

Draft Minutes
for the 10th OneGeology Technical Implementation Group Meeting
1st July 2014 0900-5.00pm

Conference rooms at the Lodge on the Desert hotel, Tucson Arizona.
[306 North Alvernon Way, Tucson, Arizona 85711-2855](http://www.lodgeonthe-desert.com)
Telephone: 520.320.2000

1). Attendees :

- [OllieRaymond](#) (GA – Australia)
- [TimDuffy](#) (BGS – UK)
- [JohnLaxton](#) (BGS – UK)
- [JouniVuollo](#) (GTK – Finland)
- [MarkRattenbury](#) (GNS – New Zealand)
- [StephenRichard](#) (AZGUS – USA)
- [CarloCipolloni](#) (ISPRA – Italy)
- [EricBoisvert](#) (GSC – Canada)
- Patricia Duringer Jacques, Head of the Geoprocessing Division, CPRM in Rio de Janeiro
- Elizete Domingues Salvador, Manager of Geology and Mineral Resources in the CPRM Office in São Paulo
- [James Passmore](#) BGS – UK (by gotomeeting, part)
- Marcus Sen BGS – UK (by gotomeeting, part,)
- Francois Tertre BRGM - France (by gotomeeting from Paris, part from start)
- Lars Stolen SGU - Sweden (by gotomeeting)
- Christy Caudill (AZGS - USA)
- Leah Musil (AZGS - USA)
- Sylvain Grellet BRGM – France (by gotomeeting, part)

Introduction by Tim Duffy, review of membership update, note that we have full agenda, BRGM could not attend in person, but are participating remotely.

Review of Terms of Reference for this new Technical Implementation Group (TIG).

2). Actions points from last meeting (some on main agenda):

9th [OneGeology](#) (Global) Technical Working Group Meeting 5th June 2013 2.30-5.30pm at A. P.Karpinsky Russian Geological Research Institute (FGUP "VSEGEI") 74, Sredny prospect, 199106, St. Petersburg, Russia, VSEGEI.

AP1: It was confirmed that the Israeli survey has not been heard from regarding OneGeology since 2007. The secretariat will attempt to re-engage with this survey and others following the [OneGeology](#) Consortium stakeholders meeting in October 2013 by end of July approximately 50 GSO will be written to to request them actually participating by setting up web services. Focus is on organizations that cannot afford to join as Principal members. See 'Governance' page on [OneGeology.org](#).

AP2: BGS/BRGM/AZGS to finish [GeoSciML](#) _Portrayal cookbook and make the SLD query portrayal tool live in the production [OneGeology](#) client.

AP3: BGS to contact Belgium and get that service upgraded and to make the WMS cookbook explicitly point out this issue when recommending the half dozen projections to be declared by a WMS and so to work with this tool.

- Note 1, by Belgium above it means Royal Museum for Central Africa (who host Rwanda-Burundi and DR Congo).
- Note 2, the issue surrounds the fact that their [GeoServer](#) based service was declaring multiple SRS (the default for [GeoServer](#)) and it was thought that this was simply because they were using an older version of [GeoServer](#) (which they weren't).

James reports that problem is solved. Issue had to do with offered CRS. Issues were created by [GetCapabilities](#) documents listing thousands of offered CRS. Belgium service is now reporting only 6 CRS.

AP4: BGS to provide Francois with suitable datasets for him to create area specific backdrops wms' for the problematic Arctic and Antarctic areas and BRGM to implement the multi-projection functionality such that it would be improved to analyse the declared SRS' in the service level [GetCapabilities](#) list and if a non-declared projection was requested of a layer then that layer would be greyed out or similar (as is done with other such limitations in the portal) and the raw error message would therefore not be generated.

AP5: China Geological survey to publish [OneGeology](#) 1:1 Million WMS by summer 2014.

Tim reports that the PRC Geological Survey has deployed WMS for China at 1:1,000,000. Deploying in English first and hopefully Chinese later.

AP6: SEAMIC to progress discussions with Sudan and Angola.

Southeastern Africa Minerals Research Institute is buddying for multiple countries. E-mail this morning looks likely that the South African Geo Survey will become principal member and represent Africa for the board.

