

EUPORIAS

Highlights lessons learnt and recommendations

Carlo Buontempo
EUPORIAS Science coordinator

Met Office

carlo.buontempo@metoffice.gov.uk

Met Office, Exeter
ECOMS conference 2016

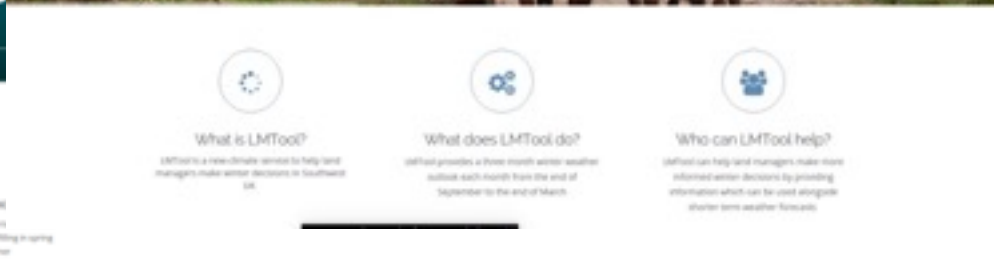
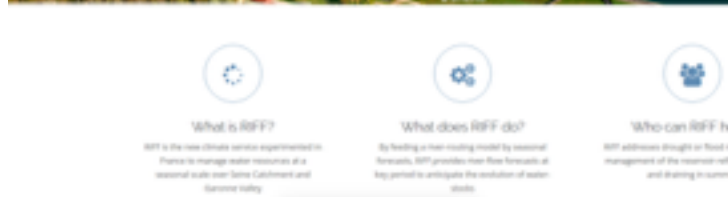
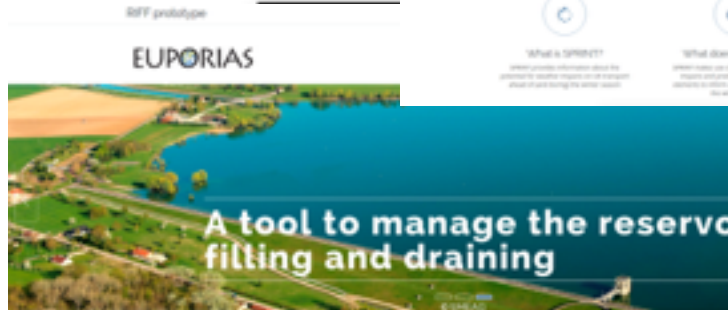
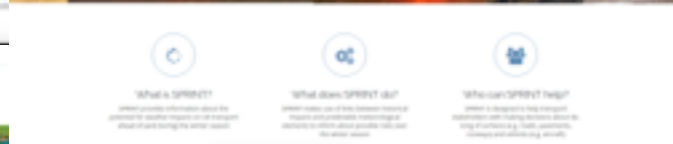
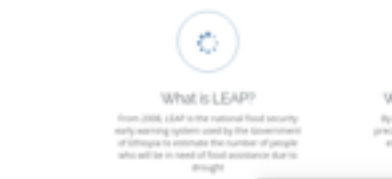
07/10/2016

