

C-READ (Caribbean - Regional Environmental and Atmospheric Data) Management System



Caribbean Community
Climate Change Centre



C-READ (Caribbean - Regional Environmental and Atmospheric Data) Management System

Module 3: C-READ GeoNode

Bridgetown, Barbados, Oct 1, 2015

Facilitated by: David Oswald, DE Design + Environment Inc.

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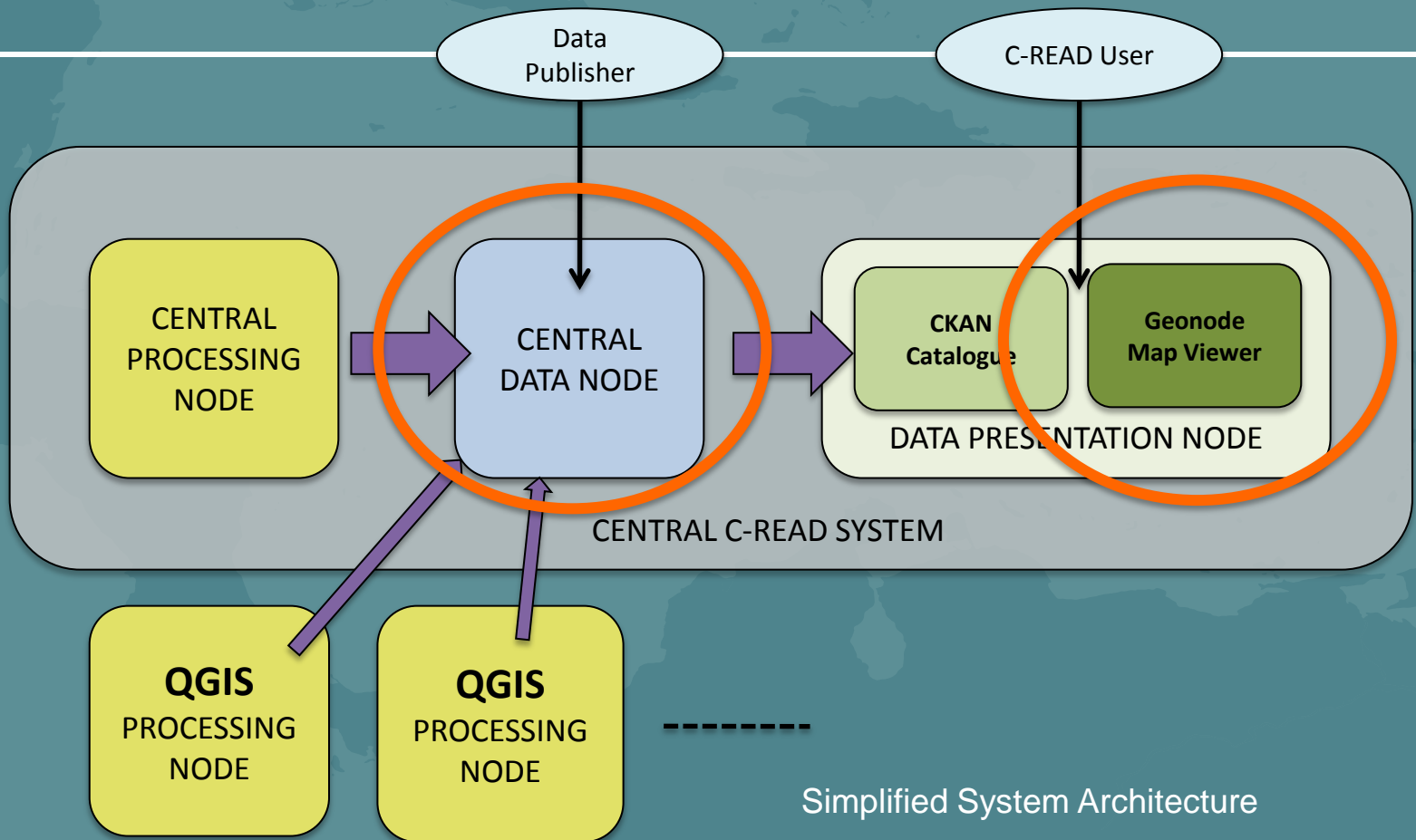
C-READ GeoNode

Purpose:

- GeoNode is the component of C-READ for viewing data geospatially and also creating maps
- As a non-registered user, it is read only
- As a registered user one can combine layers, integrate data, and create maps
- These maps can be saved and then distributed / shared on C-READ

