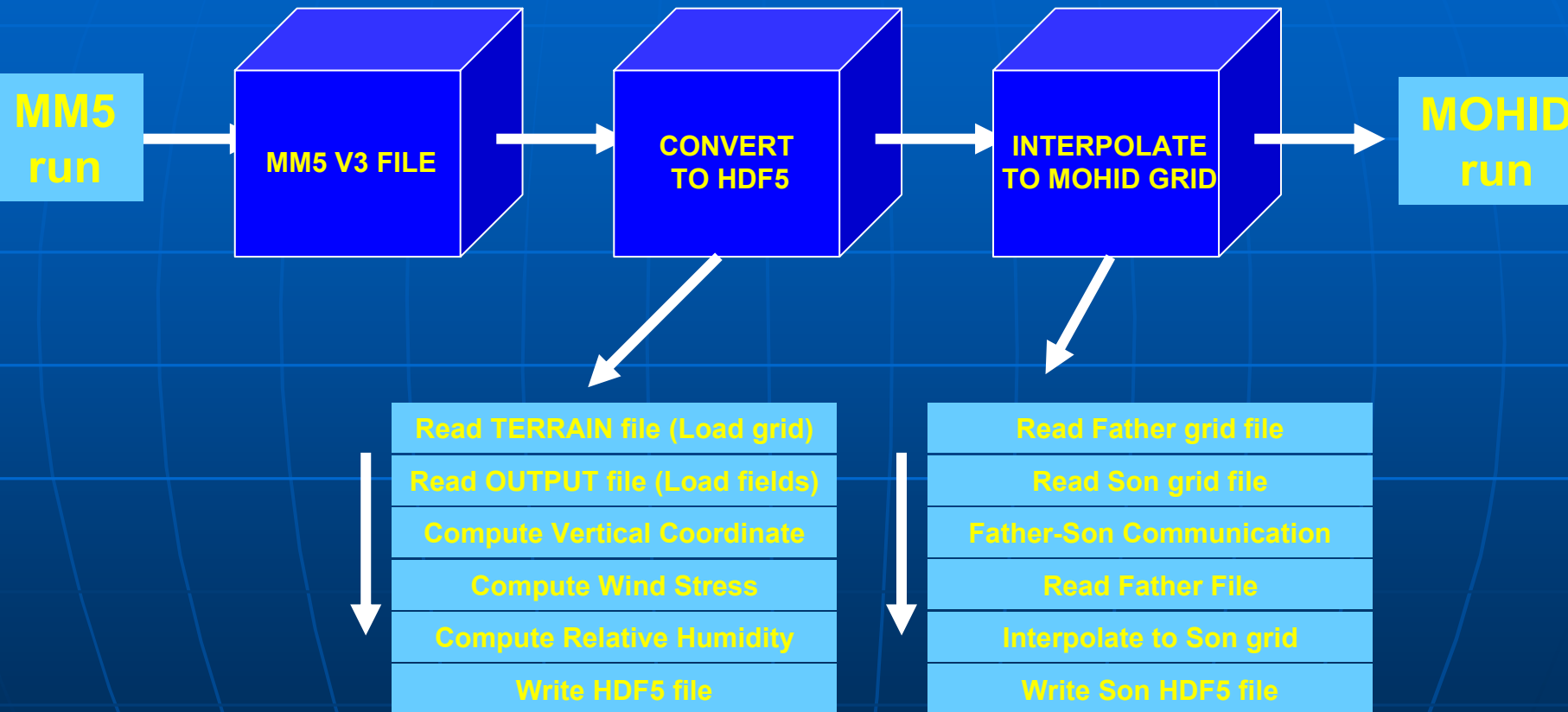
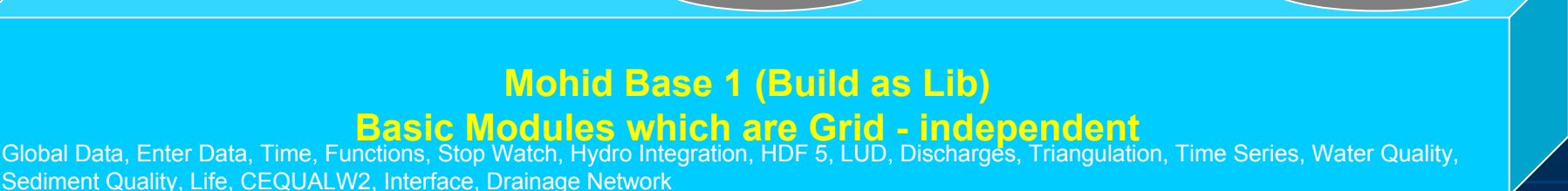
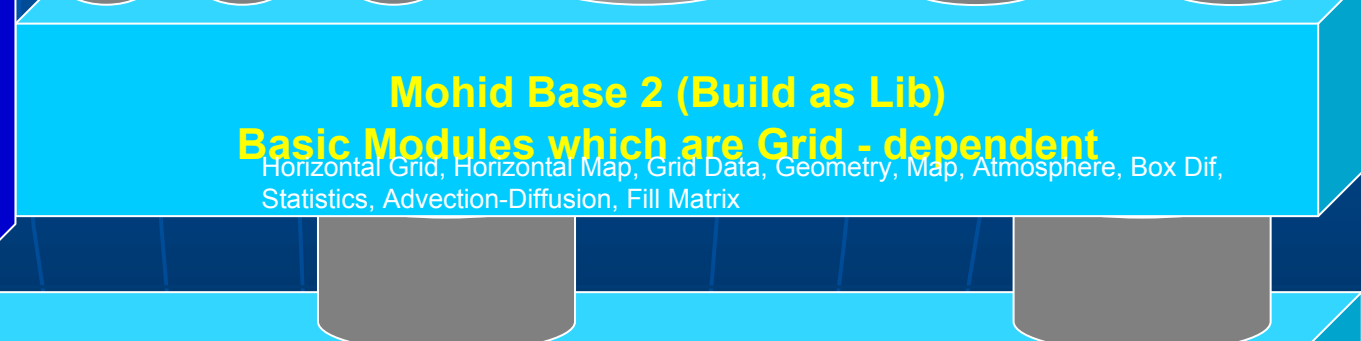
