



... a national geological survey perspective

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THE FRENCH GEOLOGICAL SURVEY

THE BRGM IS FRANCE'S LEADING PUBLIC INSTITUTION WORKING IN EARTH SCIENCE APPLICATIONS FOR **THE MANAGEMENT OF SURFACE AND SUBSURFACE RESOURCES AND RISKS.**

ITS ACTIVITIES ARE GEARED TO **SCIENTIFIC RESEARCH, SUPPORT TO PUBLIC POLICY DEVELOPMENT AND INTERNATIONAL COOPERATION.**

UNDERSTANDING

geological phenomena and associated risks.

DEVELOPING

new methodologies and techniques.

PRODUCING

and disseminating data to support the management of soils, subsoils and their resources.

DELIVERING

the necessary tools for managing soils, subsoils and their resources, preventing risks and pollution and developing climate change policies.

Over

1000 staff

including more than 700 engineers and researchers



The mission of geological surveys

- > *To provide data / information about subsurface to meet the expectations of public authorities, economic operators, engineering companies and of the scientific community*
- > For that, we need to deliver:
 - “Reference“ data *regularly updated*
 - An accessible and comprehensive *information validated by experts*

Legal driver in Europe : INSPIRE, the European Directive to setup the European SDI

- **A LONG TERM PROCESS**

- European law voted in 2007
- Transposed in national laws in 2009
- Implementation : 2009- 2020

- **To establish the Infrastructure of Spatial Information in Europe, for the purposes of Community environmental policies**

- **5 chapters in INSPIRE regulation :**

- Metadata
- Data specification
- Network services
- Data sharing
- Monitoring and reporting



The 34 INSPIRE data themes

> Annex I

1. Coordinate reference systems
2. Geographical grid systems
3. Geographical names
4. Administrative units
5. Addresses
6. Cadastral parcels
7. Transport networks
8. Hydrography
9. Protected sites

> Annex II

1. Elevation
2. Land cover
3. Orthoimagery
- 4. Geology**

> Annex III

1. Statistical units
2. Buildings
- 3. Soil**
4. Land use
5. Human health and safety
6. Utility and Government services
7. Environmental monitoring facilities
8. Production and industrial facilities
9. Agricultural and aquaculture facilities
10. Population distribution – demography
11. Area management / restriction / **regulation zones** & reporting units
- 12. Natural risk zones**
13. Atmospheric conditions
14. Meteorological geographical features
15. Oceanographic geographical features
16. Sea regions
17. Bio-geographical regions
18. Habitats and biotopes
19. Species distribution
- 20. Energy resources**
- 21. Mineral resources**



The national organization to implement the French SDI through INSPIRE

- > Under the leadership of French Ministry for Environment
- > IGN (French mapping agency) in charge of Geoportal
- > BRGM (French geological survey) in charge of national metadata catalog
- > A large involvement of regional and local authorities and agencies



