

# Product Access and Download Guide to High Resolution Digital Elevation Model (HRDEM)

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Access to the HRDEM product can be done through different portals: the Federal Geospatial Platform (available on the government internal network only), [geo.ca](#) and [Open Maps](#) from the Open Government Public Portal. This guide uses the Open Maps portal method.

Based on the [HRDEM Open Maps portal](#) metadata record, four methods are available to search for the HRDEM datasets of interest to you. You can (1) view the map in the Open Map Viewer, (2) download the HRDEM project footprints or HRDEM dataset footprints, (3) use the Web Service URL link (ESRI REST), or (4) go directly to the download directory on the FTP site.

## (1) Open Map Viewer:

Search index available by HRDEM project or by datasets in the Open Maps interactive map viewer. A step-by-step guide to this method is presented below. Note that those steps also work with the [geo.ca](#) viewer.

## (2) Project footprints and HRDEM datasets:

The footprints of all HRDEM projects and datasets are available in shapefile format, KML and KMZ via the [HRDEM](#) product page. Under **Data and Resources** section, you will find [HRDEM project footprints](#) and [HRDEM dataset footprints by coordinate system](#) in SHP format.

Here are the download steps:

- Click on the **Explore** button on the right and then on the **Go to resource** download link to access the desired footprint file. For HRDEM project footprints, the file is called **Projects\_Footprints.zip** and for dataset footprints, the file is called **Dataset\_Footprints.zip**.
- Once the desired file is downloaded, unzip and integrate the file into a GIS application. By clicking on the polygons of interest, you will get the download links of each project or dataset .

## (3) HRDEM web service:

A URL link to the HRDEM Footprint Web Service is available via the [HRDEM](#) product page. Under the **Data and Resources** section, you will find [HRDEM Products and Project Footprints](#). The ESRI REST web service is available in English and French. Click on the **Explore** button on the right and then on the **Go to resource** link to open the URL web service. This URL link is public and can be accessed via any application that supports ESRI REST web services.

Here is a description of the main layers available via the HRDEM web service:

- o HRDEM Project Extent: contains a representation of the global extent of the HRDEM product with minimal symbology. This layer is only displayed when zoomed to a scale greater than 1 : 5 000 000.
- o HRDEM Project Footprints: contains the footprints of HRDEM projects derived from LiDAR, with symbology based on the year of acquisition of the LiDAR data source. This layer is only displayed when zoomed to a scale less than 1 : 5 000 000.
- o HRDEM Datasets Footprints by coordinate system: contains HRDEM dataset footprints with symbology based on coordinate system. For HRDEM projects derived from LiDAR, footprints with black outlines represent datasets referenced to even UTM zones (10, 12,

14, etc.), footprints with gray outlines represent datasets referenced to odd UTM zones (11, 13, 15, etc.). This layer is only displayed when zoomed to a scale less than 1 : 200 000. For HRDEM datasets derived from ArcticDEM, the blue footprints represent datasets referenced according to the EPSG:3413 system. This layer is displayed when zoomed to a scale less than 1 : 500 000.

- HRDEM Project Footprint – ArcticDEM: contains the footprints of HRDEM projects derived from the ArcticDEM project. This layer is only displayed when zoomed to a scale less than 1 : 5 000 000.

(4) **FTP:** Search directly on the download directory of the FTP site:

[https://ftp.maps.canada.ca/pub/elevation/dem\\_mne/highresolution\\_hauteresolution/](https://ftp.maps.canada.ca/pub/elevation/dem_mne/highresolution_hauteresolution/)



This requires knowledge of directory structure and file naming convention. Refer to [product specification](#). Note that the display on the FTP site for folders containing many files may be slow.

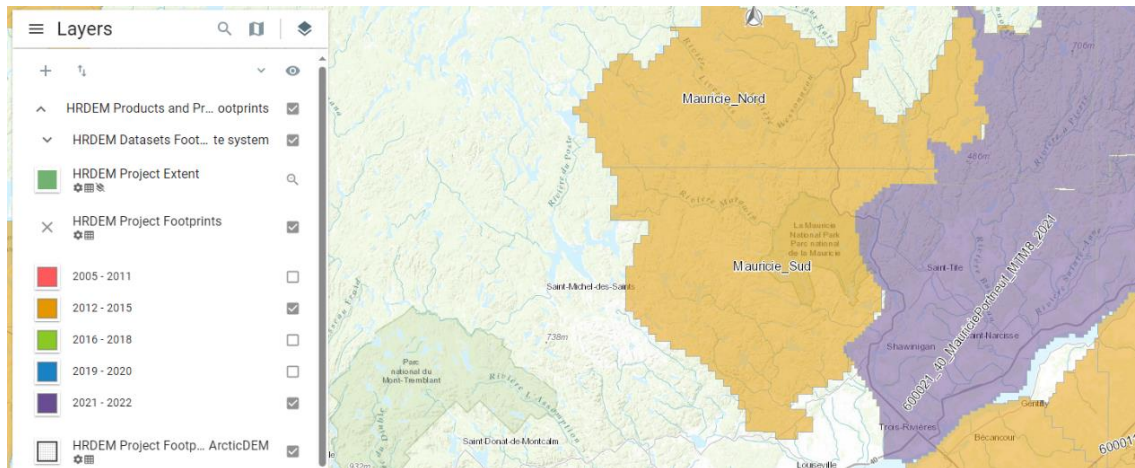
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### **Step-by-step guide to downloading [HRDEM products via the Open Map Viewer](#)**

