

## **The Earth System Grid Center for Enabling Technologies**

Co-authors: Don E. Middleton (NCAR, corresponding author, co-PI for ESG), Dean Williams (LLNL/PCMDI, coordinating PI for ESG-CET), Ian Foster (ANL, co-PI ESG)

A primary objective of the Earth System Grid Center for Enabling Technologies (ESG-CET) is to enable the seamless access to and analysis of multi-model climate simulation results from centers around the world. We are in the early phases of the World Climate Research Programme's Coupled Model Intercomparison Experiment (WCRP, CMIP), where several petabytes of climate simulation data will be produced and published for analysis by a global community, and will serve as an information foundation for the forthcoming 5th assessment report of the Intergovernmental Panel on Climate Change (IPCC). ESG-CET has grown into a robust international collaboration, now termed the Earth System Grid Federation (ESGF). The federation is making inroads across the related fields of metadata, semantic systems, petascale data management, access, and replication, community identity and security, and science gateways. ESG-CET will deliver a new, production capability for climate research during calendar year 2010.