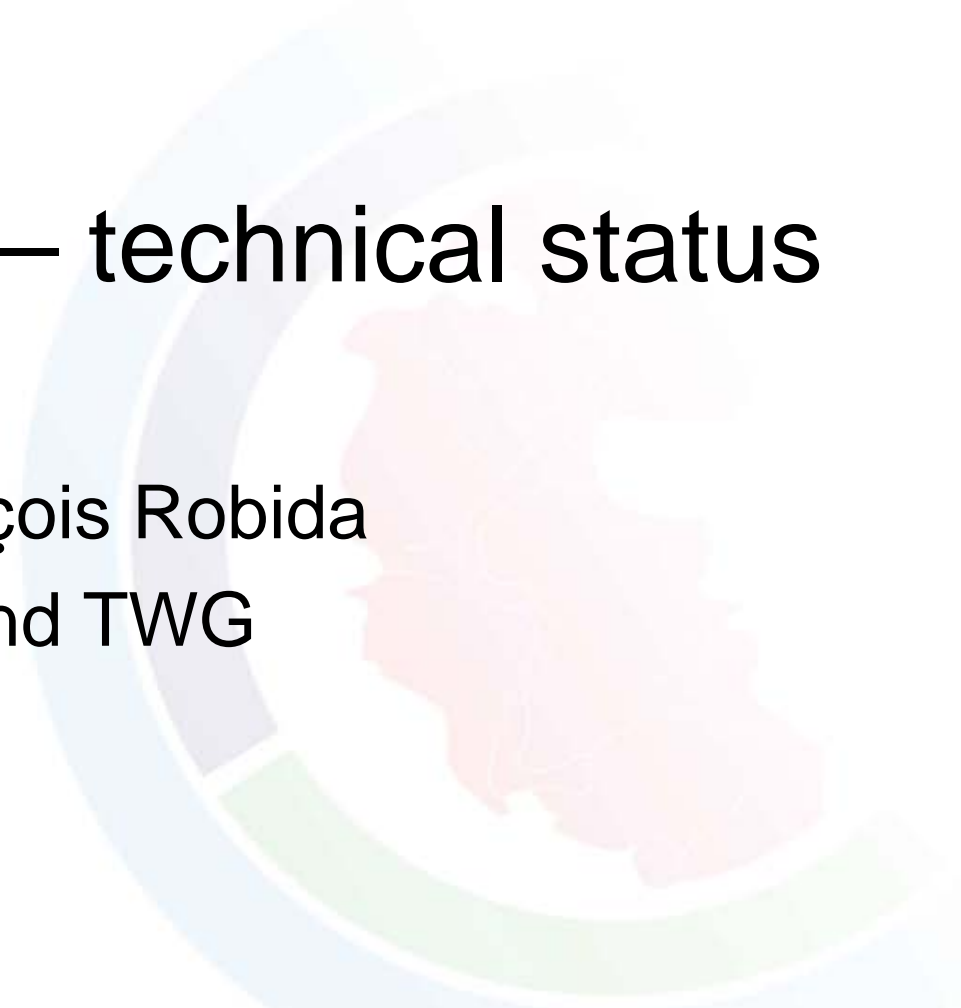


# OneGeology – technical status

François Robida  
and TWG

A large, faint, semi-transparent map of the African continent is visible in the background, overlaid with a circular graphic element consisting of several concentric rings in shades of blue, green, and purple.

# Countries serving data

- 49 countries are now serving data
  - Africa: 9
  - Asia: 7
  - Europe: 21
  - Latin America: 7
  - Northern America: 3
  - Oceania: 2
- > 60 geological surveys serving data
- 211 data layers being served through 95 web services

## WFS services (Update to August 17<sup>th</sup> 2010)

- Number of data layers (features) being served as GeoSciML WFS:
  - 36
  - From 19 GSOs
  - Still GeoSciML 2.0 and 2.1 (3.1 expected in 2011)
  - More than 27 in September (OneGeology-Europe)

