



Asia Regional Resilience to a Changing Climate (ARRCC) Met Office Partnership newsletter

March 2021



Welcome

Welcome to the latest edition of our ARRCC Met Office Partnership newsletter. This edition covers the period from January 2021 to March 2021, highlighting some of our key activities and events during this time. We hope you will find the articles informative.

If you have been forwarded this email and would like to receive ARRCC newsletters direct in future, please [**email us**](#) with your details and consent.

The Met Office ARRCC team

Impact-based forecasting (IBF) - work package 1

SWFP – South Asia and Southeast Asia



Image: Delegates gather for a virtual course photo on the opening day of the training.

The World Meteorological Organization (WMO) Severe Weather Forecasting programme (SWFP) (formally Severe Weather Forecasting Demonstration Project), since its inception in 2006, has been working to strengthen the capacity of NHMSs in developing countries in both Africa and Asia, to deliver improved forecasts and warnings of severe weather to save lives and livelihoods, and protect property and infrastructure.

Given the alignment with the aims and objectives of work under WP1, we have committed to supporting the South Asia SWFP programme since 2018.

One element of the SWFP is to run training and capacity development workshops to help enhance forecasting capability across the region. After plans for the 2020 workshop were put on hold due to COVID-19 last year, the Met Office took the lead on planning a remote event which took place in February this year.

Delivering training such as this remotely can be challenging, but when surveyed post course, the majority of delegates said they would be happy to participate in remote training again. When asked if the training course met their expectations, the responses were on par with face-to-face training which was encouraging given the time and resources which had been dedicated to developing and delivering this training.

Impact Based Forecasting for Early Action



In March 2021 Work Package 1 saw the successful completion of the first 'Impact Based Forecasting for early Action' stakeholder training event. This was delivered by the Red Cross Red Crescent Climate Centre (RCCC) in collaboration with Nepal and National Disaster Risk Reduction Management Authority (NDRRMA) and Department of Hydrology and Meteorology (DHM). The three-day event, with a mix of plenary sessions and practical exercises to help delegates contextualise the theory in the context of Nepal, was run as a 'hybrid' workshop.

Stakeholders from the nine pilot districts, as well as provincial and national level representatives came together in Kathmandu, joined by a local RCCC facilitator, while an international panel of virtual presenters from RCCC and the Met Office dialled in remotely.

The RCCC and the Met Office are now working to incorporate lessons learnt from the training event into the materials and plans for future trainings. We will also be working with the provincial and district level representatives of NDRRMA to enable them to cascade the training to local stakeholders at municipality level.

Stakeholders who attended the Nepal event will now complete a survey which aims to understand how they currently engage with forecast and warning information, how they would like to see this evolve under the new

IBF approach, along with asking them to highlight any barriers they may be aware of in terms of communication or action. The results of these surveys will then be reviewed by DHM/ NDRRMA and the Met Office. In collaboration with the Met Office, DHM will then be able to start designing a pilot product/ service based on the results.

Strengthening Climate Information Partnerships South Asia (SCIPSA) - work package 2

Seasonal Prediction to Operational Services in South Asia Training

To aid in the capacity building of national meteorological and hydrological services (NMHSs) in the four ARRCC focus countries, RIMES, in collaboration with the Met Office and Regional Climate Centre (RCC) - India Meteorological Department (IMD) Pune, recently built upon the first foundation-level operational seasonal prediction training workshop held in February 2019.



Image: Participants engaging at training event

Jointly we facilitated online training on Seasonal Prediction to Operational Services in South Asia from 22 February to 11 March 2021. The training workshop was part of continuing capacity development efforts for strengthening seasonal climate information and services in the South Asia region.

The aim of the online workshop was for participants to develop an understanding and appreciation for the following topics:

1. Investigating ‘weather within the seasonal climate’ and advanced application of Climate Predictability Tool (CPT) to produce tailored output for use in downstream products and services: a) Predicting rainy day frequencies b) Predicting onset
2. Introduction to the FOCUS tool combining output from multiple seasonal forecasting systems to produce user-relevant messages to aide informed decision-making.

At the end of the workshop, participants were given the opportunity to feedback on their experiences. Some feedback includes:

- “Virtual workshop/training/meeting is the best alternative in special situation like this COVID-19 pandemic. We, the organizer and participants tried our best to make the event successful in spite of poor internet connection and power supply in the developing countries.”
- “The CPT and FOCUS tools are very user friendly and convenient tools for making seasonal outlook at the national level. We use these tools for making seasonal forecasting. Also, I am planning to teach about these tools to my staffs.”
- “This collaborative work is very useful to get wider knowledge of seasonal variability over the different countries of South Asia. Such knowledge together with the familiarization with the operational system in seasonal forecasting of those countries is always helpful.”

SCIPSA will take these recommendations into account when planning future capacity building activities of this nature under the ARRCC programme, the next of which being the Pre-COF training activities scheduled for

mid-April 2021. The final SCIPSA regional training workshop in February 2022 will hopefully be hosted at AIT Bangkok.

