



User Manual GET-IT

A short guide to instal & use GET-IT.

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What is the Geoinformation Enabling ToolKIT starterkit® ?

- GET-IT is a open-source software suite that allows you to easily share **maps**, **measurements**, and **sensors** with simple actions .
- The suite is the first open-source collaborative effort toward the integration of traditional geographic information with observational data.
This is achieved by coupling GeoNode with the [SOS](#) implementation by 52°North and with components developed from scratch in the context of [RITMARE](#), primarily for addressing data visualisation and metadata editing (EDI).



How to install GET-IT

- GET-IT is a complex software suite.
It is not easy to install from scratch, that's the reason why we have prepared a Virtual machine.
- You can download it from this link :
[HERE](#)
- The format of the virtual machine is a Virtual Machine Disk in the VMWare format.
If you need a different format, or you have only a VMWare Player, we provide also the OVF file.
 - You can download it from this link :
[HERE](#)



VM System requirements

- RAM: 6 GB minimum, better 8 GB
- CPU number: 1CPU 4 core
- HDisk capacity: virtual machine occupy 30 GB
- hardware 64-bit is recommended

GET-IT VM credentials

- In order to access to GET-IT for the first time use this credentials :
- USER NAME : *starterkit*
- PASSWORD : *::sos14-*
- NOTE : By default the SSH connection is enabled.

```
carnausер@carnausер-Mate:~$ ssh starterkit@10.0.5.12
The authenticity of host '10.0.5.12 (10.0.5.12)' can't be established.
ECDSA key fingerprint is SHA256:NPB1bzzM3r6y4P4tbUj0d4aPg0R2K4nKw4xMov8pQ10.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.0.5.12' (ECDSA) to the list of known hosts.
starterkit@10.0.5.12's password:
Welcome to Ubuntu 12.04.4 LTS (GNU/Linux 3.13.0-32-generic x86_64)

 * Documentation:  https://help.ubuntu.com/

System information as of Thu Mar  9 14:58:56 CET 2017

System load:  0.08                Processes:            121
Usage of /:   20.0% of 16.42GB    Users logged in:     0
Memory usage: 18%                IP address for eth0: 10.0.5.12
Swap usage:   0%

Graph this data and manage this system at:
https://landscape.canonical.com/

198 packages can be updated.
175 updates are security updates.

Your Hardware Enablement Stack (HWE) is supported until April 2017.

Last login: Mon Mar  6 16:52:25 2017 from nat-milano.irea.cnr.it
starterkit@starterkit:~$
```

How to connect

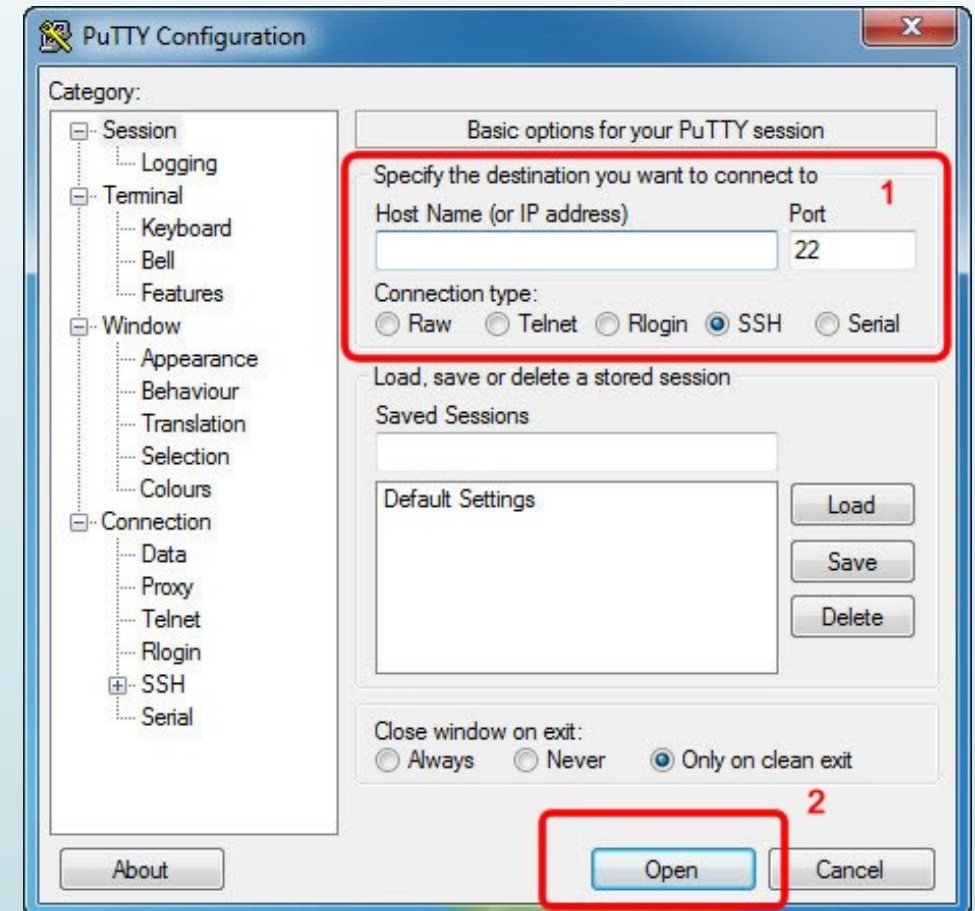
Windows

- Download Putty from [HERE](#)
Just run the exe file.
No installation is needed.

1. Insert your ip in the Hosts field and select SSH.
2. Press Open

Linux & Unix

- Just type in a terminal :
ssh starterkit@[yourip]
i.e.
ssh [starterkit@10.0.5.2](#)



FIRST THING TO DO : UPDATE

- ▮ Yes it is boring and It'll take a lot of time but you need to do it.
- ▮ For security reason
- ▮ To make Get-IT Work!

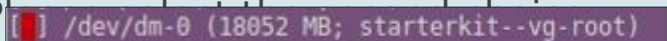


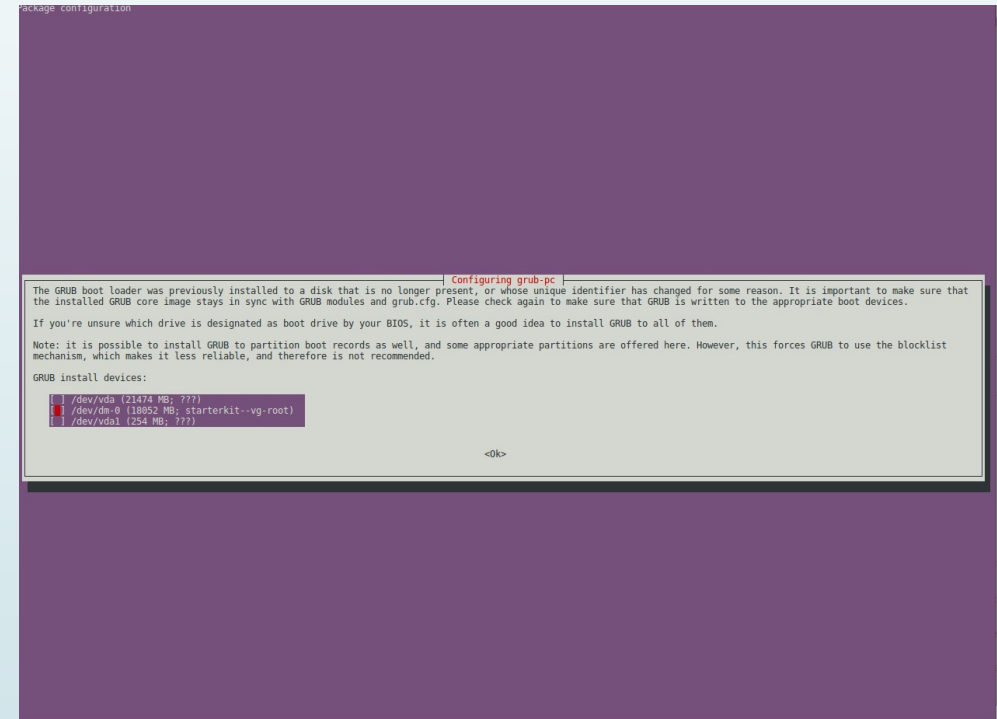
UPDATE step 1

- Connect to the VM using SSH protocol. In windows you can use putty.
- *sudo aptitude update*
- *sudo aptitude full-upgrade*

This will take a loooooooooong time, also with a fast internet connection.

During the update you'll face a screen like this. It refers to the boot loader GRUB.

Pt  /dev/dm-0 (18052 MB; starterkit--vg-root)



UPDATE step 2

- ▮ UPDATE GET-IT : simply copy & paste those commands.
- ▮ *sudo pip install --upgrade --no-deps starterkit*
- ▮ *sudo pip install django-analytical==1.0.0 owslib==0.10.3*
- ▮ *sudo sk collectstatic --noinput -i externals -i node_modules -i SOSClient*
- ▮ *sudo sk migrate mdtools*
- ▮ *sudo /etc/init.d/apache2 reload*

The Django logo, featuring the word "django" in a white, lowercase, sans-serif font, centered within a dark green rectangular background.

UPDATE step 3



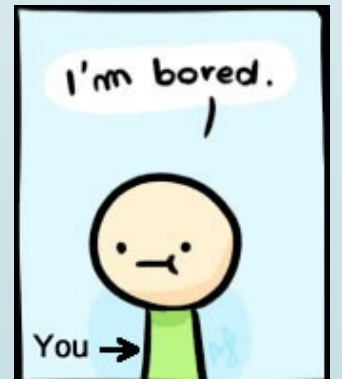
GeoServer

- ▮ Geoserver is a software written in JAVA so we need to update it. Copy & paste those commands.
- ▮ *sudo apt-get install python-software-properties*
- ▮ *sudo add-apt-repository ppa:webupd8team/java*
- ▮ *sudo apt-get update*
- ▮ *sudo apt-get install oracle-java6-installer*



UPDATE step 4 the last one.

