

# GDAL

GDAL is a translator library for raster geospatial data formats that is released under an [X/MIT](#) style [Open Source](#) license by the [Open Source Geospatial Foundation](#). As a library, it presents a [single abstract data model](#) to the calling application for all supported formats. It also comes with a variety of useful [commandline utilities](#) for data translation and processing. The [NEWS](#) page describes the May 2012 GDAL/OGR 1.9.1 release.

The main page can be found on [gdal.org](#). You can find how to install GDAL on this page. If you desire QGIS, then it is recommended to install QGIS, including GDAL via the [OSGeo4Setup](#) utility. This allows you to get hold on the latest versions of QGIS and GDAL utilities. A good recipe for installing without QGIS is describe on [this blog](#).

For a compiled Windows(executable) version you can go to <http://www.gisinternals.com/sdk> and chose the appropriate development, stable of release version of gdal and than download the core version (something like gdal-19-1600-core.msi). The python binding can also be found here.

Below you can find various tips to use the various GDAL utilities. You are requested to append tips and tricks.

## GDAL info

One of the main GDAL utilities is gdalinfo. This utility gives you information on the [various formats](#) that are supported by GDAL. Main syntax is

```
gdalinfo filename
```

## Conversion

- netCDF --> ArcINFO ASCII raster

use gdalinfo <filename.nc> to find out which subdatasets are available in your nc. For instance in maaiveld25.nc the following subdatasets are available.

```
Subdatasets:
  SUBDATASET_1_NAME=NETCDF:"maaiveld_25.nc":Band1
  SUBDATASET_1_DESC=[1775x3782] surface_elevation (32-bit floating-point)
  SUBDATASET_2_NAME=NETCDF:"maaiveld_25.nc":legend
  SUBDATASET_2_DESC=[100x3] legend (16-bit integer)
  SUBDATASET_3_NAME=NETCDF:"maaiveld_25.nc":legend_values
  SUBDATASET_3_DESC=[100x2] legend_values (32-bit floating-point)
  SUBDATASET_4_NAME=NETCDF:"maaiveld_25.nc":legend_description
  SUBDATASET_4_DESC=[100x80] legend_description (8-bit character)
Corner Coordinates:
Upper Left  (    0.0,    0.0)
Lower Left  (    0.0,  512.0)
Upper Right (  512.0,    0.0)
Lower Right (  512.0,  512.0)
Center      (  256.0,  256.0)
```

By using the following syntax you can convert the maaiveld25.nc to mv.asc

```
gdal_translate -of AAIGrid NETCDF:"maaiveld25.nc":Band1 mv.asc
```

In the example above the part NETCDF:"maaiveld25.nc":Band1 can be different in any other netCDF. For instance the netCDF (INTER\_OPER\_R\_\_TAVGD\_L3\_20110831T000000\_20110901T000000\_0005.nc) that can be downloaded from the [NMDC site](#) gives the following gdalinfo information

```

Subdatasets:
  SUBDATASET_1_NAME=HDF5:"D:\test\INTER_OPER_R__TAVGD__L3__20110831T000000_20110901T000000_0005.nc"://lat
  SUBDATASET_1_DESC=[319x273] //lat (32-bit floating-point)
  SUBDATASET_2_NAME=HDF5:"D:\test\INTER_OPER_R__TAVGD__L3__20110831T000000_20110901T000000_0005.nc"://lon
  SUBDATASET_2_DESC=[319x273] //lon (32-bit floating-point)
  SUBDATASET_3_NAME=HDF5:"D:\test\INTER_OPER_R__TAVGD__L3__20110831T000000_20110901T000000_0005.
nc"://prediction
  SUBDATASET_3_DESC=[1x319x273] //prediction (32-bit floating-point)
  SUBDATASET_4_NAME=HDF5:"D:\test\INTER_OPER_R__TAVGD__L3__20110831T000000_20110901T000000_0005.nc"://stations
  SUBDATASET_4_DESC=[1x319x273] //stations (32-bit floating-point)
  SUBDATASET_5_NAME=HDF5:"D:\test\INTER_OPER_R__TAVGD__L3__20110831T000000_20110901T000000_0005.
nc"://stationvalues
  SUBDATASET_5_DESC=[1x319x273] //stationvalues (32-bit floating-point)
Corner Coordinates:
Upper Left  (    0.0,    0.0)
Lower Left  (    0.0,  512.0)
Upper Right (  512.0,    0.0)
Lower Right (  512.0,  512.0)
Center      (  256.0,  256.0)

```

Check the subdataset name subdataset\_3\_name. It starts with HDF5 and ends with //prediction. This Entire name has to be used to derive data from this netcdf. So everything after the SUBDATASET\_3\_NAME=. The export to ASCII is

```

gdal_translate -of AAIGrid HDF5:"INTER_OPER_R__TAVGD__L3__20110831T000000_20110901T000000_0005.
nc"://prediction
prediction.asc

```

Note the pathname, this is not used. Exporting is best done from the location where the netCDF is stored.