



## Is there a role of EU national soil data organizations in contributing to EUSO? The French example

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# Is there a role of EU national soil data organizations in contributing to EUSO? The French example

**Antonio Bispo and Christine Le Bas, INRAE  
on the behalf of GIS Sol**



# GIS Sol a Scientific Interest Group on soils dedicated to collect, use and give access to soil data in France

- **Participants:**

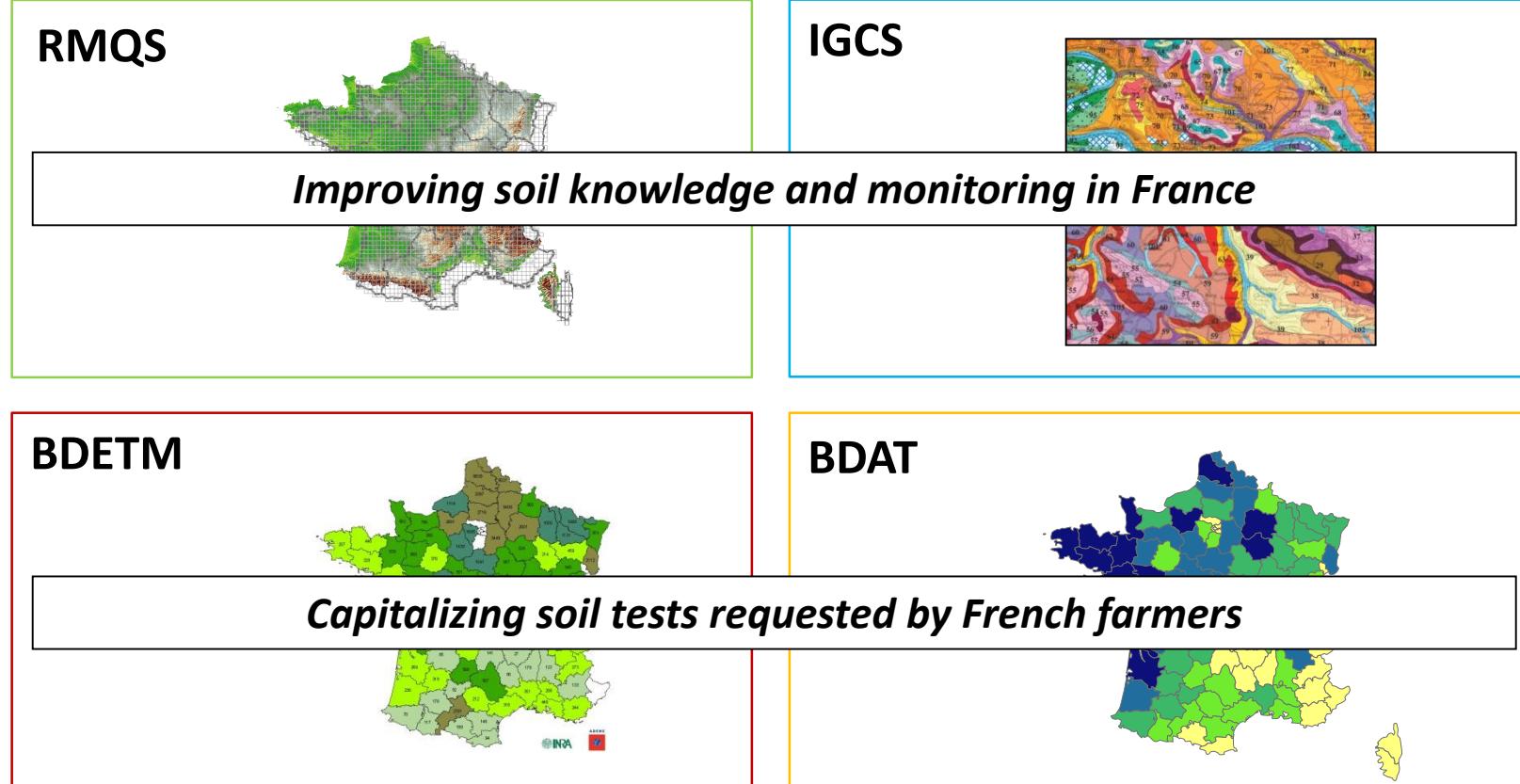
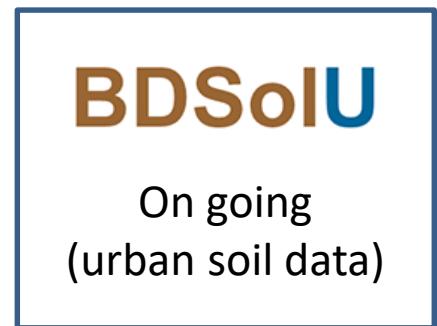
- 2 ministries (Agriculture and Environment),
- 2 national agencies (Environment and Biodiversity)
- 4 research institutes (INRAE, IRD, IGN and BRGM)
- INRAE InfoSol: coordination of programs and databases

