HIWeather

October 2017

I apologise for the delay in circulating this, due to conflict with getting the HIWeather annual report ready for the CAS meeting (see below). As a result, I write this just after International Disaster Reduction Day, Friday 13th October, when many countries held activities in DRR, including Sidmouth UK, where as part of the annual science festival we heard about loss of communities in the Solomon Islands from severe weather that they perceive to be due to climate change.

First day's session at the CAS Science Summit, 20/10/17

It has been great to hear from the task teams about progress in their activities, reported below, and I would like to welcome new members Chiari Marsigli in the evaluation team, Melanie Gall in the HIVR team and Krushna Chandra Gouda in the MSF team.

Our advisory board had its first teleconference in August and, following this, a visit of Advisory Board member Virginia Murray to the secretariat led to the writing of a draft document on links between HIWeather and health in collaboration with the WMO/WHO liaison office. It brings together potential health impacts of the five HIWeather hazards, information that would be needed by the health sector to enable mitigation, and the current status of service delivery and emerging research needs.

I have been raising the HIWeather flag in three continents since the last newsletter. It should have been four, but CAS was moved from Bali to Geneva due to a threatened volcanic eruption. I chaired a fascinating workshop at the Royal Met. Society's conference in Exeter in July, involving practitioners from the local council discussing their need for flood information. In August, I was in Melbourne, Australia, for the Australian Meteorological and Oceanographic Society's 30th anniversary celebration and to run a value chain workshop at the Bureau of Meteorology; then to Cape Town for the High Impact Weather and Climate Extremes symposium at the IAPSO-IAMAS-IAGA assembly. September included the International Conference on The Impact of Hazard, Risk and Disasters on Societies, in Durham, UK. Then I was in Landshut in Bavaria, Germany for the HIWeather Conference on Predictability and Multi-Scale Prediction of High Impact Weather. This was a huge success, thanks to the excellent organisation by the Waves-to-Weather team. It was fantastic to hear of the wide range of work being carried out to better understand and model high impact weather. Nevertheless, there is still much to be done, especially in data assimilation and ensemble prediction when both convective and synoptic scale weather features are present.

So I am actually writing this in Geneva where the Science Summit and the 17th Session of the Commission for Atmospheric Sciences (CAS) are taking place (see photo above) – CAS is the WMO governing body that oversees the activities of WWRP. David Johnston gave an excellent advert for HIWeather in the opening session today and several members of the HIWeather Steering Group are present. The Science Summit brings together experts from different fields of atmospheric sciences and a broad range of institutions in discussions around five themes: "Science for Services", "Seamless Prediction in 2023", "Future Infrastructures", "Nurturing Scientific Talents" and "Innovation and Resources". This will be followed next week by the WWRP Scientific Steering Committee's annual meeting, including a review of HIWeather.

Wishing you all every success in your HIWeather activities.

The Project

Steering Group

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

Processes & Predictability (PP) theme – lead: George Craig, Germany; members: John Knox, Peter Knippertz, Jeff Kepert.

Multi-Scale coupled Forecasting (MSF) theme – lead: Jenny Sun, USA; members: Paul Joe, Peter Steinle, Sharan Majumdar, Jianjie Wang, Jim Dudhia, Krushna Chandra Gouda.

Human Impacts, Vulnerability & Risk (HIVR) theme – lead: Brian Mills, Canada; members: Joanne Robbins, Jeff Lazo, Michael Kunz, Isabelle Ruin, Melanie Gall.

Communication theme – co-leads: Sally Potter, New Zealand and Shannon Panchuk, Australia; members: Abi Beatson, Greg Carbin, Melanie Harrowsmith, Amber Silver, Rutger Dankers, Andrea Taylor, Thomas Kox, Claudia Adamo, Jose Galvez, Kiernan McGill, Linda Anderson-Berry, Tim Brown, Vankita Brown.

Evaluation theme - Beth Ebert, Australia; members: Julia Chasco, Barb Brown, Anna Scolobig, Manfred Dorninger, Martin Goeber, Helen Titley, Marion Mittermaier, Jing Chen, Chiara Marsigli.

