, which in practice probably means I won't.*

*KW: COP 21 - and looking for Paddington bear. I'll take my own Marmalade though.*

#### New actions arising

**ACTION:** PT to send ITS-90 code produced as a Meteomet deliverable to Michael de Podesta.

*Done and Michael produced a write up. The software package and Michael's write up are on the website and a blogpost was written on the main initiative blog.*

<http://surface temperatures.blogspot.no/2014/06/understanding-effects-of-changes-in.html>

**ACTION:** Databank WG to have call in next 4-6 weeks.

*Done*

**ACTION:** PT chase wmo over responses status to the letter sent to national PRs.

*Done. The letter produced additional inputs from Germany and UK. Switzerland are also moving toward an open access model.*

**ACTION:** Peter to follow up on potential Norwegian funding council meeting support.

*Not done. Deemed upon further investigation not appropriate.*

## **1.2 Last all hands call**

<http://www.surfacetemperatures.org/steering-committee/ISTI%20all%20hands%20call%20Thurs%20Sept%204th.pdf?attredirects=0&d=1>

**ACTION:** Databank WG to consider viability of survey of degree to which NMSs have open archives and under whose auspices it may best be achieved. CCI? Still open. Carry forward

**ACTION:** Jared to write blogpost on nrt updates following the September update.  
*Done*

**ACTION:** All to provide any information they have on parallel measurements that have been undertaken to Victor Venema and Renate Auchmann to support the development and utilization of a parallel measurements database.  
*See item #4*

**ACTION:** Kate to write a blogpost on the benchmarking concepts paper when formally published.  
*Done*

**ACTION:** Jay to advise when NCDC basement inventory is available online.  
*Latest estimate some time in November. Jason Cooper will get an update from DAAB and ITB later this week. As of a few weeks ago awaiting a new server among other things.*

**ACTION:** Databank and benchmarking WGs to submit progress reports by end of October.  
*Databank WG progress report finalized and sent to Peter. PT: and now posted on the website.  
BAWG progress report done and just sent around group.*

**ACTION:** All groups to aim to have call by mid-October  
*Databank and data rescue teams have had calls*

Open invitation to all to contribute potential posts to the blog to highlight work either done under ISTI auspices or of interest to ISTI. Posts can be sent to Peter. Blog is at <http://surfacetemperatures.blogspot.no/>

## **2. Update on general activities**

A Met Office led EU proposal - EUSTACE - which is synergistic with ISTI got funded under H2020. PT will be on the science advisory panel. It kicks off in January and we shall discuss further this project in the all hands call planned for Jan 2015.

KW: EU Surface Temperature for All Corners of the Earth - blending several sources and latest methods to provide global surface temperature climate data records to very high standards

Talks have been given at MMC 2014 in Slovenia and at the EMS meeting in Prague by PT.

The benchmarking concepts paper is now up: [www.geosci-instrum-method-data-syst.net/3/187/2014](http://www.geosci-instrum-method-data-syst.net/3/187/2014)

XW: Have the benchmarking data sets been released?

PT: Not yet, next summer is latest ETA.

KW: Rachel Warren's daily temperature benchmarks have been released and she is now welcoming anyone who would like to homogenise them to take part. The results will form part of her PhD thesis and several papers.

<http://surftempbenchmarking.blogspot.co.uk/2014/11/release-of-daily-benchmark-dataset.html>

Kate has been invited to speak about ISTI at the WCRP workshop on “Data requirements to address the WCRP Grand Challenge on Weather and Climate Extremes” in February 2015 and plans to attend. Blair has also been invited and may also be at this (it's in Sydney) if he can resolve a clash with another WMO engagement - if speaking, would probably leave ISTI to Kate and concentrate his own presentation on the Australian domestic data set (and the associated politics!).

KW: Blair - this would be a great opportunity to chat about benchmarking stuff, daily and monthly.

BT: Will discuss this with you offline when I don't have a bus to catch; will also try to find out from Lisa Alexander which other relevant people might be coming.

Kate visited Edinburgh University and gave a talk on ISTI and Benchmarking.

The report from the SAMSI/IMAGe workshop is still with the sponsors. I (PT) have been advised of at least three putative papers on methods / results that are planned as an outcome of this meeting.

### **3. Updates from WGs**

#### **3.1 databank WG - Jay**

Continue to receive feedback from users of the Databank version 1. Looking at issues associated with duplicate stations – primarily associated with data from databank sources that themselves are made up of merged station records (e.g., CRU, Australia). For next databank merge looking at restricting sources to those known to consist of individual station records.