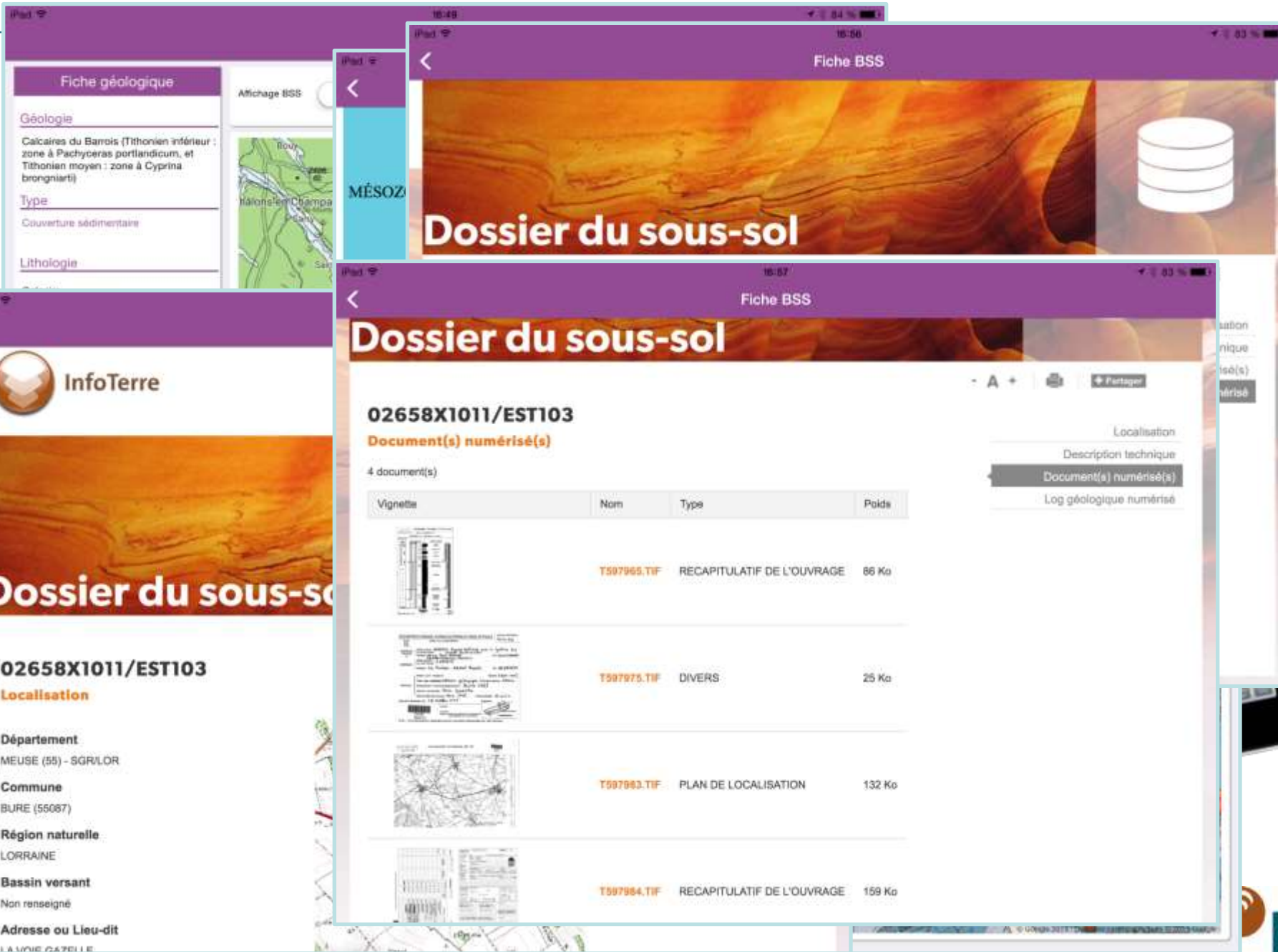
<http://www.geocatalogue.fr/>  Géosciences pour une Terre durable
brgm

What BRGM delivers

- > 30 Datasets on geology / groundwater / geohazards delivered through INSPIRE compliant web services
 - > 7 services delivered per second 365/24
- > Built upon international standards (OGC, GeoSciML,...) that we actively contribute to develop
- > “Products” : reports on geohazards for your house
 - 100 000 reports produced per month on demand



... and



We also contribute to geoscience data infrastructures in Europe and worldwide based on those principles (and services)