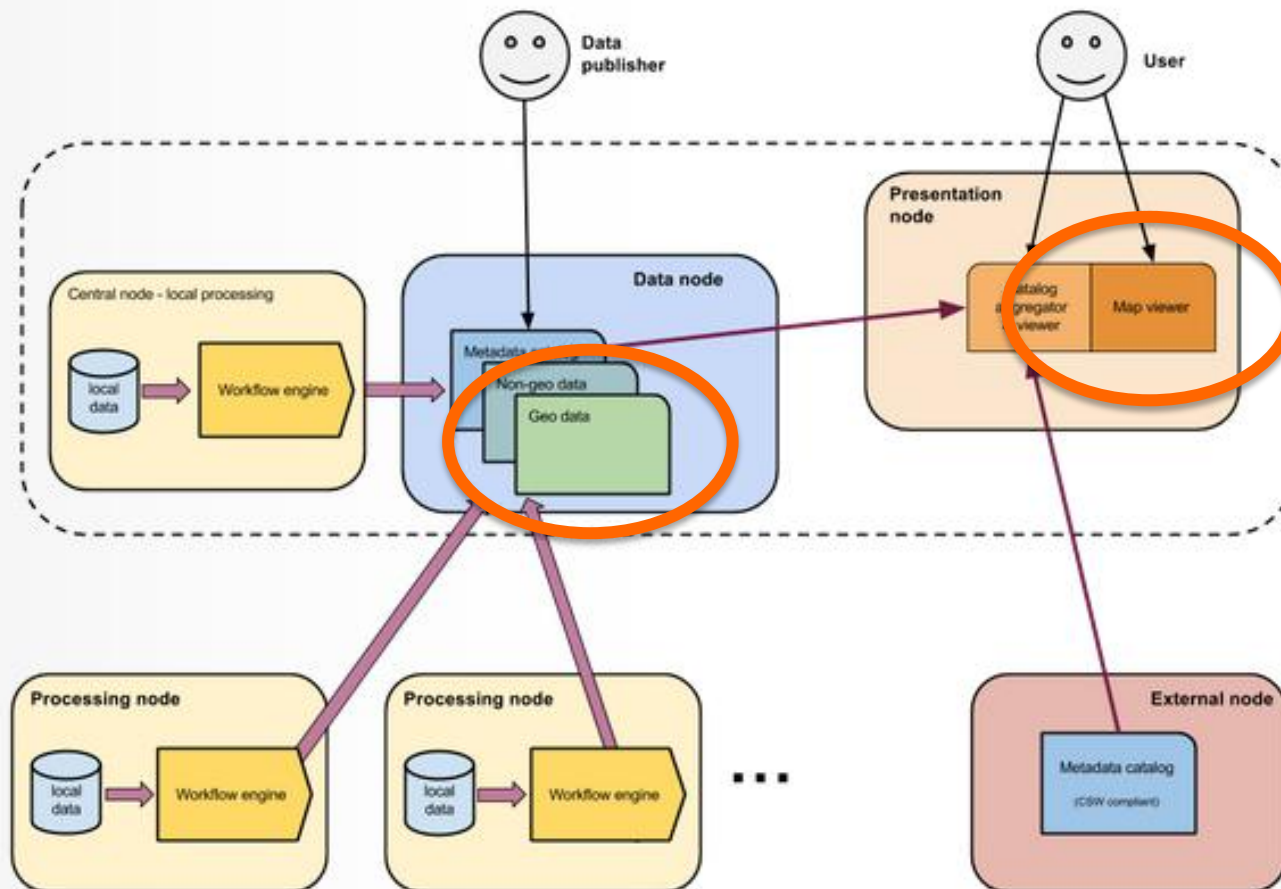
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Full System Architecture

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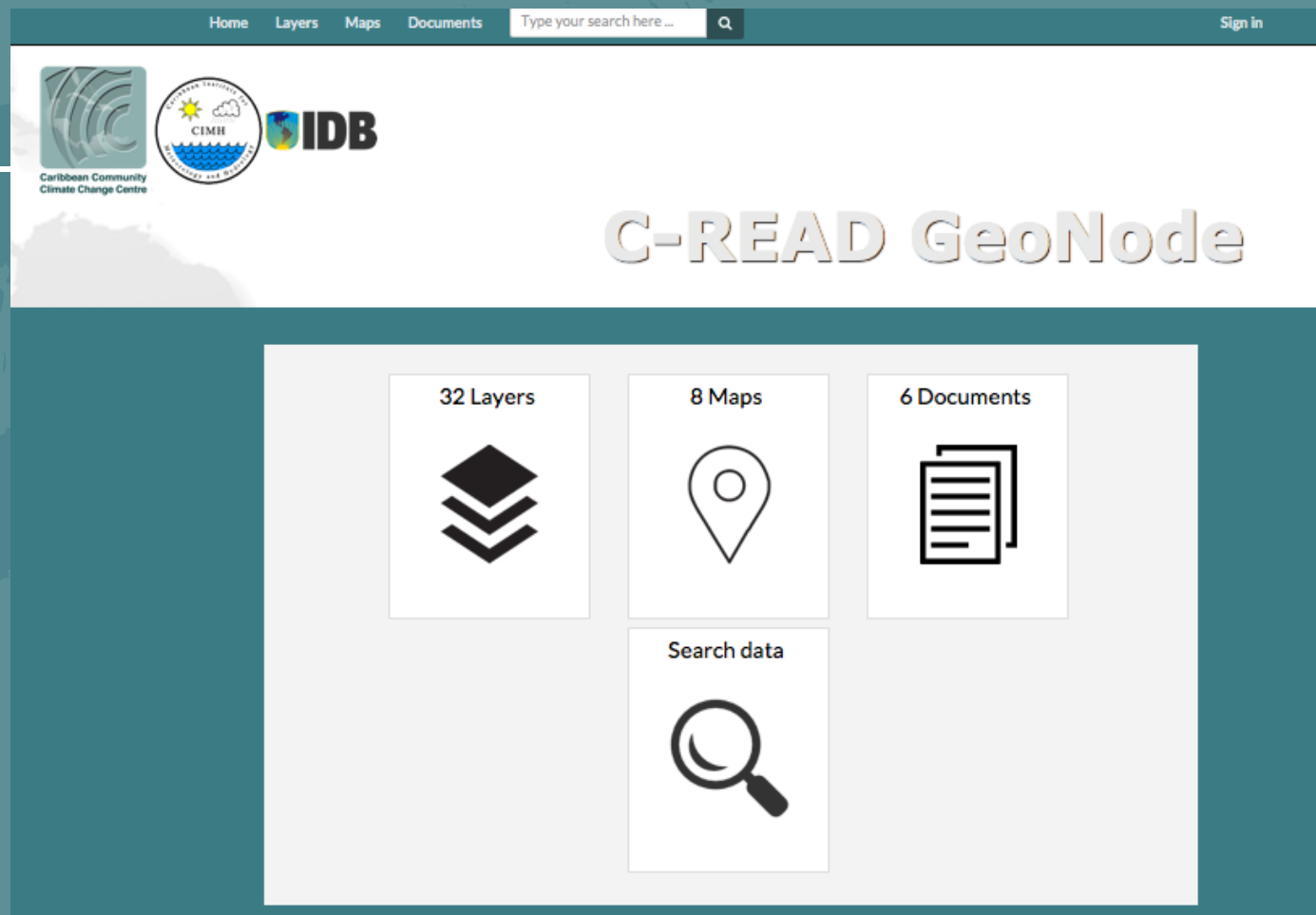
C-READ GeoNode - Interface

Interface:

- The interface is specifically designed to make information easy to access
- It is particularly easy to integrate layers together to make maps
- Users familiar with GIS will see common elements
- <http://data.cread.geo-solutions.it>

