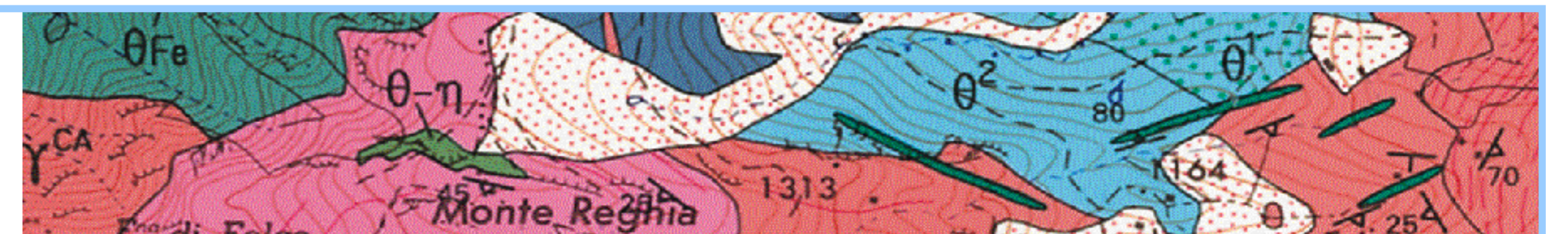


BDLISA

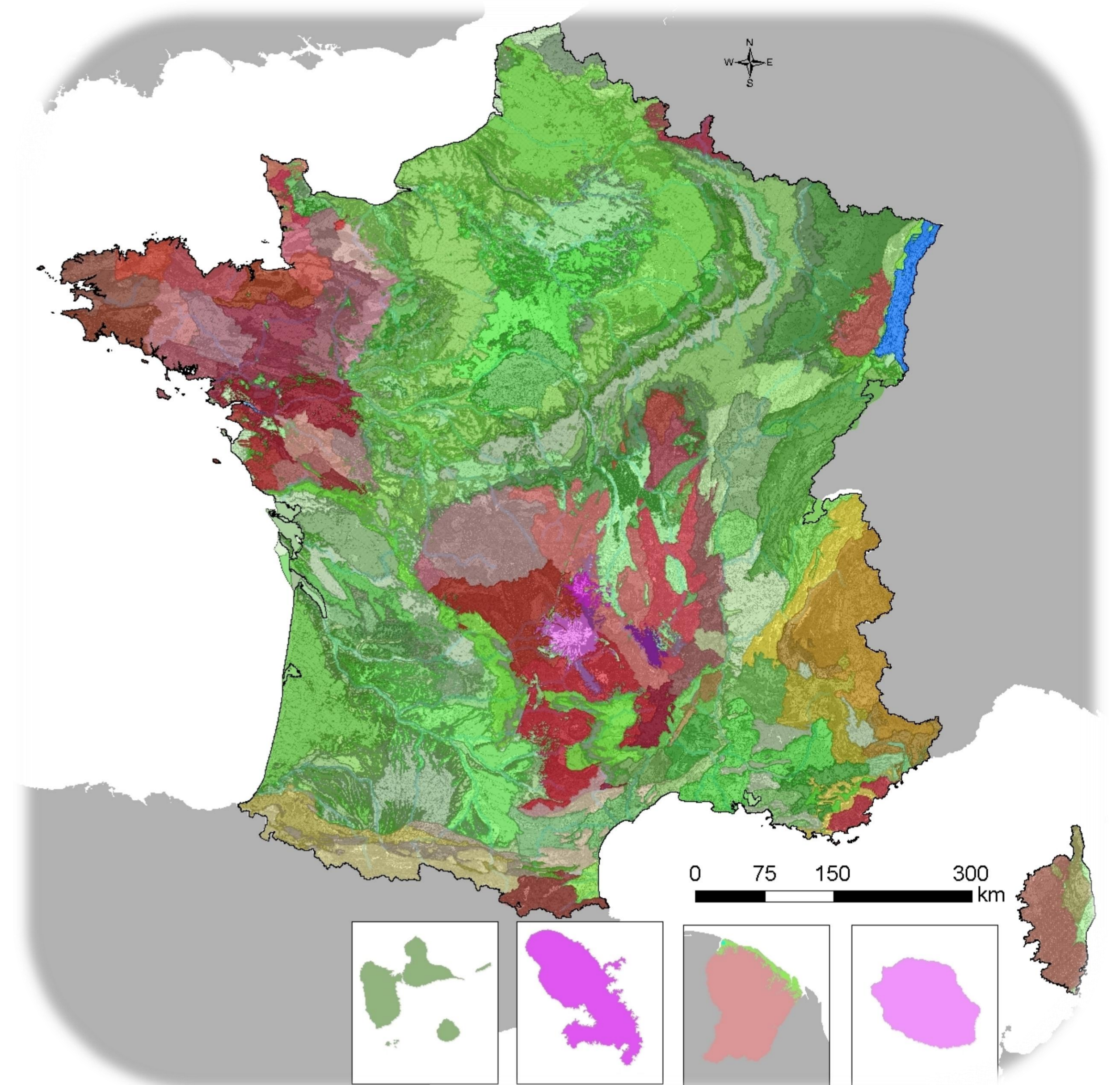
The new aquifer reference system in France



