

Cliflo for Dummies

¹This document is a very quick guide to making simple queries using CLIFLO using two common examples:

- ❖ I want to obtain daily rainfall data from Christchurch for the month of November 2004, and
- ❖ I wish to get some wind data summaries for North Canterbury. How do I do this?

Daily Rainfall for Christchurch.

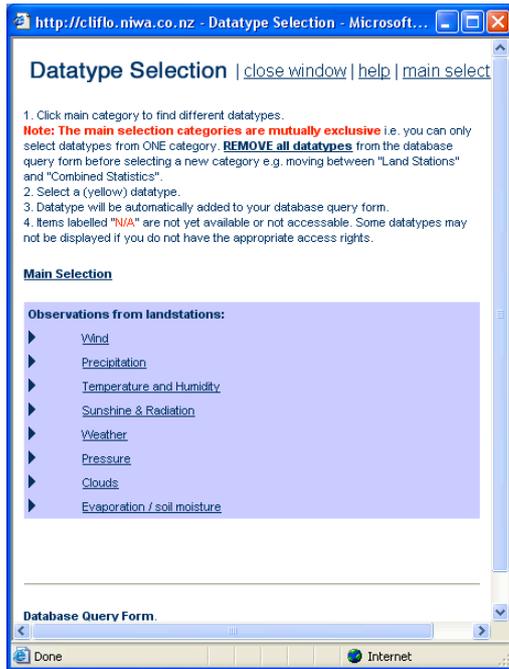
After logging in to Cliflo the main Data Query page will be displayed. In the top right hand corner your user name will be displayed.

If there are any Datatypes listed click on the **Remove All Datatypes** button. Next click on **select datatype(s)** and the following window will be displayed.

For this query all we want is the daily observations so we click on **Observations from land stations** to get the window shown below.

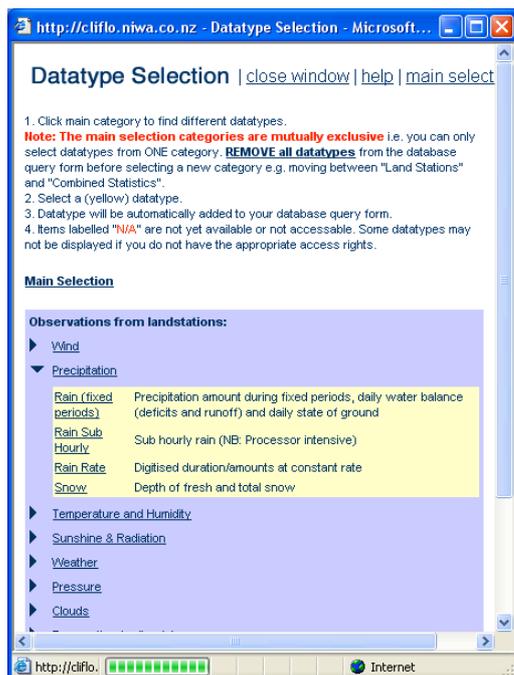
If it was monthly totals or similar we wanted, we would have selected either Combined statistics calculated from observations or Statistics calculated from land stations.

¹ Note that these examples may look different in other web browsers.



Next we click on **Precipitation**.

If we also wanted for example some temperature data we could have also selected **Temperature and Humidity**.

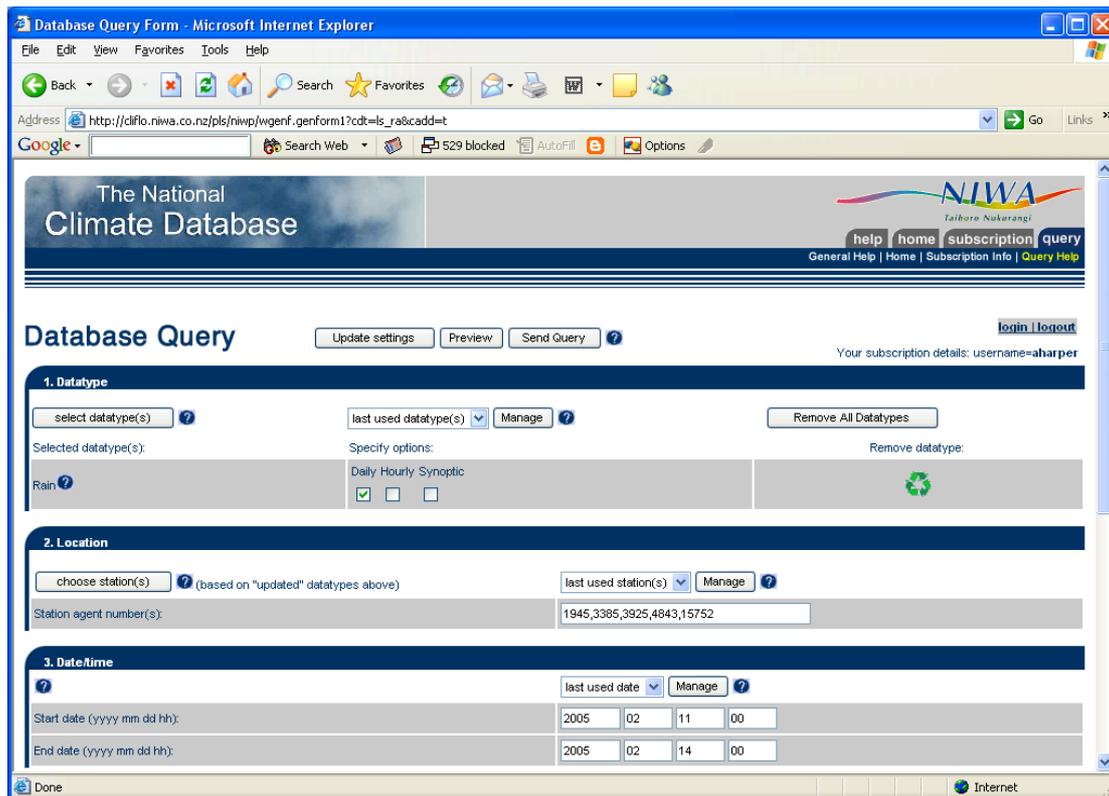


This expands on the options available. In this case all we are after is basic daily rainfall so will click on **Rain (fixed periods)**.