Climate Analysis for Risk Information & Services in South Asia (CARISSA) - work package 3

Pre COP26 webinar on sea level and coastal risks in Bangladesh

Sea level rise and coastal climate risks in Bangladesh **Webinar showcasing new science to inform policy and promote climate change resilience**

11th March 2021

7.30pm - 9.30pm (Bangladesh, GMT +6)

Register at <https://bit.ly/2PiPBCR>



 **Met Office**



Ahead of COP26 in the UK in November 2021, a webinar was held on 11 March to showcase recent advances in research on sea level rise and coastal climate risks in Bangladesh. The webinar recording has now been uploaded to YouTube and can be found [here](#).

In collaboration with Prof Saiful Islam from the Bangladesh University of Engineering and Technology (BUET), the webinar provided an opportunity to discuss how best to translate and embed new understanding and evidence into planning decisions.

Presentations showcased the breadth of modelling work being done and different methods to determine and communicate relevant data on sea level rise and coastal risks in Bangladesh, with contributions from Ben Harrison (Met Office), Bushra Duti (IWM), Laurence Hawker (University of Bristol), James Savage (Fathom), and Saiful Islam (BUET).

These were followed by a panel discussion and Q&A chaired by Tammy Janes (Met Office) featuring Saleemul Huq (ICCCAD), Jason Lowe (Met Office / University of Leeds) and Mizanur Rahman (Bangladesh Water Development Board). The panel discussion highlighted the value and need for further inter- and trans-disciplinary research to further advance information and solutions, with an important role for both monitoring and model-based information to guide adaptation policy and interventions.

WFP workshops to begin food security and climate change assessments

Two workshops with the Afghanistan and Nepal World Food Programme (WFP) country offices were held in January 2021. The workshops provided opportunities for the country teams to meet with the Met Office and regional colleagues to plan livelihood and climate data collection for new national food security and climate change assessments. Following these engagements, work has now started in both countries to engage with national and local level communities to update livelihoods information that will inform the assessments later in the year.

IWM sea level project inception workshop and field visits



An inception workshop and initial field visits were held by the Institute of Water Modelling (IWM) in Bangladesh as part of a new project funded under ARRCC titled “Understanding the Sea Level Rise Dynamics of Bangladesh along the Coast”. The photos are taken from the February 2021 field visits to the southwest and south-central coastal regions of Bangladesh.

The main objective of these visits was to understand the views of local people and local authorities about the sea level rise. The workshop, held on 23 February 2021, brought together researchers at IWM with the Met Office and organisations in Bangladesh interested in coastal climate risks, providing a chance to share plans and gather feedback to inform the project.

RCCC South Asia Regional Workshop on Heatwave Risk and Impacts

A regional stakeholder workshop led by the Red Cross Climate Centre (RCCC) was held on 24 February 2021, hosted through the ARRCC programme and CDKN Asia. The workshop brought together a broad community of scientists and practitioners to discuss the risk of extreme heat events and their impacts in South Asia, and share best practices of reducing heat impacts. The workshop outcomes will further inform city focused activities on heatwave action planning and their implementation in the region.

VALUE - work package 4

WP4-VALUE have released a new publication [“Valuing climate services: Socio-Economic Benefit studies of weather and climate services in South Asia”](#). This publication is intended to help National Meteorological and Hydrological Services (NMHSs) and other providers of weather and climate services to develop a broad understanding of the methods for evaluating their socio-economic benefits (SEBs).

The methods presented within the publication are based on the World Meteorological Organization’s 2015 guidance “Valuing Weather and Climate: Economic Assessment of Meteorological and Hydrological Services”. The ARRCC MOP report presents a much condensed version of each of the SEB methods detailed in the WMO report. A brief summary of each method is presented, along with advantages/disadvantages of using each method, and examples of how each method has been applied to WCS evaluation.

The ARRCC programme

The UK aid-funded ARRCC programme is being led by the Met Office and the World Bank and aims to strengthen weather forecasting systems across Asia. The programme is delivering new technologies and innovative approaches to help vulnerable communities use weather warnings and forecasts to better prepare for climate-related shocks.

Asia is highly vulnerable to natural disasters and this vulnerability is expected to increase. The ARRCC Met Office Partnership (MOP) programme is targeting the most vulnerable countries in the region, primarily Bangladesh, Pakistan, Nepal and Afghanistan, and will support:

1. enhancing regional collaboration and capability for provision of weather and climate services;
2. development of regional and sub-regional forecasting and early warning systems;
3. improving capacity in focus countries to develop and disseminate impact based forecasting (across multiple timescales) to climate sensitive sectors and vulnerable communities;
4. development of new technologies to deliver climate information to vulnerable groups; and
5. the mobilisation of additional resources for building climate and environmental resilience.

The Met Office is working closely with a number of key partner organisations in the region to support delivery of ARRCC, including:

- UN bodies such as the World Meteorological Organization (WMO), the World Food Programme (WFP) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP);
- existing regionally mandated organisations involved in development of weather and climate services, including the International Centre for Integrated Mountain Development (ICIMOD) and Regional Integrated Multi-Hazard Early Warning Systems (RIMES) and research organisations such as the International Maize and Wheat Improvement Center (CIMMYT);
- NGOs such as the Red Cross Climate Centre (RCCC); and
- National Meteorological and Hydrological Services (NMHS) and related agencies with responsibility for disaster risk management.

Find out more on the [ARRCC Met Office Partnership webpages](#).

Meet the Met Office ARRCC team



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