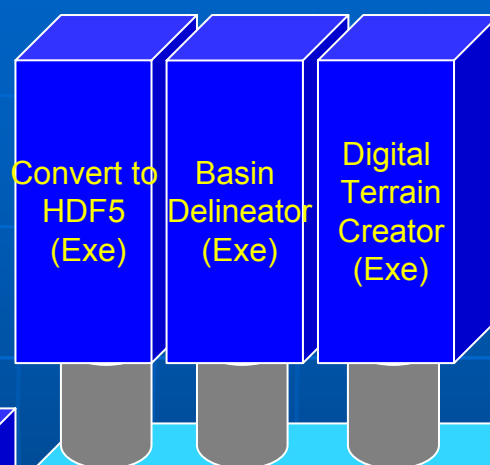
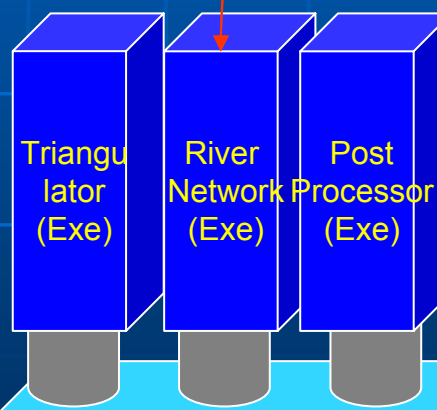
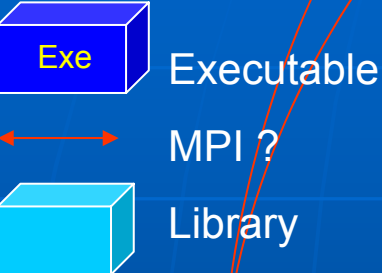


