

JWGFVR Meeting: 9 September 2015

Participants: Nanette Lomarda, Laurie Wilson, Pertti Nurmi, Barb Brown, Thomas Haiden, Marion Mittermaier, Martin Gober, Manfred Dorninger, Yuejian Zhu, Jing Chen, Barbara Casati, Beth Ebert (on phone), Caio Coelho (on phone)

1. Action list discussion

- Review of WG membership
 - Martin is moving to SERA
 - Pertti will be leaving group in future; will become an “attached expert” for PPP until 2016
 - Would like to add someone from a Met Service
 - Some names were added to a list of potential new members (Nanette is keeping the list)
 - **Action:** Marion will contact Chiara Marsigli as a possibility to replace Martin
 - **Action:** Marion also will contact Thordis to see if she is interested in being part of the working group
- Reserved further discussion of action items for the end of the meeting.

2. Outcomes of recent WMO Meetings (Nanette)

- Congress – recognized group’s efforts, and would like to have stronger link with PPP, S2S, HIW; encouraged WCRP and WWRP, and GAW to further explore seamless approach to vx across scales. Address needs of Commission and WCRP, develop needed new verification methods.
 - Do we need to define seamless verification? How do we get buy-in from others on this? Terminology is very broad
 - We think about this as 3 different things: Temporal scale, Spatial scale, and environmental variables
 - **Action:** Create a white paper on seamless verification; Barbara Casati will lead discussion. Barb B. will look for presentations that consider this and send to BC
 - Barbaras will send Marion presentations on spatial methods for climate

3. Ongoing activities

- Meso Vict (Manfred)
 - Many groups want to include new model runs, not just the old runs that we’ve been looking at. Mesoscale group has instigated INSPECT project to focus more on this
 - Informal session on Friday here in Sofia
 - Large workshop in Bologna after next EMS which will take place in Trieste, 11-16 September
 - Manfred gave a presentation on this to the mountain met community (ICAM meeting) last week
 - Marion: Biggest issue is capacity development; but also want to push the science – it is not about model development – it is not an intercomparison of models! Will work to emphasize this in the community
 - Barbara: Would be good to keep old runs; show methods to compare different versions of models – can use the re-runs to evaluate methods’ sensitivity to model changes
- SWFDP (Laurie)

- Laurie continues to be involved both regarding verification and post-processing
- S. Africa project is now being managed by local experts; some training still going on
- Aiming to get local offices to do the verification themselves
- E. Africa – Laurie has changed his training methodology to case studies; not enough data for larger evaluations
- New SE Asia project starting – meeting next week in Bangkok that Laurie will attend
- Training workshops have been attended mostly by forecasters; verification training is typically one-half to one-third of a day
- PyeongChang 2018 RDP/FDP (Pertti)
 - Sochi: Nice presentation on vx work here at EMS/ECAM
 - 2018 Olympics – RDP and FDP
 - Pertti invited to be in core group
 - 1st planning meeting in October (28-30), but Pertti may not be able to go
 - Possibly Marion will be a back-up (for now)
 - Brief document already prepared
 - Focus areas
 - Nowcasting and very-short-range forecasting
 - Improvement of understanding of severe weather
 - Improvement of predictability
 - Improvement of verification of nowcasts and very-short-range forecasts
 - Participants include EC, NCAR, FMI, CMA, etc.
 - Pertti will continue to work on this for now, but may hand over to someone before the Olympics
 - **Action: Marion will be a backup for Pertti for the Oct meeting**
 - 2022 winter Olympics will be hosted by Beijing
- Lake Victoria project (Nanette)
 - Meeting in Tanzania (August)
 - Work on project proposal
 - WISER funding request of \$17M
 - Need to find out what the verification component is in the proposal and the project
 - **Action: Barb will contact Rita Roberts; Laurie will contact Paul Joe**
 - **Action: Nanette will send us the draft proposal**
- Hi Res TC Rainfall Prediction (UPDRAFT project)
 - Kick-off meeting 29-30 October
 - Led by Wang Yuen from Nanjing University
 - Should be a verification component
 - Make use of our TC document
- La Plata Basin RDP
 - Established as an RDP
 - **Action: Nanette will look into our role in this; Beth will also contact Celeste about it**
- Aviation RDP (Marion)
 - Kick-off meeting in April; Marion gave a talk
 - Focus a lot on terminal area, looking at unique products
 - Need for new verification approaches; user-relevant metrics

