

Manual: Use of the VSU GIS Map Server (VGMS)

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Visayas State University, Baybay City

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

June 2019

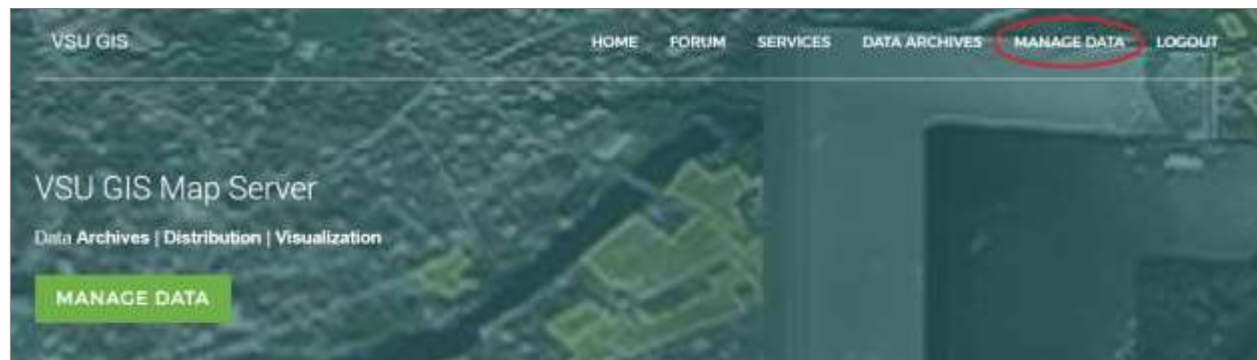
1. Structure

The VGMS web application consists of two core parts: [Data Archives](#) and [Manage Data](#) section. Data Archives contain a broad selection of GIS layers, both vector and raster format, that are publicly available for viewing and in many cases also for download. Most of the current data were



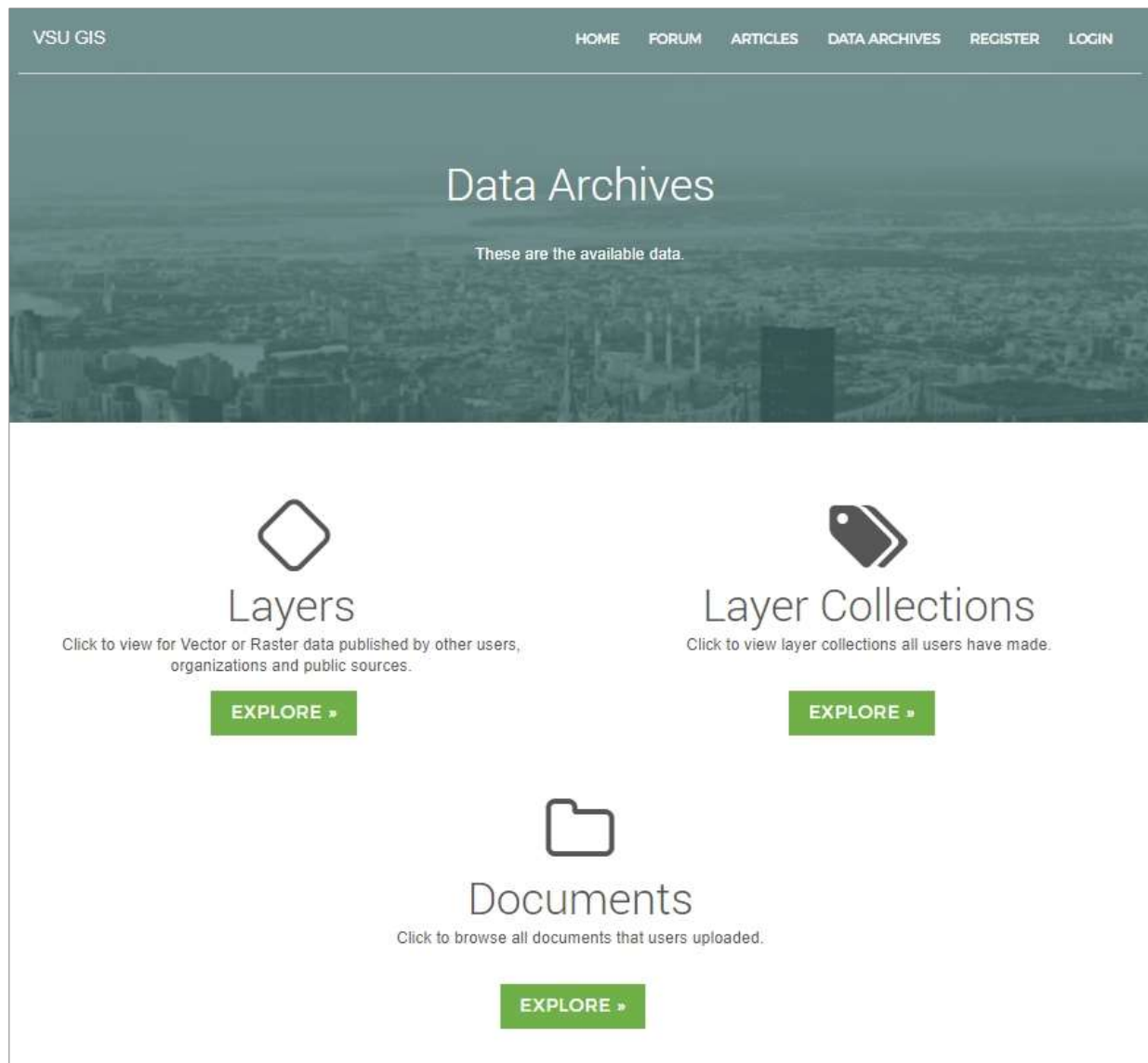
collected or produced by VSU and GIZ and are related to municipal land use planning in the Eastern Visayas. Upload of additional data from LGUs, government departments or other organizations is highly appreciated. For accessing public Data Archives, no registration is needed.

As VGMS is not only a source for spatial data but also a safe repository and a tool for data sharing, every registered user can upload data and create his or her own GIS layers. This can be done in the Manage Data section, which appears once a user is logged in. Users can keep layers privately, share them only with specific other users or make them available for public. This status is controlled by the uploading user and can be changed any time.



2. Data Archives

In Data Archives, you can choose between single layers, layer collections and documents.



2.1. Layers

In [Data Archives / Layers](#) you have access to all public layers, your own layers and the layers other users shared with you. The layers are organized in a sortable table including basic metadata information like title, keywords, user who created the layer (uploader), organization and upload date. For the displayed columns, a fast word-based search function is implemented. The search is not case-sensitive. It can also be used to find layers that are tagged with certain keywords for a specific purpose.