Coupling MM5 to Mohid

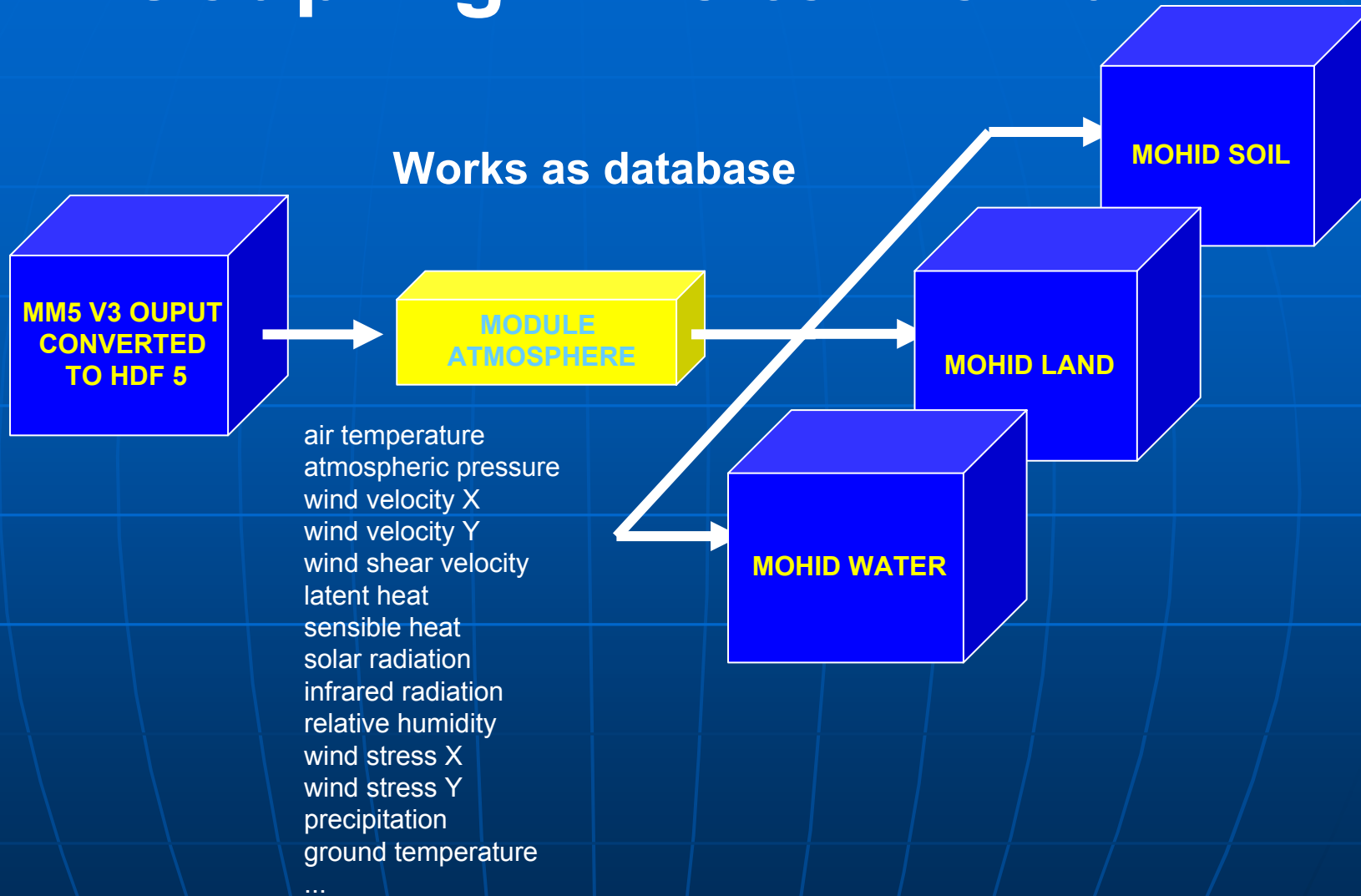
Conversion of MM5 v3 files to HDF5 format



