



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

September 2021



### Welcome

Welcome to the latest edition of our ARRCC Met Office Partnership newsletter. This edition covers the period from June 2021 to September 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

### Creating a portfolio of impact stories – summer placement student

Jamie Heath, a Geography graduate from Exeter, joined the ARRCC team from July to October 2021. Since joining, Jamie has created a portfolio of two-page impact stories which showcase projects from the WP2-SCIPSA and WP3-CARISSA projects. The aim of these impact stories is to showcase the potential benefits of incorporating weather, seasonal and climate information into decision-making by providing tangible examples of successes. They demonstrate how ARRCC partners have worked together to reduce the vulnerability of

the focal countries to weather and climate risks and subsequently encourage the uptake of weather and climate information across the region promoting further collaborations between the South Asian climate community.

Ultimately, these impact stories will form part of a Knowledge Exchange hub on the planned South Asia climate science and services regional climate forum website designed to bring together the expertise and knowledge on climate science and services both inside and outside the ARRCC programme from partners across South Asia.

Jamie is continuing to produce impact stories for projects across the ARRCC programme with the hope that once the regional forum is established, other partners in the region will have the opportunity to contribute their own impact stories to encourage intra-regional knowledge exchange on the translation of weather and climate information into services in South Asia.

Look out for the impact stories in the next newsletter issue.

### **Impact-based forecasting (IBF) - work package 1**

#### **Nepal Rainfall IBF pilot**

Following the successful launch of the IBF pilot in two districts in June, the pilot was extended to an additional two districts in July. Work Package 1 have continued to provide support to the Department of Hydrology and Meteorology (DHM), Nepal throughout the Monsoon period which runs from June until September. This has included providing technical support and engagement with their key stakeholders to seek feedback on the pilot.

#### **Bangladesh Tropical Cyclone IBF pilot**

In August we held a technical training for Bangladesh Meteorological Department (BMD) related to Tropical Cyclones. Topics include the use of ensembles, storm surge forecasting and a case study based on Tropical Amphan. Work also started on the development of the impact tables which will underpin the IBF product.



This was followed up by meeting with BMD and 40 key stakeholders to share and refine the impact tables in September. Participants included representatives from each of the 13 coastal districts which could be potentially impacted by a Tropical Cyclone.

During September we have also continued to provide support to BMD in the development of the new IBF product. The IBF pilot is due to launch during the forthcoming Tropical Cyclone season.

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

### **Skill of South Asian Precipitation Forecasts in Multiple Seasonal Prediction Systems**

A report on the 'Skill of South Asian Precipitation Forecasts in Multiple Seasonal Prediction Systems' has been officially launched, with both the report and supplementary information publicly available. This scientific analysis was jointly undertaken with colleagues at RIMES and RCC-Pune, and is now being prepared for submission into a peer-reviewed journal. Country-specific briefing reports are also being explored with national meteorological and hydrological services (NMHSs) in ARRCC focal countries.

### **Upcoming Events:**

#### **o 5-6 October - Red Cross Red Crescent Climate Centre training session on early action based on seasonal forecasts**

The training will discuss on the basics of seasonal forecasting, its skill and predictability in South Asia and the regional climate outlook forum, and will co-explore approaches of integrating seasonal forecast information in disaster preparedness, planning, and humanitarian operations.

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

### **Training on spatial and temporal climate change analysis using CORDEX regional climate models**

Under ARRCC's Work Package 3, ICIMOD and the Met Office organised training on spatial and temporal climate change analysis using CORDEX regional climate models over South Asia in June 2021 for the Department of Hydrology and Meteorology (DHM) and relevant institutions in Nepal. The five-day training aimed to build underpinning knowledge and skills for analysing climate change projections using CORDEX regional climate model simulations. Colleagues from the Met Office, ICIMOD and IITM-Pune imparted knowledge on climate model projections using 17 regional climate models, a selection of representative models for an area of interest, and assessing spatial and temporal variability of present and future climate change for RCP 4.5 and 8.5 scenarios. Between 2020 and 2022, ICIMOD and the Met Office are developing and delivering a series of training activities to build the capacities of individuals at targeted institutions to support them in delivering climate and information services for informed climate change responses in South Asia.



