# InGeoClouds
# GeoPublication Training Session

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# Principles

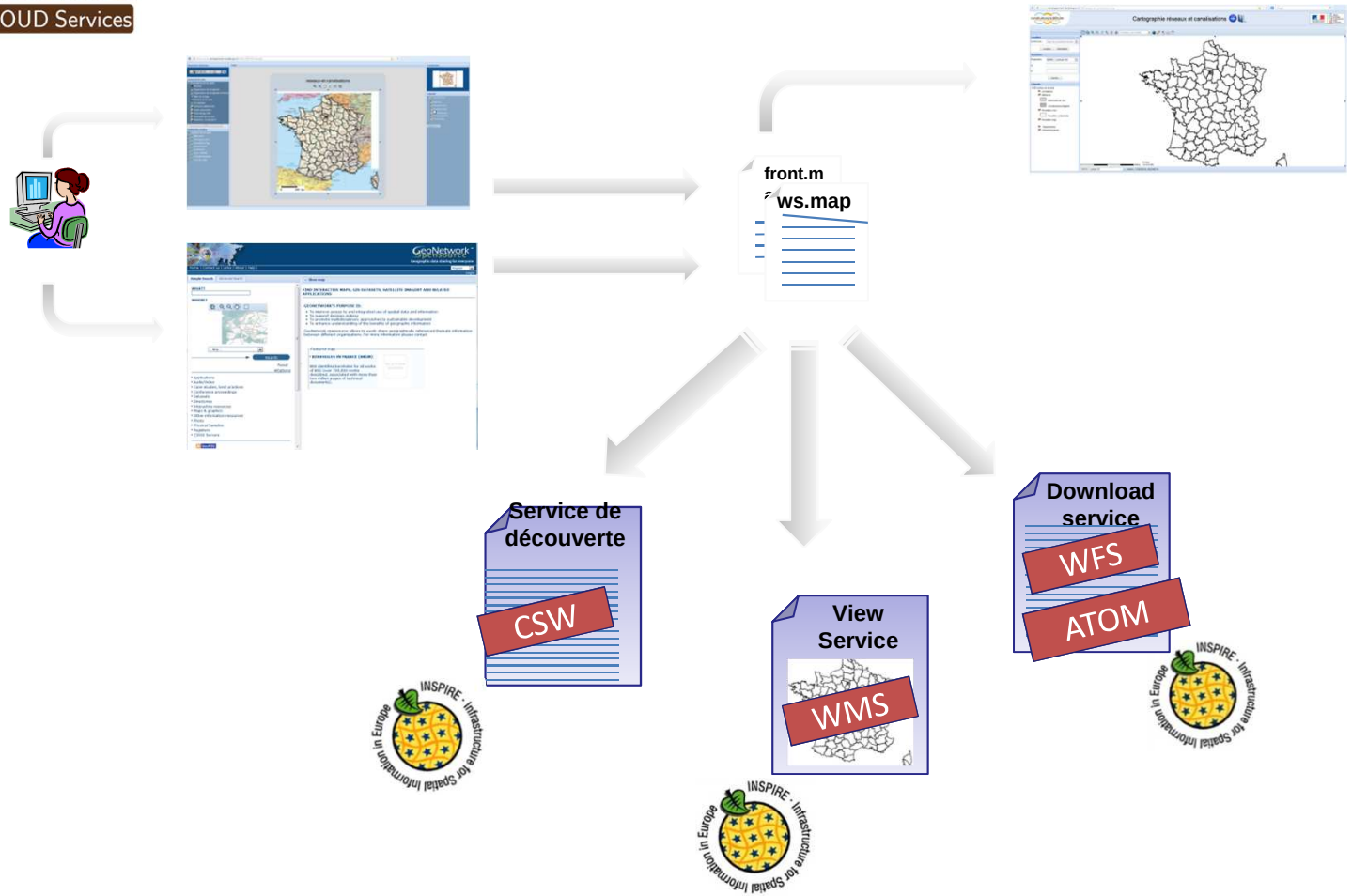
- Give everyone online access to one's data
- Develop interoperability (to comply with Inspire Directive)
- Entirely self-determined management of data publication, with own modalities , without constraint

# Capacities

- Map publication on the Internet
  - Map visualisation on the Internet available for all (customization of web Interface consultation )
  - View Service OGC INSPIRE : WMS 1.3
  - Download Service : ATOM INSPIRE and WFS
- Metadata entry and publication
  - With GeoNetwork
  - Metadata of data to be produced
  - Metadata of services automatic
- For Developers, API for manage maps

