



# SRC CLIMATE REFERENCE STATION DAILY DATA REPORT

## CONSERVATION LEARNING CENTRE

Saskatchewan 53.03°N 105.77°W Estab. 2011

Preliminary

**April 2015**

| Day     | Temperature |             |            | Degree-days |           |           | Precipitation  |                |                      | Relative Humidity |              | Station Pressure<br><i>corrected to sea level</i> |              |
|---------|-------------|-------------|------------|-------------|-----------|-----------|----------------|----------------|----------------------|-------------------|--------------|---|--------------|
|         | Max         | Min         | Mean       | Growing     | Heating   | Cooling   | Weighing Gauge | Notes          | Snow-on-Ground 0900h | Max ½ hr Avg      | Min ½ hr Avg | Max ½ hr Avg                                      | Min ½ hr Avg |
|         | °C          | °C          | °C         | 5°C base    | 18°C base | 18°C base | mm             |                | cm                   | %                 | %            | mbar  | mbar         |
| 1       | 6.6         | -5.1        | 0.8        | 0.0         | 17.2      | 0.0       | 0.5            |                | 0                    | 92                | 62           | 1002  | 992          |
| 2       | 0.3         | -8.5        | -4.1       | 0.0         | 22.1      | 0.0       | 0.3            |                | 5                    | 90                | 34           | 1019  | 1003         |
| 3       | 1.0         | -7.0        | -3.0       | 0.0         | 21.0      | 0.0       | 0.1            |                | 1                    | 82                | 47           | 1020  | 1017         |
| 4       | -0.3        | -9.6        | -5.0       | 0.0         | 23.0      | 0.0       | 0.0            |                | 0                    | 85                | 35           | 1020  | 1018         |
| 5       | 2.1         | -7.5        | -2.7       | 0.0         | 20.7      | 0.0       | 0.0            |                | 0                    | 86                | 34           | 1018  | 1016         |
| 6       | 4.5         | -7.7        | -1.6       | 0.0         | 19.6      | 0.0       | 0.0            |                | 0                    | 78                | 38           | 1020  | 1018         |
| 7       | -0.1        | -2.5        | -1.3       | 0.0         | 19.3      | 0.0       | 1.9            |                | 0                    | 90                | 67           | 1019  | 1012         |
| 8       | 9.6         | -2.5        | 3.6        | 0.0         | 14.4      | 0.0       | 0.6            |                | 0                    | 95                | 50           | 1012  | 1010         |
| 9       | 9.8         | -1.0        | 4.4        | 0.0         | 13.6      | 0.0       | 0.2            |                | 0                    | 73                | 22           | 1015  | 1010         |
| 10      | 19.8        | -0.7        | 9.6        | 4.6         | 8.4       | 0.0       | 0.0            |                | 0                    | 69                | 18           | 1013  | 1001         |
| 11      | 19.0        | 2.1         | 10.6       | 5.6         | 7.4       | 0.0       | 0.0            |                | 0                    | 77                | 24           | 1001  | 988          |
| 12      | 11.5        | 1.9         | 6.7        | 1.7         | 11.3      | 0.0       | 0.0            |                | 0                    | 65                | 21           | 1004  | 991          |
| 13      | 11.5        | -2.1        | 4.7        | 0.0         | 13.3      | 0.0       | 0.0            |                | 0                    | 79                | 17           | 1011  | 1004         |
| 14      | 14.1        | -3.3        | 5.4        | 0.4         | 12.6      | 0.0       | 0.0            |                | 0                    | 87                | 24           | 1012  | 1003         |
| 15      | 13.8        | 2.4         | 8.1        | 3.1         | 9.9       | 0.0       | 0.0            |                | 0                    | 62                | 29           | 1016  | 1003         |
| 16      | 17.9        | -1.7        | 8.1        | 3.1         | 9.9       | 0.0       | 0.0            |                | 0                    | 78                | 21           | 1018  | 1012         |
| 17      | 15.7        | 3.6         | 9.7        | 4.7         | 8.3       | 0.0       | 0.0            |                | 0                    | 81                | 21           | 1020  | 1012         |
| 18      | 10.4        | 3.1         | 6.8        | 1.8         | 11.2      | 0.0       | 1.7            |                | 0                    | 90                | 43           | 1016  | 1008         |
| 19      | 9.9         | 1.1         | 5.5        | 0.5         | 12.5      | 0.0       | 0.0            |                | 0                    | 91                | 29           | 1019  | 1015         |
| 20      | 8.7         | -4.1        | 2.3        | 0.0         | 15.7      | 0.0       | 0.0            |                | 0                    | 92                | 33           | 1015  | 1010         |
| 21      | 11.3        | -4.0        | 3.7        | 0.0         | 14.3      | 0.0       | 0.0            |                | 0                    | 95                | 25           | 1016  | 1011         |
| 22      | 13.4        | 1.4         | 7.4        | 2.4         | 10.6      | 0.0       | 0.0            |                | 0                    | 61                | 28           | 1014  | 1012         |
| 23      | 9.1         | -1.9        | 3.6        | 0.0         | 14.4      | 0.0       | 0.0            |                | 0                    | 88                | 38           | 1012  | 1005         |
| 24      | 4.8         | -1.4        | 1.7        | 0.0         | 16.3      | 0.0       | 0.0            |                | 0                    | 92                | 65           | 1011  | 1005         |
| 25      | 0.3         | -3.0        | -1.4       | 0.0         | 19.4      | 0.0       | 7.8            |                | 0                    | 96                | 75           | 1015  | 1011         |
| 26      | 3.9         | -0.5        | 1.7        | 0.0         | 16.3      | 0.0       | 16.4           |                | 14                   | 97                | 72           | 1021  | 1012         |
| 27      | 13.9        | -3.5        | 5.2        | 0.2         | 12.8      | 0.0       | 0.0            |                | 4                    | 96                | 42           | 1023  | 1019         |
| 28      | 21.2        | 2.7         | 12.0       | 7.0         | 6.0       | 0.0       | 0.0            |                | 0                    | 84                | 25           | 1019  | 1011         |
| 29      | 26.0        | 7.2         | 16.6       | 11.6        | 1.4       | 0.0       | 0.0            |                | 0                    | 74                | 24           | 1011  | 1001         |
| 30      | 18.7        | 6.2         | 12.5       | 7.5         | 5.5       | 0.0       | 0.0            |                | 0                    | 72                | 20           | 1009  | 1004         |
| Total   |             |             |            | 54.2        | 408.4     | 0.0       | 29.5           |                |                      |                   |              |   |              |
| Avg     | <b>10.3</b> | <b>-1.5</b> | <b>4.4</b> |             |           |           | 67.7           | Cumulative ppt |                      |                   |              |   |              |
| Extreme | 26.0        | -9.6        |            |             |           |           | 16.4           |                | 14                   | 97                | 17           | 1023  | 988          |
| Date    | 29          | 4           |            |             |           |           | 26             |                | 26                   | 26                | 13           | 27  | 11           |