BDLISA (database of aquifer system delineation) covers the metropolitan France and 4 overseas departments: Guadeloupe, Martinique, Reunion and French Guiana.

The method of delineation depends on the main types of aquifer in France :

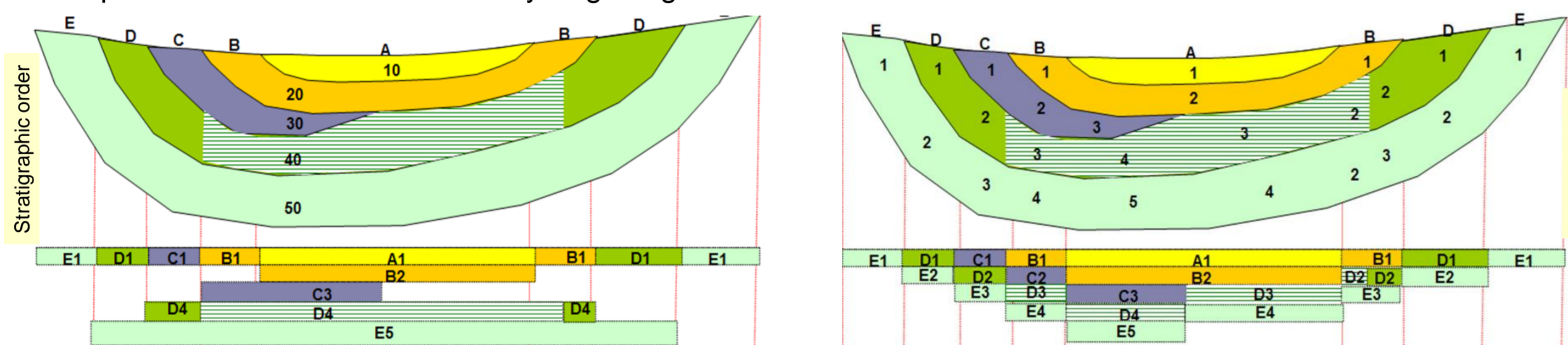
- **Sedimentary** : The Paris and Aquitaine basins, Alsace, and the Saone-Rhone corridor (1035 local units),
- **Alluvial** (16 major local units),
- **Volcanic edifice** : Massif Central, Reunion Island, Guadeloupe, Martinique (12 local units),
- **Basement** : the Armorican massif, the Massif Central, Vosges and Ardennes regions, the Pyrenees, the Alps and Corsica (497 local units),
- **Systems located in heavily folded mountain regions** (347 local units).



BDLISA is based on innovative concepts :

