

WP3 Human-environmental interaction: perception, adaptation and mitigation



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2 LIPHA Paris-Est, UPEC, GREQAM.

1) Summary of WP3 themes

- How do we perceive our natural environment?
- How do we adapt to this environment?
- What can we do to preserve or improve our environment?



Main research themes

- ❑ Modelling decision making in the context of risks
- ❑ Co-evolution of climate and societies, adaptation to climate change
- ❑ Comparison of international governance regimes for climate and biodiversity,
- ❑ Improved management of ecosystems for conservation and sustainable delivery of ecosystems, valuation of ecosystems.

2) Outcomes - 2014

- Interdisciplinary research projects WP3
 - ✓ 3 projects funded (+1)

- Interdisciplinary research projects other WPs
 - ✓ 4 projects funded

- Training
 - ✓ 3 workshops
 - ✓ 1 international lecture

- Interdisciplinary PhD and post-docs
 - ✓ 2+1 PhD + 3 post-docs

❑ Interdisciplinary research projects WP3

- ✓ **Perception of risks**

- ✓ **ANR Riskemotion**

(O. Chanel) GREQAM, Paris I, Columbia University

- ✓ **M2C project**

Measuring Climate Change Perception in India and France (2014)

A. Schleyer-Lindenmann. ESPACE and GREQAM

LABEX OT-MED - WP3

HUMAN-ENVIRONMENTAL INTERACTION: PERCEPTION, ADAPTATION AND MITIGATION »

PROJET M2C : MEASURING CLIMATE CHANGE PERCEPTION IN INDIA AND FRANCE

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OLIVIER CHANEL³

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FOREST MANAGEMENT (IIFM), BHOPAL-INDIA, ³GREQAM
(AMU / AMSE)



Stay of Prof. Parul RISHI, Phd in Psychology, at Arbois, from april 15th to may 16th, 2015, financed by OT-Med

Two objectives:

- 1) To translate and adapt the Climate Change Perception Inventory (Rishi & Mudaliar, 2012, 2014), conceive a validation study along the classical lines of psychometric criteria.
- 2) To write a state of the Art about the cultural similarities and differences between France and India in regard to man-environment relations

During her stay, Prof. Rishi will present her work to all interested members of OT-Med in a conference

From that on, an empirical study can be planned.