@euporias





Prototypes and micro sites

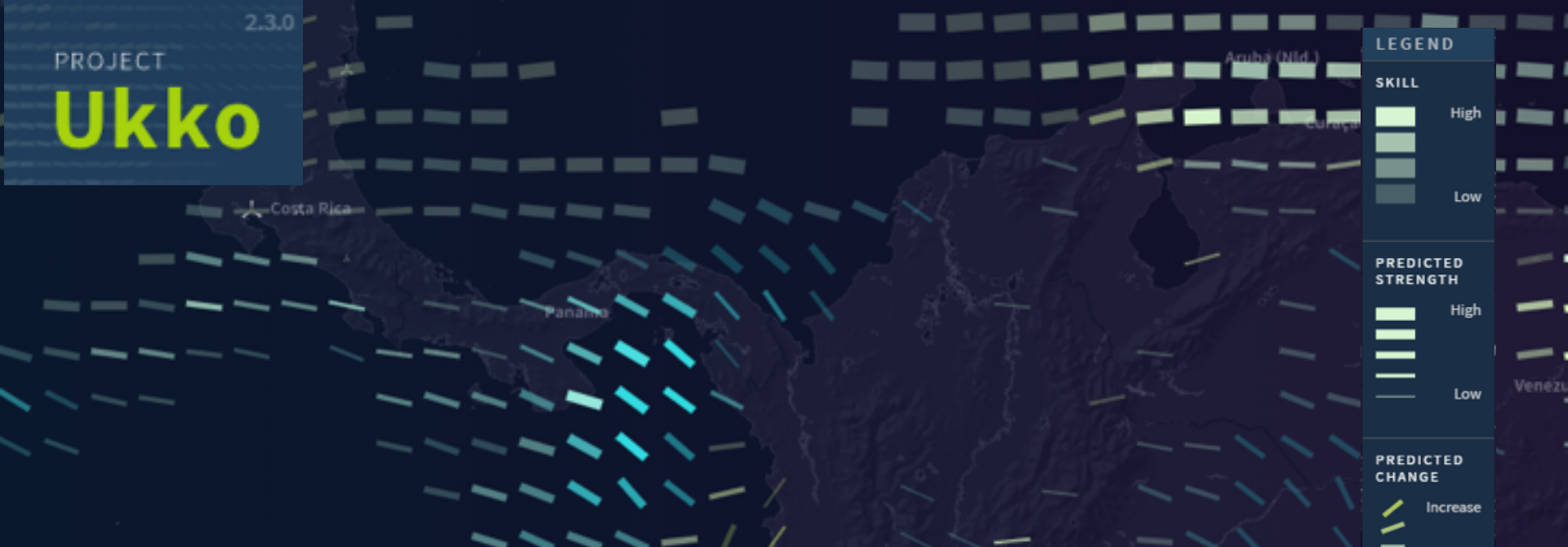


Selection process

- 17 measures of prototypes fitness for purpose were agreed during the GA.
- Two overriding ones:
 - User's engagement (evidence)
 - Expected value given the expected skill
- A international panel made of three experts independent from the project was identified.
- The experts were asked to rank the proposal using the criteria we identified.
- 5+1 proposals were selected for further development.

