

Meteorological databases

WORKSHEET

Exercise 1. Based on data from ogimet.com, follow the sunshine chart for your chosen meteorological station for the selected month.

Instruction:

The ogimet.com website is a rich source of meteorological information from around the world. An important parameter in the light of UV index research is the solar insolation. This index informs of the direct sunlight to the place and is the value given in hours.

On the ogimet.com website, after selecting the English language version of the page in the Country summaries tab, you will find the checkboxes. In the field enter the country for which you want to download data (data for all stations -All available stations, HTML format, sort order, and date). When you click on the send button, you will be redirected to a web page with a table containing columns with city names and meteorological data. Select one station from the list and save the reference number. The reference number is an international identifier for the station to identify it. For example: Wrocław - 12424. Then, by knowing the ID number of the station you are interested in, you need to select the Daily summaries tab. In the WMO index field, enter the reference number of our station. DAYS - we choose the number of days and the date from which we want the data we want.

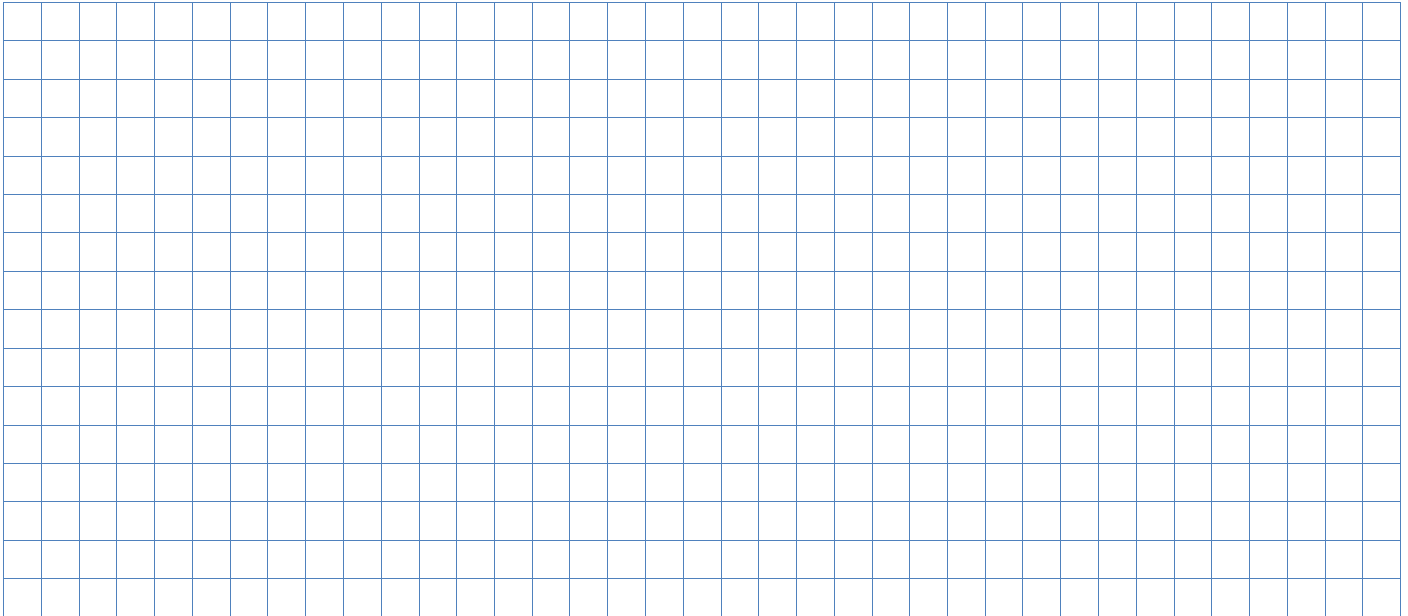
After performing the above steps, we should be able to access the table from which to list the sunshine values (Sun D-1 (h) column) for the selected month. Then put the accumulated data into the graph. If for some day there is no sunshine, then in the table, enter the symbol - and leave the blank in the graph.

Station		Reference number		Selected month	
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Day	Insolation	Day	Insolation	Day	Insolation
1		11		21	
2		12		22	
3		13		23	
4		14		24	
5		15		25	
6		16		26	
7		17		27	
8		18		28	
9		19		29	
10		20		30	
				31	

Mean value		Max value		Min value	
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Exercise 2. The above data should be applied to the line graph, the x-axis should be marked on the x-axis and the sun-value on the y-axis.



Exercise 3. Follow the instruction below

1) Enter the number of observations above the average value of insolation?

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2) Provide the number of observations for which the recorded values were close to the mean value?

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3) How much was the maximum value, minimum insolation, and at which date these values were recorded?

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Exercise 4. Based on the above data and Tot CI - Total Cloud data from the table obtained at ogimet.com (second column on right from SUN D1), try to explain the fluctuation of the insolation time.

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UV Index – the hour of solar noon

The highest values of the UV Index are recorded during the solar noon. This phenomenon occurs when the sun is highest in the sky, about 12 hours of sunshine. For local time, the hour of solar noon depends on the geographic latitude and the day of the year. In order to accurately determine the local solar noon, we will use the online calculator of the National Oceanic and Atmospheric Administration (NOAA). The calculator is located: <http://www.esrl.noaa.gov/gmd/grad/solcalc/sunrise.html>.

In **City** please fix **Enter Lat/Long**, after this, you can input geographic coordinates

Exercise 5. From geographic Atlas, you should read geographic coordinates of two cities, one in the east of Europe, second in the west of Europe. Next put this information on below map.



City A

City A

Coordinates

Coordinates

Exercise 6. Choose a summer and winter date and compare the differences at the time of the solar noon, between cities:

Date	Hour of solar noon	
	City A	City B
Summer		
Winter		

Exercise 7. Based on the above data, briefly, characterize the causes of differences in the time of the solar noon.

[illegible]