- **Main aims:**

- Survey and monitor French soils
- Organize and store soil samples and soil information
- Give access to soil information and samples
- Support public policies



# Four main soil survey and monitoring programmes



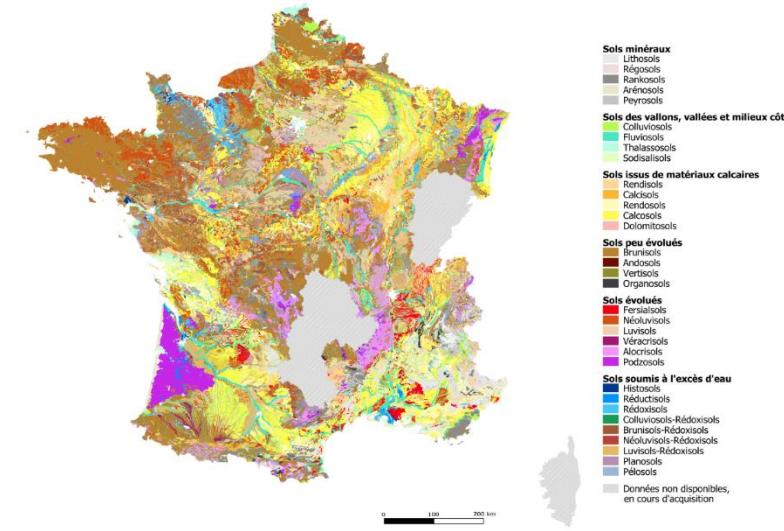
# Main soil databases – IGCS

- **Soil mapping database**

- Identify, describe and locate soil types across France
- Develop databases and maps (based on existing data on soil profiles and on new soil sampling campaigns)
- Mainly “classical soil” parameters as C, pH, texture...
- Several scales (from national to field, finishing the 1:250000 scale)
- Lots of possible uses (e.g. food production, less favoured areas for CAP, water protection, land use planning, biodiversity)

- **Data ownership**

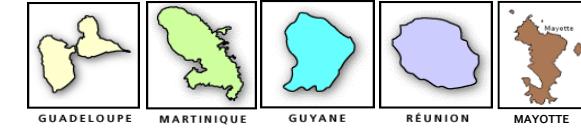
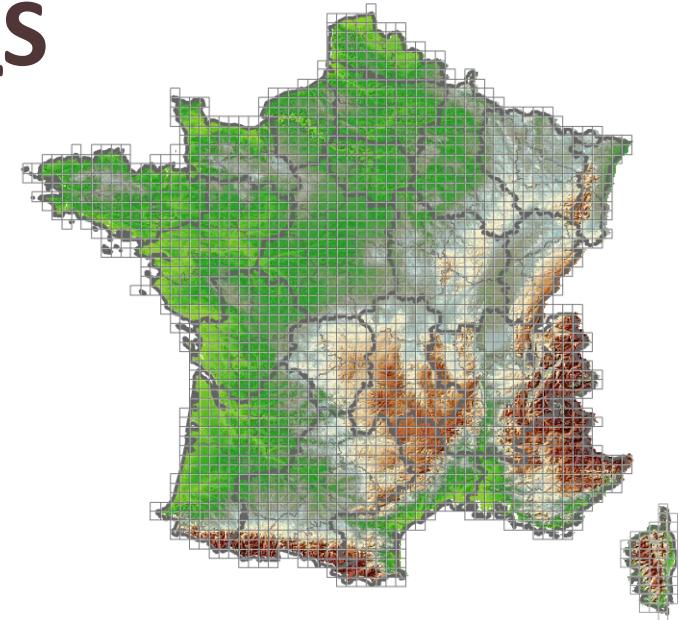
- INRAE owns part of the data
- Regional/Local public/private partners also developed databases and maps with the support of the Ministry of Agriculture
- A common procedure and a database were developed by INRAE-InfoSol (information is gathered, harmonized and quality control is ensured)
- InfoSol may use the partners' data for public policies at national scale but for local requests/applications, the owner of the database remains the contact point.



