

Report on HIWeather workshop, 2 - 4 June 2014

A workshop was held from 2 – 4 June 2014 to develop the Implementation Plan of the proposed WMO/WWRP High Impact Weather project (HIWeather). Specifically, the aim was to (a) review the definitions of the hazards that the project will focus around; (b) to develop material that will form the basis for a rewrite of sections 3 & 4 of the implementation plan, describing the research and cross-cutting themes, their objectives and the activities that will deliver them; (c) to make recommendations on aspects of governance, funding, timescale etc..

The workshop was hosted by NOAA at its headquarters in Silver Spring, USA. Local arrangements were organised by Ms Renee Tatusko. The success of the meeting owes much to her excellent arrangements and her flexibility in responding to changes in the schedule. The workshop was attended by about 40 people. The co-chairs are grateful to WMO for funding or part-funding the attendance of ten of these.



HIWeather Workshop at NOAA, Silver Spring, USA, 2-4 June 2014 (courtesy of Tetsuo Nakazawa)

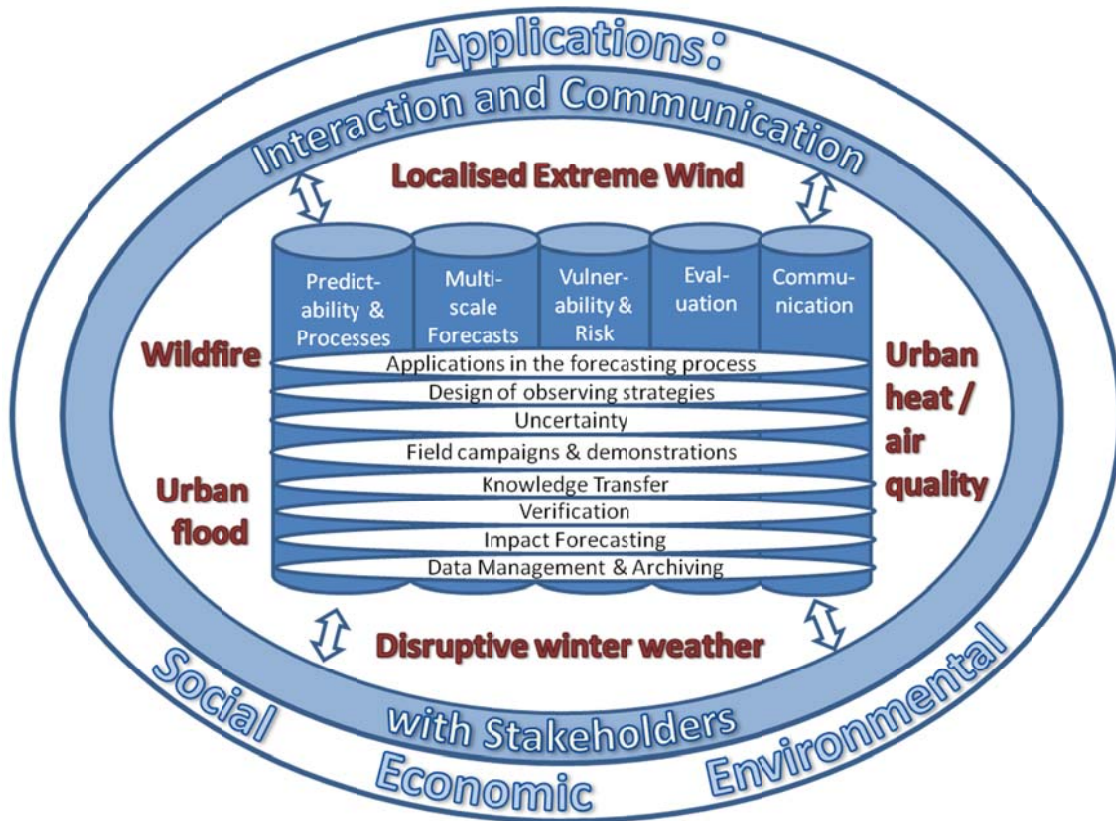
The structure of the workshop was designed to have presentations for much of the first day, which set the stage for the break-out sessions on the second and third days to identify the scientific challenges faced by the project and articulate a strategic approach to prioritize activities that will ensure the project is successful in its mission. This was a very heavy agenda for those present, and the successful achievement of the workshop objectives is testament to the hard work put in by all of those present.

The following is a brief summary of the content of the meeting. The outcomes of the discussions will appear: first, in a revised project executive summary to be made available to delegates at the WMO Executive Council in June 2014 when the project is considered for approval; and, second, in the revised HIWeather Implementation Plan, which will be circulated to workshop participants and other members of the HIWeather Task Team for comment and revision during August 2014 and presented to the WWRP SSC in November 2014.

Day 1

Welcome by Laura Furgione, Deputy Director, NOAA / NWS & U.S. Permanent Representative to WMO; and Tetsuo Nakazawa, WMO, Chief WWRP

Overview of HIWeather and Aims of the Workshop by Sarah Jones (DWD, Germany), chair of the project task team, based on the concept described in the draft Implementation Plan.



HIWeather concept, representing the overarching relationship with end users, the five selected hazards, the five research pillars and the eight cross-cutting activities

Presentation on the role of USAID in providing assistance to International Hydro-Meteorological Disasters by Sezin Tokar of USAID. In relation to HIWeather, she particularly mentioned the need for the availability of advance information to enable preparedness of external assistance and the importance of engagement with the local weather service and emergency response communities.