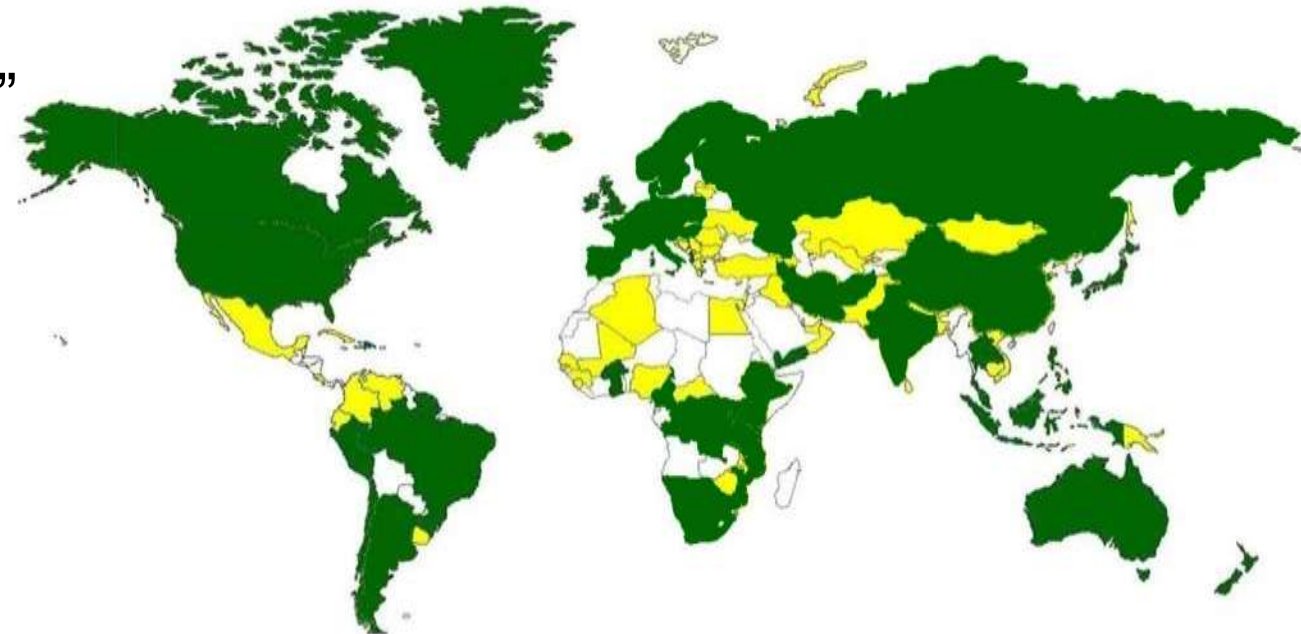
Research Infrastructure and E-Science for Data and Observations
Earthquakes, Volcanoes, Surface Dynamics and Tectonics



OneGeology (global)



- > A partnership of 119 countries to provide online geological maps (more than 70 geological surveys serving maps)
- > Operational since 2008
- > Coordinated and developed by UK and French geological surveys
- “providing geoscience data globally”