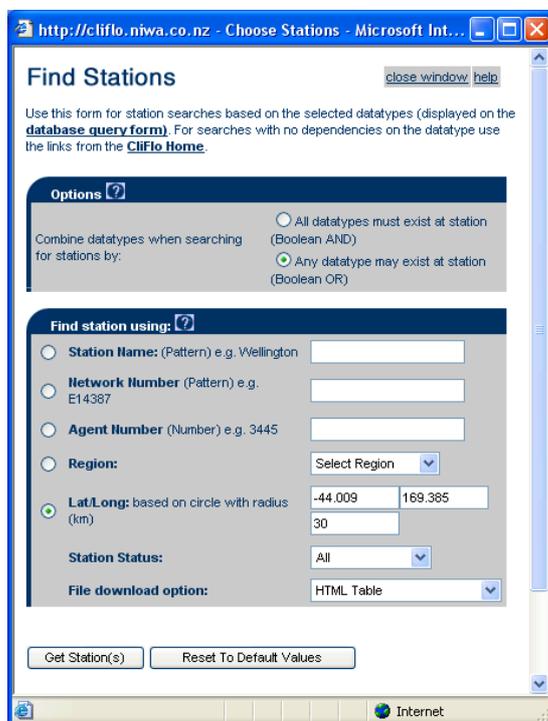
At this point the main database query form will update with the rainfall data type appearing on the form.

We may have to close the window shown on the left after selecting **Rain (fixed periods)** as it does not close itself. The reason for this is there may be other data types users wish to select.

The updated query form will look similar to the next picture. In this case daily rain is the default option. Hourly and Synoptic (6 hour totals) are also available from some stations. If desired all three options can be chosen at the same time.



Next we need to choose what stations we want the data from. There are already some stations in the list as shown here as Cliflo defaults to the last used query. Just ignore these for now and click on the **choose station(s)** to get to the following window.

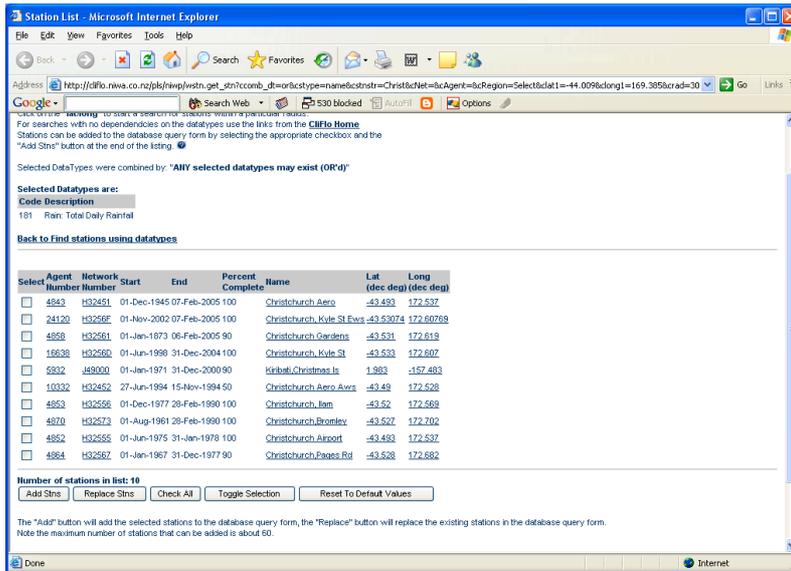


Because I am after data from Christchurch but don't know the number of the station I will select by name.

Click in the dot beside **Station Name** to select that option and simply type in Christchurch, or even just Christ and click on the **Get Station(s)** button the stations with Christ in the name that record daily rainfall will all appear.

The list below shows a number of details on the stations available with further information able to be viewed by clicking on any of the hyperlinks.

Of note in this selection in the names is AWS and EWS. AWS is an Automatic Weather Station and typically are operated by MetService. EWS is an Electronic Weather Station and are typically NIWA, or other



CRI operated stations. EWS stations were named “EWS” to easily differentiate between MetService AWS and other automatic weather stations.

