



THE BEST TELESCOPE IS
ONLY AS GOOD AS THE
SKY ABOVE IT

FINDING THE PERFECT OBSERVING SITE

Choosing where to observe is one of the most important decisions you'll make as an amateur astronomer. While it's easy to focus on telescopes and eyepieces, the quality of your observing location often has a greater influence on what you can see than upgrading your equipment. A modest telescope under dark, steady skies will frequently outperform a much larger instrument used beneath bright city lights. The ideal observing site is not necessarily the darkest or most remote location available. Instead, it's one that combines good sky quality with practicality, comfort and safety, encouraging you to spend more time under the stars.

PRACTICAL ASTRONOMY GUIDE #1

This guide is designed to help you identify and evaluate potential observation sites so that you'll have the perfect place to enjoy a night exploring the universe.



DARK SKY

Many newcomers assume that finding the darkest possible location is the key to successful observing. Although darkness is important, it is only one of several factors that determine the quality of an observing site. Horizon clearance, atmospheric stability, accessibility and personal comfort all contribute to a successful observing session. The best observing locations balance these factors, providing an environment where both you and your equipment can perform at your best.

Better contrast reveals more of the night sky. Artificial lighting brightens the night sky, reducing contrast making faint deep-sky objects increasingly difficult to detect. Nebulae lose subtle structure, galaxies fade into the background and many star clusters become less impressive. Escaping even moderate levels of light pollution can produce a dramatic improvement, particularly when observing galaxies, emission nebulae and other faint objects. The Bortle Scale provides a useful way of describing sky darkness, ranging from Class 1 (exceptionally dark) to Class 9 (inner-city skies).

A NEARBY BORTLE 3-5
LOCATION THAT YOU
CAN VISIT REGULARLY
IS BETTER THAN A
DARK-SKY SITE
SEVERAL HOURS AWAY

Bortle Class	Sky Quality	Typical Observing Experience
1-2	Pristine dark skies	Outstanding deep-sky observing
3-4	Rural skies	Good all-round observing
5	Rural / Suburban transition	Reasonable
6	Bright suburban	Brighter objects only
7-9	Urban skies	Solar, lunar and planetary observing only



TIP ...

**GOOGLE MAPS AND
STREET VIEW ARE A
GREAT WAY TO
EXPLORE POTENTIAL
SITES**

OBSERVATION SITE CHARACTERISTICS I

OPEN HORIZON

The more sky you can see, the more you can observe. A clear horizon allows you to follow celestial objects for longer as they rise and set, while also improving access to seasonal targets that never climb particularly high above the horizon. When assessing a potential observing location, look for wide, unobstructed horizons. Even a modest hill, tall hedge or line of trees can obscure a surprising amount of sky. An open view towards the south is beneficial. A few trees or nearby buildings are okay if the tops are not higher than 20° above the horizon – you can use a clinometer to measure the severity of obstructions.

SHELTER FROM WIND

Wind doesn't need to be strong to affect observing. Even gentle gusts can introduce vibration, particularly when using larger telescopes at high magnifications.

Natural windbreaks such as hedgerows, low walls or gently sloping embankments can make a significant difference without restricting your view of the sky.

Avoid observing immediately behind buildings, where turbulent airflow can actually degrade image quality.



REMEMBER ...

RURAL CAR PARKS CAN
BE GREAT IF THERE ISN'T
STREET LIGHTING
NEARBY

OBSERVATION SITE CHARACTERISTICS II

STABLE GROUND

Small vibrations quickly become large frustrations. High magnification amplifies even the smallest movement. An otherwise excellent observing site can become frustrating if the telescope is positioned on an unstable surface. Where possible, choose: Concrete or paved surfaces. Firm, compacted ground or with short grass is acceptable. However, you should avoid timber decking, loose gravel and sand, and suspended platforms. A stable surface makes focusing easier and allows vibrations to settle more quickly after adjusting the telescope.

UNWANTED LIGHT

Your eyes take 20-30 minutes to fully adapt to the dark, allowing your eyes to detect much fainter objects. Unfortunately, a single poorly positioned streetlight or passing vehicle can undo much of that adaptation in only a few seconds. Where possible, choose locations that minimise direct exposure to:

- Street lighting
- Security lights
- Car headlights
- Illuminated buildings

Sometimes moving a short distance away from a busy road, behind a hedge or embankment is enough to shield your observing position from unwanted light.



TIP ...
A PORTABLE SPEAKER
PLAYING YOUR
FAVOURITE MUSIC
CAN HELP WHEN
OBSERVING ALONE

OBSERVATION SITE CHARACTERISTICS III

ACCESSIBLE & SAFE

The best observing site has easy to access after dark, is practical and feels safe.

Before committing to a new location, consider:

- Is there safe parking nearby?
- Can equipment be carried easily?
- Is the ground reasonably level, are there potential trip hazards?
- Is mobile phone reception available?
- Is access permitted after dark?
- Would you feel comfortable observing alone?

If travelling to a remote location, it's good practice to let someone know where you'll be and when you expect to return.

COMFORT MATTERS

Successful observing sessions often last several hours, particularly during the winter months. Small improvements in comfort can make a surprisingly large difference to both enjoyment and productivity. Look for locations that provide enough space around your telescope to move around easily. Space for an observing chair and a convenient place for eyepieces and accessories.

We recommend that you also read Practical Astronomy Guide #5 Essential Field Kit & Accessories where the topic of personal comfort is covered in detail. Remember ...

On colder nights, an observer in warm clothes with a hot drink is almost always a better observer since they can truly focus on the target.

ABOUT NSO

Our Vision

We envision a world where anyone with an interest in astronomy can begin their journey with confidence and enjoy rewarding first light experiences. Where choosing equipment is exciting rather than overwhelming, expert guidance is always within reach, and every astronomer has a trusted partner throughout their journey under the stars.

Our Commitment

We believe our responsibility doesn't end with a sale. We are committed to supporting our customers throughout their astronomy journey.

- Expert Guidance
- Carefully Selected Stock
- Accessible Value
- Long-Term Partnership

