



HAL
open science

A short story about InfoSol

Claudy C. Jolivet

► **To cite this version:**

Claudy C. Jolivet. A short story about InfoSol. ICOS Integrated Carbon Observation System, May 2011, Biarritz, France. 17 p. hal-02804391

HAL Id: hal-02804391

<https://hal.inrae.fr/hal-02804391v1>

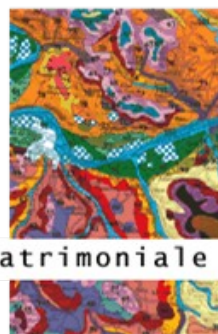
Submitted on 5 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



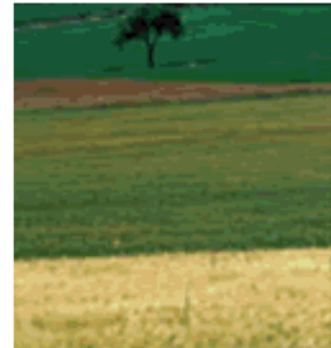
A short story about InfoSol



pour une gestion patrimoniale et durable des sols



2001. CONSTITUTION OF THE **GROUP OF SCIENTIFIC INTEREST SOL** (MEDD, MAP, INRA, ADEME, IRD, IFN)



pour une gestion patrimoniale et durable des sols



The Gis Sol

■ When ?

- Created in 2001
- Renewed for five years in 2006

■ Why ?

- Strong need for disseminate information on soil
- Need for mutualisation of the observation means and the competences on soil

■ Who ?

- **Financial function:** *Ministries in charge of Agriculture and Environment and the French Environment and Energy management Agency (ADEME)*
- **Research function:** *The French National Institute for Agricultural Research (INRA) and the Research Institute for Development (IRD)*
- **Diffusion and valorisation function:** *Ministry in charge of Environment (SOeS), INRA, IRD*



The GIS Sol and InfoSol



The French Information System on soils: a decision support system for soil inventory, monitoring and management



InfoSol's objectives

Simulation and development of a national network for soil monitoring (RMQS)

National soil survey harmonisation, completion of mapping programs

Data and programs administration

Data valorisation and information diffusion

Collection and management of data on pressure parameters on soils

Answer to national and international inquiries

Education et awareness on soils and soil degradation

Soil samples archiving

Main programs leaded by InfoSol

Soil Inventory

Soils maps from
1:5,000 to 1:250,000
scale



scale

+

French geographic
database at 1/1M



Soil Databases

Donesol, RMQS,
Carbon, TE, BDAT



RMQS,
BDAT

External data

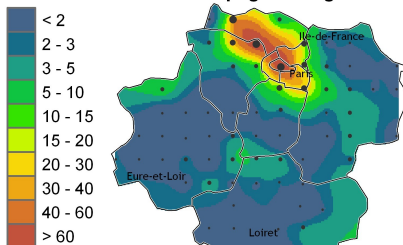


modélisation



Informations

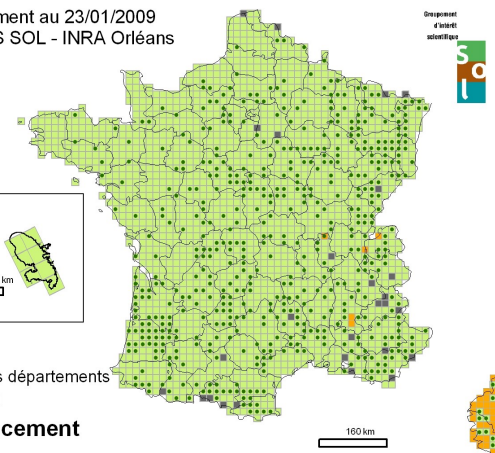
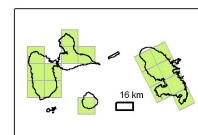
Retombées en Pb anthropogène en g/m²