Advisory Group

John Rees, British Geological Survey and Research Councils UK, representing funding agencies

Jan Polcher, Laboratoire de Meteorologie Dynamique of Centre National de la Recherche Scientifique, France, representing Climate Science

Jennifer Sprague-Hilderbrand, National Oceanic and Atmospheric Administration, USA, representing users

Virginia Murray, Public Health England and UNISDR, representing the UN family

Michael Reeder, Monash University, Australia, representing academia

Funding. The Trust Fund will support HIWeather conference attendance by delegates from developing countries. New contributions are needed to develop and facilitate the work of the project.

International Coordination Office: A Memorandum of Understanding between WMO and the CMA has been signed for CMA to host the ICO in Beijing.

Secretariat: Julia Keller is providing valuable assistance within the WMO secretariat. Paolo Ruti provides the link to the World Weather Research Programme.

Communication: The HIWeather administrative web site can be reached at http://bit.ly/1RKapbc. It contains the Implementation Plan, Steering Group and Task team membership and HIWeather presentations. It is available for task teams to post meetings and progress. A communications web platform for the project has been set at Massey University, New Zealand and is currently being populated. I use Linked-In to post items of interest about HIWeather and copy my posts to Twitter using the hashtag #HIWeather.

Meetings: Steering Group meetings are held approximately quarterly, usually by teleconference. The last meeting was prior to the Verification workshop in Berlin in May. Task teams meet by teleconference at intervals to suit their work and progress.

Relevant Scientific Meetings

UK wildfire resilience conference, 7-8 November 2017, Bournemouth, UK, www.dorsetforyou.gov.uk/uk-wildfire-conference

World Bosai Forum, Sendai, Japan, 25-28 November 2017, http://www.worldbosaiforum.com/.

Met Eireann conference on Future Weather, Future Challenges, Dublin, 12 December 2017 https://www.met.ie/news/display.asp?ID=444

American Geophysical Union, Fall Meeting, New Orleans 11-15 December 2017. http://fallmeeting.agu.org/2017/

American Meteorological Society, Annual Meeting, Austin, 7-11 January 2018. https://annual.ametsoc.org/2018/. The Communications Task Team is running a session called 'Communicating about High Impact Weather: Uncertainty, the influence of risk perceptions, and sharing best practice' in the '13th Symposium on Societal Applications: Policy, Research and Practice'

AOGS-EGU conference on Disaster Risk Reduction, Tagaytay, Philippines, 4 - 8 Feb, 2018. http://nathazards.org/public.asp?page=home.htm

8th International GEWEX Science Conference on Extremes and Water on the Edge, Canmore, Alberta, Canada, 6-11 May 2018. http://www.gewexevents.org/events/2018conference.

HIWeather Conference, location tbd, 4th quarter 2018

HIWeather Research

a. **Review the state of wind hazard forecasting**
   Lead: John Knox
   Objectives: Clarify the wind metrics that relate to impacts; describe the state-of-the-art in observing and predicting these metrics; identify processes that lead to high impacts; make recommendations for targeted work to address weaknesses in understanding, observing and prediction.
   Actions: Identify participants (2017)
            Carry out review (2017-8)
            Document and publish (2018-9)
   John Knox is preparing a plan for the review.

b. **Review the current state of nowcasting & forecasting high impact weather**
   Leads: Sharan Majumdar and Jenny Sun
   Objectives: Document current state of high impact weather nowcasting/forecasting with an emphasis on flood and high wind warnings; Identify gaps
   Actions: Draft review (2017)
            Workshop (October 2017)
            Publication (2018)
   A draft was prepared ahead of the Conference on Predictability & Multi-Scale Prediction of High Impact Weather in October 2017 and is now being revised by members of the task team.

c. **Intercomparison of km-scale DA & nowcast/forecast systems**
   Lead: Jenny Sun
   Objectives: Demonstrate state-of-the-art of km-scale DA & nowcast/NWP systems for HIW warning with an emphasis on floods & high winds
   Following discussion at the Conference on Predictability & Multi-Scale Prediction of High Impact Weather in October, it is proposed initially to compare the relative performance of nowcasting and NWP in NHMSs.