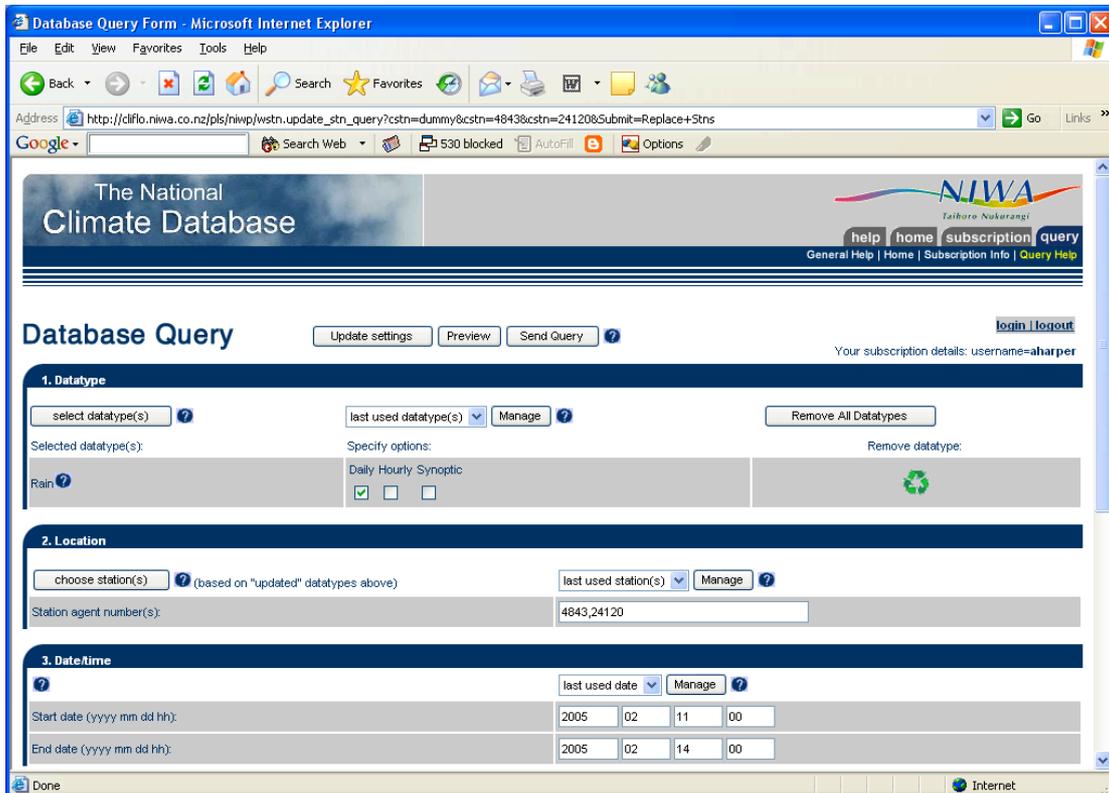
Also of note is the Lat and Long for Kyle St which are to 5 decimal places. This means the location has been confirmed by GPS.

The start and end dates show the period the daily rain data are available for each station.

After checking some of the details for each station, I have decided I want data from Christchurch Aero and Kyle St so I clicked in the Select boxes for each of these two stations and then click on the **Replace Stns** button. This overwrites the list of stations that were already in the list.

Again we need to close the Choose Station window.

Now our query form will look similar as shown below.



Now we can scroll down and enter the period we are after, in this case November 2004 and choose the format on how we want the data. Most of the options are straight forward. In my case I want the data in New Zealand Standard Time, and as I will be using Excel, I have selected one of the many date time formats from the list. I want separate date time columns and I want the data to be downloaded as an Excel file. I want the data to be identified by the station name and finally I want the data to be sorted by Station and then date.

The screenshot shows a web browser window titled "Database Query Form - Microsoft Internet Explorer". The address bar shows a URL from "http://cliflo.niwa.co.nz/pls/niwp/wstn.update_stn_query?cstn=dummy&cstn=4843&cstn=24120&Submit=Replace+Stns". The form is organized into sections:

- 2. Location:** Includes a "choose station(s)" dropdown, a "last used station(s)" dropdown, and a "Station agent number(s)" text input containing "4843,24120".
- 3. Date/Time:** Includes "last used date" and "Manage" dropdowns. The "Start date (yyyy mm dd hh):" is set to "2004 11 01 00" and the "End date (yyyy mm dd hh):" is set to "2004 12 01 00".
- 4. Format:** Includes "last used format" and "Manage" dropdowns. The "Date/Time standard for output:" is set to "NZST". The "Date/Time format for output:" is set to "Excel (d/m/yyyy hh:mm)". The "Split date into date and time columns:" section has "Yes (separate date and time columns)" selected. The "File download option:" is set to "Excel File". The "Station Identifier:" is set to "Station Name" and the "Data Sort Order" is set to "Station/Date". There are checkboxes for "Incl rel" and "Incl orig" which are currently unchecked.

At the bottom of the form are three buttons: "Update settings", "Preview", and "Send Query".

You may want to **Preview** the data first. This will save the current settings and provide the first row of data (as an example) and a count of the number of rows from each station without being charged any rows.

Now I can **Send Query** to get the data.

After resizing some of the columns here is a sample of the output.

Station information:

Name	Agent Numb	Network Nun	Latitude (dec d	Longitude (dec de	Height (m)	Posn_Preci	Observing Authority
Christchurch Aero	4843	H32451	-43.493	172.537	37	G	Airways Corporation
Christchurch, Kyle St Ews	24120	H3256F	-43.53074	172.60769	6	H	Niwa

Note: Position precision types are: "W" = based on whole minutes, "T" = estimated to tenth minute,
 G = derived from gridref, "E" = error cases derived from gridref,
 H = based on GPS readings (NZGD49).

Rain: Daily

Station	Date(NZST)	Time(NZST)	Amount(mm)	State_of_Ground	Deficit(mm)	Runoff(mm)	Period(Hrs)	Freq
Christchurch Aero	1/1/2004	8:00	0	-	77.7	0	24	D
Christchurch Aero	2/1/2004	8:00	0	-	81.8	0	24	D
Christchurch Aero	3/1/2004	8:00	0	-	85.7	0	24	D
Christchurch Aero	4/1/2004	8:00	0	-	89.3	0	24	D
Christchurch Aero	5/1/2004	8:00	0	-	92.7	0	24	D
Christchurch Aero	6/1/2004	8:00	0	-	96	0	24	D
Christchurch Aero	7/1/2004	8:00	0	-	99.1	0	24	D
Christchurch Aero	8/1/2004	8:00	0	-	102	0	24	D
Christchurch Aero	9/1/2004	8:00	0	-	104.7	0	24	D
Christchurch Aero	10/1/2004	8:00	0	-	107.3	0	24	D
Christchurch Aero	11/1/2004	8:00	1.4	-	108.3	0	24	D
Christchurch Aero	12/1/2004	8:00	0	-	110.6	0	24	D
Christchurch Aero	13/1/2004	8:00	0	-	112.9	0	24	D
Christchurch Aero	14/1/2004	8:00	0	-	115	0	24	D
Christchurch Aero	15/1/2004	8:00	0	-	117	0	24	D
Christchurch Aero	16/1/2004	8:00	7.2	-	111.6	0	24	D
Christchurch Aero	17/1/2004	8:00	0	-	113.8	0	24	D
Christchurch Aero	18/1/2004	8:00	0	-	115.9	0	24	D
Christchurch Aero	19/1/2004	8:00	0	-	117.8	0	24	D
Christchurch Aero	20/1/2004	8:00	0	-	119.6	0	24	D