• Sites RMQS

Etat d'avancement au 23/01/2009
© RMQS - GIS SOL - INRA Orléans

Prélèvements



□ Limites des départements

• Site Biosoil

Etat d'avancement

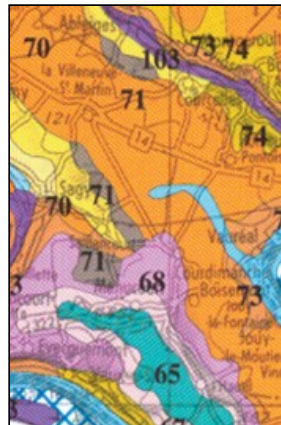
• Prélevé

• 2009

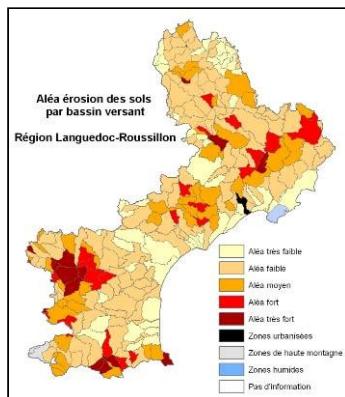
• Prélèvement impossible



Inventaire Gestion et Conservation des Sols : objectives



Source : INRA Orléans



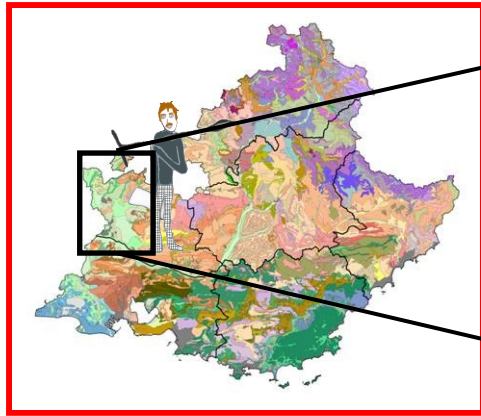
«Inventory for a better soil management »

- Identification, definition and localisation of **main soil types at different scales** and characterisation of their properties
- Constitution of **quality databases** dedicated to soil users
- Evaluation of soil suitability for land uses (agriculture, environment, urbanisation,...) and risk evaluation

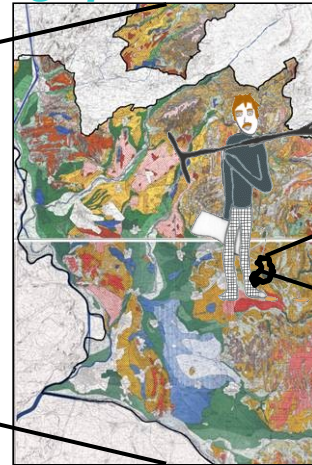


IGCS : a multi-scale program

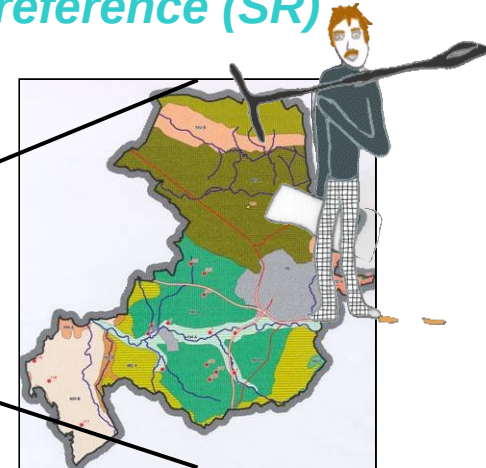
Référentiels Régionaux
Pédologiques (RRP)



Connaissance
Pédologique de la France



Secteurs de
référence (SR)



