Sydney Observatory Self-Guided Tour

Ask our staff about our telescope tours
Welcome to Sydney Observatory

Located high on a hill overlooking Sydney Harbour, Sydney Observatory commands some of the best views of the city. Serving as both a public observatory and a museum, the Observatory showcases an amazing collection of historic and modern instruments, artefacts, books and photos.

This self-guided tour will help you find your way through the display rooms to discover the history of astronomy and weather watching in Australia. Please ask our staff if you have any questions or are interested in a staff-guided tour. Explore and enjoy!
A brief history

Sydney Observatory began as the centre of scientific research for the colony of New South Wales, and has since played a significant role in the history of time-keeping, meteorology and astronomy in Australia.

The Australian Aboriginal people have been observing the southern sky for tens of thousands of years, and the early colonists also recognised the importance of studying the stars. A young lieutenant named William Dawes was given the task of establishing an observatory when he travelled to Australia with the First Fleet in 1788. He set up his instruments in a wooden building at what is now called Dawes Point, only a few hundred metres to the north of Sydney Observatory and next to the southern pylon of the Sydney Harbour Bridge.

In 1821, Governor Thomas Brisbane established Australia’s first permanent observatory near Government House in Parramatta. Governor Brisbane and his staff studied the southern sky and began documenting unknown stars. The observations were published in 1835 in William Richardson’s *A Catalogue of 7385 Stars*.

Parramatta Observatory was forced to close in 1847 due to lack of support. However, by 1855 the colonial government could not ignore the need for a time ball and an observatory in Sydney. Three years later construction of the time ball tower and the new observatory was sufficiently advanced for observations to begin. Work at the Observatory included determining star positions, measuring precise longitudes and latitudes, keeping time and making meteorological (weather) observations.

The site has previously been known as Windmill Hill, Citadel Hill, Fort Phillip and Flagstaff Hill, with each name indicating the site’s function over time. Today the site is known as Observatory Hill and has been the astronomical hub of Sydney for over 150 years.
1. Watchers of a different kind
Find out what makes the southern sky special and ‘meet’ some of the astronomers and explorers who have observed the night sky. You’ll see:
- Brisbane’s telescope – used by Governor Thomas Brisbane to observe Encke’s Comet in 1822
- a repeating circle – used at Parramatta Observatory in the 1820s to measure angles between stars
- the Apollo feedhorn – used to convert Neil Armstrong’s 1969 transmissions from the Moon into television images watched by millions on Earth.

2. Knowing the time and finding the way
Discover the instruments used by Matthew Flinders to chart the Australian coastline in the early 1800s, including:
- an Earnshaw 520 chronometer – one of the five chronometers used on Flinders’ voyage around Australia and the only one still working at the end of the journey
- an Earnshaw astronomical clock – a highly accurate clock built in 1791 and used by Flinders to check the timekeeping of the chronometers on his ship
- a sextant – like those used by navigators such as Flinders to determine both the time and the latitude.

3. Transit circle: the biggest clock in the world
This room is home to the transit circle, a telescope that was used to determine the exact time, positions of stars and the geographical coordinates of the Observatory. The room also contains:
- a chronograph – used to record the transit circle observations
- a pendulum clock – a highly accurate astronomical regulator clock purchased in 1860.

4. Planets and stars of the southern sky
Explore the solar system and discover constellations. See:
- solar system models (orreries) – watch the moon circle the Earth and the planets circle the Sun
- a Southern Cross 3D model.

5. Cadi Eora Birrung: under the Sydney Stars
Aboriginal people were Australia’s first astronomers and have watched the southern sky for more than 50,000 years. The stars were used as a calendar, for navigation, and to convey laws to future generations. This room looks at Indigenous Dreaming stories about the different constellations.
6. Transit of Venus: the biggest ruler in the world
The transit of Venus is of special interest to Australians – Captain Cook travelled to Tahiti to observe Venus passing in front of the Sun in 1769 and on his return voyage mapped the east coast of Australia. Australia was in a prime location to observe the most recent transit of Venus. Learn about:
- the photoheliograph – a telescope for photographing the Sun and one of only half a dozen such instruments in the world
- the photographic revolver – designed for use with the photoheliograph and the forerunner of the movie camera.

7. Observing the weather: measuring and forecasting
When the Observatory opened in 1858, its astronomers began recording Sydney’s rainfall and temperature. This room displays the many instruments that have measured the weather over the years since then, including:
- a laser ceilometer – a modern instrument used to measure the height of the clouds
- a Newman & Son mercury barometer – an instrument used at the Observatory in the late 1800s to measure atmospheric pressure

8. Observing the weather: surviving the extremes
This exhibition looks at 150 years of Sydney’s weather. Find out about the heatwave of 1939, the floods of 1984 and the hailstorm of 1999.

9. Russell Room
H C Russell was an important pioneer of photography and a significant astronomer who lived and worked at the Observatory between 1870 and 1905. Here you will see historic astronomical, weather and family photographs as well as stunning balcony views of the city, harbour bridge and the time ball tower.

10. The time ball
The time ball atop Sydney Observatory dropped for the first time on 5 June 1858, alerting Sydneysiders and ships in the harbour of the exact time. Today the timekeeping tradition continues, with Observatory staff dropping the time ball daily at 1.00 pm. You can see the time ball’s daily drop by heading outside for 1.00 pm and watching the yellow ball atop the tower.
Experience more of the Observatory

After exploring the displays inside the Observatory, enjoy more of what this incredible site has to offer.

Day tour
You’ve seen the exhibits, now look through our solar telescope safely with one of our astronomers and on a clear day see the Sun, bright stars, the Moon and Venus. Be captivated by the sights within our digital planetarium or see short astronomy films in our 3D Space Theatre.

Night tour
This is the quintessential way to experience Sydney Observatory. Look through our computer-controlled mirror telescope or our historic 1874 telescope to see highlights of the southern sky such as stars, the Moon or a nebula.

Dreamtime astronomy
On the land of the Gadigal People of the Eora nation, hear Indigenous sky stories that are thousands of years old told by Aboriginal Astronomy guides. Book a 60-minute night tour to hear about the giant emu in the sky and the story behind the Southern Cross. Tours include stargazing through Observatory telescopes.

Name a Star
Name your own star from the Sydney Southern Star Catalogue! Sydney Observatory’s Name a Star program is the perfect gift, providing a lasting legacy in the Australian night sky. All the stars available can also be viewed through the telescopes at the Observatory.

Ask our staff or book online at maas.museum/sydney-observatory
SYDNEY OBSERVATORY

Sydney Observatory, alongside the Powerhouse Museum, is part of the Museum of Applied Arts and Sciences (MAAS).

1003 Upper Fort Street, Observatory Hill, Millers Point
Open daily 10.00 am – 5.00 pm
Open evenings for tours (bookings required)
Closed Good Friday, Christmas Day and Boxing Day

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Details correct at time of printing; for up-to-date details, visit maas.museum/sydney-observatory