❑ Interdisciplinary research projects WP3

✓ Perception of risks

✓ **Adaptation of societies to global change (1)**

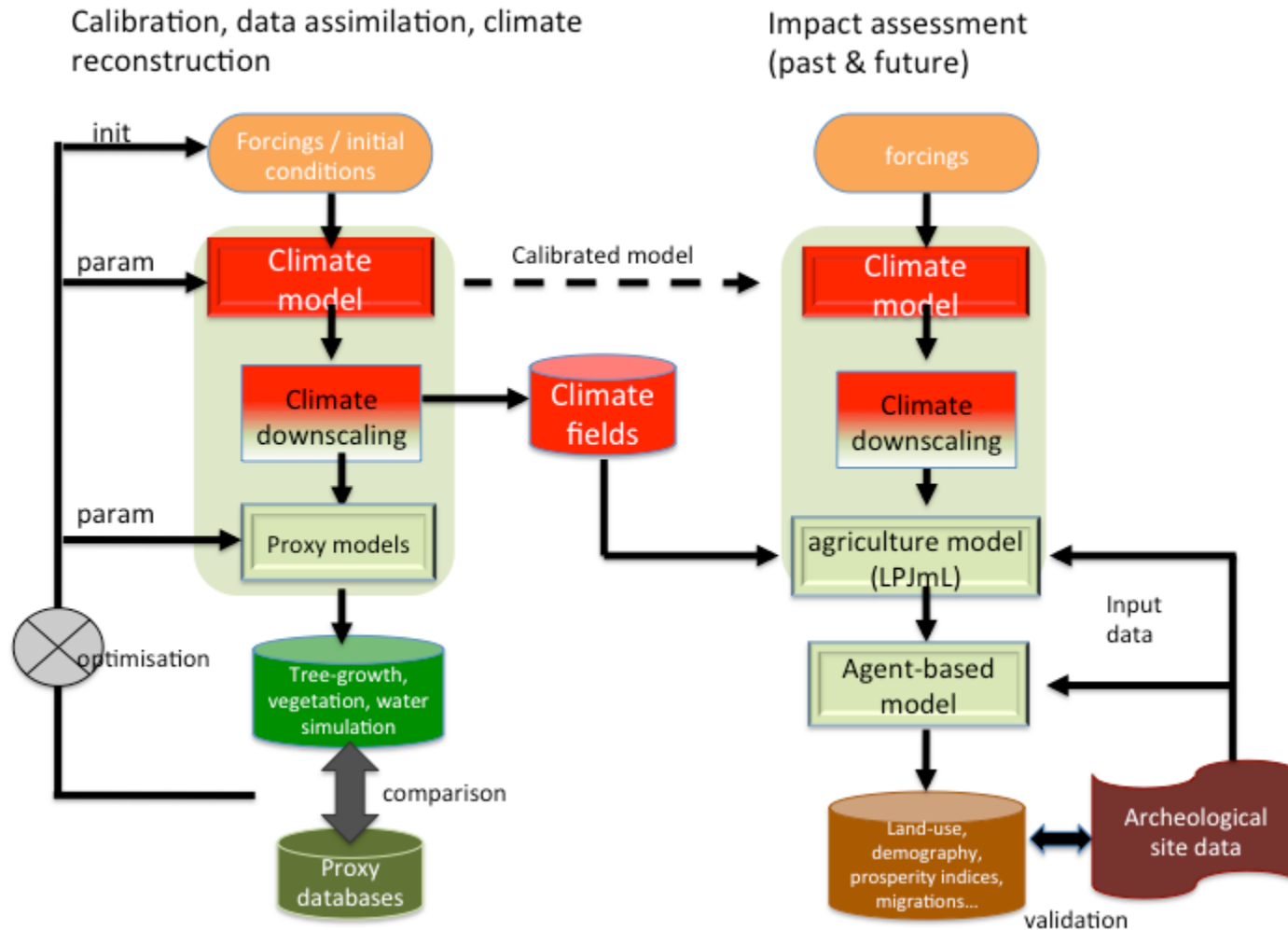
Adaptation of Mediterranean EcoNOmies of Past to Hydroclimatic changeS (**AMENOPHYS**) (2014)

(A. Kirman) GREQAM, CEREGE, IMBE, ECOLAB

Integrated model to study the adaptation of ancient societies in the Mediterranean basin:

Post-doc: D. Contreras

Amenophys, an integrated model



The socio-economic block

- We will build a socio-economic model (an agent-based model) to test and better understand the impact of climatic stresses on resources and the capacity of past societies to adapt depending on wealth, political and economic organisation.
- Historical and archaeological evidence in the Mediterranean area during the Roman period and the early middle age.
 - (i) The capacity of earlier civilisations to adapt to large scale environmental changes
 - (ii) to assess the extent to which the vulnerability of these civilisations was related to their decision making mode
 - (iii) to identify predictors of change in their way of life and in the nature of their organisational structure in the face of such changes.

Post Doc
Daniel Contreras
PhD Stanford in anthropology

Expertise

- human-environment interactions, digital methods and archaeology; GIS and archaeology; geoarchaeology



□ Interdisciplinary research projects WP3

✓ Perception of risks

✓ **Adaptation of societies to global change (2)**

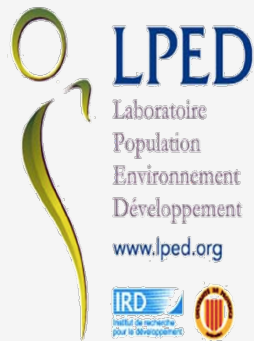
Designing alternative regional scenarios for land-use and agricultural innovative management and biodiversity conservation (**SIMBIOSE**) (2014)