$1/250\ 000$

Large regions

$1/50\ 000$ à $1/100\ 000$

Small regions

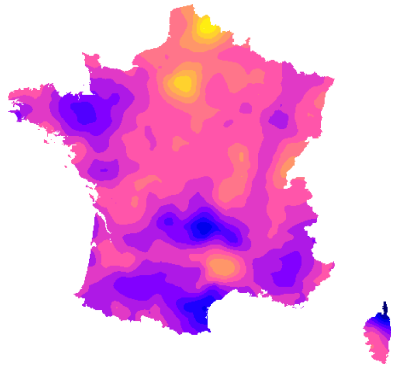
$1/10\ 000$

plots



Réseau de Mesures de la Qualité des Sols : objectives

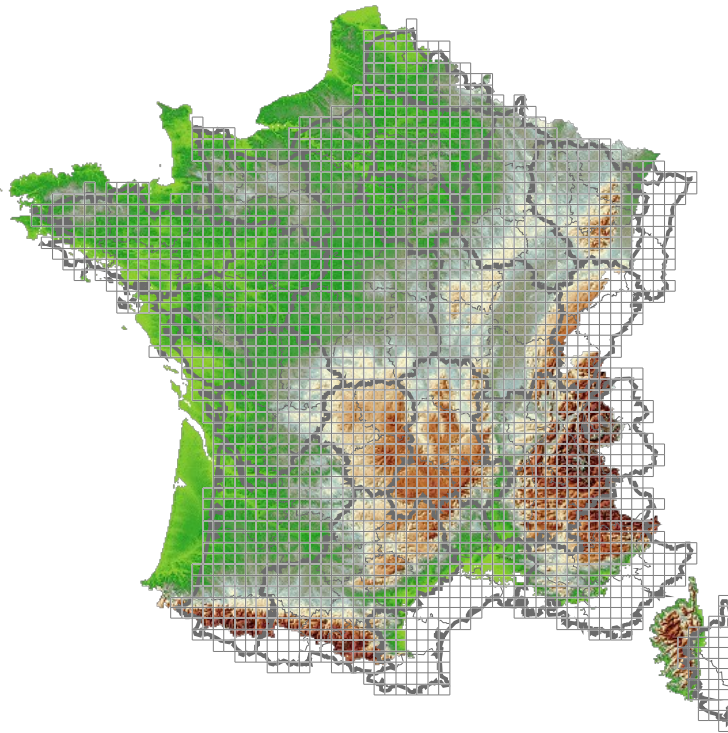
« To monitor the quality and evolution of french soils »



- **National statement** of soil quality
- **Mapping soil properties** (e.g gradients of diffuse contamination)
- **Detection of evolutions** (warning objective)
- **Validation** of spatial predictions issued from external modelling procedures
- Constitution of a **soil archive** (soil memory)



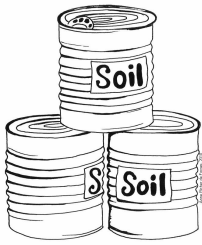
Le RMQS : a systematic network



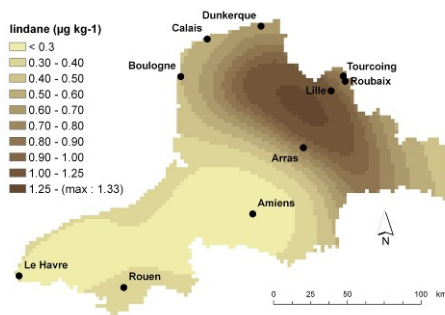
A multi land use
network (16x16
km)

of 2200 sites

sampled each
10 yrs

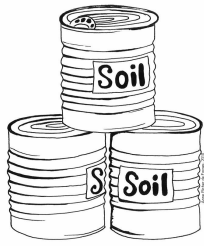


The national soil archive : objectives



« The memory of our soils »

- To prevent any **analytical drift** with time
- To « **go back** » in time
- To constitute a **bank of soils**



