GIS for regional planning in a cross-border context: the case of Geneva

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www.unige.ch/ecohum/index_en.html
Follow the PlanetSolar DeepWater Expedition!

The PlanetSolar DeepWater expedition is allowing researchers from the University of Geneva to take advantage of the exclusive features of the MS Turgor PlanetSolar, the largest solar catamaran ever built. The researchers will conduct a unique campaign of physical and biological measurements along the Gulf Stream, with no carbon emissions. This scientific adventure aims to improve our understanding of the interactions between the ocean and the atmosphere, while raising public awareness of the complexity of climate change and its impacts.

Leadership of the PlanetSolar DeepWater Project

The Institute for Environmental Sciences (ISE) is a new inter-faculty entity of the University of Geneva. Created formally in March 2009, three faculties are involved in the Institute, namely Science, Social and Economic Sciences, and Medicine.

The Institute’s main objectives are to undertake research and teaching activities in the numerous interconnected domains of the environment, such as climate, water, biodiversity, health, energy, urban ecology and environmental governance. The key objective is to bridge the gap between the natural and human environments through addressing issues that include the understanding of fundamental physical, biological and chemical processes of the Earth system, the protection of natural resources, sustainable development, social and medical well-being, and links to the policy and decision makers.

Despite being a relatively newcomer to the Geneva academic world, ISE has already achieved a number of successful objectives, in particular the coordination of two major integrated projects within EU-FP7 (the projects ACQWA and enviroGRIDS, the participation in other FP7 projects, EU-COST projects, those funded by the Swiss National Science Foundation, and projects funded by public and private bodies.

ISE has a number of active international relations, in particular through the Intergovernmental Panel on Climate Change (IPCC), the World Meteorological Organization, the United Nations Environment Programme (UNEP-GRID), and the World Health Organization, whose secretariats are located in Geneva.

The international dimension of ISE is reinforced by its research and teaching agreements with UCLA (University of California at Los Angeles), UQAM (University of Quebec at Montreal), York University (Ontario, Canada); currently discussions with the University of Sydney (Australia) and Zayed University (Abu Dhabi) are under way for further collaborative action.

In terms of its teaching commitments, the Institute leads a Master Programme in Environmental Sciences, with over 100 students currently. The University of Geneva thus fulfills a genuine request from young and motivated students.
Ongoing Research Projects

FP7 PHENOTYPE
Positive Health Effects of the Natural Outdoor Environment in Typical Populations in Different Regions of Europe (2012-2015)
Objectives: PHENOTYPE is intended to provide a better understanding of the potential mechanisms, and better integration of human health needs into land use planning and green space management.
(Worpackage 5)
Contact: R. Lawrence, J. Zufferey
FP7 Phenotype Health from outside in

FP7 ENVIROGRIDS
"Building Capacity for a Black Sea Basin Observation and Assessment System supporting Sustainable Development"
Objectives: to set up an infrastructure and to implement analytical modules that will enable the production time series of prospective demographic data to be used as input for the hydrological catchment models (WP 4) as well as for the impact assessments of impacts on societal benefit areas (WP5). The demographic data and models should also be of use for any other users interested in harmonised, disaggregated and projected information on population distribution.
Task 3.1 Demography" (WP3 Scenarios of change)
Contact: H. Dao
FP7 EnviroGRIDS

ESPON INTERCO : INDICATORS OF TERRITORIAL COHESION
Objectives: To provide a set of comparable and reliable indicators and indices that can be used to measure European territorial cohesion, complex territorial development, structural issues, territorial challenges and opportunities as well as territorial effects at different geographical levels and types of regions.
Contact: H. Dao, P. Plagnal-Cantoreggi, V. Rousseaux
Project ESPON - Interco

SNIS LIVESUR
Governance of Forest Multiple Outcomes in the Bolivian Lowlands (GOFOR-Bolivia) Livelihood and Sustainability Research (SNIS Project)
1. Ongoing research:

Use of geographic information in cross-border cooperation projects

(R. Lawrence, H. Dao)

• General context
• Main challenges
1. Ongoing research

**Context : crossroads**

- Territorialisation
- Territory
- Interterritorality

**Public policy**
- Expertise
- Public participation

**Geog Info**
- Institutional
- Volunteer
- Commercial/hybrid
- EU legal framework

- New actors
- New users
- New possibilities
- New legal framework

- New challenges
  - for local/regional authorities
  - for institutional GI
1. Ongoing research

Position

• GI as a *representation*
• Understand territorial dynamics
• Basis for public policy

Cross-border project:
• Need for common representation
• Appropriation - of the project
  - of the territory
1. Ongoing research

Missing links

- Territory “Reality”
- What
- Where
- Geographic information
  - Knowledge
  - Decision

GIS
Where is Geneva?
2. Geneva area
The «Grand Genève» conurbation

• 70’s : France-Geneva cooperation on fiscal matters

• 2012 : Fance-Vaud-Geneva conurbation project => Grand Geneve

• 2013 : GG integrated in Cantonal Structure Plan

• A «compact, polycentric, green conurbation»
Grand Genève : who is involved?
2. Geneva area

Grand Genève conurbation: key data

- 918,000 inhabitants
- 440,000 employments
- 212 municipalities
- 2,000 km²

Vanessa Rousseaux, Dublin, 11.07.2013
3. Cross-border territorial observation in Grand Genève conurbation

• **OST** - Observatoire statistique transfrontalier
  Statistical cross-border observatory

• **SITG** - Système d’information du territoire Genevois
  Information System of Geneva’s Territory
3. Cross-border territorial observation
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3. Cross-border territorial observation

SITG

• Organisation with many public actors involved
• Database
• 619 layers
• 27 themes
• ≈ 8 million objects
• Consultation, creation, diffusion
• Added value of existing data
• Metadata

Vanessa Rousseaux, Dublin, 11.07.2013
3. Cross-border territorial observation
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Cross-border products

- Thematical maps (water, industry, forestry, etc.)
- Land cover map (from orthophoto and satellites, 5 m)
- Symplified zoning map with common legend
- Planning documents: cross-border and from each side
- Cross-border city map, 1:10’000 scale
- Touristic map of conurbation, in 3 languages (FR-EN-DE), 1:50’000 scale
3. Cross-border territorial observation

Example: waste collection