Note the extra information, such as the details of the station and some calculated data such as Deficit and Runoff. The period of 24 means the data are a 24 hour period.

The date time means the 24hrs up to that time, in this case 7.2mm of rain fall between 8am NZST on the 15th November and 8am on the 16th November.

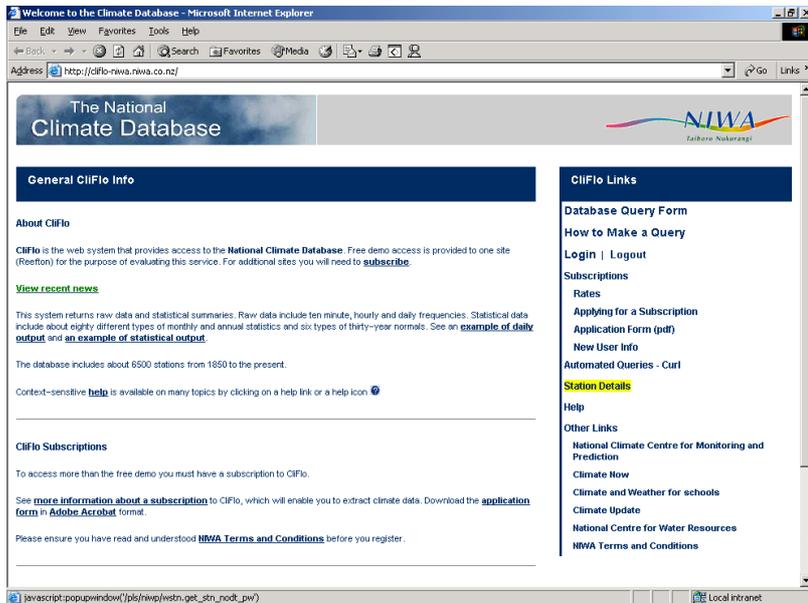
Because I chose to sort by station, then date, the Kyle St data are below the Airport data.

What wind data are available for North Canterbury?

How do I find what wind data summaries are available for North Canterbury, in particular is there anything near Cust?

There are a number of ways to this. The easiest is to see if there is a station at Cust, and if so, is there any wind data.

On the main Cliflo home page select **Station Details**



The following window will pop up.

In this window click in the dot beside **Station Name** to select that option and type in Cust.

Click on the **Get Station(s)** button to see if there are any stations with Cust in the name.

In this case the response was no rows, meaning that there is no station on CLIDB with the string Cust in the station name.

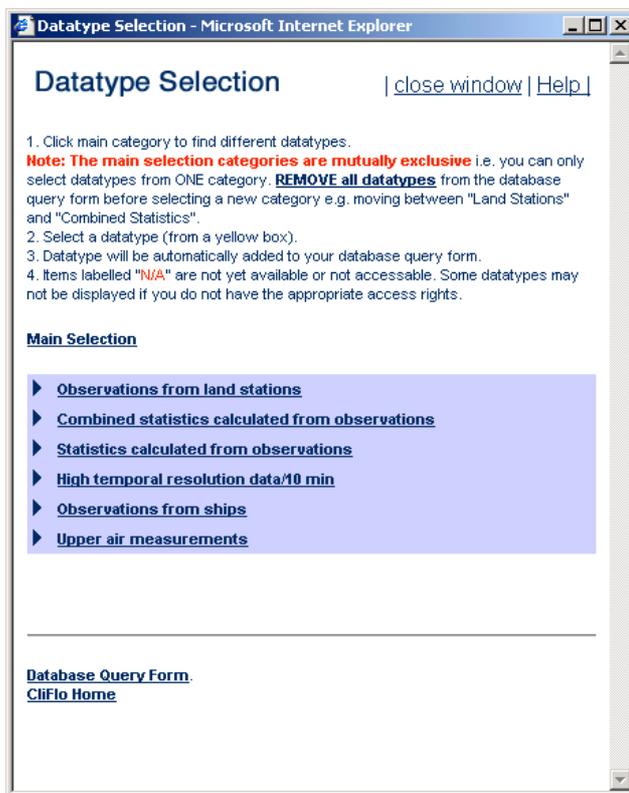
The above method is the best way to approach CLIFLO if you have a specific place in mind. (Note that most stations will have the nearest Town name in the station name so as to give a geographic location)

Now I want to see what may be available near to Cust.

If I were to simply select a region in the window above, I would get every single station in a very large area because there is some large overlaps between regions. So I need to refine the search more as it is only wind I am looking for.

Login, as in the rainfall example and go to the **Database Query Form** and **Remove All Datatypes**.

Click on **select datatype(s)** to get the following window.



In this case I am looking for long term summary data rather than individual daily or hourly observations, so I need to view statistics.

