Building the evaluation bridge between weather and climate

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The evaluation of numerical weather prediction models has been revolutionized over the last two of decades, with a huge variety of sophisticated methods, tools, and software becoming available. In particular, more intuitive and user relevant assessments are now possible than in the past. Further, assessments are more standardized and reproducible thanks to community software.

Many of these tools and methods have yet to find their way into climate evaluations. In this presentation, we discuss a project focused on transitioning both evaluation methods and software from short term applications to climate with a focus on providing useful information to decision makers. Earth System Models (EaSMs) are evaluated using existing methods, adapted software tools, and user input. In particular, hydrologic processes are examined using object-based evaluations in partnership with Denver Water. The Model Evaluation Tools (MET) and MODE (Method for Object-based Diagnostic Evaluation) software packages are being used and adapted for this purpose. Recent updates have allowed extension of deterministic, single event NWP forecast evaluation methods into tools for evaluating climate ensembles through time. Details about the project, methods, software, and preliminary results will be presented.