Blackett Observatory / North Wessex Downs Marlborough Dark Skies SQM Project

North Wessex Downs National Landscape

Groups & Locations

The project is divided into five groups covering the following locations:

1. Marlborough Area – Marlborough Town Hall, Silbury Hill, Avebury, Hackpen Hill and Rockley Triangle. (Team Members: Peter Turvey, Bruce Hayllar, Suzanne and Chris Rupp, Bruce Fox).
2. Devizes Area – Alton Barnes, All Cannings, Bishops Cannings, NE Devizes. (Team Members: Robert and Sara Buttle, Hugh Pilcher-Clayton).
3. Collingbourne Area – Great Bedwyn, Wilton, Ludgershall, Collingbourne Kingston and Bruces Cottage. (Team Members: Ian Pestell).
4. Swindon Area – Pack Hill, Horpit, Ashbury Cenotaph and Ashdown House. (Team Members: Ian and Kath Gillies, Kostas Beis and Fred Taylor).
5. Newbury Area – Gangbridge Lane, East Woodhay, Ashmansworth and Linkenholt. (Team Members: Alan and Rachel Lane).

When to take readings

Readings should be taken:

- Once a month at each location.
- When the Sun is below the horizon, ideally by more than 18˚ i.e. during astronomical darkness. Full position details of the Sun from Marlborough can be found here: https://www.timeanddate.com/sun/@51.42487,-1.74186.
- When the Moon is below the horizon, ideally by more than 10˚. The best window of opportunity is during the week either side of New Moon. Complete Moon phase details for Marlborough can be found here: https://www.timeanddate.com/moon/phases/@51.42487,-1.74186.
- On a clear night with no cloud or mist and minimal haze. The zenith should be as clear as possible.

Staying Safe

As volunteers for this project, your safety is paramount. Please consider these guidelines:

- Put a message on the WhatsApp group to say when and where you are going and who is in the group.
- Always go with at least one other volunteer.
- As astronomers you know how cold it can get, wear lots of layers and comfortable thick-soled shoes or boots.
- Ensure you have a mobile phone that is well-charged.
- Try to avoid parking in areas known for dubious ‘night-time’ activities!
- Choose a safe location to take readings, you don’t need to stray far from your car.

- If you have any pre-existing health conditions, ensure your expedition group knows about them and what to do if a condition is triggered.
- Keep your belongings safe, ideally leave valuables at home and always lock your car.

How to take readings

Fill in a 'Blackett Observatory – Sky Quality Data Gathering Sheet' for each location, noting:

- Date.
- Location description.
- What3Words.
- Latitude and Longitude.
- Device ID – from the sticker on the back of your Sky Quality Meter (SQM).
- Weather Quality, selecting from: Perfectly Clear / Light Haze / Horizon Haze / Partly Cloudy (please note that if any cloud is present, it should only be on the horizon, if overhead, wait for it to pass or give up and go home!).
- The time zone: UT or BST.
- There is a section to add any notes if required.

To obtain a sky reading from your SQM:

- Allow the SQM to reach ambient temperature (about 5 minutes)
- Hold the SQM with the lens pointing up at your zenith.
- Press the button.
- Monitor the first few readings (in Magnitudes Per Square Arc Second – MPSAS) to ensure that they are consistent.
- Once the readings have stabilised, take your first reading, noting the MPSAS value and the time of the reading.
- Press and hold the button to cycle through the further information, noting the temperature in ˚C.
- Repeat to obtain your five readings at that location.

How to upload your readings

Once you have visited all your locations and have a full set of readings, you are ready to upload your data to the Marlborough Dark Skies Portal:

- Go to the following URL: http://81.130.150.37:5000/darksky.
- Enter the password 'clearsky'.
- Click on 'Enter Readings' in the Mobile SQM section.
- Fill in all the details from your data gathering sheet.
- Click 'Validate'.
- When you are happy that all is correct, click 'submit'.

Congratulations, you have successfully gathered and submitted your dark sky data – thank you for your help!