Home / Data Archives / Layer

Show 10 entries

Search: Baybay

Title	Keywords	Uploader	Organization	Date Upload	
Baybay Gabas	Gabas, Baybay, City, Drone, Map, Leyte	kkbjames16@gmail.com	Academe institution research	2018-08-09	SHOW IN MAP
Baybay Guadalupe	Baybay, Drone	kkbjames16@gmail.com	Academe institution research	2018-08-07	SHOW IN MAP
Baybay Kilim	drone, baybay	j.lumbre@vsu.edu.ph	Academe institution research	2018-08-06	SHOW IN MAP
Baybay Land Cover Part 1	baybay, city, leyte, land use, land cover	vsu.mapserver@vsu.edu.ph	Academe institution research	2018-01-08	SHOW IN MAP
Baybay Land Cover Part 2	baybay, city, leyte, land use, land cover	vsu.mapserver@vsu.edu.ph	Academe institution research	2018-01-08	SHOW IN MAP
Baybay Land Cover Part 3	baybay, city, leyte, land use, land cover	vsu.mapserver@vsu.edu.ph	Academe institution research	2018-01-08	SHOW IN MAP
Baybay Land Cover Part 4	baybay, city, leyte, land use, land cover	vsu.mapserver@vsu.edu.ph	Academe institution research	2018-01-08	SHOW IN MAP
Baybay Landslide Hazard	hazard, hazard map, landslides, NOAH, Baybay	martin.bayr@gmx.net	Academe institution research	2017-12-14	SHOW IN MAP
Baybay Pangasugan	Baybay, City, Pangasugan, Drone, Map	kkbjames16@gmail.com	Academe institution research	2018-08-09	SHOW IN MAP
Baybay Patag	Baybay, City, Leyte, Drone, Patag	kkbjames16@gmail.com	Academe institution research	2018-08-07	SHOW IN MAP

Showing 1 to 10 of 18 entries (filtered from 637 total entries)

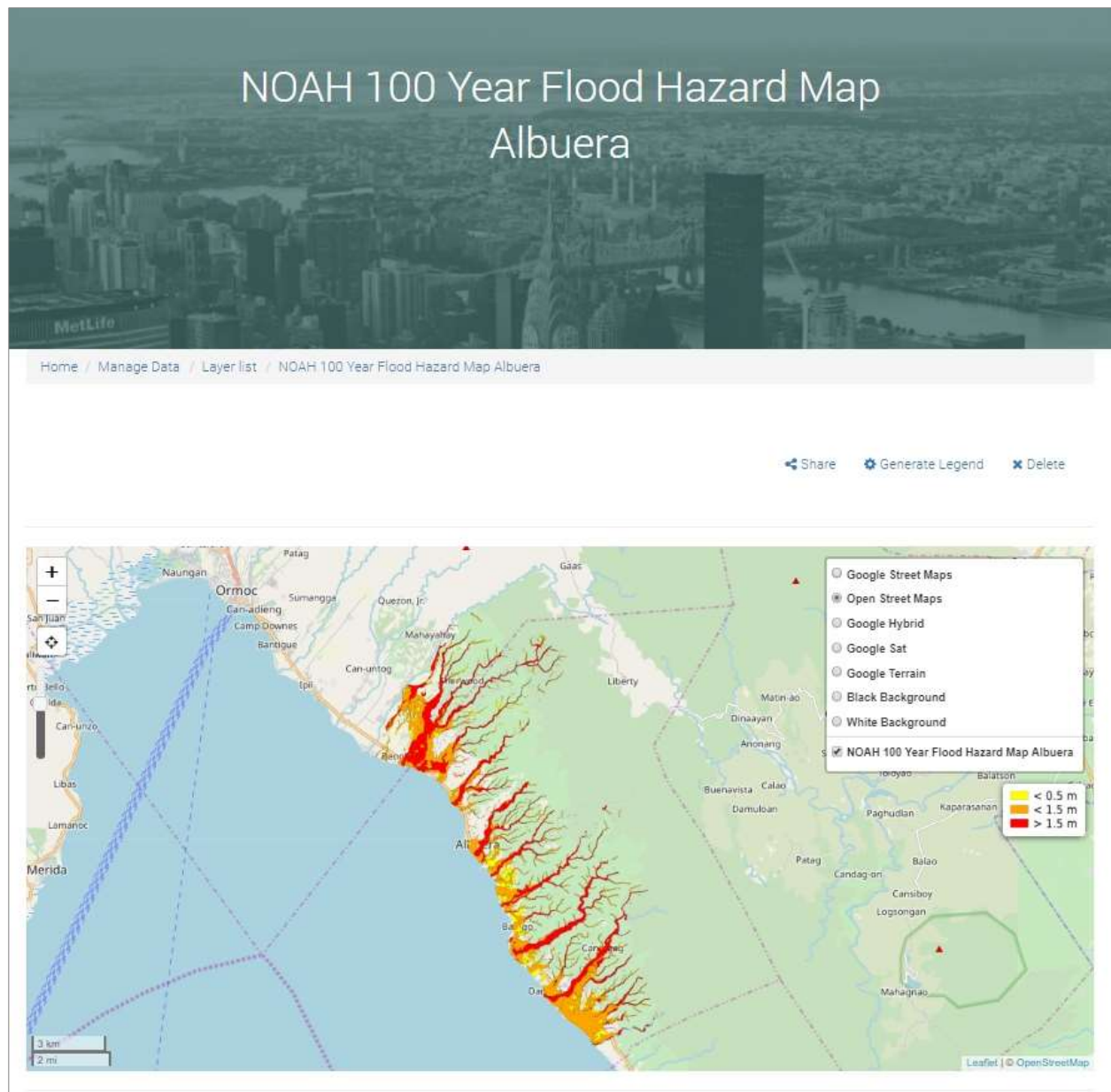
Previous 1 2 Next

Choosing 'Show in map' will load the layer into the quick view map window on the bottom. Several layers can be loaded there at once, order and opacity can be changed.

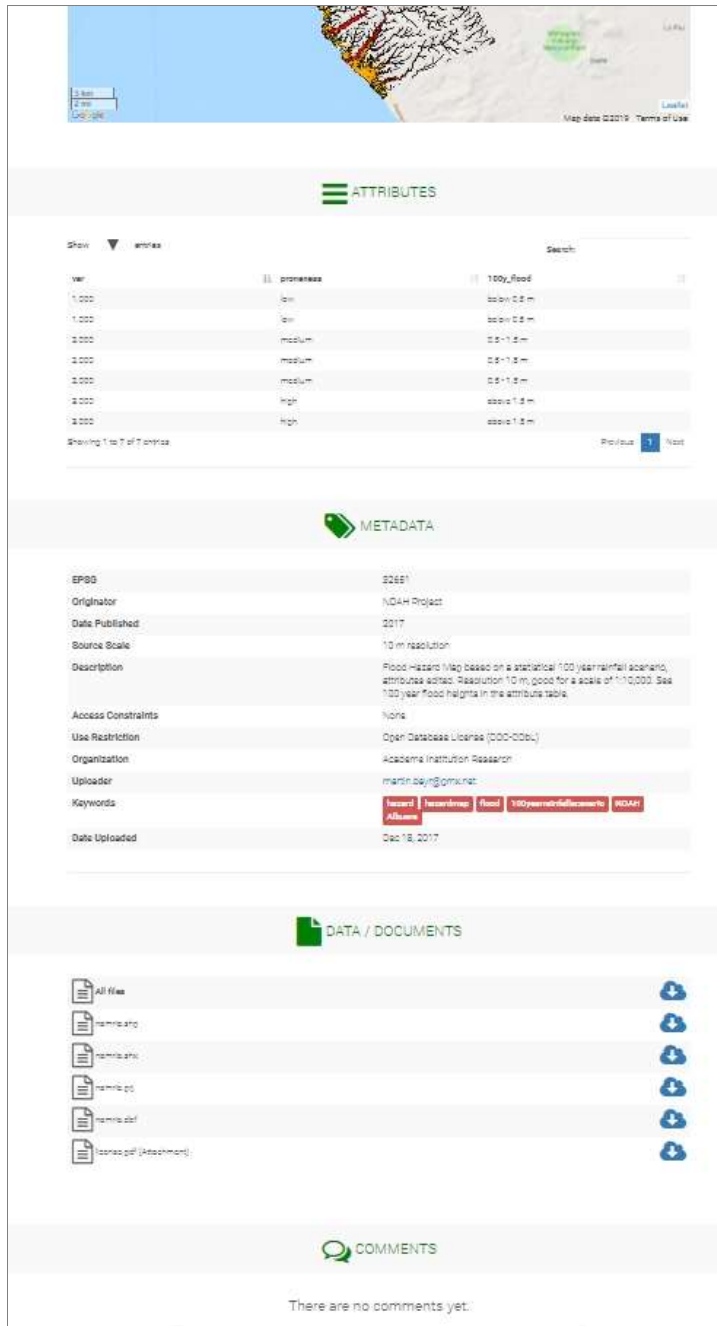
For detailed information, click the layer title in [Data Archives / Layer](#). The layer view will open, which contains a map window, metadata display and comment section. If the uploader allows it, additionally the attribute table (for vector datasets) and the download section will show up.