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C-READ GeoNode Interface

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C-READ GeoNode - Registration

Starting – User Registration

- Only registered users can manipulate or upload data
- Click on 'sign up' to register
- Enter information and you will have registration confirmed via email

<http://hub.cread.geo-solutions.it>

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C-READ GeoNode – Data Types

Key Data Elements – Document Types

- C-READ GeoNode deals with different types of documents: layers, maps, and documents
- These elements can be woven together and shared
- Social functions such as user profiles, comments, and ratings allow for the creation of user communities

<http://hub.cread.geo-solutions.it>

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C-READ GeoNode - Data Types

Layers

- Primary component of the C-READ GeoNode
- Layers are publishable resources that are geospatial data such as raster or vector data sources and their associated metadata, ratings, and comments
- Clicking on the 'layers' button will produce a list of all published data sources. If logged on as an administrator, the unpublished layers will also show

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Home Layers Maps Documents Type your search here ... Sign in

Explore Layers

Upload Layers

Your selections Clear all filters

▼ TEXT

Enter your text here ...

▼ CATEGORIES

- HydroMet (4)
- Risks (1)
- Environment (2)
- Ocean (2)
- Land (7)
- Agriculture (1)
- Water (3)
- Economy (11)

▼ TYPE


- Raster (4)
- Vector (28)

► KEYWORDS

► DATE


► REGIONS

▼ EXTENT




Leaflet | Map tiles by Stamen Design

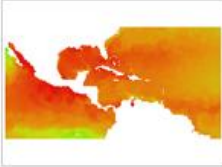
Total: 32 Most recent Less recent A-Z Z-A Most popular



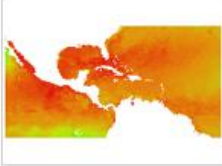
Test layer for training geo6b80
Land Cover and Land Use
Land Cover and Land Use
by sysadmin
A longer description of the layer.
26 Aug 2015 | 3 | 0 | 0 | 0 Create a Map



GLOBAL_ANALYSIS_FORECAST_PHYS_001_002_ssh
Meteorological and Hydrological Data and Projections
Weather forecasting
by sysadmin
No abstract provided
13 Aug 2015 | 9 | 0 | 0 | 0 Create a Map



GLOBAL_ANALYSIS_FORECAST_PHYS_001_002_sst
Meteorological and Hydrological Data and Projections
Weather forecasting
by sysadmin
No abstract provided
12 Aug 2015 | 9 | 0 | 0 | 0 Create a Map



JPL_OUROCEAN_L4UHfnd.GLOB
Meteorological and Hydrological Data and Projections
Precipitation and general meteorologic monitoring
by sysadmin
A daily, global Sea Surface Temperature (SST) data set is produced at 1-km.
12 Aug 2015 | 7 | 0 | 0 | 0 Create a Map

Explore layers with GeoNode

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C-READ GeoNode - Data Types

Layers

- Users can upload layers – raster and vector in their original projection
- The vector files are uploaded as ESRI shapefiles (.shp)
- The raster files are uploaded as geotiffs

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C-READ GeoNode - Data Types

Maps

- Maps are one of the fundamental value-added data products of C-READ
- They are comprised of a series of different layers and their styles
- The layers may be locally stored on C-READ GeoNode or be accessed from some other web-accessible location –
- External layers can come from other WMS servers or from other web service layers such as Google or Mapquest

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C-READ GeoNode - Data Types

Maps

- Maps can be unpublished or published.
- Administrators will be able to see all maps – unpublished or published
- Clicking on the 'maps' button will produce a list of all published data map sources.

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Home Layers Maps Documents Type your search here ... Sign in

Explore Maps

Create a New Map

Your selections Clear all filters

▼ TEXT

Enter your text here ...

▼ CATEGORIES

HydroMet 1

> KEYWORDS

> DATE

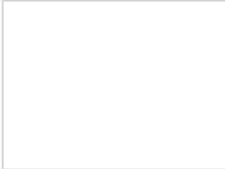
> REGIONS

▼ EXTENT


Europe Asia
Africa
South America

Leaflet | Map tiles by Stamen Design


Total: 4 Most recent Less recent A-Z Z-A Most popular




Map -- training
Meteorological and Hydrological Data and Projections
Hydrological monitoring
by sysadmin
This map has been created using the template [Sample template]. Template for training
26 Aug 2015 | 1 | 0 | 0 | 0 View Map



test map
by sysadmin
test test test test
26 Aug 2015 | 1 | 0 | 0 | 0 View Map



test temporal map
by sysadmin
24 Aug 2015 | 2 | 0 | 0 | 0 View Map



Surface Geology
by sysadmin
Test map.
11 May 2015 | 18 | 0 | 0 | 0 View Map

< page 1 of 1 >

Explore maps with GeoNode

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C-READ GeoNode - Data Types

Maps

- Users can view different maps
- Users may also create a new map based on published layers or data coming from external sources
- The combined layers are re-projected to web mercator for viewing
- Once published, other users will be able to search for maps using keywords or geographic extent

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C-READ GeoNode - Data Types

Documents

- C-READ GeoNode also provides for the publication of documents
- These are tabular or text data as well as metadata and associated documents
- The 'documents' button will take the user to this sub section

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[Home](#)
[Layers](#)
[Maps](#)
[Documents](#)

[Sign in](#)

Explore Documents

[Upload Documents](#)

Your selections

Clear all filters

▼ TEXT

Enter your text here ...

