What is the purpose of this workshop?

• Introduce the tool and its potential

• Learn how to upload information
• Learn how to create maps
• Learn how to upload documents
• Learn how to manage permissions "access and use"

• Empower users to manage data of your country
What is GeoNode?

- GeoNode is a web-based application and platform for developing geospatial information systems (GIS) and for deploying spatial data infrastructures (SDI).

- It is designed to be extended and modified, and can be integrated into existing platforms.
**Why GeoNode?**

- Meets the needs identified in previous committees on what "should" provide a platform for atlas.
- It is open licensing, and has been implemented in several countries for various initiatives successfully.

- CaribNode
- Biopama
Join the platform

- From CMA2 website [http://www.caribbeanmarineatlas.net](http://www.caribbeanmarineatlas.net)
Join the platform

• Or directly at atlas: http://atlas.caribbeanmarineatlas.net
For the CMA2 project, users have the following structure:

**USERNAME:** firstname.lastname

**PASSWORD:** firstname.lastnamecma2

I.E. If Mr. Francisco Perez is user...

Username: francisco.perez
Password: franciscoperezcma2
What can you do?

- **User** (add email contact, email confirmation)
- **Documents** (add, change and delete)
- **Layers** (add, change and delete)
- **Styles** (add, change and delete)
- **Maps** (add, change and delete)
Document Types

- GeoNode welcome page shows a variety of information. At the top of the page is a toolbar showing quick links to document types: layers, maps and documents.
Layers

- Layers are a *primary component* of GeoNode.
- Layers are publishable resources representing a raster or vector spatial data source. Layers also can be associated with metadata, ratings, and comments.
- GeoNode allows the user to upload *vector* (currently only *Shapefiles*) and *raster* data using a web form. Vector data is uploaded in ESRI Shapefile format and satellite imagery and other kinds of raster data are uploaded as *GeoTIFFs*. 
Layers

- By clicking the Layers link you will get a list of all published layers. If logged in as an administrator, you will also see the unpublished layers in the same list.
Maps

• Maps are a primary component of GeoNode.
• Maps are comprised of various layers and their styles. Layers can be both local layers in GeoNode as well as remote layers either served from other WMS servers or by web service layers such as Google or MapQuest.
• GeoNode maps also contain other information such as map zoom and extent, layer ordering, and style.
Maps

- By clicking the Map link you will get a list of all published maps.
Documents

- As for the layers and maps GeoNode allows to publish tabular and text data manage metadata and associated documents.
- Through the document detailed page is possible to view, download and manage a document.
Searching

• In GeoNode welcome page, click the Search button to bring up the Search page. This search form allows for much more fine-tuned searches than the simple search box is available at the top of every page.

• It is possible to search data by Text, Categories, Type, Keywords, Date, Regions or Extent.
Managing layers

- Layers are a published resource representing a raster or vector spatial data source. Layers also can be associated with metadata, ratings, and comments.
- In this section, we will learn how to create a new layer by uploading a local data set, add layer info, change the style of the layer, and share the results.
Uploading a layer

- To load a layer click on the "elegir archivos" button. This will bring up a local file dialog. Navigate to your data folder and select all of the **four files** composing the shapefile (**shp, shx, dbf, prj**) or you could drag and drop the four files in the Drop files here area.
Uploading a layer

- The upload form should appear like this now.
Uploading a layer

- GeoNode has the ability to restrict who can view, edit, and manage layers. On the right side of the page, under Who can view and download this data?, select Any registered user. This will ensure that anonymous view access is disabled.

- In the same area, under Who can edit this data?, select the Only the following users or groups option and type your username. This will ensure that only you are able to edit the data in the layer.
Uploading a layer

• Click Upload to upload the data and create a layer. A dialog will display showing the progress of the upload.