Design as an opportunity





OBSERVATIONS

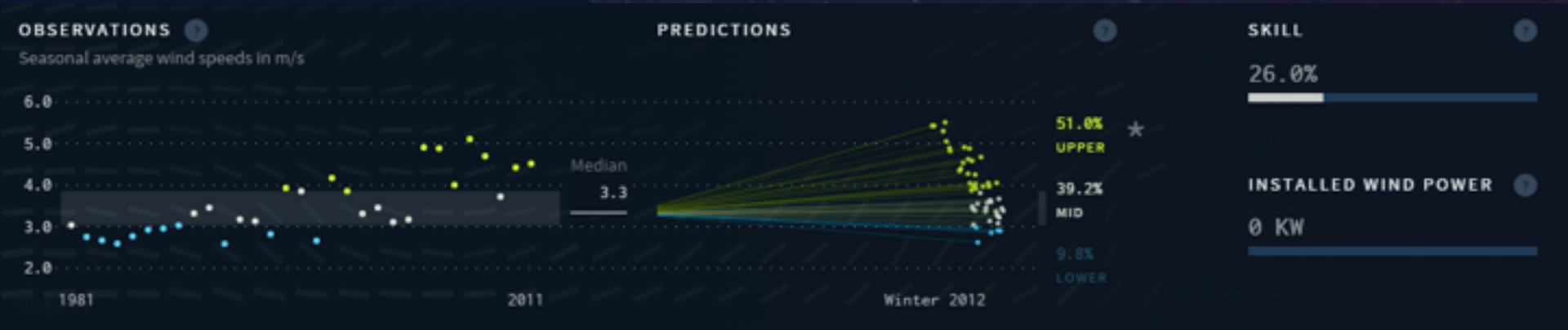
ERA-Interim 10-m wind speed reanalysis

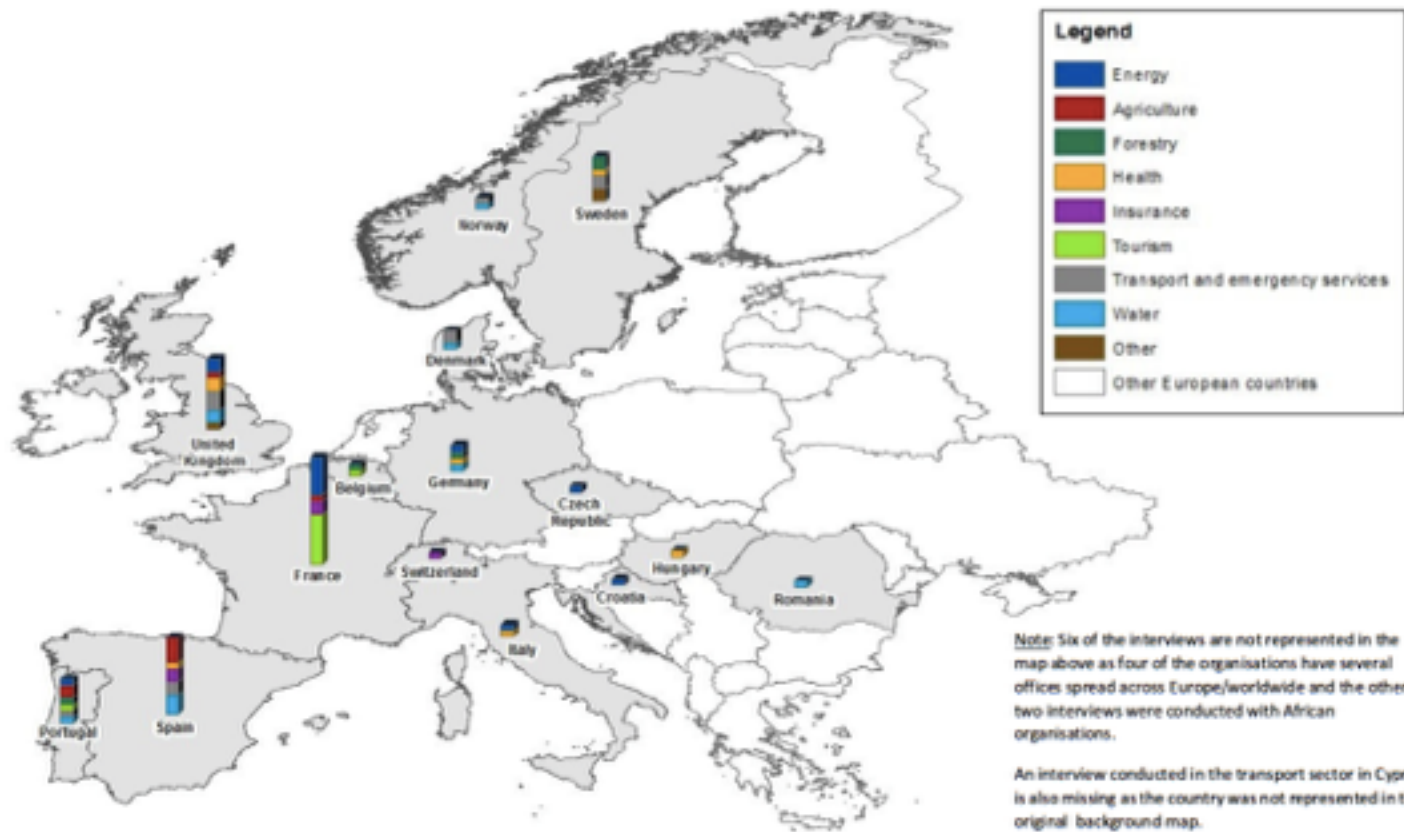
PREDICTION

the most probable category and its probability.

SKILL

RPSS skill score