- JAI extensions.
To improve performance we have to install Java Advanced Imaging.
Copy & paste those commands.
- *sudo apt-get install libjai-core-java libjai-imageio-core-java*
- *sudo cp /usr/lib/jni/{libclib_jiio.so,libmllib_jai.so} /usr/lib/jvm/java-6-oracle/jre/lib/amd64/*
- *sudo cp /usr/share/java/{jai_core-1.1.4.jar,jai_codec-1.1.4.jar,jai_imageio-1.2.jar,mllibwrapper_jai-1.1.4.jar,clibwrapper_jiio-1.2.jar} /usr/share/geoserver/WEB-INF/lib/*
- *sudo /etc/init.d/tomcat7 restart*





THE DOMAIN NAME.

The right way...

- ▢ This is a mandatory step.
- ▢ Get-it needs a domain name to work in order to enable all its features.
- ▢ There are 2 ways
- ▢ The easy way, and the recommended one :
Just type :
`sudo sk-updateip [domain name]`
in a shell, and insert your domain name (without [])
- ▢ Just for test you can insert the IP of the VM instead of the domain name.

THE DOMAIN NAME.

An alternative way.

```
GNU nano 2.2.6 File: /etc/starterkit/local_settings.py
# -*- coding: utf-8 -*-
SITENAME = 'StarterKit'

# updated by sk-updateip
SITEURL = "http://10.0.5.12/"
ALLOWED_HOSTS=["10.0.5.12", "localhost"]
GEOSERVER_URL = SITEURL + 'geoserver/'

SOS_URL = SITEURL + 'observations/sos'

SOS_SERVER = {
    'default' : {
        'LOCATION' : 'http://localhost:8080/observations/sos',
        'PUBLIC_LOCATION' : SOS_URL,
        'KVP_LOCATION': SOS_URL + '/kvp',
        'POX_LOCATION': SOS_URL + '/pox',
        'VERSION': '2.0.0',
    }
}
```

[Read 227 lines]

^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell

- The wrong, but usefull way
Edit the file /etc/starterkit/local_settings.py
(i.e. sudo nano /etc/starterkit/local_settings.py)
- i.e. Add your domain in the array :

```
[ "10.0.5.12", "mydomain.it", "localhost" ]
```

Fix background map problems.

Step 1.



- After the upgrade something is changed.
We need to fix some problem related to the tile maps.
- There are a lot of available maps but we have to disable some of them.
With the same procedure we could also add other tiles.
- Edit the file :
[/etc/starterkit/local_settings.py](#)
(i.e. `sudo nano /etc/starterkit/local_settings.py`)
- Comment the lines as the example using #.

```
"name": "naip",
"group": "background",
"visibility": False
# }, {
#   "source": {"ptype": "gxp_bingsource"},
#   "name": "AerialWithLabels",
#   "fixed": True,
#   "visibility": False,
#   "group": "background"
# }, {
#   "source": {"ptype": "gxp_mapboxsource"},
# }
```

Fix background map problems.

Step 2.

- Now launch the python console using this command : *sk shell_plus* and copy & the commands:

```
from geonode.maps.models import MapLayer  
MapLayer.objects.filter(name=u'AerialWithLabels').delete()
```

- Reboot : *sudo reboot*
- That's it.



AT LAST GET-IT

The screenshot shows the GET-IT web application interface. At the top is a navigation bar with the Ritmare GET-IT logo, a search bar, and user information (gandalf, Demo). Below the navigation bar are tabs for HOME, LAYERS, SENSORS, DOCUMENTS, VIEWS, PEOPLE, SEARCH, and SERVICES. The main content area is titled "GET-IT STARTERKIT DEMO 2" and "GET-IT StarterKit Demo 2". It contains a call to action: "Upload your layers, your observations, create your maps and join the RITMARE interoperable Infrastructure." Below this is a paragraph about the project's context and a link to the project site. On the right side of the main content area are three orange buttons: "Explore Layers", "Explore Sensors", and "Explore Views". At the bottom left is a section titled "LATEST LAYERS" showing two layers with details like name, source, and metadata completeness. At the bottom right is a section titled "CONTRIBUTE" with two buttons: "Upload Layers" and "Create a View".

Ritmare GET-IT

Search...

gandalf | Demo

HOME LAYERS SENSORS DOCUMENTS VIEWS PEOPLE SEARCH SERVICES

GET-IT STARTERKIT DEMO 2

GET-IT StarterKit Demo 2

Upload your layers, your observations, create your maps and join the RITMARE interoperable Infrastructure.


GET-IT is developed in the context of Sub-Project 7 of RITMARE (www.ritmare.it). It is based upon [GeoNode](http://geonode.org).

For more info visit the project site: www.get-it.it.

Need help Getting Started?

LATEST LAYERS

Total: 15




[_0_864_000_size_5_6](#)
Layer from gandalf, 1 day, 2 hours ago
No abstract provided

5 views

Average rating (0 votes)

Metadata Completeness: 60%

[Download](#) [Create a view](#)



[_0_864_000_size_5_5](#)
Layer from gandalf, 1 day, 2 hours ago
No abstract provided

3 views

Average rating (0 votes)

Metadata Completeness: 60%

[Download](#) [Create a view](#)

CONTRIBUTE

GET-IT enables you to upload, manage, and browse data layers. Search for data that is valuable to you, or upload your own data.

[Upload Layers](#)

GET-IT enables you to compose and share views. Create a view with our cartography tool, or explore views shared by others.

[Create a View](#)

- We have defined a domain name before, so type it in your browser. This is the get-it home page.
- We'll take a short overview on the
 - Layers
 - Sensor
 - Servicespages.
- But first....

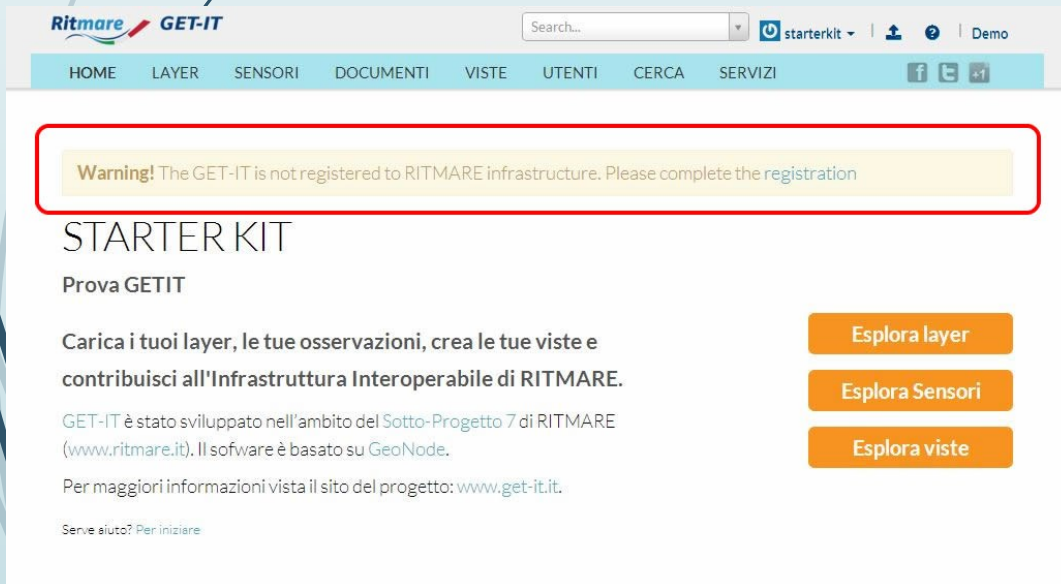


It is better to log in.

