

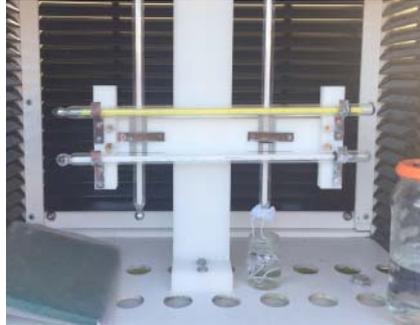
Weather

Recording the Weather

There are various instruments that are used to manually record different aspects of the weather, such as sunshine, maximum and minimum air temperatures and the amount of rain that falls. These instruments are explained below:



The sunshine recorder records how much sunshine there is in a day. It consists of a solid glass sphere that acts like a giant magnifying glass. Arced around the glass are grooves where a special card can be slotted in. When the sun is strong enough it shines through the glass and the heat from this will burn a mark onto the card. The burn marks are measured—each section is one hour—and the amount of sunshine can be recorded.



Inside the Stevenson Screen are two vertical thermometers: the dry (left) measures the current temperature and wet (right) helps measure humidity. The air around the 'wet' thermometer is kept moist using a piece of cloth, called a wick, which constantly sits in distilled water. A calculation is made on the data from these thermometers to measure the humidity in the air. Horizontal thermometers measure the maximum (top) and minimum (bottom) temperatures on a given day.



Image courtesy of Susan Murphy Wickens

This unit is called a Stevenson Screen. It holds some of the thermometers that measure the maximum, minimum and current temperature and its design is very important. It has louvre panels on all four sides, which allows a flow of air into the unit but keeps the sunshine out so that the thermometers can get a more accurate reading of the surrounding temperature. To prevent the unit from overheating, it is painted white, as white reflects the sun's heat.



These thermometers measure ground temperatures. The top thermometer measures the temperature at ground level. The middle thermometer is angled, with the angled part sitting in the soil. This measures the temperature 10 cm below ground level. The bottom thermometer sits in a long tube, buried in the ground. This measures the temperature at 30 cm below ground level.



The rainfall is measured using a rain gauge. A chamber is buried in the ground and an empty bottle sits inside it. The top of the unit is like a funnel and as it closes over the chamber, the spout of the funnel sits in the empty bottle. Any rain that falls into the funnel is then collected in the bottle. Rain water is measured in a special glass tube with markings in millimetres.

YEAR	MONTH	TOTAL CLOUD	WIND	WIND DIRECTION	WIND SPEED	TEMPERATURE	WET BULB	WET BULB	RELATIVE HUMIDITY	WIND	WIND	WIND
2017	2017											
17	Sat	C SW	2	10	D	13.4						
18	Sun	C N	1	10	D	12.6						
19	Mon	6 NE	2	10	D	12.8						
20	Tue	2 E	3	10	D	12.8						
21	Wed	8 E	2	10	D	12.8						
22	Thu	3 NW	2	10	D	12.8						
23	Fri	8 SW	5	10	D	12.8						
24	Sat	8 N	3	10	D	12.8						
25	Sun	5 N	3	10	D	12.8						
26	Mon	8 NE	3	10	D	12.8						

All the daily weather data is recorded in a book, which has space for each day. Other observations can also be made at the same time, such as wind direction, wind speed (using the Beaufort Scale), visibility, cloud amount and general weather. At the end of each month, all data collected for that month, along with the sunshine cards, are sent off to Met Éireann in Glasnevin, Dublin.