# Visits of the portal

- The OneGeology portal has received 60 000 visits in the reporting period (July 2009 – July 2010); which equates to approximately 4500 to 6000 per month.
- These visits originate mainly from the following countries
  - 1. USA 16300 (17,5 %) => 14500 (17,1%)
  - 2. UK 8130 (8,70 %) => 8200 (9.72%)
  - 3. Germany 7895 (8,45 %) => 7600 (9%)
  - 4. France 7369 (7,88 %) => 7200 (8.5%)
  - 5. China 6450 (6,90 %) => 4900 (5.83%)  
(many other countries make up the remainder)

## Exchange know-how & skills

- New updated versions of Cookbooks produced
- Open technical meetings and seminars held
- BGS/BRGM experts visited China G.S. to train and run workshops (oct. 2009)
- Buddy system – used by 11 nations
- Website, email, and telephone support
- OneGeology-Europe knowledge and products available to all
- Invites to run workshops at CAG and AASG in 2011



# Cookbooks

- New in-parallel, as web pages and pdf file, Level 1 WMS cookbook versions are currently being updated almost on a bi-monthly cycle:



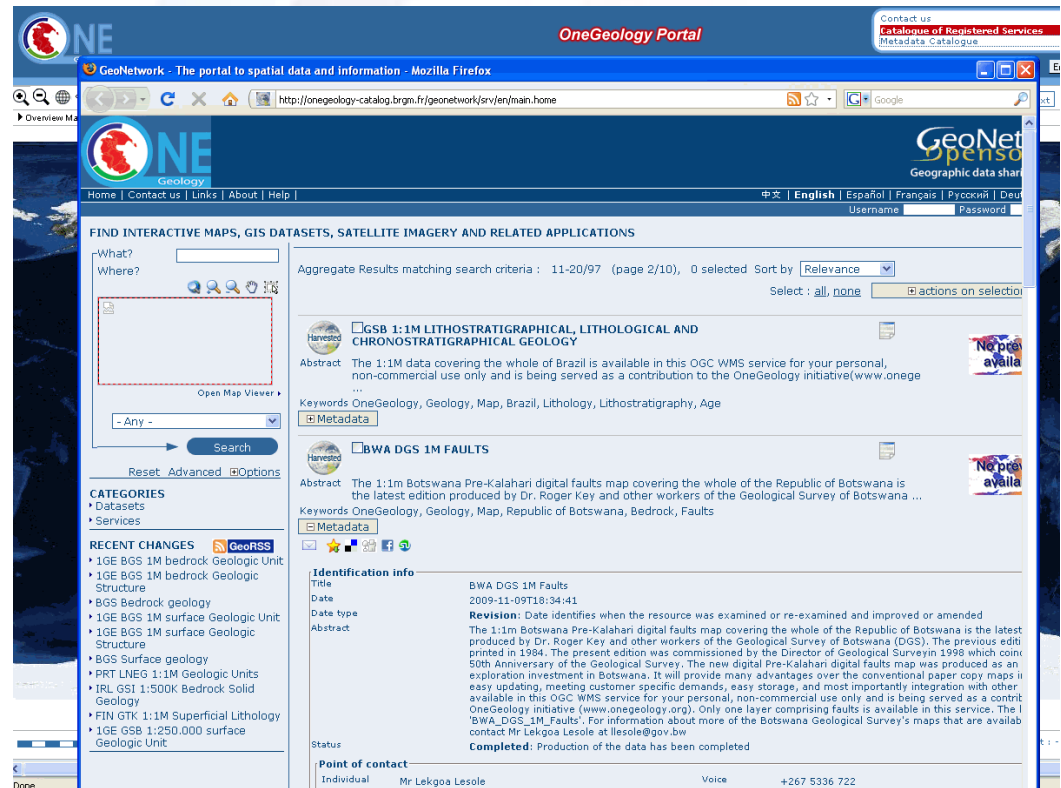
The screenshot shows the ONE Geology website interface. The header includes the ONE Geology logo and the tagline 'Making Geological Map Data for the Earth Accessible'. The main content area is titled 'How to serve a OneGeology level 1 conformant web map service (WMS) - Cookbook 1' and features a 'Table of Contents' with the following items:

- 1. Introduction
  - 1. Background
  - 2. Who should be using this cookbook?
  - 3. What types of data should be served as a contribution to OneGeology Level 1?
  - 4. How data from a WMS can be viewed and accessed
    - 1. Using the OneGeology Portal
      - 1. Viewing existing (portal) map data
      - 2. Reviewing external map data
      - 3. Exporting to KML
      - 4. Creating a Web Map Context (WMC) document
    - 2. Using Gaia (v3.4)
    - 3. Using ESRI ArcGIS ArcMap (v9.3.1)
      - 1. Using ArcCatalog
      - 2. Using ArcMap
    - 4. Using NASA World Wind (v1.4)
    - 5. Using Dapple
    - 6. Using Google Earth
      - 1. Google Earth Issues
- 2. WMS Profile
  - 1. WMS Service name
  - 2. WMS Service title
  - 3. WMS service URL
  - 4. WMS service-level metadata
    - 1. Required service-level metadata
    - 2. Recommended service-level metadata
  - 5. Layer metadata
    - 1. Geographic Extent
    - 2. Data owner
    - 3. Language
    - 4. Scale
    - 5. Theme
    - 6. Layer title examples
    - 7. Layer name examples
  - 6. Other Layer metadata
    - 1. Styling information
  - 7. Core TC211/ISO:19115:2003 Metadata
  - 8. GetFeatureInfo response

# Catalogue

- **Metadata catalogue** now available for users
- Accessible through OGC/CSW standard service (GEOSS,...)

The next TWG meeting will consider whether a more formal Metadata profile is needed

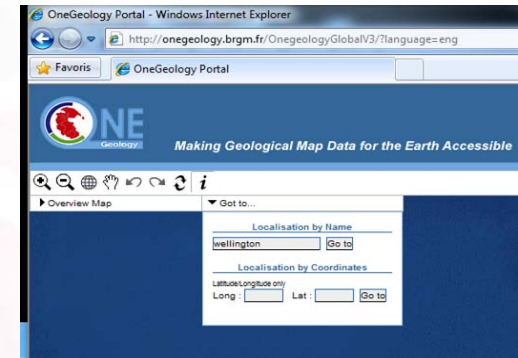


The screenshot shows the OneGeology Portal interface. The main content area displays search results for "GEB 1:1M LITHOSTRATIGRAPHICAL, LITHOLOGICAL AND CHRONOSTRATIGRAPHICAL GEOLOGY" and "BWA DGS 1M FAULTS". Each result includes an abstract, keywords, and a metadata link. The "BWA DGS 1M FAULTS" result is expanded to show detailed information:

Identification info	
Title	BWA DGS 1M Faults
Date	2009-11-09T18:34:41
Date type	Revision: Date identifies when the resource was examined or re-examined and improved or amended
Abstract	The 1:1m Botswana Pre-Kalahari digital faults map covering the whole of the Republic of Botswana is the latest edition produced by Dr. Roger Key and other workers of the Geological Survey of Botswana (GGS). The previous edition was printed in 1994. The present edition was commissioned by the Director of Geological Survey in 1998 which comm 50th Anniversary of the Geological Survey. The new digital Pre-Kalahari digital faults map was produced as an exploration investment in Botswana. It will provide many advantages over the conventional paper copy maps in easy updating, meeting customer specific demands, easy storage, and most importantly integration with other available in this OGC WMS service for your personal, non-commercial use only and is being served as a contrib OneGeology initiative ( <a href="http://www.onegeology.org">www.onegeology.org</a> ). Only one layer comprising faults is available in this service. The l 'BWA_DGS_1M_Faults'. For information about more of the Botswana Geological Survey's maps that are availab contact Mr Lekgoa Lesole at <a href="mailto:lesole@gov.bw">lesole@gov.bw</a>
Status	<b>Completed:</b> Production of the data has been completed
<b>Point of contact</b>	
Individual name	Mr Lekgoa Lesole
Voice	+267 5336 722

# Upgrade of portal (V3)

- Gazeteer
- Optimised « i » GetFeatureInfo
- Accepts WMS 1.3
- Management of limits of visibility
- Optimisation of hosting architecture
- ...