In the map window in layer view, the layer is displayed over a base map, e.g. by Google Maps or OpenStreetmap, which can be freely chosen by hovering over the layers symbol in the upper right corner:





Below the layers symbol, a legend is displayed, which refers to the attribute chosen for classification. The standard map controls on the left side provide zooming, centering and changing opacity of the layer. For vector layers, attribute information of the underlying layer object (e.g. polygon) will pop up when clicking into the map window.



The screenshot displays a GIS layer view interface. At the top, a map window shows a geographical area with a scale bar (0 to 2 km) and a 'Map data ©2019 Terms of Use' notice. Below the map is the 'ATTRIBUTES' section, which includes a search bar and a table of data. The table has columns for 'val', 'promeness', and '100y_flood'. The data rows show values for 'val' (1,000, 1,000, 2,000, 2,000, 2,000, 2,000, 2,000) and 'promeness' (low, low, medium, medium, high, high, high). The '100y_flood' column shows values like 'below 0.5 m', '0.5-1.5 m', and 'above 1.5 m'. Below the attributes table is the 'METADATA' section, which contains a table of metadata information. The metadata table has columns for 'EPBD', 'Originator', 'Date Published', 'Source Scale', 'Description', 'Access Constraints', 'Use Restriction', 'Organization', 'Uploader', 'Keywords', and 'Date Uploaded'. The data rows show values for each of these fields. Below the metadata table is the 'DATA / DOCUMENTS' section, which displays a list of files with icons for each file type (e.g., .shp, .prj, .dbf, .pdf) and a download icon. At the bottom is the 'COMMENTS' section, which shows a message: 'There are no comments yet:'.

val	promeness	100y_flood
1,000	low	below 0.5 m
1,000	low	below 0.5 m
2,000	medium	0.5-1.5 m
2,000	medium	0.5-1.5 m
2,000	high	above 1.5 m
2,000	high	above 1.5 m

EPBD	Originator	Date Published	Source Scale	Description	Access Constraints	Use Restriction	Organization	Uploader	Keywords	Date Uploaded
EPBD	NDHM Project	2017	10 m resolution	Flood Hazard Map based on a statistical 100 year rainfall scenario, attributes added. Resolution 10 m, good for a scale of 1:10,000. See 100 year Flood Heights in the attribute table.	None	Open Database License (ODDL-ODBL)	Academia Institution Research	martin.baig@omni.net	Report, Abstract, Download, Flood, 100yearfloodheights, NDHM	Dec 18, 2017

All files

- ndhm.shp
- ndhm.prj
- ndhm.dbf
- ndhm.pdf
- ndhm.pdf (Attachment)

COMMENTS

There are no comments yet:

Below the map window, the **Attributes** table shows the layer's attributes, which means every vector object (polygon, line or point) refers to one line and has values in each attribute column. This is available for vector datasets if the uploader allows it.

The **Metadata** table below contains essential information for the layer, e.g. the originator or the date it was published. See Chapter 3 for more information.

If the layer is downloadable, users can look for **Data / Documents** and choose to download the raw GIS files separately or download all files, which is recommended and includes possible attachments, which may be documents and files on production, usage and limitations of the layer.

On the bottom of the layer view, registered users have the possibility to add **Comments**. The uploader gets an email notification once one of his layers is commented, so he or she has the chance to answer. This is intended to provide a channel for questions, discussions, possible corrections, updates etc.

2.2. Layer Collections

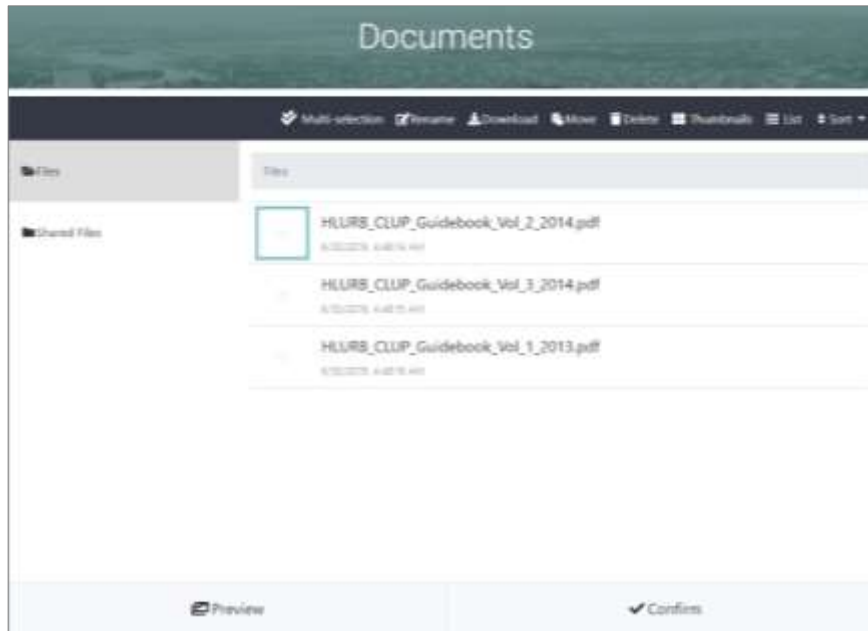
Home Data Layer Collections				
Show 10 entries				
Search: <input type="text"/>				
Name	Description	Filter tags	Uploader	Date uploaded
CLUP A.1	Geographic location of municipalities, coordinates	clup.a.1	martin.bayr@gmx.net	Jun 27, 2019
CLUP A.2	Location and significant role in relation to the province, region and country, if any	clup.a.2	martin.bayr@gmx.net	Jun 27, 2019
CLUP A.3	Municipal land area & boundaries	clup.a.3	martin.bayr@gmx.net	Jun 27, 2019
CLUP A.4	Political Subdivisions (Urban-Rural Barangays)	clup.a.4	martin.bayr@gmx.net	Jun 27, 2019
CLUP A.5	Alienable and disposable land	clup.a.5	martin.bayr@gmx.net	Jun 27, 2019
CLUP B.1	Climatological conditions	clup.b.1	martin.bayr@gmx.net	Jun 27, 2019
CLUP B.2	Topography	clup.b.2	martin.bayr@gmx.net	Jun 27, 2019

Layers in Data Archives can be organized in table-based collections, which group certain layers according to specific purposes, projects or topics. So organized layers can be accessed more easily and users get an overview over the portfolio. In [Data / Layer Collections](#) you see all user created collections.

2.3. Documents

A repository for manuals, guidelines, scientific publications, official documents, non-spatial data, GIS scripts and models related to the VSU GIS Map Server, mapping, land use planning and other relevant topics.