• Your layer has been uploaded to GeoNode. Now you will be able to access to the its info page (clicking on the Layer Info button), access to its metadata edit form (clicking on the Edit Metadata button) or to manage the styles for it (clicking on the Manage Styles button).
Layer information

- After upload, another form will displaying, containing metadata about the layer. Change any information as desired, and then click Update at the very bottom of the form.
Metadata

• It’s maybe the **most important part of the process**...

• Describe
  – **Title**, **abstract** and purpose
  – Maintenance frequency
  – **Region (spatial scope)**
  – Limitations on use or access the data
  – **Language**
  – Time extent
  – **Distribution description (for external sources)**
  – Data quality
  – **Keywords**
  – **Category**
After the update, the layer will display in a preview window.
Managing styles

Map of protection levels for the terrestrial ecoregions of the world

<table>
<thead>
<tr>
<th>Title</th>
<th>Map of protection levels for the terrestrial ecoregions of the world</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>Map of protection levels for the terrestrial ecoregions of the world as of August 2014.</td>
</tr>
<tr>
<td>Publication Date</td>
<td>Jan. 19, 2016, 2:21 p.m.</td>
</tr>
<tr>
<td>Type</td>
<td>Vector Data</td>
</tr>
<tr>
<td>Category</td>
<td>Biodiversity and Ecosystems</td>
</tr>
</tbody>
</table>
Managing styles

• by default, layers are not shown classified and are displayed in a very simple style.

• if I want to classify colors according to the value of an attribute I do it "manually"

• How?
  – First, I must **identify the attribute** to use and **the value** to use in the filter
CLME+-National Focal Points

Title: CLME+-National Focal Points
Abstract: National Focal Points for CLME project
Publication Date: Jan. 5, 2016, 12:47 p.m.
Type: Vector Data
Keywords: Caribbean, CLME+, NFP
CLME+-National Focal Points

Layer Styles: CLME+-National Focal Points

Choose style: clme_nfp_1

Add Remove Edit Duplicate

Legend

Yes
No

Maps using this layer
List of maps using this layer:
- CLME+ National Focal Points
- CLME+ National Focal Points

Create a map using this layer
Click the button below to generate a new map based on this layer.

Download Layer
Edit Layer
Download Metadata

Attributions

Title: CLME+-National Focal Points
Abstract: National Focal Points for CLME project
Publication Date: Jan 5, 2016, 12:47 p.m.
Type: Vector Data

 atlas.caribbeanmarinéatlasis.net/geo/node/gclme_nfp#
CLME+ National Focal Points

Title: CLME+ National Focal Points
Abstract: National Focal Points for CLME project
Publication Date: Jan 5, 2016, 12:47 p.m.
Type: Vector Data
Keywords: Caribbean, CLME+, NFP

Maps using this layer:
- CLME+ National Focal Points
- CLME+ National Focal Points

Create a map using this layer:
Click the button below to generate a new map based on this layer.

Download Layer
Edit Layer
Download Metadata

Legend
- Yes
- No

Layers
Maps
Documents
People
Groups
Search

Leonardo Arias
Name, fill & stroke
Filter (very important)
And repeat...

• And **repeat for each color class desired**
• But....
  – How can I do to see all the possible values?
  – We recommended use a desktop GIS tool, like QGis or ArcMap to see and edit (if necessary)
Caution

• The layers can be viewed only using the styles created. If you want to see a layer with another color palette using another attribute, you need to create a new style for each event desired.
Creating MAPS

• In GeoNode, a map is a collection of stacked layers to appear organized according to their importance or spatial scale.

• There are two ways to create a map in GeoNode.

   1. selecting layers in the master layer’s list similarly to a shopping cart
   2. through the button "create map" and then looking / finding the desired layers
Select desired layers
Final result
Adding layers manually
Select desired layers and “add”
Saving map
Demostration

ATLAS' SECURITY MANAGEMENT
Your data are secured

• To understand the security scheme, first see that things can be done with the information stored
  – View
  – Share
  – Download (data / metadata)
  – Update (data / metadata)
Remember...