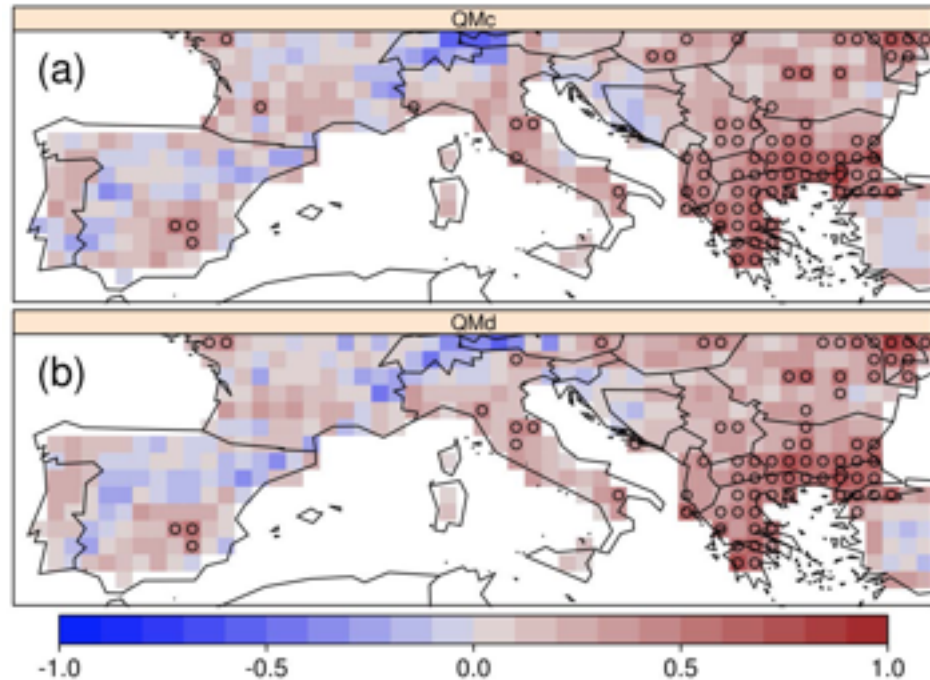




- The first comprehensive analysis of the use of seasonal climate forecasts in multiple sectors
- A new understanding of main barriers and enablers to the use of seasonal forecasts in users organisations;