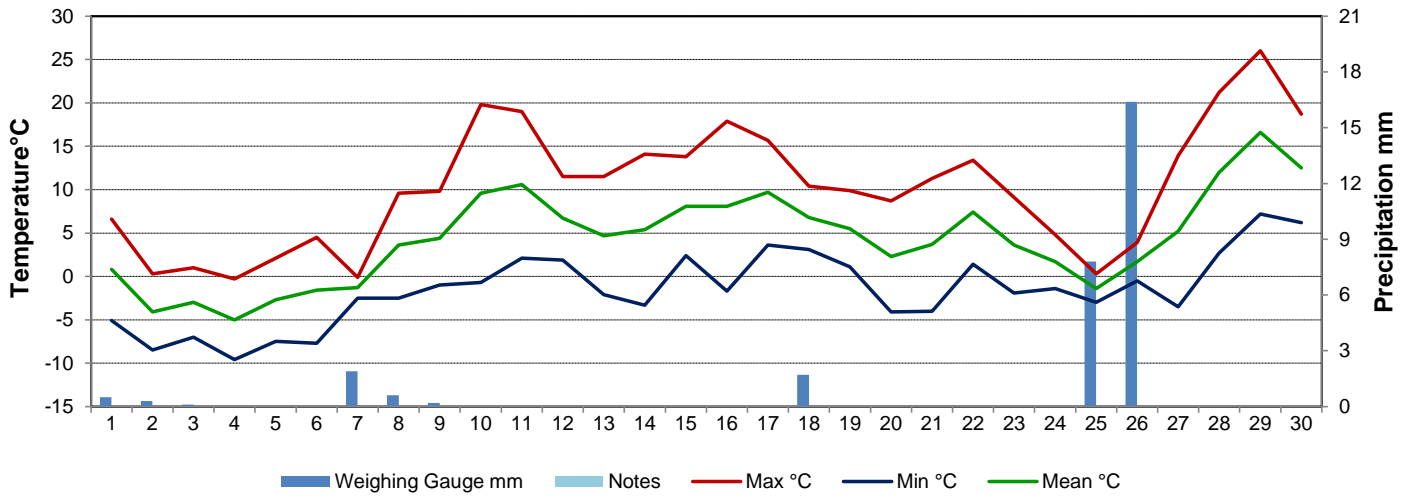
Tipping bucket operationalized 28 Apr 2015 Spring maintenance (30 Apr 2015): re-calibrated diffuse pyranometer installed; anemometer bearings replaced;