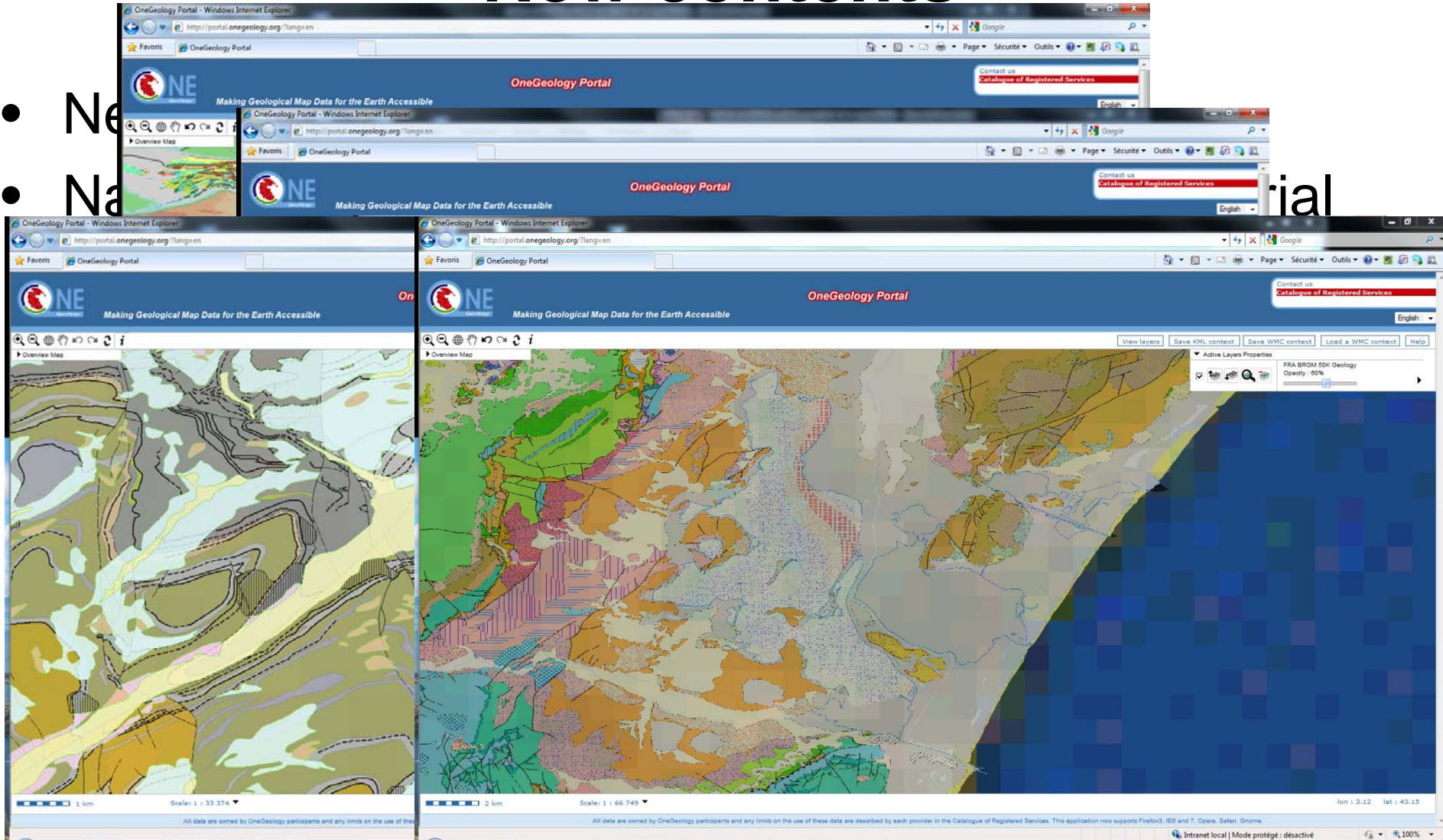




# New contents

- New
- New

trial



The screenshot displays the OneGeology Portal interface in a web browser. The page features the ONE Geology logo and the tagline "Making Geological Map Data for the Earth Accessible". The main content area shows a geological map with various colored regions and patterns. The interface includes a search bar, navigation tools, and a layer control panel on the right side. The layer control panel shows "Active Layers Properties" for "FRA BRGM 50K Geology" with an opacity of 80%. The bottom of the page displays a scale bar (1 km and 2 km) and a footer with a disclaimer: "All data are owned by OneGeology participants and any limits on the use of these data are described by each provider in the Catalogue of Registered Services. This application now supports Firefox3, IE8 and 7, Opera, Safari, Chrome." The browser's address bar shows the URL "http://portal.onegeology.org/?lang=en".