Every registered user has his own web space on VGMS for storing relevant files. Additionally, files can be shared with all other users by storing them in 'Shared Files'. Folders can be created for getting the data organized.



3. Metadata

Metadata are 'data about data'. They contain essential information about the uploaded layers. One example: Often it is crucial to know how old a certain dataset is to interpret it right. Old datasets may not represent the current condition any more. This depends highly on the topic. A 50 year old forest map may be completely outdated while a 50 year old map of bedrock foundation is probably still good. Also mapping and measurement techniques may be outdated for certain kinds of older maps.

Often GIS users work with maps and datasets they don't really know much about and so it's hard to make conclusions. Not only the map date, but also a description, the source or originator of the map, legal use restrictions etc. are important for proper interpretation and publishing derived products without violating licenses or copyrights. Also Keywords for categorization and identification of layers are of high importance.

There are several widely used metadata schemes for spatial data worldwide, e.g. the ISO metadata standard, the US FGDC scheme, the European INSPIRE or the Dublin Core metadata standard. Implementation of these is often challenging due to their big complexity. There are also plenty of organizations etc. that use their own scheme, adapted to their specific requirements. As uploading of geodata and producing user generated content should be highly encouraged and to keep the hurdles low for uploading and publishing data, an own VGMS metadata scheme was created, which refers to the FGDC scheme, but contains only the most important categories and so it is very slim and easy to use. For uploading of datasets that already have complex metadata according to another standard, upload of the metadata file as layer attachment is recommended

The VGMS Metadata Scheme:

Title:	The name by which the data set is known. Mandatory.
EPSG:	Unique EPSG code for the coordinate reference system (CRS) of the layer. For vector or raster files that already contain the CRS, this is recognized automatically on layer creation. Mandatory.
Originator:	The name of an organization or individual that developed the data set. If the name of editors or compilers are provided, the name must be followed by "(ed.)" or "(comp.)" respectively.
Date Published:	The date when the data set was published or otherwise made available for release. If the time span represented by the dataset varies much, this should be mentioned in the description.
Source Scale:	The scale the map or dataset was originally produced for, e.g. 1:50,000. For raster datasets, the resolution is also acceptable.
Description:	A brief narrative summary of the data set. Mandatory.
Access Constraints:	Restrictions and legal prerequisites for accessing the data set. These include licensing or any access constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the data set.
Use Restriction:	Restrictions and legal prerequisites for using the data set after access is granted. These include licensing or any use constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on using the data set.
Organization:	Organization type the uploader is in (e.g. Academe, LGU, Department). This is automatically derived from the user's registration data.
Uploader:	Email address of the user who uploaded the dataset. This is automatically derived from the user's registration data.
Keywords:	Free keywords, multiple entries appreciated. This should at least contain the topic or category of the data (e.g. hazard map, landcover) and the spatial coverage (e.g. Baybay City, Region 8). PSGC (Philippine Standard Geographic Code) and other relevant descriptive keywords are appreciated. Also project abbreviations or other freely chosen tags to re-identify the layer can be used.
Date Uploaded:	Date the layer was uploaded on VGMS. This is automatically derived from the user's registration data

4. Registration, User Information

For creating an account on VGMS, registration is necessary. With registration, users can upload their own datasets, create their own layers, collections and maps and store, share and publish it on the server.

For registration, the following data are needed:

Register

E-Mail*

Password*

Repeat Password*

First Name*

Middle Name*

Surname*

Organization Type*

Foreign or Local Entity?*

Office/Department Name*

Contact Number*

Contact Address*

Already A Member? Sign In | Home

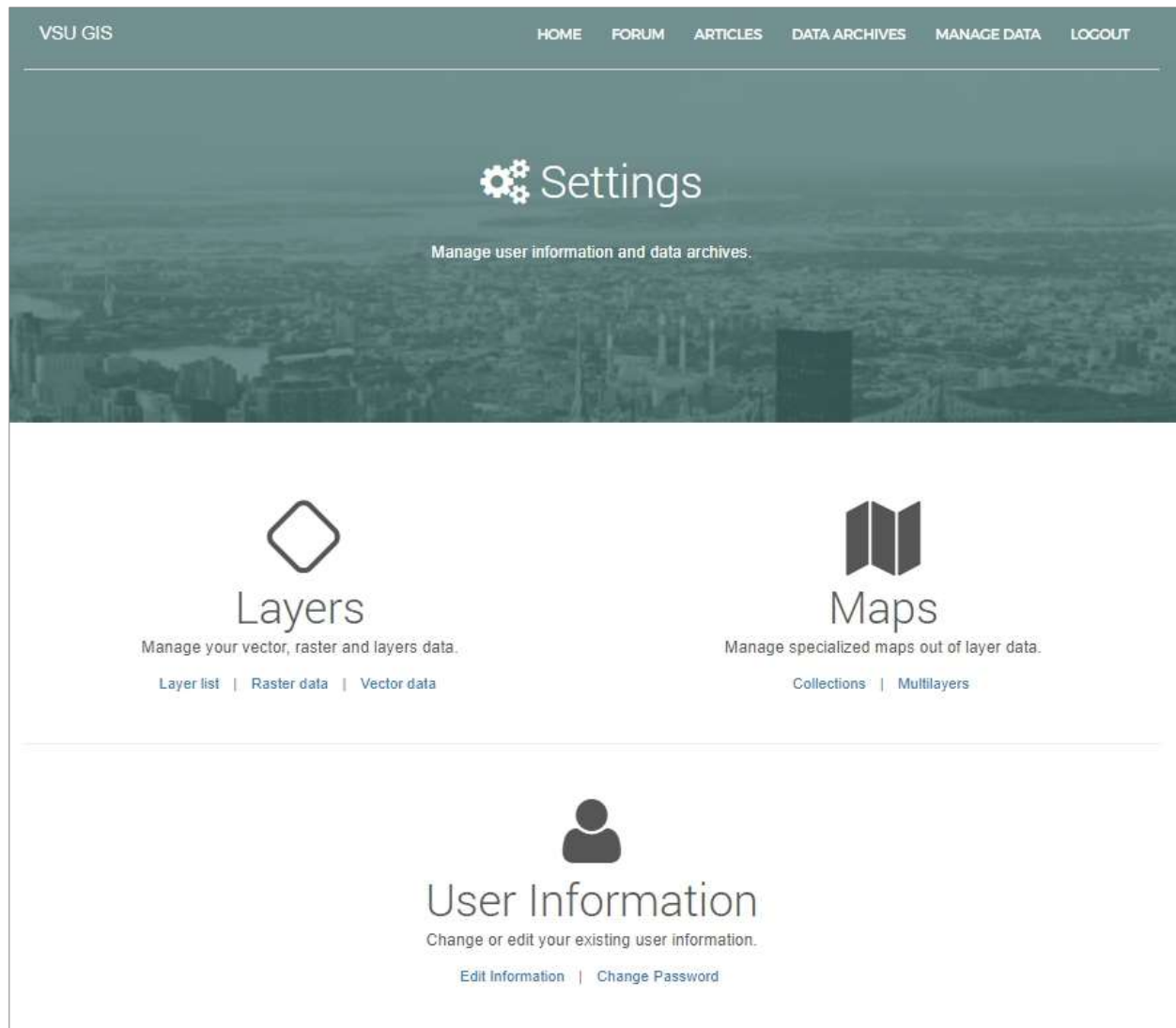
Register

Copyright © 2017. VSU Eco-Farm.