# Main soil databases – RMQS

- **Soil monitoring database**

- Describes the status of French soils and monitor their evolution
- Samples are taken every 15 years on more than 2 000 georeferenced sites (16kmx16 km grid)
- “Classical soil” parameters as C, pH, texture... and also contamination data (e.g. trace elements, organic contaminants), biodiversity
- 100% of the financial support is coming from the GIS Sol (public bodies)



- **Data ownership and access**

- Public support
- Contracts are made with the public/private partners (call for tenders) for soil sampling and description, collecting soil management data
- Contractors follow a handbook and INRAE InfoSol controls them regularly
- Data gathered in the national database
- Point data can be seen as personal data (GDPR regulation). Data available on open repository but with theoretical coordinates.
- Results of data analysis are accessible

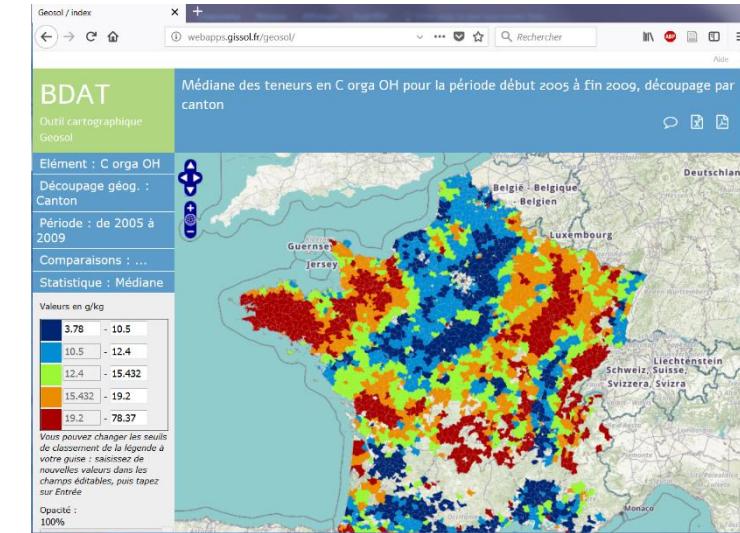
# Main soil databases – Soil test results (BDAT/BDETM)

- **Soil tests databases**

- Soil tests are requested by farmers, agricultural corporations, to manage soil fertility (around 250 000 / year), to deal with sewage sludges spreading...
- Analyses are made by referenced labs
- With the funds of the French Ministry of Agriculture we recover the analyses (without the georeferenced information)
- We collect, store and analyze the data since 2000 at national scale

