

## “ONE THING YOU NEED TO KNOW ABOUT SEASONAL FORECASTS”

November 28, 2018 Marie-Amélie Boucher 2 Comments

Contributed by Rachel Bazile, Marie-Amélie Boucher and Chris White.

“It is that they have no skill...”

This is how Matt Newman from NOAA's ESRL referred to seasonal forecasts in his opening presentation at the Second International Conference on Subseasonal to Seasonal (S2S) / Seasonal to Decadal (S2D) Prediction. Organized by NCAR, the meeting which was held from Sept. 17 to 21 in Boulder, Colorado, had gathered more than 300 international scientists from both the S2S and S2D prediction communities... but it all started out rather pessimistically!

### HEPEX was there!

As hydrologists, we also initially felt like outliers among all those meteorologists (what is this MJO thing anyways?). Still, as it quickly turned out, the conference was highly relevant for us.



Figure 1: HEPEXers present at the 2nd S2S conference! From left to right: Andrew Schepen, Chris White, Andy Woods, Rachel Bazile and Marie-Amélie Boucher.

It addressed the topics of predictability, quality assessment and initialization, as well as timescale interactions and decision-making based on forecasts, including, of course, hydrological forecasts.

### Subseasonal to seasonal forecasting in hydrology: a bit of background

Let's add a bit of hydrological context here. The Extended Streamflow Prediction (ESP) framework proposed by Day in 1985 is still the system to beat for long-term streamflow forecasting (e.g. García-Morales and Dubus, 2007; Singh, 2016). Within this framework, past meteorological observations are considered as equiprobable potential future scenarios, which are fed to a hydrological model. ESP is coherent with humans' inclination to judge



Figure 2: SY Simon Wang from Utah State University had the strange yet really cool idea to present the main ideas of his talk as a song with animated graphics. It was a first for many of us.



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## What are the challenges for HEPEX over the next decade?

As we have seen more and more hydrological ensemble forecasts becoming operational, the focus of the Melbourne workshop was to find out what our future priorities should be. Here are the key findings:

Challenge	Suggestions
<b>Education:</b> How do we best educate the next generation of hydrometeorological ensemble forecasters?	Curriculum, training material, short courses
<b>Communication:</b> How do we best support the uptake of hydrometeorological ensembles in the wider community?	Event-based verification, webinars, forecast scenarios
<b>Decision-making:</b> How do we aid the forecasters in probabilistic, risk-based decision-making?	Dissemination tools, training, forecast-based financing
<b>New data:</b> How do we best use new data in our forecasting systems?	Big data, harness social media, data assimilation

The above challenges are just a few examples of the wide range of activities within HEPEX, but they point to a slight shift in direction of HEPEX activities towards more effort in the activities in the interface between modellers and users. It is clear that we need more effort in **co-design and co-development** of our forecast systems together with end-users.

## SATELLITE INSPIRED HYDROLOGY IN AN UNCERTAIN FUTURE – A JOINT H SAF AND HEPEX WORKSHOP

March 13, 2019 Fredrik Wetterhall 0 Comment

When: 25-28 November 2019

Where: ECMWF , Reading, UK

How: Abstracts submission and registration now open

Five years ago, H SAF and HEPEX organised a joint workshop on “Coupled hydrology” at ECMWF, and now it is time to revisit the subject. Last time around the workshop was split into first an H SAF part, followed by a joint session and finished with a HEPEX workshop. This time the idea is to have joint sessions all through the workshop to further the collaboration between the two communities and bring them even closer. A lot of work has been done over the past five years, but there are still many challenges that lie ahead.

The workshop will span over 4 days (Monday-Thursday), and the call for abstracts is now open until 30 April. You can also already now register for the workshop, but please note that the registration will be open until 15 September. The Thursday afternoon is dedicated to a hands-on demonstration session on H SAF and HEPEX products using Jupyter Notebook. There are limited spaces for the hands-on session and PhD Students and post docs will be given priority.

For more info including the programme and how to submit your abstracts, please visit the workshop website.



The 2020 HEPEX Workshop on Hydrological Ensemble Prediction will be held in Paris.

It will be the 8th International Workshop on Hydrological Ensemble Prediction, and will be jointly organized by the HEPEX (Hydrologic Ensemble Prediction Experiment) and the GFP (Global Flood Partnership) initiatives.

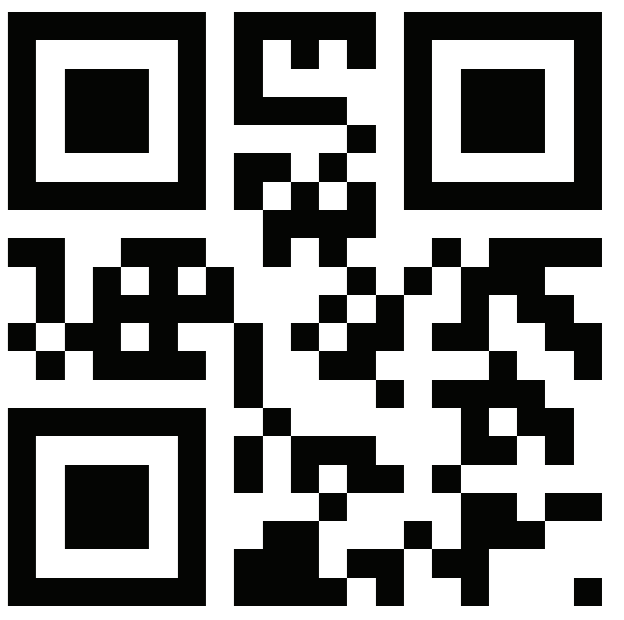
The theme for the 2020 HEPEX workshop is ‘Connecting the Dots’.

## Do you want to join us?

### Join & Contact

You can join HEPEX through multiple channels:

- Subscribe to the mailing list.
- Follow us on twitter (@hepexorg), LinkedIn, Facebook or YouTube
- Come to our meetings and exchange ideas in person with other HEPEX members.
- Follow the blog, (blog@hepex.org) submit comments and propose your own posts to be published online.
- Contact HEPEX co-chairs and other local/regional points of contact below for the organization of Hepex-related activities



### HEPEX mission is:

To demonstrate the added value of hydrological ensemble predictions (HEPS) for emergency management and water resources sectors to make decisions that have important consequences for economy, public health and safety.

Key questions of HEPEX are:

- What adaptations are required for meteorological ensemble systems to be coupled with hydrological ensemble systems?
- How should the existing hydrological ensemble prediction systems be modified to account for all sources of uncertainty within a forecast?
- What is the best way for the user community to take advantage of ensemble forecasts and to make better decisions based on them?

### HEPEX is organised around six major themes:

- Input and pre-processing
- Ensemble techniques and process modelling
- Data assimilation
- Post-processing
- Verification
- Communication and use in decision making

HEPEX is a community initiative with many people contributing and working on specific topics.

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