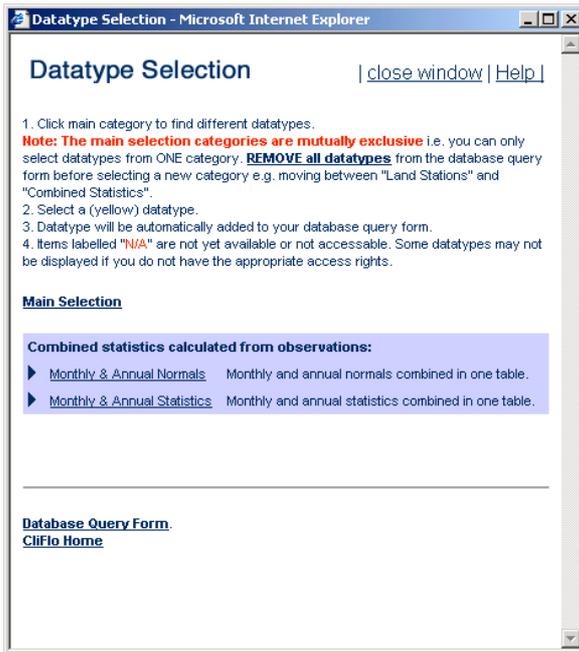
In this window there are two statistic options, **Combined statistics calculated from observations** and **Statistics calculated from observations**.

The difference is that the combined statistics will give a tabular output with the months across the page with an annual value, and a new line for each year. Statistics will simply give a column of all the monthly values.

In this case I want to see a table so will select **Combined statistics**

calculated from observations.

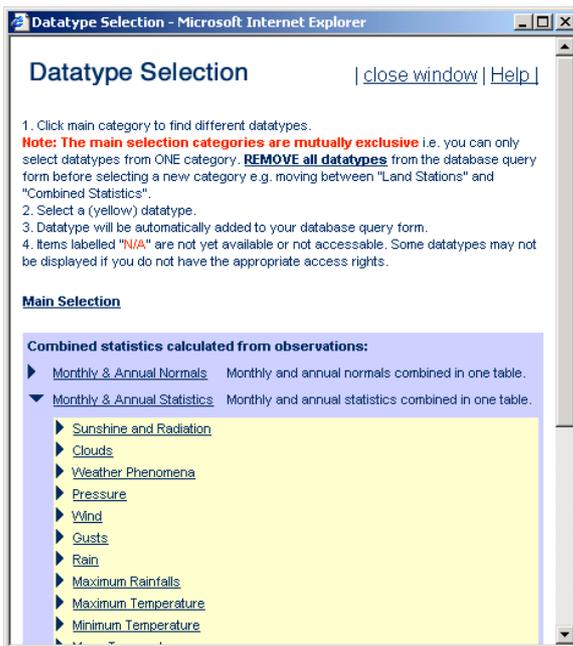
This brings up the following window.



Very basically Normals are a 30 year mean. See the **Help** section for an exact description of Normals. Note "Normals" are not available to non-NIWA users.

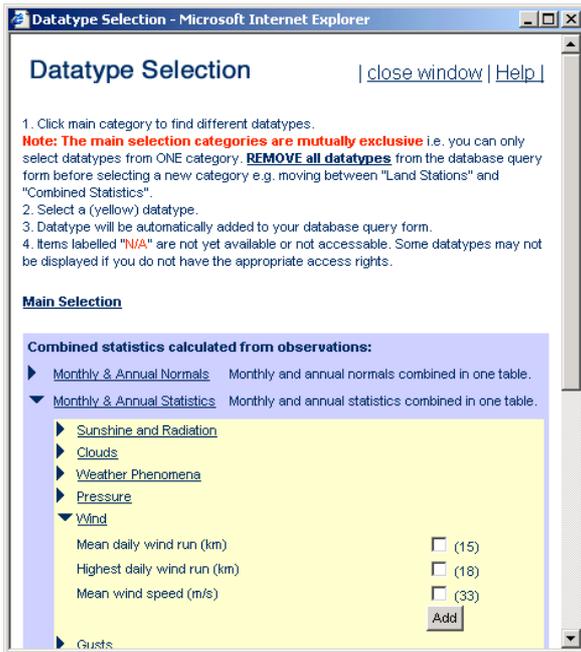
In this case I am after **Monthly & Annual Statistics** so select this option.

The following window will open with a large range of options.



As I am only after wind I will choose this option, but multiple options can be chosen at the same time.

Selecting **Wind** then brings down a pop down menu to expand on the option available.