*The methods explained here apply to LiDAR-derived HRDEMs. The main difference in the research steps for satellite-derived HRDEMs is that only Digital Surface Models are available.*

#### **Open Map Viewer**

- Under the [HRDEM](#) product description, click on the "View on Map" button. This will bring you to an interactive map showing all layers of the HRDEM web service.
- Open the "Layers" menu by clicking on the "stacked" squares  to the left of the Layers title to access the list of available layers. For a description of the layers available in the web service, please refer to the previous section of this document.
- To make the search easier, note that it is possible to add transparency to the layers. Just click on the layer, then on the icon  to access the parameters. The opacity option will then be available.
- It is also possible to display only the footprints of HRDEM projects for a specific time interval. Only keep the layers of interest active, as shown in the image below. This option can be useful when there is overlap from several years of data sets for the same region.

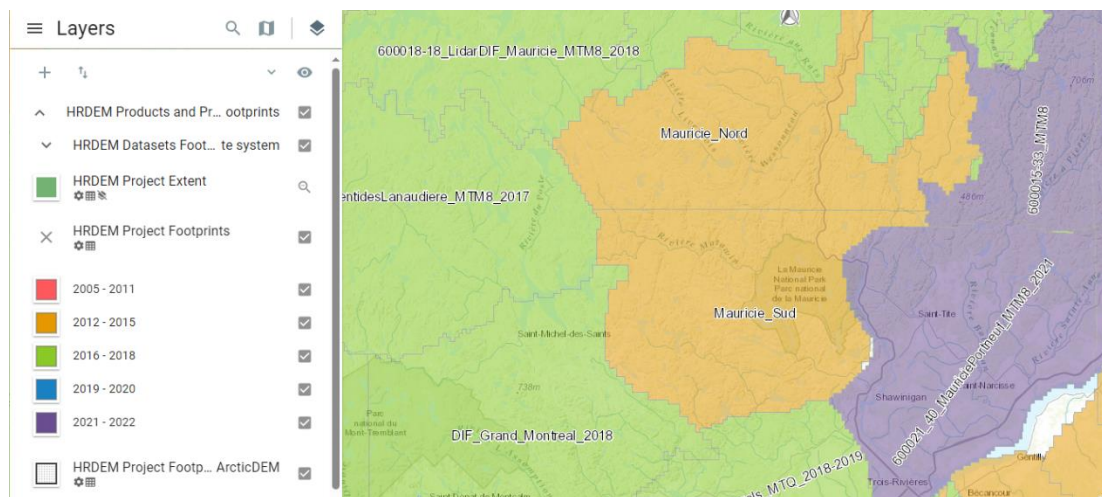


- It is possible to search by project or by dataset.

**Note that a HRDEM project (Ex: Mauricie\_Sud) includes several HRDEM datasets (Ex: 1m\_utm19\_w\_27\_119).**

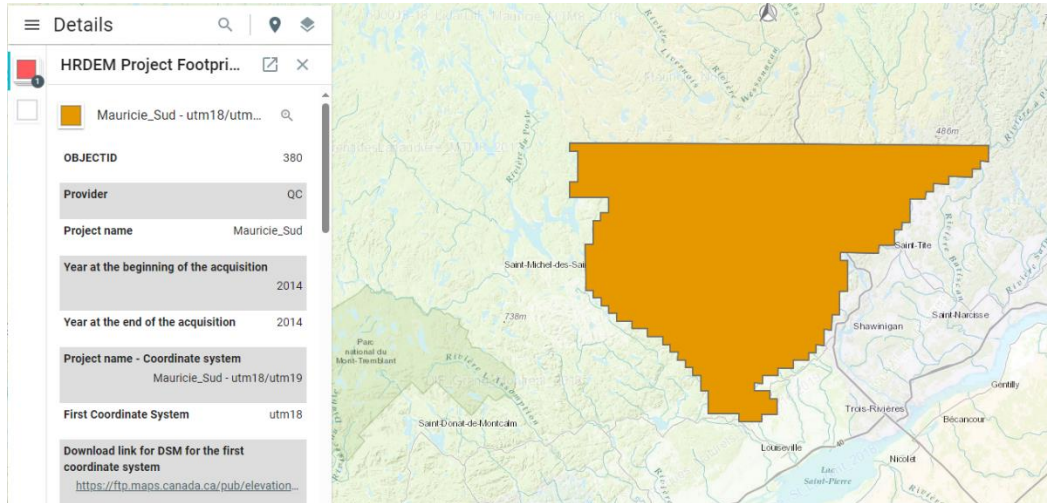
- **Search by HRDEM project ( HRDEM Project Footprints layer)**

