

The second significant land use type which has an extension about 76.5 ha, is grazing. The lands subjected to herd grazing consist of slopes which are unsuitable for cultivation.

Dry streambeds border the fields and some privately owned parcels. Overgrazing is the prevalent activity on these lands which are located almost in the probable zone (42.2 ha.). In the buffer zone the amount of the grazed land is about 34.3 ha (Figure 13-6).

Existing waste dumping site occupies an area of 22 ha. This comprises a portion of 3.1 % of the total area.

### Figure 13-6: Excavated Land in the Proposed Site and Surrounding Area Subjected to Dense Grazing

Three settlements are located in the vicinity of proposed site. These are Carkypare and Cinarli villages and Sofulu town. Although three settlement centres are located out of the probable zone, out skirts which are recently developed (23.3 ha) are included in this zone. This comprises a portion of 33 % in the total area. 6.2 hectares is located in the probable zone and 17.1 ha is in the buffer zone.

As mentioned settlements are integrated with cultivated land, they have rural character. This existing structure formed by cultivation and animal husbandry is expected to be maintained in the near future due to low population increase.

But the fact that the settlements around the proposed site are included in the north-eastern upper sector of Adana urban development project may result an increase in construction intensity.

Close location of Cukurova University and integrated public transportation service under construction may be effective on this phenomena.

Activities for gravel supply have been effective in the vicinity of proposed site. The excavated land is 21.1 ha. 17.2 ha is located in the probable zone and 3.9 ha in the buffer zone. Excavation work has been realised in various localities which have no connection with each other. Thus, the excavated patches are distributed in and around the proposed site. No reclamation work has been performed for these degraded sites. On the base of excavation techniques, these sites differ in terms of width and depth of excavation. In case of continuing the excavation for gravel supply a great destruction which will need long term land reclamation work is expected in the site (Figure 13-7).

Artificial ponds and other freshwater bodies occupy an area of 7.8 ha. This is 1.1 % of the total area; 6.2 ha of this area is in the probable zone and 1.6 ha in the buffer zone.

The pond located in the north-western part of the site has originated from the surface water collected in the excavated area. Leaching water flowing in the upper layers of the soil profile is also effective in forming this water body.

During the dry season, water level decreases in the basin. It was observed that the local people use this water body only for their herds. Second pond has about 2 hectares of water surface located in the southern end of the proposed site. The water originating from the leachate of waste disposal is heavily polluted (Figure 13-8).