Serviced weighing gauge; changed dessicant in pyranometers.

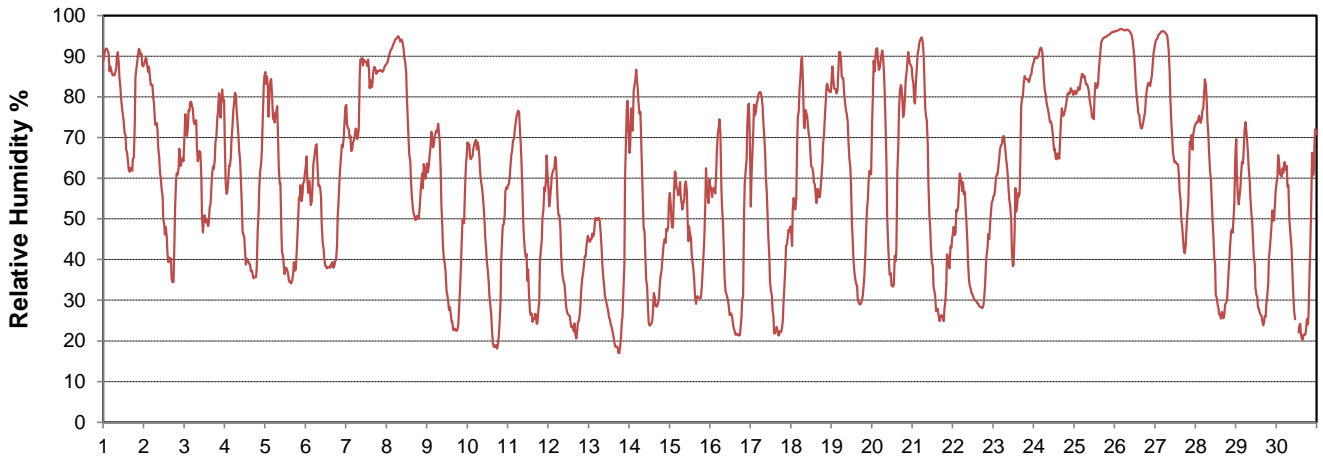
**SRC proudly recognizes the following CRS supporters:**