Hierarchical Structure of the MOHID framework



Coupling MM5 to Mohid



Coupling MM5 to Mohid

Software to convert MM5 files to HDF5

- “Open source”; Release version soon to be available for download at <http://www.mohid.com>. Available versions for MSWindows and optimized for CWF6.6 (upgrade for IFC8.0 scheduled).
- FORTRAN95 + HDF5 (libraries available at <ftp://ftp.ncsa.uiuc.edu/HDF/HDF5/>). Platform independent.
- Graphical interface for conversion is also available. Written in VB.NET (“freeware”) for MSWindows 2000, XP;
- Graphical interface (MOHID GIS) for visualizing developed in .NET environment using OpenGL libs;
- Graphical interface (MOHID Post-Processor) for visualizing developed in Fortran using OpenGL libs

Coupling MM5 to Mohid

The screenshot displays the Mohid GIS software interface. The main window shows a 4D visualization of meteorological data, likely wind velocity, represented by a color-coded map (ranging from red to blue) with vector arrows indicating flow direction and magnitude. The text "Mohid GIS" is overlaid in blue on the visualization. The interface includes a menu bar (File, Data Items, Action, Tools, Open GL, Animation, Window, Help) and a toolbar. A file list on the left shows various data files, including "Line_0001.lin" through "Line_0009.lin" and "Domain1.hdf5" through "Domain3.hdf5". A "Mohid Postprocessor" window is open at the top, and a "Mohid ConvertToHDF5 Tool" window is visible on the left. The status bar at the bottom shows coordinates (X=-20.6947 Y=54.46201), a "Panning" mode indicator, and a timestamp (ID=22 - 06-03-2004 2:59:33).

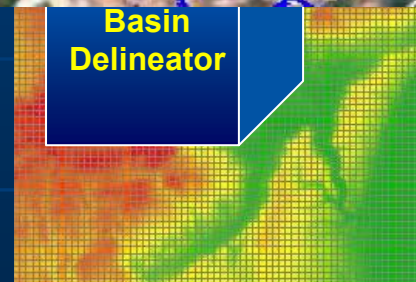
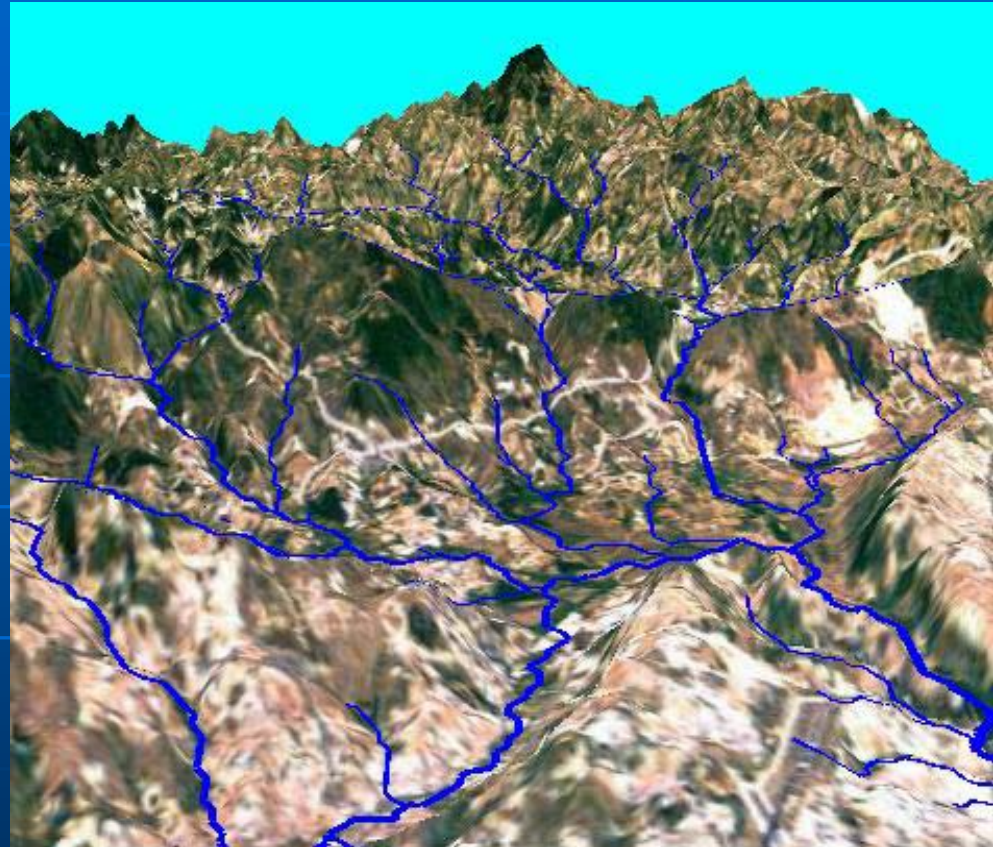
Mohid GIS