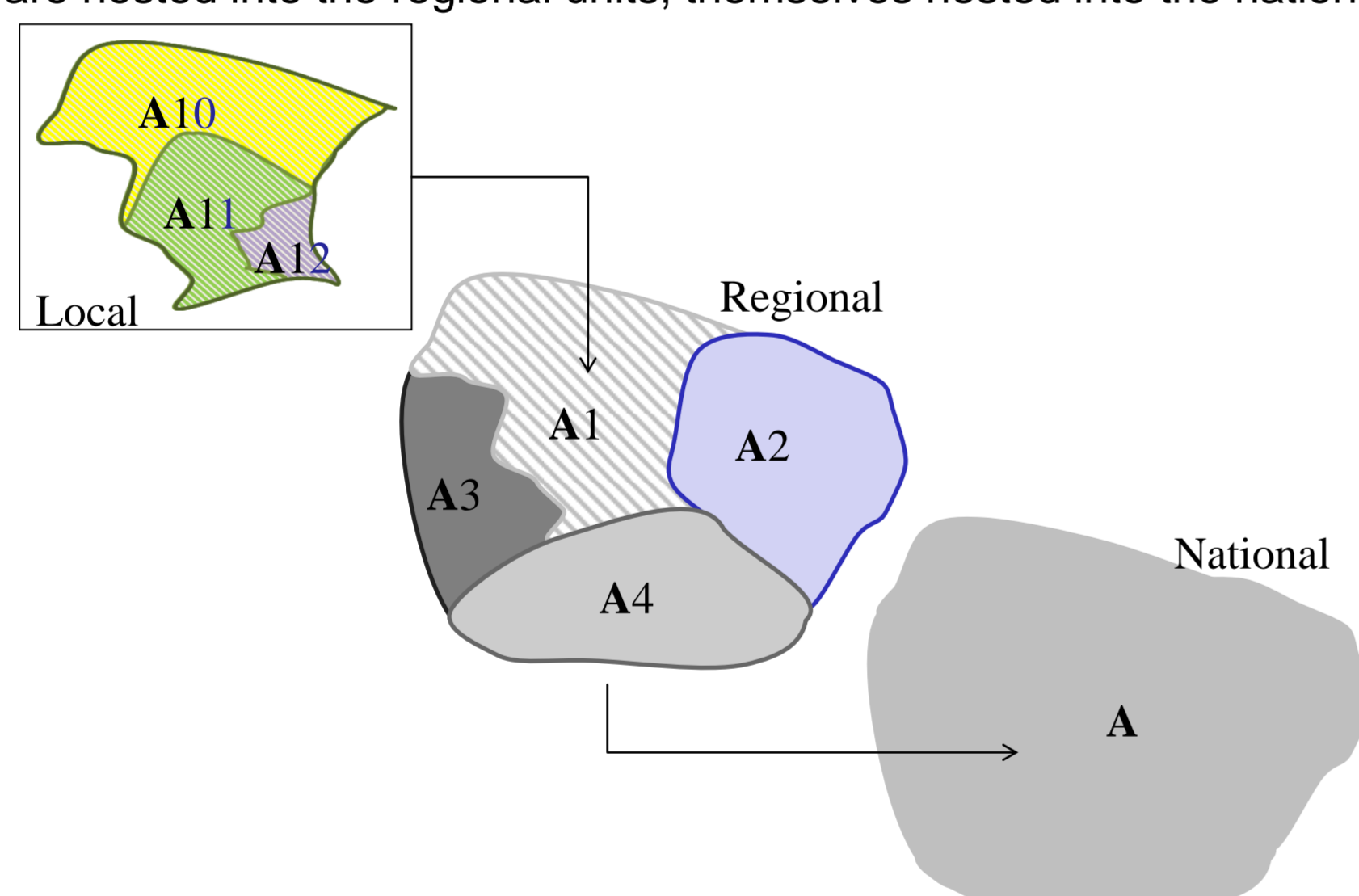
1. An almost three-dimensional reference

- BDLISA takes into account deep units, that makes it an almost three-dimensional reference system (the thicknesses are not taken into account at the moment).
- In Aquitaine, for example, there is up to 32 units on the vertical line.
- An order number (first stratigraphic, then relative) is allocated to each unit in order to locate it in depth and in the "column" of the hydrogeological units.



2. Three scales of uses

- It delineates units, not only aquifer reservoirs but also semi-pervious and impervious units, at three different scales of uses : local, regional and national.
- The local units are nested into the regional units, themselves nested into the national units.



3. A GIS management model

- A management model (developed with ArcGis®) makes it possible to combine the totality of the local units in order to verify the topological consistency, detect anomalies, automatically correct the artifacts, and build regional and national units by grouping local units.

4. Five information levels

- The scale of use (local, regional, national)
- The type of geological formation (Primarily sedimentary, Alluvial, Volcanic edifice, Basement, Heavily folded mountain regions)
- The aquifer potentialities according the degree of permeability (very low, medium, high)
- The type of porosity (porous, fissured, karstic, dual porosity)
- The state of water table (confined water, unconfined, semi-confined,...)

BDLISA is being produced by the French Geological Survey (BRGM) as a result of the cooperation with the Water Agencies and offices, the Ministry of Ecology, the French National Agency for Water and Aquatic Systems and the International Office for water. This 10 years long project began in 2003.