### **Pre COP26 webinar: Sea-level rise and coastal climate risks for Pakistan**

A webinar on 'Sea-level rise and coastal climate risks in Pakistan' was held on 8 September 2021. The webinar was co-hosted by the Met Office, ICIMOD, the Water Environment Forum (WEF) in Pakistan and the Pakistan Meteorological Department (PMD). Welcoming remarks were provided by each coordinating partner, with further framing and introductory comments from Annabel Gerry (Foreign, Commonwealth and Development Office (FCDO)) highlighting the links to COP26. The webinar was structured in two parts. The first part showcased new research with a series of short talks. Topics included the climate profile of Pakistan (Global Change Impact Studies Centre), coastal risks in Pakistan (PMD), sea-level research by the National Institute of Oceanography (NIO), and new sea-level projections for the Arabian Sea (Met Office). The second part aimed to build discussions on embedding new science into policy and practice, with panellists from WEF, NIO and Karachi University. Joe Daron (Met Office) also provided insights from the UK and other countries.

The webinar was well attended, with 45 participants and 23 different organisations. The webinar sparked conversations and a broader awareness of the need for better sea-level monitoring, the importance of ecosystems in adaptation, and strength of working in partnership.



## Climate Science and Humanitarian Dialogue

The International Federation of Red Cross and Red Crescent Societies (IFRC) and the Red Cross Red Crescent Climate Centre (RCCC) convened a pre-COP26 “Climate Science and Humanitarian Dialogue” on 23 September. The dialogue brought together over 70 people from the climate science and humanitarian communities across different regions of the world to jointly unpack the findings of the recent Working Group I contribution to the Intergovernmental Panel on Climate Change (IPCC) sixth assessment report (AR6) and discuss the implications to the humanitarian world.

# CLIMATE SCIENCE & HUMANITARIAN DIALOGUE



Met Office



Climate Centre



Key messages from the IPCC WG1\* report on climate science for humanitarian action



## Join us!

This event is an opportunity to unpack the IPCC WG1 report and understand the implications of key findings for humanitarian work, and strengthen our capacities to communicate climate science.

