Information Sheet

How to create wetland maps on GeoYukon

Purpose

This guide describes how to collect field data and use it to create a map using GeoYukon.

The Government of Yukon has approved a policy for the stewardship of Yukon's wetlands, and wetland maps may be required to meet the terms and conditions of a placer mining land use approval or water licence. This guide can be used to make wetland maps using GeoYukon.

Maps submitted will become part of a placer mine's operating plan. These maps will be used to determine where to apply licence conditions. Therefore, the maps must be accurate. For example, wetland reclamation standards will be enforced in areas identified as wetlands. Map inaccuracies may delay or limit how operations are carried out.

Detailed or in-depth mapping work may require a professional mapping platform to complete.

Understanding your GPS

A specialized GPS unit may not be needed to complete mapping work. There are mapping or GPS applications (apps) available on most mobile devices. You may need to pay for the professional version of the app to ensure you have all the features needed to successfully map your mine site.

We recommend taking the time to learn all the features of your GPS or app before heading into the field to begin mapping. This will help to avoid lost or inaccurate information.

Some basic functions you will need to understand include:

- How to set the coordinate systems on your GPS unit or app. The preferred system to use is latitude/longitude, in the degrees decimal format. Map datum should be set to WGS84 or NAD83.
- How to mark and label tracks and waypoints.
- How to download and save your tracks and waypoints to a computer.
- The types of files your GPS or app can create. GeoYukon supports uploading the following file types: .CSV, .XLSX, .KML, .SHP, .GPX, or a .ZIP containing a FileGDB or shapefiles.

Collecting field data

You will need to walk around on site to identify on-claim wetlands if project level wetland mapping, like that in the Indian River area, has not been completed. If project scale mapping has been completed there will still be a requirement for field data collection to identify disturbed area and other existing mine site features. To do this, use your GPS unit or app to create a track or take sufficient waypoints to identify the extent of the wetlands.

Be sure to:

- Review all terms and conditions related to wetlands and wetland mapping in your mining land use approval and water licence. Make sure your field work is planned to capture all the information required, at the stated level of detail. If you need any clarification, please contact your mining recorder's office.
- Record key features of an area, such as vegetation present at a specific waypoint, to help identify if a wetland is present.

Please note that if your approval or licence requires a physical assessment of the site, you must go into the field, even if wetland mapping exists for your site.

Ensure you map waypoints of other important features, such as:

- Historic sites, including cabins, camps, trails, burial sites, etc.
- Existing disturbances, including drill pads, camps, fuel storage, trenches, etc.
- Areas of planned activities for the upcoming mining season.
- Areas of reclamation which may overlap with existing disturbances.

Each different feature should be created as a new track or waypoint on the GPS unit, so that when uploaded (see next steps) they are separated into individual layers. This will make the process of creating the map easier.

Label each layer according to the feature being mapped.

Creating a map using GeoYukon:

You are not required to use GeoYukon to complete your wetland mapping. If you have access to other mapping software, you can use it to complete your mapping work.

Maps must meet the Government of Yukon's standards, regardless of the software used to produce them.

Geomatics Yukon has put together a user manual to help you learn and use GeoYukon effectively. It can be found at: https://yukon.ca/en/geoyukon-user-manual-document

There also is an instructional video on how to use GeoYukon with time stamps that allow to go directly to topic of interest: GeoYukon: The basics (youtube.com)

1. Download your tracks and waypoints from your GPS or app onto the device (e.g. computer) you will be using to build your map. Use the help functions or app tutorials to determine how to create the files to download. Tracks and waypoints can be saved in the following formats for use with GeoYukon: .CSV, .XLSX, .KML, .SHP, .GPX, or a .ZIP containing a FileGDB or shapefiles.
2. Using GeoYukon, upload all files created from GPS waypoints collected in the field. To do this:
    - Under the "File" tab choose "upload data" and click "browse" to navigate to the folder on your computer where you have saved the file. Select the appropriate file and click "upload."
    - Depending on file format, you may need to confirm coordinate system of your data. Choose WGS 1984 if you collected data in geographic coordinate system (Latitude/Longitude degree decimal).
3. Turn on the uploaded layers, so they overlay the base map, and zoom into your property.
4. Review the "layers" tab at the bottom left of GeoYukon window and ensure that you have turned on all the layers related to your project outline or highlighted the claims that are part of your project. You may turn off any other layers that are not relevant to the map you are creating.

5. Use the “draw & edit” tab on GeoYukon to label the features of your site. The layers that you upload will not display in the legend, so it’s important to label any features on the map.
6. Review your map to ensure it meets the Yukon government’s digital mapping standards. This includes having a clear title and claim block outline, labelled features, and a complete and clear legend. Ensure no information is omitted and the grid is showing. Your map must be clear and easy to understand to be approved. You can find the details of the digital mapping standards on Yukon.ca at https://yukon.ca/en/mineral-resources-branch-digital-mapping-standards.
7. When your map is done, choose “print” under the “file” tab.
    - In the left side bar select the size of the printed map, choose map format and resolution, select map scale and change the map title to one meaningful for your project. You can also add a grid and any notes as needed.
    - Click print map. An overview PDF will be created.

Alternate mapping method:

It is possible to draw polygons directly on the GeoYukon map. If you know the location of the wetlands and other features via a site visit and are confident in your ability to accurately draw an outline on the map, this mapping method can be acceptable.

While this method may be useful if you cannot extract files from your GPS unit, it is not an alternative to field work.

- Under the “draw & edit” tab, use the “polygon” tool to draw a polygon anywhere on the map.
- Other features can be mapped in the same fashion, such as: existing disturbance, reclamation, proposed activities, and other relevant features (heritage sites, cabins, etc.). Please note that:
    - Each different type of feature should be identified in a different colour polygon, using the “style” tool.
    - All features should be clearly labelled on the map using the “text” tool.
    - All features added to the map can be made into one file.
    - To export the features you drew on the map into one file, navigate to the Export Drawing function under the “draw & edit” tab. The

"export drawing" functions are made available after a polygon is created. Click "export" to create a file of the polygons.

- If you take GPS waypoints in the field and are unable to upload individual files to GeoYukon, there is an option to plot individual coordinates under the "draw & edit" tab:
    - Click on "plot coordinates," then in the left side bar, choose the correct coordinates system that was used for collecting data and input GPS points.
    - Once points are plotted you can connect the points using the "polygon" tool.
    - For ease of reading the map, delete the GPS points after drawing the polygon. Using the "erase" tool, click on each GPS point to erase it.
    - Create different coloured polygons by changing the "style" for each type of feature. Select the polygon you would like to change, then using the "style" tool, choose from a list of styles in the left side bar.
    - Clearly label polygons using the "text" tool and clicking on the polygon you want to label.
    - Create one file for all polygons added to the map.

Submitting a map to the Government of Yukon's Mineral Resources Branch:

- Include the completed map and any files created during field assessment that helped create the completed map.
- Ensure that you have completed and included all the tasks and information as required by your mining land use approval.
- Email the completed map and any supporting information to the appropriate mining recorder's office. If you have large files to submit, the mining recorder's office can provide links to a file transfer site (FTP) or other guidance on how to submit your map.

FOR MORE INFORMATION, PLEASE CONTACT:
DISTRICT MINING RECORDER'S OFFICE

Dawson 867-993-5343
dawson.mining@yukon.ca

Whitehorse 867-667-3190
whitehorse.mining@yukon.ca

Mayo 867-996-2256
mayo.mining@yukon.ca

Watson Lake 867-536-7366
watson.mining@yukon.ca

Yukon.ca/mining