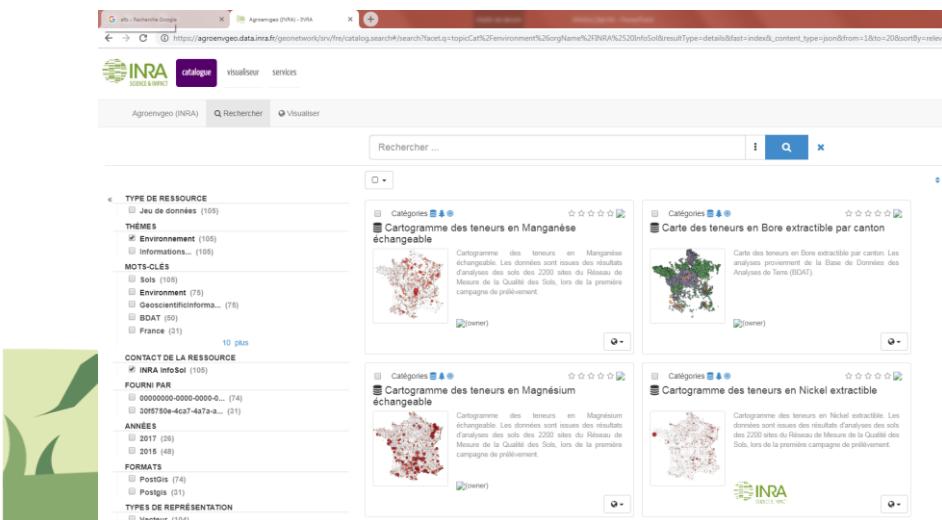
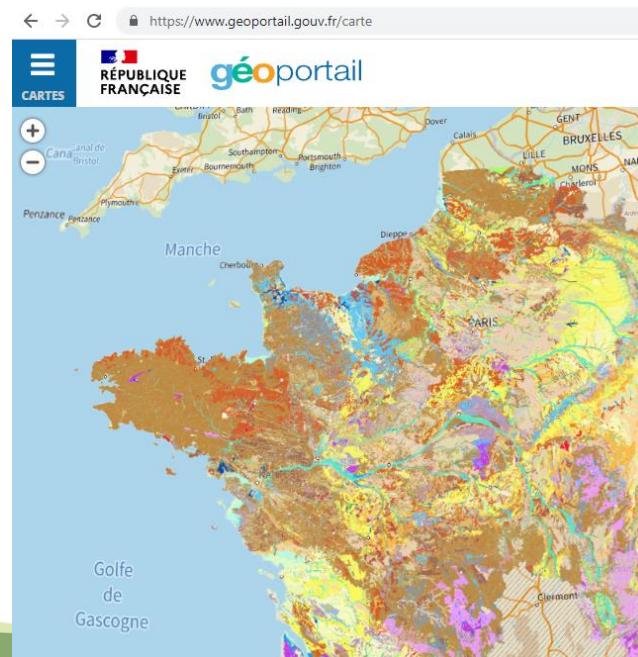
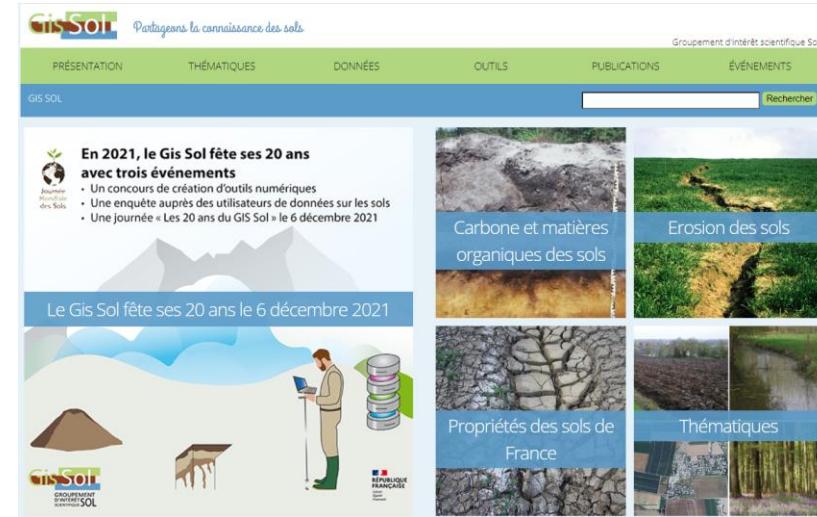
- **Data ownership and access**

- Analytical labs should inform their clients (owners / farmers / corporations...) that data may be reused for another purpose
- Laboratories do not want the raw data to be downloadable... (GDPR regulation + unfair competition)
- Only results of the data aggregation are made available



# Public access to soil data/information

- **GIS Sol website:** <https://www.gissol.fr>
- **Access to data/maps/statistics:**
  - National geoportal: <https://www.geoportail.gouv.fr/carte>
  - INRAE geoserver: <https://agroenvgeo.data.inrae.fr/>
  - BDAT portal: <https://webapps.gissol.fr/geosol/>
  - Dataverse: <https://data.inrae.fr>
  - BDSolU: <http://www.bdsolu.fr/>



# May the data/information be shared with EUSO?

Database	Ownership	Accessibility* of the (point) data	Accessibility* of the results, maps, statistics
IGCS-Soil mapping	Multiple (public and private bodies)	No for the point data	Yes for INRAE, partly for others following owners rules
RMQS-Soil monitoring	Public	Accessible with theoretical coordinates only (webservices)	Yes
Soil tests- BDAT/BDETM	Multiple (public and private bodies)	No	Yes for consultation, No for download (BDAT)

\*Open data

# Conclusion

- **Soil data in France**
  - Several databases, all managed / harmonized by INRAE concerning agricultural and forest soils (for industrial, polluted and urban soils, databases are managed by BRGM)
  - Except for the monitoring program, we are facing a multiple ownership of soil data
  - Point data are considered as personal data (not easy to share !)
- **What can be shared and how?**
  - Results/statistics can be shared in open data (e.g. GSOC map for FAO, statistics for French soils)
  - Other data accesses (e.g. point data) will require a decision at country level (e.g. GIS Sol)
  - Present data are currently accessible by web services and we are working on data sharing using semantic web technologies
- **Suggestions:**
  - Countries may be involved in the sharing of EU products (at least regarding their country)
  - EUSO may become a hub to access to national data