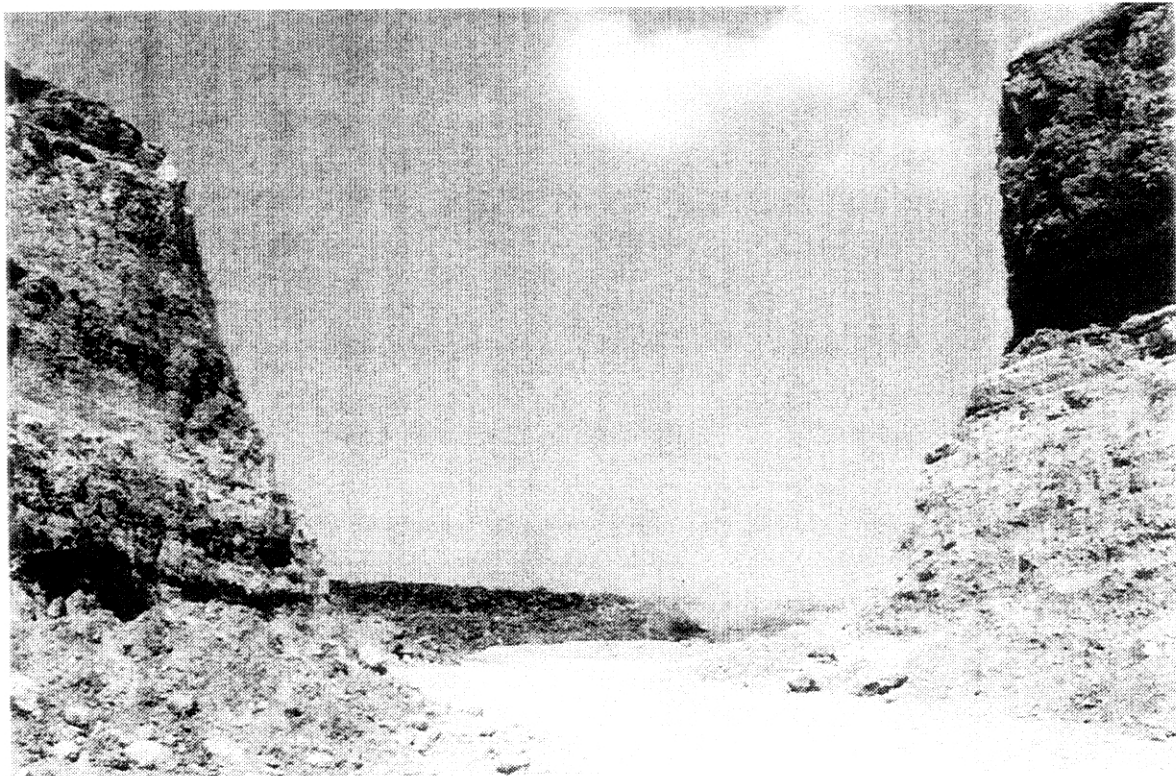


Figure 13-7: Excavated Lands and Waste Dumping in the Proposed Site



Figure 13-8: The Pond formed by Leachate from the Dumping Site

#### **13.4.1.2 Meteorological Condition**

The study area is situated in a region with a typical Mediterranean climate. The climatic variables such as, temperature, precipitation and relative humidity of the area are interpreted in Figure 13-9 to Figure 13-17 using long term records.

The detailed information about the wind movements in the area is illustrated as wind roses in Figure 13-18.

The following results have been obtained based on the discussion of the climatic graphics and maps.

Mean annual temperature in the study area is 17.8 - 18.0 °C. The difference in mean temperatures between winter and summer is fairly small as a typical character of the Mediterranean climate in the region. Monthly average of maximum temperatures in August is 35 °C, while average minimum temperature is about 4 °C in January.

Monthly maximum average temperatures are over 25°C especially in the summer months. Long period of high temperature values around the year may be considered to be an effective factor to speed up the decomposition of the organic compounds in the open areas.

The average relative humidity in the region is 66-68%. This percentage is about 68-70% during winter, 65-67% during summer. High evaporation from Seyhan Dam Lake in summer is the main reason for close humidity values in summer and winter. Together with the relative humidity to have high temperature is a fact to decompose and decay inorganic disposal with the organic ones. Also this couple may lead to variety and overwhelming growth of micro and macrofauna of the region.

Yearly average of rain fall in the region is about 650 - 700 mm. Heavy rains beginning at the second half of November continues till the mid-April. In December, January and February, rain level reaches to its maximum. Arid period appears for 4 months, between June and September.

Dominant wind directions are north and northeast in winter and south and southwest in summer. Average velocity of the North winds is 2.0-2.5 m/sec, whereas for summer winds, it is in the range of 3.0-3.5 m/sec. The number of stormy days are about 4 to 5 days per year. Heavy storms occur rarely.

The proposed area is located at the north-east of the urban areas of Adana. The dominant wind direction is north-east to south-west.

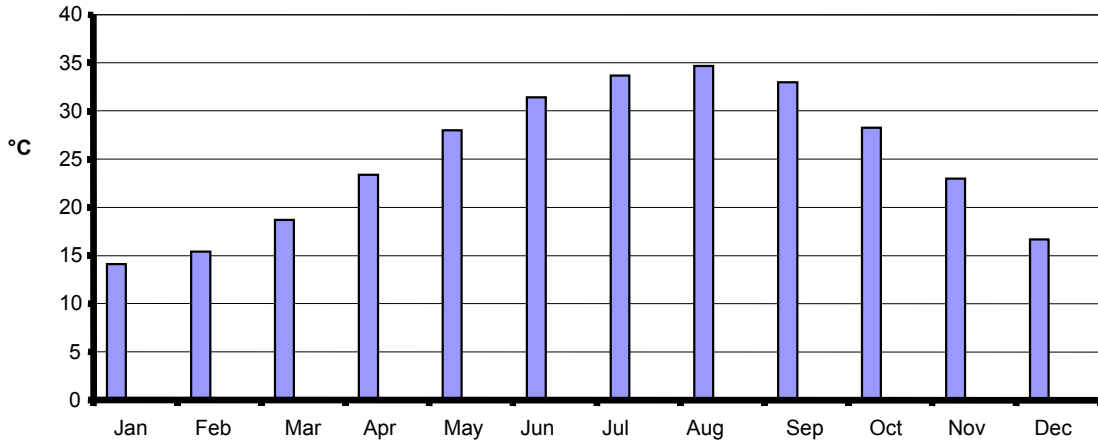


Figure 13-9: Monthly Maximum Mean Temperatures (State Meteorological Office, 1998)

