ECMWF – Computing and Forecasting System

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# Abstract

Established in 1975 as a European co-operation, ECMWF is celebrating its 40th anniversary this year. ECMWF is both a research institute and a 24/7 operational service, producing and disseminating numerical weather predictions to its Member States.

Ongoing research and development efforts are delivering continued improvements in weather forecasting – ECMWF’s operational weather prediction system is therefore continually undergoing changes and upgrades. The performance of the High Performance Computing Facility (HPCF) is an essential factor for achieving the targets for the improvements in forecast skill. ECMWF’s data archive holds the world’s largest collection of meteorological data.

The presentation will give an overview of ECMWF’s current operational forecasting system and high-performance computing and storage infrastructure. It will highlight some of the recent developments and outline next steps going forward.

Trends in high-performance computing architectures pose significant challenges for writing applications. ECMWF’s Scalability Programme aims at developing the next-generation forecasting system addressing the challenges of future exa-scale computers.

# Biography

Isabella Weger is Deputy Director of the Computing Department at the European Centre for Medium-Range Weather Forecasts (ECMWF).

In the last ten years, she has delivered computing services which are mission-critical for ECMWF’s 24/7 operational forecast production and research.

Isabella has many years of experience in providing HPC and IT services in academic and scientific organisations. Before joining ECMWF in 2005, she was Director of IT Services at the University of Graz in Austria.

Isabella holds an MSc degree in technical mathematics/computer science from Graz University of Technology (TU Graz), Austria, where she also became interested in technical high-performance computing. She was in charge of the university’s HPC from 1988 to 2000, and during that time introduced several HPC technologies, such as vector processing and massively parallel processing, to the university’s user community in science and engineering.