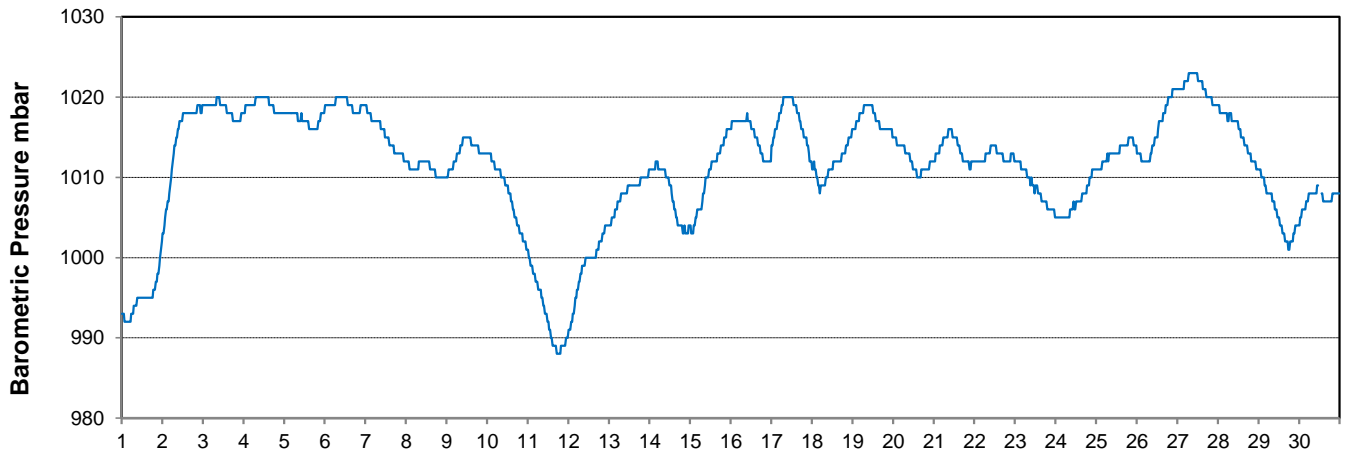
### Temperature and Precipitation for April 2015



### Relative Humidity for April 2015



### Barometric Pressure Corrected to Sea Level for April 2015





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## CONSERVATION LEARNING CENTRE