When layers etc. are published, the user's email address and type of organization will be visible to other users in the layer's metadata. All other personal information is securely stored at VGMS and can be changed any time by the user in [Manage Data / User Information](#):

5. Manage Data

In Manage Data section, you can upload your own vector and raster datasets, create your own layers from these data, create layer collections and multilayers and manage all these.



If you miss customizing or editing functions when viewing your own layers, check if you are still in Data Archives. Change to Manage Data.

The three steps for layer creation are the following:

- Upload GIS data: [Manage / Vector data](#), [Manage / Raster data](#)
- Create Layer: [Manage / Layer List](#)
- Generate legend or customize raster: [Manage / Layer List / Layer name](#)

5.1. Vector Data



Here you see all your uploaded vector datasets in a searchable table. You can do the following actions: Download your datasets and remove them. Removing is only possible if the dataset is not used in any layer, so deleting depending layers before removing the base dataset is required.

Filename	Date Uploaded	Action
abuyog_flood_100year	Dec 18, 2017	Download Remove
abuyog_landslidehazards	Dec 14, 2017	Download Remove
active_faults_2015	Apr 17, 2019	Download Remove
albuera_flood_100year	Dec 18, 2017	Download Remove
barangays_peatmapping	Aug 14, 2018	Download Remove
barangays_uhm	Feb 08, 2018	Download Remove
baybay city barangays prgc	Dec 08, 2017	Download Remove
baybay_flood_100year	Dec 18, 2017	Download Remove
baybay_landslidehazards	Dec 14, 2017	Download Remove
baybay_landslidehazards	Jan 18, 2019	Download Remove

Showing 1 to 10 of 56 entries

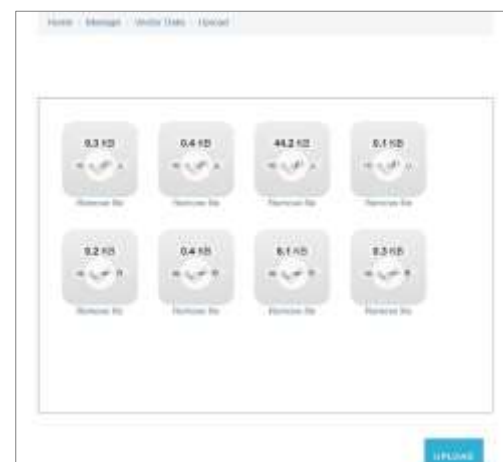
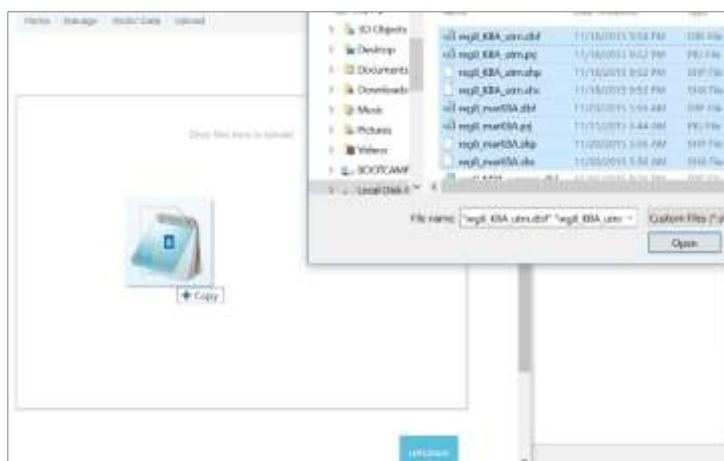
Previous 1 2 3 4 5 6 Next

[BACK](#) [UPLOAD](#)

For upload, click the blue button, click into the opening upload window and browse for vector data in your computer. At the moment, ESRI shapefiles for points, lines and polygons are supported. Multipart should be converted to singlepart layers before uploading.

Open or drag all recognized shapefile subtypes (.dbf, .prj, .shp, .shx) into the upload window and click 'Upload'. Several shapefile datasets can be uploaded at once.

If you get an error, try to rename your dataset for the case the name is already taken.



5.2. Raster Data



Here you see all your uploaded raster datasets in a searchable table, in analogy to vector data. You can do the following actions: Download your datasets and remove them. Removing is only possible if the dataset is not used in any layer, so deleting depending layers before removing the base dataset is required.

For upload, click into the upload window, browse for raster data in your computer. At the moment, geotiff files (.tif) are supported. Open them or drag the raster files into the upload window and click 'Upload', in analogy to vector data. Several raster files can be uploaded at once.

If you get an error, try to rename your dataset for the case the name is already taken.

5.3. Layer List, Create Layers



In the Layer List you see all your layers in a searchable table.

Title	Description	Date Uploaded
Large-scale Watersheds Region II	Large scale watersheds in the eastern Visayas	Mar 01, 2019
Leyte Flood Hazard 100 year	Flood Hazard Map based on a statistical 100 year rainfall scenario, attributes edited. Resolution 10 m, good for a scale of 1:10,000. See 100 year flood heights in the attribute table.	Dec 18, 2017
Leyte Soilmap	Soils and Physiography Map - delineation of the type and distribution of soils on the basis of readily observable landform features. The dataset covers Leyte Island and Biliran.	Dec 06, 2017
Mahaplag Flood Hazard 100 year	Flood Hazard Map based on a statistical 100 year rainfall scenario, attributes edited. Resolution 10 m, good for a scale of 1:10,000. See 100 year flood heights in the attribute table.	Dec 18, 2017
Mahaplag	Hazard map showing unstable slopes and landslide extent. Good for a	Dec 09, 2017

For creating your own layers from previously uploaded vector or raster datasets, a click on 'Create Layer' will lead to the following form. This is an example for the Leyte Soil Map:

Home > Manage > Layer List > Create Layer

CREATE VECTOR LAYER

CREATE RASTER LAYER

Title* Leyte Soil Map

Source* leyte_soilmap

EPSG 4253
[Click here for EPSG equivalent](#)

Originator BSWM (Department of Agriculture, Bureau of Soils & Water Management)

Published Date 1974

Source Scale 1:50,000

Use Restriction None

Remaining characters: 251

Description* Soils and Physiography Map - delineation of the type and distribution of soils on the basis of readily observable landform features. The dataset covers Leyte Island and Biliran.

Remaining characters: 78

Access Constraints None

Remaining characters: 251

Keywords shap.s.s.s. soil.s. soilmap.s. Leyte.s. Southern Leyte.s. Biliran.s. Biliran.s. tak.s. [add a keyword](#)

SUBMIT SAGA

First choose between vector and raster layer. Then specify a unique layer title. If the title already exists on VGMS, you will get a hint to change it.

Choose a source vector or raster dataset you want to build the layer from.

EPSG will be automatically added if it is saved in the dataset. If not, you have to specify for proper display.

Title serves as identifier, so it cannot be changed after submitting layer creation. All other metadata can be changed or completed anytime in the manage data layer view. Please refer to the VGMS Metadata Scheme in Chapter 3 for information on metadata.

Some additional hints:

'Published Date' means the date the layer was first published, not the date you are uploading the layer. The upload date is added automatically.

If the dataset is not for publishing, most fields can


also be left blank. Only title, source, EPSG and description are mandatory. Please consider that mostly the effort of specifying metadata simplifies work with GIS layers later on a lot.

It is recommended to use recognizable keywords to organize and manage your data.