- 2nd year focuses on translation to ATM related variables
 - This topic is an opportunity for the verification challenge...
 - But need for aviation groups to share data
- SCMRX (Yuejian)
 - RDP
 - Not much happening
 - Meeting in December 2014, but Yuejian couldn't participate
 - Progress report just sent
 - QPF verification focus
 - Mainly still using TS for verification; Yuejian introduced neighborhood scores and other methods
 - New areas - Forecasts focus on physics, ensemble for DA and forecast
- TLFDP (Nanette)
 - Extended to 2015 and now till 2018 with focus on verification and genesis, and typhoon committee project (EXOTICA) – involving the user
 - Meeting with EXOTICA in December (2-4)
 - Barb may not be able to attend

4. Science discussions

- Yuejian: Verification for extreme weather and climate detection
 - Anomaly forecast and EFI – how to compare them?
 - Found good correspondence using categorical stats
- Thomas Haiden – New developments in Verification at ECMWF
 - Focus: TCs, regime dependence, mesoscale convection, European cold spells, heavy precip, ET windstorms, extreme convection
 - TC intensity
 - Different results depending on stratifications (location, age, speed, etc.)
 - Starting to use FSS for precip; SEDI for heavy precip
 - Linking case studies and statistics
 - **Action: Thomas will send document to the group when it is published**
- Barbara Casati – Sea Ice Verification (YOPP)
 - Challenges for sea ice verification
 - Many variables – including concentration, extent, edge, age, thickness, pressure, drift
 - Concentration: Look at contingency tables
 - Ice edge: Look at distances – mean, median, maximum (partial Hausdorff metric)
 - Baddeley metric also useful
 - Ice motion – evaluate trajectories with field deformation; also applies to pressure
- Barbara Brown- Spatial verification of climate forecasts and space weather verification
- Jing Chen - The Public-user-oriented verification method for heavy rainfall forecast
 - Issue of mis-understanding of scores – public officials are upset by CSI values of 0.2 to 0.30
 - Goal: Make forecast scores look better
 - Method:
 - Selection of observations

- Averaging in space
 - Weighting off-diagonal elements of contingency tables; give credit for being close
- Manfred Dorninger – User-specific verification (discussion)
 - Discussion of our future in looking at different parameters, new (and more uncertain) datasets, benefits of using forecasts
 - Look at evaluating user impacts
 - Fundamental aspect of HIW, S2S, PPP
 - Need strong connection with SERA for us to do this work

5. JWGFVR documents

- Recommendations for verification of tropical cyclone forecasts – follow up? No decision made on what to do about this; Barb will follow up with Nanette
- Suggestions to WGNE for precipitation verification – follow up?
- WWOSC White Paper update

6. Outreach

- Verification web page
 - Beth will update the page using the info she has received (e.g., for references)
 - **Action: Everyone should follow up on what they are supposed to do to enhance the web page**
- Status of *Mausam* special issue from 6IVMW
 - The journal has been published and is on-line – anyone can get the papers
- Indonesia roving tutorial, Nov 17-19, 2015 - planning: content, hands-on exercises, who does what
 - Trainers will be Laurie, Pertti, Marion, and Barb
 - Nanette will meet with Indonesians on 26-27 September. Would like to tell them what we need. She needs info from us by Sept 20
 - Draft program
 - Set of questions for the Indonesian organizers (e.g., need for computers – or will everyone have a laptop?)
 - List of other equipment needs
 - Will do live webinar for some additional students
 - Singapore and Malaysia will want to send someone; will contact Nanette – WMO will provide support
 - **Action: Group needs to come up with materials for Nanette**
- 7th International Verification Methods Workshop, 2017
 - Berlin
 - Tutorial in the building on the campus of FU (Met Institute), with 30 computers
 - Need lecture hall for the workshop
 - Timing:
 - Length: Aim for 4 days for tutorial
 - 2 options – late March/early April; or Sept (after ECAM in Dublin)

- Having near to ECAM would not necessarily be that good – aim for spring
- March 29 – April 1 for tutorial; April 3-5 for workshop
- Also might be able to coordinate with WGNE climate diagnostics meeting – have that meeting follow our workshop (April 6-7)
 - **Action: Laurie will check into this possibility**
- **Action: Martin will work on organizing dates – checking on venues**