d. **Formal (statistical) impact model intercomparison**
   Lead : Martin Goeber with input from HIVR and Evaluation task teams
   Develop Masters student module to examine simple and physically-based impact models

e. **Identify the added value of impact-based warnings over hazard-based warnings for weather-related hazards**
   Lead: Anna Scolobig, ETH Zurich
   PhD student, Philippe Weyrich, is progressing on his PhD. He has finalised a 3 year research plan on **Warning-related communication and decision-making: Assessing impact-based warnings and examining the impact of contradictory warnings on decision-making** and is working on a questionnaire survey on how people use of weather and warning information, with a focus on the effectiveness of impact based warnings. The project description is: "In recent years, many severe hydro-meteorological events caused important impacts despite being well forecasted with accurate and timely disseminated warning information. This disconnect is due to a gap between forecasts and warnings of hydro-meteorological events, and an understanding of their potential impacts, both by the authorities responsible for emergency management and by the population at large. It is critical to assess whether impact-based warnings (IBWs) increase the likelihood that people will take protective action. At the same time, different warnings are disseminated by different weather providers for the same event. No research has analysed the influence of these different warnings on people's decision-making. These gaps will be addressed in this project. The geographical focus is Switzerland but the analysis will include other European countries. On the one hand, literature research and qualitative interviews, and, on the other hand, experiments, workshops and surveys will be used to answer the research questions. The results are expected to highlight potential benefits of including impacts & recommended actions in future warnings, as well as the need for more harmonized warnings and better agreement between public & private weather providers."

f. **Review & classification of impact modelling**
   Leads: Brian Mills & HIVR task team
   The HIVR teleconference in July agreed to prepare an impact modelling review paper. Brian Mills will lead on a draft section (currently 'typology of models') to include interpretation and definition of 'impact modelling', impact forecasting, and related terms such as risk, vulnerability, exposure, and resilience; and for proposals for remaining chapters to be exchanged in the subsequent quarter.

g. **Weather Information Value Chain**
   Lead: Jeff Lazo & Evaluation task team

Following the successful Value Chain Workshop in Berlin in May, Brian Golding led a second workshop in Melbourne, Australia on August 19, 2017. Participants explored the Weather Information Value Chain as a process for understanding the whole end-to-end flow of information and value from weather to community benefit, including: what constitutes "value"; what an end-to-end user-driven value chain looks like; how value is added/subtracted as information flows along the chain; ways to measure that value; using the value chain framework to guide investment in new capability and service improvements.

h. **Probabilistic forecasting and evaluation of Tropical Cyclones**
Leads: Helen Titley, Munehiko Yamaguchi, Linus Magnusson
A targeted session on this topic is planned for the WMO/WWRP International Workshop on Tropical Cyclones (IWTC) in 2018. A questionnaire will be sent to operational TC forecasting centres prior to IWTC about their use of ensemble forecast information. This project will also carry out verification to identify the current level of forecasting skill for TC intensity from global ensemble forecasts.

i. **Unconventional data sources for impact modelling, evaluation & communication**
Leads: David Johnston, Abi Beatson
An unconventional data research network has been formed and held its first teleconference on social media data sources in October. A new PhD student, Sara Harrison from Canada, will research the role of non-traditional data sources (such as social media) on impact modelling and impact-based warnings starting in late 2017.

j. **Mesoscale Verification Inter-comparison over Complex Terrain (MesoVICT)**.
Leads: Manfred Dorninger and Marion Mittermaier, Evaluation Team
The project continues to encourage investigation of spatial verification methods in complex terrain, including for ensemble forecasts and uncertain observations. A paper entitled, "Mesoscale Verification Inter-Comparison over Complex Terrain" has been submitted to *BAMS* and a special collection of articles related to MesoVICT is planned for *Monthly Weather Review* and *Weather & Forecasting*.

k. **User-oriented metrics challenge**.
Lead: JWGFVR and evaluation task team
A competition for innovative evaluation metrics relevant to end users was run by the Joint Working Group on Forecast Verification Research (see http://www.wmo.int/pages/prog/arep/wwrp/new/Forecast_Verification.html) and has been a great success. There were 17 entries from 11 coutries and the winner was Helge Gössling from Alfred Wegener Institute in Germany with his entry "Integrated Ice Edge Error (IIEE) & Spatial Probability Score (SPS)". A selection of submissions will be published in a special issue of *Meteorologische Zeitschrift*. The JWGFVR plans to run another challenge ahead of its next workshop in 2020.