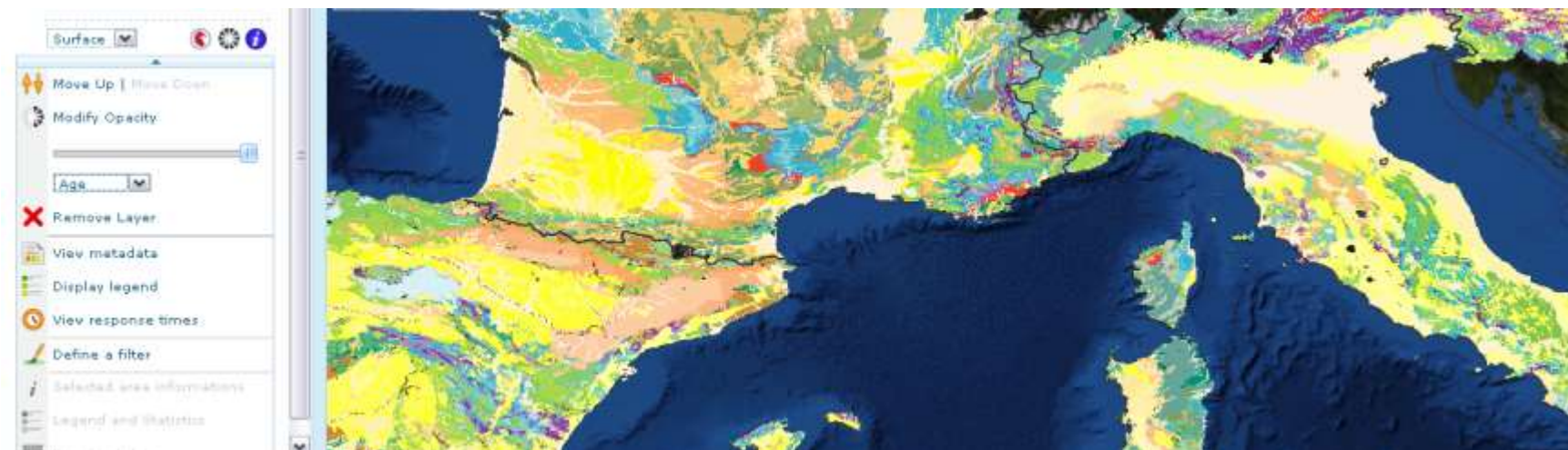
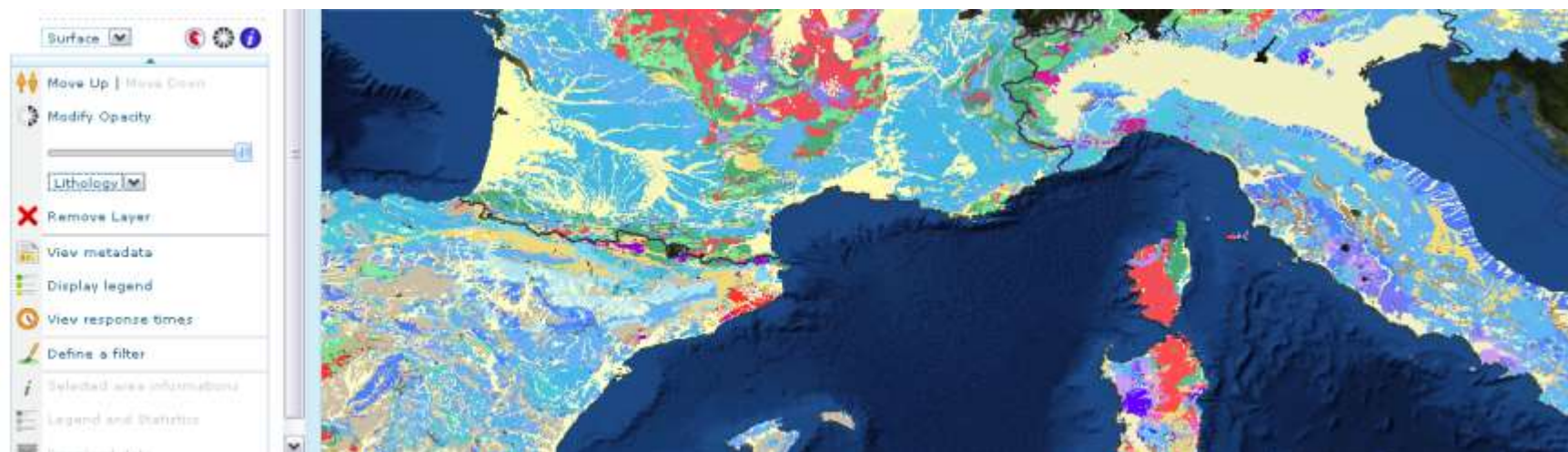




