



SEVENTH FRAMEWORK PROGRAMME
THEME 6

Environment (Including Climate Change)

MEECE Scenarios and Metrics Workshop (WP3&4), June 2009

Proposal Acronym: **MEECE**

Proposal full title: **Marine Ecosystem Evolution in a Changing Environment**

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MEECE Scenarios and Metrics Workshop

Joint WP3/WP4 Meeting

Institut pour la Recherche et le Developpement
Sète (France)
May 11th – 13th 2009

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Workshop Agreements

Agreements for WP3

- a) Global simulation: *Already done*.
- IPSL-CM4-V2
 - 1860-2100
 - Scenarios:
 - Historical period
 - A1B
 - A2
 - E1
 - Data available at <http://mc2.ipsl.jussieu.fr/PHP/ensembles.php?exp=LU20C2>
- b) Reference simulation:
- Forcing: ERA-40
 - ERA-INTERIM only starts 1989
 - Period: 1960-2002 NE Atlantic- Minimum 1980-2002 for other areas
 - Boundary from Orca 1-
 - <http://badc.nerc.ac.uk/data/rapid/assimilation.html>.
 - We would need to make a special request for access here as it is currently restricted
 - Observed rivers (Minimum Global news, annual mean, no silicate). If you have better use it.
 - <http://www.ecmwf.int/products/data/index.html>
 - or www.badc.ac.uk – for UK or GERMANY only
- c) Time Slices simulations:
- 20 Years slices
 - **1980, 2080**, (2030 optional), (20 years + spin up - spin-up depending on the model)
 - Spin-up from reference initial condition (IPSL)
 - Coupling to IPSL-PISCES:
 - Initial
 - Boundary conditions
 - Monthly mean
 - Interpolation tool available
 - Everything
- d) Time slices scenarios:
- Recommended:
 - 1980-2000; 2080-2100; 2030-2050
 - A1B, A2, E1 (LUA2R2)
 - Minimum:
 - 1980-2000; 2080-2100
 - A1B (use member LUA1B2)
- e) Time slices downscaling
- Minimum: Use as they are (interpolation)
 - If you have something better, like regional atmospheric models, use it.

f) Metrics

- Comparisons will be carried out in terms of Chl a and primary production.

g) Deadlines

- One year (second WP3 meeting in month 22 (June 2010) MEECE calendar) to identify major problems in the simulations. Demonstrate that you are able to carry out the simulations - i.e. run regional domain for at least 1 year with plausible results.
- Computer resources may be available from <http://www.hpc-europa.eu/> with an appropriate application.

Agreements for WP4

a) Work to be done in the 1st 18 months:

- Accomplish the coupling between Low and high trophic level models.
- Embed process description for direct anthropogenic drivers into established models
- Implement Ecosystem end to end models with direct drivers description into specific regions.
- Carry out test simulations to check/calibrate/validate the models.

b) Lengths of the process study simulations (minimum requirements)

- Pollutants: 2 years
- Eutrophication: 5 years
- Fisheries: 10 years

c) Time slices simulations

- 1 time slice for hindcast (period chosen to be embedded into the time span of the reference run of WP3)
- 1 time slice for the present conditions
- 1 time slice ahead into the future (still to be precisely defined)

The “hindcast” simulation will be compared with the reference run. If no significant effects can be detected then the driver should be dropped.

d) Scenarios

Minimum: 1

Recommended 2 to 3 (low impact, business as usual, high impact)

Eutrophication scenario:

2 options

Qualitative: given the actual N/P imbalance in the nutrient land based inputs (as a result of the implementation of environmental policies aimed to reduce the P-load, 2 qualitative scenarios could be envisaged:

- The land based input is driven to more balanced N/P conditions
- The land based input N/P imbalance is increased

Quantitative: the total current load is simply increased/decreased (N/P ratio unchanged).

Simulations and Scenario for CDOM

“Hindcast” and “now” simulations: remotely sensed info (vertical extinction coeff.) to be delivered to partners by PML/POL.

“Future” simulations: still unclear how to define the impact.

Scenario for organic pollutants

The scenario for the organic pollutants should be the “high impact” scenario”.

Fisheries

“Hindcast” and “now” simulations: based on observed fishery pressure (statistics on landings or fish stock assessments).

“Future” simulation: scenario based on “what if” approach.

A unified “what if” scenario (applicable to all regions would be desirable. Shin, Smith, Blanchard, Neuenfeldt, Lambers are available to work towards the definition of the common scenario).

Invasive species

Each partner should deliver the result of their simulations (physical component of the model to KU CORPI.

Agenda

Monday 11th

9:00: People meet

9:15: Xavier Irigoien: Introduction on objectives

9:30 Jason Holt: Presentation on Climate scenarios and discussion

10:30 Laurent Bopp: Presentation on downscaling issues and discussion

11:30: Coffee break

12:00: Discussion on practical issues to obtain the climate forcing data. Production and distribution of common dataset

13:00-14:30: Lunch break

14:30-16:00: Definition of the scenario running procedures (periods etc)

16:00-17:30: Definition of the scenario running procedures

Tuesday 12th

9:00-9:30: Marco Zavatarelli: WP4 overview and expected outcome of the meeting.

9:30-13:00: **Each representative** of the involved Institution is expected to give a brief presentation about:

- the model to be used in WP4,
- the direct anthropogenic driver to be implemented
- the implementation work plan for the direct anthropogenic driver in the model.

11.30: Coffee break

13.00-14.30: Lunch break

14.30-17.00: General discussion about:

- Scenario definition for anthropogenic direct forcing
- Interactions with WP1 and WP2.

Wednesday 13th

9.00-12.30: General discussion about:

Coordination of activities with WP3 (Casting the direct driver scenarios into the indirect driver scenario.

Participants

Icarus Allen	PML	jia@pml.ac.uk
Yuri Artioli	PML	yuti@pml.ac.uk
Thomas Gorges	IPSL	Laurent.Bopp@lsce.ipsl.fr
Marina Chifflet	AZTI	mchifflet@pas.azti.es
Isabelle Dadou	LEGOS	Isabelle.Dadou@legos.obs-mip.fr
Viktoras Didziulis	KU CORPI	viktoras@ekoinf.net
Reinier Hille Ris Lambers	IMARES	Reinier.HilleRisLambers@wur.nl
Jason Holt	POL	jholt@pol.ac.uk
Xabier Irigoien	AZTI	xirigoien@azti.es
Wilfried Kuehn	Univ Hamburg	kuehn@ifm.uni-hamburg.de
Eric Machu	IRD	Eric.Machu@ird.fr
Stefan Neuenfeldt	DTU-Aqua	stn@aqua.dtu.dk
Yunne Shin	IRD	Yunne.Shin@ird.fr
Chris Smith	HCMR	csmith@her.hcmr.gr
George Tryantafillou	HCMR	gt@ath.hcmr.gr
Kostas Tsiaras	HCMR	ktsiaras@ath.hcmr.gr
Marco Zavatarelli	UNIBO	marco.zavatarelli@unibo.it