First zoom in on your area of interest. For example, here we zoom in on the Mauricie\_Sud project.

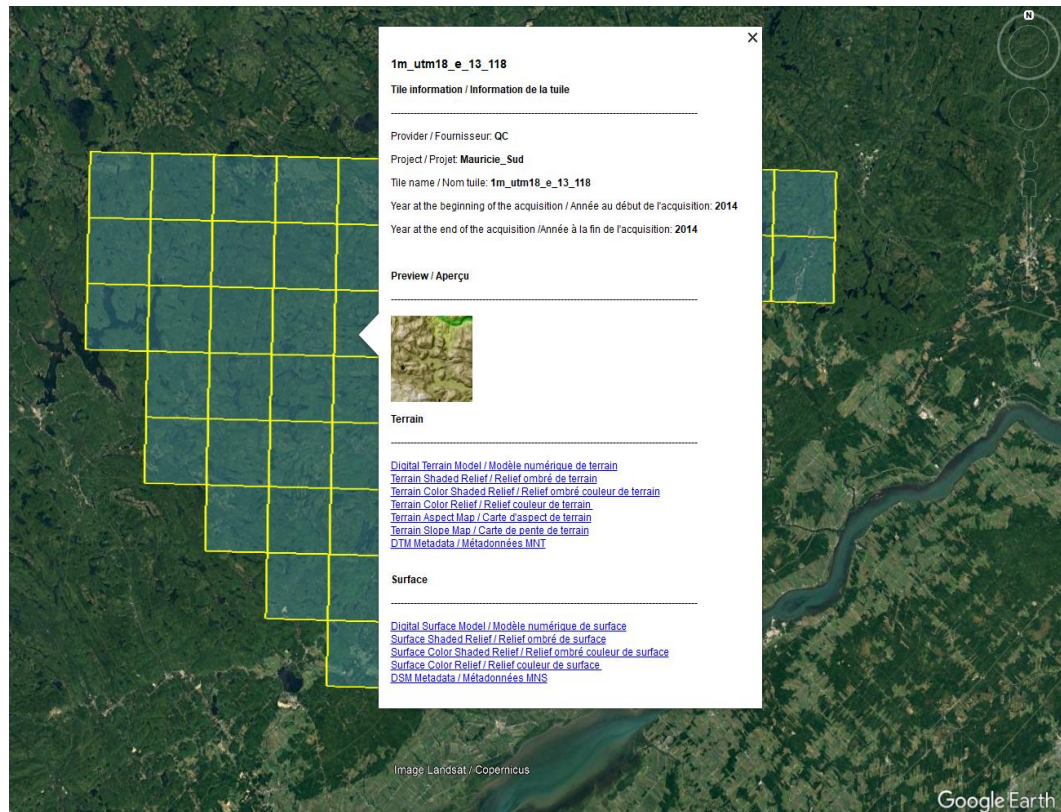


Then click on a HRDEM project footprint (the color of the polygons represents the acquisition years of the LiDAR, see legend). On the left side of the viewer, information on the selected HRDEM project will be displayed. This provides access to the complete download directory for this project, SHP and KMZ footprint files of the datasets associated with this project, and metadata files.



