Preparations for the last total solar eclipse of the millenium in Turkey

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Abstract. The last total solar eclipse of the millennium will be observed from Turkey which bridges two continents and has been the cradle of so many past civilizations. Among the countries from which the eclipse will be visible, Turkey seems to be one of the most suitable countries in terms of its climate and observational facilities. Kandilli Observatory and Earthquake Research Institute has arranged fieldwork on the eclipse path to determine the suitable points for the observations. The shadow of the moon will be first seen from the Black Sea coast at 14:20 L.T. It will then pass through central Anatolia and will leave Turkey from south-east at 14:42 L.T. The list of the suitable places along the eclipse path is given.

1. Site Inspections

Site inspections have been made during the last two years around Turkey. This is to inform you about the situation in Turkey and what you will find when you come to Turkey which has one of the best meteorological prospects along the entire eclipse path (Espenak & Anderson, 1997).

Our first adventure began in August 1997 along the eclipse line through Turkey. The eclipse path reaches Turkey's northern coast and then continues southeast bisecting the country diagonally (Figure 1). Although Ankara (capital of Turkey) lies 150 km south of the track it still experiences a deep partial eclipse of magnitude 0.967. The largest Turkish cities in the path of totality include Sivas, Elaziğ and Diyarbakir. We started from the coast of the Black Sea; at small town called CİDE, where the totality first reaches land after Romania. It has very beautiful beaches along the coast, but unfortunately cloudiness is always probable, because of the mountains parallel to the coast which the clouds coming from the north cannot pass over. Our first decision was to omit the Black Sea coast as an observation area.

After going beyond those mountains we reached KASTAMONU and AMASYA cities. We chose the town OSMANCIK that is on the totality line. Just near the village there is a very suitable area where the wrestling competitions are held, enclosed by a wire fence. Electricity and toilets are available. Meteorological prospects are moderate for OSMANCIK, but TOKAT, the neighbouring city, is located just on the path of fronts, which come from the Black Sea. Therefore cloudiness is changing very fast, so it is not a reliable place for observations.

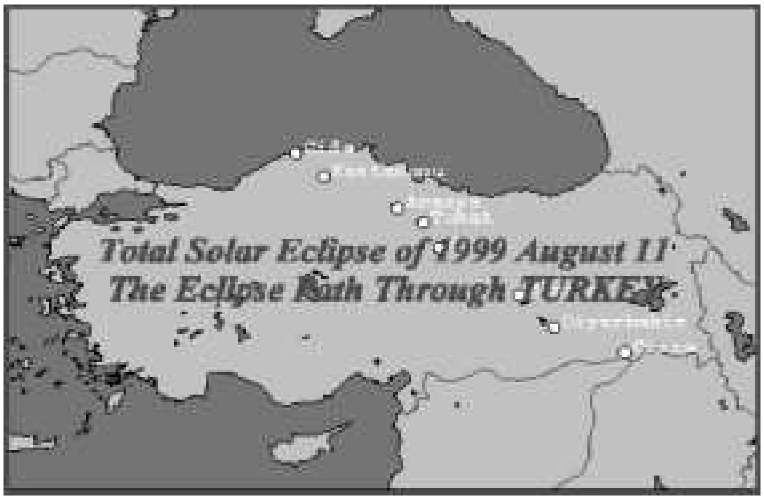

Figure 1. The eclipse path through Turkey. Open circles indicate the cities where the observational parks will be established.

Table 1. The coordinates of the observational places through Turkey.