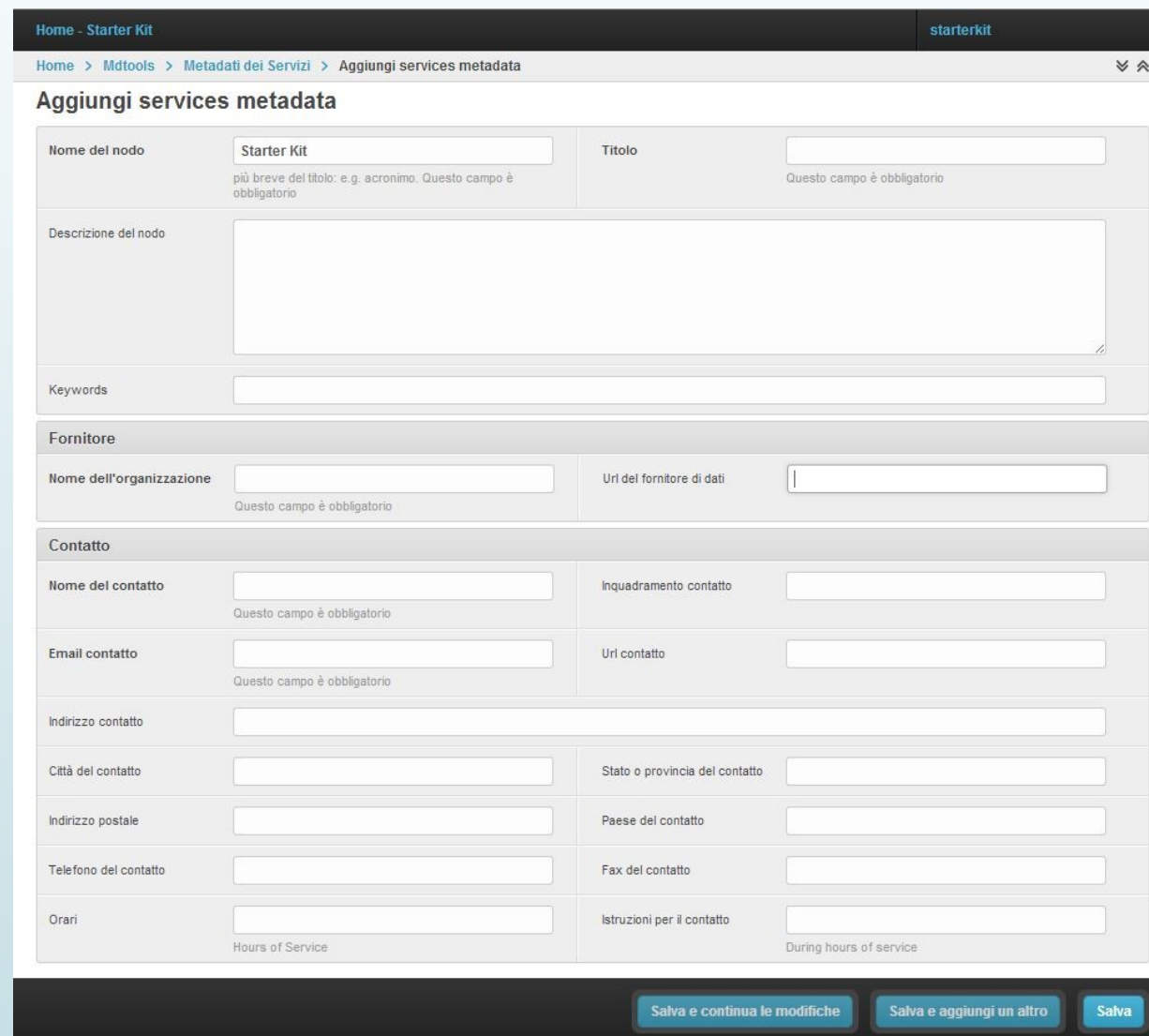
- To log in as the default user use this credentials :
- USER NAME : *starterkit*
- PASSWORD : *sk2014*
- *And...*

Register GET-IT

Once you have been logged in for the first time, it'll appear a Warning message. Like in the image below. Follow the link and fill the form. Like in the image on the right. Press the button «Save» Reboot the VM. Just type : `sudo reboot`



The screenshot shows the RITMARE GET-IT web interface. At the top, there is a navigation bar with the RITMARE logo and a search bar. Below the navigation bar, a yellow warning message is displayed in a red-bordered box: "Warning! The GET-IT is not registered to RITMARE infrastructure. Please complete the registration". Below the warning, the text "STARTER KIT" and "Prova GETIT" are visible. There are three orange buttons: "Esplora layer", "Esplora Sensori", and "Esplora viste". At the bottom, there is a link to "www.get-it.it" and a "Serve aiuto? Per iniziare" link.



The screenshot shows the "Aggiungi services metadata" form in the RITMARE GET-IT web interface. The form is divided into several sections:

- Nome del nodo:** Starter Kit (with a note: "più breve del titolo: e.g. acronimo. Questo campo è obbligatorio").
- Titolo:** (with a note: "Questo campo è obbligatorio").
- Descrizione del nodo:** (a large text area).
- Keywords:** (a text input field).
- Fornitore:**
 - Nome dell'organizzazione:** (with a note: "Questo campo è obbligatorio").
 - Uri del fornitore di dati:** (a text input field).
- Contatto:**
 - Nome del contatto:** (with a note: "Questo campo è obbligatorio").
 - Inquadramento contatto:** (a text input field).
 - Email contatto:** (with a note: "Questo campo è obbligatorio").
 - Uri contatto:** (a text input field).
 - Indirizzo contatto:** (a text input field).
 - Città del contatto:** (a text input field).
 - Stato o provincia del contatto:** (a text input field).
 - Indirizzo postale:** (a text input field).
 - Paese del contatto:** (a text input field).
 - Telefono del contatto:** (a text input field).
 - Fax del contatto:** (a text input field).
 - Orari:** (a text input field, with a note: "Hours of Service").
 - Istruzioni per il contatto:** (a text input field, with a note: "During hours of service").

At the bottom of the form, there are three buttons: "Salva e continua le modifiche", "Salva e aggiungi un altro", and "Salva".

A short Overview : Layer page

The screenshot shows the Ritmare GET-IT Layer page. At the top is a navigation bar with links: HOME, LAYERS, SENSORS, DOCUMENTS, VIEWS, PEOPLE, SEARCH, and SERVICES. A search bar is located to the right of the navigation bar. Below the navigation bar, there are two buttons: "EXPLORE LAYERS" and "UPLOAD LAYERS". The "EXPLORE LAYERS" button is highlighted with a red box and labeled 'A'. The "UPLOAD LAYERS" button is highlighted with a red box and labeled 'C'. Below the buttons, the page title "EXPLORE LAYER" is displayed. Under the title, there are sorting options: "Most Recent", "Less Recent", "A - Z", "Z - A", "Most Popular", and "Relevance". To the right of the sorting options, there are view options: "View by Grid" and "List". Below the sorting and view options, there is a sidebar on the left labeled "Your selections" with a "Clear all" link. The sidebar contains three sections: "LAYER TYPE" with "Rasters" (4) and "Vectors" (11), "DATE", and "KEYWORDS". The main content area displays a list of layers. The first layer is titled "_0_864_000_size_5_6" and is highlighted with a red box and labeled 'B'. It shows a thumbnail, a description "Layer from gandalf, 33 minutes ago", "No abstract provided", "2 views", "Average rating (0 votes)", "Metadata Completeness: 60%", and buttons for "Download" and "Create a view". Below it are two more layers with similar information.

- A. This section help you to search the layer yuo need.
- B. This is the list view of the layers
It is possible to select a grid view using the buttons on the top right.
- C. This is the button to upload a new layer (vector or raster)

A short Overview : Layer view

Ritmare GET-IT

Search... | gandalf | Demo

HOME LAYERS SENSORS DOCUMENTS VIEWS PEOPLE SEARCH SERVICES

_0_864_000_SIZE_5_6

Download Layer Download Metadata Edit Layer

A

B

Info Attributes Share Ratings Comments

Title: _0_864_000_size_5_6

Abstract:
No abstract provided

Publication Date: March 12, 2017, 3:39 p.m.

Type: Vector Data

Regions: Italy

GET-IT User: gandalf

LEGEND

VIEWS USING THIS LAYER

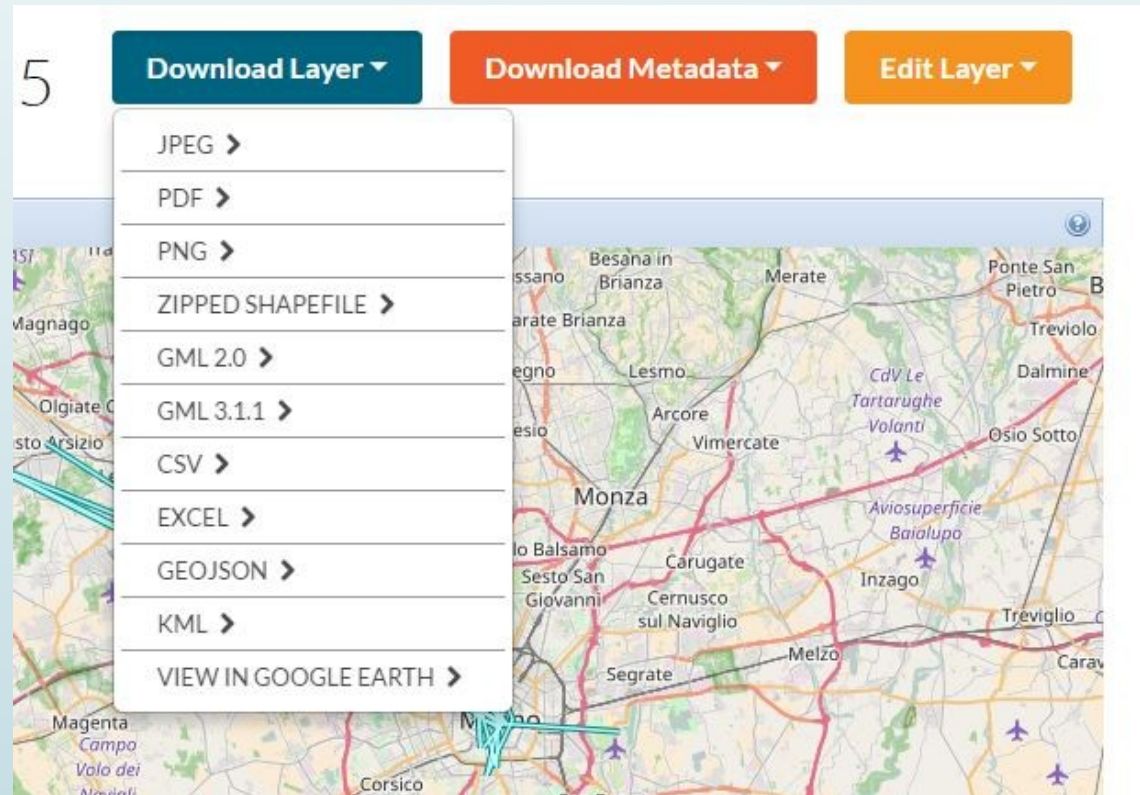
This layer is not currently used in any views.

- A. Here you can select the tile layer for the map
- B. This is a menu to navigate in a short summary of the layer's metadata.

A short Overview : Layer view

Download Layer.

