

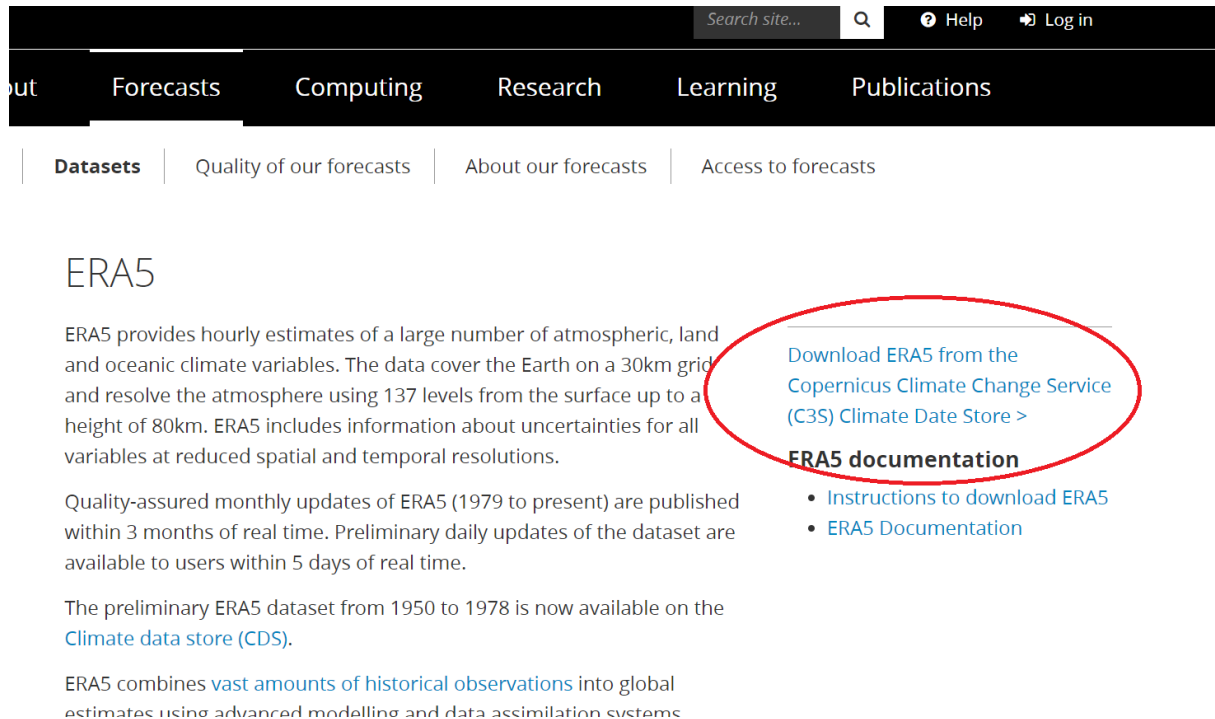
ERA-5 Data Downloading Example

0 – You must create a new account to be able to download files.

1 – Go to the ERA-5 dataset website

Link : <https://www.ecmwf.int/en/forecasts/datasets/reanalysis-datasets/era5>

2 – Select the downloading server



The screenshot shows the ERA5 dataset page on the ECMWF website. The navigation bar includes links for 'out', 'Forecasts', 'Computing', 'Research', 'Learning', and 'Publications'. Below this, there are links for 'Datasets', 'Quality of our forecasts', 'About our forecasts', and 'Access to forecasts'. The main content area is titled 'ERA5' and describes the dataset. A red circle highlights the link 'Download ERA5 from the Copernicus Climate Change Service (C3S) Climate Data Store >'. Below this link, there is a section for 'ERA5 documentation' with two bullet points: 'Instructions to download ERA5' and 'ERA5 Documentation'.

ERA5 provides hourly estimates of a large number of atmospheric, land and oceanic climate variables. The data cover the Earth on a 30km grid and resolve the atmosphere using 137 levels from the surface up to a height of 80km. ERA5 includes information about uncertainties for all variables at reduced spatial and temporal resolutions.

Quality-assured monthly updates of ERA5 (1979 to present) are published within 3 months of real time. Preliminary daily updates of the dataset are available to users within 5 days of real time.

The preliminary ERA5 dataset from 1950 to 1978 is now available on the [Climate data store \(CDS\)](#).

ERA5 combines [vast amounts of historical observations](#) into global estimates using advanced modelling and data assimilation systems.

[Download ERA5 from the Copernicus Climate Change Service \(C3S\) Climate Data Store >](#)

ERA5 documentation

- [Instructions to download ERA5](#)
- [ERA5 Documentation](#)

3 – Select the dataset you want to extract.

In this example, it will be : **ERA5-Land monthly averaged data from 1981 to present**

4 – In the download data section, you must select :

- the product type -> **Monthly averaged reanalysis**
- the variables you want -> **2m temperature, Volumetric soil water layer 1 and Total precipitation**
➔ Info about variables : <https://confluence.ecmwf.int/display/CKB/ERA5-Land%3A+data+documentation>
- the dates you want (year, month, day, hour) -> **From 1988 to 2020, every month**
- the area -> **the African continent coordinates : 38N, -35S, 55E, -22W**
- the format of the data -> **NetCDF**

(ii)

Variable ?