AP7: BRGM to implement the agreed [GeoSciML](#) 3.2 age and lithology queries with the existing statistics tool. BGS to provide exemplar test services for this.

on today's agenda.

3). Demonstration and review of [GeoSciML](#) -portrayal SLD query tool in the portal.

At 9:30. James Passmore takes screen to demo the SLD Query tool.

BRGM formally agree on September portal release that will reduce [JavaScript](#) loading of open layers. Should improve performance, and address problems with time out on loading.

Worked with US/Delaware service showing recoloring by CGI [SimpleLithology](#) Term. Tim reports the tool is working well. Still debugging why doesn't work with most of the [ArcGIS](#) services. may be related to post 10.0 [ArcGIS](#) server.

Christy Caudill reports 9 US state services + USA service are [GeoSciML](#) portrayal conformant and registered. 14 additional services are deployed from other states but not registered. People seem to be intimidated by the registration process but Christy was helping with this.

Christy also prepared Checklist for registering; some items are USGIN specific. Tim proposed that this could be adopted (with adjustments) for use by [OneGeology](#) in general, and added as annex in cookbook. James pointed out that we need to rewrite cookbook. It has been accreting stuff at the end and is in danger of becoming incoherent. Christy suggested linking to the check list as a resource that people might find helpful. James agreed, pointed out that merging the two documents would be time consuming. Tim summarized--documentation is accurate, and many more services are almost to be deployed

Action ITEM. Christy to send James and Tim a copy of the checklist document for consideration on how to integrate with other documentation.

Ollie asked if anyone has solved the problem with [ArcGIS](#) server not allowing configuration of WFS response schema locations.

James reviewed Documentation for WMS profile currently accessible from [OneGeology.org](#). Add some extra sections in WMS cookbook, Chapter 7 on [GeoSciML](#) -Portrayal WMS. Provides links to CGI age and Lithology dictionaries. Appendix K and L are about deploying [GeoSciML](#) portrayal with [GeoServer](#) and [ArcGIS](#) server.

ASIDE: have received from Sweden [GeoServer](#) WMS, WFS. Uses the [OneGeology](#) Europe connector, [GeoSciML](#) 2.1. Tomas Lindberg reported to Tim. James will register soon.

Review of documentation – ok to promote widely now? Relationship with USGIN cross-tile desired query. Refinements still needed in USGIN/AZGS hosted services to work with this tool? (only Delaware working today despite the fact tool now allows either [ArcGIS](#) or

[GeoServer](#) /MapServer WMS' to work). Discussion of imminent widening of potential services that will work with this tool e.g. South America?

4). Discussion of [GeoSciML 3.2](#) query tool,

Review including documentation – ready for wide promotion? When will the [GeoSciML](#) xml download option be added?

Marcus Sen remotely demonstrated the Query tool, against full [GeoSciML](#) v3.2 WFS. Full Statistics and Lithology Statistics buttons are enabled in the layer details window. Can select a particular lithology. Need to zoom in so have a relatively small number of polygons. Will allow lithology constraint AND age constraint based on CGI simpleLithology and ICS geologic time scale URIs. Query errored in demo; Marcus had to debug.

It can also combines lithology with proportion; selects polys of unit with \geq that proportion.

Cookbook 4 on [OneGeology.org](#) download pages describes how to set up service for [GeoSciML3.2](#) that will work with this tool.

Have cookbook for OneGeology 5 star service with Geoserver as well.

Action item: Francois will add button at bottom of statistics page to download the [GeoSciML](#). [GeoSciML](#) include polygons that intersect the view frame.

Carlo pointed out that the lithology hierarchy can be difficult to navigate for some users. It would be a good feature to be able to search Lithology tree. Francois said it could be done, but probably will not be by september .

Discussion of the INSPIRE dictionary requirements in these WMS/WFS queries, the future joint publication of the exactmatch INSPIRE/CGI uri's by the INSPIRE registry and the real funded possibility of a [GeoSciML](#) to INSPIRE schema 'transformation tool'.

Discussion of performance requirements for [GeoServer](#) (for ERML?) and work from 1st July by CSIRO-Prth on such performance improvements.

