

# HOW TO OBTAIN HISTORICAL AND CURRENT DAILY (Global Summary of Day) METEOROLOGICAL DATA FOR ALL METEOROLOGICAL STATIONS IN THE WORLD

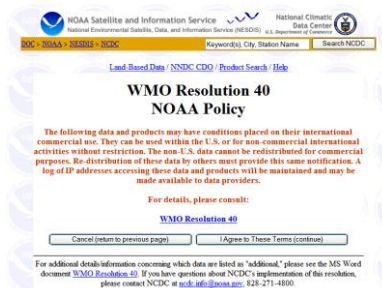
## STEP 1

Go to the following website (clickable link – or copy & paste into your browser):

<http://www7.ncdc.noaa.gov/CDO/cdoselect.cmd?datasetabbv=GSOD&countryabbv=&georegionabbv=&resolution=40>

**(BE PATIENT - it can take half a minute to appear !)**

Meteorological data is freely available for all stations in the world from NOAA in the United States. Our (UK) government however has not ratified the WMO Resolution 40 protocol which permits the data to be used for non academic/charity purposes. In order to still allow academics access to this data we must first Agree to these terms before we can access the data.



If Requested, Click on the I AGREE TO THESE TERMS (CONTINUE) button

## STEP 2

You should now see the following screen:

You can browse or download the documentation files which tell you about the data and its format. It is advisable that you read these.

The choices are fairly explanatory – you simply select the **REGION/COUNTRY** you would like the data for.

For example, select **COUNTRY** and choose **UNITED KINGDOM** from the list. Click on the **CONTINUE** button

The screen will show the following:

[Land-Based Data](#) / [NNDC CDO](#) / [Product Search](#) / [Help](#)  
**Global Summary of the Day (GSOD)**

**Retrieve data for:**

- Selected UNITED KINGDOM stations** - Note: may be slow to load station list on next page

Just click on the **CONTINUE** button.

You should now see the following list of available stations for the UK:

NOAA Satellite and Information Service  
National Environmental Satellite, Data, and Information Service (NESDIS)

National Climatic Data Center  
U.S. Department of Commerce

[DOC](#) > [NOAA](#) > [NESDIS](#) > [NCDC](#)    Keyword(s), City, Station Name   

[Land-Based Data](#) / [NNDC CDO](#) / [Product Search](#) / [Help](#)  
**(GSOD)**

**Selected UNITED KINGDOM stations** - Note: may be slow to load station list on next page

**Select Stations:**

ABERDARON.....	03405099999	10/1994	to	03/2008	▲
ABERDEEN/DYCE AIRPO.....	03091099999	10/1929	to	03/2008	▾
ABERDOVEY.....	03404099999	12/1978	to	10/1990	
ABERHOSAN.....	03411099999	08/1992	to	10/2003	
ABERPORTH.....	03502099999	01/1973	to	03/2008	
ABINGDON (RAF).....	03653099999	01/1973	to	11/1975	
ABOYNE.....	03080099999	04/1989	to	03/2008	
ADELAIDE ISLAND.....	88958099999	01/1973	to	12/1974	
ALBEMARLE.....	03238099999	03/2003	to	03/2008	
ALCONBURY RAF.....	03562399999	01/1943	to	03/1995	
ALCONBURY RAF.....	03562199999	01/1973	to	01/1988	▼

[Order by Station ID](#) - [Order by Station Name](#)

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**Selecting Multiple Stations**

1. To select one station, just click on it.
2. To select multiple sequential stations, click on the first station, scroll down to the last station, hold the Shift key down and click on the last station.
3. To select multiple non-sequential stations, click on the first station, then hold the Control key down while clicking on additional stations. To deselect a station, hold the Control key down while clicking on that station.

### STEP 3

You can select a single station or multiple stations in one go. For this example, find and then select (by clicking on it) the station:

### MANCHESTER AIRPORT

Notice that the entry tells you the range of years that data is available for - this varies by station because they were all built at different times and therefore have varying historical records available.

In this example, we can see that Manchester Airport has data spanning from:

**January 1973 to the present day**

To continue with data extraction for the chosen station just click on the **CONTINUE** button. You should now see the following screen:

The screenshot shows the NOAA NESDIS NCDC search interface. At the top, there are logos for NOAA Satellite and Information Service, National Climatic Data Center, and the U.S. Department of Commerce. Below the logos is a navigation bar with links for DOC, NOAA, NESDIS, and NCDC. A search box contains the text "Keyword(s). City, Station Name" and a "Search NCDC" button. Below the search bar are links for "Land-Based Data / NNDC CDO / Product Search / Help". The main heading is "Global Summary of the Day (gsod)".

The "Select Date Restrictions:" section has two radio buttons: "Use Date Range" (selected) and "Use Selected Dates \*". Under "Use Date Range", there are two rows of date selection: "From" and "To". Each row has three dropdown menus for Year, Month, and Day. The "From" row is set to 2008, 03, 01 and the "To" row is set to 2008, 03, 01. Below the date selection is a "Select Output Format:" dropdown menu set to "Extensible Markup Language".

There are two tabs: "Tabular Data Output" and "Graphical Output". To the right of the tabs is a "Select Output Media:" dropdown menu set to "FTP".

At the bottom of the form are three buttons: "Continue", "Previous Page", and "Clear Selections".

Below the form is a section titled "\* Date List Notes:" which explains that the selection uses all combinations of selected year(s), month(s) and day(s). For example, selecting years of (1993, 1995), months of (03,04), days of (01, 15) will result in Year/Month/Day date selections of (1993/03/01, 1993/03/15, 1993/04/01, 1993/04/15, 1995/03/01, 1995/03/15, 1995/04/01, 1995/04/15). A link "Return to Date List" is provided.