l. **Review of approaches to communicating high impact weather.**
Lead: Andrea Taylor, Communication task team.
Twenty-four abstracts were submitted in response to the Call for Papers for the special issue of the International Journal of Disaster Risk Reduction under the provisional title, "Communicating High Impact Weather: Improving warnings and decision making processes". The submitted articles are currently with reviewers.

m. **NAWDEX (North Atlantic Waveguide and Downstream Impacts Experiment):**
Lead: George Craig and Processes & Predictability task team.
The field phase completed in October 2016 and acquired excellent data including the extratropical transition of Tropical Cyclone Karl. Further information can be found at http://nawdex.ethz.ch/news.html. The data are now available to research groups. Early results were presented at the symposium on High Impact Weather and Climate at the IAPSO-IAMAS-IAGA assembly in Cape Town in August.

n. **HIGHWAY** (**Lake Victoria Basin Nowcasting project)**
The Secretariat recently received approval from UK's Department for International Development (DFID) to implement the HIGHWAY – HIGH impact Weather lAke sYstem – proposal. This project will fall under WISER (Weather and Climate Information SERvices for Africa) in the regional East Africa/Lake Victoria programme. The project started in October and will end in March 2020. There is a need for improved, accurate weather related early warning systems, co-produced between scientists and users, to prevent deaths and damage due to severe convection and strong winds on the lake and in the East African region. The expected outcome of the Highway proposal is increased access to and use of co-designed and sustainable early warning systems to inform regional, national, sub-national and community level planning and decision-making in the East African region. The expected impact of the project is an increased use of weather information to improve resilience and reduce the loss of life and damage to property supporting sustainable economic development in the East African region.

o. **GCRF African Science for Weather Information and Forecasting Techniques (GCRF African SWIFT)**
Lead: Doug Parker and Alan Blyth (University of Leeds / National Centre for Atmospheric Science). The UK's Global Challenge Research Fund (GCRF) has funded a major new research and capacity-building programme, linked to HIWeather, with the aim of improving African forecasting capabilities on hourly to seasonal timescales. GCRF African SWIFT is a 4-year programme, which started in October 2017, with funding of around £9 million supporting 80 people in 5 UK and 10 African institutions, with WMO as an advisory member. The programme of work is organised in 3 Strands:

• **Strand 1: User engagement and forecast evaluation** will be responsible for the interdisciplinary engagement needed to link user engagement with the provision of quantitative measures of forecast accuracy.

• **Strand 2: Physical science research** will coordinate the disciplinary research required to deliver quality-controlled weather predictions.

• **Strand 3: Knowledge exchange, training and documentation** will deliver cross-cutting activities needed to increase research capability and provide a legacy to the project outcomes.

WMO/WWRP supported the planning of the project, and a strong collaboration with the recently-funded *Highway* project in the Lake Victoria Basin has been planned. GCRF African SWIFT aims to engage with and contribute to *HIWeather's* programme of work. Andrea Taylor, who is jointly leading GCRF African SWIFT's work on user engagement, is a member of the HIWeather Communication task team. See https://www.ncas.ac.uk/en/swift-project or contact NCASSwift@leeds.ac.uk

