

# How to retrieve ECMWF Public Datasets



This method is supported on [UNIX/Linux and Windows platforms](#) with [Python](#). No assumption should be made regarding service availability and individual user support.

## Step-by-step guide

This method allows users to download ECMWF public datasets in a **programmatic** way.

1. [Install ECMWF key](#)
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## Install ECMWF KEY

If you don't have an ECMWF account, please self register at <https://apps.ecmwf.int/registration/> and then follow **ONE** of the steps below.

You can also try visiting <https://api.ecmwf.int/v1/key/> to retrieve your credentials.



Note that the key expires in 1 year. You will receive an email to the registered email address 1 month before the expiration date with the renewal instructions.

## Install client libraries

The client currently supports both Python 2.7.x and Python 3.



The ecmwf-api-client library was added to the Python Package Index (PYPI):

<https://pypi.org/project/ecmwf-api-client/>

Install via pip with:

```
pip install ecmwf-api-client
```

If you do not have admin privileges you can always install the client in your user space:

```
pip install --user ecmwf-api-client
```

If you have [Anaconda](#) installed you can install the Web API Python client library doing:

```
conda install -c conda-forge ecmwf-api-client
```

Alternatively, you can first install **Python (and pip) on your Windows environment**.

1. Download windows installer exe from [Python.org](#) download page
2. Run the exe.
3. Screen will be shown to chose the installation option.
4. Uncheck "install for all user" option.
5. Go for the custom installation.
6. On next screen specify the directory path for which your user have full access on the computer (take a note of this as you will need it to set the environment variables).
7. Uncheck "create shortcuts for installed application" option.
8. Make sure "Add python to environment variable" option is Unchecked .
9. Complete the installation.

Then add the installation and Script folder path in PATH using set (temporary) or setx (permanent) in a Command Prompt window. This is to make sure that your computer knows where to find the Python interpreter. To do this you will have to modify a setting called PATH, which is a list of directories where Windows will look for programs. Further details and examples are available [here](#). You may choose also to set your environment variables into a batch file (e.g. set-env.bat which you will need to run from the Command Prompt.

```
@echo off
```

```
set PY_HOME=C:\...\python37
```

```
set PATH=%PY_HOME%;%PY_HOME%\Scripts;%PATH%
```

You can now install it via pip (see instructions above).

For languages other than Python please see [Web-API Downloads](#)

## Check Data availability

To check the availability of **ECMWF Public Datasets** go to the web interface:

<http://apps.ecmwf.int/datasets/>

Using this interface you can **discover** all the ECMWF Public Datasets that are available from our archive. We strongly recommend you to navigate through our public datasets to become familiar with their availability. You may select a **Public Dataset** and start navigating through its content.



Please take into account some considerations about the content:

- Different **ECMWF Public Datasets** include different "parameters", "times", and "steps"
- In each **ECMWF Public Dataset** not all the "parameters" are available from all "steps"
- In each **ECMWF Public Dataset** not all the "steps" are available from all "times"

The web interface above will help you to check and understand the availability. For any kind of selections the system will update the attributes in a dynamic way to reflect the current availability. (i.e. if you change the steps some parameters will be added or removed).



### Tip

We encourage users to use the "**View MARS request**" feature at the bottom of the page once the selection has been done. Using this MARS request you can build your own Python script. If you are interested on the syntax go to [Brief request syntax](#).

- If you click on the ERA-interim [http://apps.ecmwf.int/datasets/data/interim\\_full\\_daily/](http://apps.ecmwf.int/datasets/data/interim_full_daily/) you will get a web page reflecting the availability of this specific Public Dataset as the period that it is available, the forecast steps and the parameters that are available etc.
- From this page you have the option to define the values of your requests such as the "date", the "time" the "steps" and the "parameters" that you are interested in.
- In the case of ERA-Interim if you select time "06:00:00" only, the system updates the availability of the "steps" dynamically. In that case only the "step" 00 is available (checkable).
- Additionally if you select "step" 00 you will see that only a subset of the parameters are now available and only these parameters can now be checked.

Spend some time to understand how it works, make some selections try to execute the MARS scripts.

## Choosing a dataset

See [Available ECMWF Public Datasets](#).

## Script examples

- [Python S2S examples](#)
- [Python TIGGE examples](#)
- [Python ERA-40 examples](#)
- [Python ERA-15 examples](#)
- [Python ERA-20c examples](#)
- [Python CAMS real-time examples](#)
- [Python MACC Reanalysis examples](#)
- [Python CAMS GFAS examples](#)
- [Python ERA-interim examples](#)

## Request syntax

See [Brief request syntax](#)

Related articles

## Content by label

There is no content with the specified labels

