INSTITUTO SUPERIOR TÉCNICO

Implementation of an operational model in the Tagus estuary

Overview

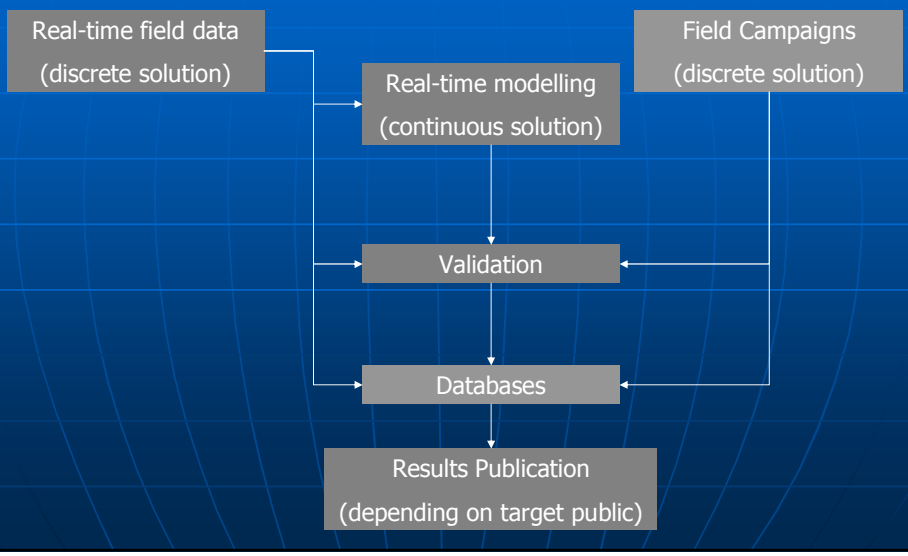
- Tagus estuary
- System Design
- End user results
- Present situation
- Future Work
- Upscalling