CSIRO is starting today on improving performance. ERML 2.0 model testing; Francois has done some testing, reported results this A.M. [GeoServer](#) 2.5.1 version create ERML v2, and performance is OK with 100 features, is faster than before. CSIRO work is under auspices of AUSCOPE. JSON support, WFS paging with appSchema. Tim will discuss with Ben Caradoc – Davies (CSIRO), how to get [GeoServer](#) made into WFS v2.0 reference implementation. Deegree is currently the only WFS2.0 reference implementation.

Sylvain Grellet (BRGM) noted that it is unfortunate that only Ben C-D is supporting the [AppSchema](#) extensions in [GeoServer](#); need a more robust developer base. Tim clarified: Ben C-D is only [GeoServer](#) Board Member promoting appSchema (others are in simple feature arena).

NOTED: It is in the interest of [OneGeology](#), INSPIRE and Auscope that [GeoServer](#) board apply for OGC Reference implementation status for [GeoServer](#) /WFS2.0.

Action: Francois will continue to test performance with full database, and post issue to [GeoServer](#) if it is still not acceptable.

[Minerals4U](#) (European minerals data services) will be using Deegree for services. [EuroGeosurveys](#) project is already using Deegree for borehole data, was easier to continue using. Tim suggested to James Passmore (BGS). that it would be good to revisit Deegree w.r.t. OGC services for BGS.

4a) Metadata:

Leah Musil (AZGS) Trying to integrate OGC metadata harvest into USGIN catalog.

[GetCapabilities](#) does not have Title ~ 3/4 of records don't validate, can't harvest. 120 newer records do validate.

Elements in wrong order (metdataStandardName, version, [DateTime](#)); EX_Extent, elements in wrong order (northboundinglatitude...). Eric B. noted that the getRecordsREsponse is using gml 3.1 namespace, so it must be a custom XML output.

Pascal and Agnes have been doing the metadata, Francois, Sylvain haven't been doing.

Ollie mentioned CGI is going to sponsor hackathon/for apps using [OneGeology](#) services.

ACTION: Leah will send list of issues to Agnes (BRGM) in case she can shed light on the issues.

5). Adding WCS services

to the OGC services offered by [OneGeology](#) for grids, model outputs, 2D slices of 3D models as requested by the [OneGeology](#) Board for BGS/BRGM to implement in 2014 (funded). BGS to report on success with WCS 2.0.1 services from [GeoServer](#) and proposed way of [JavaScript](#) incorporation of such WCS service layers within portal WMS service layers. Discussion with BRGM to take this to implementation. Francois please come to the meeting with suggested date of next major portal changes e.g. WCS support, serving your own projection backdrops with BRGM [GeoServer](#) etc..

- See: [WCS GetCoverage \(v2.0.1\) Example](#)

Steering committee guidance from February meeting: start thinking 3-D, 4-D. How to move to being able to show surface, slices of models, models. This led to interest in Web coverage service. WCS. Remit of [OneGeology](#) has been rescoped from 'geologic maps' to 'Geologic Data'.

How to include WCS in portal.

John Laxton; [EarthServer](#) project (UK, BGS) to serve coverages. BGS is only working with WCS 2.0. PNG image from GRID. WCS can do grid extraction operations (ex. slice).

Example implemented in [OpenLayers](#) with a small amount of javascript provided to BRGM team.

[EarthServer](#) based of rasdaman. Still bit of issues with PNG. Tested [GeoServer](#), [MapServer](#) and Rasdaman.

[NetCDF](#) is widely used; Australia is serving all geophysical data via THREDDS/NetCDF/WCS

Harvesting capabilities for WCS 2.0 into [OneGeology](#) catalog is currently in testing.

for WCS in portal:

- support Format=image/png
- use same keywords ad for WMS
- add 'One Geogy WCS layers' to the map layers window.
- WCS then added in layer switcher
- no getFeatureInfo or legend. Can get data associated with a point.
- can add WCS in WMC, but not clear if its possible in KML context.

ACTION: BGS to provide BRGM with example [JavaScript](#) for 'getInfo' tool for WCS layer.

