

## **Observations and Data Assimilation**

### **Data assimilation methodology and diagnostic tools**

A wide variety of data assimilation approaches and related diagnostic tools have been developed for application to geophysical systems to improve weather and climate analysis, reanalysis and prediction. This session of the World Weather Open Science Conference focuses on issues of data assimilation methodology and diagnostic tools developed for this purpose. The primary areas of application include weather, ocean, land surface, sea ice and coupled systems including two or more geophysical components. They are often based on either variational or ensemble-based approaches and increasingly combine aspects of both, as in the ensemble-variational approach recently applied to operational numerical weather prediction. Diagnostic tools often focus on determining quantitative estimates of model error (bias), observation error (bias), or the impact of observations within data assimilation systems. Methods and tools also need to satisfy the requirements of computational efficiency on the current and future generations of massively parallel supercomputing infrastructure. Abstracts are sought for presentations that address all aspects of data assimilation methodology and diagnostic tools.