▼ CATEGORIES

HydroMet 4

▼ DOCUMENT TYPE

Text 4

Presentation 1

▼ KEYWORDS

▼ DATE

▼ REGIONS

▼ EXTENT

Leaflet | Map tiles by Stamen Design

Total: 5

Most recent Less recent A - Z Z - A Most popular

no image

TEST for trailing Belize_Airport_Rain_1960_2014
Meteorological and Hydrological Data and Projections
Precipitation and general meteorologic monitoring
 by sysadmin

Belize_Airport_Rain_1960_2014.csv

26 Aug 2015 | 0 | 0 | 0 | 0

no image

Belize Central Farm
Meteorological and Hydrological Data and Projections
Precipitation and general meteorologic monitoring
 by sysadmin

Belize Climatology data for years 1971 - 2000 measured at (17.18; -89.00) Data is in CSV format. Data include: TN TX VP WN RN

7 Aug 2015 | 3 | 0 | 0 | 0

no image

Belize Climatology Data
Meteorological and Hydrological Data and Projections
Precipitation and general meteorologic monitoring
 by sysadmin

Belize Climatology data for years 1951 - 2013 measured at PSWGLA01 (17.53; -88.3). Data is in CSV format. Data include: - Sunshine (hours) - Minimum temperature - Maximim temperature - Vapour pressure - Wind speed - Rainfall

7 Aug 2015 | 1 | 0 | 0 | 0

no image

Dominica Daily Rainfall
Meteorological and Hydrological Data and Projections
Precipitation and general meteorologic monitoring
 by sysadmin

Dominica Daily Rainfall at Canefield Airport (TDCF). Data is in CSV format.

7 Aug 2015 | 1 | 0 | 0 | 0

Jamaica economic sector indicators

Explore documents with GeoNode

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C-READ GeoNode - Usage

How do you use it? What are the key functions?

- (1) Searching and viewing layers, maps, and documents
- (2) Uploading layers
- (3) Creating maps
- (4) Creating mosaics and time series

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C-READ GeoNode - Usage

How do you use it? Searching

- Selecting search will allow keyword search
- Filters can also be used for specific types of data – maps, layers, docs
- Geographic extent can be used as well

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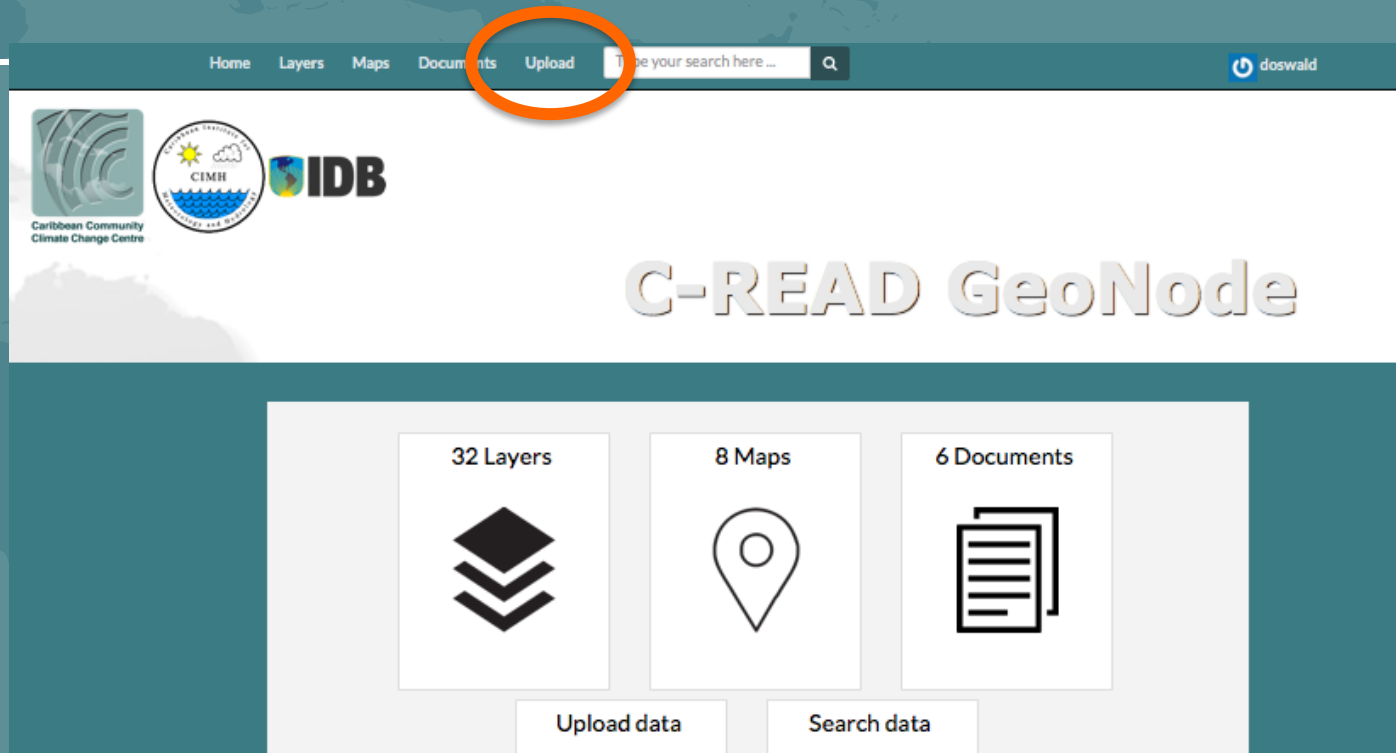
C-READ GeoNode - Layers

How do you use it? Uploading layers

- Ensure you are logged in
- Click on 'upload' on main menu bar
- The upload screen will come up where user can select type of data
- Select 'Upload geographic data'

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'Upload' selection for adding data to GeoNode

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Home Layers Maps Documents Upload Type your search here ...

Upload Data

TODO: here you can choose a data type to upload... etc etc. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Upload geographic data »

Geographic data

TODO: How-to upload geographic data. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Upload documents »

Textual data (or other non-geographic data)

TODO: How-to upload non-geographic data. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Thematic map »


Create a thematic map

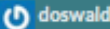
TODO: How-to create a map. You can create a map by using the data layers which are already inside the C-READ system. You'll have to choose one of the predefined templates, and then you'll have to add to the map the layers belonging to the categories required by the template. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur.

Select upload Geographic data

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[Home](#) [Layers](#) [Maps](#) [Documents](#) [Upload](#) 




Upload Layers

- 1. Upload data
- 2. Edit metadata
- 3. Publish

This is the first step in the data upload procedure: you'll have to select the files you want to upload to the system.