BGS will produce data provider cookbook for WCS services using standard server software, and update portal documentation.

When BRGM deliver KML script, can modify so only does WMS 1.3.0. Currently finds a service, writes URL for WMS 1.1.1 into KML script. [GoogleEarth](#) now supports WMS1.3.0, so the KML script does not have to find a v1.1.1 WMS. Most servers and clients now support WMS 1.3.0. (discovery of [GoogleEarth](#) update discovered by INSPIRE portal; their KML tool only provides WMS1.3.0) WMS 1.3.0 is the version that corresponds to ISO WMS standard. (have to get [GoogleEarth](#) working in CRS84 ? WGS84??, or something like that; Ollie couldn't get it to work in the meeting, look at KML generated by [OneGeology](#) portal).

James and Tim have figured out (with the example of the INSPIRE geoportal kml implementation) how to document setting up WMS 1.3.0 so works with [GoogleEarth](#) (or what needs to be done on [GoogleEarth](#) side).

- There is no real support for WMS 1.3.0 in Google Earth, however that doesn't mean that a WMS 1.3.0 only service can't be accessed in/by Google Earth. If you use the Google Earth tools to add a WMS as an image overlay, then what happens in essence is, [1] you specify a service end point, [2] Google sends a WMS 1.1.1 [GetCapabilities](#) request to the service to determine image formats supported etc, [3]

you select the layer you want to use, [4] Google creates a 'link' that is in essence a [GetMap](#) request minus the bounding box request.[5] when you use Google Earth it is this 'link' that is used as the stem of all requests, and the bounding box is tacked on the end. Google Earth requires EPSG:4326 for WMS 1.1.1 requests and appends the bounding box coordinates in this order (remember there is a switch in the coordinate axes order for many coordinate reference systems between WMS 1.1.1 and WMS 1.3.0...) . So the question is therefore, how do you turn a WMS 1.1.1 [GetMap](#) request into WMS 1.3.0 [GetMap](#) request (sans bounding box), to satisfy the needs of Google Earth bounding box axes order, and the WMS 1.3.0 service? The answer is that you change the version number in the [GetMap](#) request to VERSION=1.3.0 and you change the SRS=EPSG:4326 parameter to CRS=CRS:84. An example kml file that adheres to these principles is illustrated below:

```
<?xml version="1.0" encoding="UTF-8"?>

<GroundOverlay id="INSPIRE-f89f4772-05f5-11e1-b7de-
52540004b857_20140109-201550.services.1.PullResults.421-
440.resources.services.5.resourceLocator1.view.services.1.laye
rs.1.live">

<name>From online service (might not display)</name>

<visibility>>false</visibility>

<open>>false</open>

<color>B4FFFFFF</color>

<Icon>

<href>http://mapapps.bgs.ac.uk/arcgis/services/INSPIREWMS/Digm
ap/MapServer/WMServer?TRANSPARENT=TRUE&CRS=CRS:84&VER
SION=1.3.0&FORMAT=image/png&SERVICE=WMS&HEIGHT=152
4&LAYERS=GBR.BGS.1:50k.Bedrock&REQUEST=GetMap&STYL
ES=&WIDTH=1524&;</href>

<viewRefreshMode>onStop</viewRefreshMode>

<viewBoundScale>1.0</viewBoundScale>

</Icon>

<LatLonBox>
```

```
<north>60.849945</north>  
  
<south>49.902759</south>  
  
<east>2.412245</east>  
  
<west>-8.300482</west>  
  
</LatLonBox>  
  
</GroundOverlay>
```

* [oneg-example-wms130.kml](#): Example KML for a WMS 1.3.0 service.

Action: BRGM to implement this altered KML writing script in the portal tool and then no need for code to write out wms 1.1.1 links only (which may now not be available anyway as new WMS services being offered to OneGeology only offer WMS 1.3.0. version e.g. INSPIRE services.)

