



Accessing ECMWF data servers in batch

 WARNING: This page has been moved to [Access ECMWF Public Datasets](#).

 The ECMWF Public Datasets Service is being decommissioned and **access to most datasets closed on 1 June 2023**. In a final step later this year, access to the remaining multi-model datasets S2S and TIGGE will be migrated to a different system. For more information and possible alternatives, please consult the dedicated page on [Decommissioning of ECMWF Public Datasets service](#).

Introduction

This service will allow you to access the **ECMWF public datasets**. You will **need to have an account** on ECMWF web site. If you **don't have an account**, please self register [here](#).

The procedure is very **simple**: the user writes a request, submits it and retrieves a file (**grib** or **netcdf** format) including the requested data.



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](#)
2. [Install client libraries](#)
3. [Check data availability](#)
4. [Choose dataset](#)
5. [Script examples](#)
6. [Request syntax](#)

Install ECMWF KEY

If you don't have an ECMWF account, please self register at <https://api.ecmwf.int/v1/key> (click login and then register) 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.

Contact

[contact-us](#)

Useful links

[Accessing Forecasts](#)

[ECMWF Registration](#)

[ECMWF Public Datasets web interface](#)

[ECMWF Public Datasets S2S /TIGGE history](#)

WebAPI UPDATES

Blog Posts

- Blog: [Decommissioning of ECMWF Public Datasets service](#) created by [Carsten Maass](#)
Mar 02, 2023
[ECMWF Web API](#)
- Blog: [ERA5 access migrated to the Climate Data Store \(CDS\)](#) created by [Unknown User \(uscs\)](#)
Mar 05, 2019
[ECMWF Web API](#)
- Blog: [IMPORTANT New interpolation software: MIR](#) created by [Unknown User \(uscs\)](#)
Jan 29, 2019
[ECMWF Web API](#)
- Blog: [New Public Dataset: CERA-SAT Monthly](#) created by [Matthew Manoussakis](#)
Oct 15, 2018
[ECMWF Web API](#)
- Blog: [ERA5 and C3S users should migrate they work to CDS](#) created by [Matthew Manoussakis](#)
Aug 02, 2018
[ECMWF Web API](#)
- Blog: [Change in the Web API behaviour: expected fields vs. retrieved fields](#) created by [Unknown User \(uscs\)](#)
Feb 26, 2018
[ECMWF Web API](#)

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
```

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

```
conda install -c conda-forge 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](#)

- Blog: [New Public Dataset: CERA-SAT](#) created by [Matthew Manoussakis](#) Dec 08, 2017 [ECMWF Web API](#)
- Blog: [New models added on Public Dataset UERRA](#) created by [Matthew Manoussakis](#) Nov 23, 2017 [ECMWF Web API](#)
- Blog: [New Public Dataset: CAMS Reanalysis](#) created by [Matthew Manoussakis](#) Nov 13, 2017 [ECMWF Web API](#)
- Blog: [Limit the period of a request via the Web User Interface](#) created by [Matthew Manoussakis](#) Nov 10, 2017 [ECMWF Web API](#)
- Blog: [New Public Dataset: C3S Seasonal forecasts](#) created by [Matthew Manoussakis](#) Nov 02, 2017 [ECMWF Web API](#)
- Blog: [New Public Dataset: CERA-20C Observation Feedback](#) created by [Matthew Manoussakis](#) Oct 03, 2017 [ECMWF Web API](#)
- Blog: [Web-API client version 1.5.0 released](#) created by [Matthew Manoussakis](#) Sep 20, 2017 [ECMWF Web API](#)
- Blog: [New Public Dataset: ERA5 reanalysis](#) created by [Matthew Manoussakis](#) Aug 03, 2017 [ECMWF Web API](#)
- Blog: [New Public Dataset: CAMS climate forcing](#) created by [Matthew Manoussakis](#) Jun 02, 2017 [ECMWF Web API](#)
- Blog: [New Public Dataset: UERRA Harmonie and UM-4dvar](#) created by [Matthew Manoussakis](#) May 25, 2017 [ECMWF Web API](#)
- Blog: [New Public Dataset: Year Of Polar Prediction \(YOPP\)](#) created by [Matthew Manoussakis](#) May 10, 2017 [ECMWF Web API](#)
- Blog: [New Public Dataset: Global ECMWF Fire Forecasting model \(GEFF\)](#) created by [Matthew Manoussakis](#) Feb 27, 2017 [ECMWF Web API](#)
- Blog: [New Public Dataset: CERA-20C daily](#) created by [Unknown User \(uscs\)](#) Jan 30, 2017 [ECMWF Web API](#)

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/ 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 GFAS examples](#)
- [Python CAMS real-time examples](#)
- [Python MACC Reanalysis examples](#)
- [Python ERA-interim examples](#)

Request syntax

See [Brief request syntax](#)

- Blog: [New Public Dataset: CERA-20C monthly](#) created by Unknown User (uscs) Jan 12, 2017 [ECMWF Web API](#)
- Blog: [New S2S origin: KMA is now available](#) created by Unknown User (uscs) Jan 11, 2017 [ECMWF Web API](#)
- Blog: [New Public Dataset: ERA5_test reanalysis](#) created by Unknown User (uskh) Nov 04, 2016 [ECMWF Web API](#)
- Blog: [New Public Dataset: CAMS GHG flux inversions](#) created by Unknown User (uscs) Jul 20, 2016 [ECMWF Web API](#)
- Blog: [New Public Dataset: S2S, ECCO, Reforecasts](#) created by Unknown User (uscs) Jun 29, 2016 [ECMWF Web API](#)
- Blog: [New Public Dataset: S2S, ECCO, Realtime](#) created by Unknown User (uscs) Jun 22, 2016 [ECMWF Web API](#)
- Blog: [New Public Dataset: CAMS NRT dataset](#) created by Unknown User (uscs) Jun 22, 2016 [ECMWF Web API](#)
- Blog: [New Public Dataset: CAMS Global Fire Assimilation System](#) created by Unknown User (uscs) May 20, 2015 [ECMWF Web API](#)
- Blog: [New Public Dataset: ERA-20C Monthly Means, ERA-20C Wave Monthly Means](#) created by Unknown User (uscs) May 20, 2015 [ECMWF Web API](#)
- Blog: [New Public Dataset: ERA-20C Daily, ERA-20C Wave, ERA-20C Observations](#) created by Unknown User (uscs) May 13, 2015 [ECMWF Web API](#)
- Blog: [New Public Dataset: S2S](#) created by Unknown User (uscs) May 13, 2015 [ECMWF Web API](#)
- Blog: [Limit target size](#) created by Unknown User (uscs) Apr 29, 2015 [ECMWF Web API](#)
- Blog: [Limit number of fields](#) created by Unknown User (uscs) Apr 01, 2015 [ECMWF Web API](#)

Related articles

Content by label

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Apr 22, 2024 • updated by [Matthew](#)

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[UERRA SMHI retrieval efficiency](#)

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[Sample client scripts](#)

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