Reference

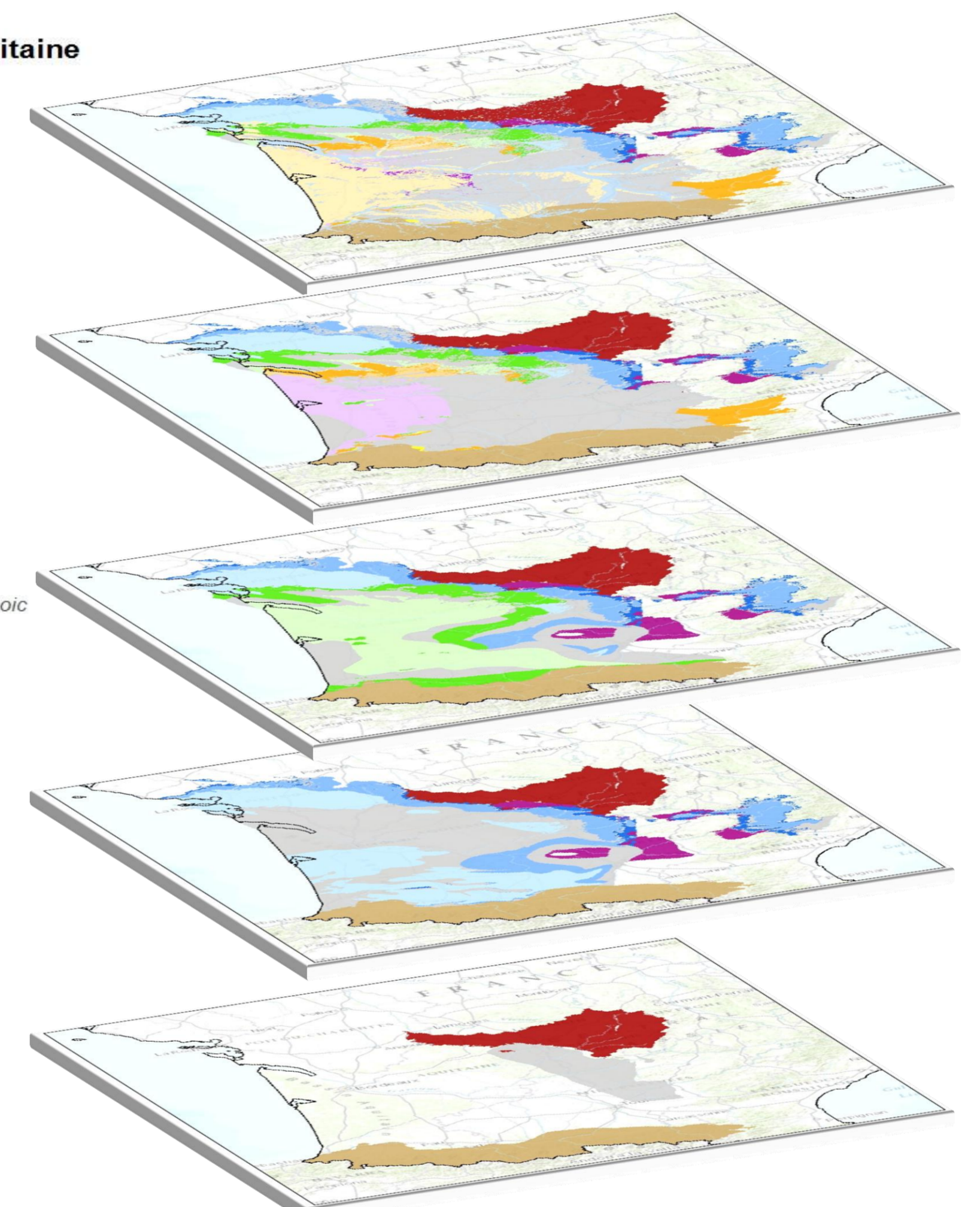
Seguin J.J., Mardhel V., avec la collaboration de Schomburgk S., Allier D. (2013) - Référentiel Hydrogéologique Français BDLISA-V0. Présentation du référentiel, principes de construction et mise en œuvre. Rapport final. BRGM/RP-62261-FR.