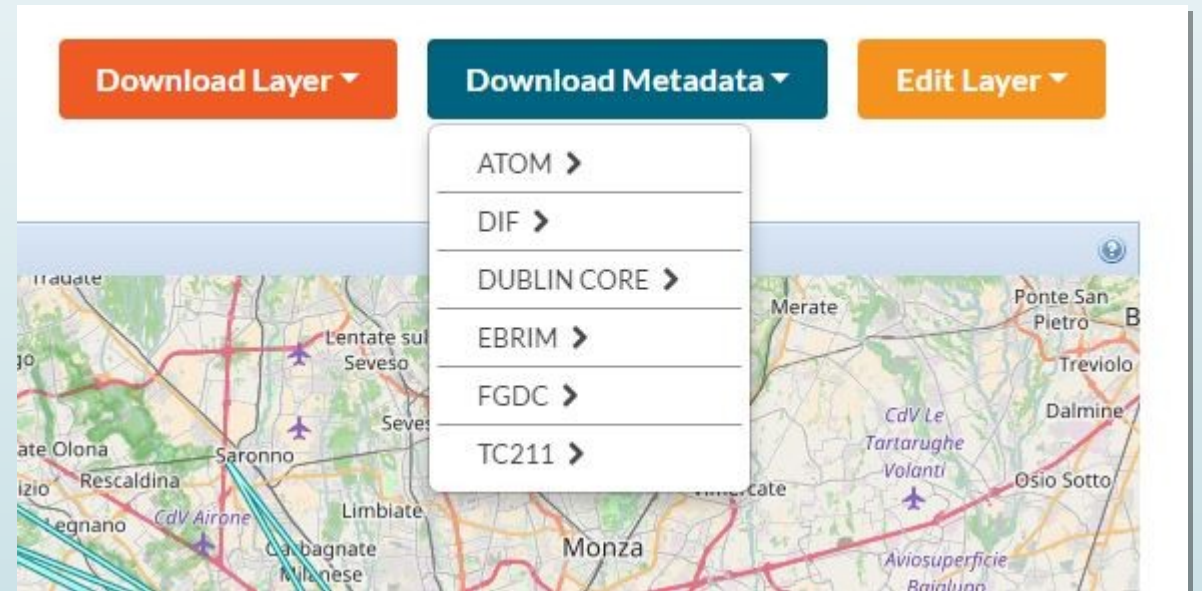
- In the upper right there is a voice for the layer download where you can select the output format.



A short Overview : Layer view

Download Layer.

- In the upper right there is a voice for the metadata dowload where you can select the output format.
- ATOM
- DIF
- DUBLIN CORE
- EBRIM
- FGDC
- TC211



A short Overview : Sensor page

The screenshot shows the 'Sensori' page of the Ritmare GET-IT application. The interface includes a top navigation bar with links like HOME, LAYER, SENSORI, DOCUMENTI, VISTE, UTENTI, CERCA, and SERVIZI. Below this is a search bar and a 'starterkit' dropdown. The main content area is divided into two columns. The left column, titled 'ESPLORA SOS', contains a sidebar with sections for 'Identificazione' (Titolo, Descrizione, Parole chiave) and 'Fornitore' (Nome, Nome dell'organizzazione, Ruolo, Indirizzo, Codice postale, Città). The right column, titled 'Sensori / Procedure', shows a list of sensors. A red box labeled 'a' highlights the details of a sensor named 'Pifometro', including its title, description, and a URL. Another red box labeled 'b' highlights the 'Crea un nuovo Sensore' button. A third red box labeled 'c' highlights the 'CARICA OSSERVAZIONI' button in the top navigation bar.

Ritmare GET-IT

Search... starterkit | Demo

HOME LAYER SENSORI DOCUMENTI VISTE UTENTI CERCA SERVIZI

ESPLORA SOS CARICA OSSERVAZIONI

ESPLORA SOS

Identificazione

Titolo
Prova

Descrizione
Prova test demo

Parole chiave

Fornitore

CNR-IREA

Nome
Luca

Nome dell'organizzazione
None

Ruolo
None

Indirizzo
via Ugo Foscolo, 1

Codice postale
23876

Città
Monticello Brianza

Sensori / Procedure

Numero di sensori: 1

Pifometro

Pifometro

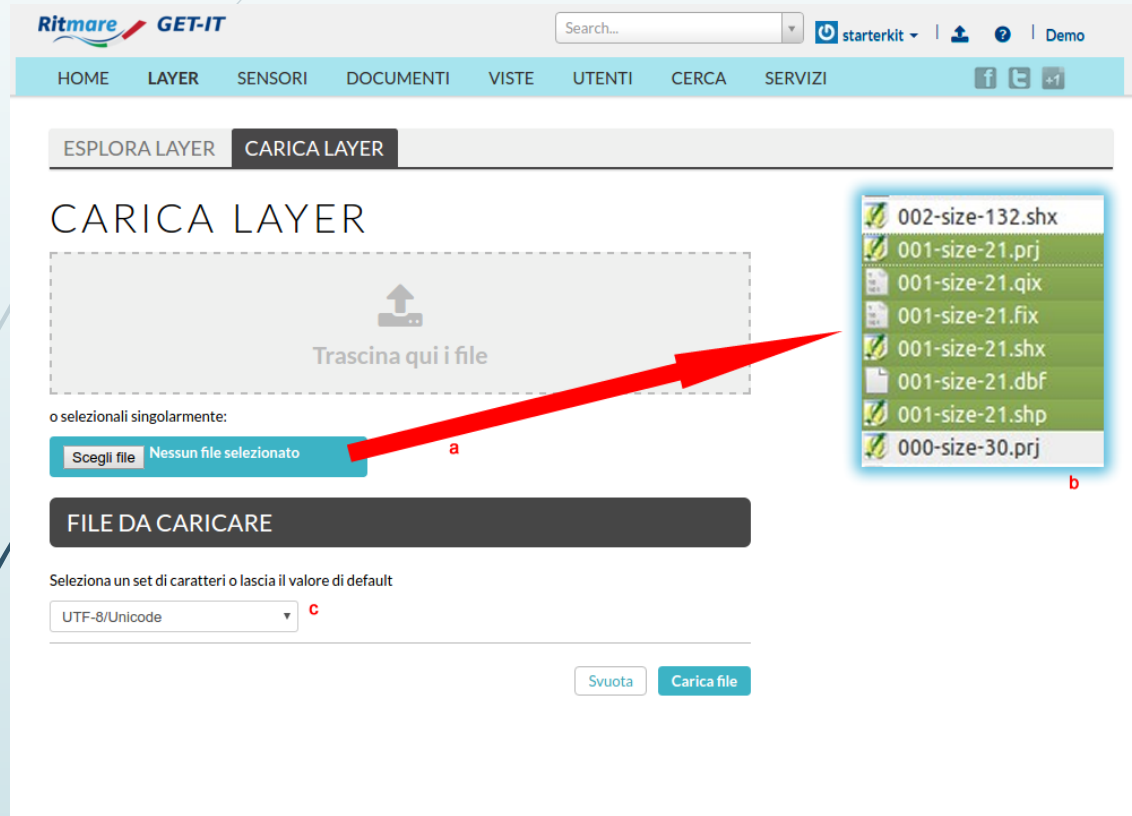
http://sp7.irea.cnr.it/sensors/192.168.144.128/procedure/Pifometro/Pifometro1/Pifometro1/20170307083247179_13652

[Dettagli del sensore](#) [Carica osservazioni](#) [Elimina sensore](#)

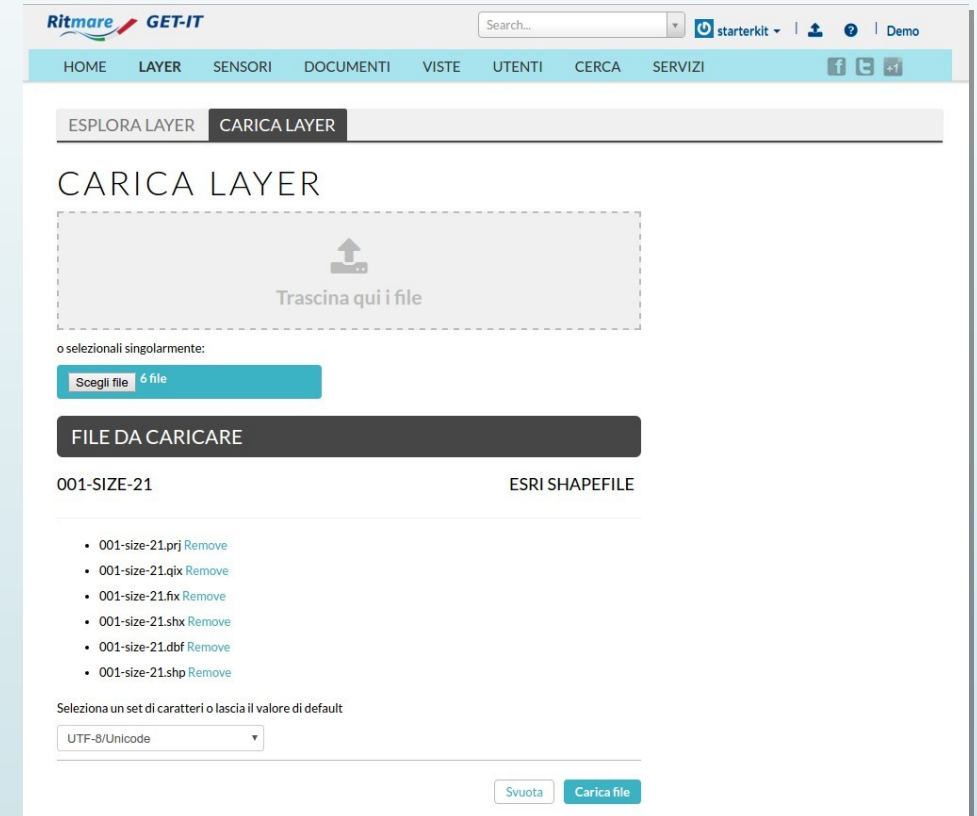
Crea un nuovo Sensore Capabilities »

- A. A list of the sensor have been already created.
To upload an observation, first you have to create a Sensor's metadata.
- B. The button to create the sensor's Metadata.
- C. The button to upload an observation value of a sensor.