-4D visualization software;
-HDF5 browser
-.NET + OpenGL

X=-20.6947 Y=54.46201 Panning ID=22 - 06-03-2004 2:59:33

MOHID GIS – Under development

- Digital Terrain Model/
bathymetry generation
- Basins delineation
- Drainage network
generation
- Layered structured;
Georeferencing satellite
images and charts
- 4D Visualization
 - 3D (X, Y, Z)
 - Time (t)

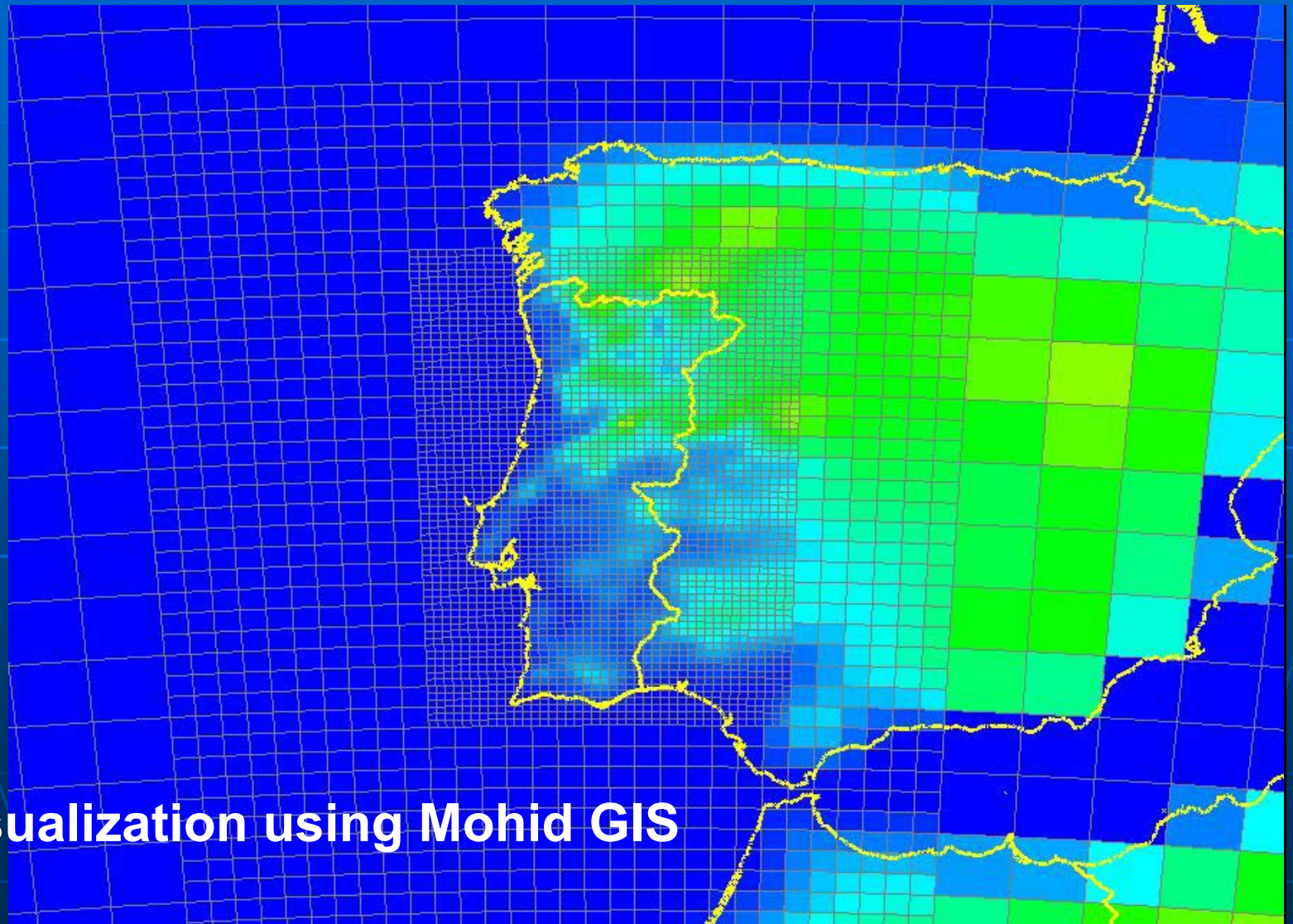


**Basin
Delineator**

**Digital
Terrain
Creator**

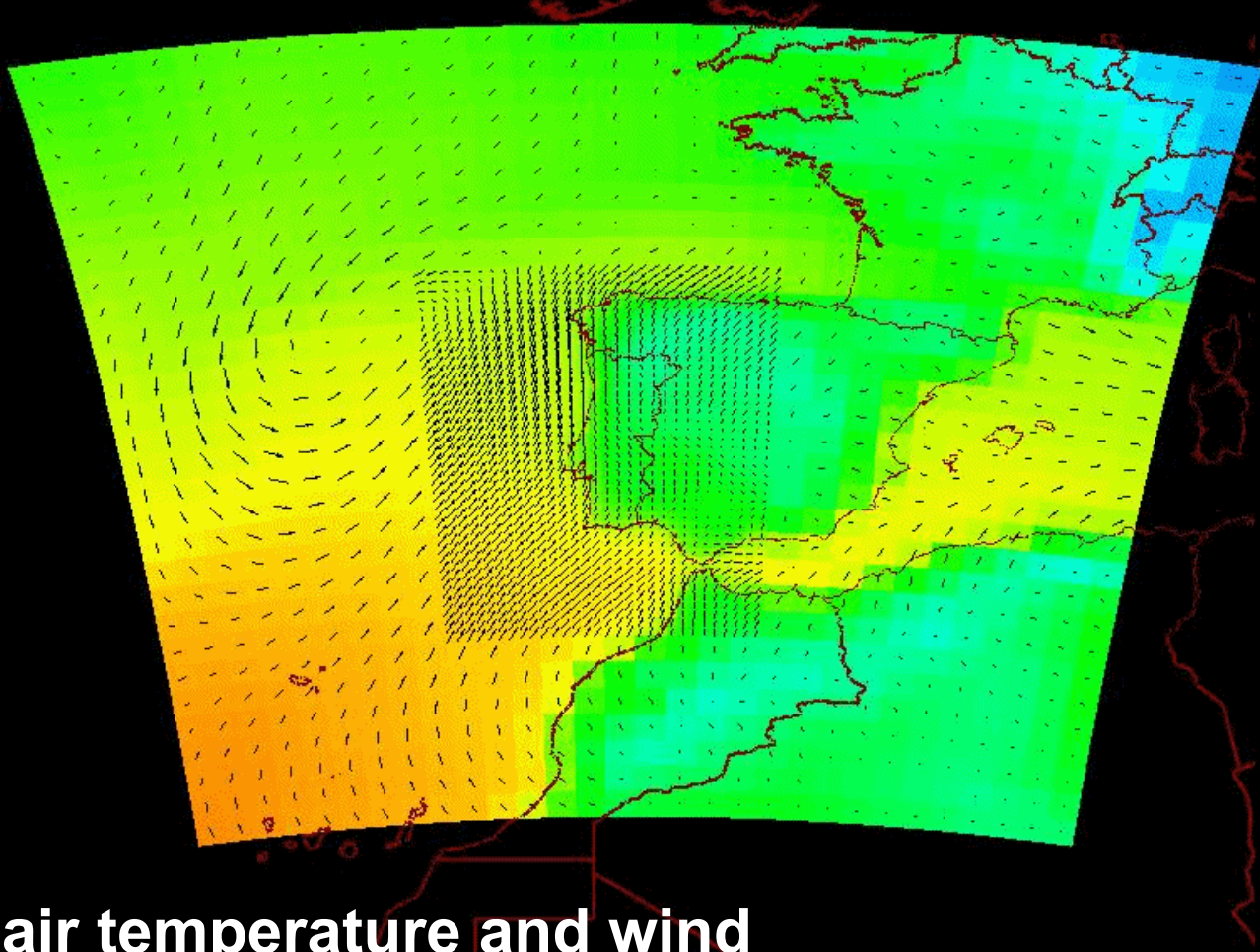
Triangulator

Coupling MM5 to Mohid



Visualization using Mohid GIS

Coupling MM5 to Mohid



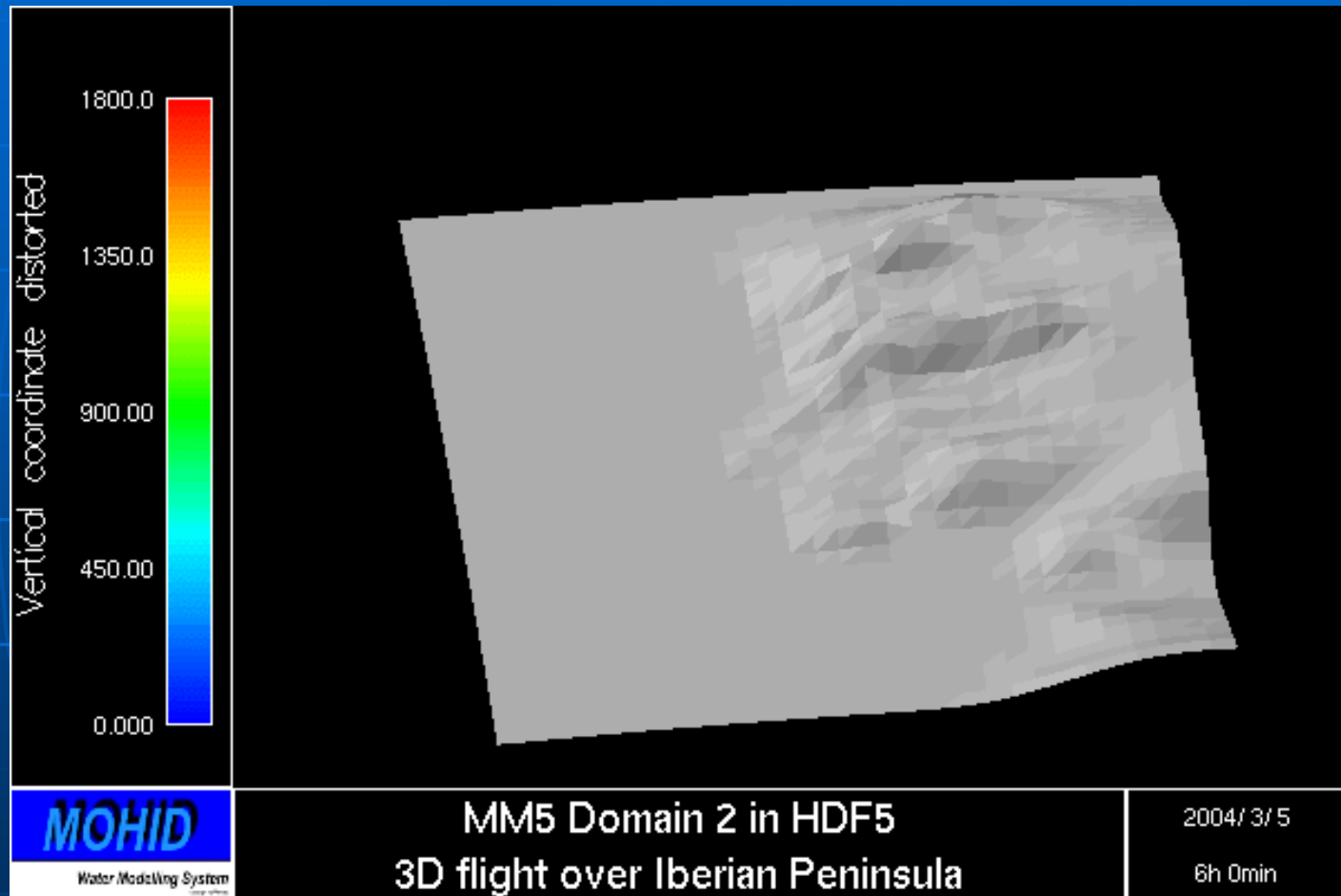
2 meter air temperature and wind velocity fields for Domain 1 and 2 (March 5th till the 8th)