#### **STEP 4**

Now you simply select the range of dates you would like the data for or specific dates. For this example we will get data from **January 1980 to December 1984**.

In addition, you must select the **FORMAT** of the data you download (bottom-left of the screen). Click on the format selection box and choose:

#### **COMMA DELIMITED**

This data type can be opened straight away in Microsoft Excel or be imported into SPSS or even be opened in a simple text editor like Notepad.

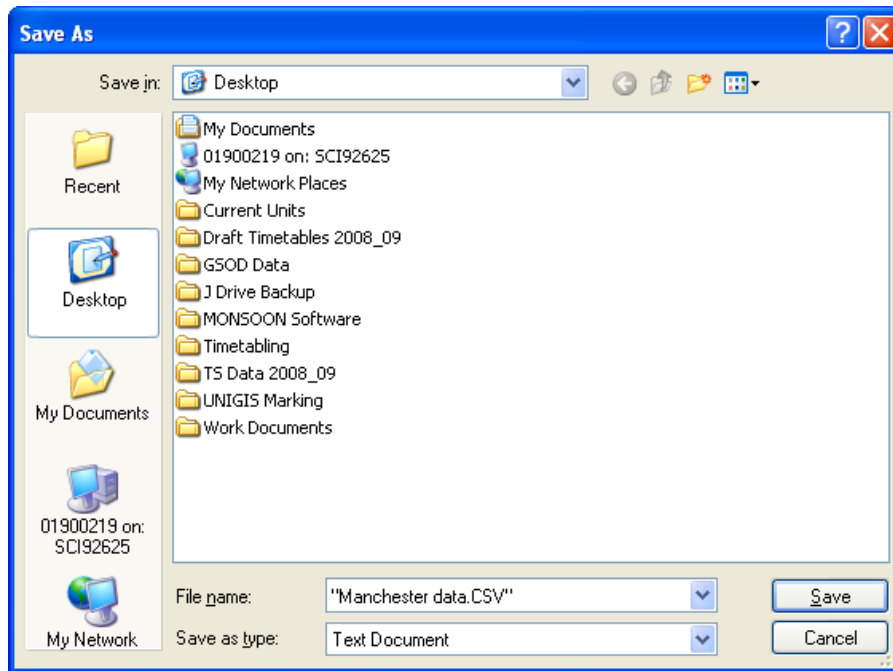
Once the system has extracted your data file(s) it will provide a clickable link (or links) with a clickable filename:

The screenshot shows the NOAA National Climatic Data Center (NCDC) website interface. At the top, there are logos for NOAA Satellite and Information Service (NESDIS) and the National Climatic Data Center (U.S. Department of Commerce). Below the logos is a navigation bar with a breadcrumb trail: [DOC](#) > [NOAA](#) > [NESDIS](#) > [NCDC](#). To the right of the breadcrumb trail is a search box labeled "Keyword(s), City, Station Name" and a "Search NCDC" button. Below the search bar are links for [Land-Based Data](#), [NNDC CDO](#), [Product Search](#), and [Help](#). The main heading is "NNDC CLIMATE DATA ONLINE" in blue, followed by "Climate Data Online, Data Output" in red. Below this, a blue link for [CDO903841292797.txt](#) is displayed. There are two buttons: "Data format documentation" and "Station List". At the bottom, there are links for "Privacy Policy", "HOW ARE WE DOING? A user survey", "USA.gov", and "Disclaimer". The footer contains the URL <http://www7.ncdc.noaa.gov/CDO/cdodata.cmd>, the date "Downloaded Wed Mar 05 04:34:47 EST 2008", the text "Production Version", and a note: "If you have questions or comments, please contact our [support team](#)."

For example: our data file for Manchester Airport can be downloaded by clicking on the link: **CDO903841292797.txt** (see screenshot above).

To download, **RIGHT-CLICK** the link (with the right-hand mouse button) and select the **SAVE TARGET AS..** menu option.

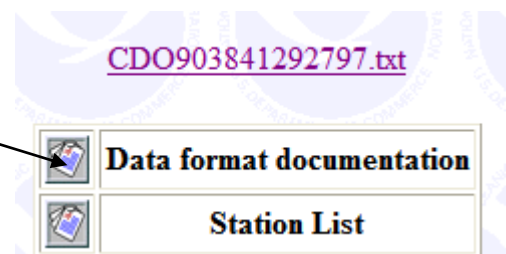
Put your desired filename in "quotes" with a **.CSV** file extension (so Excel will open it by default when you double-click on it. See screenshot on the next page.



That's it !!

To open the file – just double-click on it and Excel should load it in by default. Remember that in order to know what each of the variables (columns) are, you must read the data documentation file. Temperatures are in Fahrenheit.

Click here to download data documentation



The daily elements included (as available from each station) are:

Mean temperature (.1 Fahrenheit)  
 Mean dew point (.1 Fahrenheit)  
 Mean sea level pressure (.1 mb)  
 Mean station pressure (.1 mb)  
 Mean visibility (.1 miles)  
 Mean wind speed (.1 knots)  
 Maximum sustained wind speed (.1 knots)  
 Maximum wind gust (.1 knots)  
 Maximum temperature (.1 Fahrenheit)  
 Minimum temperature (.1 Fahrenheit)  
 Precipitation amount (.01 inches)  
 Snow depth (.1 inches)  
 Indicator for occurrence of: Fog/Rain/Drizzle/Snow/Ice  
 Pellets/Hail/Thunder/Tornado/Funnel Cloud

For further details on the contents of the dataset, see the format documentation.