Example 1 : Upload a new Layer...



- A. Select the shape files.
- B. yes all the files!
- C. Select the charset



If there are no error messages
Press «Carica File» button.

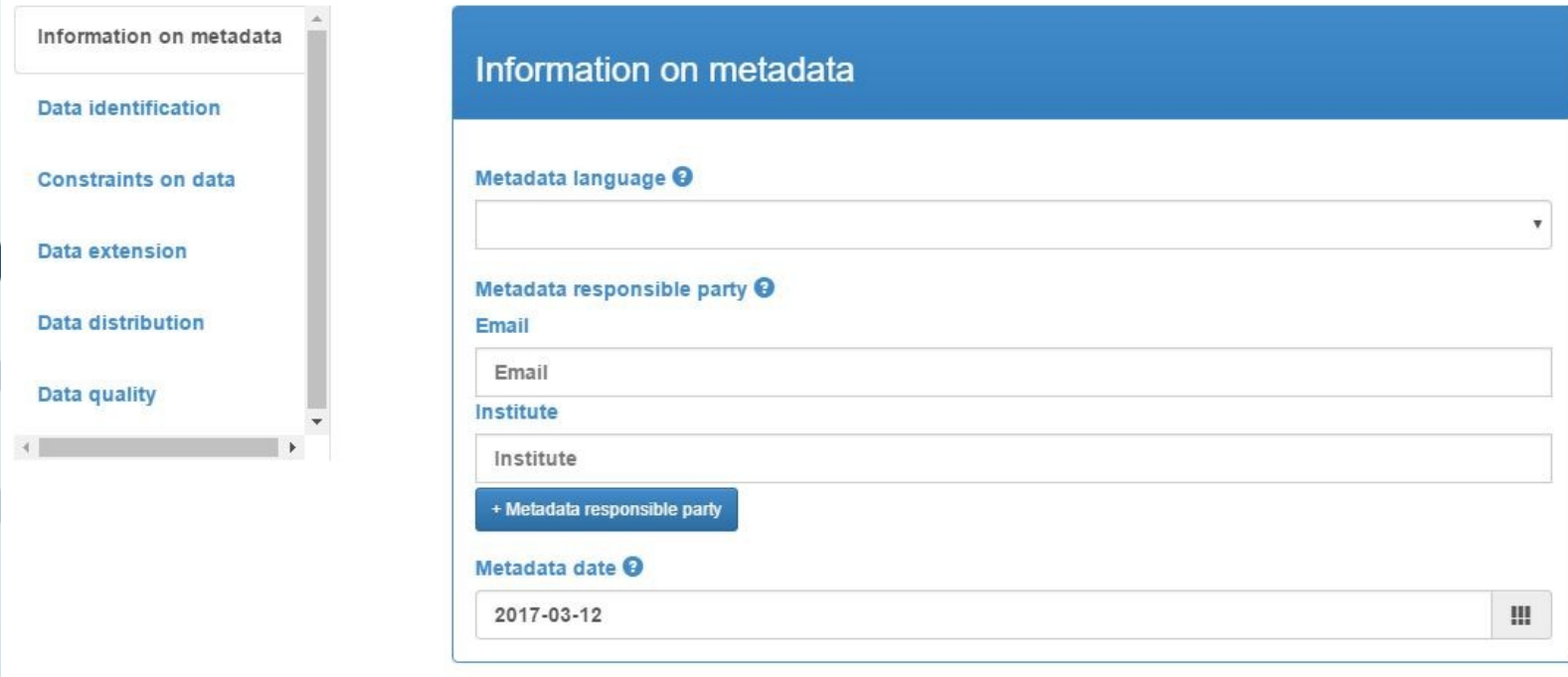
Example 1 : Upload Ok!

The screenshot shows the Ritmare GET-IT web interface. At the top, there is a navigation bar with links: HOME, LAYER, SENSORI, DOCUMENTI, VISTE, UTENTI, CERCA, and SERVIZI. A search bar is also present. The main heading is "CARICA LAYER". Below it, there is a dashed box with an upload icon and the text "Trascina qui i file". Underneath, it says "o selezionali singolarmente:" followed by a button "Scegli file" and "6 file". A dark grey bar labeled "FILE DA CARICARE" is visible. Below this, the layer name "001-SIZE-21" and type "ESRI SHAPEFILE" are shown. A list of files is displayed, each with a "Remove" link: "001-size-21.prj", "001-size-21.qix", "001-size-21.fix", "001-size-21.shx", "001-size-21.dbf", and "001-size-21.shp". A green success message box states "Your layer was successfully uploaded". A red arrow points to the "Edit Metadata" button within this box, which is also highlighted with a red rectangle. Other buttons in the box are "Layer Info" and "Manage Styles". At the bottom, there is a dropdown menu for character set selection, currently set to "UTF-8/Unicode".

If everything is ok... proceed by clicking Edit Metadata!

Example 1 : Edit Metadata! Information on Metadata

Edit metadata _0_864_000_size_5_6



The screenshot shows a web interface for editing metadata. On the left is a sidebar with a list of categories: 'Information on metadata' (selected), 'Data identification', 'Constraints on data', 'Data extension', 'Data distribution', and 'Data quality'. The main content area is titled 'Information on metadata' and contains several fields: 'Metadata language' (a dropdown menu), 'Metadata responsible party' (a section header), 'Email' (a text input field), 'Institute' (a text input field), a '+ Metadata responsible party' button, and 'Metadata date' (a date input field showing '2017-03-12' with a calendar icon).

Person in charge for Metadata is a controlled field. It checks the email in order to uniquely identify the person. It fills also the «institution» field automatically because each person belongs to an «institution».

In the next days I'll give you the link to the form to insert new persons and institutions to complete those kind of fields.

Example 1 : Edit Metadata! Data Identification

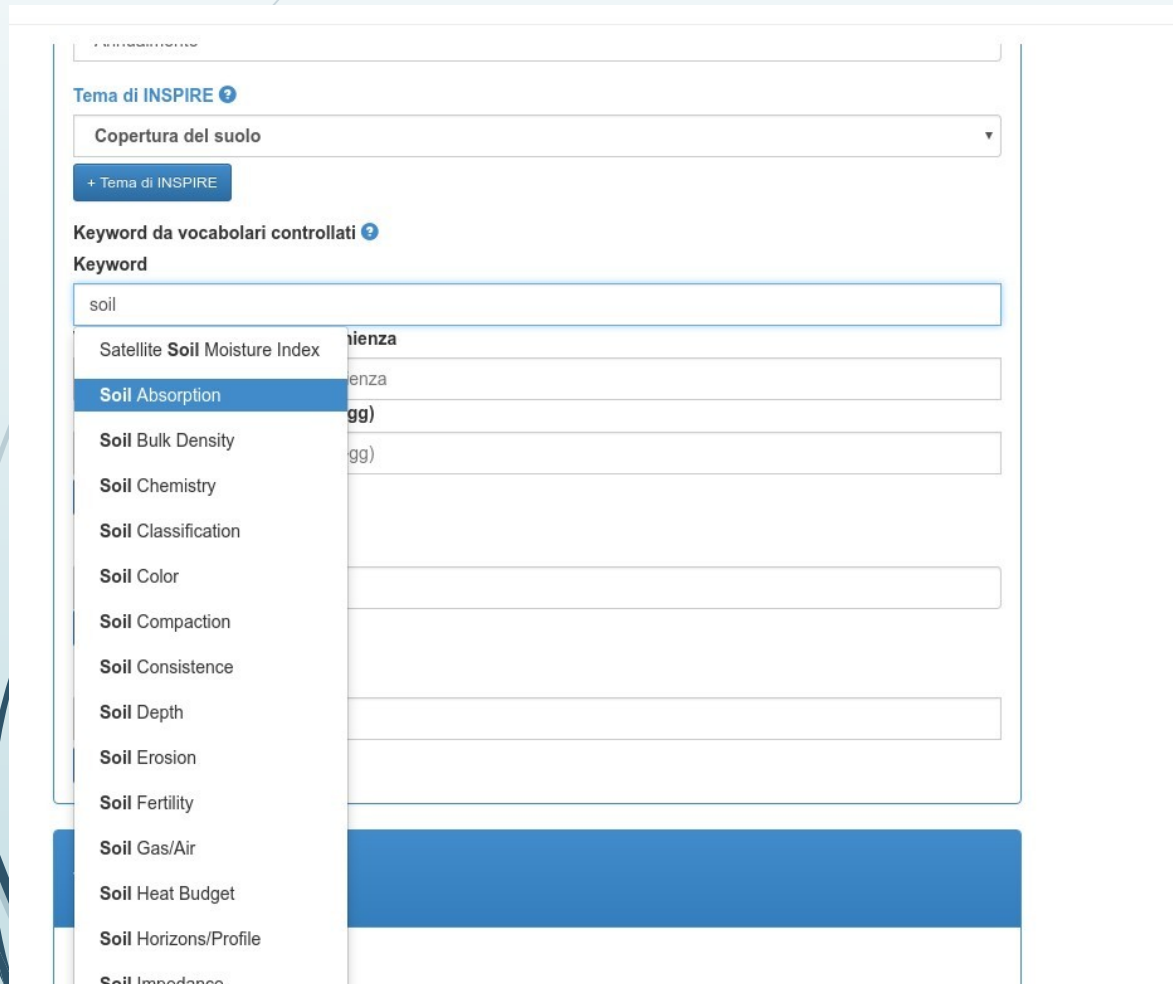
Edit metadata_0_864_000_size_5_6

The screenshot shows a web interface for editing metadata. On the left is a sidebar with a list of tabs: 'Information on metadata', 'Data identification', 'Constraints on data', 'Data extension', 'Data distribution', and 'Data quality'. The 'Data identification' tab is selected. The main content area has a blue header 'Data identification'. Below it are several form fields: 'Spatial reference system' (a dropdown menu), 'Title' (a text box containing '_0_864_000_size_5_6'), 'Date' (a text box with a calendar icon), 'Date type' (a dropdown menu), a '+ Date' button, 'Responsible party' (a section with 'Email' and 'Institute' text boxes), a '+ Responsible party' button, 'Presentation format' (a dropdown menu containing 'Mappa digitale'), and a '+ Presentation format' button.

