

# OASIS: current and planned developments

---

- IS-ENES EU project (2009-12): 58 pm for CERFACS, 35 pm for DKRZ
- Dedicated User Support, Web site, documentation, tutorial, FAQs, forum
- OASIS3
  - Pseudo-parallel version of OASIS3 (field-per-field basis) available
  - New OASIS3\_3 official release very soon !
  - Active user support and maintenance but no new developments
  - 2nd order extrapolation (near the coast)
  - Use of FCM for build system / standard build system
- OASIS4
  - Parallel global search 2D conservative remapping
  - Full validation of current transformations + OASIS3 reproducibility
  - Graphical User Interface for XML configuration files
  - Use of user-defined set of weights and addresses (OASIS3)
  - Support of unstructured grids (AWI - ScalES project) (OASIS3)

## ... heard during the workshop ...

---

- OASIS3:
  - Optimisation of scriprmp and extrap routines
  - New algorithms for conservative remapping (IPSL, CISL) or improvement of SCRIP library near the pole
  - Integration of CMCC parallelisation (?)
  - Integration of CISL (Support of vector fields (OASIS3))
- OASIS4:
  - Proactive development for the next generation of HPC
  - OpenMP parallelisation, thread-safety, hybrid mode
  - Simplification of XML configuration
  - Storage of weights-and-addresses (or at least nearest-neighbour info) in order not to have to recalculate everything everytime.
- One executable coupled model
- Unit test for MPI functions
- Vertical interpolation

# OASIS4: additional possible developments

---

- High priority
  - Support of vector fields (OASIS3)
  - Global conservation (OASIS3)
  - Full support for regional models (nearest-neighbour value for target point falling outside source domain) (OASIS3)
  - Optimisation of initialisation for short runs:
    - XML input ?
    - Storage and reuse of weights-and-addresses ?
- To evaluate (work required, need in the community?):
  - Combination of source fields (OASIS3)
  - Support for sequential components within one application
  - Reduction of source field
  - Conservative remapping: 2<sup>nd</sup> order 2D, 3D, other schemes
  - Delocalization of Transformer tasks in source PSMILe
  - Support of other type of exchange\_date (fixed frequency)
  - Support of dynamic grids, dynamic coupling
  - More validity checks, debugging and log information