(C. Albert) IMBE, LPED, ECODEV, IRSTEA, GREQAM

PhD: Mathilde Hervé

Project : SIMBIOSE (WP3 and TWP2)

- Designing alternative regional Scenarios for land-use and agricultural Innovative Management and BIOdiverSity consErvation
- PhD thesis started 1st October 2014: Mathilde Hervé (supervised by Cécile Albert, Marie Jacqué et Thierry Tatoni)
- A participatory approach to understand links between policies and agricultural practices and finally predict effects of land-use and practices change on connectivity in the Region Provence Alpes Côte d'Azur.



SIMBIOSE

- Objective: to explore the effect of European agro-environmental policies on land-use changes across a Mediterranean gradient.
- And then the role of land use on biodiversity.
- How to better sustain ecosystem services.

- The method:
- A land system classification with expert knowledge and stakeholder opinions.
- An integrated model.

❑ Interdisciplinary research projects WP3

- ✓ Perception of risks
- ✓ Adaptation of societies to global change
- ✓ **Global environmental governance**

(S. Maljean-Dubois) CERIC-(S. Thoron) GREQAM-
CIRAD

Circulations of Norms and Actor Networks in
Global Environmental Governance (**CIRCULEX**) (2013
one year)

PhD: G. Futahazar

- ❑ Interdisciplinary research projects WP3
- ❑ **Interdisciplinary research projects other WP**
 - ✓ **FEARS WP1 (WP3)** (L. Benedetti) CEREGE-ESPACE-3 external partners
 - ✓ **ECCOTEMP WP1 (WP3)** (G. Ménot) CEREGE - GREQAM
 - ✓ **GESAS WP1 (WP3, TWP2)** (P. Deschamps) CEREGE-GREQAM-5 external

Interaction between WPs

| WP3 projects interacting with ... | WP1 | WP2 | WP3 | TWP2 |
|--|-----|-----|-----|------|
| M2C / Perception of Risk /2014 | | | X | |
| AMENOPHYS / Adaptation of societies to global change /2014 | | X | X | X |
| SIMBIOSE / Adaptation of societies to global change /2014 | | | X | X |
| CIRCULEX / Governance/2013 | | X | X | |
| Workshop on Non-market valuation / 2014 | | X | X | |
| Workshop on Vulnerability of terrestrial and aquatic ecosystems / 2014 | | X | X | |
| Workshop Living on the coast / 2014 | | | X | |
| | | | | |

- Interdisciplinary research projects WP3
- Interdisciplinary research projects other WP
- Training – Workshops**
 - ✓ **Non-market valuation**
GREQAM-IMBE
Aix-en-Provence, 25-26 June 2014

- Interdisciplinary research projects WP3
- Interdisciplinary research projects other WP
- Training – Workshops**
 - ✓ Non-market valuation
 - ✓ **Living on the coast.** Ecological and human contemporary issues (SEH26)
ESPACE-OHM Littoral Méditerranéen
Marseille, 16-18 October 2014

- Interdisciplinary research projects WP3
- Interdisciplinary research projects other WP
- Training – Workshops**
 - ✓ Non-market valuation
 - ✓ Living on the coast
 - ✓ **Workshop on Vulnerability of terrestrial and aquatic ecosystems**, in relation to global changes
GREQAM-IMBE-INRA
Marseille, 7 January 2014

- Interdisciplinary research projects WP3
- Interdisciplinary research projects other WP
- Training – Workshops**
 - ✓ Non-market valuation
 - ✓ Living on the coast
 - ✓ Workshop on Vulnerability
 - ✓ **Workshop on Climatic changes**
 - IMERA-Labex OT-Med
 - Marseille, October 2014 - May 2015

- ❑ Interdisciplinary research projects WP3
- ❑ Interdisciplinary research projects other WP
- ❑ **Training - International lectures**
 - ✓ Geoffrey M. Heal (Columbia University)
 - ✓ Berta Martín-López (Autonomous University of Madrid)
 - ✓ **Robert Axtell (George Mason University, USA) "From the Anasazi and Rapa Nui to Change on a Global Scale: Metaphors, Models and Machines", 19 February 2014.**

☐ Training - Interdisciplinary PhD

✓ **Guillaume Futhazar** (2013 -)

S. Maljean-Dubois (CERIC), W. Cramer (IMBE)

Topic: Role and place of the IPBES (Intergovernmental Platform on Biodiversity and Ecosystem Services) in the Mediterranean Region (funded by ANR-Circulex ?)