Saskatchewan 53.03°N 105.77°W Estab. 2011

Preliminary

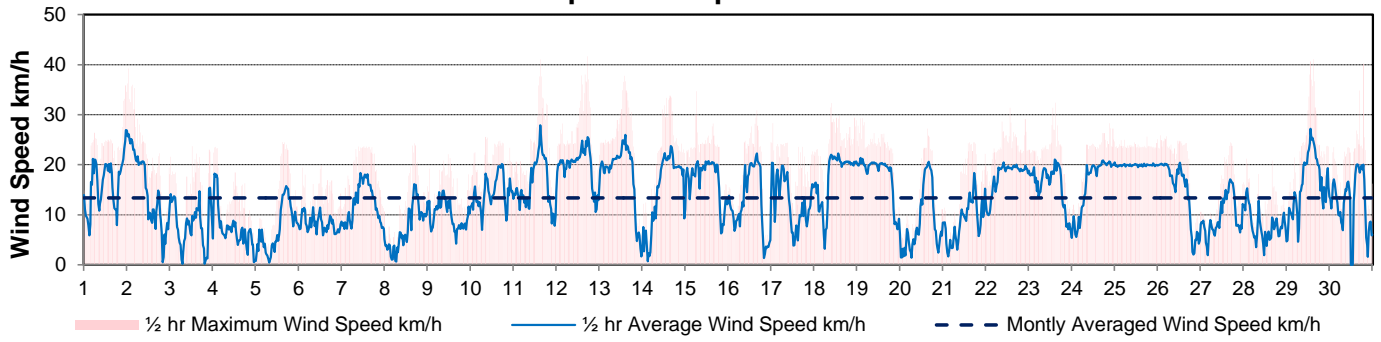
April 2015

| Day     | Wind Gust |           |       | Soil Temperatures at 0900hrs |      |       |       |       |        |        |        | Soil Moisture 30 cm | Radiation       |                   |                   |
|---------|-----------|-----------|-------|------------------------------|------|-------|-------|-------|--------|--------|--------|---------------------|-----------------|-------------------|-------------------|
|         | Max       | Direction | Time  | Surface                      | 5 cm | 10 cm | 20 cm | 50 cm | 100 cm | 150 cm | 300 cm | 0900hrs             | Bright Sunshine | Global            | Diffuse           |
|         | km/h      |           |       | °C                           | °C   | °C    | °C    | °C    | °C     | °C     | °C     | %                   | hours           | MJ/m <sup>2</sup> | MJ/m <sup>2</sup> |
| 1       | 35.9      | N         | 22:59 | 3.0                          | 0.0  | -0.5  | -0.5  | -0.5  | 0.5    | 1.5    | 3.5    | 19                  | 0.2             | 3.9               | 3.5               |
| 2       | 39.2      | NNE       | 0:49  | -7.5                         | -0.5 | -0.5  | -0.5  | -0.5  | 0.5    | 1.5    | 3.5    | 18                  | 10.5            | 18.8              | 4.2               |
| 3       | 23.7      | NW        | 12:15 | -3.0                         | 0.0  | -0.5  | -0.5  | -0.5  | 0.5    | 1.5    | 3.5    | 18                  | 6.9             | 13.4              | 8.2               |
| 4       | 23.6      | NE        | 1:17  | -6.0                         | 0.0  | -0.5  | -0.5  | -0.5  | 0.5    | 1.5    | 3.5    | 18                  | 12.8            | 19.9              | 2.4               |
| 5       | 24.6      | NW        | 14:38 | -3.0                         | 0.0  | 0.0   | -0.5  | -0.5  | 0.5    | 1.5    | 3.5    | 18                  | 11.4            | 18.8              | 3.8               |
| 6       | 19.9      | E         | 12:07 | -2.5                         | 0.0  | -0.5  | -0.5  | -0.5  | 0.5    | 1.5    | 3.5    | 17                  | 11.1            | 19.2              | 3.7               |
| 7       | 23.7      | SE        | 12:21 | -1.0                         | 0.0  | -0.5  | -0.5  | -0.5  | 0.5    | 1.5    | 3.5    | 17                  | 0.0             | 6.7               | 6.1               |
| 8       | 24.3      | WSW       | 16:24 | -1.0                         | -0.5 | -0.5  | -1.0  | -1.5  | 0.0    | 1.0    | 2.5    | 18                  | 8.4             | 16.8              | 6.6               |
| 9       | 22.1      | NNE       | 11:29 | 1.5                          | 0.0  | -0.5  | -0.5  | -0.5  | 0.5    | 1.5    | 3.5    | 18                  | 13.2            | 20.8              | 2.6               |
| 10      | 25.5      | SSW       | 8:20  | 5.0                          | 0.0  | -0.5  | -0.5  | -0.5  | 0.5    | 1.5    | 3.5    | 18                  | 13.2            | 20.8              | 3.0               |
| 11      | 41.0      | S         | 14:47 | 8.0                          | 0.0  | 0.0   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 19                  | 10.9            | 17.3              | 5.7               |
| 12      | 41.7      | W         | 17:16 | 6.5                          | 0.0  | 0.0   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 20                  | 10.4            | 20.3              | 3.3               |
| 13      | 37.8      | W         | 13:34 | 5.5                          | 0.0  | 0.0   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 20                  | 13.2            | 22.0              | 3.2               |
| 14      | 33.8      | E         | 15:28 | 3.5                          | 0.0  | 0.0   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 20                  | 8.3             | 15.3              | 7.3               |
| 15      | 34.7      | NNW       | 6:01  | 4.5                          | 0.0  | 0.0   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 21                  | 9.5             | 18.0              | 5.8               |