p. **RELAMPAGO-CACTI (Remote sensing of Electrification, Lightning, And Meso-scale/micro-scale Processes with Adaptive Ground Observations - Cloud Aerosols and Complex Terrain Interactions)**
Linked to HIWeather through the WGNMFR
RELAMPAGO is funded by the US National Science Foundation to bring US resources to the field to observe convective storms that produce high impact weather in the lee of the Andes mountains in Argentina. It will also involve significant contributions from NASA, NOAA, Argentina (MINyCT), Brazil (CNPq and FAPESP), and Chile (CONICYT), as well as universities across the region, Argentina's national meteorological service (Servicio Meteorológico Nacional, SMN) and Brazil's space agency (INPE) that governs Brazil's weather and climate prediction service (CPTEC). Extended Observing Period will be 15 August 2018 – 30 April 2019, while the Intensive Observing Period will be 1 November – 15 December 2018. CACTI is a US Department of Energy (DOE) funded project to study orographic clouds and their representation in multi-scale models for 15 Aug 2018 – 31 Mar 2019. It will involve the AMF-1 cloud-aerosol-radiation observatory, the Mobile Aerosol Observing System (MAOS), the CSAPR-2 precipitation radar, and a surface meteorological network. It will also bring intensive airborne observations during RELAMPAGO through the deployment of the G-1 aircraft. For scientific programme, see: https://drive.google.com/file/d/0B6Z5EcBIjxY2S1llakstc3o1cUU/view?usp=sharing

q. **SURF (Study of Urban Rainfall and Fog/Haze)**
Lead Xudong Liang (CMA). Linked to HIWeather through GURME and the MSF task team
The Institute of Urban Meteorology is carrying out the SURF field experiment to study urban pollution and extreme precipitation in Beijing. 2017 was the third season of field data collection. Case study results were presented in the Conference on Predictability & Multi-Scale Prediction of High Impact Weather in October 2017.

r. **ICE-POP2018 (RDP/FDP alongside the Pyeongchang Winter Olympic Games in South Korea)**
Led by KMA and linked to HIWeather through the WGNMFR and MSF task team
The objectives of the RDP/FDP are similar to SNOW-V10 and FROST-2014, but with stronger emphasis on high-resolution data assimilation and modelling. 1.5km very short range DA & Prediction system developed by KMA for Korean Peninsula. The Intensive Observing Period coincides with the Games in 9-25 February 2018 (see http://www.wmo.int/pages/prog/arep/wwrp/new/RDP-FDP.html).

National Programmes

US Contributions

A joint committee is formulating a US response to the three post-THORPEX projects. The US has a wide range of relevant work underway including the Hydrometeorology Testbed (HMT), focusing on rainfall and flood forecasting, and the Hazardous Weather Testbed, focusing on tornado, wind and hail forecasting. CAPS is running 3-km CONUS-domain cycled EnKF data assimilation, including radar data, for selected periods and discussing coupling with hydrology/river stream models for HMT. The National Weather Service FACETS project (http://www.nssl.noaa.gov/projects/facets/) is closely aligned with several aspects of HIWeather. The related Weather Ready Nations initiative is particularly relevant and Dr. Jennifer Sprague-Hilderbrand has recently joined the Advisory Group and Communications task team with a view to building links. The NCAR Societal Impacts Program at the Research Applications Laboratory is closely aligned with HIWeather and contributes strongly to the evaluation theme (http://www.ral.ucar.edu/research/sip/).

UK Contributions

A summary of Met Office contributions to HIWeather has been prepared, which it is planned to extend to include NCAS, and potentially other UK partners. Key areas of work include unconventional data sources, km-scale data assimilation and ensemble prediction, km-scale coupled modelling for the UK, hazard impact modelling and risk communication. The impacts work is largely carried out with partners in the Natural Hazard Partnership (http://www.naturalhazardspartnership.org.uk/). The NERC/Met Office funded FfIR (Flooding from Intense Rainfall) project is addressing several aspects of HIWeather, including new radar observations, km-scale data assimilation and coupling with rural & urban inundation models (http://www.met.reading.ac.uk/flooding/). The Met Office/NERC UKEP project to develop a coupled km-scale atmosphere, ocean, land surface hydrology prediction system has started phase 2, having successfully demonstrated sensitivity to coupling in short range forecasts. Research Councils UK has funded two new networks in its "Decision Making Under Uncertainty" theme. One of them "Models to Decisions (M2D)" will hold its first annual conference in July.