Tagus estuary

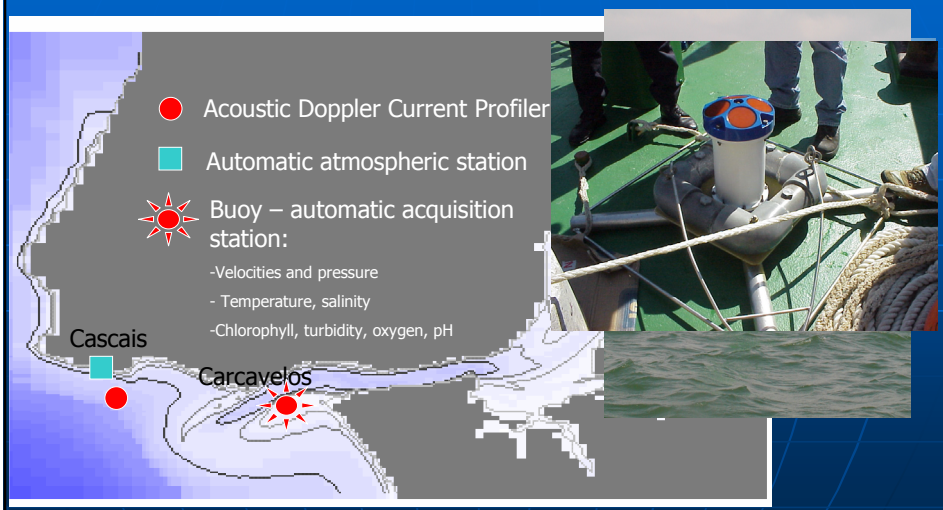
Area = 320 km2

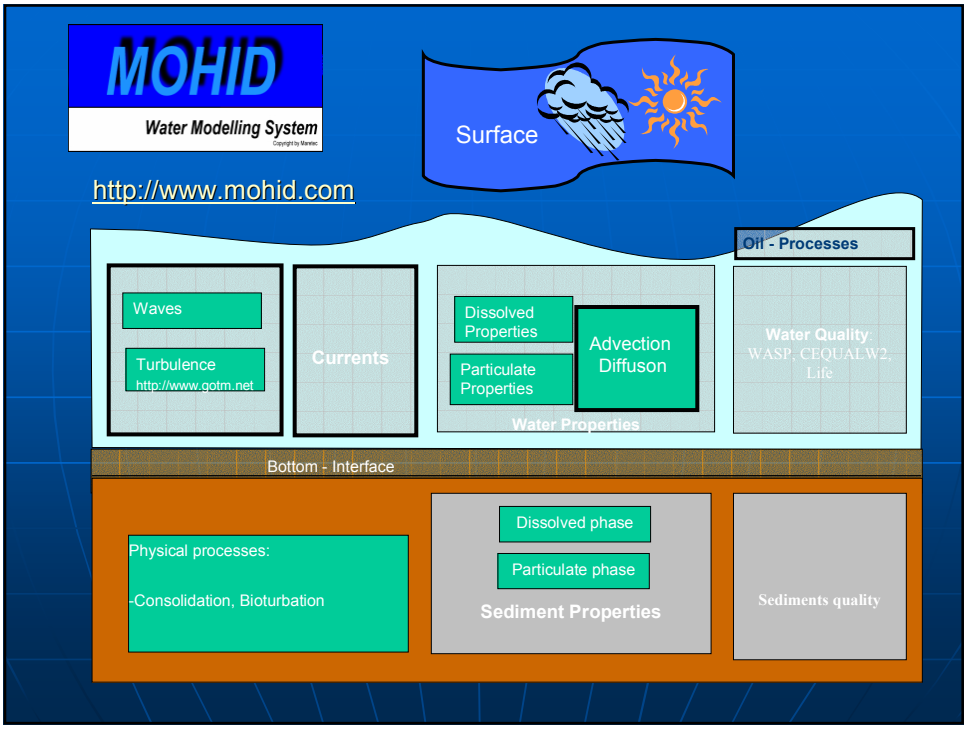
Average river flow = 300 m3/s

System Design

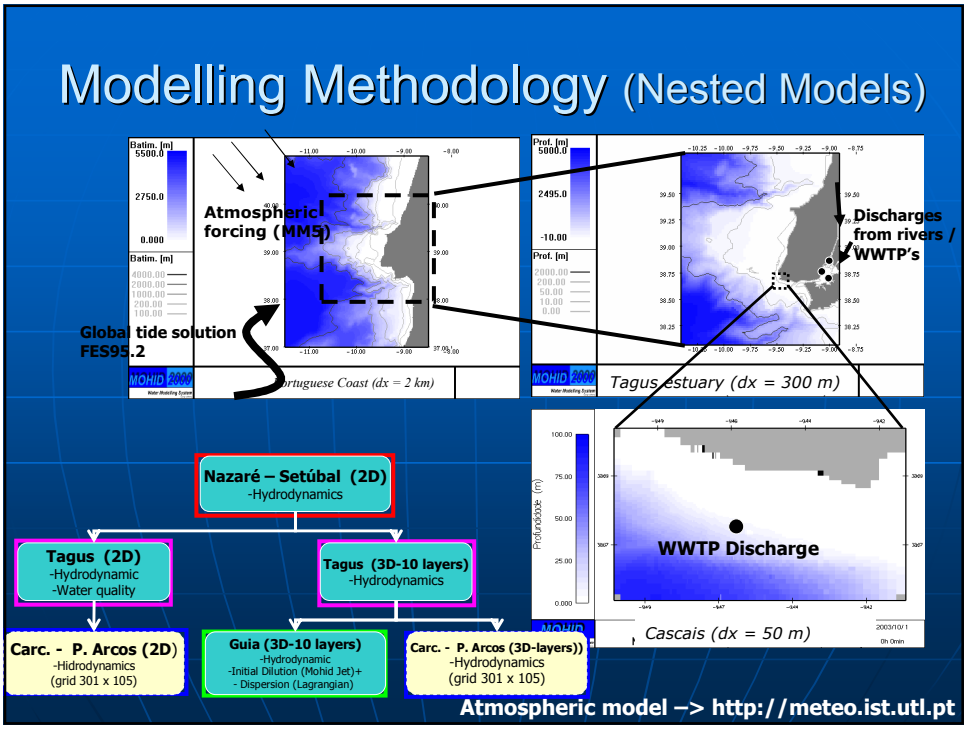


Automatic stations available





Modelling Methodology (Nested Models)