| 16      | 30.9      | W         | 15:47 | 9.0                          | 0.0  | 0.0   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 21                  | 12.3            | 20.7              | 5.5               |
| 17      | 28.3      | NNW       | 0:40  | 7.0                          | 0.0  | 0.0   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 22                  | 13.0            | 22.2              | 3.0               |
| 18      | 32.3      | NW        | 9:00  | 7.5                          | 0.5  | 0.5   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 23                  | 4.1             | 11.0              | 8.0               |
| 19      | 29.3      | N         | 2:57  | 3.5                          | 0.5  | 0.0   | -0.5  | -0.5  | 0.5    | 1.0    | 3.0    | 24                  | 11.9            | 22.3              | 4.5               |
| 20      | 27.2      | ENE       | 15:01 | 1.5                          | 0.0  | 0.0   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 25                  | 8.4             | 16.5              | 10.1              |
| 21      | 24.5      | SSW       | 14:57 | 2.0                          | 0.0  | 0.0   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 25                  | 11.5            | 22.8              | 5.3               |
| 22      | 31.4      | ESE       | 13:09 | 6.0                          | 0.5  | 0.5   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 25                  | 11.9            | 22.0              | 7.1               |
| 23      | 32.4      | S         | 14:41 | 2.0                          | 0.5  | 0.5   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 26                  | 3.5             | 7.9               | 6.0               |
| 24      | 28.3      | NE        | 20:47 | 2.5                          | 0.5  | 0.5   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 26                  | 3.5             | 11.1              | 9.0               |
| 25      | 25.6      | NE        | 17:36 | -1.5                         | 0.0  | 0.0   | 0.0   | -0.5  | 0.5    | 1.0    | 3.0    | 26                  | 0.0             | 5.0               | 4.5               |
| 26      | 25.9      | NE        | 1:29  | 0.0                          | -0.5 | -1.0  | -1.0  | -1.0  | 0.0    | 1.0    | 2.5    | 26                  | 0.6             | 14.1              | 12.5              |
| 27      | 24.5      | SW        | 16:20 | 1.5                          | 0.0  | 0.0   | 0.0   | 0.0   | 0.5    | 1.5    | 3.5    | 30                  | 13.9            | 25.6              | 4.4               |
| 28      | 21.2      | SSW       | 1:25  | 10.5                         | 1.0  | 0.5   | 0.5   | 0.0   | 0.5    | 1.5    | 3.5    | 33                  | 12.6            | 22.1              | 6.9               |
| 29      | 41.1      | SSW       | 14:43 | 14.5                         | 3.0  | 2.5   | 1.5   | 0.0   | 0.5    | 1.5    | 3.5    | 33                  | 11.4            | 22.8              | 5.3               |
| 30      | 40.2      | W         | 18:44 | 12.5                         | 4.0  | 3.5   | 3.0   | 0.5   | 0.5    | 1.5    | 3.5    | 36                  | 3.4             | 16.0              | 4.9               |
| Total   |           |           |       |                              |      |       |       |       |        |        |        |                     | 262.0           | 514.1             | 166.4             |
| Mean    |           |           |       | 3.1                          | 0.3  | 0.1   | -0.1  | -0.3  | 0.5    | 1.4    | 3.4    | 22.7                |                 |                   |                   |
| Extreme | 41.7      | W         | 17:16 |                              |      |       |       |       |        |        |        |                     |                 |                   |                   |
| Date    | 12        |           |       |                              |      |       |       |       |        |        |        |                     |                 |                   |                   |