After you've selected the files, you'll have to upload them to the central node. This action may take some time, according to the file size you are going to transfer.

Once your data have been uploaded to the server, you will be able to add to it some required information that will help users to search for your new data in the system.



Drop files here

or select them one by one:

no files selected

Files to be uploaded

Advanced options

English 

Drop files or choose files

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C-READ GeoNode - Layers

How do you use it? Uploading layers

- You can upload either a shapefile
- You can upload a zipped shapefile
- You can upload a GeoTiff file

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C-READ GeoNode - Layers

How do you use it? Uploading layers

- Once you have uploaded the layer, you can **edit the metadata**
- The minimum metadata required is: Title; Abstract; C-READ category / subcategory
- Advanced metadata can also be filled in (the categories are aligned with the ISO 19115 standard)

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C-READ GeoNode - Layers

How do you use it? Publishing layers

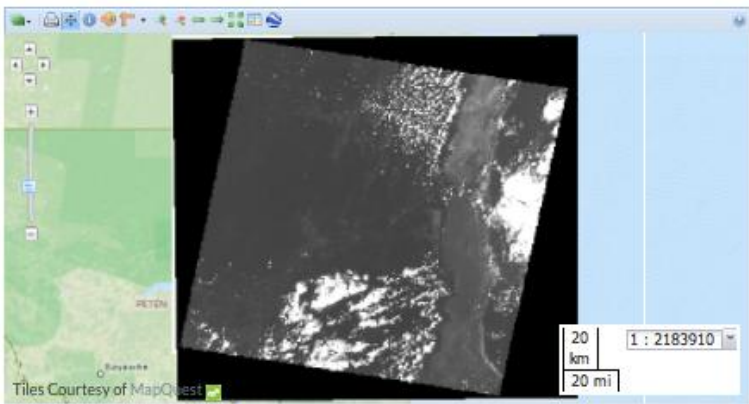
- Once meta data is entered, you can publish the layer
- Administrator access can go back an edit or un-publish the layer as well

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Home Layers Maps Documents Upload Type your search here ... doswald

Landsat Imagery of Belize



Info Attributes Share Ratings Comments

Title Landsat Imagery of Belize
License Open Data Commons Open Database License / OSM (ODbL/OSM)
Abstract Image of from Landsat TM - Band 1 - acquired on Mar 7, 2001. Over Belmopan, Belize
Publication Date Sept. 27, 2015, 2:06 a.m.
Type Raster Data
Category Geoscientific Information
Regions Belize
Owner doswald
 More info

Unpublished

Download Layer

Edit Layer

Download Metadata

Legend

Maps using this layer
 This layer is not currently used in any maps.

Styles
 The following styles are associated with this layer. Choose a style to view it in the preview map.
 No styles associated with this layer

About
 Owner, Point of Contact, Metadata Author
 doswald
 DE Design and Environment Inc.

English

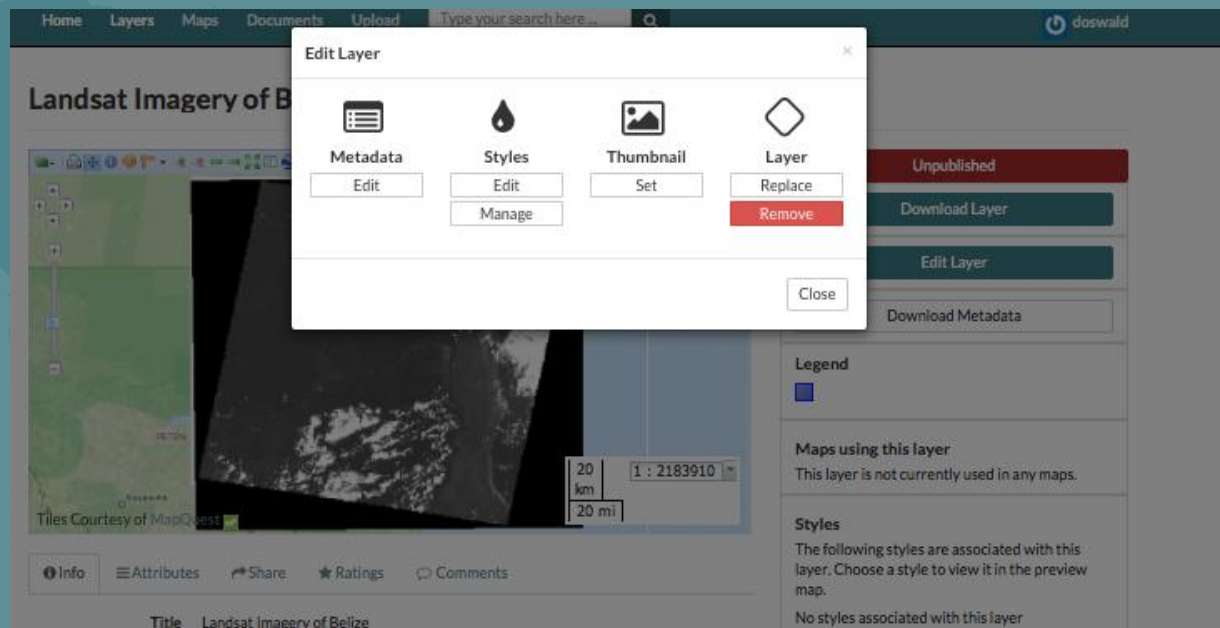
'Upload' selection for adding data to GeoNode

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C-READ GeoNode - Layers

How do you use it? Edit Styles



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C-READ GeoNode - Layers

How do you use it? Edit Styles

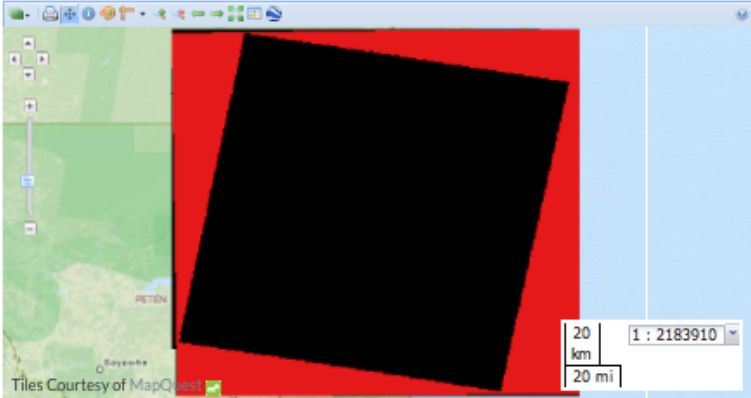
- Styles correspond to the attributes of layer elements – such as colours of different classified raster data (forest, soil, etc)
- Attributes of vector data are things such as line colour, stroke width etc.