Authors

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⁽¹⁾ BRGM

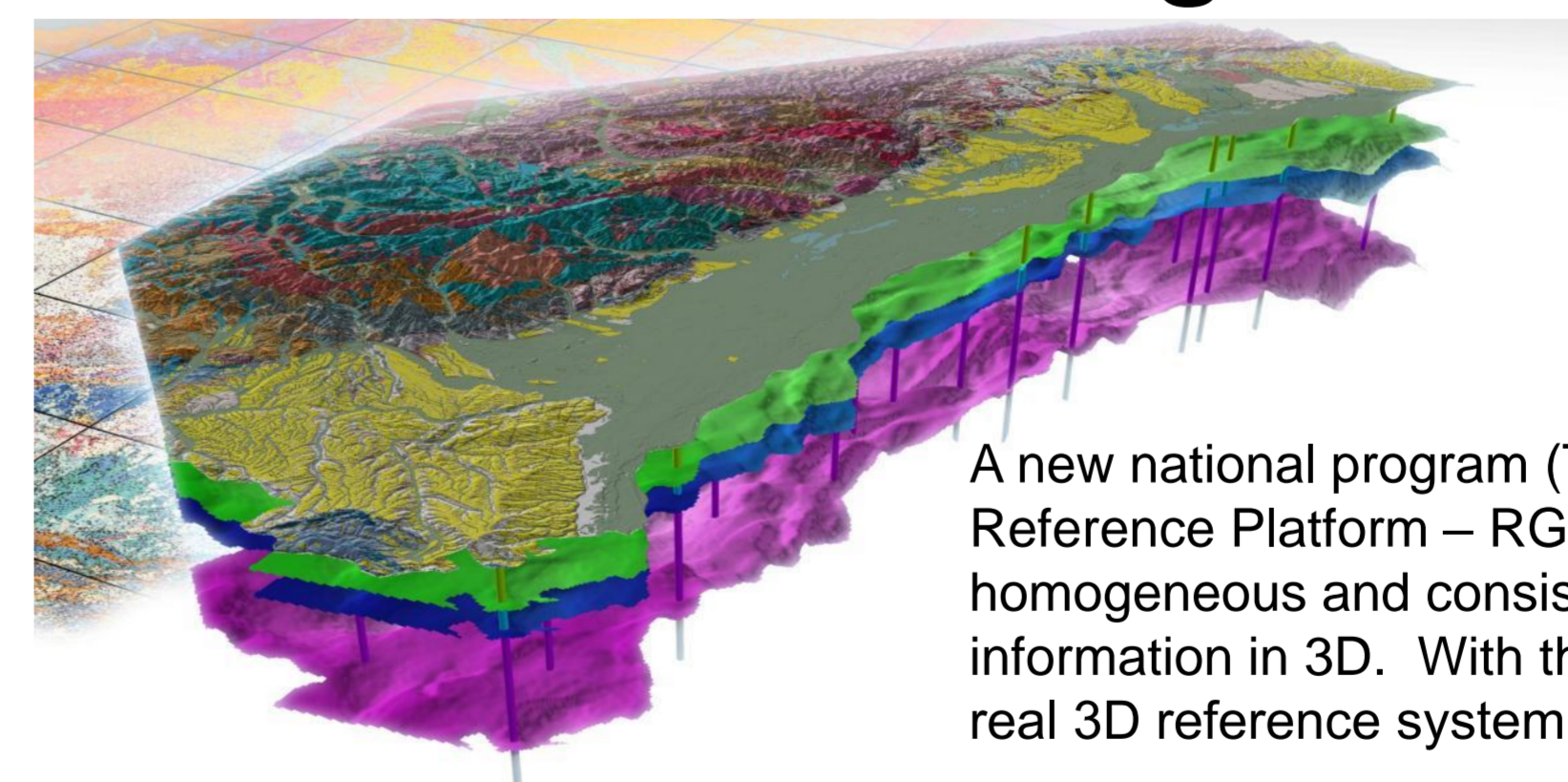
Main units (aquifer or not) in Aquitaine

- Alluvial deposits
- Plio Quaternary
- Upper Miocene
- Miocene
- Lower Miocene
- Oligo Miocene
- Oligocene
- Oligo Eocene
- Upper Eocene
- Middle Eocene
- Eocene - Paleocene
- Paleocene
- Weathered and decayed rock Post-Mesozoic
- Ending Upper Cretaceous
- Upper Cretaceous
- Lower Cretaceous
- Upper Jurassic
- Middle Jurassic
- Middle Jurassic
- Lower Jurassic
- Lower Jurassic
- Triassic
- Permian Triassic
- Lower Paleozoic
- Basement
- Heavily folded
- Semi-confining bed



BDLISA in Aquitaine. The name of the national entities resumes a stratigraphical terminology but the delineation is based on hydrogeological concepts.

A scientific challenge: BDLISA in 3D



A new national program (The French Geological Reference Platform – RGF) is designed to provide homogeneous and consistent digital geological information in 3D. With the RGF, BDLISA could be a real 3D reference system...

Improving this aquifer reference system : A tool is going to be developed allowing the users to make requests of correction of the hydrogeological units,

For more information...

All the digitalized information and associated database may be accessed at www.sandre.eaufrance.fr

Find this document on the internet at http://journeebdlisa.brgm.fr/IMG/pdf/BDLISA_Fiche_Technique_SIE_VF.pdf

Visit the BDLISA viewer at <http://www.reseau.eaufrance.fr/geotraitements/>



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