MERCATOR-OCEAN and NEMO

NEMO Users Meeting, Exeter, May 2012

MERCATOR OCEAN

- **New Statut : « Société Civile » in 2010**
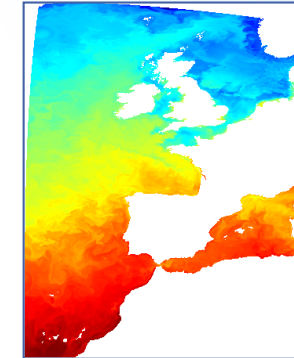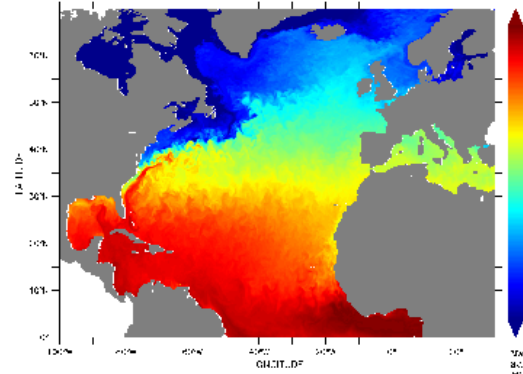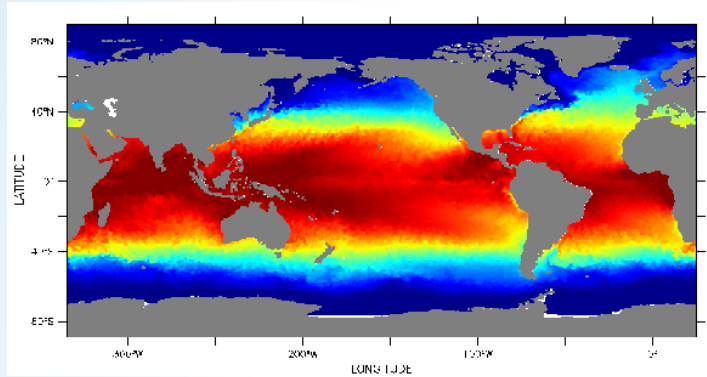- **5 shareholders CNRS, IFREMER, IRD, Météo-France, SHOM**

- **50 people**
- **Missions :**
  - Develop, improve, maintain, operate, validate reanalysis, analysis and ocean forecast systems.
  - Distribute ocean products and give expertise to users

Mercator Ocean Centre
Ramonville St Agne
Toulouse, France

Operational systems

Operational System	Operational purpose	Model Configuration	Vertical grid	Data assimilation	Actual System			Actual R&D version
					NEMO version	R&D since:	Operationnal since:	
PSY3	weekly and daily forecast	ORCA025_LIM	50 levels	yes	NEMO_3.1	2010	December 2010	NEMO_3.4
PSY4	weekly forecast	ORCA12_LIM	50 levels	yes	NEMO_1.09	2006	February 2011	NEMO_3.1
PSY2G2	dedicated to seasonal fcst init	ORCA2	31 levels	yes	OPA8.2	2004	April 2004	NEMO_3.1 (ORCA1)
Biomer1 (PISCES)	near real time	ORCA1	50 levels	no	NEMO_2.3	2010	July 2011	NEMO_3.2
PSY2	weekly and daily forecast	ATL12	50 levels	yes	NEMO_3.1	2010	December 2010	
IBI	weekly and daily forecast	NEATL36	50 levels	no	NEMO_2.3	2008	April 2011	NEMO_3.4
Global Reanalysis	1992 to 2009 , 1day-output	ORCA025_LIM	75 levels	yes	NEMO_3.1	2010	November 2010	NEMO_3.4

Mercator Ocean
Ocean Forecasters

R&D: others configurations and future systems, major areas of developments

Configurations	Vertical grid	NEMO version	Purpose
ORCA1	75 levels	NEMO_3.4	Atmospheric forcing tests for Operationnal and Reanalysis configurations
Biomer_025 (PISCES)	50 levels	NEMO_3.2	future operationnal configuration
NEATL12 (IBI)	50 levels	NEMO_2.3	Future reanalysis
CREG12	75 levels	NEMO_3.4	Future reanalysis (coll. With Canada)
Relocatable System (on ORCA12 grid)	50 levels	NEMO_2.3	Regional configurations

Physics and numerics:
➔vertical physics (TKE, GLS, waves)
➔Horizontal advection schemes (quickest, PPM)

Configurations:
➔Global: 75L, lateral friction, Sea-ice (LIM2_EVP)
➔Regional: OBC, Tide, time-splitting
➔Freshwater balance, ice sheets, runoffs

Atmospheric Forcing:
➔ERAinterim correction towards Satellites data (GEWEX, GPCP)

Tools:
➔Configuration tool box
➔Diagnostics (Mersea diagnostics)
➔Add new Operators in Observations operator (OBS) : SST night, SLA, Tair