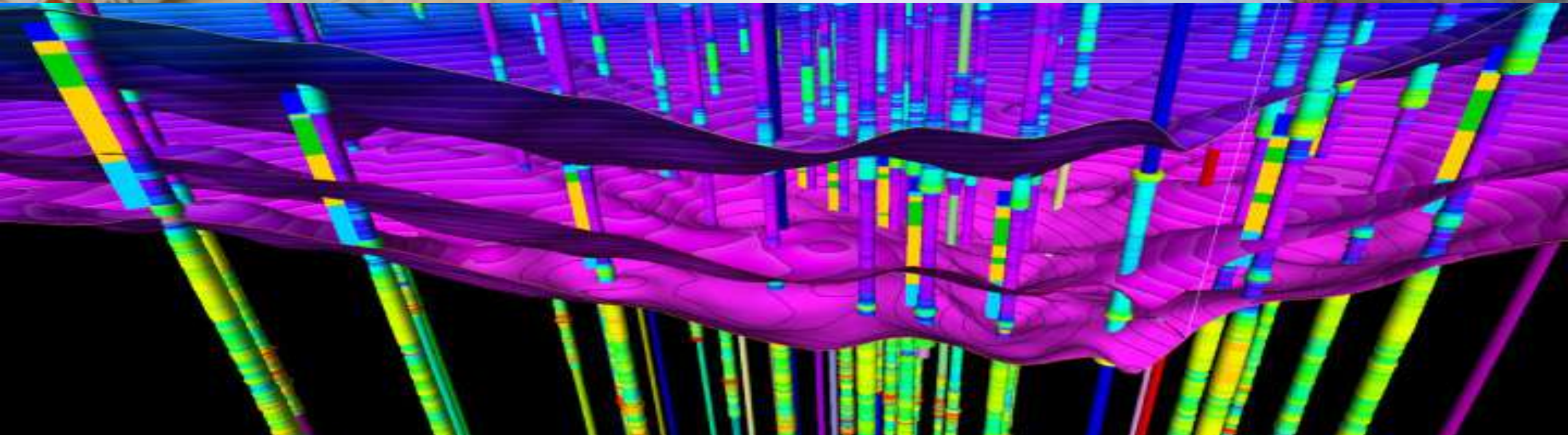
<http://portal.onegeology.org/>

OneGeology Portal: *one-stop-info-service-point*





The future in 3D



The new RGF program in FRANCE

A 3D geological map of France, showing topographic relief in yellow and green, and geological structures in blue and pink. The map is oriented horizontally, with the top of the image representing the northern part of France. The word 'Tonne' is visible on the right side of the map.

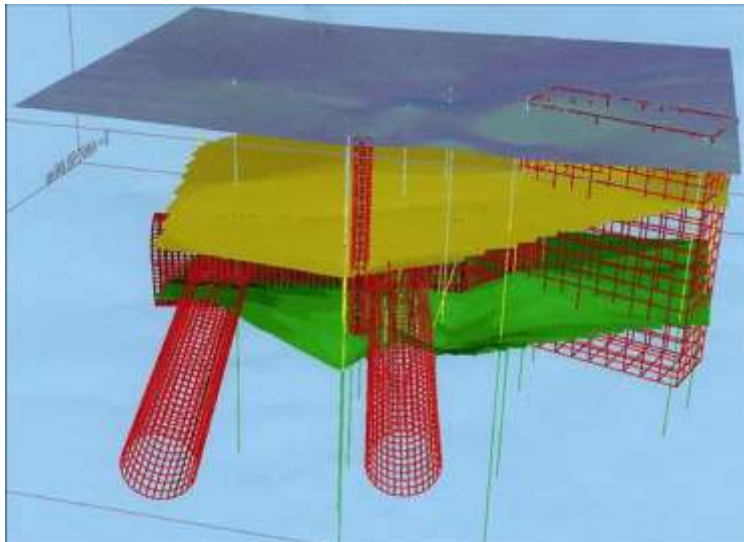
**RGF (“Référentiel Géologique de la France”)
a scientific and technological challenge for French
geologists**

**Objective: To build a three-dimensional geological knowledge:
continuous, consistent and coherent**

Mode of operations : run territorial projects in a global framework

... and address the needs of smart cities and large infrastructures

- > Deliver data / products for shallow subsurface
- > In partnership with municipalities / private companies
- > Through agreed standards
 - for 3D geology (new OGC group !)
 - “interoperable” with BIM standards (Building Information Modelling)



Some concluding remarks...



The « reality » of public agencies

> Our strengths

- **Expertise on data**
- Independence of economic interests
- Understanding of users needs (???)

> Our weaknesses

- **Silos**
- « Over quality » syndrome (experts know what is good)
- Ignorance of our real challengers...
- Capacity to attract and keep expertise (data scientists...)

Some possible orientations for our future... (as public agency)

- to be the “**reference point**” of expertise about data of our domain (**trusted third party**)
- do not be limited to a role of data curators
- be active in development of **standards** (user oriented)
- invest on understanding of **usages and needs**
- make sense of data (**data science**)
- provide added value on data (**services**)
- **mutualize** (tools, infrastructure, expertise) and not re-invent the wheel
- develop **public-private partnerships** in a framework that guarantees the “public interest”, for instance co-operating platforms for specific domains (ie for smart cities or infrastructures)
- **Strengthen our capacity to act in collaborative environments,**
- **Based on sustainable and balanced governance and economic arrangements**



THANK YOU FOR
YOUR ATTENTION

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