6). Discussion and review of portal multi-projection capability

New capability in particular with respect to Arctic and Antarctic projections. There has been much testing and problems identified but it is nearly working – currently; relying on BGS served backdrops – is needed until BRGM have [GeoServer](#) in their stack and Antarctic not really needed from BGS as [MapServer](#) based and BRGM have the software plus data? Feedback from uses- recent problems identified by GEUS for their Greenland service will be discussed but they are very pleased it is there. Tests from Canada? New Zealand/Australia?

James Passmore demonstrate various projections now available (6 in all): N polar, antarctic, web mercator, WGS84,

New Zealand Southern Victoria service is using EPSG 3031 projection, and it isn't displaying with the antarctic polar stereographic

For south polar base map, see if LIMA can be clipped to get north from S. Pole to 60S; Mark W. likes the Blue marble base map, source is US NSIDC.

ACTION: James will check that New Zealand S. Victoria service has been re-registered, and look into getting Blue Marble base for south polar region.

ACTION: BRGM will deploy base maps for N. Polar region using [GeoServer](#)

Arctic base maps originally used was coming from server ([MapServer](#)) that was incompatible with [GeoServer](#) -based services. Canada data doesn't display because they are using [MapServer](#), and it doesn't correctly render polar regions. problem is when bounding box crosses N pole or get close to -180/180 boundary.

NOTED: GSC please plan to move [OneGeology](#) services from Groundwater server to a dedicated [OneGeology](#) service using [GeoServer](#) (or some other software that works in the polar regions)

Denmark noted problem. At northern end of Greenland, there is a registration error between the Bathymetry and the land area. in the Blue Marble base map image.

ACTION-(James) find a north polar region image base map that doesn't have these problems.

7). Further support for Group WMS services in portal

- report on past use e.g. CIS and possibly GEUS and future requirements raised by VSEGEI
- proposed solution to be discussed.

Group WMS service: have hierarchical layers--layers that are composed of other layers. (somewhat unclear if idea that the individual layers are not independently controllable to turn on/off)

VSEGEI service-- multiple images as separate layers in a group. They have made a request to implement a 'secret' layer with tile polygons that correspond to legend images. Will hijack the 'getFeatureInfo' to return html with links to legend from this layer.

DECISION- Francois has some reservations about non-standard behavior, but no one has a better solution. VSEGEI should go ahead and implement and document the getFeatureInfo behavior in the **abstract** for the service, so that it is their responsibility that the layers are actually used appropriately by the users.

Current support for Group layers is hand crafted--GeoNetwork can't harvest the Capabilities document.

A group layer doesn't have a legendURL element in [GetCapabilities](#) XML schema.

Denmark is using WMTS behind a proxy; this is also causing problems for metadata harvest into [GeoNetwork](#). This is apparently a different problem.

XML schema for 1.3.0 has a style/legendURL for group layers. problem must be in the implementations ([MapServer](#)?)

Lars, Marcus, Sylvan, James, Francois say goodnight. Invite Marcus to join on thursday for the transformation discussion. Sylvan will join about 7:30 his time.

8). ESRI_Redlands WFS 2.0 support

In core [ArcGIS](#) service – either Satish Sankaran (OGC manager) or Roberto Lucchi ([ArcGIS](#) for INSPIRE and WFS 2.0 interest) will join the meeting around 2pm Tucson/San Diego time [they did not manage to join on this day]by gotomeeting to discuss imminent beta release of core [ArcGIS](#) server WFS 2.0 capability – with view to supporting user configurable schemas

such as [GeoSciML](#) 3.2, the onegeology software grant requirement. But if [ArcGIS](#) for INSPIRE now part of the onegeology grant from esri should we not be going back to the original aim to support both INSPIRE schema and Geosciml 3.2 schema for onegeology in [ArcGIS](#) for INSPIRE?

10.3 release is supposed to include WFS 2.0 support as a core offering. No indication that it will do complex features [it looks like it may only be simple feature GML 3.2.1 with WFS 2.0 support].

By August when 10.3 beta is out, BGS has allocated staff time and a Virtual Machine to test [ArcGIS](#) 10.3 with WFS 2 , to see what is working well.

BGS is considering using Clemens' P. software stack for data deliver

Official ESRI contact for ESRI [OneGeology](#) grant system to get an [ArcGIS](#) license has been confirmed to be in Europe.

