

What's been done

Single precision

- Met office - Pressure solve (operational) and large-scale precipitation.
- ECMWF - “full” forward integration model. Now used for testing and future model development.
- MeteoSwiss - most of model running operationally (60% savings over double).

Lower than single

- Reduced GCMs and simplified models at Oxford (go see Sam Hatfield's poster).
- Nemo ocean model in mixed precision at Barcelona Supercomputing Center.

This talk

Study ECMWF's OpenIFS code.

- Academically available version of ECMWF's IFS forecast code.
- Spectral dynamical core, hydrostatic. Semi-implicit semi-Lagrangian time stepping.
- How important is numerical precision to forecast quality?