



29th February 2016

The date of the HIWeather kick-off meeting is approaching. I hope to see many of you on 27-29th April in Exeter! Please register your attendance at <http://www.metoffice.gov.uk/conference/HiWeather>

Here is a brief outline of the draft schedule, including the two pre-meeting days when WWRP working groups will be meeting at the same location:

Mon 25th April: WWRP Working Group meetings, PDEF, DAOS and SERA, by invitation

Tue 26th April: WWRP Working Group and HIWeather Steering Group meetings, by invitation

Wed 27th April am: Plenary presentations and panel discussion

Wed 27th April pm: Plenary on HIWeather social science issues or Thorpe retirement seminar

Thu 28th April am: Break-out groups formulate cross-cutting projects

Thu 28th April pm: Break-out groups formulate task team activity plans

Fri 29th April: Task teams write up their plans

In January, David Johnston and I attended the UNISDR (United Nations Office for Disaster Risk Reduction) Science and Technology Conference on the Implementation of the Sendai Framework in Geneva. The Sendai Framework for Disaster Risk Reduction resulted from the first of the three big UN conferences last year (the others being the Sustainable Development Goals and the Paris Climate Change Agreement). Amongst other things, the Sendai Framework highlights the need for more and better hazard early warning systems and for provision of better information on hazard risk. Many speakers highlighted the predominance of weather-related disasters and much of the discussion was dominated by concerns about how to make better use of our science, both in policy and in preparedness. HIWeather will make a key contribution to these issues: firstly through our development of better warning systems and secondly through our contribution to understanding the processes that cause disasters and hence what policies are needed for communities to be more resilient. A key focus was on identifying research gaps across the whole chain from observation to community response. The HIWeather implementation plan gives us a head start, as it already identifies not just the overall bottlenecks in the warning process, but also weaknesses in each step of the process. It is these gaps that we look to the task teams to be filling in the most effective way. The kick-off meeting will provide an opportunity to start concrete activities in these areas.

Wishing you all every success in your HIWeather activities

Best Wishes,

A handwritten signature in black ink, appearing to read 'Brian Golding', is written over a thin horizontal line.

Brian Golding

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The Project

Steering Group

Co chairs: Brian Golding, UK and David Johnston, New Zealand

Theme 1, Processes & Predictability – lead: George Craig, Germany; members to be confirmed

Theme 2, Multi-Scale Coupled Forecasting – lead: Jenny Sun, USA; members: Paul Joe, Peter Steinle, Sharan Majumdar, Jianjie Wang, Jim Dudhia.

Theme 3, Impacts, Vulnerability & Risk – lead: Brian Mills, Canada; members: Joanne Robbins, Jeff Lazo, Michael Kunz, Isabelle Ruin.

Theme 4, Communication – leads: Sally Potter/David Johnston, New Zealand; members to be confirmed: Greg Carbin, Melanie Harrowsmith, Nick Wiltgen, Isabelle Ruin, Julie Demuth....

Theme 5, Evaluation - Beth Ebert, Australia; members: Julia Chasco, Barb Brown, Anna Scolobig, Manfred Dorninger, Pertti Nurmi, Martin Goeber, Helen Titley, Marion Mittermaier, Jing Chen.

Funding. The Trust Fund is currently unable to support attendance of all task team members at the kick-off meeting. Any contribution, however small, will be very much appreciated.

Web site: The HIWeather web site can be reached at <http://bit.ly/1RKapbc>.

Meetings: The next teleconference is being organised by Paolo Ruti for March. Final preparations for the April kick-off meeting will be discussed.

HIWeather Research

LVB-HyNEWS (Lake Victoria Basin-Hydro-climate to Nowcasting Early Warning Systems)

Funding for this field programme and demonstration project is still being sought.

NAWDEX (North Atlantic Waveguide and Downstream Impacts Experiment): See <http://www.nawdex.org/> for details. An updated version of the science plan was released in January at http://www.nawdex.ethz.ch/documents/NAWDEX_science_plan.pdf. The field phase will take place from 19 September to 16 October 2016.

