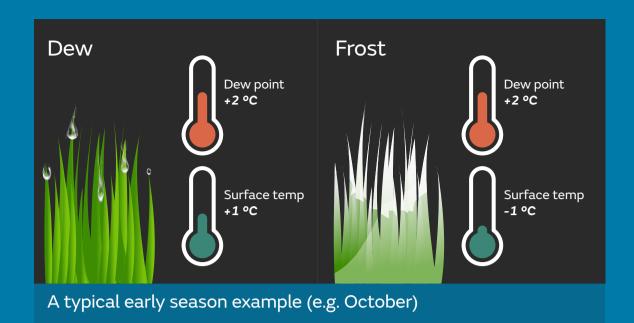


How does frost form?

When the air cools to a certain point, water vapour in the air condenses and forms droplets, or dew, on the ground. This is known as the dew point temperature. This varies with air temperature and current weather conditions.

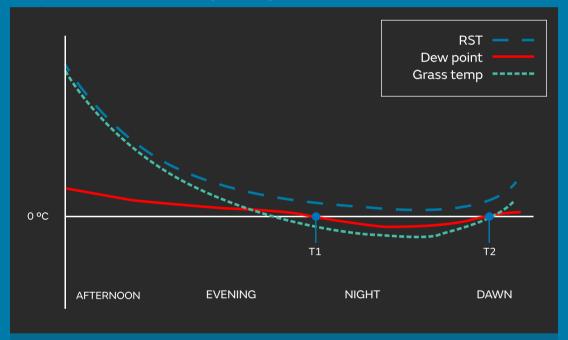
For frost to form, the ground temperature needs to fall below freezing, and below the dew point temperature. This causes the air to condense as ice crystals, or frost, instead of dew droplets. Frost will typically form on a night with clear skies and light winds. Frost can also form if dew droplets have already formed, and then the temperature drops below freezing.



Why is there sometimes frost on the cars and grass, but not on the roads?

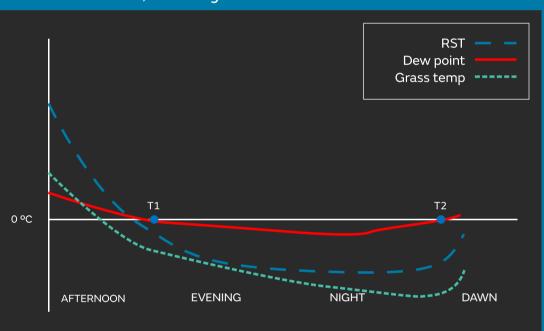
The temperature of grass, car windscreens and tarmac are different as each surface has different physical properties. Surfaces such as car windscreens and grass tend to cool quicker under clear skies than road surfaces which are insulated by the warmer ground below. These graphs show the typical differences between Road Surface Temperature (RST), grass surface temperature and dew point.

Early/Late Season: a marginal night



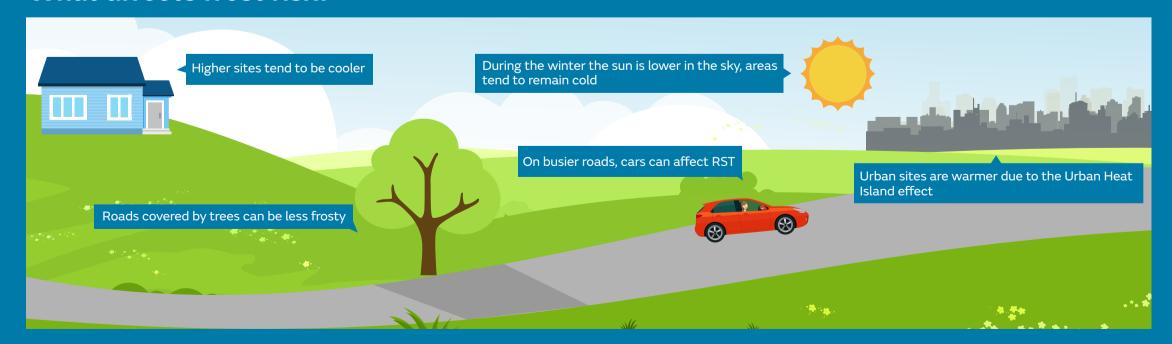
Frost forms if the surface temperature is below freezing, and below the dew point temperature. In this example, frost may form on grass surfaces between T1 and T2 while roads remain above freezing and frost free.

Mid-season: a cold, clear night



In this example, all surface temperatures are below freezing and below the dew point. Frost may form on any sub zero horizontal surfaces, and even more readily when the dew point is also below freezing, in this case between T1 and T2.

What affects frost risk?



Did you know, the Met Office has developed a specific forecast for the winter maintenance, gritting and snow clearance industry? To find out more contact transport@metoffice.gov.uk or visit www.metoffice.co.uk/gritting.