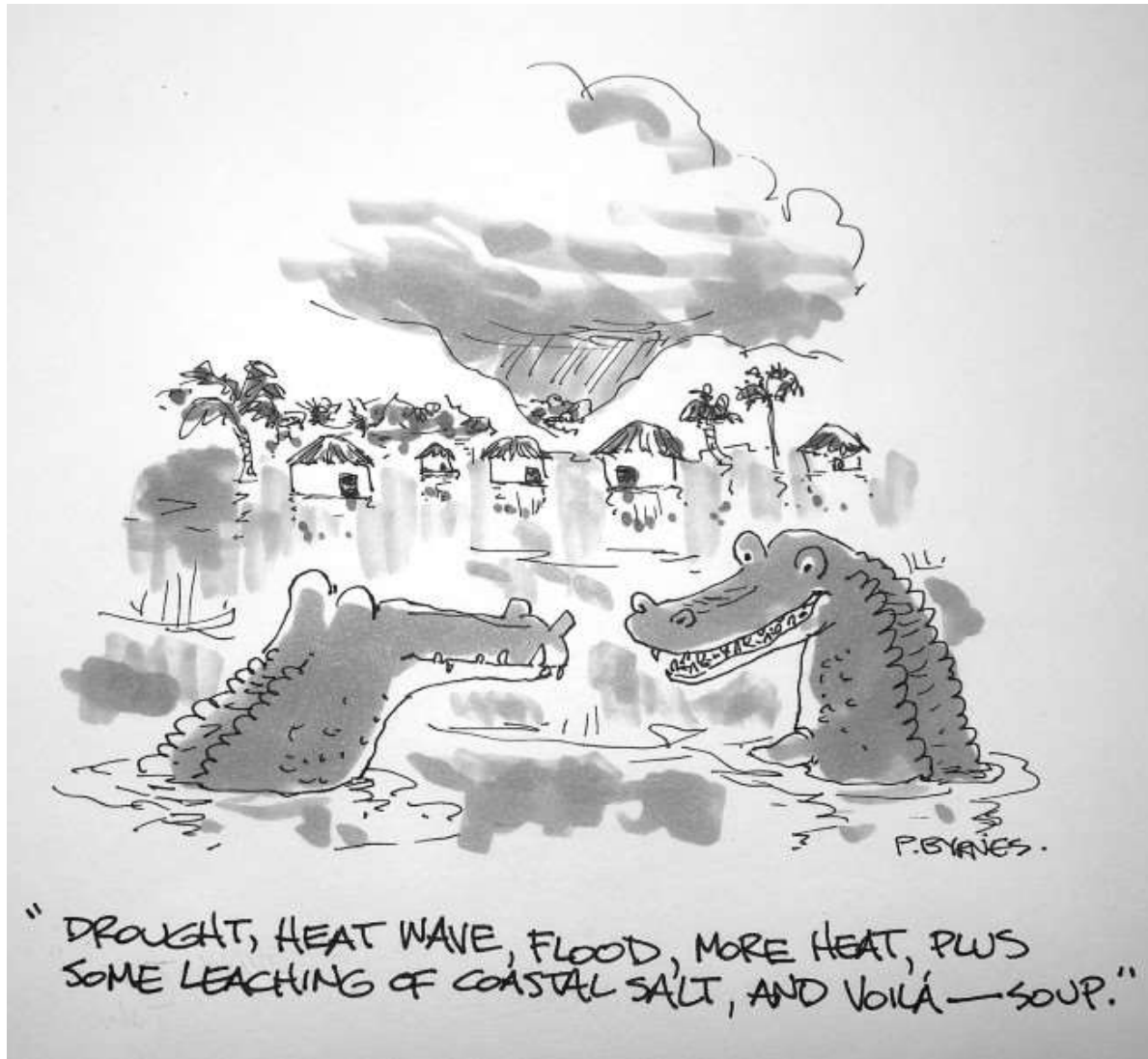
**September 23**

**14.00-16.00 CEST**

Online on Zoom

<https://zoom.us/j/93103709262>

The event began with opening remarks from the IFRC and RCCC highlighting the importance of the IPCC AR6 to humanitarian organisations. This included a video showcasing some of the key findings, expressed in cartoons, with a focus on “no more maybes” highlighting the strengthened evidence in the AR6 that recent climate change, including changes in extreme events, is attributable to human-caused greenhouse gases emissions. Richard Jones (Met Office and Oxford University), who played a key role in the AR6 including as a coordinating lead author for the new Interactive Atlas chapter, then provided a “whistle-stop tour” of key IPCC AR6 findings, emphasising the increased amount of regional-scale information of relevance to humanitarian workers. Following further reflections from climate scientists and humanitarian practitioners, participants then attended one of three breakout group discussions on slow onset events, extreme weather events, and compounding/cascading events.



The discussions brought out varied and rich insights, including some recommendations. For example, a need was expressed for more collaboration between humanitarian workers and climate scientists to gather and document experiential evidence of how climate change is affecting vulnerable communities in areas with limited data, especially those areas affected by conflict or disasters where humanitarian organisations are present. The interactive event also included input from cartoonists, using wit and humour to extract and depict key messages from the discussion. The event was the first in a series of dialogues to discuss findings from IPCC AR6 cycle; second and third part of the dialogues will follow after the release of WG II/III contributions and the synthesis report next year.

#### VALUE - work package 4

**Baseline survey on use of weather and climate services in Pakistan - August 2021**

The University of Leeds, International Centre for Integrated Mountain Development (ICIMOD), the Met Office and the Pakistan Meteorological Department (PMD) are conducting a study to evaluate the socio-economic benefits (SEB) and usefulness of weather and climate services (WCS) in Pakistan. The study will examine perceptions and experiences of farmers for wheat and cotton crops in the agricultural provinces of Sindh and Punjab which are most likely to be affected by climate change and variability. This study will be pursued through two rounds of surveys and focus group discussions with farmers to help us understand the user landscape e.g. who uses WCS and who does not, farmers' perceptions of the usefulness of the services particularly the agro-meteorological advisories PMD provides to cotton and wheat farmers, and estimates of the benefits and impact of the WCS on farm-level decision making and production.



The first survey was rolled out in July 2021 and collected data on the current use of WCS, socio-economic conditions and wheat harvest data from more than 600 farmers across 24 villages in four districts of Sindh and Punjab Provinces. The survey maintained a good gender balance among respondents (49% female respondents) and found that while 68% respondents are aware of the WCS, 56% currently use WCS for making farm decisions (with almost 50% of users being female). Majority of respondents experienced unusual rainfall (81%) in the recent past and perceived a sudden increase in temperature (70%) highlighting the significance of the WCS to address the impacts of such climatic variations.

These early observations will be followed by a second round of survey and focus group discussions to identify the measures for improving outreach, accuracy and usability of the WCS. These will be conducted in October 2021 and provide further insight into the cotton crop production as well as more in depth information on how the WCS are currently used by farmers, ways to enhance their usability and improve their provision to farmers in Pakistan. The first round of surveys was conducted by adhering to COVID-19 protocols prescribed by Pakistan government. The survey team comprised of equal number of female and male enumerators to address cultural sensitivities.



### **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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