Coupling MM5 to Mohid



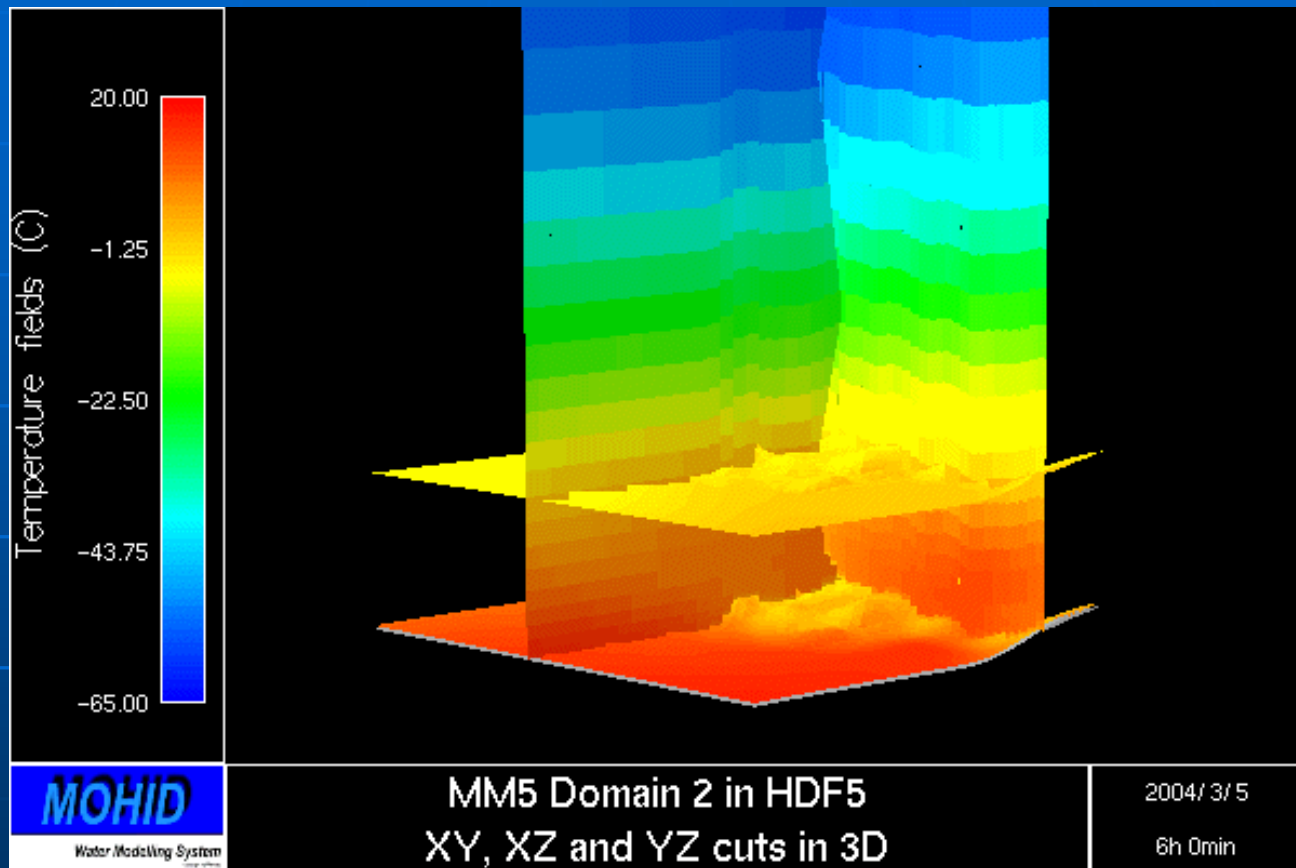
2 meter air temperature and wind velocity fields for Domain 2 and 3 (March 5th till the 8th)

Coupling MM5 to Mohid



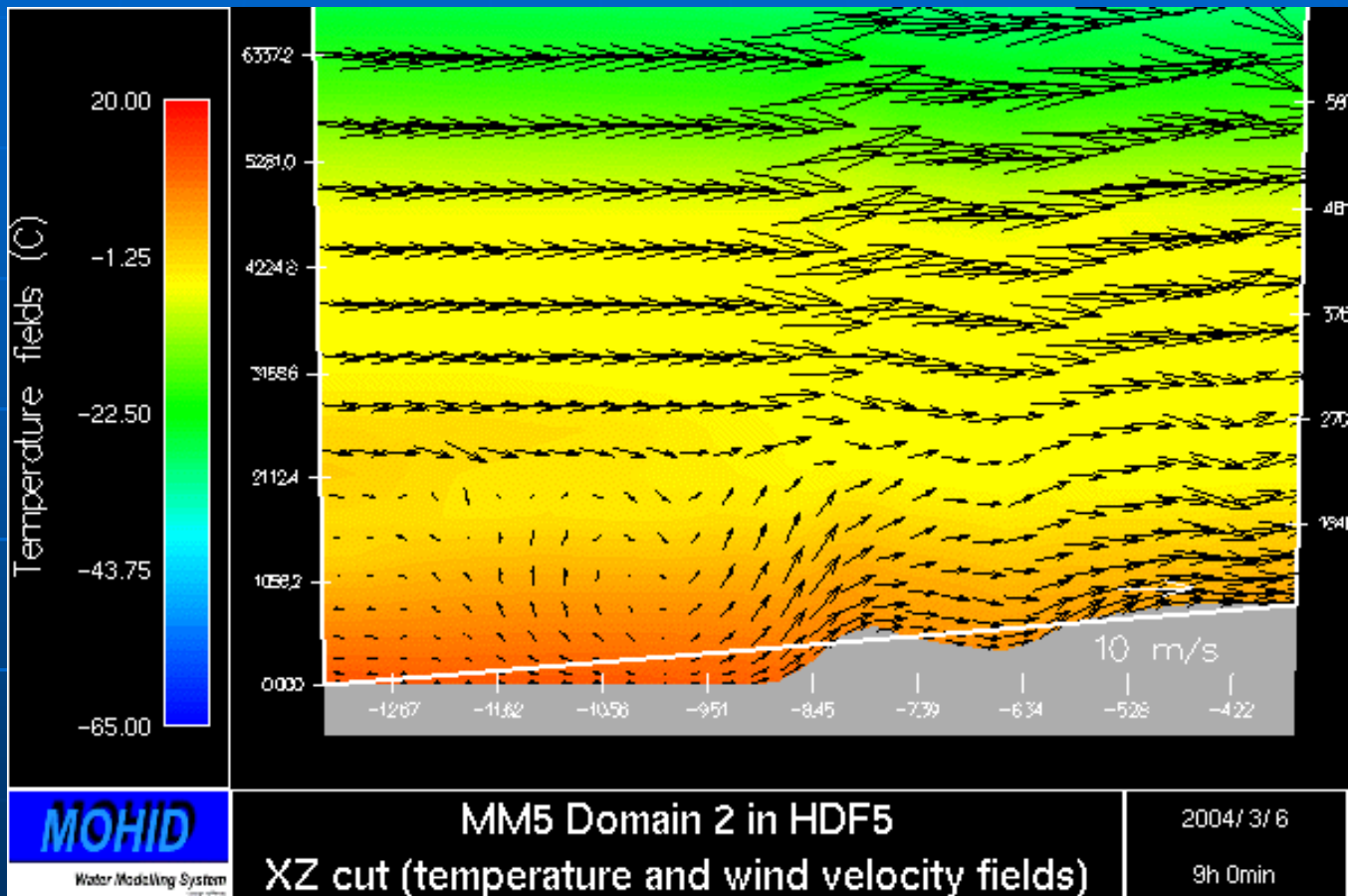
**Flight over Iberian Peninsula using
Mohid Post-Processor**