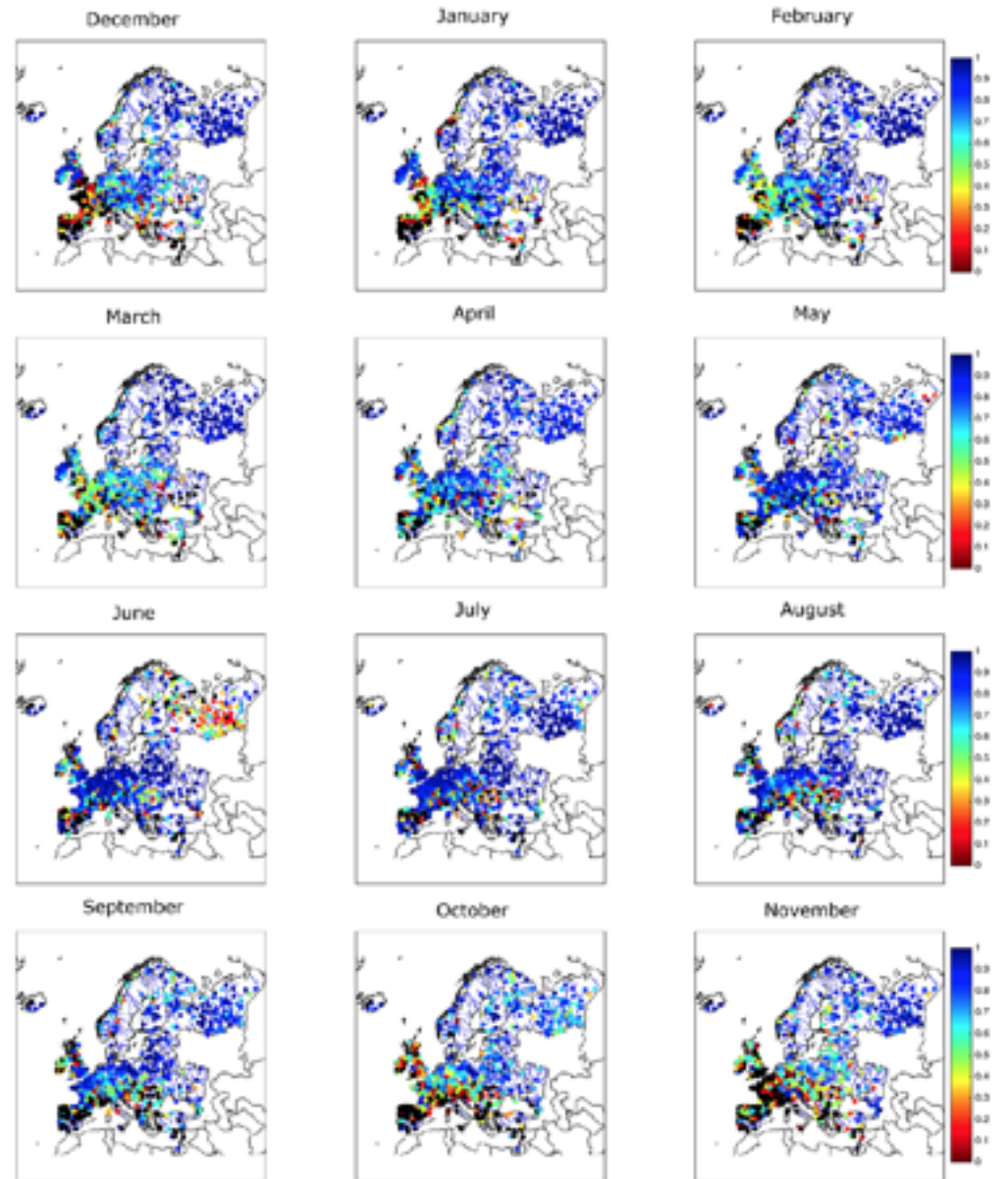
Science highlights

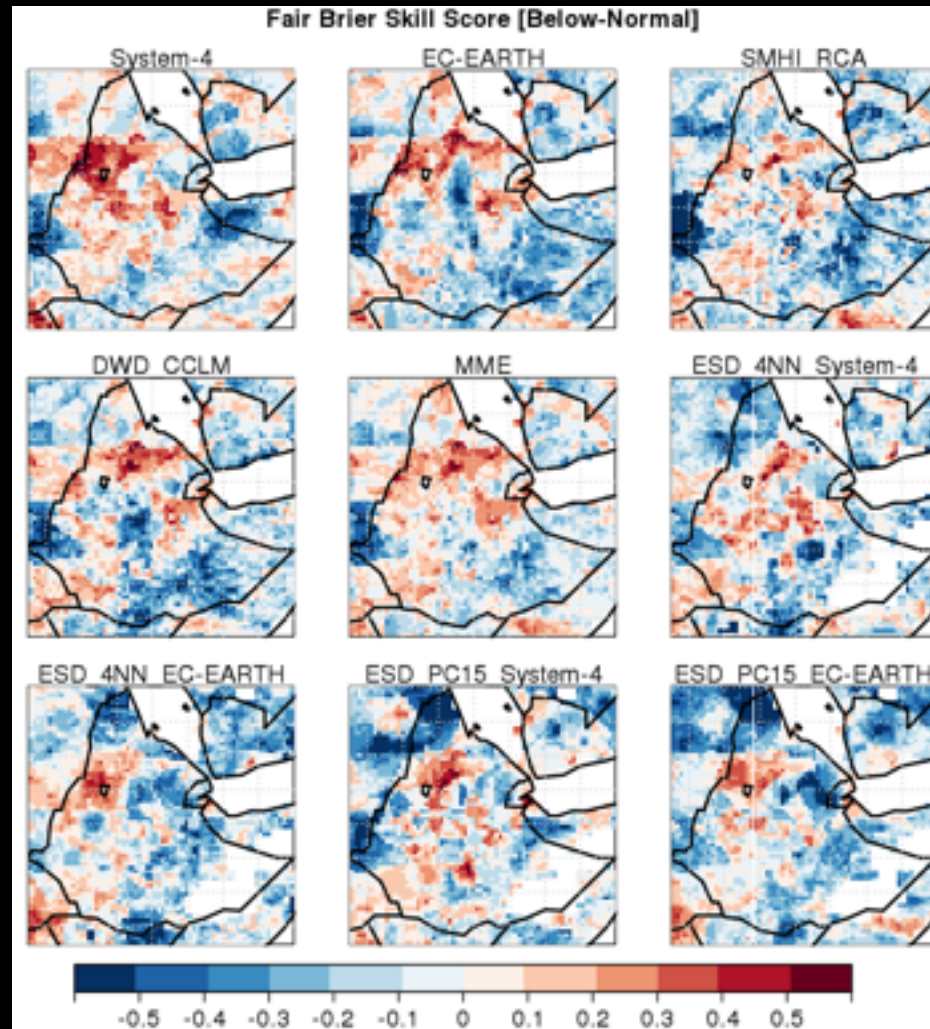
- Regionalisation and bias corrections are a must for many applications but prediction skill comes from large scale.
- Simple post-processing like aggregation through indices can be more relevant for users even if the skill is the same
- Easily accessible long-term observations are crucial to get most out of seasonal forecast