RELAMPAGO (Remote sensing of Electrification, Lightning, And Meso-scale/micro-scale Processes with Adaptive Ground Observations)

See last newsletter for an outline of the main components. The main field campaign is planned for 2018.

SURF (Study of Urban Rainfall and Fog/Haze)

The Institute of Urban Meteorology is carrying out the SURF field experiment to study urban pollution and extreme precipitation in Beijing. A RDP proposal is being prepared for submission to WWRP.

PC-2018 (The Pyeongchang Winter Olympic Games in Korea, <http://www.pc2018.com/>) is the venue for a WWRP RDP in 2018. The objectives of the RDP/FDP are similar to SNOW-V10 and FROST-2014, but with stronger emphasis on high-resolution DA and modelling. The RDP/FDP is currently being referred to as ICE-POP2018.

US post-THORPEX Committee

The US post-THORPEX committee is co-chaired by Sharan Majumdar and Carolyn Reynolds. A Town Hall meeting is being arranged for the AMS annual meeting in New Orleans in January.

W2W (Waves to Weather) is a German Collaborative Research Center aims to deliver the underpinning science needed to identify the limits of predictability in different weather situations so as to pave the way towards a new generation of weather forecasting systems. See <http://w2w.meteo.physik.uni-muenchen.de/>.

WEXICOM (Weather warnings: from EXtreme event Information to COMunication and action)

WEXICOM is a German interdisciplinary collaborative research project aimed at facilitating transparent and effective communication of risks and uncertainties for individual user groups. See <http://www.geo.fu-berlin.de/en/met/wexicom/index.html>

A report from the UK **BRACED** project: see <http://www.braced.org/news/i/?id=cd95acf8-68dd-4f48-9b41-24543f69f9f1> – identifies 3As of resilience: adaption, anticipation, absorption, and proposes metrics for measuring them, and hence potentially measuring resilience.

FfIR (Flooding from Intense Rainfall): A UK research programme involving five universities, the Met Office and the Environment Agency. Includes HIWeather-related activities in using multi-parameter radar, assimilation of correlated data, representation of hydrology in land surface schemes, flood inundation modelling including sediment transport, and accessing non-conventional observation sources. See <http://www.met.reading.ac.uk/flooding/>

MesoVICT - The Mesoscale Verification Inter-comparison over Complex Terrain (MesoVICT) project met as a session at the 2015 EMS conference in Sofia, Bulgaria. The intent of this project is to compare the various spatial verification methods to give users information about which methods are appropriate for which types of data, forecasts and desired forecast utility. More information is at <http://www.ral.ucar.edu/projects/icp/>.

I-REACT - A new Horizon2020 3-year project on Improving Resilience to Emergencies through Advanced Cyber Technologies (I-REACT) involving a consortium of 20 partners will integrate multiple existing systems and European assets to facilitate early planning of disaster risk reduction activities. The focus will be on natural disasters triggered by extreme weather. I-REACT will cooperate with the European Flood Awareness System (EFAS), European Forest Fire Information System (EFFIS), European Global Navigation Satellite System (E-GNSS), Copernicus, etc. Within this project FMI will develop methodology and provide information on forecast occurrence risk of relevant high-impact weather variables, covering time scales from hours to couple weeks, utilizing probabilistic approaches and ensemble prediction systems.

Wind farm icing project – A Univ. Vienna project has successfully been funded to evaluate probabilistic forecasts of icing at wind farms, including working with owners to understand costs and losses in order to optimise the forecasts. This will add "value" to the usual "accuracy" evaluation.

Fire spread model evaluation – A new project at the Australian Bureau of Meteorology will evaluate and inter-compare different fire spread simulators that are driven by weather input. Results from this project will assist in developing routine predictive services for wildfire behaviour.

Related Activities

NHP

The Natural Hazards Partnership draws together a wide range of UK institutes involved in understanding and predicting natural hazards to provide co-ordinated advice to government and to develop consistent approaches to risk and early warning. Currently, work is focussed on modelling the impact of three priority natural hazards: wind storms, surface water flooding and landslides. A recent presentation summarises the structure of the Partnership and its work:

<http://www.localdirect.gov.uk/resource/natural-hazards-partnership-carl-wilson/>

FACETS

The National Weather Service in the USA is addressing issues in the scope of HIWeather through a project called FACETS: Forecasting A Continuum of Environmental Threats, which is particularly focussed on the production and communication of more effective warnings. The project has been underway for a couple of years and was presented at last year's AMS Annual Conference. Recent developments can be seen at



<http://www.nssl.noaa.gov/projects/facets/>. This project is closely related to the Weather Ready Nation initiative, which focussed on improving community response to warnings. This initiative is now being extended to have an international dimension.