# Accelerate interoperability in the geosciences

- OneGeology-Europe has accelerated and refined IUGS-CGI global rock semantic definitions essential for harmonisation (reference concepts / vocabularies available online)
- OneGeology is registered GEO/GEOSS service
- OneGeology presented as a reference showcase by OGC

## Technical aspects : technical working group (TWG)

- Defines standards for OneGeology, provides technical specifications for services and portal
- Delivers cookbooks for implementation of services and GeoSciML by participants
- Provides technical support
- Meetings :
  - 2009 : Quebec (September)
  - 2010 : Rome (September), Accra (October)

## Technical aspects : links with external bodies

Continuous connection with:

- CGI → GeoSciML
- OGC (Open Geospatial Consortium)
- INSPIRE : EGS / OneGE actors lead definition of geology and mineral resources
- GEO/GEOSS



Making geological map data for the Earth accessible

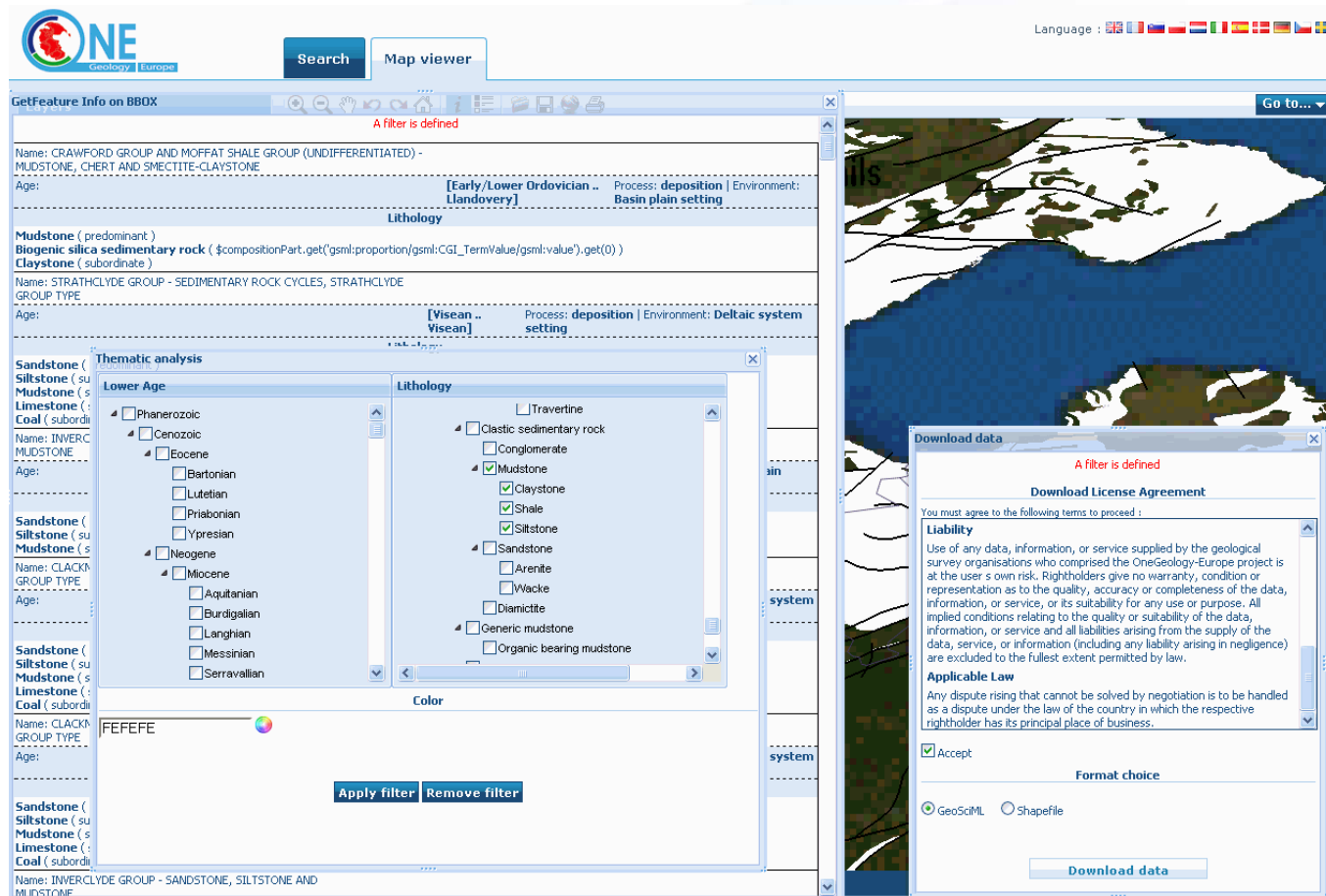


# OneGeology – developing the functionality

François Robida

A large, faint, light blue circular logo is visible in the background of the slide. It features a stylized globe with red, white, and green segments, similar to the ONE Geology logo, surrounded by a blue circular border.

# Implementation of OneG-E complex queries for harmonised WFS



The screenshot displays the OneGeology Europe web interface. At the top left is the ONE Geology logo, and at the top right is a language selection menu. The main area shows a geological map with a 'Map viewer' tab. A 