Once the layer creation is submitted, there is one last step for enabling the map viewer to display your layer over some base maps. This is different for vector and raster layers

5.4. Generate Vector Legend

- Click 'Generate Legend' to generate classification and legend.
- Specify the attribute you want the layer to be displayed according to from the drop-down menu listing all attribute columns. One column of the vector layer has to be chosen. All unique values in this attribute column will be grouped to one class which is displayed in the same color and refer to one legend entry. Legend text will be the unique attribute value.



Home / Manage / Layer List / Leyte soil map / Create Legends

Attribute Class: category source maptype class shape_leng shape_area mapdate **descrip0**

Outline Width:

GENERATE WMS



Home / Manage / Layer List / Leyte soil map / Create Legends

Attribute Class: descrip0

Outline Width:

GENERATE WMS

- Optionally, specify the outline width for polygon, the line width for line or the point size for point shapefiles.
- 'Generate WMS' will lead to a legend table where colors for different classes can be specified manually from a color scheme or Hexadecimal color code can be entered. Also http color names like 'red', 'blue' etc. will work instead of Hexadecimal color codes
- 'Submit' will generate the layer and lead to the map window



Search:

Legends	Color
BANTOG CLAY LOAM	 #16e3be
BEACH SAND	 #a1d90e
BOLINAO CLAY	 #1e537b
BUENAVISTA SILT LOAM	 #555a51
DAGAMI CLAY LOAM	 #a42911
FARAON CLAY, STEEP PHASE	 #39aedc
FARDON-BOLINAO COMPLEX	 #eb2189
GUMARAS SANDY CLAY LOAM	 #e595a5
GUMBALAO CLAY	 #4e4ebc
HIMAYANGAN CLAY LOAM	 #f1e99a

Showing 1 to 10 of 32 entries

Previous **1** 2 3 4 Next

SUBMIT **CLOSE**

5.5. Customize Raster

- Click 'Configure Raster' to generate the configuration how the raster dataset should be displayed.
- On the left, you see the raster bands and value statistics.
- Choose 'Configure automatically' e.g. for three-band RGB raster files, which will generate a standard display with band 1 = red, band 2 = green, band 3 = blue and click 'Configure'. This is suitable for any scanned and georeferenced color image, RGB satellite image, etc.
- Choose 'Customize Colormap' for single-band raster files, e.g. elevation data, to specify, how the cell values of the raster will be displayed, customize your colormap and click 'Customize'.
- For advanced information on the uploaded raster file, 'View raw gdalinfo output' can be selected

The screenshot shows the 'Configure raster' interface. On the left, under 'Raster stats', there is a table of statistics for four bands. The 'min (file)' and 'max (file)' values are 0 and 255 for all bands. The 'min (computed)' and 'max (computed)' values are also 0 and 255. On the right, under 'Configure raster', there are two radio buttons: 'Configure automatically' (selected) and 'Customize color ramp'. Below the radio buttons, there is a text box that says 'What we'll do: - Raster data will be presented as is.' and a 'CONFIGURE' button.

Band 1 (Red)	
min (file)	0
max (file)	255
min (computed)	0
max (computed)	255

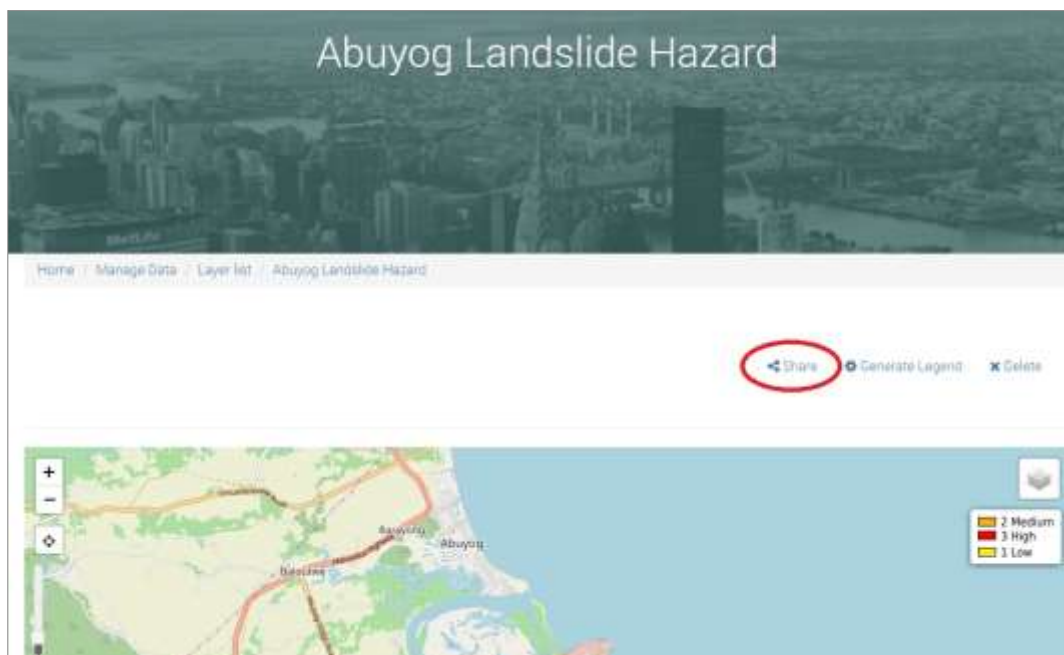
Band 2 (Green)	
min (file)	0
max (file)	255
min (computed)	0
max (computed)	255

Band 3 (Blue)	
min (file)	0
max (file)	255
min (computed)	0
max (computed)	255

Band 4 (Alpha)	
min (file)	0
max (file)	255
min (computed)	0
max (computed)	255

5.6. Manage Sharing

Once generated the legend for vector datasets or customized raster files, you can change the sharing status of the layer:



Clicking 'Share' will lead to the sharing specification window. Here you have the option to keep your layer private, which is the default setting, to share it with specific other users that are registered at VGMS by entering their email or to share it publicly. If shared per user or made public, the layer is viewable. Additionally, users can allow download of their layer as shape or raster file, show the attribute table and in case of sensitive data also hide certain columns with 'Filter Field Attributes'. Please see below the different sharing options:

The image displays four screenshots of the 'Share Layer' dialog box, arranged in a 2x2 grid. Each screenshot shows a different configuration of the sharing options.

- Top Left:** The 'Private' radio button is selected. The 'Public' and 'Per User' options are unselected. A 'SAVE CHANGES' button is at the bottom right.
- Top Right:** The 'Per User' radio button is selected. The 'Private' and 'Public' options are unselected. Below the radio buttons, there is an 'Enter Email:' field with a text input containing 'user@gmail.com' and an 'add' button. A 'SAVE CHANGES' button is at the bottom right.
- Bottom Left:** The 'Public' radio button is selected. The 'Private' and 'Per User' options are unselected. Below the radio buttons, there is an 'Options' section with three checked items: 'Download Shape File', 'See Attributes', and 'Download KML'. To the right of these items is a 'Filter Field Attributes:' dropdown menu with 'Choose...' selected. Below the dropdown is the text 'Leave it blank to show all.' A 'SAVE CHANGES' button is at the bottom right.
- Bottom Right:** This is a duplicate of the bottom-left screenshot, showing the 'Public' option selected with all sharing options enabled.

5.7. Attachments

In manage data layer view, below the attribute table, you can still edit the metadata after layer creation. Below that, in the Data/ Documents section, additional attachments can be added and be provided for download together with the layer source data, e.g. a more detailed description of the dataset, its use and purpose, a paper on the scientific background of the layer, an explanatory spreadsheet or a spreadsheet tool that can be used for processing or interpreting the data. Currently, PDF files, office document (.doc, .docx, .odt) and spreadsheet files (.xls, .xlsx, .ods.) are submitted. Future development may also allow QGIS metadata and style files as well as GIS model and script files for further data processing.