Working toward adding new source data.

- UK Stations from the Met Office (300+ stations)
- German data released by DWD (1000+ stations)
- EPA's Oregon Crest to Coast Dataset (24 stations)

- LCA&D: Latin American Climate Assessment and Dataset (148 stations)
- Daily Chinese Data (380 stations)
- NCAR Surface Libraries (unknown number of stations)
- Stations from Meteomet project (240 stations)
- Libya Stations sent by their NMS (9 stations)
- C3/EURO4M Stations (80 stations)
- Additional Digitized Stations from the University of Giessen (10 stations)
- Homogenized Iranian Data (50 stations)
- Long-term Swiss data (7 stations)

Data are in hand and Jared is working to convert to Stage 2. To date has converted the DWD and Daily Chinese data.

Continuing to accept new data – cutoff 28 Feb 15 to get new sources in – then will accomplish a new merge.

PT: Do you want to say something about daily / multielement plans?

VV: Would it be possible that if someone submits data to us or one of the other element databases, that the data for the other elements is automatically forwarded to the others? That would make life easier for the contributor. And it may be a good way to start the collaboration, without immediately becoming one group, which probably needs more time to get to know each other and homogenize the cultures.

BT: had some interesting discussions about this when at NCDC recently, but will let the NCDC people say more about this.

PT: pressure data exchange already linked up with ISPD and vice versa – I think anything through ACRE is sent to ISTI and ISPD

PT: big unknown is GPCP - do they hold temperature data that is not being shared?

KW: Interesting chat with Gil Compo about using IMMA format for land data - lots of capacity for extra fields - QC flags, metadata. Sounds quite a good idea. Ability to include many more elements which would prevent disjoint of records and perhaps encourage data rescue of all variables.

JL: The databank group is working with Gil Compo on a pilot in regards to IMMA format.

JL: Idea with daily is to build off GHCN-D which uses a similar merging ethos but is multi-element. Will use GHCN-D as daily databank and merge in new sources. Databank at lower levels retains all elements.

### **3.2 Benchmarking and assessment - Kate**

Ultimately we keep pushing our deadlines back. This is largely because most of the coding work is done by me and I keep running out of time or into matrix-horribleness. Since our last call we have had quite a few significant achievements though:

Our concepts paper has been accepted and is now published, blogged and tweeted:

[www.geosci-instrum-method-data-syst.net/3/187/2014](http://www.geosci-instrum-method-data-syst.net/3/187/2014)

<http://surftempbenchmarking.blogspot.co.uk/2014/10/a-framework-for-benchmarking-of.html>

<http://surfacetemperatures.blogspot.co.uk/2014/10/a-framework-for-benchmarking-of.html>

Rachel's daily benchmark PhD work has now officially overtaken the benchmark working group. Her daily mean temperature benchmarks are available for four regions of the USA in three different worlds. She has publically released them and hopes to have some responses by mid-December. At present at least two people are working on them with potentially up to 12. She should complete validation by mid-2015.

<http://surftempbenchmarking.blogspot.co.uk/2014/11/release-of-daily-benchmark-dataset.html>

<http://surfacetemperatures.blogspot.co.uk/2014/11/release-of-daily-benchmark-dataset.html>

I have presented at Edinburgh Uni on the benchmarking. They suggested trying to bring elevation into the interpolation of the GCM fields. I'm not sure how to do that yet.

REC: I'm happy to help with this if you think it would be useful.

In terms of the clean world development I think I have now achieved everything that was left over from the SAMSI/IMAGE workshop.

1) Updated GCM interpolation code (thanks to Finn Lindgren at SAMSI/IMAGE) so we now have a new set of background fields from a new GCM and I can run this for others reasonably easily/quickly as and when we need. I'm not 100% what level of smoothing to apply to the climate anomalies to get the background trend so will try a couple of different levels. The key issue is if the background trend is too wiggly then it may appear as a changepoint. If its not wiggly enough then we're not really getting the ENSO type variability. I will test this by running some stations through PHA code to see if any changepoints are detected in the clean worlds. In theory, as the wiggles have spatial correlation they should not appear in difference series. Need to check though.

REC: happy to help with this too: there are simple cross-validation criteria that take spatial correlation into account and seem to do a reasonable job of selecting an appropriate degree of smoothing automatically.

2) Updated distance function to take into account vertical distance as well as horizontal distance because we know that this makes a difference. (My experience is that for coastal and near-coastal stations, distance from coast can also be very important, though correlation can be a proxy for this). This has been built on the cross-correlations at lag0 and lag1 of the real data. Unfortunately, I have to use the same function for lag0 and lag1 because otherwise the resulting VAR parameter matrices can be non-positive definite which makes the code throw a wobbly.