'GetFeature Info on BBOX' window is open, displaying details for a geological feature. The feature name is 'CRAWFORD GROUP AND MOFFAT SHALE GROUP (UNDIFFERENTIATED) - MUDSTONE, CHERT AND SMECTITE-CLAYSTONE'. The age is '[Early/Lower Ordovician ... landoverly]' and the process is 'deposition' in a 'Basin plain setting'. The lithology is 'Mudstone (predominant)', 'Biogenic silica sedimentary rock', and 'Claystone (subordinate)'. Below this, another feature is shown: 'STRATHCLYDE GROUP - SEDIMENTARY ROCK CYCLES, STRATHCLYDE'. Its age is '[Viséan ... Viséan]' and the process is 'deposition' in a 'Deltaic system setting'. A 'Thematic analysis' dialog is open, showing a tree view for 'Lower Age' and 'Lithology'. The 'Lower Age' tree includes 'Phanerozoic', 'Cenozoic', 'Eocene', 'Bartonian', 'Lutetian', 'Priabonian', 'Ypresian', 'Neogene', and 'Miocene'. The 'Lithology' tree includes 'Travertine', 'Clastic sedimentary rock', 'Conglomerate', 'Mudstone', 'Claystone', 'Shale', 'Siltstone', 'Sandstone', 'Arenite', 'Wacke', 'Diamictite', 'Generic mudstone', and 'Organic bearing mudstone'. A 'Download data' dialog is also open, showing a 'Download License Agreement' with sections for 'Liability' and 'Applicable Law'. The 'Liability' section states that the user assumes all risks. The 'Applicable Law' section states that any dispute is handled under the law of the user's country. The dialog has an 'Accept' checkbox and a 'Format choice' section with radio buttons for 'GeoSciML' and 'Shapefile'. A 'Download data' button is at the bottom.

