



Aims & Objectives

➔ TETIS (Land, Environment, Remote Sensing and Spatial Information) is a joint research unit between AgroParisTech, Cirad, CNRS and Irstea. Located at the Maison de la Télédétection in Montpellier, the unit works to deepen our understanding of spatial information in support of agro-environmental research and sustainable resource and land management.

➔ The unit's core work is divided into four methodological fields (each relating to the spatial information chain). It carries out multidisciplinary projects (observatories and the GEOSUD project) and focuses on three main activities:

1. methodological research.
2. support/expertise.
3. teaching.



Research teams involved into IM2E

TEAM: *ATTOS*

Led by:

BEGUE Agnès

✉ agnes.begue@teledetection.fr

TEAM: *AMOS*

Led by:

LO SEEN Danny

✉ danny.lo-seen@teledetection.fr

TEAM: *SISO*

Led by:

ROCHE Mathieu

✉ mathieu.roche@teledetection.fr

TEAM: *USIG*

Led by:

CHERY Jean-Pierre

✉ jean-pierre.chery@teledetection.fr



Linkage with IM2E research fields and emerging issues

Disciplines & Challenges

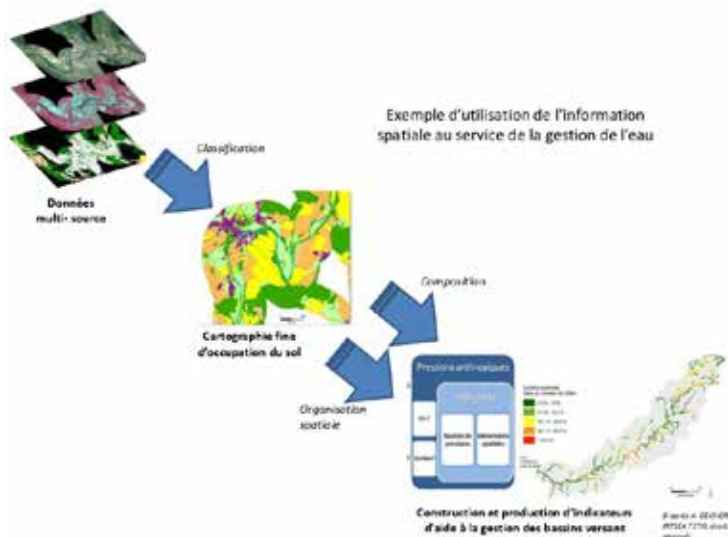
> The research unit develops methods for producing, managing and using spatial information across a wide array of applications, including water. Its upstream research focuses on remote sensing in an effort to enhance resource understanding from several angles (Discipline 1 and Challenge 2). Downstream, meanwhile, it carries out spatial modelling work to better understand how human activities affect hydrosystems' quality (Challenges 1 and 2).

> The unit is also involved in teaching on master's and advanced master's programmes.

Legende figure: The example below shows how spatial information can be used to support water management.



Study areas



highlights

Scientific and/or technical

● Thesis topic:

How the spatial dynamics of human activities affect sustainable catchment management (Liberia, Costa Rica).

● Thesis topic:

Using Sentinel radar and optical imaging data to estimate soil characteristics (coarseness, moisture content) and vegetation properties.

● Thesis topic:

Water monitoring of soil and vegetation to support irrigated system supervision and management.

● Thesis topic:

Multi-scale impacts of soil occupation on the ecological status of waterways. Developing and testing an analysis and modelling framework.

Platforms and Equipments

The institutions responsible for the JRU TETIS are partners of the GEOSUD Equipex. An expanded Theia cluster project aims at developing a national satellite imagery data and basic service infrastructure that is open to members of the scientific community and public entities.

The project's specific aims are to:

- Make spatial information permanently available (national coverage since 2010, on-demand worldwide image captures from Spot 6/7).
- Support upstream research on processing methods and algorithms.
- Offer access to online generic or thematic processing services.
- Produce teaching and training resources (including e-learning).
- Encourage researchers, public policy-makers and businesses to interact and pool their experiences.



Academic and industrial partners

France

- University of Montpellier
- CESBIO / UMR 5126
- LIRMM / UMR 5506
- LIVE / UMR 7362
- Veolia
- VERI
- EDF
- GC2-Environnement
- ACRI-ST
- CNES

- Pôle Theia
- SIG LR,...

Europe

- PEER network

international

- CNRS Lebanon
- National University of Costa Rica
- AGRHYMET, etc.



Examples of partnership projects

SIRHYUS

> The aim of this project is to design, develop and deploy operational management services for continental freshwater resources by integrating, assimilating and exploiting satellite imagery.

FRESQUEAU

> This project seeks to demonstrate the benefits of data-mining techniques and to promote the use of these techniques in the analysis and monitoring of hydrobiological quality in waterways.

TETIS keywords

GIS
Pleiades
Remote sensing
Modelling
Radar
SWOT
Spatial information
Data mining
Modelling
SPOT
Land use
Water quality
Geomatique
GEOSUD

TETIS (Land, Environment, Remote Sensing and Spatial Information) UMR N° 9000

Direction
Dir: Christiane WEBER, CNRS | christiane.weber@teledetection.fr
AGROPARISTECH DEP. DIR: Pierre-Yves VION | pierre-yves.vion@agroparistech.fr
CIRAD DEP. DIR: Xavier AUGUSSEAU | xavier.augusseau@cirad.fr
IRSTEA DEP. DIR: Eric BARBE | eric.barbe@irstea.fr

Maison de la Télédétection • 500, rue Jean-François BRETON • 34093 MONTPELLIER CEDEX 05
Téléphone standard : (+33) 4 67 54 87 54 | www.tetis.teledetection.fr

Tutelles :