Euporias provided one of the first assessments of the skill in seasonal streamflow predictions in Europe for different lead times and start dates.

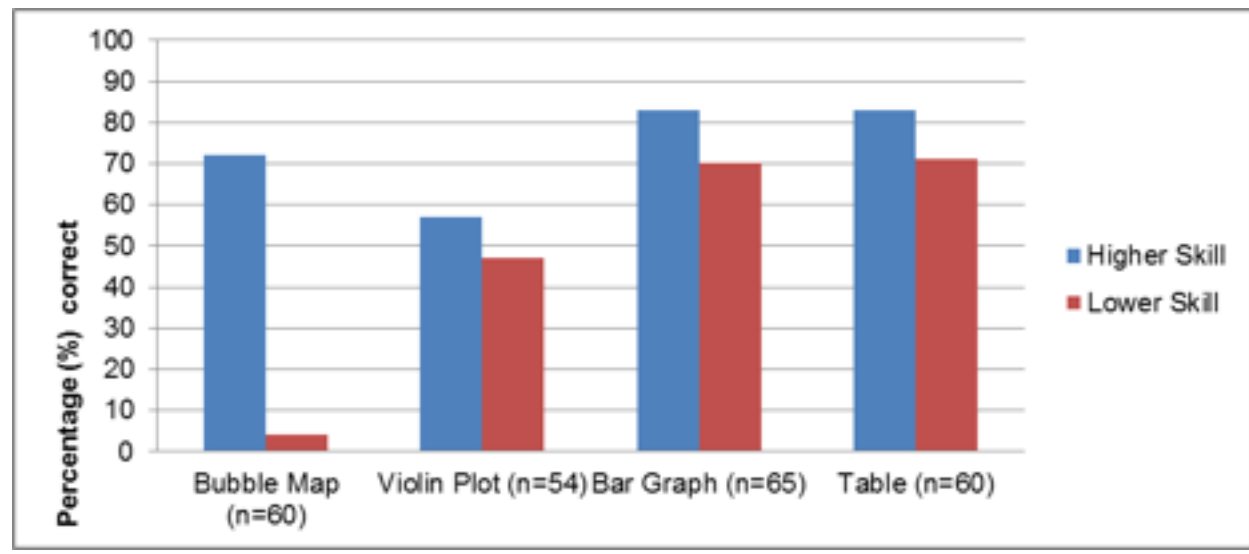
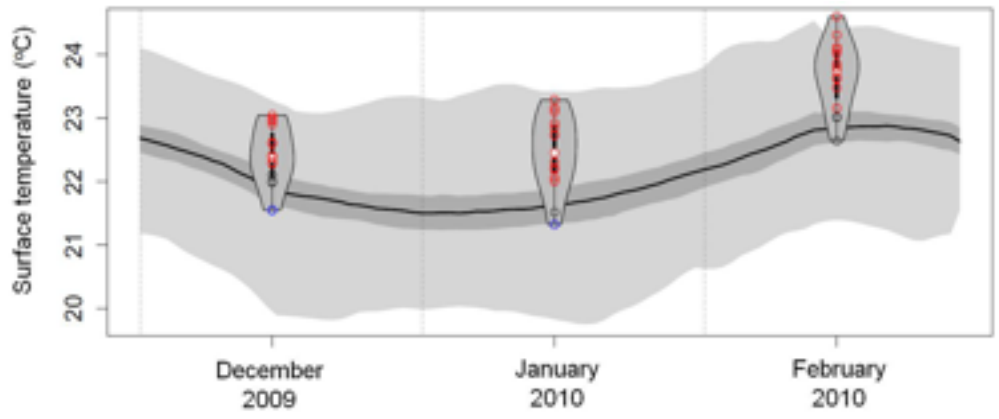
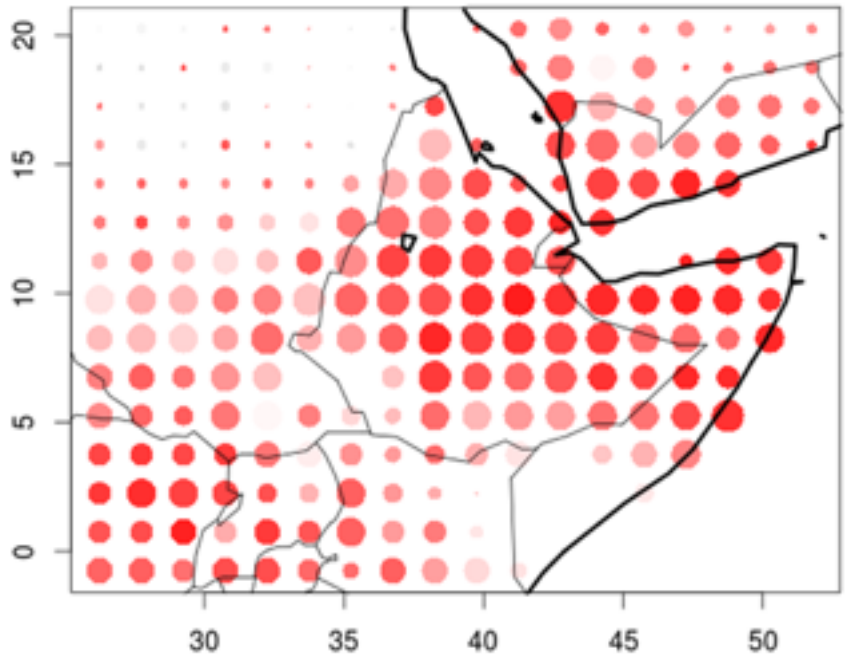
This suggests that the predictability of river flow in Europe for some basins (but not for others) can be much higher than the predictability of the atmospheric drivers.