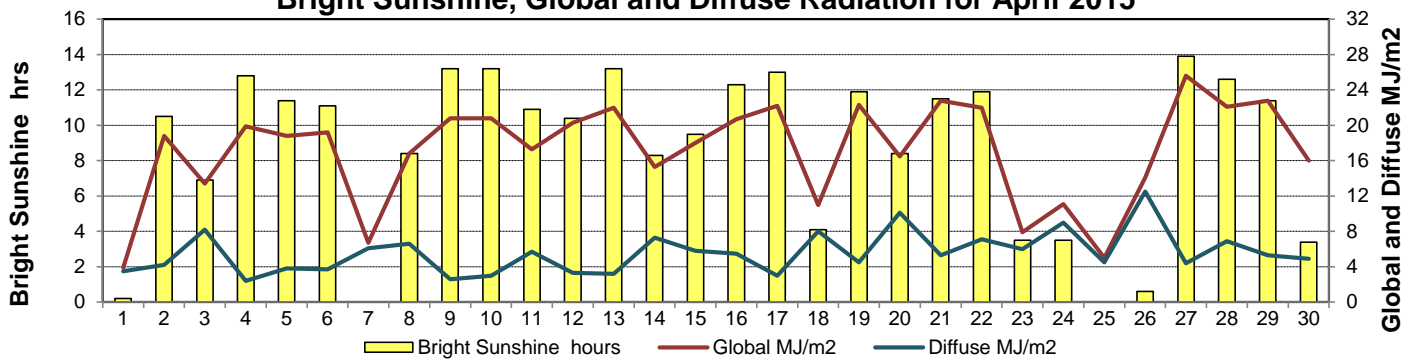
### GLOSSARY OF TERMS

|   |  |
|---|--|
| <b>Degree-days</b>  | <b>Radiation</b>   |
| T <sub>m</sub> Mean Temperature                                       | Bright Sunshine is the unobstructed direct radiation from the sun, as opposed to the shading of a location by clouds or by other atmospheric obstructions. |
| Growing (T <sub>m</sub> -5°C); if T <sub>m</sub> ≤ 5°C then GDD = 0   |  |
| Heating (18°C-T <sub>m</sub> ); if T <sub>m</sub> ≥ 18°C then HDD = 0 |  |
| Cooling (T <sub>m</sub> -18°C); if T <sub>m</sub> ≤ 18°C then CDD = 0 | Diffuse is radiation reaching the earth's surface after having been scattered from the direct solar beam   |
| T Trace of Precipitation  | Global is the sum of the direct solar and diffuse radiation  |
| SOG Depth of snow-on-the-ground                                       |  |
| Red Cell no data available  | <b>Relative Humidity</b> The ratio of the air's water vapour content to its water vapour capacity which changes with temperature.                          |
| Red Number manual calculation   | <b>Air Pressure</b> The force exerted by the weight of a column of air above a given point   |
|   | <b>Wind Gust</b> The daily highest instantaneous value recorded irrespective of direction and/or duration  |

### Wind Speed for April 2015

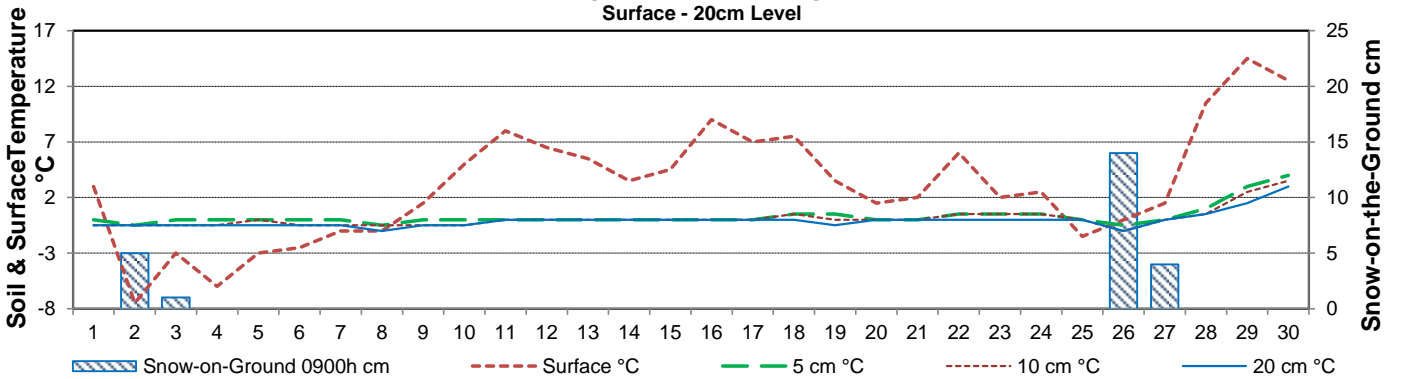


### Bright Sunshine, Global and Diffuse Radiation for April 2015



### Soil Temperatures for April 2015

Surface - 20cm Level



### Soil Temperatures for April 2015

50 - 300cm Level