The national soil archive : laboratory and facility



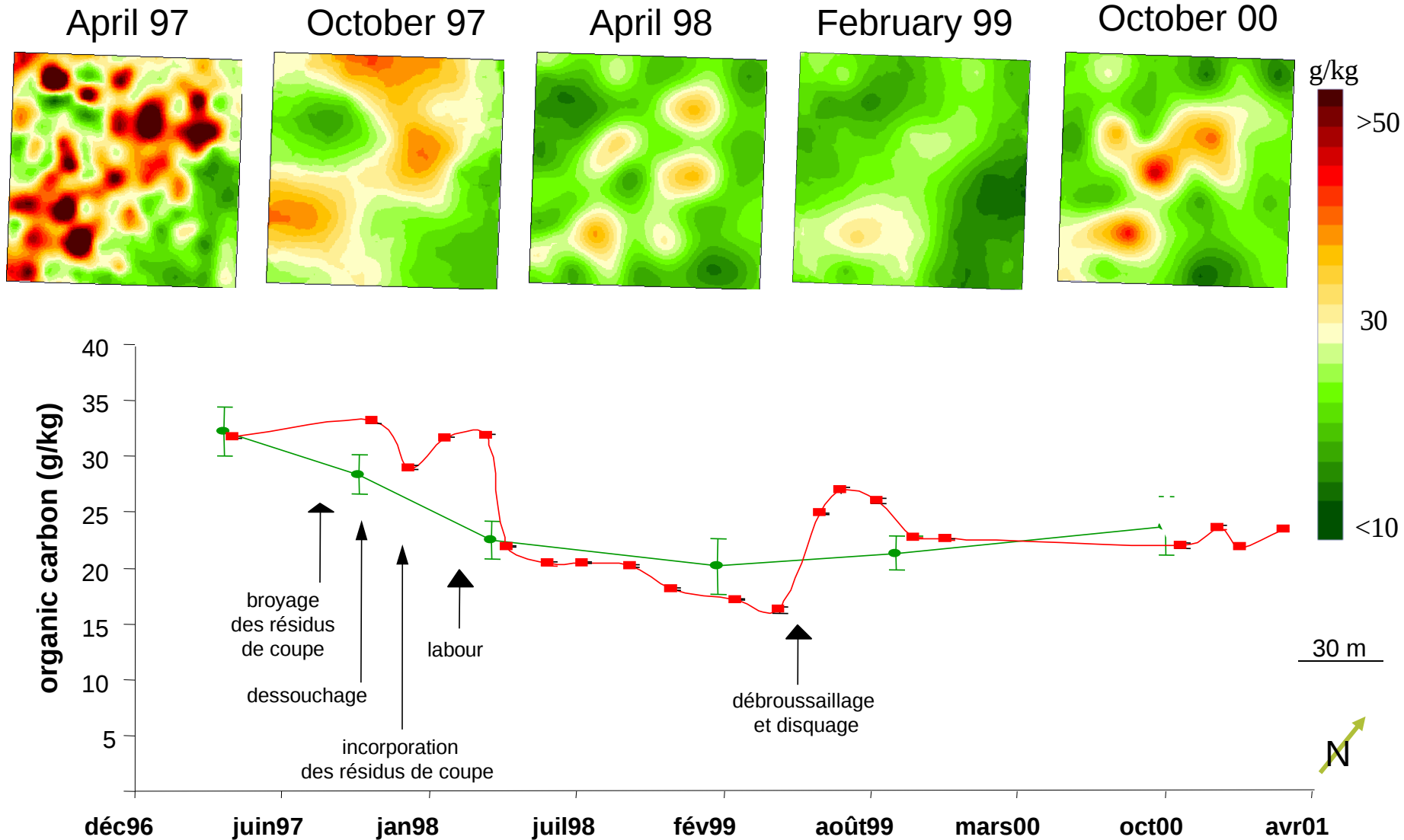
DONESOL : the national database of our soil information system

The screenshot shows the DONESOL website interface. At the top, there is a header with the logo of the 'Groupe d'Intérêt Scientifique' and a navigation bar with links for 'Accueil', 'GIS Sol', 'Partenaires', 'Programmes', 'Outils', 'Liens', and 'Actualités'. The date '5 avril 2005' is displayed. Below the navigation bar, the main content area is titled 'Base de données nationale des informations spatiales pédologiques'. A central menu lists various categories: 'INFORMATIONS GENERALES' (Organisme, Description d'une Etude), 'INFORMATIONS CARTOGRAPHIQUES' (Unité Cartographique de Sol (UCS), Unité Typologique de Sol (UTS), Affectation UCS-UTS), 'Description des strates' (Strates et variables qualitatives/quantitatives), 'INFORMATIONS PONCTUELLES' (Profils, Affectation Profil-Etude, Horizons, Analyses, Analyses complémentaires), and 'PEDOTHEQUE' (Prélèvements). The interface also includes a 'Déconnexion' link, a 'La lettre du GIS Sol' icon, and a 'Base de Données Indicateurs de la Qualité des Sols' section with an 'Indiquasol' button. On the left, there are two sidebars: one for 'Outils' with a 'Carte' button and a 'Repedo' button, and another for 'Répertoire national des organismes intervenant en pédologie'. The INRA logo is visible at the bottom right of the interface. At the very bottom, there are logos for 'W3C CSS' and 'W3C XHTML 1.0'.