REC: this should be fairly easy to sort out, I think - it's just a question of knowing the right tricks.

3) I'm now using the new ISTI databank version rather than the beta version. I've still had a few issues with apparent duplicate stations which I've fed back to Jared. There are also stations with less than 3 years of data which I've not used. There are also stations with no elevation information so I cannot use those either. I'm now working with 28549 of ~32000 stations so its better than it was.

PT: Can add elevation from a digital elevation map.

VV: Our group often uses a radar based dataset from the Space Shuttle, SAR.

**ACTION:** Kate to investigate imputation of pseudo-elevation from an appropriate digital elevation source to stations without elevation info to enable their inclusion in benchmarks and advise.

4) I've made the code slightly more simple and got it running again with all the new bits. There have been quite a few tedious bug-fixes but I appear to be making progress. I think we're getting close to the st dev and AC of USHCN here.

5) I've checked and checked and checked again that the VAR methods are now correct. I think they are.

6) Robert and I have submitted a paper on the basics of this to J Clim.

PT: Does J. Clim allow us to pay to make it open access upon acceptance? If so could MO cough for it?

KW: Not sure, Robert is funding this one. I had hoped to go for an open source but J Clim was a better option for him. Through crown copyright I can make it available to anyone I believe.

Progress report drafted and circulated.

Aiming for clean world completion December 2014 and error-world completion by July 2015.

#### **4. Proposal for task team on parallel measurements under databank WG - Victor / Jay**

Victor Venema and Renate Auchmann have been working hard on creating a parallel measurements database. See <http://variable-variability.blogspot.no/2014/08/database-with-parallel-climate-measurements.html> for further details.

They would like to see this effort gain greater visibility and also to be interoperable with the databank holdings to maximize its value. They have therefore requested consideration that this activity be incorporated into ISTI in an appropriate manner that still leaves them with necessary autonomy to lead the task. The databank WG discussed this issue on its most recent call. There are

two options ... a standalone WG that reports directly to us as a steering committee or a task team under the databank WG.

PT is agnostic beyond the fact that he would strongly welcome this activity being sponsored / recognized by ISTI if Victor and Renate felt that this would be useful to them achieving their aims.

The ultimate decision rests with the steering committee as a whole.

KW: I support this. Findings would feed into the benchmarks so nice to see it all linked up.

VV: Expert team under WG?

**ACTION:** Victor Venema to create terms of reference and membership roster for an expert team on parallel measurements under the Databank WG using present terms of reference for the various ISTI groups (available on [www.surfacetemperatures.org](http://www.surfacetemperatures.org)) as a template. Databank WG and steering committee to approve inter-sessionally.

## **5. Annual report and implementation plan**

We need to create an annual report on the January timescale. I will start this after the call and once I have the two WG progress reports in hand. Please advise any items of progress which we should touch upon.

**ACTION:** PT to lead preparation of annual review document by January

I would also note that the implementation plan [http://www.surfacetemperatures.org/steering-committee/Surface\\_Temperatures\\_Initiative\\_Implementation\\_Plan\\_2013\\_2015\\_final.pdf?attredirects=0&d=1](http://www.surfacetemperatures.org/steering-committee/Surface_Temperatures_Initiative_Implementation_Plan_2013_2015_final.pdf?attredirects=0&d=1) is somewhat dated.

1. Do people find this document useful?
2. Should we update it?

KW: Yes - now that we have an Expert Team on parallel data.

JL: Agree we should update it.

KW: Important to look vaguely organised I think.

VV: Stimulates thinking about the longer term. Good.

**ACTION:** All chairs of teams to draft and circulate to their teams a new version of the Implementation Plan covering 2015-2018. Peter Thorne to lead with final draft by Jan 2015.

## **6. New WMO CCI TT on data homogenisation - Victor / Blair / Xiaolan/ Rob/ Tom**

VV: Several members of the ISTI have been elected to serve in the next 4-year term of the Commission on Climate.

Rapporteurs on Climate Observational Issues: Peter Thorne, Jay Lawrimore (or Jared Rennie)

<http://www.wmo.int/pages/prog/wcp/ccl/opace/opace1/RP-COI-1-3.php>

VV: Is that the group that will lobby in Paris in Autumn 2015 for a global organisation that manages a global climate reference network?

PT: Not clear as to date there has been total radio silence from WMO on this group beyond a first mail message saying I am a member of this googlegroup sent by google. Tom Peterson can likely enlighten us and perhaps Jay can collar him before the meeting so we can provide a meaningful update here.