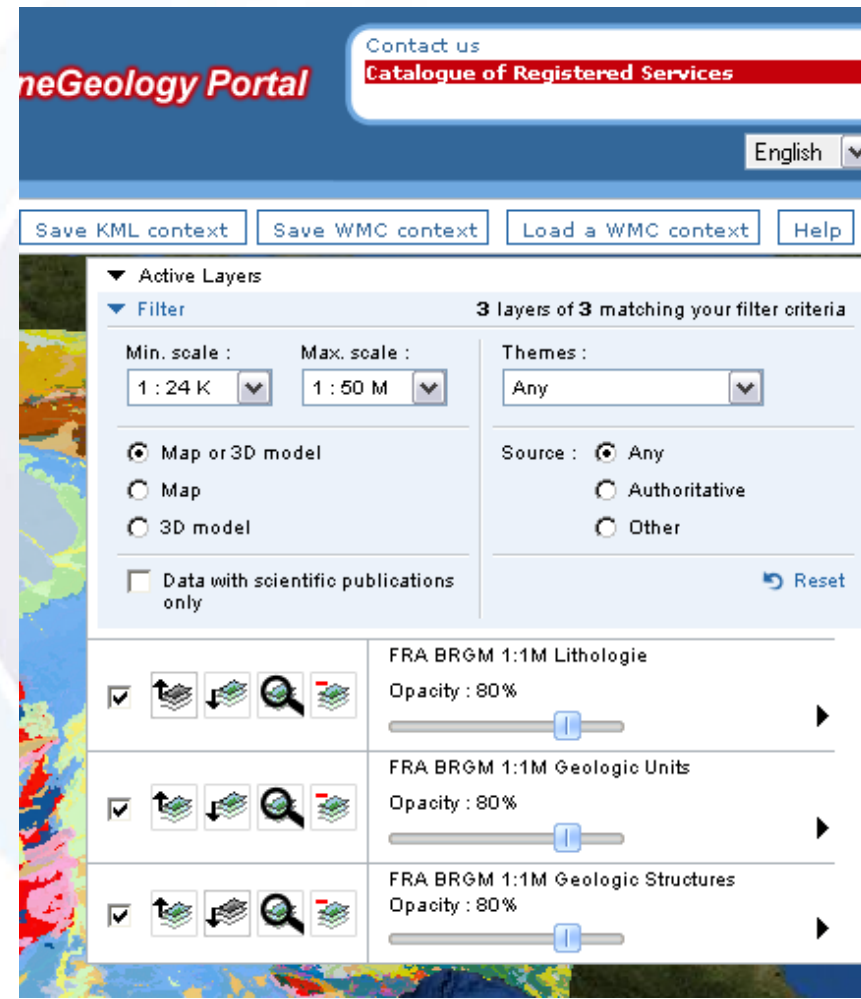
# “Simplified harmonised” WFS

- Based on 15 rock types / lithologies (cf. Hamish Campbell)
  - For non experts
  - Easily derived from fully harmonised WFS
  - Feasible for many surveys from national maps
  - Harmonised SLD (legend)