4460 studies
88033 soil profiles
12 300 000 data

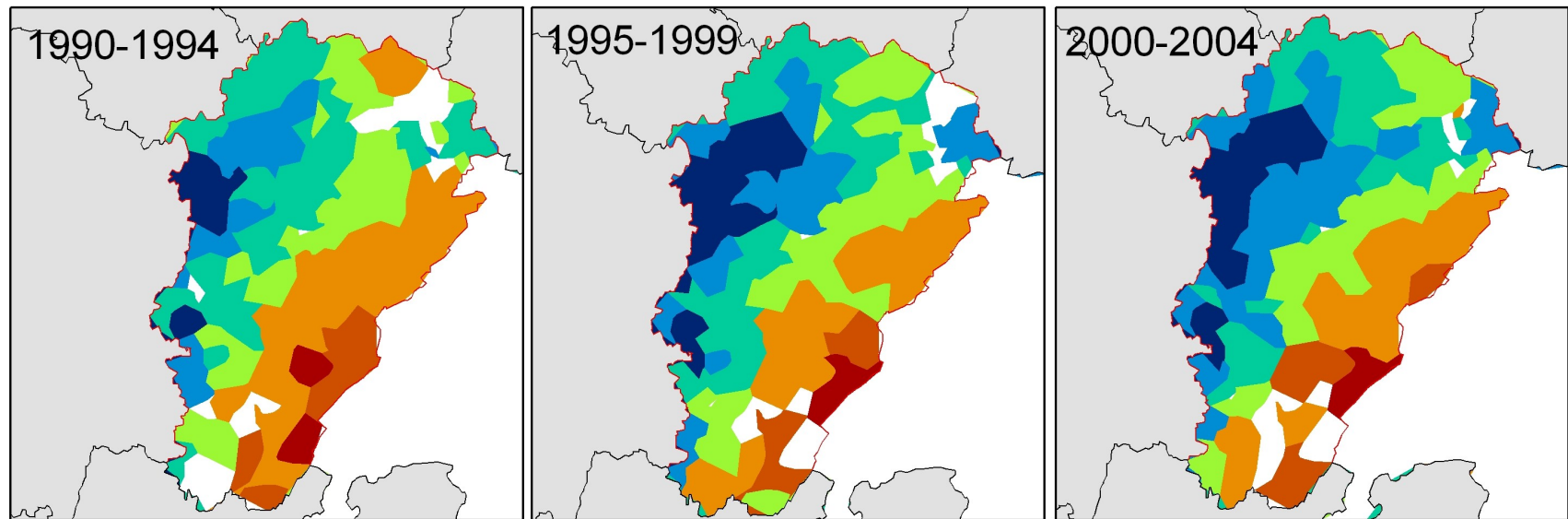
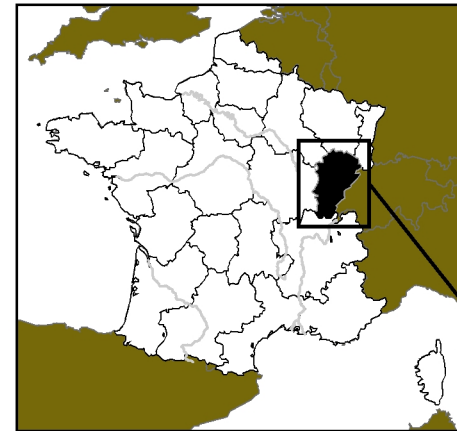
**Multi-scale
Harmonised
Quality insured
Evolutive**