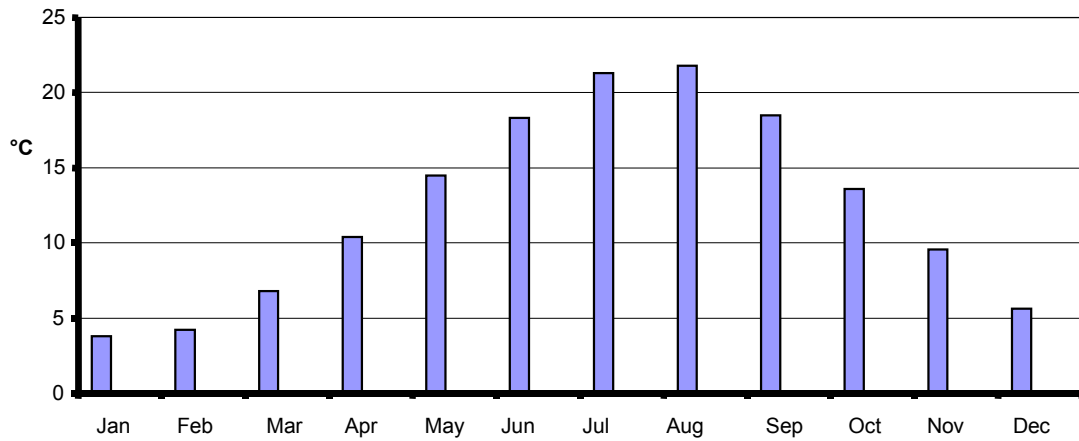


Figure 13-10: Monthly Minimum Average Temperatures (SMO, 1998)

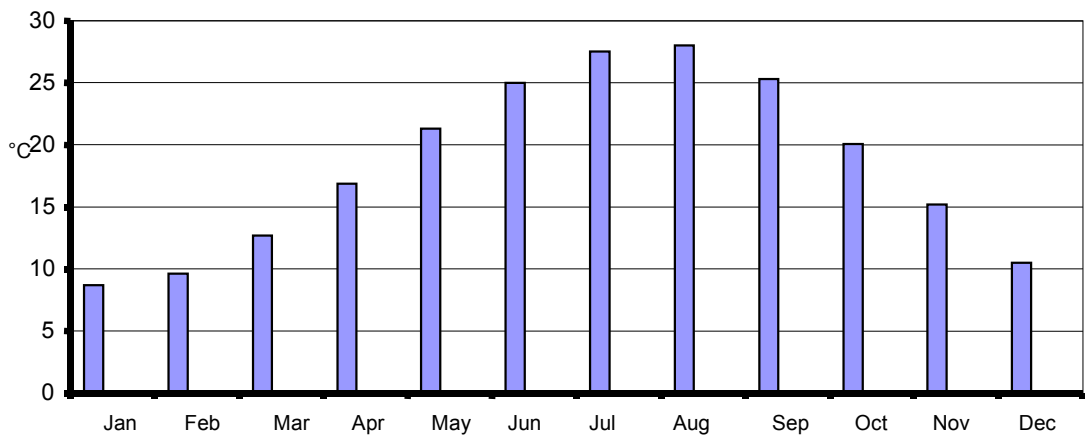


Figure 13-11: Monthly Average Temperatures (SMO, 1998)

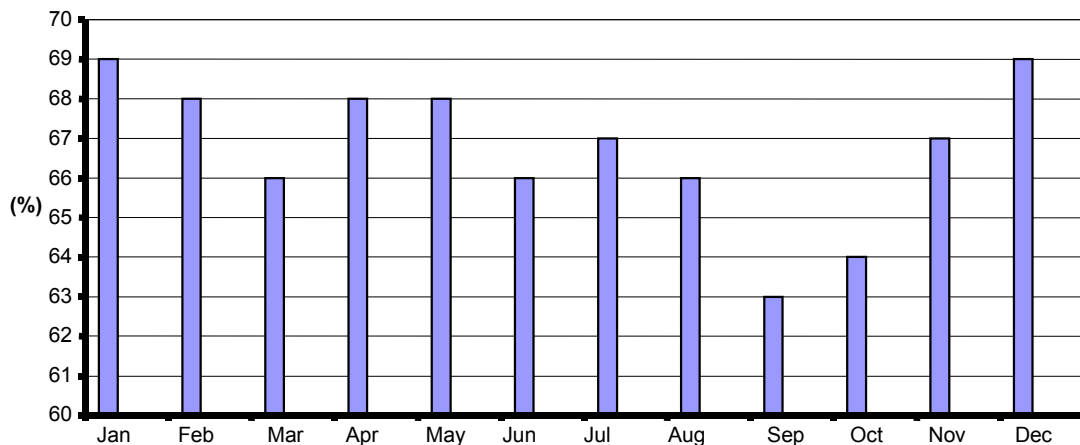


Figure 13-12: Monthly Relative Humidity (SMO,1998)