Permissions

Who can view it?
- Anyone
- The following users:
  - [Choose users...]
- The following groups:
  - [Choose groups...]

Who can download it?

Who can change metadata for it?
- The following users:
  - [Choose users...]
- The following groups:
  - [Choose groups...]

Who can edit data for this layer?
- The following users:
  - [Choose users...]
- The following groups:
  - [Choose groups...]

Who can edit styles for this layer?
- [Who can manage it? (update, delete, change permissions, publish/unpublish it)]
Users and Groups?

- GeoNode CMA2 has People and Groups.
- A group is a set of users that share "common" characteristics,
- For example, **administradores** can create new users and configure new tools GeoNode. **country_users** is a group created for the focal points of the countries (you). They have in common that everyone is responsible for the data of their countries, but have not the responsibility of managing GeoNode.
Who does what

- I can store a layer that is only available to be downloaded for me or for a certain group of people (registered in the tool). The other people can only see it as an image.

- Metadata (by default only be changed by the owner) can also be modified by other named user.

- Editing / changing the contents of a vector layer (by default only be changed by the owner) they can also be modified by other named user.
This layer only can see myself
"Viewing layers" in my session
"Viewing layers" of public access (non logged)
Download layers for registered users
Public access without permission to download
Demostration work whit geoservices

GIS SERVICES
What is a geoservice?

Consist of a set of technologies that facilitate the availability and access to spatial information, using a set of standards and specifications, which allow applications to operate under known conditions.

- The **WMS** Service "Web Map Service" is the most used and simple, allows the display of dynamic maps on the web and at the same time, basic information about them.

- The **WFS** Services "Web Feature Service" can be obtained directly from a Web server geographic objects in GML format, enabling management and unloading of these.

- **ArcGIS REST** is a service published by *Esri* technology is not limited by OGC standards. They may contain advanced functionality as geoprocessing, network analysis, dynamic symbols, frisked, editing features and many more options.
What I can do with them?

• Use information published on external sources... for example:

[Image: www.oceandataportal.net/portal/portal/odp2/map]
Ocean Data Portal Services

- WEBSITE: http://www.oceandataportal.net/portal/portal/odp2/map

- WMS URL: http://gis.oceandataportal.net:8083/resources/ows?service=wms&version=1.3.0&request=GetCapabilities
Select “add layers” option
Select type of services and paste the URL

URL: http://example.com/geoserver/wms
Select the layer(s) and "add"
Final result of the process
But...

- it’s complicated way
- ...
Demostration work whit documents

DOCUMENTS
Yes. The tool also allows a space to **store and "share"** documents.
• Atlas must be able to offer users a place to store and share digital documents of interest to the region.
• The process is the same used to load a layer, share, and configure their access permissions.
• you can enter documents in 2 ways:
  – as a link to an external repository (i.e. OceanDocs)
  – copying the file on the locally GeoNode
THANKS!

http://www.caribbeanmarineatlas.net
WHAT'S THE NEXT STEP?
What to expect next?

✓ Having a **repository** of relevant documents to the region.

✓ Have a **minimum set of information layers** that enables generate of maps of interest.

✓ Create and sharing **thematic maps** of interest to the region and governments.
What happens if something goes wrong?

**SYSTEM TROUBLESHOOTING**
Mistakes at work

• GeoNode can show some errors during the process of working with him

• Some situations can be...
  ☹️ Can’t upload a layer
  ☹️ Can’t show a layer
  ☹️ Can’t change an style
  ☹️ Can’t download a layer/document
  ☹️ Can’t save a map
Solutions proposal

If you have a error uploading a layer...

- Change the name of the layer
- Check that the attributes or registers don't contain strange characters
- Only upload the files more importants (.shp, .dbf, .shx and .prj)
- If the error is “500 Internal Server Error”, check your connection to internet
Contact

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