Tom Peterson by mail after the meeting:

No, we won't lobby in Paris or anywhere else.

See <http://www.wmo.int/pages/prog/wcp/ccl/cclstructure.php> for the different teams.

Matt, Blair and VV are on the homogeneity team.

Click on a box and you'll see the team members and their terms of reference.

Expert Team on Education and Training (ET-ETR): Enric Aguilar

<http://www.wmo.int/pages/prog/wcp/ccl/opace/opace5/ET-ETR-5-1.php>

Expert Team on Climate Risk and Sector-Specific Climate Indices: Lisa Alexander

<http://www.wmo.int/pages/prog/wcp/ccl/opace/opace4/ET-CRSCI-4-1.php>

Expert Team Data Rescue (ET-DARE): Rob Allan

<http://www.wmo.int/pages/prog/wcp/ccl/opace/opace1/ET-DARE-1-2.php>

Task Team on Homogenization (TT-HOM): Xiaolan Wang, Matthew Menne, Blair Trewin, Victor Venema

<http://www.wmo.int/pages/prog/wcp/ccl/opace/opace2/TT-HOM-2-4.php>

CCI-WCRP-JCOMM Joint Expert Team on Climate Change Detection and Indices (ETCCDI): Xiaolan Wang

Members of TT-HOM are: Wilfrid Serge Raoul Likeba Louamba, Ghulam Rasul, Clara Oria, Xiaolan Wang, Blair Trewin, Tamás Szentimrey and José Aguijarro. The team is chaired by Matthew Menne and Victor Venema.

The preliminary terms of reference defined by the management team are:

1. Explore ways, building on the existing work, to identify the best performing, skilled and efficient homogenization methods and quality control procedures for the different climate essential variables and time scales (from monthly to sub-daily);
2. Identify and evaluate currently available procedures and software for climate time-series quality control (e.g., identifying non-systematic biases in climatic records);
3. Identify and assess skills and efficiencies of modern and innovative homogenization methods, to identify more robust and efficient methods including the associated software;

4. Provide guidance to Members on methodologies, standards and software required for quality control of climate time-series, with a special focus on temperature and precipitation variables at the daily scale, but also explore existing quality controls for other variables and time-scales.

Within limits these ToR can still be changed. We will discuss them at the first telecon and physical meeting. I hope the team will also support the build up of a database with parallel measurements. Further suggestions are welcome.

## **7. Best climate data recipe**

AM: Beside MeteoMet small contribution on delivering a software to correct from historical temperature scale changes, and some effort to indicate (not evaluate) possible instrumental uncertainties in the years, based on the state of the art and instrument progress, we're now working on trying to understand the characteristics of a high quality temperature data. Let's say we would like to define what a top level air temperature value is, and what this turns into requirements in terms of instruments, calibrations, uncertainty etc.

VV: We currently do not have uncertainty estimates for the trend error due to inhomogeneities remaining after homogenization. I could imagine that this is a task metrology is well equipped for. (The errors you see in estimates of the mean temperature are typically the errors due to interpolation, which are important for the annual means, but not too important for the long term trend, then the error due to remaining inhomogeneities may well dominate the error budget. Some datasets take some causes of inhomogeneities into account, none I know of all statistically detected inhomogeneities.)

AM: Will you help us sending your recipe, in order to discuss this within also the metrology bodies as an expressed need for future measurements?

PT: To some extent USCRN may be a good place to start

<http://www.ncdc.noaa.gov/crn/>

That includes instrument details, protocols and I think perhaps even a PID that outlines what the rationale and the requirements are.

VV: Are there also requirements to build the instruments in a way, that we can build identical ones for the coming centuries? Simple basic and well defined materials and clear open blue prints?

PT: The instruments are certainly identical across the network, beyond that Jay is better placed to answer such technical questions as USCRN falls under his branch at NCDC.

JL: Instruments are commercial off the shelf. Calibration is accomplished in one of NOAA's facilities (ATDD). Requirements and procedures are well documented.

AM: Our intent is to define the best requirements for a climate record, separating this from a meteo observation.

The recipe could include:

- target uncertainty: do climatologists need 0.01 K or 0.05 K? or 0.1 K? and in the future?...

PT: The WMO OSCAR requirements docs might be useful here.

<http://www.wmo-sat.info/oscar/>

<http://www.wmo-sat.info/oscar/variables/view/12>

VV: Informal answer, I would be happy with 1 degree, a small relocation may produce a similar change, thus we will not get absolute values much more accurately. However, the temporal behaviour should be stable, 0.1°C per century sounds great.