ESRI has added [ArcGIS](#) for INSPIRE to list of software available for the ESRI grants program.

The grant offer is about to be replaced with new grant offer, includes Desktop Advanced, [ArcGIS](#) online subscription (5 users 2500 service credits), one copy of [ArcGIS](#) server, ESRI Geoportal Server, [ArcGIS](#) for INSPIRE. To get have to contact local ESRI distributor, they go to Redlands, Redlands contacts OneGeology administration to see if provider is legit. Quantity of stuff seems abundant. [ArcGIS](#) online doesn't support WFS yet.

ACTION item: Tim and Satish spoke by phone just before the meeting, and they will confer in late July by teleconference to discuss WFS 2.0 support in [ArcGIS](#).

9). Production of [OneGeology](#) Newsletter

Will cover the above developments and portal capabilities.

Production of newsletter end of July or August, following on the letter to surveys pingging people to participate. Need to get message out that Portrayals services add keyword

10). Progress with services

Around the world e.g. China and imminent push to the missing '50' geological survey members of onegeology to serve data.

11). Discussion of South America [OneGeology](#) meeting

24th October Rio de Janeiro agenda – to include CGI dictionary harmonisation efforts? Encouragement of [GeoSciML](#) _Portrayal WMS? [GeoSciML](#) 3.2 WFS for querying in portal (Brazil was one of the earliest [GeoSciML](#) 2.0 providers) and of course strategy for getting the missing South American surveys to put up WMS services.

BRGM requested and proposed the next TIG meeting should be in Lisbon, Portugal, May 2015, held at the same time as the INSPIRE conference there.

This committee proposes that the 2016 meeting should be in conjunction with the IGC August 2016, Cape Town.

12). AOB

Francois T.: publication of user content in portal in May, 2015, need to decide in September what we want to do exactly. Allow papers to be hosted/indexed in catalog

If Francois T. has extra time he will work on detailing out this problem and looking for a solution.

Action Points arising from this meeting:

- 1) OneGeology Administration to write to the 50 GSO's who have not yet offered web services or asked for a buddy.
- 2) Christy Caudil (AZGS) to send James and Tim a copy of the GeoSciML_portrayal WMS service checklist document for consideration on how to integrate with other documentation.
- 3) Francois Tertre (BRGM) will add button at bottom of statistics page to download the [GeoSciML](#). [GeoSciML](#) include polygons that intersect the view frame. Also it would be a good feature to be able to search Lithology tree. Francois said it could be done, but probably will not be by September.
- 4) Francois Tertre (BRGM) will continue to test Geoserver WFS response performance with full ERML database, and post issue to [GeoServer](#) if it is found to be not acceptable.
- 5) Leah Musil (AZGS) to send list of metadata harvesting issues she has from getcapabilities documents to Agnes of BRGM in case she can shed light on these issues.
- 6) BGS (James Passmore) to provide BRGM with example [JavaScript](#) for 'getInfo' tool for WCS layer.
- 7) BGS will produce data provider cookbook for WCS services using standard server software, and update portal documentation when portal is ready to support WCS services.
- 8) BRGM to implement this altered KML writing script so that OneGeology WMS 1.3.0 services referred to in the KMI file will work in Googleearth (INSPIRE geoportal already does this).
- 9) James will check that New Zealand S. Victoria service has been re-registered, and look into getting Blue Marble base for south polar region projection backdrop. Also for Denmark issues find a north polar region image base map that doesn't have these problems if that is the issue.

- 10) BRGM will deploy base maps for N. Polar region using [GeoServer](#) rather than coming from a BGS server once BRGM have latest Geoserver software available in the autumn.
- 11) GSC (Eric Boisvert) plan to move [OneGeology](#) services from Groundwater server to a dedicated [OneGeology](#) service using [GeoServer](#) (or some other software that works in the polar regions).
- 12) Tim and Satish spoke by phone just before the meeting, and they will confer in late July by teleconference to discuss progress with WFS 2.0 support in [ArcGIS](#) server core.
- 13) Francois Tertre (BRGM) proposed to bring forward practical proposals for adding user content (geoscience documents) in the portal to the May, 2015 meeting.