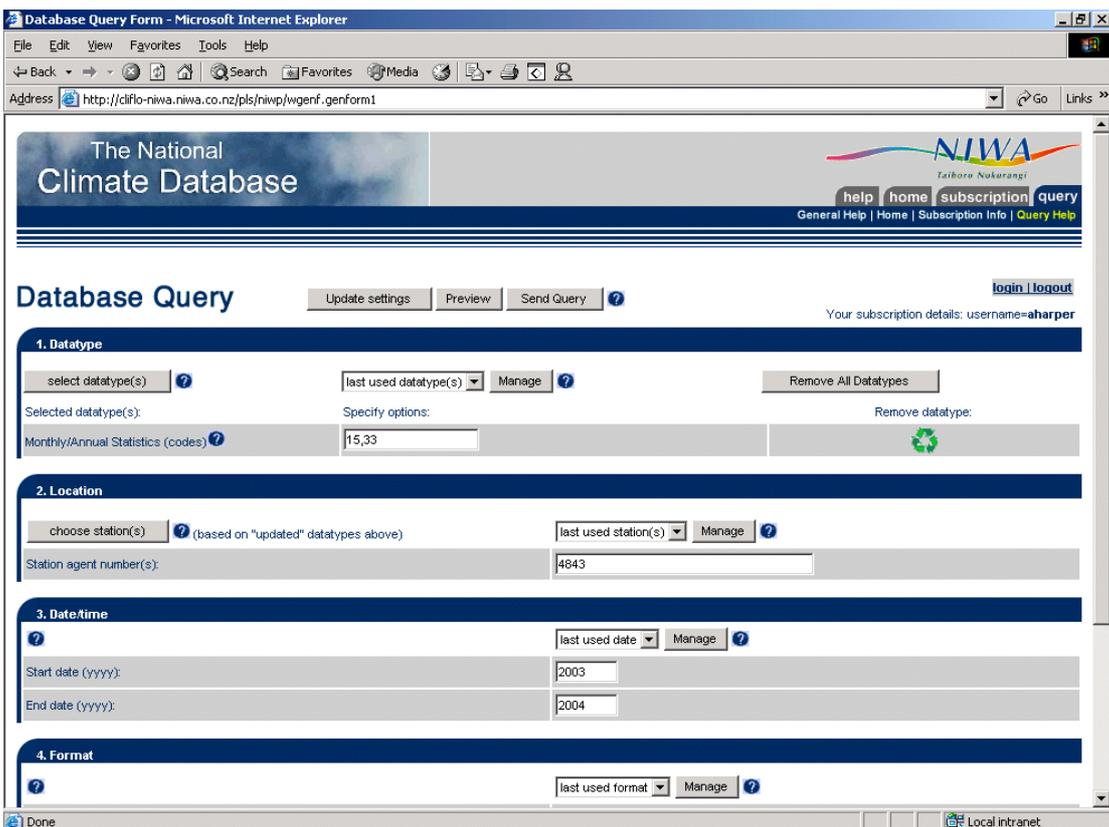


Select the options required.

In this case I will select both **Mean daily wind run (km)** and **Mean wind speed (m/s)** then click on the **Add** button

This updates the Database Query Form. The Datatype Selection Form needs to

be closed.



The Datatype section has now been updated with monthly/annual statistics codes 15 and 33.

Now I can search for stations with these datatypes.

Click on the **choose station(s)** button to get to the following window.

This screen differs from the earlier search of station details because now one or more data types have been selected an option to base the search on **All** or **Any** data types is available.

In this case because I am still unsure what data is available I will select **Any datatype may exist at station.**

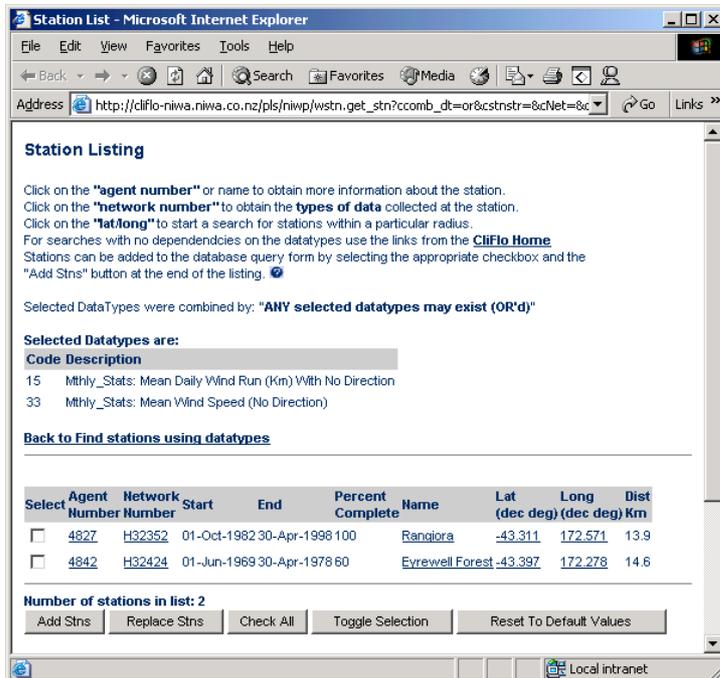
If the latitude and longitude of the area is known this is the best way to search. For example I can see from a large scale map that Cust is approximately at 43 deg 18' South and 172 deg 26'E. (Note that a map interface is being built into CLIFLO but is not available yet). Change the minutes into decimal degrees by dividing the minutes by 60 e.g $18/60 = 0.3$.

Click on the dot beside **LatLong** to select that option and enter -43.3 and 172.4 as fairly coarse coordinates into the fields. If more accurate coordinates are known use these. Enter in a suitable radius, say 15 (without the km).

(Note that the other way to do this is to use the Region option but I'll finish this example first)

Click on the **Get Station(s)** button and a list of stations is produced.

In this list there are only two stations, ordered by distance from the coordinates entered.

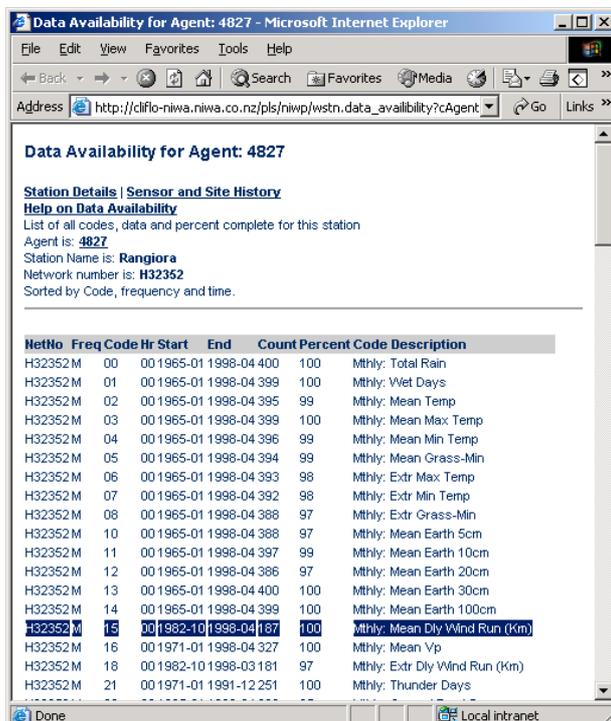


As can be seen in this example the stations listed are all closed.