Here you should select the Spatial Reference System (SRS).

- WGS84 World Geodetic System 1984
- NAVD88 N. American Vertical Datum 1988
- ETRS89 European Terrestrial Reference
- And a lot more...

Example 1 : Edit Metadata Controlled vocabulary



Tema di INSPIRE ?

Copertura del suolo ▼

+ Tema di INSPIRE

Keyword da vocabolari controllati ?

Keyword

soil

- Satellite Soil Moisture Index
- Soil Absorption**
- Soil Bulk Density
- Soil Chemistry
- Soil Classification
- Soil Color
- Soil Compaction
- Soil Consistence
- Soil Depth
- Soil Erosion
- Soil Fertility
- Soil Gas/Air
- Soil Heat Budget
- Soil Horizons/Profile
- Soil Impedance

Here one of the form's
autocompletion based
on a Controlled vocabulary.
(i.e. for soil consumption shall we use
FAO's AGROVOC Tesauro ?)



Keyword da vocabolari controllati ?

Keyword

Soil Absorption|

Vocabolario controllato di provenienza

GCMD - Earth Science Keywords, version 5.3.3

Data di pubblicazione (aaaa-mm-gg)

2007-01-01

+ Keyword da vocabolari controllati

Example 1 : Edit Metadata Constraints on Data

Edit metadata_0_864_000_size_5_6

The screenshot shows a web interface for editing metadata. On the left is a sidebar with a vertical list of menu items: 'Information on metadata', 'Data identification', 'Constraints on data' (which is highlighted with a white background), 'Data extension', 'Data distribution', and 'Data quality'. The main content area has a blue header 'Constraints on data'. Below this header, there are five sections, each with a title and a help icon (?):

- Use limitations ?**: A text input field containing 'Nessuna condizione applicabile (no applicable condition)'.
- Access constraints (visualisation, printing or reproduction of data) ?**: A dropdown menu showing 'Brevetto'. Below it is a blue button labeled '+ Access constraints (visualisation, printing or reproduction of data)'.
- Fruition constraints (processing of data) ?**: A dropdown menu showing 'Dato a conoscibilità limitata'. Below it is a blue button labeled '+ Fruition constraints (processing of data)'.
- Other constraints ?**: A text input field containing 'L'accesso e la fruibilità del dato sono pubblici (access and fruition of data is open)'. Below it is a blue button labeled '+ Other constraints'.
- Security constraints ?**: A dropdown menu showing 'Non classificato'.

Here you shall set rules to use your data.
The licence type and the security level.

Example 1 : Edit Metadata Data Extension

Edit metadata_0_864_000_size_5_6

The screenshot shows the 'Edit metadata' interface for a specific metadata record. The left sidebar contains a list of tabs: 'Information on metadata', 'Data identification', 'Constraints on data', 'Data extension' (selected), 'Data distribution', and 'Data quality'. The main content area is titled 'Data extension' and contains several sections:

- Spatial representation type**: A dropdown menu with a '+' button to add more types.
- Equivalent scale (denominator)**: A text input field.
- OR**: A red text label indicating an alternative field.
- Distance (at ground, in metres)**: A text input field.
- Language**: A dropdown menu with a '+' button to add more languages.
- Topic category**: A dropdown menu with the selected value 'Acque marine - Oceani' and a '+' button to add more categories.
- Geographic localisation**: A section highlighted with a red rounded rectangle, containing four text input fields for coordinates:
 - N latitude**: 45.632339
 - W longitude**: 8.71395855
 - E longitude**: 9.28000458
 - S latitude**: 45.43744161

As you can see from this picture, some of the Metadata fields have been already filled using the information retrieved by the shape files.

Example 1 : Edit Metadata Data Distribution & Quality

Edit metadata_0_864_000_size_5_6

The screenshot shows a web interface for editing metadata. On the left is a sidebar with a list of categories: 'Information on metadata', 'Data identification', 'Constraints on data', 'Data extension', 'Data distribution', and 'Data quality'. The 'Data distribution' and 'Data quality' categories are highlighted. The main content area is divided into three sections. The top section, 'Supplemental information', has a '+ Temporal extent' button and a text input field. The middle section, 'Data distribution', has a '+ Distributor' button and fields for 'Email' and 'Institute'. The bottom section, 'Data quality', has fields for 'Positional accuracy' and 'Lineage'.

Information on metadata

Data identification

Constraints on data

Data extension

Data distribution

Data quality

+ Temporal extent

Supplemental information ?

Data distribution

Distributor ?

Email

Email

Institute

Institute

+ Distributor

Data quality

Positional accuracy ?

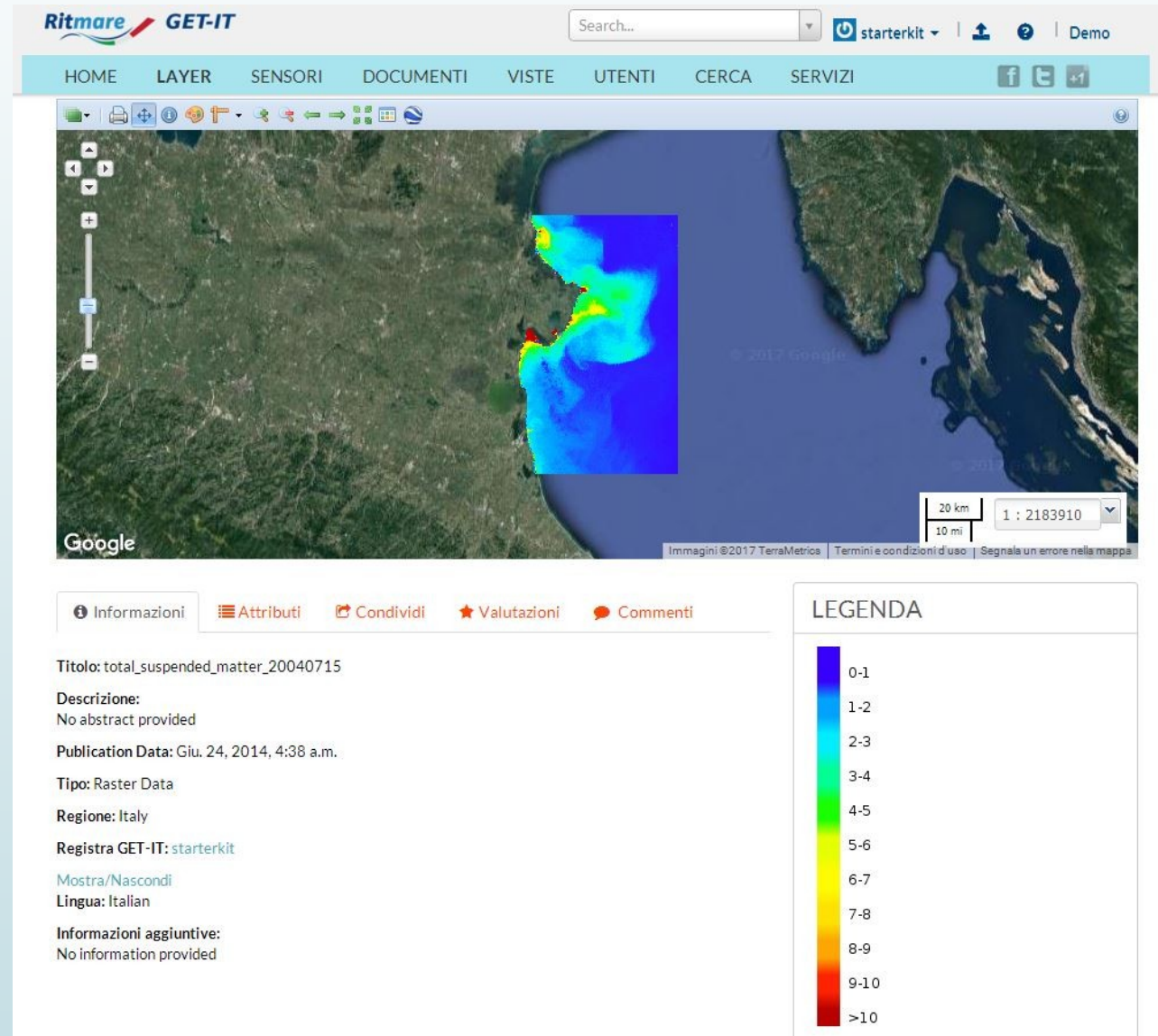
Lineage ?

We'll extend this RNDT Metadata with quality fields i.e. :

- Reliability of the source
- Time resolution (if it is a series)
- ...

Please suggest us if you have other specific quality indicator to use for you aims.

Example 1 : A new Layer...FINISH!



Example 2 : Register a new Sensor...



- In order to upload any observation you must create a sensor.
- In the Sensor Page click on

Example 2 : Register a new Sensor...

Description of the system & Keywords

Register Sensor

Descrizione del sistema

Parole chiave

Identificazione

Classificazione del sistema

Validità dei metadati del sistema

Caratteristiche

Punti di contatto

Documentazione tecnica del sistema

Storia del sistema

Posizione geografica

Descrizione del sistema

Nome del sistema/sensore/piattaforma ?

Descrizione sistema/sensore/piattaforma ?