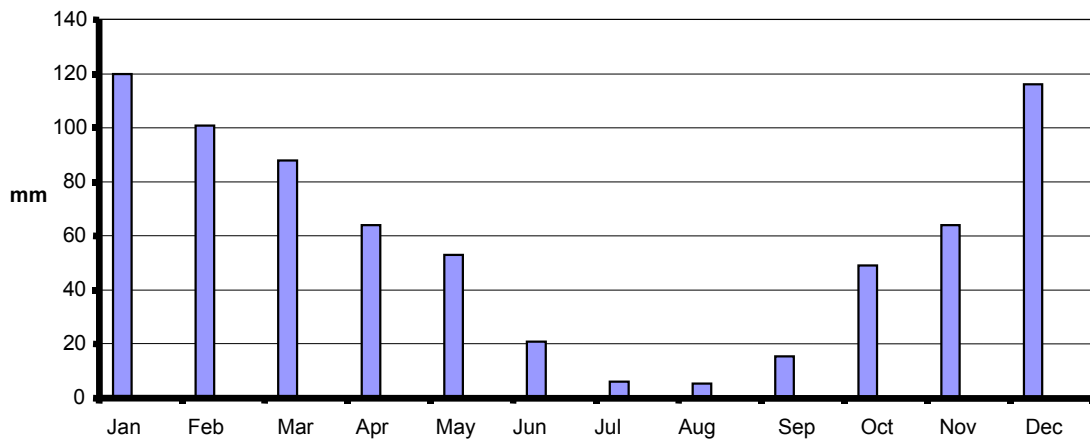


Figure 13-13: Monthly Mean Precipitation (S.M.O., 1998)

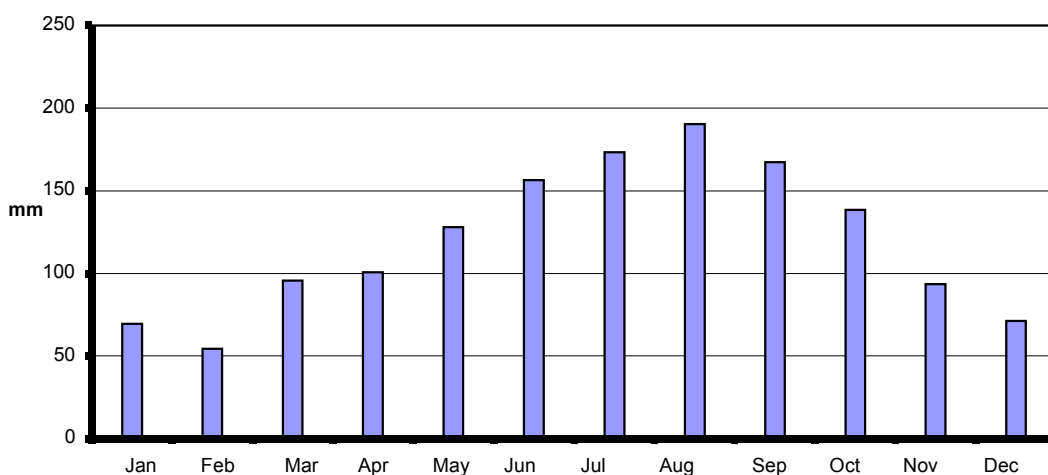


Figure 13-14: Mean Evaporation ( S.M.O.1998)