Further stations can be selected by increasing the radius.

It can be seen that there are wind data for Rangiora from October 1982 to April 1998.

By clicking on the network number for Rangiora, **H32352** the catalogue of data can be seen for more detail.



In this output it can be seen that for the mean daily wind run the start date is October 1982, the end date is April 1998 and that the record is 100% complete (no missing data).

Note that there are no mean wind speed data.

As Eyrewell Forest is a similar distance away but in a different direction it is also worth a look.

However on clicking on **H32424** the output shows that there is mean wind speed data, but while it is for the period June 1969 to April 1978 there is only 60% of the data available.

Rangiora seems to be the best option for now, so close the Data Availability window, click on the **Select** box on the Rangiora line and click the **Replace Stns** button.

Close this window and return to the **Database Query Form** and make the required changes to the Date/Time and Format fields. Click the **Send Query** button (or the **Preview** button to view a preview of the data). The output is then displayed in Excel ready for working with.

The screenshot shows a web browser window with the address http://cliflo-niwa.niwa.co.nz/pls/niwp/wgenf.genform1_proc. The page content is as follows:

Station information:

2	Name	Agent Nun Network N	Latitude (d	Longitude	Height (m)	Posn_Prec	Observing Authority										
3	Rangiora	4827 H32352	-43.311	172.571	46	G	Forest Research Institute										

4 Note: Position precision types are: "W" = based on whole minutes, "T" = estimated to tenth minute,
5 G = derived from gridref, "E" = error cases derived from gridref,
6 H = based on GPS readings (NZGD49).

7

8 Statistics codes in this query are:

9	Code	Description	Units
10	15	Mean Daily	Km
11	33	Mean Wind	M/Sec

12 Note: Statistics calculations are based on Local Time.
13 Monthly extremes are recorded on the Local-Time day of the month.
14 Annual extremes are recorded in the Local-Time month of the year.

15

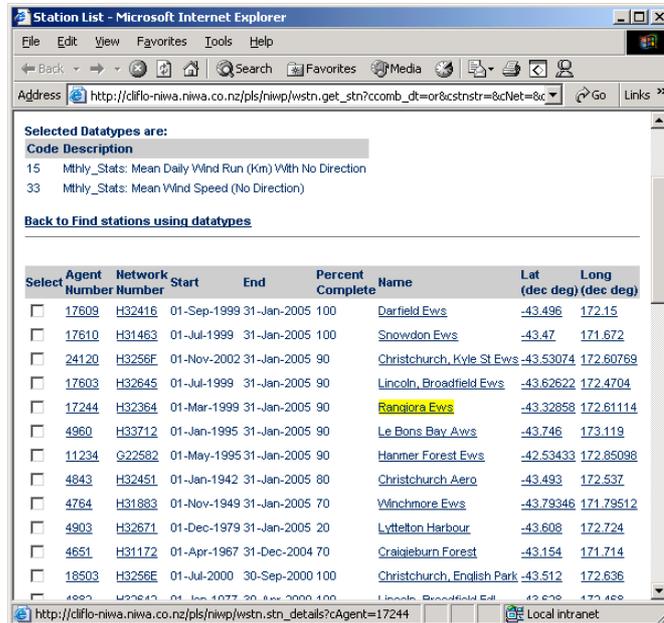
16 Stats: Combined

17	Station	Year	Stats_Cod	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
18	4827	1982	15	-	-	-	-	-	-	-	-	-	130.9	160.6	157
19	4827	1983	15	170.5	144.8	157.5	138.9	167.3	100.8	115.6	115	152.8	147.8	161	159
20	4827	1984	15	172.8	154.2	127	119.2	98.6	82.7	122.7	175.6	158.8	175.8	179.4	170
21	4827	1985	15	179.6	161.7	145.7	116.3	113.4	88.6	120.4	140.4	154.7	165.7	165.5	160
22	4827	1986	15	147.3	166.6	116.1	115.2	92.5	134.4	132.4	142.1	116.1	154.9	163.8	154
23	4827	1987	15	173.1	170.1	150.6	120	118.7	91.1	119.1	97.5	156.9	156.5	153.9	169
24	4827	1988	15	175.6	166.6	130.8	110.5	88.8	119.5	124.9	134.2	125.5	163.6	169	186
25	4827	1989	15	166.4	164.3	141.9	97.6	113.6	112.9	101	117.7	129.5	155.6	166.8	173
26	4827	1990	15	170.9	151.4	135.5	117.5	109.6	107.9	103.7	120.5	110.6	134.3	149	188
27	4827	1991	15	181	146.6	153.8	116.9	80.5	95.5	91	145.4	119.8	153.8	146.1	140
28	4827	1992	15	153.7	142	135	112.8	113.8	73.4	94.2	144.4	134.3	134.8	138	172
29	4827	1993	15	142.5	134.7	129.2	101.9	97.3	110.4	70.5	103.8	136.3	134.5	127.6	128
30	4827	1994	15	142.4	119.8	121.4	93.1	90.9	90.1	97.2	99.5	121.5	116.3	162.5	130
31	4827	1995	15	141.2	124.6	144.4	112.7	74.3	78.4	97.7	105.2	129	133	123.3	161
32	4827	1996	15	151.1	121.1	104	95.8	72.5	97.8	82.1	88.5	108.4	129.3	116.6	131
33	4827	1997	15	136.4	169	92.7	87.6	56.4	53	63.4	106.7	88.1	110.1	135.2	156
34	4827	1998	15	150.4	173.6	153.6	112.3	-	-	-	-	-	-	-	-

Note also that wind run gives only a distance of wind run and no direction.