Parole chiave

Parole chiave a campo libero ?

+ Parole chiave a campo libero

- **Description of the system**
Here you define the sensor name and a short description.
- **Keywords**
The keywords are usefull in order to help the search engine.

Example 2 : Register a new Sensor...

Register Sensor

Descrizione del sistema

Parole chiave

Identificazione

Classificazione del sistema

Validità dei metadati del sistema

Caratteristiche

Punti di contatto

Documentazione tecnica del sistema

Storia del sistema

Posizione geografica

Parametri misurati

Identificazione

Denominazione del produttore ?

Modello ?

Numero seriale ?

Classificazione del sistema

Parola chiave del ruolo ?

instrument



- Identification of the system
- System Classifiers

Example 2 : Register a new Sensor...

Register Sensor

Descrizione del sistema

Parole chiave

Identificazione

Classificazione del sistema

Validità dei metadati del sistema

Caratteristiche

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Documentazione tecnica del sistema

Storia del sistema

Posizione geografica

Parametri misurati

Validità dei metadati del sistema

Data inizio

!!!

Data fine

!!!

Caratteristiche

Stato del sistema ?

☐

Caratteristiche di mobilità ?

☐

Tipo di memoria ?

- Temporal validity of metadata description
- Capabilities

Example 2 : Register a new Sensor...

Register Sensor

Descrizione del sistema

Parole chiave

Identificazione

Classificazione del sistema

Validità dei metadati del sistema

Caratteristiche

Punti di contatto

Documentazione tecnica del sistema

Storia del sistema

Posizione geografica

Parametri misurati

Punti di contatto

Informazioni sul produttore ?

Telefono produttore

Indirizzo produttore

Città produttore

Area amministrativa produttore

CAP produttore

Nazione produttore

E-mail produttore

Sito web produttore

Informazioni sul proprietario ?

e-mail proprietario

Organizzazione proprietario

Telefono proprietario

➤ Relevant Contacts

Those fields are automatically filled if the values in the identification of the system fields have been recognized.

Example 2 : Register a new Sensor...

Register Sensor

Descrizione del sistema

Parole chiave

Identificazione

Classificazione del sistema

Validità dei metadati del sistema

Caratteristiche

Punti di contatto

Documentazione tecnica del sistema

Storia del sistema

Documentazione tecnica del sistema

Documentazione ?

Data della documentazione ?

Data della documentazione

Formato elettronico della documentazione ?

Link alla documentazione ?

Link alla documentazione

Link all'immagine ?

- **System documentation**
Information regarding the documentation of the sensor and where to find it.

Example 2 : Register a new Sensor...

Register Sensor

Descrizione del sistema

Parole chiave

Identificazione

Classificazione del sistema

Validità dei metadati del sistema

Caratteristiche

Punti di contatto

Documentazione tecnica del sistema

Storia del sistema

Posizione geografica

Parametri misurati

Storia del sistema

Eventi cui il sistema è andato incontro nel tempo (es. modifiche, ricalibrazione, ecc.)

Installazione ?

Data di installazione

Data di installazione

Descrizione della installazione ?

Descrizione della installazione

Link a documentazione dell'installazione ?

Link a documentazione dell'installazione

Aggiornamenti del sistema ?

Data aggiornamento sistema

Data aggiornamento sistema

Descrizione tipologia di aggiornamento ?

Descrizione tipologia di aggiornamento

+ Aggiornamenti del sistema

➤ History

When and Where the sensor is installed and information regarding the documentation of that process.

Example 2 : Register a new Sensor...

Register Sensor

Descrizione del sistema

Parole chiave

Identificazione

Classificazione del sistema

Validità dei metadati del sistema

Caratteristiche

Punti di contatto

Documentazione tecnica del sistema

Storia del sistema

Posizione geografica

Posizione geografica

Sistema di riferimento ?

Est ?

Valore (decimi di grado)

Nord ?

Valore (decimi di grado)

Altitudine ?

- **Position Properties**
It asks you the reference system and the position.

Example 2 : Register a new Sensor...

Register Sensor

Descrizione del sistema

Parole chiave

Identificazione

Classificazione del sistema

Validità dei metadati del sistema

Caratteristiche

Punti di contatto

Documentazione tecnica del sistema

Storia del sistema

Posizione geografica

Parametri misurati

Valore (decimi di grado)

Nord ?

Valore (decimi di grado)

Valore (decimi di grado)

Altitudine ?

Parametri misurati

Data e ora dei parametri misurati ?



Parametro misurato ?

Nome parametro misurato ?

Nome parametro misurato

Descrizione del parametro misurato ?

Descrizione del parametro misurato

Unità di misura ?

Unità di misura

Ampiezza valori ammissibili ?

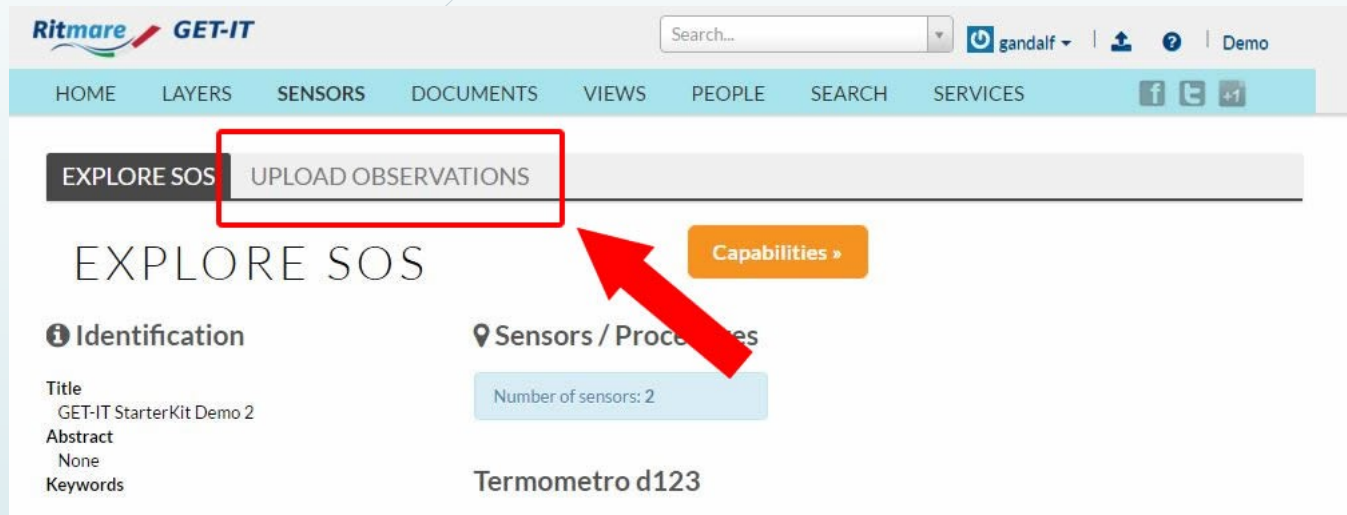
Ampiezza valori ammissibili

+ Parametro misurato

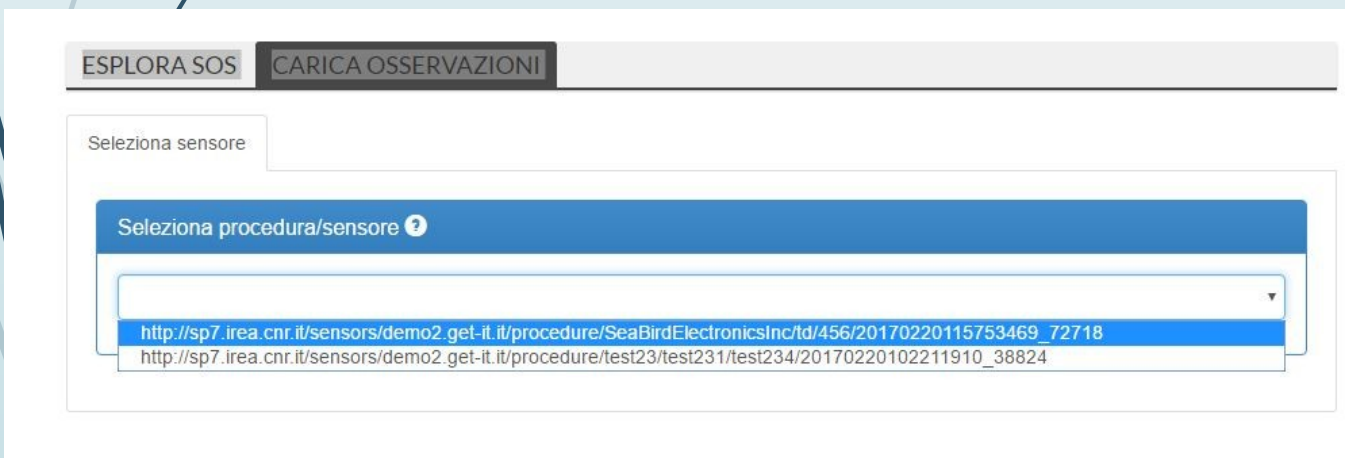
- **Output Signal**
Information regarding the signal or the signals measured by the sensor.

Now click on Register button at the bottom right.