The UK Natural Environment Research Council (NERC) and Department for International Development (DfID) have funded four research projects through the Science for Humanitarian Emergencies & Resilience (http://www.nerc.ac.uk/research/funded/programmes/shear/) programme, targeting lower to middle income countries in sub-Saharan Africa and south Asia, focusing on co-production of knowledge using a multi-disciplinary and problem-centred approach. ForPAc (towards Forecast-based Preparedness Action: Probabilistic forecast information for defensible preparedness decision-making and action) focuses on flooding and drought in East Africa (primarily Kenya) promoting the use of risk information for preparedness action (http://gtr.rcuk.ac.uk/projects?ref=NE%2FP000568%2F1). LANDSLIP (Landslide Multi-Hazard Risk Assessment, Preparedness and Early Warning in South Asia: Integrating Meteorology, Landscape and Society), focuses on early warning of landslides in India (http://www.landslip.org/). FATHUM (Forecasts for AnTicipatory HUManitarian action) focuses on flooding in Africa (https://www.insis.ox.ac.uk/forecasts-anticipatory-humanitarian-action-fathum) and "Citizen science for landslide risk reduction and disaster resilience building in mountain regions", focuses on landslides in Nepal (http://gtr.rcuk.ac.uk/projects?ref=NE%2FP000207%2F1). A call for proposals is anticipated for the Global Challenge Research Fund, which will provide an opportunity for disaster risk reduction projects with an ODA focus. See also SWIFT, above.

German Contributions

W2W (Waves to Weather) is a Collaborative Research Center delivering 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/. The research programme is listed under the headings of Upscale Error Growth, Cloud-Scale Uncertainties and Predictability of local Weather. WEXICOM **(**Weather warnings: from EXtreme event Information to COMunication and action) is an 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.

Australian Contributions

An **Australian HIWeather community** was established at the annual Australian Meteorological and Oceanographic Society (AMOS) meeting in February in Canberra. The goal is to foster collaboration within Australia of physical and social scientists, forecasters, and users of forecasts of high impact weather. Anyone who is interested can contact HIWeather@bom.gov.au to join this community.

The Bureau of Meteorology and Geoscience Australia will start a small project on **impact prediction** this July, co-funded by the Bushfire & Natural Hazards CRC, starting with wind (to establish systems and approaches) and moving to wind & rain. Partners will include forecasters and State Emergency Services.

New Zealand Contributions

Colleagues of David Johnston and Sally Potter at Massey University and GNS Science are developing a portfolio of HIWeather related projects in the Communications theme. These include a project to provide best practice recommendations on the optimal length, order and content of short warning messages for agencies that warn the public about a variety of hazards, including severe weather and flooding. HIWeather New Zealand is meeting at the NZ Meteorological Society conference in Dunedin, November 2017. We are holding a workshop with conference participants (mainly meteorologists and climate scientists) to share information on HIWeather activities, and to discuss how they can be involved.

Related Projects

VORTEX-SE (Verification of the Origins of Rotation in Tornadoes Experiment – SouthEast)
A research program to understand how environmental factors characteristic of the southeastern United States affect the formation, intensity, structure, and path of tornadoes. It will also determine the best methods for communicating forecast uncertainty related to these events to the public, and evaluate public response. See http://www.nssl.noaa.gov/projects/vortexse/

PECAN (Plains Elevated Convection At Night)
A large field project that focused on night-time convection in the Central USA. It was conducted across northern Oklahoma, central Kansas and south-central Nebraska from 1 June to 15 July 2015. A description of the field programme and preliminary results was published in the April 2017 issue of BAMS.

I-REACT
EU Horizon2020 3-year project on Improving Resilience to Emergencies through Advanced Cyber Technologies (I-REACT) involving a consortium of 20 partners will integrate existing systems and assets to facilitate early planning of weather-related disaster risk reduction activities. I-REACT will co-operate with the European Flood Awareness System (EFAS), European Forest Fire Information System (EFFIS), European Global Navigation Satellite System (E-GNSS), Copernicus, etc. See http://www.i-react.eu/

ANYWHERE
EU Horizon2020 project aimed at producing a Europe-wide early warning system for weather-related hazards. http://www.anywhere-h2020.eu/

Aristotle
Aristotle will deliver multi-hazard capability to the Emergency Response Coordination Centre (ERCC) of EU DG ECHO, which is responsible for the coordination of human aid upon request of the government of a country affected by natural (and other) hazards. It has been designed to offer a flexible and scalable scientific network including 24/7 services that can provide new hazard related services to the ERCC and to create a pool of experts in the field of Hydro-Meteorology and Geophysics of Europe that can support the ERCC with regard to situation assessments in crisis situations worldwide. A website is being built at http://aristotle.ingv.it/

European Disaster Risk Management Knowledge Centre
This 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

S2S (Sub-seasonal-to-Seasonal Prediction)
Latest news is available at http://www.s2sprediction.net/static/news

PPP (Polar Prediction Project)
Latest news is available at http://www.polarprediction.net/news.html.