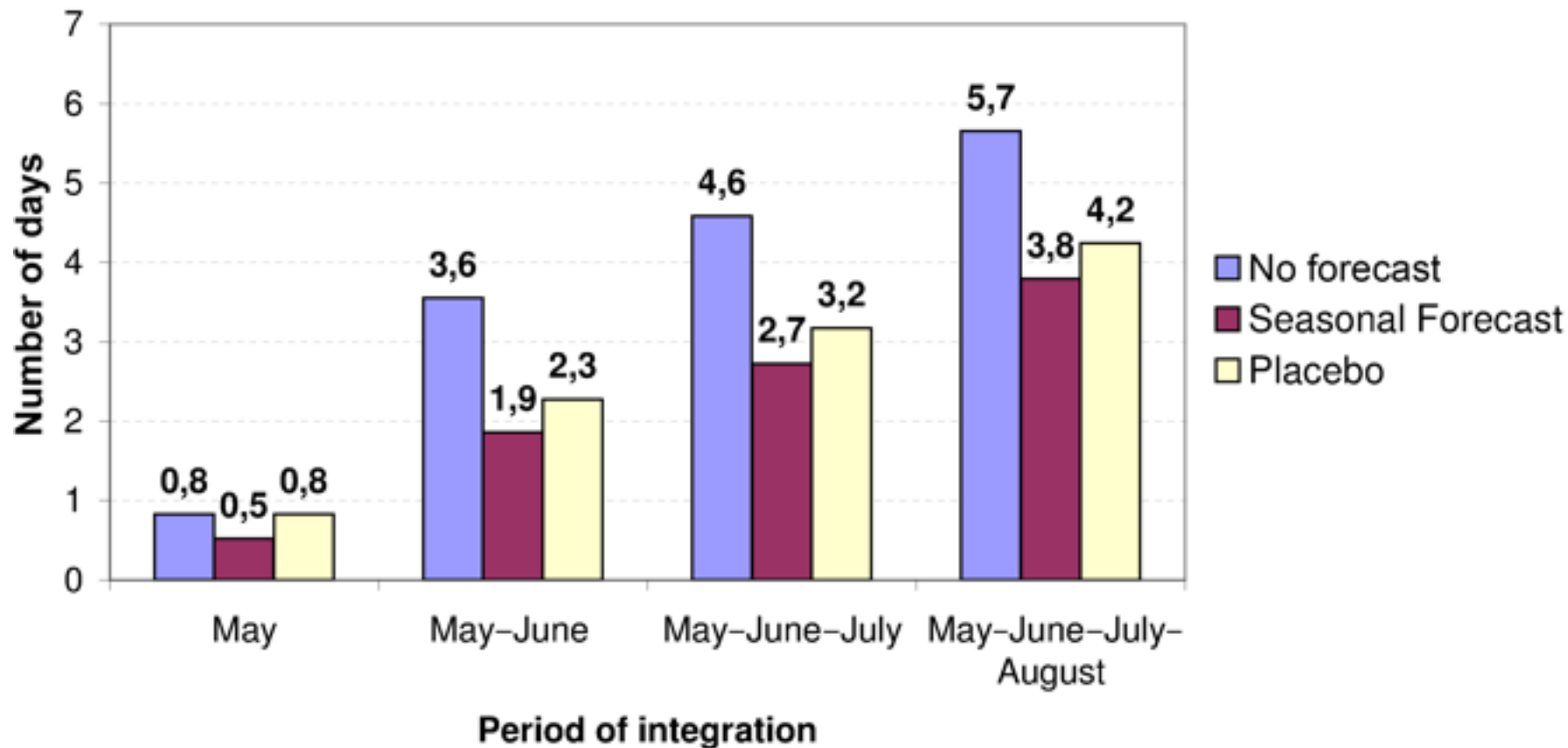


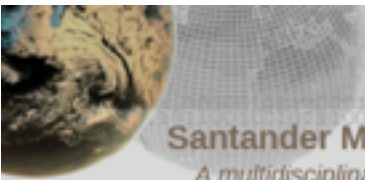
- A hi-resolution hindcast ensemble over East Africa.

Surface temperature ● Below ● Normal ● Above

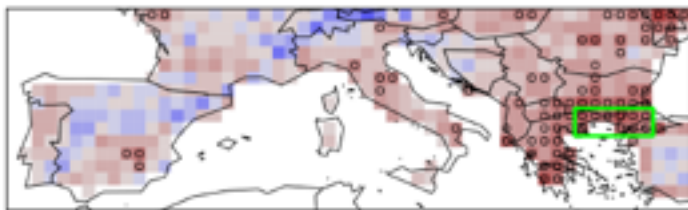


**Number of days below the "vigilance" threshold
May IC - assessment over 29 years
Station : Gournay**

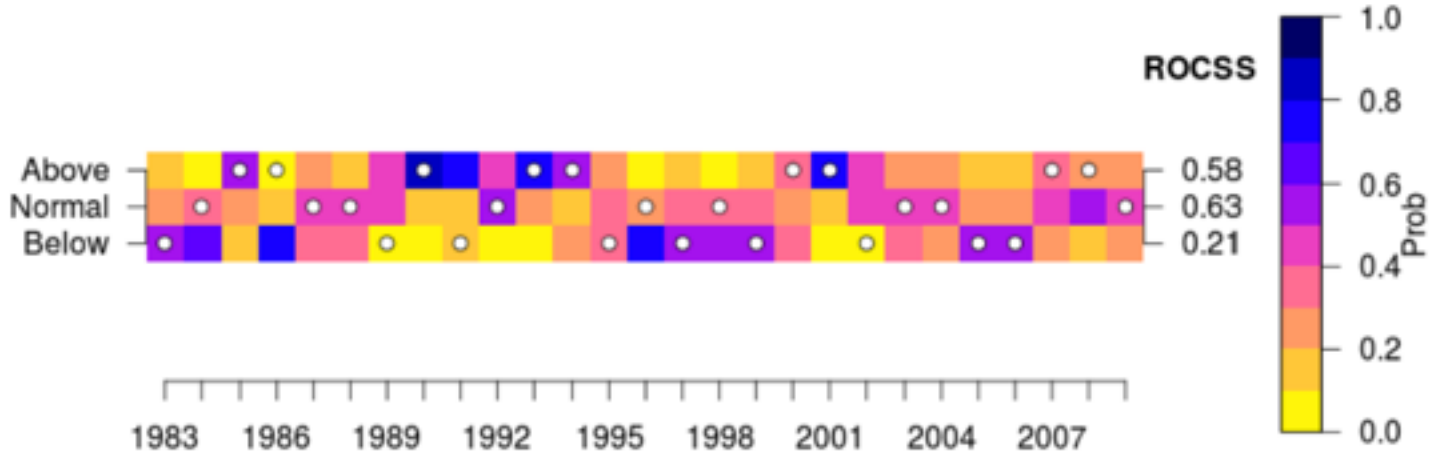




Tercile Validation Plot



```
pred.sub <- subsetGrid(grid = pred,  
                       latLim = c(40,42.5), lonLim = c(24,26.5))  
obs.sub <- subsetGrid(grid = obs,  
                      latLim = c(40,42.5), lonLim = c(24,26.5))  
tercileValidation(pred = pred.sub, obs = obs.sub)
```



Implementation of tercile validation as presented by:
Diez et al. 2011. doi:10.1111/j.1600-0870.2011.00523.x

Users

There is not such thing as users; the landscape is heterogeneous and complex and generalisations are difficult to make.