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Home Layers Maps Documents Upload Type your search here ... doswald

Landsat Imagery of Belize



Unpublished

Download Layer

Edit Layer

Download Metadata

Legend

0.0 > x

1.0 = x

Maps using this layer

This layer is not currently used in any maps.

Styles

The following styles are associated with this layer. Choose a style to view it in the preview map.

No styles associated with this layer

About

Owner, Point of Contact, Metadata Author

doswald

DE Design and Environment Inc.

Layer Styles: Landsat Imagery of Belize

Styles

Choose style: geonode_LE70190482001066EDX

Add Remove Edit Duplicate

Color Map Entries

0

1

Add Remove Edit Duplicate

English

Edit layer styles

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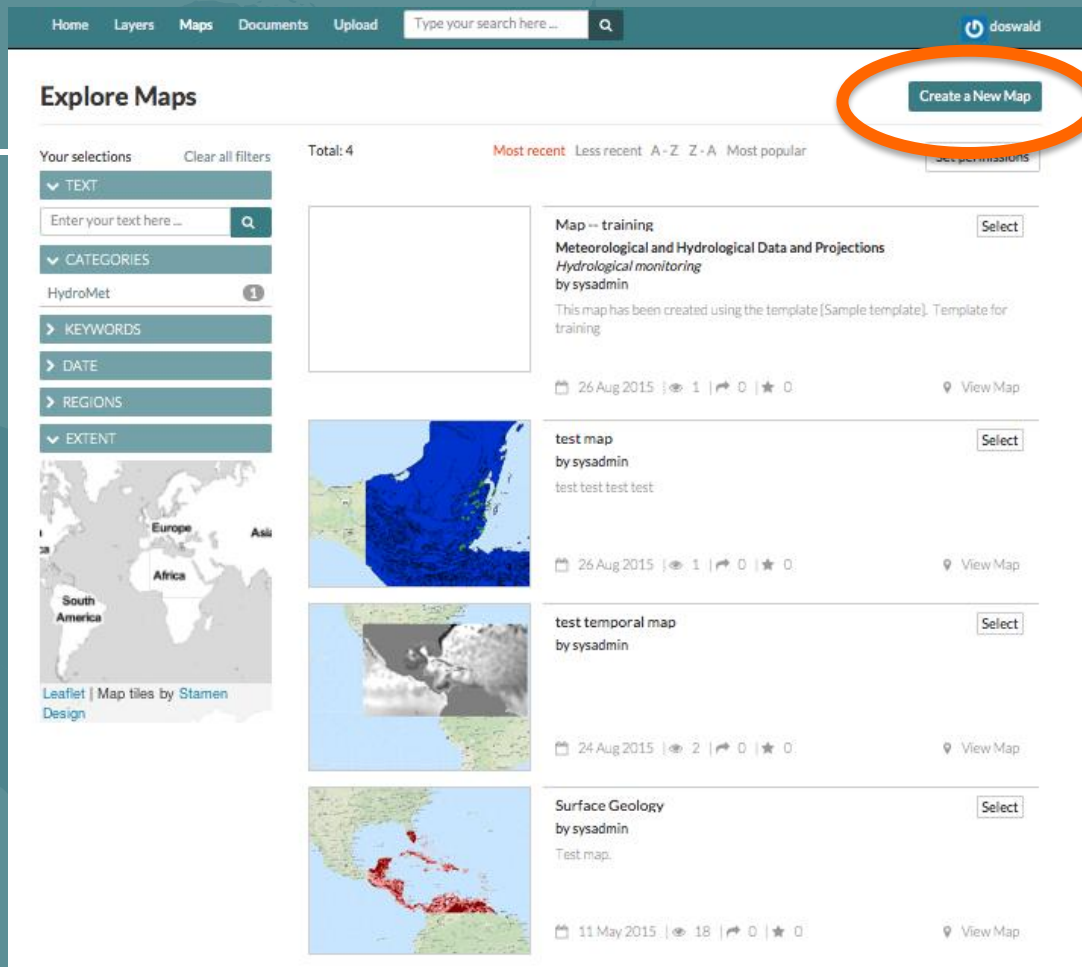
C-READ GeoNode - Maps

How do you use it? Making Maps

- Maps are a key element to C-READ
- They are a combination of various different layers from the C-READ GeoNode or an external web-location
- Contain information such as styles and zoom extent and layer ordering