S2S (Sub-seasonal-to-Seasonal Prediction):

The Extreme Weather sub-project, which has direct links to HIWeather, held a teleconference in January. See <http://www.s2sprediction.net/static/news> for news, including the latest S2S newsletter for download.

PPP (Polar Prediction Project):

Latest news is available at <http://www.polarprediction.net/news.html>.

European Disaster Risk Management Knowledge Centre – The new centre will work at the science-policy interface to help EU Member States respond to emergencies, prevent and reduce the impact of disasters. See <http://drmkc.jrc.ec.europa.eu/>, <https://ec.europa.eu/jrc/en/news/new-knowledge-centre-help-eu-minimise-risk-disasters>

Related Meetings

10th International Conference on Air Quality – Science and Application, Milan, 14-18 March 2016. The call for abstracts has closed. Registration is now open.
<http://www.airqualityconference.org/>

Fire weather and risk workshop – A 2-day workshop on fire weather and risk will be held 11-12 April 2016 in conjunction with the 5th International Fire Behaviour and Fuels Conference (<http://www.firebehaviorandfuelsconference.com/>). This workshop will focus on two main topics – smoke management, and ensemble and probability forecasting – within the overall theme of transitioning science to services. The workshop aims to help the fire community learn from successes in other high impact weather areas.

A symposium on the societal side of early warning and evacuation decisions will be included in the Society for Risk Analysis Europe (SRA-E) conference in Bath, UK in June. (<http://www.sraeurope.org/home.aspx?pag=1565>). ~10 abstracts have been submitted on end user perspectives and the role of effective communication. The symposium will result in a special issue of a relevant journal.

Royal Meteorological Society and UK National Centres for Atmospheric Science joint 2016 Conference, “High Impact Weather and Climate”, 6 – 8 July 2016, University of Manchester, UK. The conference is organised under three themes: observation, forecasting and responding. Each theme will be introduced by three keynote presentations followed by parallel workshops and poster sessions. Many of the workshops address themes central to HIWeather. The call for poster submissions has been extended – posters on socio-economic impacts and responses are especially solicited. Registration is open at <http://www.rmets.org/conference2016>

WMO/WWRP 4th International Symposium on Nowcasting and Very Short Range Forecasting in Hong Kong, China from 25-29 July 2016. The call for papers has been extended to 15th March and registration will open shortly at <https://wsn16.hk/>. Nowcasting is an end-to-end forecasting process for high impact weather, providing rapidly updated, high precision meteorological products and services from data collection to end users. The Symposium aims to examine current state-of-art nowcasting and very short range forecasting capabilities, emerging observation technologies,

applications and services, verification and societal impacts in the 0-6 hour timeframe. A session will be dedicated to Aviation Nowcasting. A capacity building Training Workshop in Aviation Nowcasting will be held back-to-back with the Symposium. Sessions will be organized around: Forecasting of high impact weather in very-short-range; New observational instruments; Advances on mesoscale NWP model, data assimilation, ensemble prediction; Integration of nowcast and mesoscale NWP; Urban meteorology; Transfer of the science to services; Applications in public weather services, transportation, public utilities; Verification and Validation; Socio-economic impact; WMO/WWRP Nowcasting-Mesoscale FDP/RDPs; Special Session - CAS/CAeM Aviation Research Demonstration Project (AvRDP)

5th International Symposium on Data Assimilation, ISDA2016, 18-22 July, Reading, UK

The symposium will bring together about 150 researchers and consist of invited talks from leading scientists, short oral presentations with extended discussion, and extended poster sessions Topics include convective scale DA and coupled DA, both key activities in HIWeather. The deadline for abstracts has passed. Registration is now open at <http://www.isda2016.net/>.