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Confédération suisse  
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Swiss Confederation

Federal Department of Home Affairs FDHA  
**Federal Office of Meteorology and Climatology MeteoSwiss**

# Numerical Weather Prediction at MeteoSwiss

32nd EWGLAM meeting

4th October 2010



# Status of operational suite

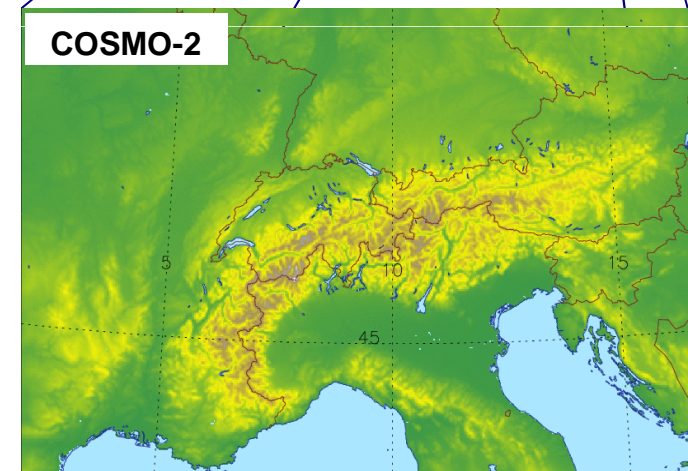
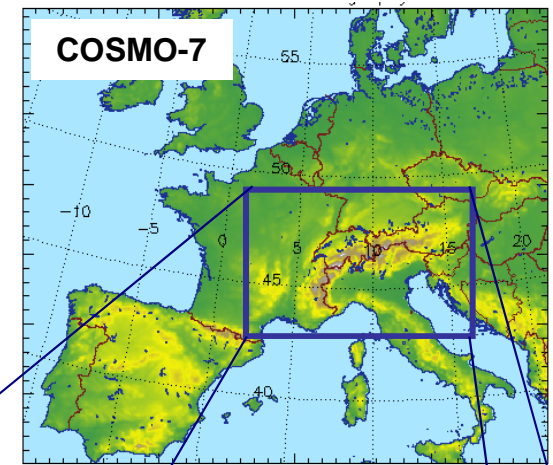
## COSMO-7 :

6.6km, 393x338x60 GP, 3 x 72h fcst /day

## COSMO-2 :

2.2km, 520x350x60 GP, 8 x 24h fcst /day

own assimilation cycle, cut-off 45 min



Production at CSCS, Manno

Main machine: **Cray XT4 buin**, 260 quad-cores

Fall-back: **Cray XT4 dole**, 172 quad-cores

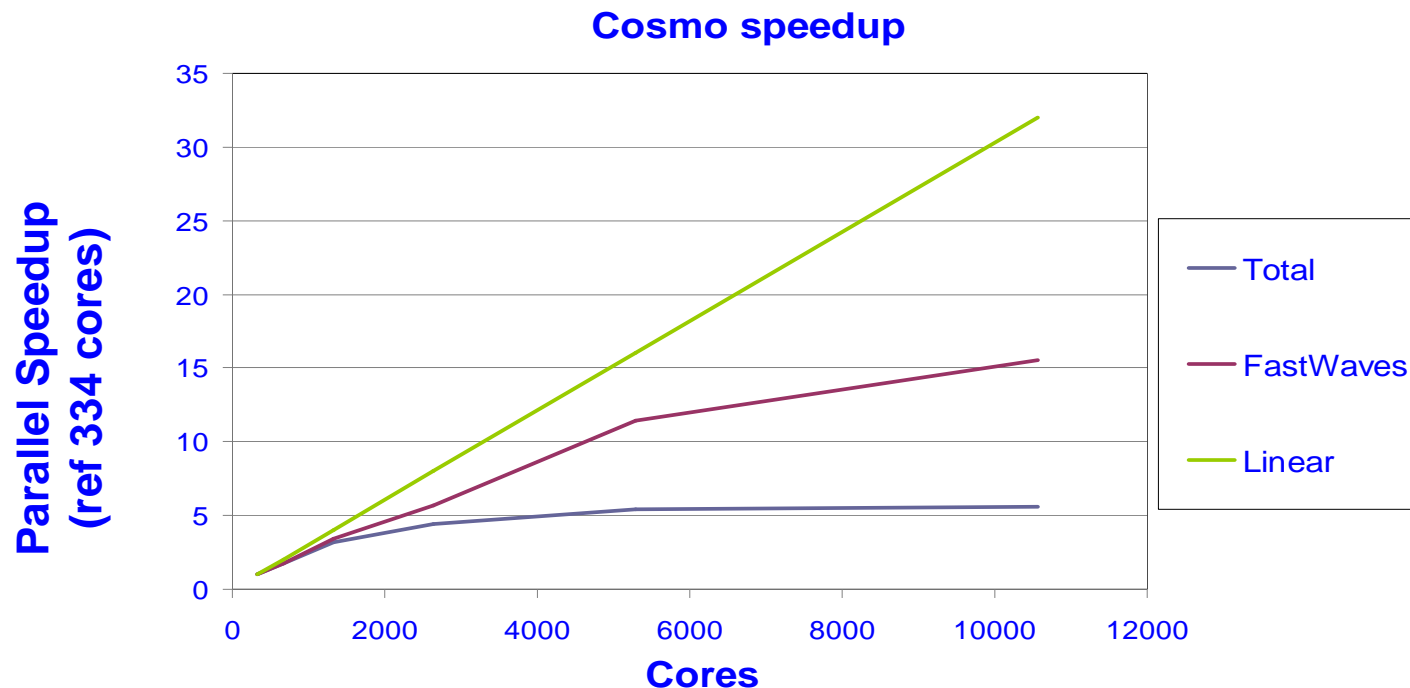
Service nodes used for front-end functions

Separate servers for DB



# Preparing COSMO for next generation HPC

- Future HPC architectures with more and more cores
- Memory and memory access per core decreasing



- COSMO project started in the frame of the Swiss initiative *HP2C (High Performance High Productivity Computing)*
- Code being adapted to perform well on next generation HPC
- First results from a feasibility study available



# Standalone version of the COSMO soil model TERRA

- externalized version of the soil-vegetation-atmosphere transfer scheme of COSMO
- soil module TERRA combined with a
  - simplified transfer scheme,
  - parameterizations of the radiation interaction at the surface
  - annual cycles of vegetation parameters.
- makes it possible to efficiently experiment with the soil module and the associated external parameters.