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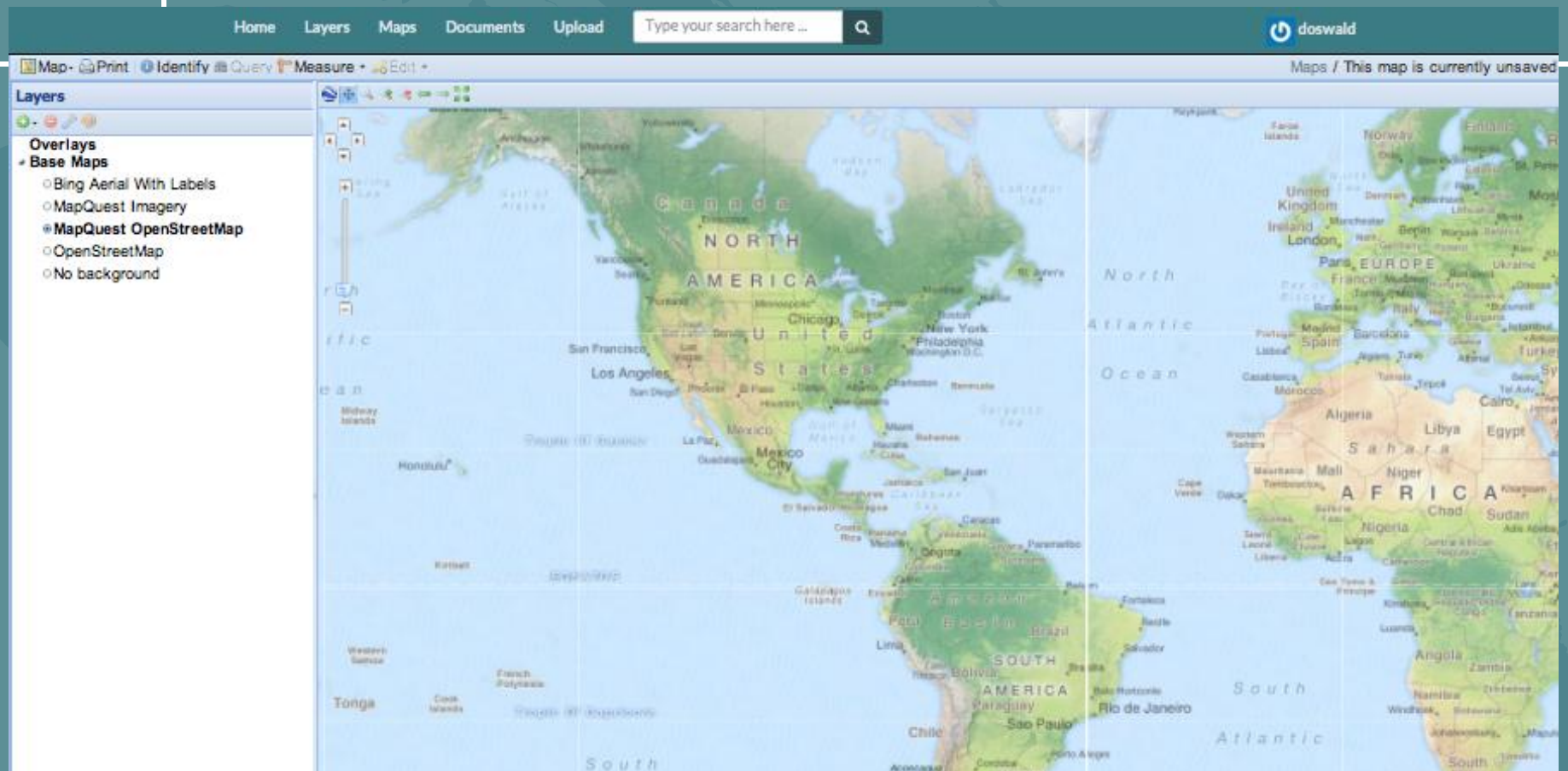
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Create new map

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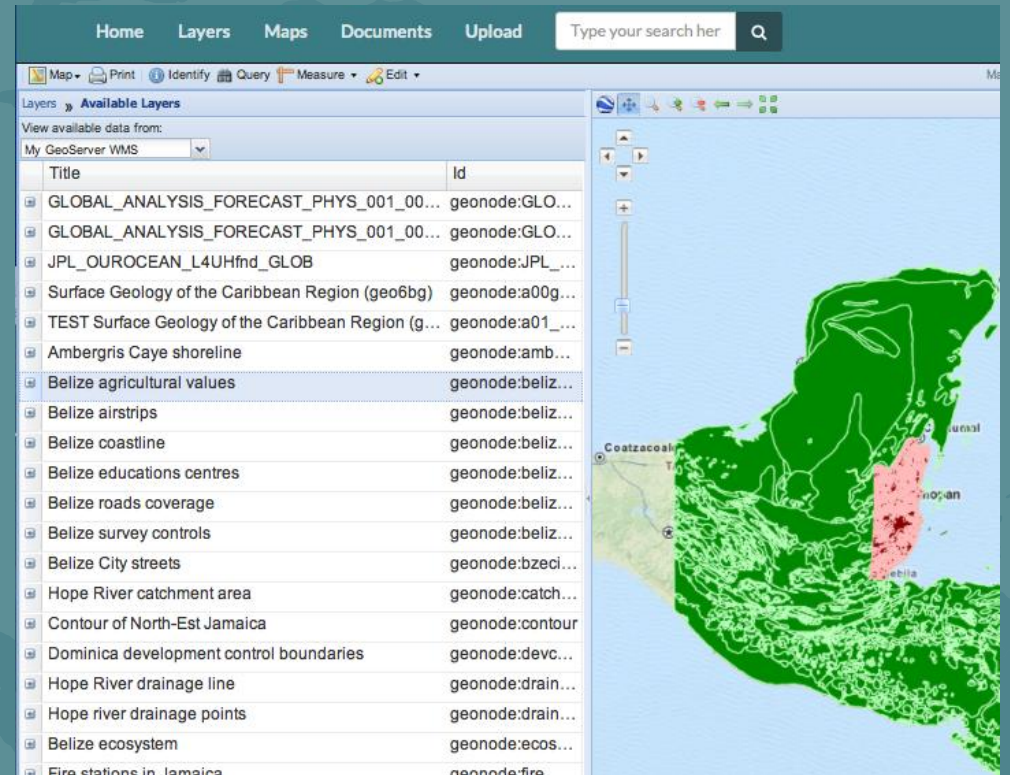
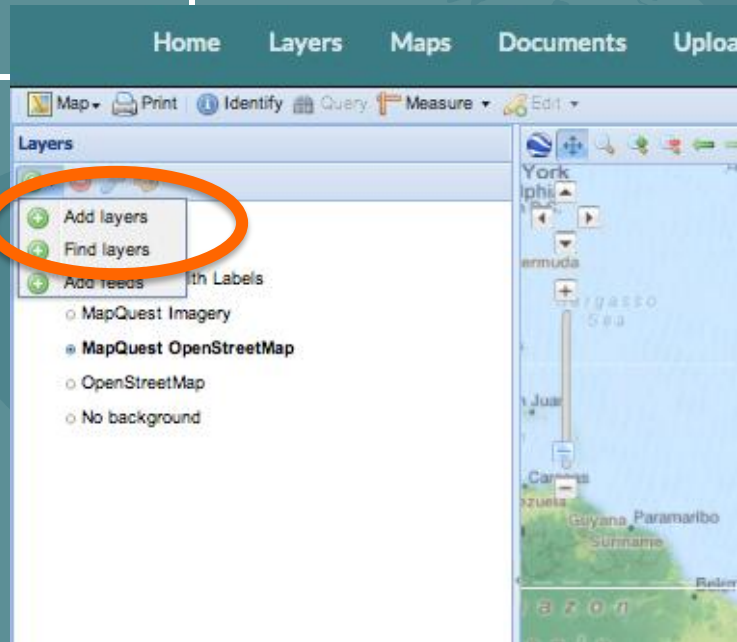
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Map creation interface