5.8. Create Layer Collections



Layer collections are supposed to provide a flexible and sharing-oriented way of organizing your geodata.

Registered Users can create their own collections from layers relevant for their purposes or for specific projects or topics. Once created, fast and easy access to relevant layers is assured without having to search for the data again. Private as well as shared and public layers can be organized together in one

collection. The collection list in Data Archives is public. For sure if you create collections from private or per user shared layers, they will not be accessible or viewable for not authorized users. Only the collection title, description etc. will appear in the collection view.

To create a layer collection, click 'Collections' in Manage Data section, click the green button to create one and insert a name and optional a description for the collection. To add layers simply insert a tag. Every layer which has this tag as a keyword (not case-sensitive) will appear in the collection.

If you create a new layer for an existing collection, just add the collection tag to layer keywords and it will automatically be part of the collection. Different users can tag their layers the same way and so contribute to one collection. One layer can be part of several collections. And also more than one tag can be specified per collection, so all layers with one of the tags will join the collection. So public or shared layers from other users can be included without having to ask the owner to change tags.

Home / Manage Data / Manage Layer Collections

BACK CREATE COLLECTION

Show 10 entries Search:

Name	Description	Filter tags	
CLUP A.1	Geographic location of municipalities, coordinates, administrative boundaries	clup.a.1	EDIT DELETE
CLUP A.2	Location and significant role in relation to the province, region and country, if any	clup.a.2	EDIT DELETE
CLUP A.3	Municipal land area & boundaries	clup.a.3	EDIT DELETE

Showing 1 to 3 of 3 entries Previous 1 Next

Home / Manage Data / Layer Collections / Create

Collection name
CLUP A.3

Description
Municipal land area & boundaries

Tags clup.a.3 x

Search:

Title	Description	Uploader	Date Upload
Municipal and City Boundaries Philippines GADM	These data were extracted from the GADM database (www.gadm.org), version 2.8, November 2015. See the website for more information.	martin.bayr@gmx.net	Feb 08, 2019
Municipal and City Boundaries Philippines OCHA	Derived from the boundaries of the Barangays as observed at the end of April 2016 as per the PSGC dataset, generated on the basis of the layer created by the PSA in the context of the 2015 population census ... for more info please refer to attachments.	martin.bayr@gmx.net	Feb 08, 2019
Municipal and City Boundaries Region 8 OCHA	Derived from the boundaries of the Barangays as observed at the end of April 2016 as per the PSGC dataset, generated on the basis of the layer created by the PSA in the context of the 2015 population census.	martin.bayr@gmx.net	Feb 08, 2019

Showing 1 to 3 of 3 entries

SUBMIT

5.9. Multilayers

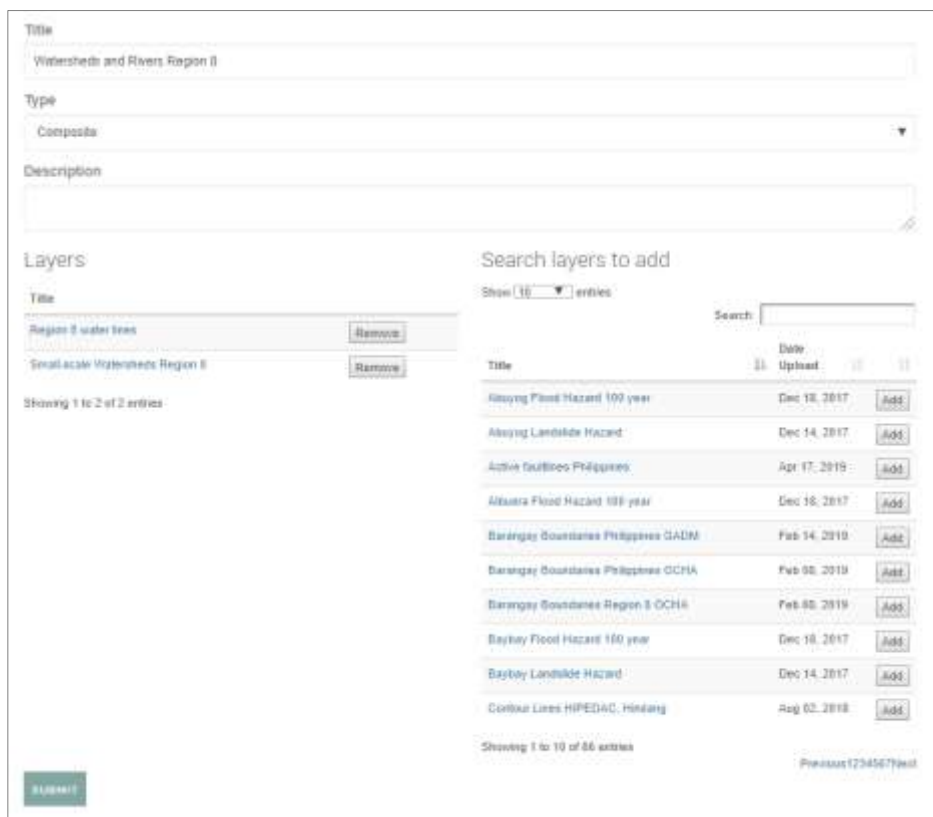


Users can combine their layers also to multiple layer views and save them. This is useful for different purposes:

- Overlays can be visualized
- Adjacent Layers can be visualized together.
- Compilations can be visually merged
- Time series data can be displayed in multiple map windows.

This screenshot shows the 'Manage Multilayers' page. At the top, there is a breadcrumb trail: 'Home / Manage Data / Manage Multilayers'. On the right, there are two buttons: 'BACK' (orange) and 'CREATE MULTILAYER' (green). Below these, there is a search bar and a table with columns: 'Title', 'Type', 'Description', and 'Date Uploaded'. The table is currently empty, with a message 'No data available in table' in the center. At the bottom, it says 'Showing 0 to 0 of 0 entries' and has 'Previous' and 'Next' buttons.

For creating, click 'Multilayers' in Manage Data section, click the green button.

This screenshot shows the 'Create Multilayer' form. It has several input fields: 'Title' (with the text 'Watersheds and Rivers Region II'), 'Type' (with a dropdown menu set to 'Composite'), and 'Description'. Below these is a 'Layers' section with a table of existing layers. To the right of this table is a 'Search layers to add' section with a search bar and a table of layers to be added. The 'SUBMIT' button is at the bottom left.

Title	Type	Description
Region II water lines		
Small-scale Watersheds Region II		

Title	Date Upload	
Albayong Flood Hazard 100 year	Dec 18, 2017	Add
Albayong Landslide Hazard	Dec 14, 2017	Add
Active Outlines Philippines	Apr 17, 2019	Add
Albura Flood Hazard 100 year	Dec 18, 2017	Add
Barangay Boundaries Philippines GADM	Feb 14, 2019	Add
Barangay Boundaries Philippines OCHA	Feb 08, 2019	Add
Barangay Boundaries Region II OCHA	Feb 08, 2019	Add
Baybay Flood Hazard 100 year	Dec 18, 2017	Add
Baybay Landslide Hazard	Dec 14, 2017	Add
Contour Lines HIRPAD, Hinang	Aug 02, 2018	Add

Add title and description and choose type, either composite or temporal, then search and add layers on the right side.

6. Services

The VSGM is a base platform for offering different services related to geodata mapping and GIS. Information can be found in the 'Articles' section.