# The general view

InGeoCloudS
Inspired GEOdata CLOUD Services



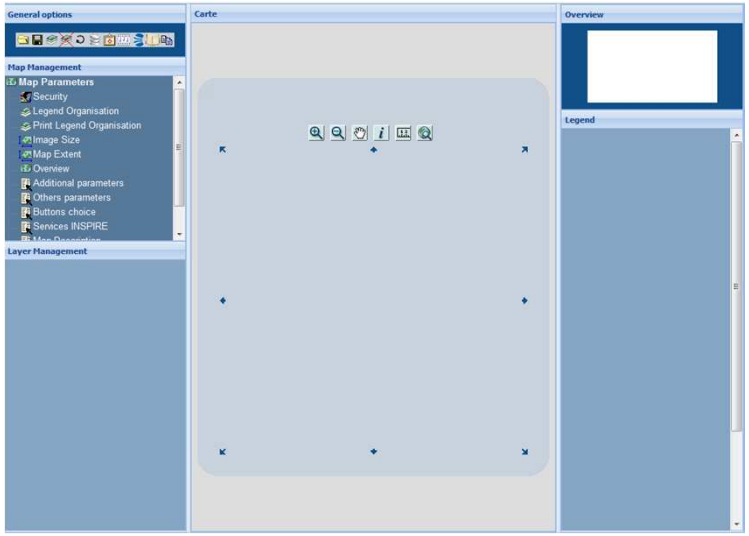
# Map Creation Interface

- Integration of the following data types :

· Data stocked in Files :
  - MapInfo native data (.tab)
  - MapInfo export data (MIF/MID)
  - ArcView native data (.shp)
  - Single Raster data (.tif, .ecw)
  - Tiled Raster data

· Data stocked in a data base :
  - PostGIS table

· Data accessible via Web Services :
  - WMS feed
  - WMS-C feed
  - WFS feed

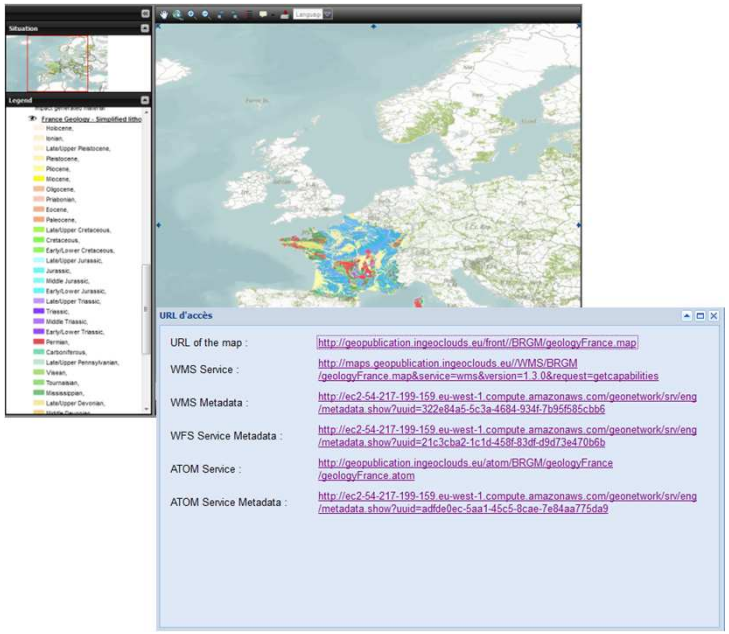



- Capacity to define the data layers in another projection system than the map one..

# Public Consultation interface

- A public web mapping interface

- Customization capabilities
  - Banner
  - Printing model
  - Cartographic tools : search, request, download, etc…
  - Copyright, logo
  - And many more



# Public Web services

- **Web Services available**
  - WMS
  - WFS
  - ATOM Downalod


- **WS configuration**
  - Searchable fields
  - Projection systems
  - Metadata link

# API FOR ACCESS

- The GeoPublication API = OGC CSW, WMS, WFS service + ATOM service
  - CSW : http://geonetwork.geopublication.ingeoclouds.eu/geonetwork/srv/eng/csw
  - WMS : http://maps.geopublication.ingeoclouds.eu/WMS/[Account]/[Maps]
  - WFS : http://maps.geopublication.ingeoclouds.eu/WFS/[Account]/[Maps]

# GeoPublication API

- The GeoPublication API  Access =  OGC CSW, WMS, WFS service + ATOM service

- REST API with OGC Standards specification available on the OGC web site http://www.opengeospatial.org/standards/is

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- The Geopublication Creation = Specific API to create maps and web services.
- REST API with documentation available here : http://ingeoclouds-api.isti.cnr.it/datapublication/resource_Data%20publication%20-%20MapFile%20service.html

# GeoPublication API for Access

1. Search datasets

2. Find associated services

3. View datasets

# GeoPublication Search

- http://geonetwork.geopublication.ingeoclouds.eu/geonetwork/srv/eng/csw?

```
<?xml version="1.0"?>
<csw:GetRecords xmlns:csw="http://www.opengis.net/cat/csw/2.0.2" service="CSW" version="2.0.2"
   resultType="results" outputSchema="csw:Record">
   <csw:Query typeNames="gmd:MD_Metadata">
      <csw:Constraint version="1.1.0">
         <Filter xmlns="http://www.opengis.net/ogc" xmlns:gml="http://www.opengis.net/gml">
              <PropertyIsLike wildCard="%" singleChar="_" escapeChar="\">
               <PropertyName>any</PropertyName>
               <Literal>%borehole%</Literal>
            </PropertyIsLike>
         </Filter>
      </csw:Constraint>
   </csw:Query>
</csw:GetRecords>
```

```
<dc:identifier>6971734d-094e-4644-88ea-7fe9888c7bd0</dc:identifier>
```