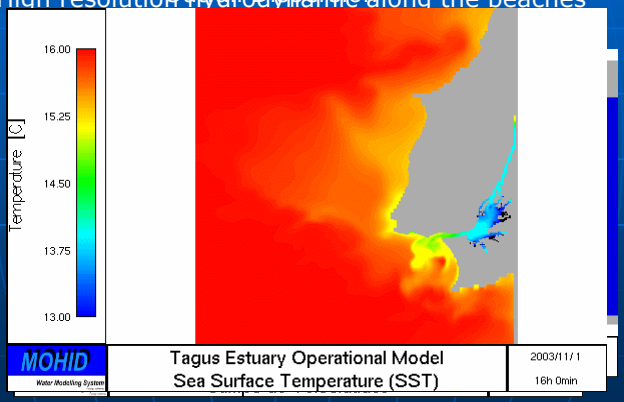


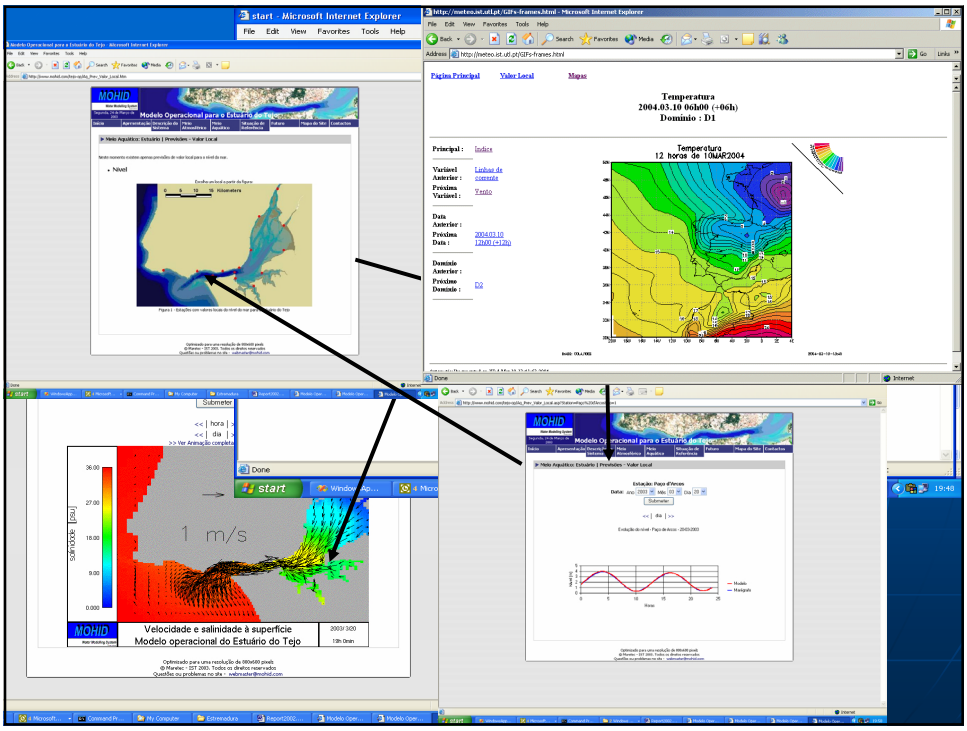
Interesting results

Sea Serface Temperature : 11/2003:2/2004

High resolution Hydrodynamic along the beaches

Outfall Dispersion





Future Work

- Data assimilation modules (2 PhD are underway)
- To improve the validation process
- Upscale the system to all the Atlantic Ocean
- Force operational model with spatial-variable MM5 predictions

Upscalling

MARETEC present projects

Vigo-*Mabene (EU)*

Aveiro – *SimRia (N)*

Nazare – *Eurostrataform (EU)*

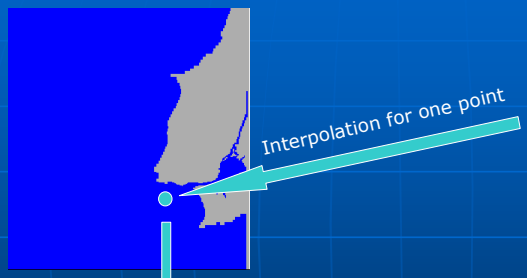
Tagus – *RealTime (N)*

Zambujeira – *InterReg (EU)*

Ria Formosa – *DRAOT Algarve (N)*

Solution: to develop an operational model that includes at least all the Portuguese coast

Atmospheric Forcing
- Present Situation -



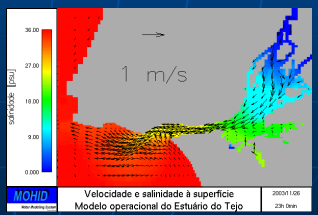
Interpolation for one point

Atmospheric Predictions (72 hours)

(results actualized every 6 hours)

Operational Model

Database



Present Situation

- The system started producing modeling results on a daily basis in March of 2003;
- The links between models, data acquisition systems, data bases and web applications are implemented.