- Different regulatory/institutional contexts;
- Complex organisational structures & myriad decisions...
- Role of individual in the org.: \neq perceptions of needs;
- In-house capacity, expertise and resources available;
- Relative importance of climate information

- Continuum of information – users see no barriers between weather and climate

Entry points

- User-interaction during climate service developed is more of an opportunity for innovation than a rigid pre-defined contract.
- For funding this means:
 - promote project management practices that favours incremental development and allow for change in scope (e.g. Agile)
 - Focus should be put on enablers of conversations rather than solutions (e.g. discussion support systems)

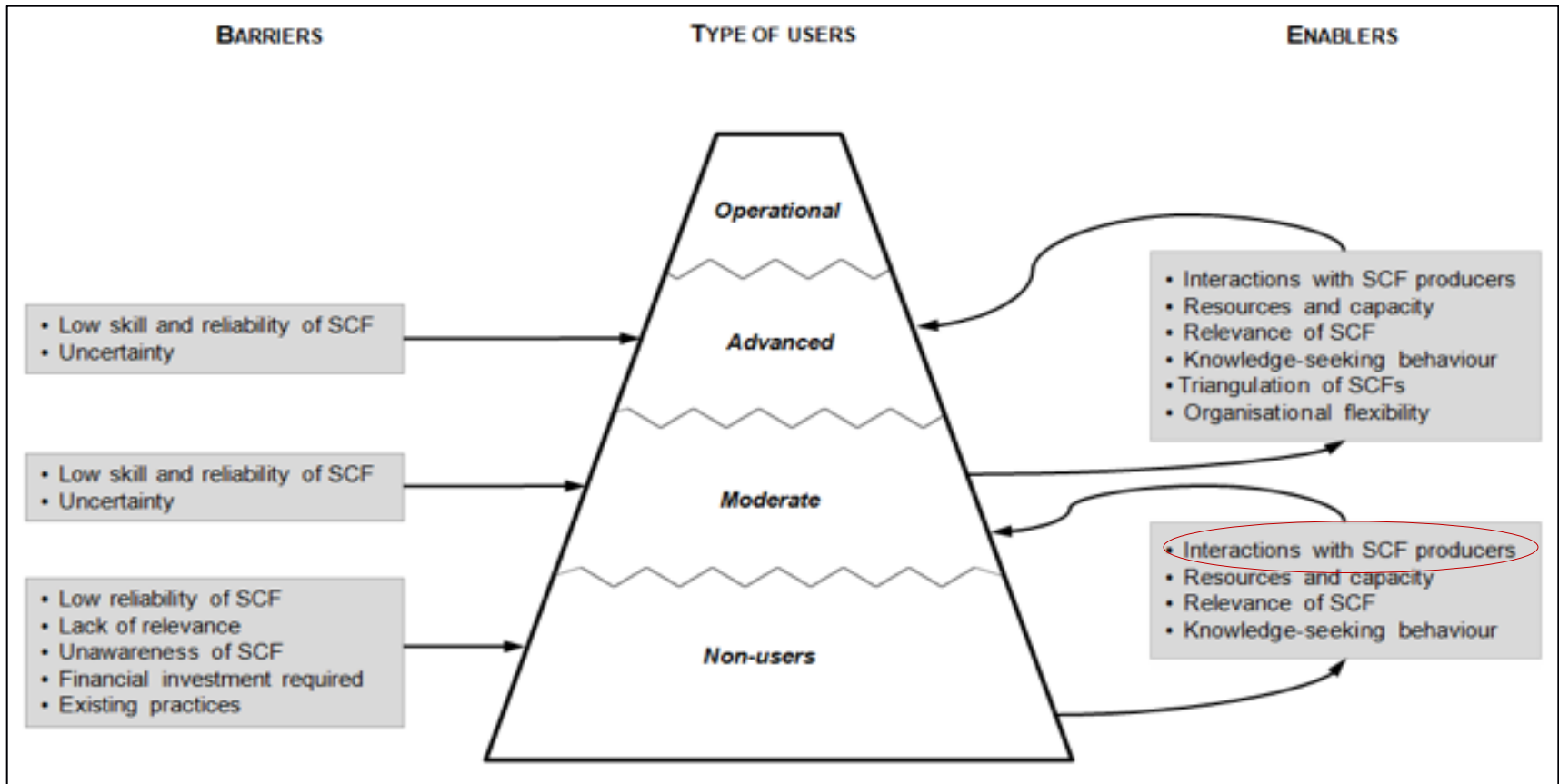
Open questions

- How should we change the structure and the governance of projects to have more end-users without losing the need for generality?
- Innovation in climate services seems to occur on a tiny interface between users, providers and other actors: how can we mainstream this?
- Climate services development often require people with the right combination of skill-sets and experience. These are not easy to find nor to maintain in an academic environment that still prefer papers over user-experience. How can we define a new career path for climate service development?

How to engage?



UNIVERSITY OF LEEDS



Bruno Soares and Dessai (2016)



Thank you

www.euporias.eu

Twitter: @euporias