6.1. Open Data Kit (ODK)

ODK is a tool for creation of digital survey forms that can be downloaded onto mobile phones or tablets for easy data collection via app. Homogeneous datasets can be collected and uploaded to an ODK enabled server without having to digitize hardcopy survey forms afterwards. The collected datasets can include GPS data recorded with the used mobile devices. So crowd based mapping with customized forms can be done with the ODK tools. Internet connection is only required for downloading the blank form template and uploading the filled forms at the end of the day. The collection itself can be done offline.

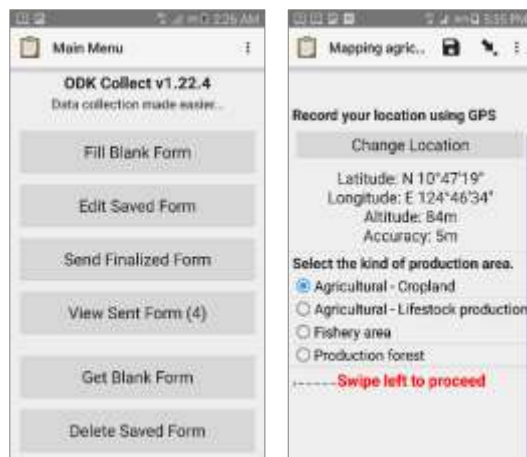
For providing digital survey forms and receiving the ready datasets, VGMS includes an ODK enabled server. Also ready-made survey forms, e.g. for Climate and Disaster Risk Assessment (CDRA) are provided by Visayas State University (VSU). For using the ODK server and for ready-made or custom-made forms as well as for ODK training and administration services please contact VSU.

Contact Us

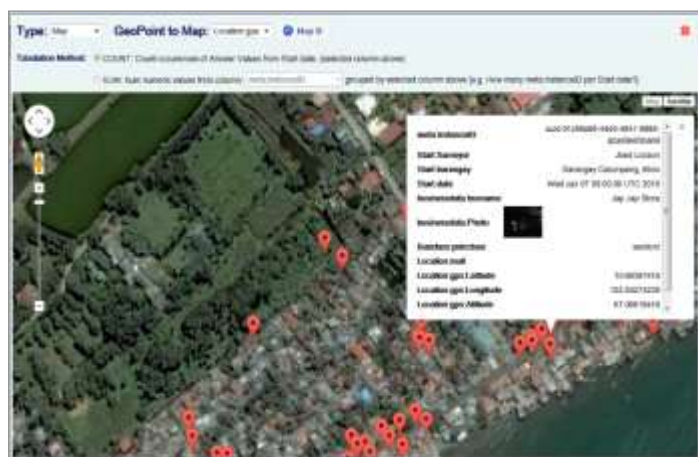
✉ vsu.mapserver@vsu.edu.ph

☎ (53) 563-8264

📍 VSU Eco-FARMI Baybay City, Leyte



Android App ODK Collect



Visualizing of an ODK survey

6.2. Custom GIS Services

VSU GIS Unit offers trainings and custom GIS editing and analyzing services, please see the link at Services/ VSU GIS Services. For information and offers, please see in 'Articles' section.



Digitizing of rice fields

6.3. Drone Mapping

VSU GIS Unit offers cost-effective drone mapping services to municipalities and other organizations. A drone captures geo-tagged aerial images, which can be combined by photogrammetric software to georeferenced orthomosaics with very high resolutions. By combining this method with industry-grade GPS measurements, absolute accuracies in the range of some centimeters can be achieved. Additionally, elevation data like digital surface and terrain models as well as 3D-Models can be calculated from the data. So highly detailed and up-to-date base maps for different mapping and planning purposes can be produced, refining and updating of various kinds of maps is possible. With the actual equipment, up to 450 ha can be covered per day. Examples of drone based aerial images and elevation data can be found on VGMS by searching for 'drone'. For more information on drone mapping and offers, please see in 'Articles' section.



VSU aerial imagery produced with drone

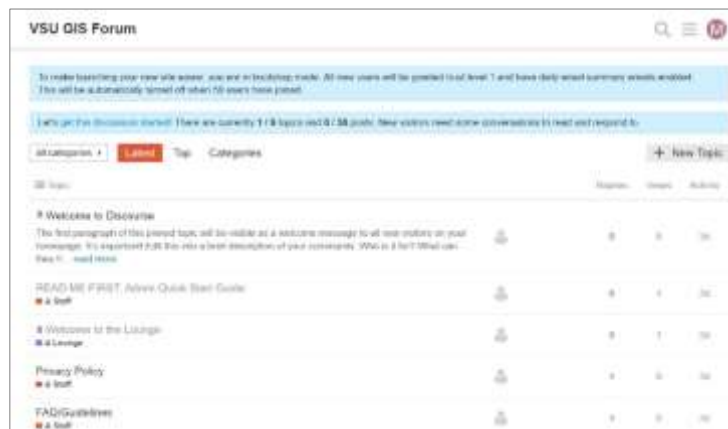
6.4. CLUP Data Overview

One broad collection of fine scaled geodata was compiled by VSU and GIZ on VGMS referring to data requirements for preparation of the municipal Comprehensive Land Use Plan (CLUP). These layers use the tag 'clup' together with their number according to the CLUP Guidebooks, e.g. 'clup.a.1' as keyword for layers describing the Geographic location of municipalities. The table below shows the CLUP Guidebook system. An overview over the existing layers for this system on the VGMS with links to according collections can be found in section 'Articles':

VSU GIS			HOME	FORUM	ARTICLES	DATA ARCHIVES	MANAGE DATA	LOGOUT
CLUP Data Overview								
Data Requirements (CLUP Guidebooks 2013/14)						Available Layers	Tag Keywords	
A. Geographical, Administrative/Political Profile								
1. Geographic location of municipality Coordinates (longitudinal/latitudinal location)						14	clup.a.1	
2. Location and significant role in relation to the province, region and country, if any						1	clup.a.2	
3. Municipal land area & boundaries						1	clup.a.3	
4. Political Subdivisions (Urban/Rural Barangays)						1	clup.a.4	
5. Alienable and disposable land						1	clup.a.5	
B. Natural and Physical Characteristics								
1. Climatological conditions-type of climate-prevailing winds, average annual rainfall & mean temperature-tidal current patterns (for coastal areas)						3	clup.b.1	
2. Topography						1	clup.b.2	
3. Vegetation/Vegetative cover for 2 periods (e.g. baseline year and current year)						2	clup.b.3	
4. Soil						3	clup.b.4	
5. Hydrogeologic Features						26	clup.b.5	
6. Conservation areas and other Special Interest Areas						2	clup.b.6	
C. Existing Land Use (Refer to Annex 4-5 on Land Use Categories) including the following Special Interest Areas:						0	clup.c	
D. Land Classification Map						1	clup.d	
E. Environmental Condition								
1. Classification of rivers/bodies of water within the municipality						1	clup.e.1	
2. Quality of rivers, marine waters, etc. (polluted or not, degree of pollution)						0	clup.e.2	

Not all layers could be included, for some layers, alternative sources were used and the work is still ongoing. An actual overview with links to the single sub-collections for every group (e.g. clup.a.1) is available at Articles/ CLUP Data Overview.

7. Forum



For cooperation between academic institutions, municipalities, cities, governmental departments and other stakeholders as well as for questions and discussions on specific layers, maps, compilations, GIS and mapping related issues, VGMS includes a forum section. An account is created automatically for every registered user once she or he enters the forum.