Coupling MM5 to Mohid



3D view with XY, XZ and YZ cuts of temperature fields

Coupling MM5 to Mohid

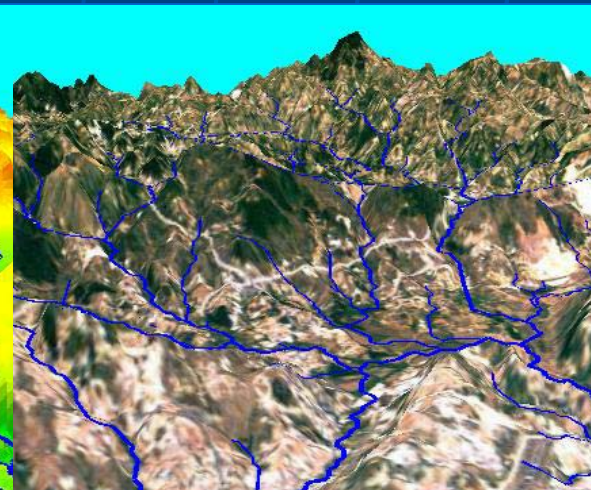
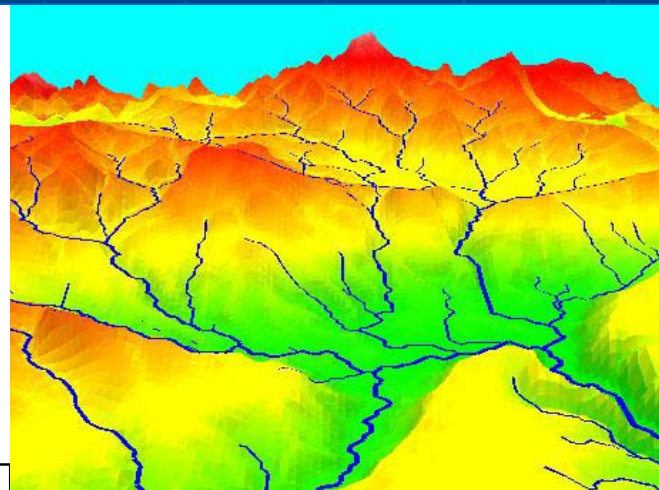
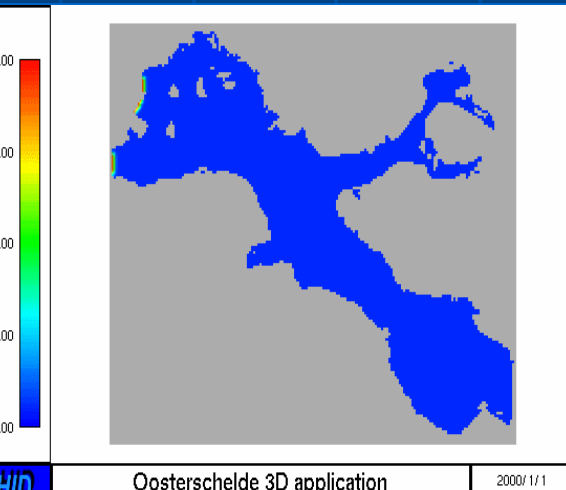


XZ cut of temperature and velocity fields

Coupling MM5 to Mohid

Potentiality of coupling the models

- Increase in spatial and temporal definition of atmospheric properties input to Mohid;
- Possibility of using atmospheric previsions to perform oceanographic previsions using Mohid Water;
- Operational oceanographic modelling of the Portuguese coast;
- Possibility of operational modelling of hydrographic basins (flood forecast) using Mohid Land;



Coupling MM5 to Mohid

Potentiality of converting to HDF5

- Output file compression;
- Possibility of graphically visualize the files with a varied number of available, including IST software like Mohid Post-Processor, Mohid GIS;
- Standard format, platform independent;
- Enables the use of MM5 results to be used by research modelling groups;

Coupling MM5 to Mohid

**Don't hesitate to contribute for the
development of these tools!**

Thank you very much for your attention!