Another way to do this and give more options is to search by region.

Because Cust did not exist and the latitude and longitude are not known, click in the dot beside **Region** in the **Find Stations** window to select this option and in the drop down window select **Christchurch** then click on the **Get Station(s)** button.



In this case there are 46 stations to choose from. This list is sorted by End date (the latest data available).

On searching through the list Rangiora EWS, Rangiora, Ashley Forest 1 and Eyrewell Forest all look promising. As we already looked at Rangiora and Eyrewell Forest in the earlier example we will only look at the other two.

Clicking on **H32364** for Rangiora EWS it can be seen that there are a lot of wind statistics available, for example wind run, mean speed, maximum gust and direction etc. from 1999 to present.

Clicking on **H32252** Ashley Forest 1, there is wind run data available from 1980 to 1989.

As there are three stations that look good, click in the **Select** boxes for Rangiora EWS, Rangiora and Ashley Forest1 and click the **Replace Stns** button.

Close the window and get back to the Database Query Form. If necessary, make the required changes to the Date/Time and Format fields then **Send Query**. Note you may want to **Preview** the data first. This will save the current settings and provide the first row of data (as an example) and a count of the number of rows from each station without being charged any rows.

Be sure to ensure the start and end dates cover the period for each station.

The data sort order has a variety of options so choose the best for your needs. See below for the options chosen and then an example of the output. **Code/Date/Station** is sometimes useful for a quick comparison between stations for the same period. Try the variations to see what best suits.

Database Query Form - Microsoft Internet Explorer

Address: http://cliflo-niwa.niwa.co.nz/pls/niwp/wstn.update_stn_query?cstn=dummy&cstn=17244&cstn=4827&cstn=4818&Submit=Replace+Stns

select datatype(s) [?] last used datatype(s) [?] Manage [?] Remove All Datatypes

Selected datatype(s): Monthly/Annual Statistics (codes) [?] Specify options: 15,33 Remove datatype: [?]

2. Location

choose station(s) [?] (based on "updated" datatypes above) last used station(s) [?] Manage [?]

Station agent number(s): 17244,4827,4818

3. Date/time

last used date [?] Manage [?]

Start date (yyyy): 1980

End date (yyyy): 2005

4. Format

last used format [?] Manage [?]

File download option: Excel File [?]

Station Identifier: Network Number [?]

Data Sort Order: Code/Date/Station [?]

Include reliabilities and origins: Incl rel Incl orig [?]

Update settings [?] Preview [?] Send Query [?]

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http://cliflo-niwa.niwa.co.nz/pls/niwp/wgenf.genform1_proc - Microsoft Internet Explorer

Address: http://cliflo-niwa.niwa.co.nz/pls/niwp/wgenf.genform1_proc

Station information:															
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
1 Station information:															
2	Name	Agent Nun Network N	Latitude (d	Longitude	Height (m)	Posn_Prec	Observing Authority								
3	Ashley For	4818 H32252	-43.245	172.59	107	G	Forestry Cri								
4	Rangiora	4827 H32352	-43.311	172.571	46	G	Forest Research Institute								
5	Rangiora E	17244 H32364	-43.3286	172.6111	23	H	Niwa								
6 Note: Position precision types are: "W" = based on whole minutes, "T" = estimated to tenth minute,															
7 G = derived from gridref, "E" = error cases derived from gridref,															
8 H = based on GPS readings (NZGD49).															
9															
10 Statistics codes in this query are:															
11	Code	Description	Units												
12	15	Mean Daily Km													
13	33	Mean Wind M/Sec													
14 Note: Statistics calculations are based on Local Time.															
15 Monthly extremes are recorded on the Local-Time day of the month.															
16 Annual extremes are recorded in the Local-Time month of the year.															
17															
18 Stats: Combined															
19	Station	Year	Stats_Cod	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
20	H32252	1980	15	-	-	-	-	-	-	-	-	-	-	269	247
21	H32252	1981	15	245.4	257.7	229.4	216.2	190.5	195.9	203.3	188.8	234.6	242.7	228.9	254
22	H32252	1982	15	258.6	259.2	216.2	209.4	216.3	191.3	179.6	209.1	210.9	271.2	297.2	233
23	H32352	1982	15	-	-	-	-	-	-	-	-	-	-	130.9	160.6
24	H32252	1983	15	254.3	208.1	244.3	226.3	259.3	199.7	199.5	208.4	246.5	236.9	252.8	241
25	H32352	1983	15	170.5	144.8	157.5	138.9	167.3	100.8	115.6	115	152.8	147.8	161	159
26	H32252	1984	15	257.4	225.6	199.9	184	180.7	174.5	213.5	246.4	216.1	261.5	231.6	241
27	H32352	1984	15	172.8	154.2	127	119.2	98.6	82.7	122.7	175.6	158.8	175.8	179.4	170
28	H32252	1985	15	243.3	222.9	203.5	191.7	187.7	175.4	194.5	202.2	216.2	217.5	195.4	198
29	H32352	1985	15	179.6	161.7	145.7	116.3	113.4	88.6	120.4	140.4	154.7	165.7	165.5	160
30	H32252	1986	15	199.3	217	179.1	190.3	175.4	257.7	196.5	193.5	175	199	212.1	212
31	H32352	1986	15	147.3	166.6	116.1	115.2	92.5	134.4	132.4	142.1	116.1	154.9	163.8	154
32	H32252	1987	15	232.1	236.9	-	-	196.4	153.8	178.5	148.3	209	225.6	193	218
33	H32352	1987	15	173.1	170.1	150.6	120	118.7	91.1	119.1	97.5	156.9	156.5	153.9	169
34	H32252	1988	15	204.9	210.4	195.1	163.4	150.7	173.4	198	191.9	180.2	254.5	208.8	246