✓ **Nathalie Boutin** (2013 -)

S. Hernandez (IMPGT-CERGAM), S. Gachet (IMBE), P. Batteau (CERGAM)

Topic: Territorial management of biodiversity in a context of growing urbanization and intense interactions man-nature. A multi-site analysis

☐ Training - Interdisciplinary PhD

✓ Mathilde Hervé (2014 -)

T. Tatoni (IMBE), C. Albert (IMBE), M. Jacqué (LPED)

Topic: Designing alternative regional scenarios for land-use and agricultural innovative management and biodiversity conservation (SIMBIOSE)

☐ Training - Interdisciplinary Postdocs

✓ Daniel Contreras (2014 -)

A. Kirman (GREQAM)

Topic: Adaptation of Mediterranean EcoNOMies of Past to Hydroclimatic changeS (AMENOPHYS)

☐ Training - Interdisciplinary Postdocs

✓ Andres Curras (2014 -)

M. Ghilardi (CEREGE) et FMSH

Topic: The onset of Corsican cultural landscapes in the Aleria Plain (Corsica). Integrated palaeoenvironmental approach (« Fernand Braudel » post-doctoral fellowship)

✓ Ruchi MUDALIAR (2015)

A. Schleyer-Lindenmann (ESPACE) M2C project

Topic: Adaptation and test of the Climate Change Perception Inventory in Southern France (« Fernand Braudel » post-doctoral fellowship)

PhD and Postdocs

| WP3 training interacting with ... | WP3 | WP2 |
|---|------------|------------|
| Boutin Nathalie (PhD, 2013-) / | X | X |
| Futahazar Guillaume (PhD, 2013-) / Circulex | X | |
| Contreras Daniel (Post-doc, 2014-) / Amenophys | X | |
| Hervé Mathilde (PhD, 2014-) / SIMBIOSE | X | |
| Curras Andres (Post-doc Braudel, 2014-2015) | X | |
| Mudaliar Ruchi (Post-doc Braudel, 2014-2015) / M2C | X | |

3) Conclusion

- Four laboratories mainly involved: CEREGE, CERIC, ESPACE, GREQAM
- Good interdisciplinarity intra SHS and hard sciences/ SHS (Integrated models Amenophys, Simbiose, Fears, Eccotemp, Gesas) and workshops.
- Three themes (perception, adaptation and mitigation) covered.
- Perception and Behavior ↗
- Governance ?
- Scenarios ↗

- How can social sciences contribute to OT-Med?
- Methodology and policy (already existing and inter SHS)
- Larger interdisciplinary integrated models like:
 - ✓ AMENOPHYS (economics)
 - ✓ SIMBIOSE (land-use)
 - ✓ GESAS (water)
 - ✓ AFORES-Med (forest)
 - ✓ FEARS (earthquakes)

4) Proposals for future actions

AP 2015 OT-Med

Proposals

- Perception of risks and natural environment.
- Interactions Human Societies/Environment & climate and adaptations.
- Preservation and improvement of our environment.
- Human vulnerability to risks.

Conference GEOMEDISLANDS

The geoarchaeology of Mediterranean islands

Porteur : M. Ghilardi (CEREGE) Cargèse July 2015

KEY WORDS

Methodology and policy

Governance, ecosystemic services assessment, vulnerability, risk perception, management of common pool resources,...

Integrated Models

adaptation, agriculture, climate change, society, ecosystemic services assessment,...