



HEPEX

A global community in hydrological
ensemble prediction

2019

www.hepex.org

About



- Originally, ‘Hydrologic Ensemble Prediction EXperiment’
- Began in 2004: ECMWF workshop jointly organized with the US National Weather Service (NWS) and the European Commission (EC JRC)
- Today, a global community of researchers and practitioners in hydrological ensemble prediction
- An unfunded/volunteer effort since its creation
- It seeks to advance the science and practice of hydrological forecasting and its use in impact- and risk-based decision making
- Several community activities, including workshop organizations, a blog portal, a mailing list and a broad range of online resources (workshop presentations, games, lectures)

Mission



“To demonstrate the added value of hydrological ensemble prediction for operational water resources management, risk assessment and emergency management to make decisions that have important consequences for economy, environment, and public health and safety.”



Key questions



- What are commonalities between **meteorological and hydrological ensemble prediction systems**, and how can these be coupled or extended to advance forecasting capabilities?
- How can existing hydrological ensemble prediction systems be developed to best harness **prediction skill**, while reliably accounting for **forecast uncertainty from multiple sources**?
- What is the best way for the **user community** to make use of ensemble forecasts and to **take better decisions** based on them?
- How can the **value of ensemble forecasting** best be demonstrated to motivate its adoption by forecasting agencies and users?

Six major themes



1. Hydrological model inputs and pre-processing or downscaling of forecasts
2. Ensemble techniques and hydrologic modelling strategies
3. Hydrologic and hydraulic model data assimilation
4. Forecast post-processing and multi-modelling approaches
5. Verification of forecast quality and user-driven evaluation of forecast value
6. Identification of user needs, forecast communication, visualisation and use in decision making

Activities

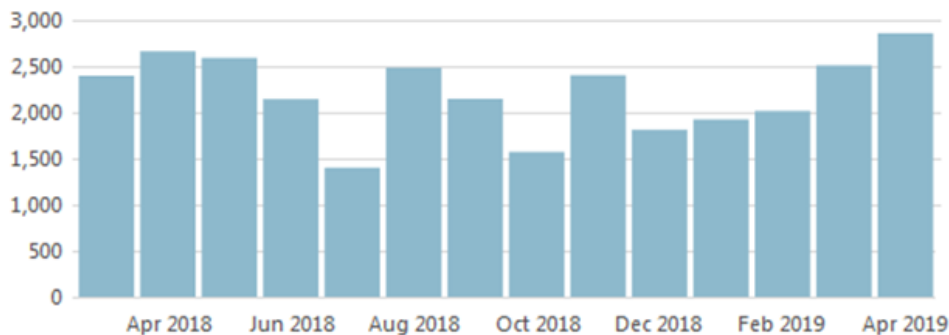


- Organizing **scientific exchange** through workshops and sessions or meetings during major science conferences (EGU, AGU, IAHS)
- Planning and coordinating **community experiments or testbeds**
- Organizing **publications** on specific topics of interest through special issues in scientific journals
- Highlighting **operational or experimental real-time examples** or cases of hydrological ensemble prediction systems (HEPS) to help practitioners find out about how ensemble prediction is being used around the world for various applications
- Maintaining **online community interaction** and HEPS-related resources via its website and other social media channels

At a glance (numbers)



- 527 subscribers to the mailing list
- Blog running since April 2013
 - Chief editor: Rebecca Emerton (Univ. of Reading & ECMWF)
 - Website administrators: Maria-Helena Ramos (IRSTEA, host), Florian Pappenberger (ECMWF), Jan Verkade (Deltares), Rebecca Emerton (Univ. of Reading & ECMWF)
- An average of 200 views per blog post; 2000 views per month



April 2019:

 352 Posts

 554 Comments

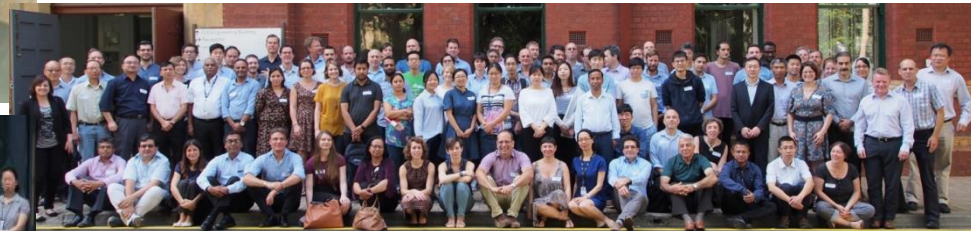
 35 Pages

 #HEPEX

2477 Tweets

903 Followers

At a glance (people)



Joint & Contact

■ Current Chairs:

- Marie-Amélie Boucher (Univ. of Sherbrooke, Canada)
- Ilias Pechlivanidis (SMHI, Sweden)
- QJ Wang (Univ. of Melbourne, Australia)
- Fredrik Wetterhall (ECMWF, UK)
- Andy Wood (UCAR, USA)



■ Subscribe to the mailing list:

- Send an email to **hepex+subscribe@googlegroups.com**

- Visit the website: **www.hepex.org**