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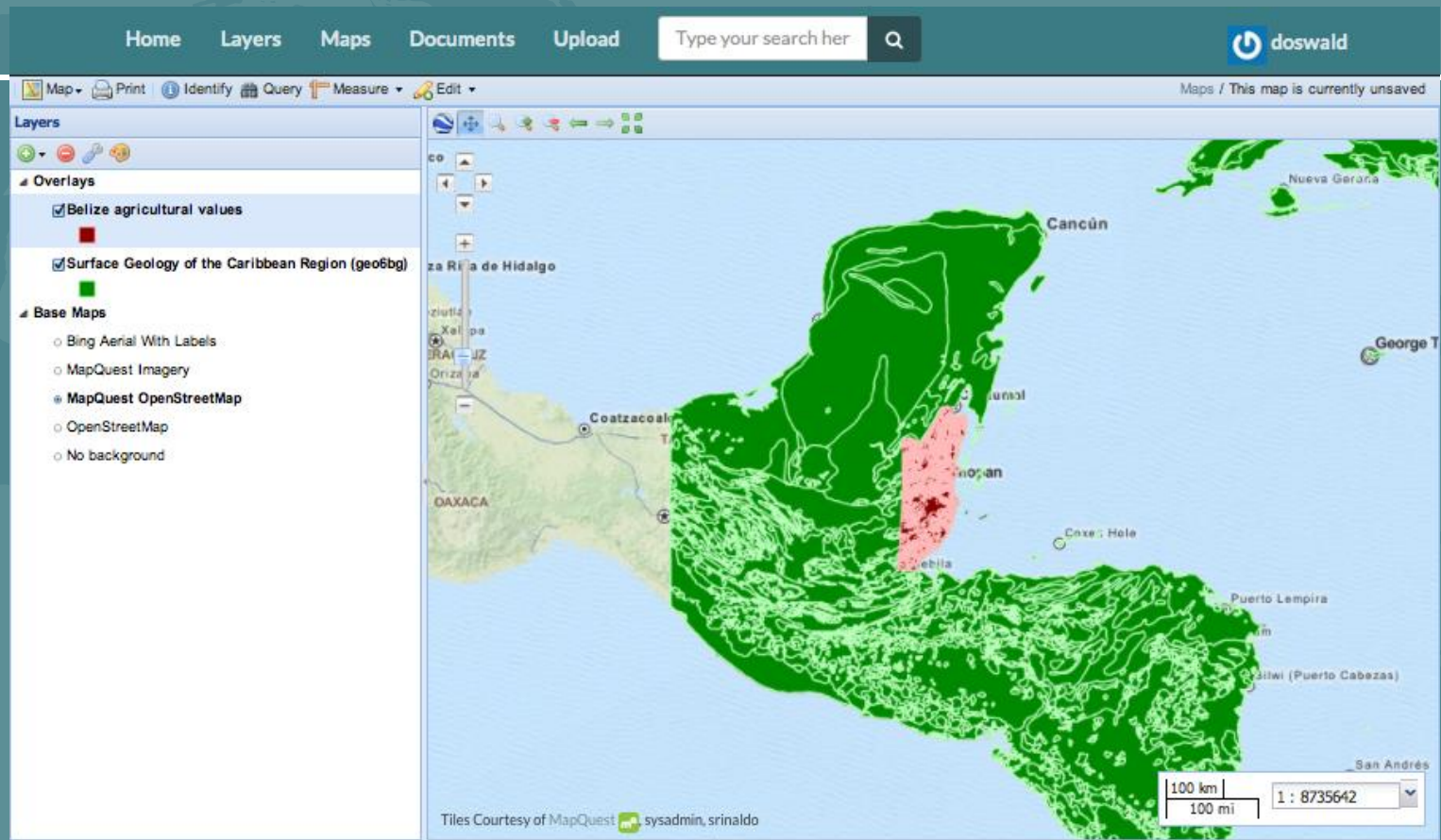
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Add layers to map

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Create a map composition and save and / or publish

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C-READ GeoNode - Maps

How do you use it? Making Maps

- Once map is saved it can be viewed again
- Once published it will be in list of maps
- Map layers can be downloaded for local use

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C-READ GeoNode - Mosaics

How do you use it? Create a temporal or spatial mosaic

- A mosaic is a combination of images
- In GIS this is commonly a one-dimensional mosaic – in space
- Multiple images (granules) are combined across space to create a larger continuous image
- One can also have a temporal mosaic – images across time
- Temporal mosaics are excellent for change detection

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C-READ GeoNode – Spatial Mosaics

How do you use it? Create a spatial mosaic of images

- A series of granules are combined to create a larger spatial image
- Source images should be of same projection / spatial resolution
- Need to have 'super user' access
- Go to upload data – similar to as if you are adding a layer

Details see <http://training.cread.geosolutions.it/datapublisher/geonode/CreatingAMosaic.html>

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C-READ GeoNode – Spatial Mosaics

How do you use it? Create a temporal mosaic of images

- Similarly, a mosaic can be made of images over time
- This is useful to see change in parameters – eg. Landcover, SST etc.

For details see <http://training.cread.geosolutions.it/datapublisher/geonode/CreatingAMosaic.html>

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Thank You

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