

# GDAL, OGR - RASTER DATA

# GDAL

- Geo Data Abstraction Library - [GDAL](#)
- Originally written by Frank Warmerdam, now OSGeo project
- used in QGIS, GrassGIS, MapServer, ArcGIS, Google Earth Engine, ...
- Written in C++, Python bindings available - notice the function names

## GDAL - DETAILS

- Used for manipulation of Raster data.
- support for over 100 data formats -  
[http://www.gdal.org/formats\\_list.html](http://www.gdal.org/formats_list.html)
- e.g. GeoTiff, JPEG, PNG, netCDF, ESRI, HDF5, ...

# COMMAND LINE PROGRAMS

**gdalinfo**

List information about dataset

**gdal\_translate**

Data format conversion

**gdal\_merge.py**

Mosaicing tool

**gdalwarp**

Reprojection of data

...

# GDAL DATA MODEL

## Driver

Driver for a specific data format

## Dataset

Represents a raster object

- Spatial reference
- Affine transformation
- Metadata
- Rasterband

# OGR

- part of GDAL
- OpenGIS simple feature Reference
- Manipulation of vector data
- [List of supported vector formats](#)
- e.g. Shapefile, PostGIS, KML, CartoDB, ...
- covered in next lecture

# COMMAND LINE PROGRAMS

**ogrinfo**

List information about dataset

**ogr2ogr**

Converter for vector data

**orgtindex**

Creates a tileindex

...

# RASTERIO

- Python package mainly developed by mapbox
- aims to make working with GDAL less cumbersome and more pythonic
- <https://github.com/mapbox/rasterio>
- [More Examples](#)



# PACKAGE INSTALLATION

```
conda install -c https://conda.anaconda.org/ioos rasterio
```

# PRACTICAL PART

See GDAL-rasterio-comparion IPython Notebook