Monitoring soil organic carbon at plot scale

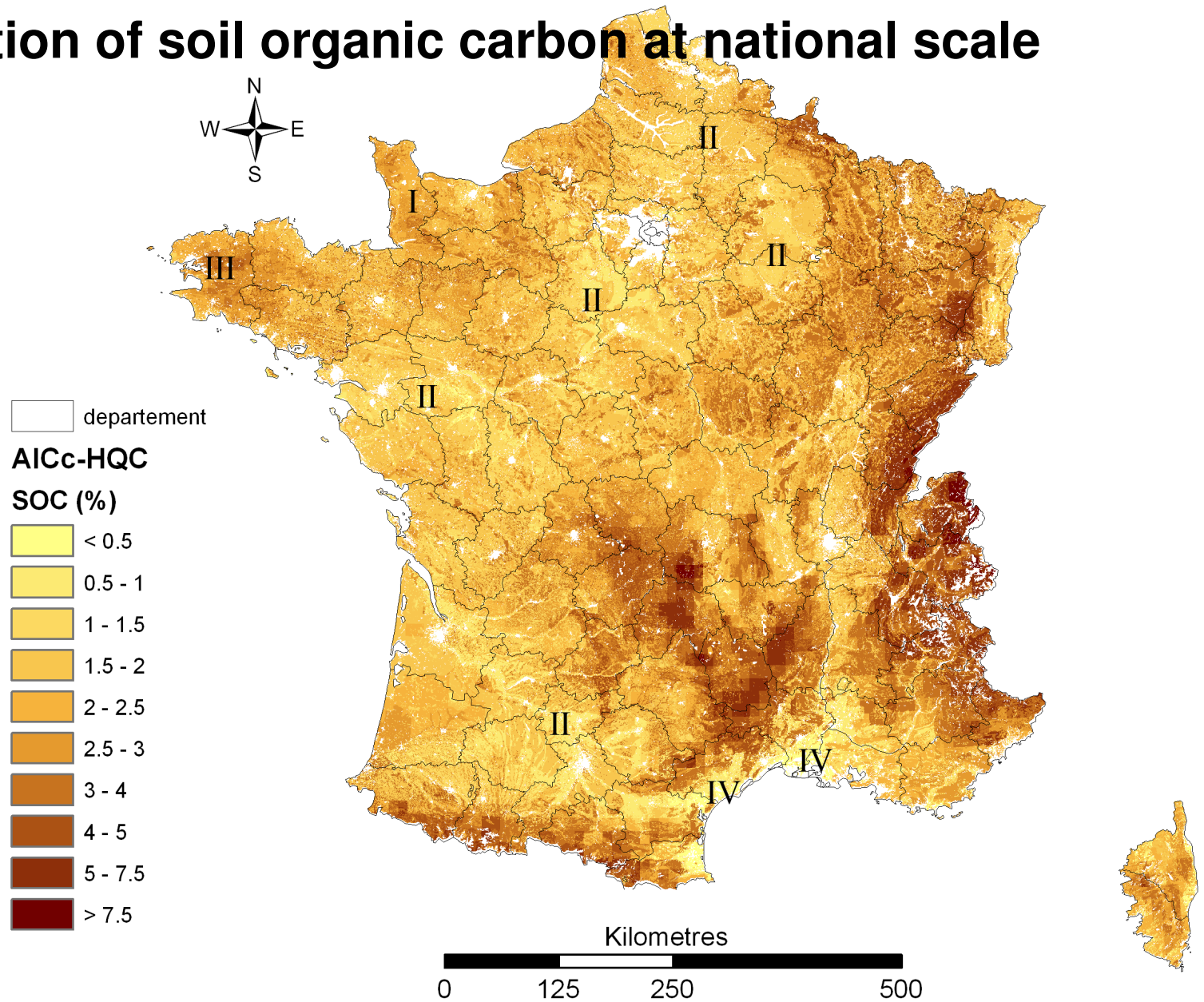


Mapping and monitoring soil carbon at regional scale

Soil organic carbon content (g kg^{-1})



Modelisation of soil organic carbon at national scale



Source : Meersmann et al, 2011, submitted .

Carbon change detectability on european monitoring networks (ENVASSO)

