



Townsville weather radar upgrade

The Townsville radar upgrade is part of the Bureau of Meteorology's ongoing work to enhance and improve Australia's radar and observation network.

The Bureau of Meteorology is currently replacing the Townsville weather radar with modern and reliable dual-polarised Doppler radar technology.

During the installation of the new radar, the old Townsville radar will be switched off from 4:30 am to 8:00 pm AEST during the following periods:

- 16 to 20 March 2024
- April to May 2024 (to be confirmed).

During this time the Bureau will construct a new radar tower, radome and equipment shelter, approximately 50 metres from the existing Townsville weather radar.

In the event of severe weather, construction will stop and the old radar will be temporarily returned to service.

Radars emit non-ionising radiation when in operation, so to ensure the safety of workers the old radar needs to be switched off while the new radar is installed. Under normal operating conditions, weather radars pose no hazard to the general public.

From 14 March 2024, a small section of the radar beam will be switched off to the north-west and the new radar tower. This prevents reflections from the new radar tower damaging the old radar. This process is called sector blanking.

Radars are a key part of our observation network, including satellites, upper atmosphere observations and automatic weather stations which:

- enable businesses to make better decisions when preparing for severe weather
- help farmers make timely decisions, such as movement of stock, chemical and fertiliser application, and sowing and harvesting
- increase forecast accuracy every year.

We expect to complete the upgrade by mid-2024, subject to any unforeseen delays.

Find local weather information

- **Radar images** – select [Greenvale](#) and [Bowen](#), which provide some overlapping coverage of the region. Go to bom.gov.au or download the BOM Weather app.

- **Warnings and forecasts** – For hourly, 3-hourly or daily rainfall totals; graphs of changes in temperature, humidity and pressure; 24-hour wind charts; and river heights. Go to bom.gov.au or download the BOM Weather app.
- **Forecasts with MetEye** – Find forecasts from 3-hours to 7-days for temperature, wind, rain, humidity and storms, plus sea and swells. Go to bom.gov.au/australia/meteye

The construction process

Each radar project is unique. Typically, the process takes 20–24 months from the start until the new radar begins relaying data for Bureau products and services.

During the replacement process there will usually be an outage period (or multiple outage periods) of 3–6 months (depending upon the site), where the existing radar is turned off to allow for site works and installation of the new radar.

Radars are complex machinery which require extensive calibration and testing once installation is complete.

The key milestones in the radar replacement process are:

1. **Site selection (if required)** – The most complex stage is to select the right site. Factors considered are current and future lines of sight, obstructions, access to power and data communications, land ownership, and other local concerns.
2. **Design and construction** – Building approvals are gained, components ordered and delivered, site designs created and site foundations laid.
3. **Installation** – Key components of the radar are installed. These include the tower, antenna, radome (giant ball-style antenna covering) and radar cabinet.
4. **Testing** – Data quality is tested and monitored to confirm the radar is operating properly. Any outages or unforeseen issues are addressed. This ensures the recording of accurate and reliable data, to provide forecasters and modelling systems with precise information.
5. **Go live** – The radar begins recording data, providing Australians with real-time observations through bom.gov.au and the [BOM Weather](#) app.

Radar replacement timing

Radar replacements and upgrades present complex scheduling challenges for the Bureau. There are a number of projects at different stages of upgrade across the country and a small pool of experts involved in many of the projects. In addition, the Bureau must take into account severe weather season, the reliability of the radar being replaced and the availability of equipment.

Radar projects underway in Queensland include Townsville, Mackay, Cairns, Toowoomba and Brisbane (Marburg). Other upgrades are in progress in Carnarvon and Dampier in Western Australia.

These projects are part of the Bureau's ongoing work to enhance and improve the Australian radar and observation network. We are delivering 8 new radars, plus upgrades to 46 radars, almost 700 automatic weather stations and 384 flood warning network assets across the country.

More information

For more information visit bom.gov.au/australia/radar/ron