Insert an observation Step 1

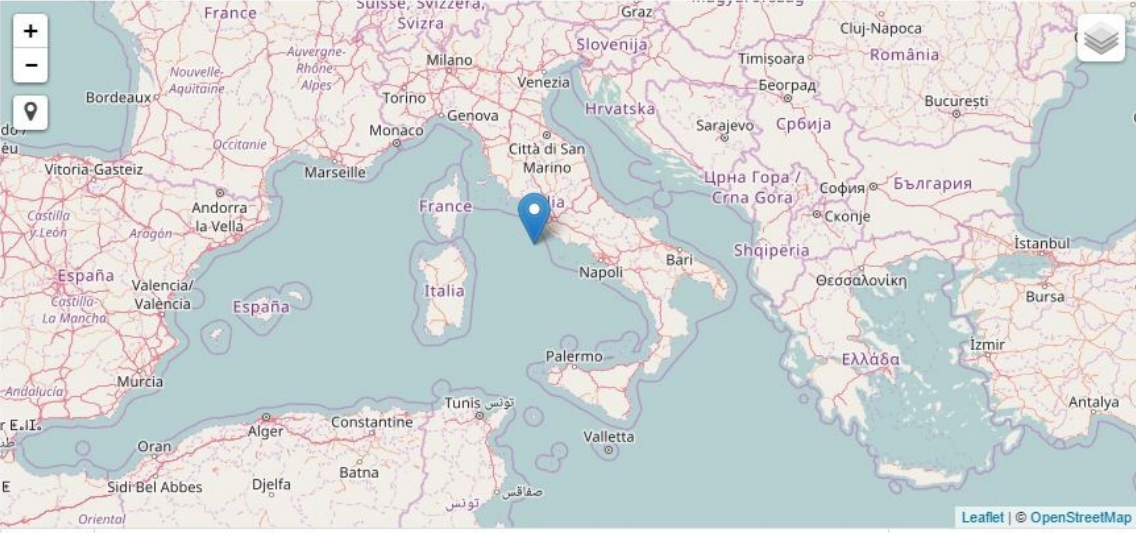


- Go to the Sensor Page
- Click on :
[Upload Observations](#)
- Select the Sensor



Insert an observation Step 2

Select one of the available "Features of Interest" or create a new one ?



Name ?	Sampling point ?			Sampled Feature (URI) ?
	Lat.	Lon.	SRS	
testabcd	41.22163861539468	11.997070312499998	http://www.opengis.net/def/crs/EPSPG/0/4326	http://demo2.get-it.it/geoserver/ows?service=WFS&version=1.0.0&r...
			wgs84	

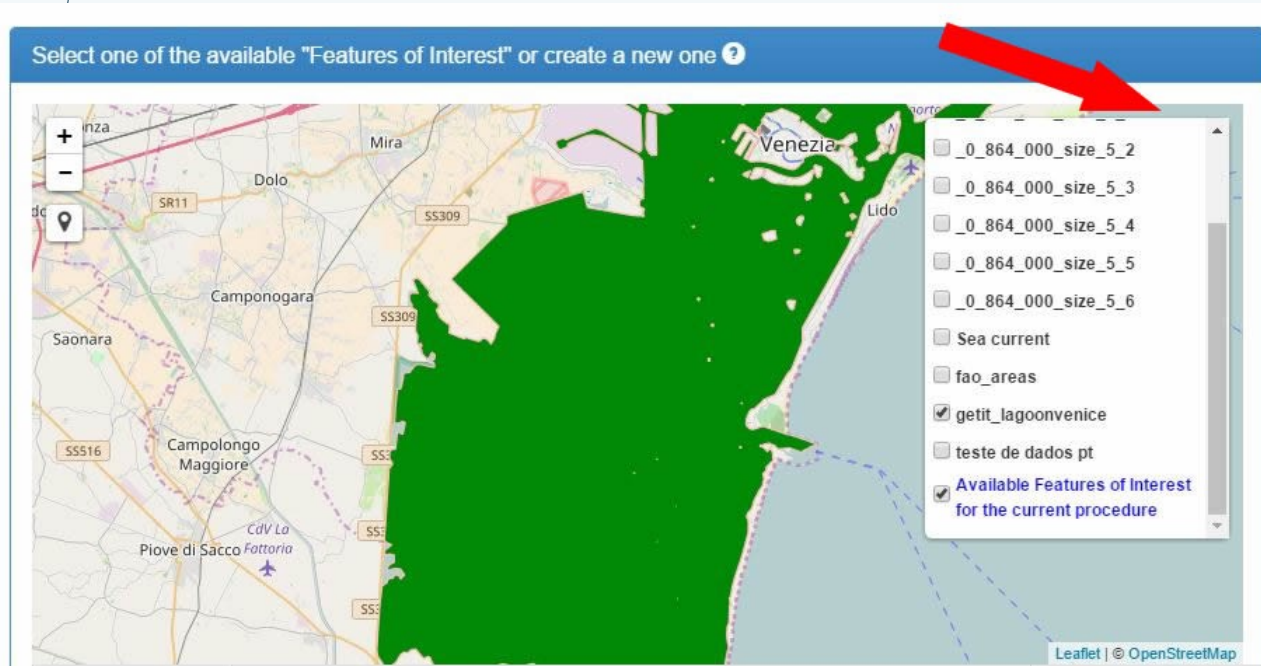
Tips

- You can input the coordinates for a new feature right clicking on the map
- You can use the map to choose (by left click) a Sampled Feature from the local WFS
- Features of Interest already inserted for the chosen Sensor/Procedure are displayed on the map. Click their marker to obtain more info
- Use the control layer on the map to show/hide layers

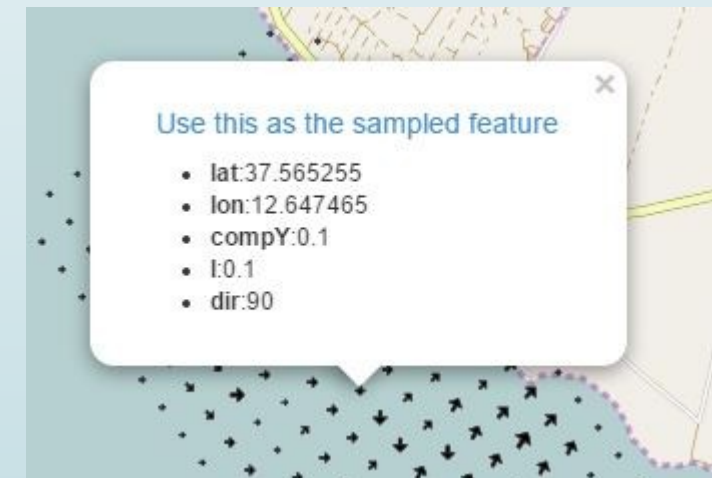
- This is where you select the coordinates. By default you can use the coordinates provided by the description of the sensor. Simple click on the marker and on the button «USE» on the pop up window.
- Otherwise, if you desire to use other coordinates, simple click with the right button on the map on the desired location.
- A notification like this'll appear. If the position is right, click on «**Set this as the sampling position for the new feature**»



Insert an observation Step 3



- If you decide to use a new position for the sensor, you need to fill also the «Sample Feature (URI)» field.
- Go to the upper corner and select the layer you need.
- Click the left button on the layer selected and click on «[Use this as the sampled feature](#)»



Insert an observation Step 4

Sampling point ⓘ			Sampled Feature (URI) ⓘ	Action
Lat.	Lon.	SRS		
41.22163861539468	11.997070312499998	http://www.opengis.net/def/crs/EPSSG/0/4326	http://demo2.get-it.it/geoserver/ows?service=WFS&version=1.0.0&r...	Use
41.22515042620	12.034320831298	wgs84	http://demo2.get-it.it/geoserv...	Use

can input the coordinates for a new feature right clicking on the map
can use the map to choose (by left click) a Sampled Feature from the local WFS
features of Interest already inserted for the chosen Sensor/Procedure are displayed on the map. Click their marker to obtain
info
se the control layer on the map to show/hide layers

A

- A. Once you have inserted the coordinates move the bottom bar (A) to show the buttons
- B. Check if Sample Feature (URI) is right
- C. Press button «Use»

Insert an observation Step 5

Insert data

Fill in the data manually or paste them from a spreadsheet, without headings. Please check the order of columns here proposed.

Show accepted date-time formats.

save data

ResultTime

Please check the result time (i.e. the time when the result became available). Change it if different from the last phenomenonTime (default).

2011-11-11T11:11:00

phenomenonTime	Temperature_daily_min
2011-11-11T11:11:00	5.000

save data

reset table

- Now you can insert the values of the observations
- Manually insert the date on the desired format (to check the format press «[Show accepted date-time formats](#)»)
- Insert values
- Press Save data button
- Observation inserted

Last thing.. .where you can find the link to alla services ?

Web Services di GET-IT

GET-IT fornisce i seguenti servizi web interoperabili per la ricerca, la visualizzazione ed il download dei datasets geografici seguendo gli standard [OGC](#).

[WMS](#) [WFS](#) [WCS](#) [CSW](#) [WMTS](#) [SOS](#)

Per [Sensor Observation Service \(SOS\)](#) si intende una specifica tecnica definita dall'[OGC](#), applicabile nel caso occorra che i dati raccolti da sensori siano gestiti in una logica interoperabile. Questo standard definisce un servizio web che permette di effettuare interrogazioni sulle osservazioni (utilizzando lo schema [Observation&Measurement - O&M](#)), sui metadati dei sensori (utilizzando lo schema [Sensor Model Language - SensorML](#)) nonché sulle caratteristiche osservate; ancora permette di registrare un sensore, ma anche cancellarne la registrazione, definendo anche le operazioni per inserire nuove osservazioni.

Generalmente un SOS a tutte le richieste risponde con un XML, ma per una visualizzazione più idonea si consiglia l'uso di applicazioni client come [GIS-Desktop](#) o [WEB-GIS](#) che forniscono all'utente controlli interattivi.

URL:

<http://10.0.5.12/observations/sos>

[Capabilities Link](#)

Navigate in the top menu bar and select «Services»

Here it is the page with all the desired link.

GeoServer Instance

- In order to access to the native GeoServer instance simply add «/geoserver/web/» to your domain or ip.
(i.e. <http://demo2.get-it.it/geoserver/web/>)
- The credentials are :
- USER NAME : *starterkit*
- PASSWORD : *sk2014*



Finish!
Thanks!