Site	Latitude	Longitude
OSMANCIK	40.98D North	34.82D East
TURHAL	40.40D North	36.10D East
SİVAS	39.75D North	37.03D East
ELAZIĞ	38.68D North	39.23D East
DİYARBAKIR	37.92D North	40.23D East
BATMAN	37.87D North	41.12D East

Going on our way we reached SİVAS. The city is located in the middle Anatolian Peninsula in the upper Kizilirmak zone and has an airport about 20 km from the city center. There are several good hotels in the city. There is also a university (5 km from the city center) with a campus which would make a suitable observing site (a grass-covered football pitch or a space near the buildings, only particularly covered by grass). Small hills surround the town. In SİVAS seeing conditions are very good and there is

Figure 2. General view of Emreköy, Sivas.

no scattered light. We have chosen three places in and around SİVAS. One in the university campus, in and around the football field. The second place is just on the line of totality EMREKÖY where only a few private houses are located (Figure 2) and HAFİK some 10 km beyond this point. Hafik, a small and lonely village, is located in a small valley with many trees and municipal or private houses which can be used for accommodation. There are several places around the village to prepare camps for observations. Some Japanese teams have already booked buildings in the village.

Figure 3. View to the southward from Harput, Elaziğ.

ELAZIĞ was the next stop on our way. The city is located in the upper part of the Euphratus region, surrounded by a crown of hills and the Keban and Karakaya dams. It is now on a peninsula. The city has an airport with flights from Istanbul and Ankara. Just near the city about 5 km to the northeast there is a hill with an old town called HARPUT and a 10th-century fortress on it (Figure 3). "I immediately fell in love with the place, anticipating the chance to see the eclipse amid stones that had been

Figure 4. Heliport area, Batman.

mated a thousand years ago" (Robinson, 1998). This hill is almost 200 m higher than the city. This means that the air pollution of the city is below the site, you will find a dust free, clean sky with no scattered light. The hill continues very far in a flat terrain. This site is chosen for our experiments as well as for those of three Japanese groups: Dr. Hiei and his team from Meisei University, Dr. Ichimoto and his team from Tokyo Observatory, and Dr. Ueno's team from Kyoto University. The last site inspection lasted from August 6 to August 13, 1998, and was performed with Dr. W. C. Livingston from NSO, Tucson, who is the chairman of the meeting which will be held in Istanbul on August 13-15, 1999. More information can be obtained from our web page http://www.boun.edu.tr/∼koeri/eclipse_99).

If you decide to observe the eclipse near the lake, you will find a place just near the water at the horse race track. This place is also well protected by a wire fence, and all facilities will be available. All the observational parks we will organise will have guardians 24 hours a day. One more place that will be organised in ELAZIĞ is the garden of the sugar factory. August is the off-season for this factory, so we will use this huge area as an observational park.

DİYARBAKIR is the biggest southeastern Anatolian city (a center of the region, with 400 000 inhabitants) and has an airport with connections to Ankara and Istanbul. The city is located in a very large plain just near the 1-minute line of totality. You should drive some 55 km to the eastward to reach the village BASNİK which is just on the totality line. The meteorological prospects for DİYARBAKIR are excellent. We will establish one observational park near BASNİK now called BAĞDERE. J. Anderson, co-author of NASA Reference Publication No. 1398, has chosen this place as a campsite.

The city of BATMAN was our last stop for the expedition. We did not consider any other place further south. There is one helicopter port just near the city, in a half-private oil company campus, where there is good

Figure 5. General view of Hasankeyf and the river Tigris.

security (Figure 4). Some of the authors did those site inspections four times during the last two years. The last one was during August 1998. On 11th of August we were in BATMAN. The weather was very bright as all along the eclipse line on that day.

One more point we would like to mention. If you drive 30 km to the east, there is a really exciting and very ancient place just on the line of totality. HASANKEYF (Figure 5) is situated in the Mesopotamia Region, which is the site of one of the oldest settlements in the world. The river Tigris passes through it. Soon a dam will be built on the river Tigris and this historical place will be covered by the dam lake forever. So this may be the last chance to visit that area, and you may observe the totality among the ruins of many cultures.

"From the dismal skies of the British Isles, through the sunbaked Middle East, to the monsoons of India, combining weather prospects and 'visitor friendliness' put Turkey at the top of eclipse-watching locales for August 1999" (Espenak, 1998).

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References

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