

GDAL, OGR - RASTER DATA CHRISTOPH PAULIK

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
- 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](#)

PRACTICAL PART

See [GDAL-rasterio-comparion IPython Notebook](#)