7. Joint activities with other working groups

- WWRP-THORPEX Polar Prediction Project (Pertti)
 - Pertti involved so far; Barbara also now
 - YOPP summit in July
 - Pertti stepping down from steering group; Barbara will replace him starting in 2016
 - Focus now is revising the YOPP plan – Barbara working on this
 - Deadline is a couple weeks from now
 - Verification section is 2 pages
 - Verification plan (Barbara C)
 - Will create a publication on verification recommendations – pub of PPP
 - **Action: Barbara Casati will send it to everyone for comments**
 - Sea Ice verification workshop, organized by Greg Smith; Fraschetti, Italy ~3-5 April 2016
 - **Action: Barbara Casati will recommend some people to be included**
 - Linkages – strat to trop; high-lat to mid-lat
 - How do we verify them?
- WWRP-THORPEX Sub-seasonal to Seasonal Project and monsoons (Caio)
 - Workshop – in June, Jeju
 - 18 talks, many posters
 - Several sub-projects, including verification
 - Implementation plan – updated
 - WGNE recommendation
 - **JWGFVR should link with WGNE and WGNE Metrics panel; should look for joint project on metrics...**
- WWRP-THORPEX High Impact Weather Project (Beth)
 - Steering Group meeting about 1 month ago
 - David Johnston is new co-chair for science
 - 5 themes, including evaluation theme
 - Evaluation is further along than others
 - MesoVICT – ensembles, impacts, wind, rain
 - Verification Challenge – joint project
 - Proposed MeteorInform project – social media data application
 - CAS wants us to interact with WCRP on grand challenge on extremes
 - Experiments on mesoscale weather –
 - CHAMP (coupled hydro model)
 - SURF – RDP on air quality
 - Impacts – led by Brian Mills

- HIW workshop: 26-29 April 2016
- The Verification “Challenge” (Beth)
 - Launched tomorrow
 - Goes until Oct 2016
 - Website is up and running
 - Date for announcement will be changed to January 31
 - **Action: Everyone should advertise this**
 - **Action: Poster will be sent to everyone**
 - **Action: Nanette will send postcards to working group members**
 - **Actions: More advertising (BAMS, MesoVict)**
 - **Postcards and web date for announcement of winner will be changed to Jan 31**
- SDS-WAS – Sand and Dust Storm Warning Advisory and Assessment System
 - Presentation on group activities and discussion of potential collaboration
 - Enric Terradellas – gave us a presentation on the SDS activity
 - Very precise wind forecasts needed for dust prediction
 - Poor obs for DA and Vx – only have optical thickness or aerosol obs
 - Work with NRL – multi-model ensemble
 - Evaluation – focus on dust optical depth
 - AERONET obs comparisons
 - Stratify out cases where dust is not the dominant element
 - As a result bias is low
 - Compute basic stats (e.g., correlation, bias, etc.)
 - MODIS
 - Difficult to distinguish surface vs. airborne aerosols
 - Only used to evaluate dust transporting to ocean
 - MODIS DeepBlue
 - Same evaluations applied using the Deep Blue algorithm
 - Vertical profiles
 - Marion: Have done some work with spatial methods; also discussed at ICAP meeting last year
 - Enric – would like a common evaluation system for all models
 - Nanette – SDS would like to have better coordination with us; we should keep them informed about what we are doing
 - **Action: Nanette will keep us connected; and arrange for one of us to join their meeting**
- WWRP Science Steering Committee (Beth)
 - Teleconference a couple months ago
 - Nowcasting and mesoscale groups have merged, with Paul Joe and Jeanette Onvlee
 - Estelle de Coning and Peter Steinle are the incoming Chairs
 - PDP and TIGGE working groups have merged – PDAC
 - Beth is going to be the SSC person reporting on the JWGFVR; also one of the WG co-chairs will give a report
 - WWRP is refreshing its implementation plan

- Working group is supposed to provide info on activities that we plan or would like to undertake; groups were sent a template. Aiming for a new plan by March or April
 - **Action: Marion/Laurie will send the template to the working group**
 - WWRP Working Groups
 - WWRP Mesoscale Weather Forecast Research and Nowcasting
 - WWRP - Societal and Economic Research Applications (SERA)
 - Tropical
 - ITWC recommendation: There should be a set of recommendations on vx methods for TC; who is responsible for this? Should this be a CBS activity?
 - Also select a lead center? Dr. Lei has offered to be the lead center
 - **Action: Barb will provide something in writing to Nanette to help with this and getting it going**
 - TIGGE – PDP
 - AvRDP
 - WGNE – Including Climate Metrics Panel (Laurie)
 - Action for us to contact other groups regarding seamless verification and coordinate and collaborate with them
 - Barbara’s action on seamless vx will be a good step in this direction
 - WMO CBS Coordination Group on Forecast Verification
 - WMO Commission for Aeronautical Meteorology
 - WMO Commission for Instruments and Meteorological Observations (CIMO) - SPICE
 - CBS Public Weather Services Programme
8. Next meeting:
- Coordinate with MesoVICT meeting in Bologna
 - 20-21 Sept 2016 at ARPA