▼ Temperature

<input type="checkbox"/> 2m dewpoint temperature	<input checked="" type="checkbox"/> 2m temperature
<input type="checkbox"/> Skin temperature	<input type="checkbox"/> Soil temperature level 1
<input type="checkbox"/> Soil temperature level 2	<input type="checkbox"/> Soil temperature level 3
<input type="checkbox"/> Soil temperature level 4	

Select all Clear all

► Lakes

► Snow

▼ Soil Water

<input type="checkbox"/> Skin reservoir content	<input checked="" type="checkbox"/> Volumetric soil water layer 1
<input type="checkbox"/> Volumetric soil water layer 2	<input type="checkbox"/> Volumetric soil water layer 3
<input type="checkbox"/> Volumetric soil water layer 4	

Select all Clear all

► Radiation and Heat

► Evaporation and Runoff

▼ Wind, Pressure and Precipitation

<input type="checkbox"/> 10m u-component of wind	<input type="checkbox"/> 10m v-component of wind
<input type="checkbox"/> Surface pressure	<input checked="" type="checkbox"/> Total precipitation

Select all Clear all

Screenshot of the selected variables

(iii)

Year

<input type="checkbox"/> 1981	<input type="checkbox"/> 1982	<input type="checkbox"/> 1983	<input type="checkbox"/> 1984	<input type="checkbox"/> 1985	<input type="checkbox"/> 1986
<input type="checkbox"/> 1987	<input checked="" type="checkbox"/> 1988	<input checked="" type="checkbox"/> 1989	<input checked="" type="checkbox"/> 1990	<input checked="" type="checkbox"/> 1991	<input checked="" type="checkbox"/> 1992
<input checked="" type="checkbox"/> 1993	<input checked="" type="checkbox"/> 1994	<input checked="" type="checkbox"/> 1995	<input checked="" type="checkbox"/> 1996	<input checked="" type="checkbox"/> 1997	<input checked="" type="checkbox"/> 1998
<input checked="" type="checkbox"/> 1999	<input checked="" type="checkbox"/> 2000	<input checked="" type="checkbox"/> 2001	<input checked="" type="checkbox"/> 2002	<input checked="" type="checkbox"/> 2003	<input checked="" type="checkbox"/> 2004
<input checked="" type="checkbox"/> 2005	<input checked="" type="checkbox"/> 2006	<input checked="" type="checkbox"/> 2007	<input checked="" type="checkbox"/> 2008	<input checked="" type="checkbox"/> 2009	<input checked="" type="checkbox"/> 2010
<input checked="" type="checkbox"/> 2011	<input checked="" type="checkbox"/> 2012	<input checked="" type="checkbox"/> 2013	<input checked="" type="checkbox"/> 2014	<input checked="" type="checkbox"/> 2015	<input checked="" type="checkbox"/> 2016
<input checked="" type="checkbox"/> 2017	<input checked="" type="checkbox"/> 2018	<input checked="" type="checkbox"/> 2019	<input checked="" type="checkbox"/> 2020	<input type="checkbox"/> 2021	

Select all Clear all

Month

<input checked="" type="checkbox"/> January	<input checked="" type="checkbox"/> February	<input checked="" type="checkbox"/> March	<input checked="" type="checkbox"/> April	<input checked="" type="checkbox"/> May	<input checked="" type="checkbox"/> June
<input checked="" type="checkbox"/> July	<input checked="" type="checkbox"/> August	<input checked="" type="checkbox"/> September	<input checked="" type="checkbox"/> October	<input checked="" type="checkbox"/> November	<input checked="" type="checkbox"/> December

Clear all

Time ?

<input checked="" type="checkbox"/> 00:00	<input type="checkbox"/> 01:00	<input type="checkbox"/> 02:00	<input type="checkbox"/> 03:00	<input type="checkbox"/> 04:00	<input type="checkbox"/> 05:00
<input type="checkbox"/> 06:00	<input type="checkbox"/> 07:00	<input type="checkbox"/> 08:00	<input type="checkbox"/> 09:00	<input type="checkbox"/> 10:00	<input type="checkbox"/> 11:00
<input type="checkbox"/> 12:00	<input type="checkbox"/> 13:00	<input type="checkbox"/> 14:00	<input type="checkbox"/> 15:00	<input type="checkbox"/> 16:00	<input type="checkbox"/> 17:00
<input type="checkbox"/> 18:00	<input type="checkbox"/> 19:00	<input type="checkbox"/> 20:00	<input type="checkbox"/> 21:00	<input type="checkbox"/> 22:00	<input type="checkbox"/> 23:00

Select all Clear all

Screenshot of the selected dates

(iv) and (v)

Geographical area ?

☐ Whole available region

With this option selected the entire available area will be provided

☒ Sub-region extraction ?

North

38

West

-22

East

55

South

-35

Format

☐ GRIB

☒ NetCDF (experimental)

Clear all

Screenshot of the selected geographical zone and the format of data

5 – Once the request launch, you will see it in the “Queued” section.

Your requests						
All	Queued	In progress	Failed	Unavailable	Complete	
Auto refreshed : 15:41:27						
Delete selected						
Product	Submission date	End date	Duration	Size	Status	
▶ ERA5-Land monthly averaged data from 1981 to present	2021-10-27 15:41:22		0:00:04		Queued	

6 – When the server processes your request, it will pass to ‘In progress’ section and finally (hopefully) in the ‘Complete’ section where you can download the file.

Your requests						
All	Queued	In progress	Failed	Unavailable	Complete	
Auto refreshed : 15:42:25						
Delete selected						
Product	Submission date	End date	Duration	Size	Status	
ERAS-Land monthly averaged data from 1981 to present	2021-10-27 15:40:47	2021-10-27 15:40:47	0:00:00	1.3 GB	Download	
ERAS-Land monthly averaged data from 1981 to present	2021-10-26 15:38:12	2021-10-26 16:06:17	0:28:05	1.3 GB	Download	

7 – Bravo, your .nc4 file is now downloaded in your computer !

You can now process it with the Geo_functions.py file.