

Overall Installation / Operation Instructions

1. Introduction.

This GEONETCast toolbox is developed as a stand-alone utility, most of the output is produced in a format that can be directly visualized or imported (e.g. in the case of shape files) in ILWIS386. The toolbox as such does not provide means for visualization. Most of the routines are developed based on data sources as provided through EUMETCast / GEONETCast.

2. Install Python and site packages required

The toolbox developed can be used on a Windows Operating System. The toolbox can be used for Python version 3.10 and above. The following python modules and site-packages are expected to be available:

- Python modules used are: os, subprocess, shutil, glob, threading, gzip, zipfile, bz2, tarfile, webbrowser, subprocess, datetime, fnmatch and time
- Python site packages expected are: numpy, tk (tkinter), ilwis, netCDF4, satpy, awx, h5py, pandas, pybufrkit, sklearn, shapely, geopandas and rasterio

All above packages can be installed using pip. Open a command prompt window (cmd), navigate to your python folder and to install a site package use the following command:

```
python.exe -m pip install <site_package>
```

Also, GDAL is required. The wheel of GDAL (for Python version ≥ 3.10) can be obtained from: <https://github.com/cgohlke/geospatial-wheels>. Check the information provided in the section 'Geospatial library wheels for Python on Windows' and navigate to the Releases page (<https://github.com/cgohlke/geospatial-wheels/releases>), currently the latest version is: v2025.3.30, under "Assets", select the option "Show all ...assets".

Download the gdal wheel for your python version, e.g "gdal-3.10.2-cp310-cp310-win_amd64.whl" (for python 3.10) to your local system and use pip install, including the path to the folder where the wheel is stored, e.g:

```
<python310_folder>/python.exe -m pip install <path_to_folder>/gdal-3.10.2-cp310-cp310-win_amd64.whl.
```

Ensure you have selected / downloaded the appropriate wheel (for your python version and Windows OS - e.g. 'win_amd64')!

3. Structure of the Toolbox

Unzip the file and preferably locate the toolbox directory obtained to the root of your disk, e.g. 'C:/gnc_py'. Within the folder the python file "GNC_start.pyw" activates the toolbox. The file "GNC_start.py" upon activation also shows a command prompt box, showing additional information when executing the other python scripts activated by the user selected import and processing routines. Other folders and their functionality are given in the table below.

Table 1: toolbox folders and functionality

Folder Name	Functionality
ancillary	Masks used in some python scripts
docs	Pdf documents, like the various thematic help documents
extern	External resources which are used in the toolbox
license	Text files with license information details
pics	Thumbnail images
popup	Collection of python script executing the various import routines when selected from the main menu