Alert.AR
The project is getting into its final chapter and should be finished by May 2018. Remaining work is related to final deliverable reports and the organization of a final 2 day workshop with the forecasters: about the capabilities of the implementation of WRF 4KM Model (already on the go); and with Civil Protection, when we will work with the new warnings we're about to implement (with graphics and recommendations of what to do in case of severe events).

Recent Papers:

COUPLED DATA ASSIMILATION FOR INTEGRATED EARTH SYSTEM ANALYSIS AND PREDICTION, Stephen G. Penny & Thomas M. Hamill, BAMS July 2017

Comparison of Next-Day Probabilistic Severe Weather Forecasts from Coarse- and Fine-Resolution CAMs and a Convection-Allowing Ensemble, ERIC D. LOKEN, ADAM J. CLARK, MING XUE & FANYOU KONG, Weather & Forecasting, August 2017

Breaking New Ground in Severe Weather Prediction: The 2015 NOAA/Hazardous Weather Testbed Spring Forecasting Experiment, BURKELY T. GALLO, ADAM J. CLARK, ISRAEL JIRAK, JOHN S. KAIN, STEVEN J. WEISS, MICHAEL CONIGLIO, KENT KNOPFMEIER, JAMES CORREIA JR., CHRISTOPHER J. MELICK, CHRISTOPHER D. KARSTENS, ESWAR IYER, ANDREW R. DEAN, MING XUE, FANYOU KONG, YOUNGSUN JUNG, FEIFEI SHEN, KEVIN W. THOMAS, KEITH BREWSTER, DEREK STRATMAN, GREGORY W. CARBIN, WILLIAM LINE, REBECCA ADAMS-SELIN, & STEVE WILLINGTON, Weather & Forecasting, August 2017

Generating Probabilistic Forecasts from Convection-Allowing Ensembles Using Neighborhood Approaches: A Review and Recommendations, CRAIG S. SCHWARTZ & RYAN A. SOBASH, Monthly Weather Review, September 2017

Evaluation and Improvement of Turbulence Parameterization inside Deep Convective Clouds at Kilometer-Scale Resolution, ANTOINE VERRELLE, DIDIER RICARD & CHRISTINE LAC, Monthly Weather Review, October 2017

Heat Health Messages: A Randomized Controlled Trial of a Preventative Messages Tool in the Older

Population of South Australia, Monika Nitschke, Antoinette Krackowizer, Alana L. Hansen, Peng Bi

& Graeme R. Tucker, International Journal of Environmental Research & Public Health, August 2017

Longitudinal Impact of Hurricane Sandy Exposure on Mental Health Symptoms, Rebecca M. Schwartz, Christina N. Gillezeau, Bian Liu, Wil Lieberman-Cribbin & Emanuela Taioli, International Journal of Environmental Research & Public Health, August 2017

Variations in urban surface temperature: an assessment of land use change impacts over Lagos metropolis, Ayansina Ayanlade, Weather, October 2017

Exploring the convective grey zone with simulations of a cold air outbreak, Paul R. Field, Radmila Brozkova, Ming Chen, Jimy Dudhia, Christine Lac, Tabito Hara, Rachel Honnert, Joe Olson, Pier Siebesma, Stephan de Roode, Lorenzo Tomassini, Adrain Hill, Ron McTaggart-Cowan, Quart. J. Roy. Meteorol. Soc., July 2017

Urban extreme rainfall events: categorical skill of WRF model simulations for localized and non-localized events, G. N. Mohapatra, V. Rakesh & K. V. Ramesh, Quart. J. Roy. Meteorol. Soc., July 2017