

# ***GDAL on HPC***

## **What is GDAL?**

GDAL is a translator library for raster and vector geospatial data formats that is released under an MIT style Open Source License by the [Open Source Geospatial Foundation](#). As a library, it presents a single raster abstract data model and single vector abstract data model to the calling application for all supported formats. It also comes with a variety of useful command line utilities for data translation and processing [\[Source\]](#)

Links:

[Official Website](#)

[Documentation](#)

## **Versions Available:**

The following versions are available on the cluster:

- GDAL -v3.4.1
- GDAL-v2.0.1
- GDAL-v2.4.0

## **How to load GDAL?**

To load GDAL, use the following commands:

```
#Load the GDAL module  
module load physical/GDAL3/3.4.1
```

To verify if the module and dependencies are loaded correctly, use the following command.

```
#Show all the modules loaded
module list
```

This should list all the software and dependencies that are loaded. In this case, 4 dependencies should be loaded.

All the available terminal program can be found on following [website](#) .

GDAL is also a library which can be imported in programming language. See the website for more info.

## How to use GDAL?

For this tutorial, download input file from following site,

```
# Download a raster map file
wget
https://www.naturalearthdata.com/http://www.naturalearthdata.com/downlo
ad/10m/raster/NE1_HR_LC.zip --no-check-certificate

# Unzip the file
unzip NE1_HR_LC.zip
```

To see the information about the raster image, use the following command,

```
# Use case of gdalinfo
gdalinfo NE1_HR_LC.tif -mm
```

To convert image to web friendly jpg, use the following command

```
#Use case of gdal_translate  
gdal_translate -of JPEG -co QUALITY=70 -co PROGRESSIVE=ON -outsize  
1400 0 -r bilinear NE1_HR_LC.tif NE1_HR_LC.jpg
```

The image should be saved in same directory.

These are just a few examples of the GDAL. Refer to the following article to see the API usage of GDAL.

[GDAL python](#)

## ***Where to find help?***

If you are stuck on some part or need help at any point, please contact OIT at the following address.

<https://ua-app01.ua.edu/researchComputingPortal/public/oitHelp>