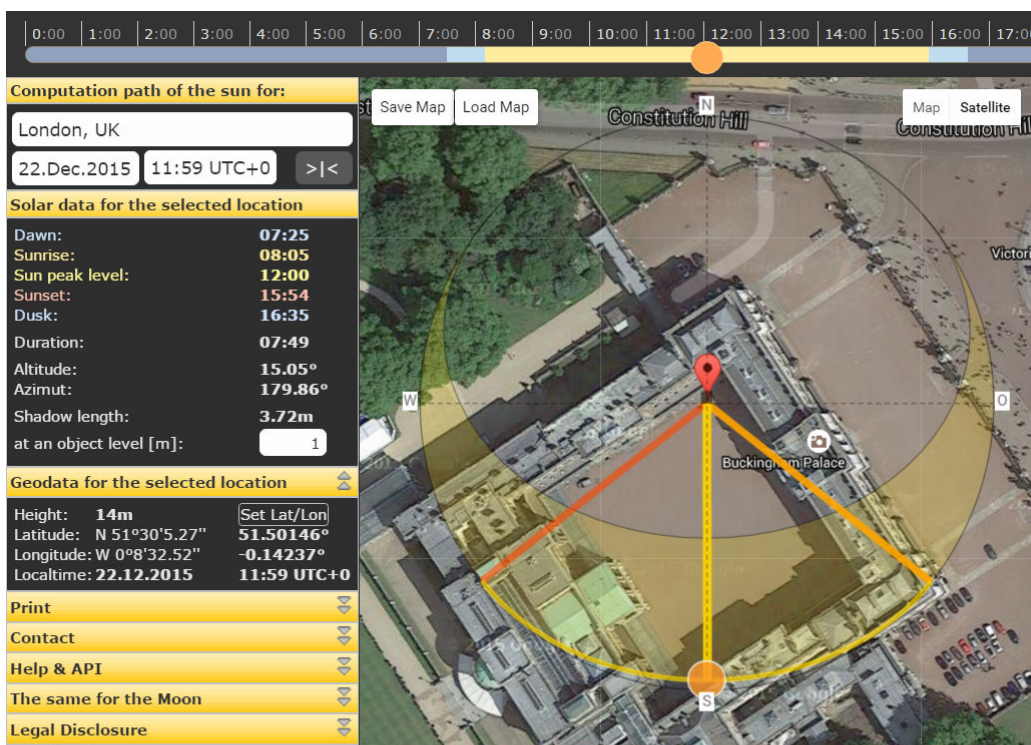


How to assess the sun angle and elevation at your house 160509

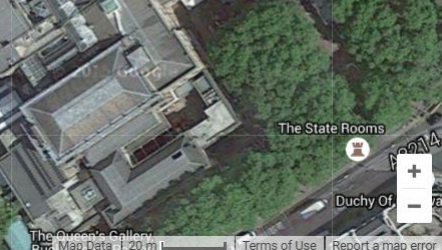
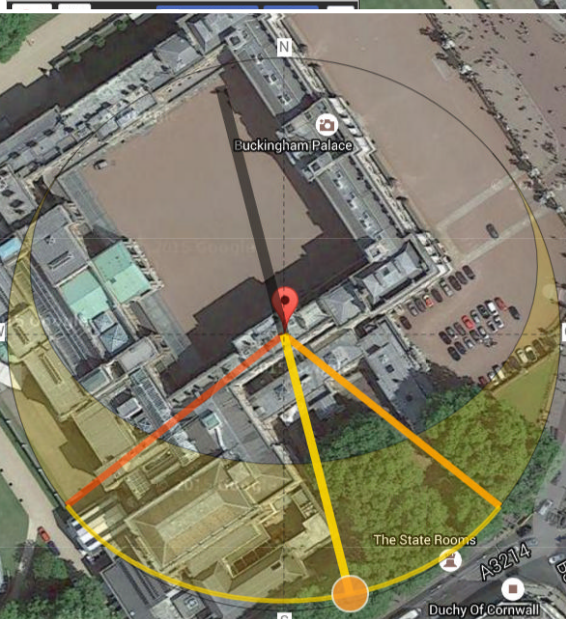
For solar cooks, one of the most useful resources on the net is the excellent *SunCalc*¹ site created by Torsten Hoffmann. His application allows you to see the direction of sunrise and sunset at any time of year and assess where and when on your property you may be able to use a solar cooker.

Imagine for a moment that the Queen decided to use a solar cooker in the main courtyard at Buckingham Palace. The screen shot below shows *SunCalc*'s calculation for the winter solstice, the shortest day of the year. You can see that Her Majesty might be able to set up a solar cooker in the northern corner of the courtyard and cook successfully on the shortest day, as long as the sun was shining.



What about the shadow cast by obstacles like the buildings at the southern boundary of the courtyard? If you know the height of the building, you can get an estimate of the shadow length cast by an obstacle of any height at any time of day. The inset picture shows that the shadow cast by the southern side of the courtyard makes solar cooking impossible until about 11.00 a.m. in that location. This is based on the assumption that the height of those buildings is 20 metres.

All of the information about location, time of day, date, sunrise, sunset, shadow length, etc. can be seen in the black column to the left of the picture.



To locate your own property, or the site where you wish to use a solar cooker, go to the *SunCalc* website and enter your location in the box. A map of that area will be displayed, and you can re-locate the red pointer until it is in the exact position you want to assess.

Then, enter the date on which you wish to cook, and the time of day you wish to begin. *SunCalc* will display the sun angle at sunrise and sunset, and its angle and elevation above the horizon at any moment in between. To assess whether any object (e.g. tree, building) will cast a shadow over your cooker, enter the height of the object in the 'object level' box, then place the red location pin on top of the object. Then, if you use the slider at the top of the page to adjust the time of day, you will see the shadow of your object sweep across the map. You will be able to tell whether that object will cast a shadow on your cooker on that date, and, if so, at what time(s) of day.

Then, enter the date on which you wish to cook, and the time of day you wish to begin. *SunCalc* will display the sun angle at sunrise and sunset, and its angle and elevation above the horizon at any moment in between. To assess whether any object (e.g. tree, building) will cast a shadow over your cooker, enter the height of the object in the 'object level' box, then place the red location pin on top of the object. Then, if you use the slider at the top of the page to adjust the time of day, you will see the shadow of your object sweep across the map. You will be able to tell whether that object will cast a shadow on your cooker on that date, and, if so, at what time(s) of day.

¹ <https://www.suncalc.org/#/51.5008,-0.1421,18/2015.12.22/10:59/20>