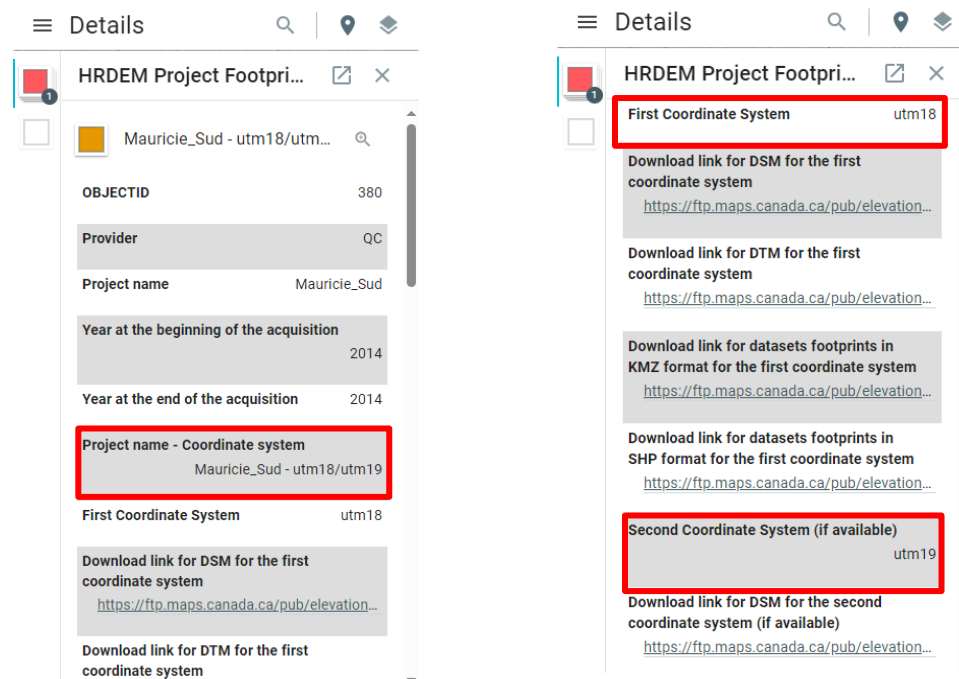


At this stage, the SHP and KMZ files of associated dataset footprints may be useful in finding the desired HRDEM dataset. Here is a preview in Google Earth of the KMZ dataset footprint file showing all the download links available for this project:



While searching through the viewer, by clicking on a HRDEM project in the map, it is possible that some projects may contain HRDEM datasets in several different coordinate systems.

If several coordinate systems are available for the same project, you can choose which one to download. If you hesitate between two coordinate systems for the same project, it is recommended that you choose the one that covers the most of your area of interest, to maximize the use of datasets projected to one UTM zone.



- **Search by HRDEM datasets (HRDEM Datasets Footprints by coordinate system layer)**

It is also possible to search directly for datasets via the Open Map Viewer. Note that the dataset footprint layer is only displayed when zoomed to a scale less than 1 : 200 000.

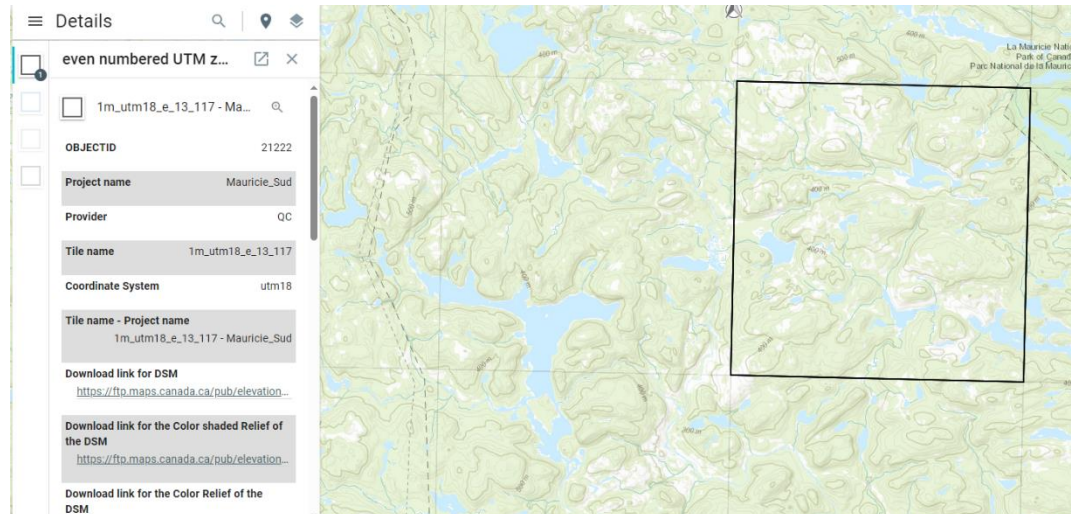
First, in order to facilitate the search, uncheck the Project Footprints layer to see only the footprints of the datasets.

Then zoom in on your area of interest. It is important to zoom in at a scale less than 1 : 200 000 in order to see the footprints of HRDEM data sets (black or grey squares).





Then click on one of the dataset footprints (black or grey squares in this example) in your area of interest on the map. On the left side of the viewer, you will see the name of the HRDEM dataset(s) available for the requested area. This will give you access to download links for all products related to that dataset.



A footprint of HRDEM datasets can be available in more than one UTM zone. If several coordinate systems are available, you can choose the one you wish to download.

When you select a HRDEM footprint, you will get a table showing the direct download links of the products related to that dataset. You will also see a thumbnail showing the extent of the dataset. This thumbnail is useful for choosing which dataset to download when the area is covered by multiple projects or UTM zones.