PT: Yes, plus how do you assure continuity - do you take redundant measurements? Is there any other way than this to assure measures in the field on a continuous sustained basis?

VV: My personal favorite would be to arrange such a network in small clusters of 3 to 5 stations. That would allow one to see any inhomogeneities that might otherwise be missed (land use change, e.g.). But very important to try to create much less inhomogeneities in the first place. Do not change instruments, use locations that most likely will not change the next century.

PT: A bit like USCRN then. The issue with change is partly minimize change but also partly to understand insidious data issues by drift etc. For that do you need actually instrument configurations that are redundant at each site in addition because small biases matter and we know in reality there can be very large thermal gradients over relatively short distances so do you need to measure the same volume redundantly in addition?

AM:

- influence parameters on modern sensors: radiation, wind, rain. We're working on experimentally evaluating some of those aspects. This leads to correction and/or uncertainty

- siting: are WMO classifications coherent with climate trend needs?(We're also working on this, to suggest more robust uncertainty evaluation - results expected for 2017.

- anything - everything else.

AM: Will you set a group of four to five (me included of course!) to prepare by email a recipe draft and circulate it?

PT - I will partake if you want / need me to. Someone from USCRN team in the states should participate - any ideas Jay?

JL: Possibly Mike Palecki could contribute - CRN program scientist.

PT: Whatever Meteomet produces should ensure consistency / interoperability with the standing US capability given the interest in a globally coherent network. We need to build from what we have.

VV: I wonder whether it would not be better to start something new, except for recycling locations where we have long records. The requirements for climate are very different from meteorology. For many poor countries climate is probably also not sufficiently important to be able to put in the resources needed for climate quality measurements. Thus some sort of global governance may not be bad. Follow the lead of the Societas Meteorologica Palatina, an international climate network operated by the small state of Palatina.

PT: USCRN is substantively new and for climate so we are agreeing here :-) See <http://journals.ametsoc.org/doi/abs/10.1175/BAMS-D-12-00170.1>

VV: Starting something new might be easier as dragging on a dead horse; there is a lot of inertia. Trying to change existing system without funding will lead to people feeling that what they do is good enough and that other tasks would suffer if they would do it like we need for climatology.

MdP and Jay, possibly Kate.

KW: Yes please can I be involved? Sounds fun :)

REC as well.

**ACTION:** interested parties to discuss offline with Andrea Merlone (Peter, Victor, Kate, Jay (or Mike Palecki), Richard, Michael) helping Meteomet to proceed with their recipe effort appropriately.

## 8. AOB

KW: COP 21 - big annual political conference to discuss carbon emissions targets/climate change.

I'm attending this from Dec 3rd to 10th. I'll be sitting on a Met Office stall, possibly twiddling my thumbs. Do we want any ISTI material here?

PT: Can't hurt. We did a 1-sider for Blair on the databank release for the CCI precursor meeting. This has been sent. Use if deemed appropriate.

VV: As an insider, do you have any idea how we could get into the treaty some line about needing a global climate station network?

Or maybe two lines: the global community recognises the value of a network with climate quality stations according to metrological standards to monitor climate change and assess its damages. The industrialised countries promise to fund such a global network.

**ACTION:** Design set of 1-siders on ISTI (PT), databank (JL review the one Jared has done), benchmarking (KW), parallel measures (VV). For handouts at COP meeting and elsewhere. Need by 28th Nov for COP. JL to ask NCDC graphics if they can make a consistent set of four flyers for Kate to take.

A5 size blurb please [A4?]

I-DARE portal white paper:

Rob Allan asked me to flag this - any comments/thoughts on this? Its a concept for a WMO CCI lead portal for any data obtained through data rescue.

[http://www.wmo.int/pages/prog/wcp/wcdmp/documents/IDARE\\_wcdmp83.pdf](http://www.wmo.int/pages/prog/wcp/wcdmp/documents/IDARE_wcdmp83.pdf)

Deadline for comments (to Rob Allan): 1st December 2014

**ACTION:** All to review

[http://www.wmo.int/pages/prog/wcp/wcdmp/documents/IDARE\\_wcdmp83.pdf](http://www.wmo.int/pages/prog/wcp/wcdmp/documents/IDARE_wcdmp83.pdf) and provide feed back to Rob Allan by Dec 1st

Next call will be an all hands call at some point in January.

PT will be taking up a Chair (Prof.) position at NUIM in Ireland some point early 2015. I have agreement that ISTI role shall be carried over...