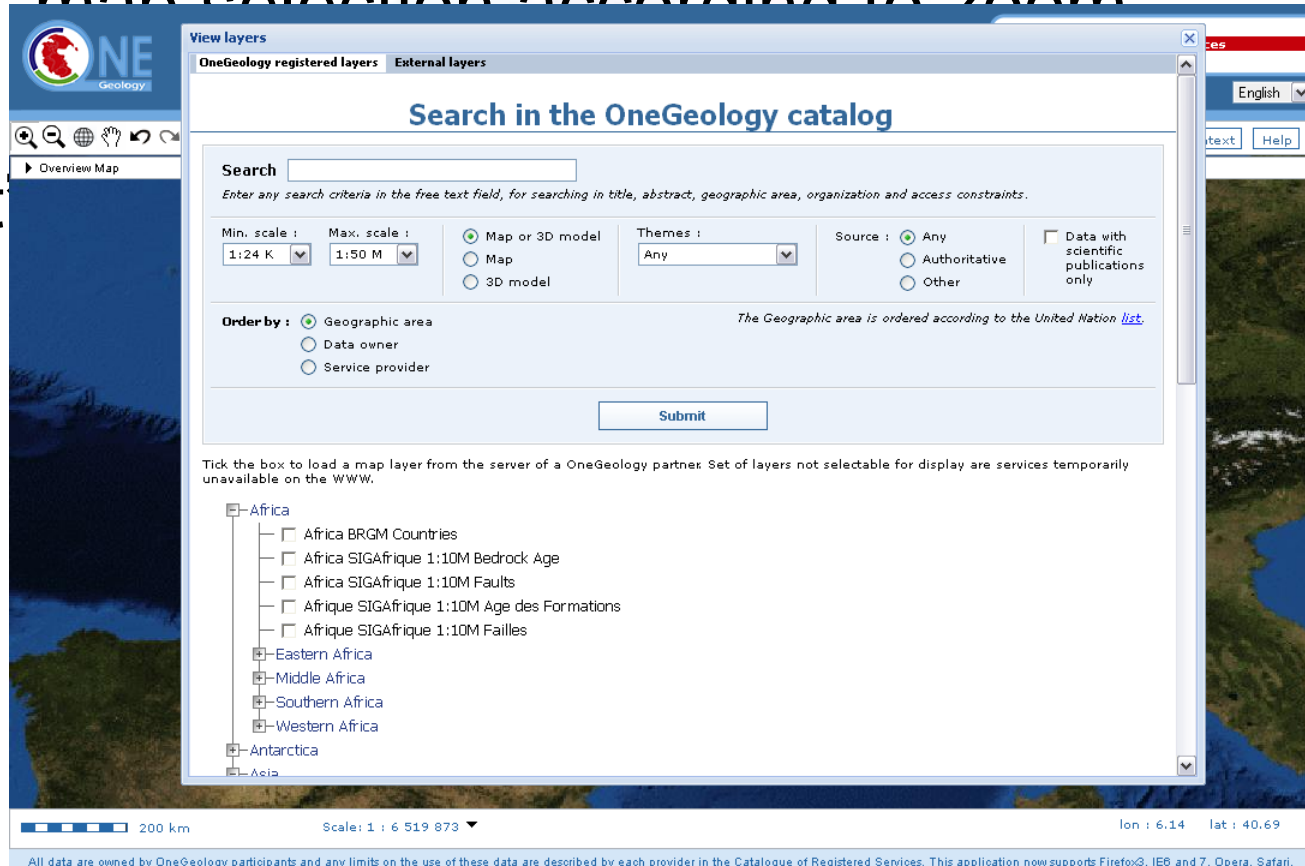
# Extended SCope

- Applied geology
- Geophysical, hydro,
- Mineral resources
- 3D
- Photos, reports,...
- Non SO providers

A screenshot of the OneGeology Portal web interface. The page has a blue header with the text "OneGeology Portal" and a "Contact us" link. Below the header, there are buttons for "Save KML context", "Save WMC context", "Load a WMC context", and "Help". The main content area shows a map on the left and a filter panel on the right. The filter panel is titled "Active Layers" and "Filter" and shows "3 layers of 3 matching your filter criteria". It includes fields for "Min. scale" (1 : 24 K) and "Max. scale" (1 : 50 M), a "Themes" dropdown (Any), and radio buttons for "Map or 3D model", "Map", and "3D model". There is also a checkbox for "Data with scientific publications only" and a "Reset" button. Below the filter panel, there are three active layers listed: "FRA BRGM 1:1M Lithologie", "FRA BRGM 1:1M Geologic Units", and "FRA BRGM 1:1M Geologic Structures", each with a checked checkbox, a set of icons, and an opacity slider set to 80%.

# New organisation of list of maps

- By region vs by editor (cf. Harvey)
- “Intelligent” map selection according to zoom level
- “intelligent”
- ...



**View layers**

OneGeology registered layers External layers

### Search in the OneGeology catalog

Search

*Enter any search criteria in the free text field, for searching in title, abstract, geographic area, organization and access constraints.*

Min. scale : 1:24 K Max. scale : 1:50 M

Map or 3D model  
 Map  
 3D model

Themes : Any

Source :
  Any  
 Authoritative  
 Other

Data with scientific publications only

Order by :
  Geographic area  
 Data owner  
 Service provider

*The Geographic area is ordered according to the United Nation [list](#).*

Tick the box to load a map layer from the server of a OneGeology partner. Set of layers not selectable for display are services temporarily unavailable on the WWW.

- Africa
  - Africa BRGM Countries
  - Africa SIGAfrigue 1:10M Bedrock Age
  - Africa SIGAfrigue 1:10M Faults
  - Afrique SIGAfrigue 1:10M Age des Formations
  - Afrique SIGAfrigue 1:10M Failles
  - Eastern Africa
  - Middle Africa
  - Southern Africa
  - Western Africa
- Antarctica
- Asia

200 km Scale: 1 : 6 519 873 lon : 6.14 lat : 40.69

All data are owned by OneGeology participants and any limits on the use of these data are described by each provider in the Catalogue of Registered Services. This application now supports Firefox3, IE6 and 7, Opera, Safari.

# Additional functionalities

- Easy publication through web service
  - Submit shape file
  - Completion of metadata form

→ creation of registered WMS service
- Computation of gridded data from vector maps (→WCS)
- Dictionary / vocabulary services
- ...

# New devices

- iPhone / iPad ?





Making geological map data for the Earth accessible

