Setting up a prototype seasonal forecast in Peru with a focus on agriculture

K. Sedlmeier (1), S. Gubler (1), Ch. Spirig (1), N. Imfeld (1), K. Quevedo (2), Y. Escajadillo (2), G. Avalos (2), M. A. Liniger (1), C. Schwierz (1)
(1) Federal Office of Meteorology and Climatology MeteoSwiss, Zürich, Switzerland
(2) Servicio Nacional de Meteorología e Hidrología del Perú SENAMHI, Lima, Perú

Prediction of user relevant indices may be more beneficial for specific applications than predicting mean values at the seasonal scale. Within the Climandes project, prototype seasonal forecasts of indices have been developed. However, many challenges remain, such as the quality of observational data, the limited skill for some indices and time periods as well as the communication of uncertainty and skill to the end users. This contribution shows the different steps of setting up this prototype seasonal forecast system including the challenges and possible solutions for one exemplary index: % days within optimal temperature range for beans (growing phase).

Verification
Figure show verification of selected indices using different verification metrics (1981-2010)

Selection of skill criteria
Which skill metric is most relevant for users? Or should a combination of skill metrics be used?
• How “good” does a forecast have to be in order to be “useful”?
⇒ Our arbitrary choice: EnsRocss with minimum skill of 0.5

What is your opinion?

CONCLUSIONS & OUTLOOK
A prototype of a seasonal forecast product now exists, however two main challenges remain:
The definition of “useful” forecast as well as the seasonal forecast skill in the region.
To overcome these issues, postprocessing techniques are currently explored and the testing of the prototype forecasts on users, e.g. to adjust the visualization.