Presentation on the US Weather Ready Nation (WRN) Initiative by Chris Strager (NWS, US). He gave some background to events that led to the initiation of WRN and introduced some of the activities being undertaken, particularly in its communications, outreach and partnerships aspects. The WRN Initiative maps extremely well to the objectives of HIWeather and provides a valuable blueprint for some of the activities that could be undertaken on an international scale. It was evident that HIWeather would benefit greatly if it could be linked with WRN in some way.

Overview of the five hazard areas on which the HIWeather project will focus, by Brian Golding (WMO consultant, Met Office, UK). Following a brief introduction illustrating the

relation between the needs of end users managing weather impacts and the outputs of weather forecasts, Brian went on to summarize aspects of the hazards developed in earlier discussions of the task team. For each hazard-- urban flood; wildfire; extreme local wind; disruptive winter weather; urban heat & air quality -- he described the impact chain from weather, through physical hazard to human impacts and ultimately to mortality, morbidity, damage and disruption and identified actions that could be taken by emergency managers to reduce these impacts at various lead times. Discussion focused around the reasons for omitting some hazards and, in particular, the coupling of heat and air quality, and exclusion of cold. This was picked up again in the final plenary, with the conclusion that the heat and air quality hazard should be more specifically focused on tropical megacities.

Five presentations identified key areas requiring progress in each of the five research pillars: predictability & processes (George Craig, University of Munich, Germany); multi-scale forecasting (Sharan Majumbar, RSMAS, USA); vulnerability & risk (Brian Mills, Environment Canada); evaluation (Beth Ebert, Bureau of Meteorology, Australia); communication (Rebecca Morss, NCAR, USA). Each presentation was followed by discussion.

The day ended with a group break-out session to review these presentations and to identify the key research challenges of each research theme. Brief summaries of the conclusions of each group were then fed back to plenary to ensure consistency in subsequent discussions.

Day 2

The day consisted of three extended break-out sessions in the groups established on day 1, each followed by a brief summary of conclusions to plenary. The purpose of these groups was to gradually build up the definition of the proposed research from the challenges identified on day 1 to a well-defined programme of research that could be supported by research funders and WMO.

The first set of discussions focused on the specific research activities that would enable each challenge to be addressed. Whereas there were large groups able to work on this for the predictability and processes theme and for the multi-scale forecasting theme, there were only about ten people overall with expertise in the other three themes. Bearing in mind, also, the commonalities between these themes, they opted to work together. The results of these first discussions reflected the difficulties found in previous offline attempts to define programmes of activities for this project. The nature of the activities and level of detail varied substantially among the themes making it difficult to identify the role that international collaboration might play.

In the second set of discussions, the initial set of activities was reviewed and prioritized, bearing in mind the benefits that would arise and the cost and feasibility of the proposed work. The groups were specifically asked to consider what support would be needed from a HIWeather trust fund to facilitate this work. Groups were also asked to ensure that their proposals were comprehensive, including anything from the original presentations that remained relevant. Themes 3,4 & 5 again opted to work together. Feedback from these discussions showed a more credible and evenly matched set of activities across the board.

In the third set of discussions, the groups took the activity plans already developed and looked at their relationship to the other research pillars and to the cross-cutting activities. Each of the five groups worked independently in this session in order to ensure that the

material fed back to the implementation plan was sufficiently well defined for each. Feedback covered both the updated activity plans for the research pillars and the contributions to the cross-cutting activities.

Day 3

Following a brief period for groups to finalise their presentations, the morning was spent on detailed discussions of the activities identified by each of the groups. Material from these presentations, together with a record of the discussions captured by rapporteurs, will form the primary input for revision of the Implementation Plan. The co-chairs are very grateful to the chairs and rapporteurs of the break-out groups and to the rapporteurs of these final plenaries for their care in recording the discussions. In discussion, it was clear that very substantial progress had been made in day 2, with credible activity plans now achieved for each of the five themes.

Discussion of the cross-cutting themes identified that, while some would have distinct activities, others were defined entirely by activities sitting in the research pillars. Management of these relationships was identified as a problem that would need attention. It was suggested that removing the implicitly defined cross-cutting themes from the plan might be a useful simplification. However, it was concluded that their continued presence in the structure would help to ensure that relationships across themes were properly managed.

The final plenary discussions covered areas of governance and funding. The workshop supported a governance structure consisting of a small Steering Group consisting of co-chairs for the physical and social sciences and representatives of the five research pillars. This steering group would report to WMO. Strategic guidance from the stakeholder community would be provided by an advisory board. Each research pillar would be managed by a task team, consisting of leads for each activity, chaired by the steering group representative. A variety of potential sources of research funding were discussed, and the requirements on the project trust fund were identified.

Following the workshop, the main findings will be incorporated into material to be presented to a "side-meeting" at the WMO Executive Council (EC) on 25th June. The EC agenda includes a recommendation to approve the project and set up a trust fund. Following this, the draft Implementation Plan will be revised and circulated to the Task Team and workshop participants for comment at the end of July. Final revisions will be incorporated during September producing a definitive version for submission to the WWRP Scientific Steering Committee in November.

The workshop closed with thanks for the contribution of all those present and to those involved in its organization.