GDAL

OSGeo Project

Geospatial Data Abstraction Library and Translation Tools

Introduction

GDAL/OGR is a translator library for raster and vector geospatial data formats that is released under an X/MIT style Open Source license by the Open Source Geospatial Foundation. It is written in C++, and it presents a single raster abstract data model and a single vector abstract data model for all supported formats, to the calling application. It also comes with a variety of useful command-line utilities for data translation and processing.

Supported format

GDAL supports over 140 raster formats, such as: GeoTIFF, Erdas Imagine, OGC WCS/WMS/WMTS, SDTS, ESRI Grids, ECW, MrSID, HDF, NetCDF, JPEG2000, DTED, NITF, GeoPackage and more ...
OGR supports over 80 vector formats, such as: GeoPackage, ESRI Shapefile, GML, GeoJSON, KML, OpenStreetMap, PostGIS, DGN, Oracle Spatial ESRI Coverages, ESRI FileGeodatabase, MapInfo (tab and mid/mif), OGC WFS, and more...

Where is GDAL used

GDAL/OGR is the most widely used geospatial data access library. It provides the primary data access engine for many applications ncluding MapServer, GRASS, QGIS, and gvSIG. It is also utilized by packages such as OSSIM, Cadcorp SIS, FME, Google Earth, VTP, ILWIS, MapGuide and ArcGIS.

Features

- Several command-line utilities for data translation, image warping, reprojection, subsetting, merging, tiling, DEM-related utilities (hillshading, slope, hypsometric rendering) and various other common tasks
- Highly efficient raster data access, taking advantage of tiling and overviews
- Support for large files (larger than 4GB, with modest memory requirements)
- Library access from C, C++, Python, Java, C#, and Perl
- Coordinate system engine built on PROJ.4 and OGC Well Known Text coordinate system descriptions
- Great documentation for each supported format and for each command-line utility

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