# GeoPublication Service Search

- http://geonetwork.geopublication.ingeoclouds.eu/geonetwork/srv/eng/csw?

```
<?xml version="1.0"?>
<csw:GetRecords xmlns:csw="http://www.opengis.net/cat/csw/2.0.2" service="CSW" version="2.0.2"
   resultType="results" outputSchema="csw:Record">
   <csw:Query typeNames="gmd:MD_Metadata">
      <csw:Constraint version="1.1.0">
         <Filter xmlns="http://www.opengis.net/ogc" xmlns:gml="http://www.opengis.net/gml">
            <PropertyIsEqualTo>
               <PropertyName>OperatesOn</PropertyName>
               <Literal>6971734d-094e-4644-88ea-7fe9888c7bd0</Literal>
            </PropertyIsEqualTo>
      </Filter>
       </csw:Constraint>
   </csw:Query>
</csw:GetRecords>
```

3 services available . For example, WFS :

# GeoPublication Service Search

- http://geonetwork.geopublication.ingeoclouds.eu/geonetwork/srv/eng/csw?

```
<?xml version="1.0"?>
<csw:GetRecordById xmlns:csw="http://www.opengis.net/cat/csw/2.0.2" service="CSW" version="2.0.2"
   outputSchema="csw:IsoRecord">
   <csw:Id>c3475d5f-96c3-4dd0-8318-111b20d5357f</csw:Id>
</csw:GetRecordById>
```

3 services available . For example, WFS : http://maps.geopublication.ingeoclouds.eu/WFS/BRGM/bank_of_basement.map?

# Data Access

- WFS call :

http://maps.geopublication.ingeoclouds.eu/WMS/BRGM/bank_of_basement.map?service=wfs&version=1.1.0&REQUEST=GetFeature&TYPENAME=Bank_of_basement&MAXFEATURES=20&SRS=EPSG:4258&BBOX=1.768845,46.077251,2.228209,46.396005

# Service publication API

- http://api-prod.geopublication.ingeoclouds.eu:8080/ingeoclouds-api/data-publication/rest/mapfiles/

- GET : /wms_tutorial_video

- POST (PUT) :
  - Create the map with a JSON description
  - Do not forget the authentication process

# PHP example

```
function PostWms($json){
    global $CARMEN_URL_SERVER_API; //GeoPublication API endpoint

    $httpRequestObj = new HttpRequest($CARMEN_URL_SERVER_API, HttpRequest::METH_POST);
        $httpRequestObj->addHeaders(
            array(
                "Cookie" => "iPlanetDirectoryPro=".$_SESSION["token"].";", //Add SSO Token to the request
                "Accept" => "application/json;",
                "Content-Type" => "application/json;"
            )
        );

        $httpRequestObj->setBody($json);

        try {
            $httpRequestObj->send();
            if ($httpRequestObj->getResponseCode() == 201) { //201: Created.
                $reponse = $httpRequestObj->getResponseBody();
            }
            else{
                 error_log('GeoPublication API Error : ' . $httpRequestObj->getResponseBody())
            }
        }
        catch(Exception $e){
            error_log('GeoPublication API Error : '  . $e->getMessage());
        }
}
```

# Java example

```
import java.net.URL;
import java.net.URLConnection;

import org.codehaus.jackson.map.ObjectMapper;

import eu.ingeoclouds.domain.datapublication.CollectionMapFiles;
import eu.ingeoclouds.domain.datapublication.MapFile;

public class GeoPublication {

    public static void main(String[] args) throws Exception {

        String baseAPIURL = "http://api-prod.geopublication.ingeoclouds.eu:8080/ingeoclouds-api/data-publication/rest/mapfiles";
        String cookie =
"iPlanetDirectoryPro=AQIC5wM2LY4Sfcwz6qyGOdg619RS1hhduBD0dO5UggKDQqo.*AAJTSQACMDIAAlNLABQtNzQwMTE3Mzc4Mjk1
NTE5MTY2NQACUzEAAjAx*; path=/";

        URL url = new URL(baseAPIURL);
        URLConnection connection = url.openConnection();
        connection.setRequestProperty("Cookie", cookie);
        connection.connect();

        ObjectMapper mapper = new ObjectMapper();
        CollectionMapFiles mapfiles = (CollectionMapFiles) mapper.readValue( connection.getInputStream(), CollectionMapFiles.class );
        for(MapFile mapfile : mapfiles.getMaps()){
            // Display your mapfile(s) name
            System.out.println(mapfile.getName());
        }
    }
}
```