



air temperature

The thermometer is an instrument used to measure temperature. Temperature tells you how hot or how cold an object is, not how much heat it contains.

Air temperature is one of the most important variables used to describe the state of the atmosphere. It is a vital component of weather reports and forecasts.

Temperature affects our daily lives and helps us determine what to wear, what activities we should avoid, and what actions we should take to minimise risks to our health.

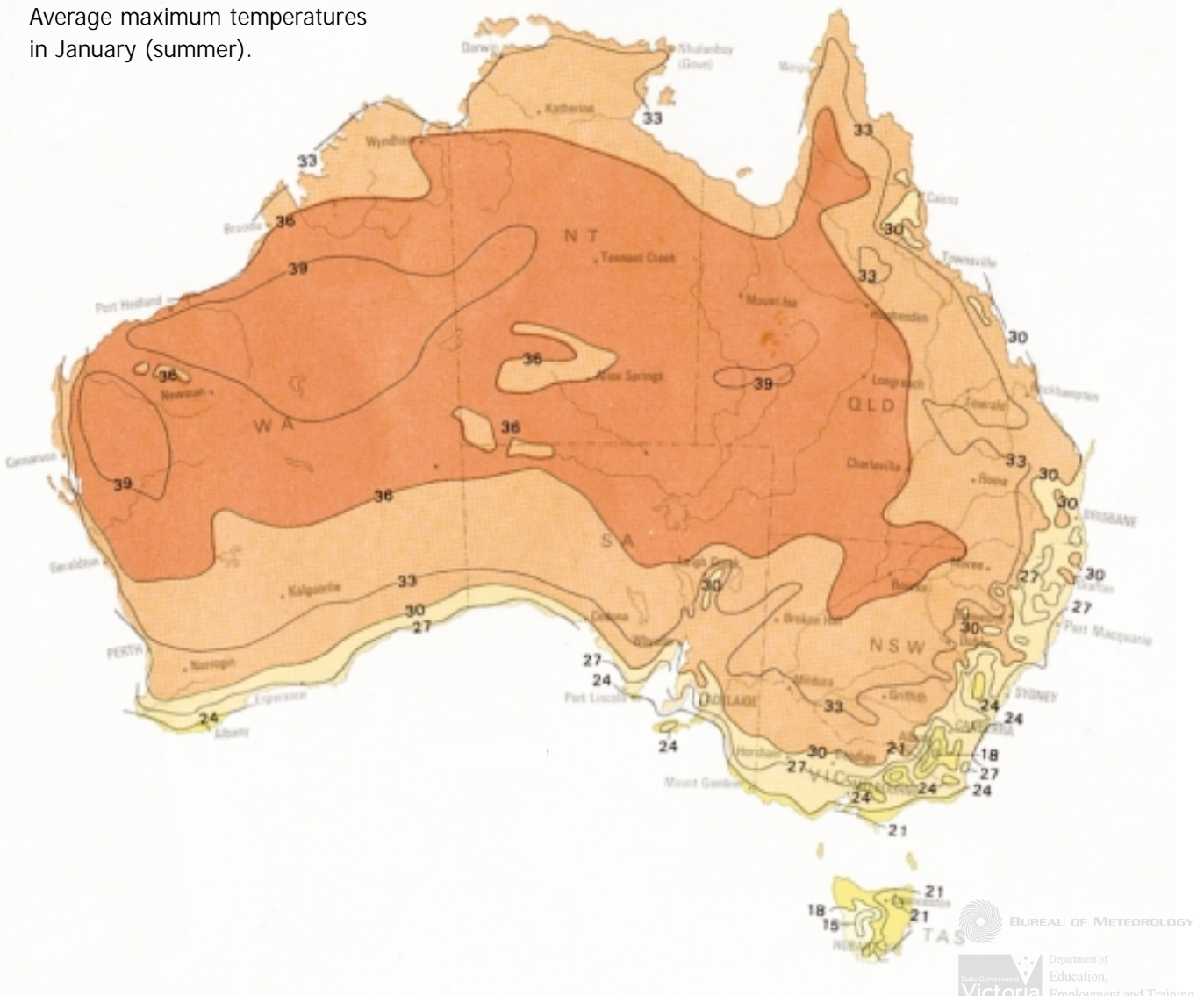
Temperature is important to many people, especially when it is very hot or very cold.

- ◆ health of the old and very young can be affected.
- ◆ people working outside must know how to dress appropriately, what activities to avoid, and when it is appropriate to stop work.
- ◆ firefighters must know when there is a greater risk of bushfires.

the instrument

The most common type of thermometer is liquid-in-glass and contains either mercury or alcohol. A uniform diameter glass tube opens into a liquid-filled bulb at one end. The thermometer is sealed to preserve a partial vacuum in the tube. As temperatures rise, the liquid expands and rises in the tube. When temperatures fall, the liquid contracts and falls in the tube.

Average maximum temperatures in January (summer).





how to measure temperature using a thermometer

This instrument is an alcohol-in-glass thermometer (the alcohol is coloured red) with a range of minus 10 to plus 110 degrees Celsius. Each graduation is 1 degree. Other thermometers use mercury – a silvery-coloured liquid – to measure temperature.

- ◆ Hold the thermometer gently but securely near the 20-degree Celsius mark. If you are measuring air temperature, don't hold the thermometer at the 'red' end – that would give a false reading. Your skin temperature is generally warmer than the air temperature.
- ◆ Take the thermometer to where you want to measure the air temperature. Hold it or hang it up (there is a loop at the top of the instrument) on a wall or a tree, for instance, for at least five minutes before taking a reading.
- ◆ Return the thermometer to its protective cardboard case when you have finished.



do's and don'ts

- ✗ Don't leave the thermometer near the edge of a table. It can easily roll off and break.
- ✗ Don't hold the thermometer by the very end. It is much easier to drop, that way. It is not a baton for conducting the orchestra.
- ✗ Don't leave the thermometer in the sun for a long period of time.
- ✓ Clean up any breakages just as you would glass, and notify your teacher and/or your science coordinator.