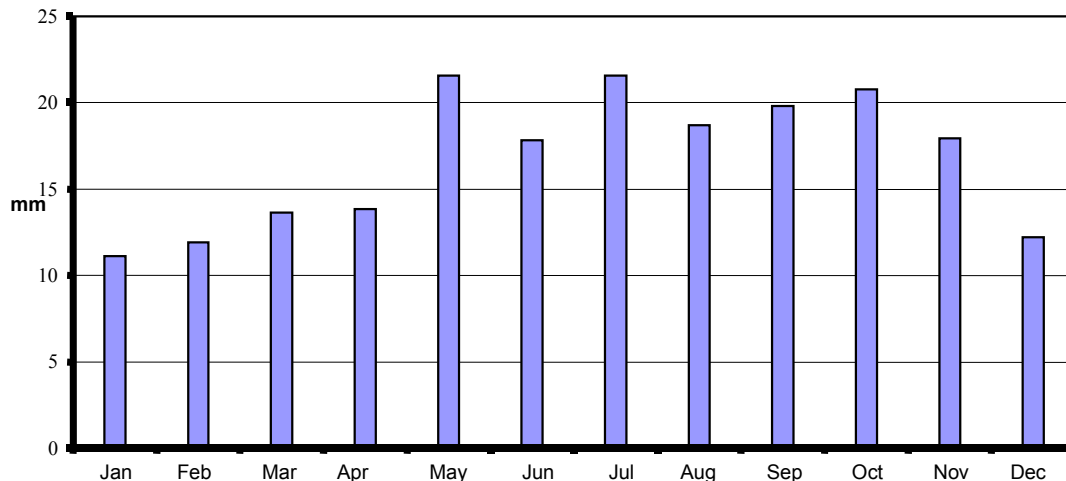


Figure 13-15: Maximum Daily Evaporation (S.M.O., 1998)

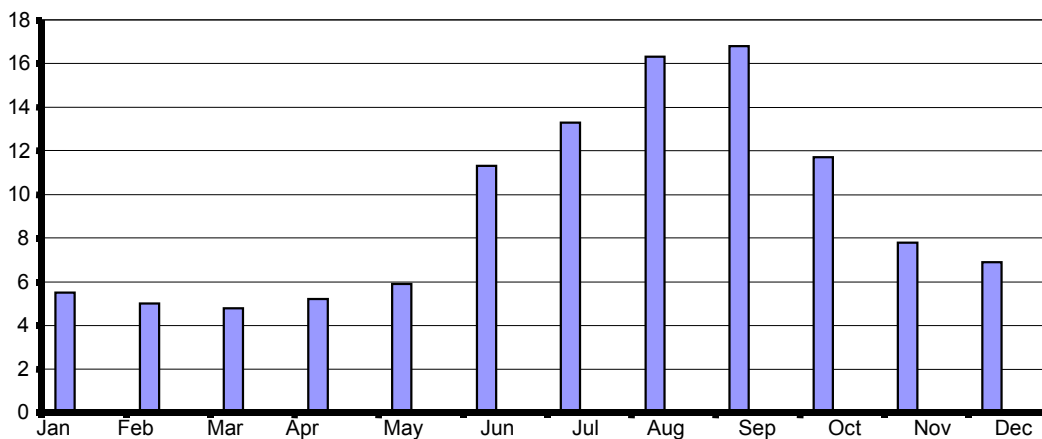


Figure 13-16: Clear Days Monthly (S.M.O., 1998)

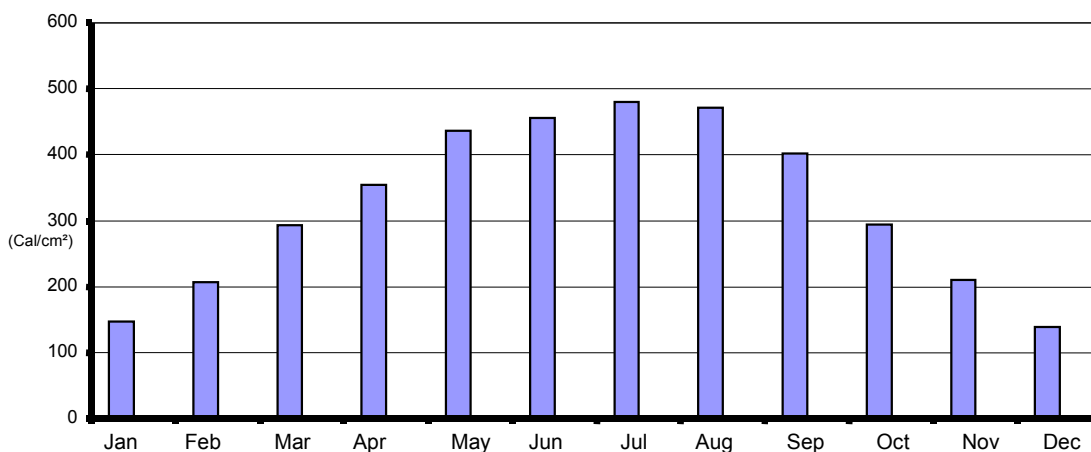


Figure 13-17: Monthly Average Sun Light Intensity (S.M.O., 1998)

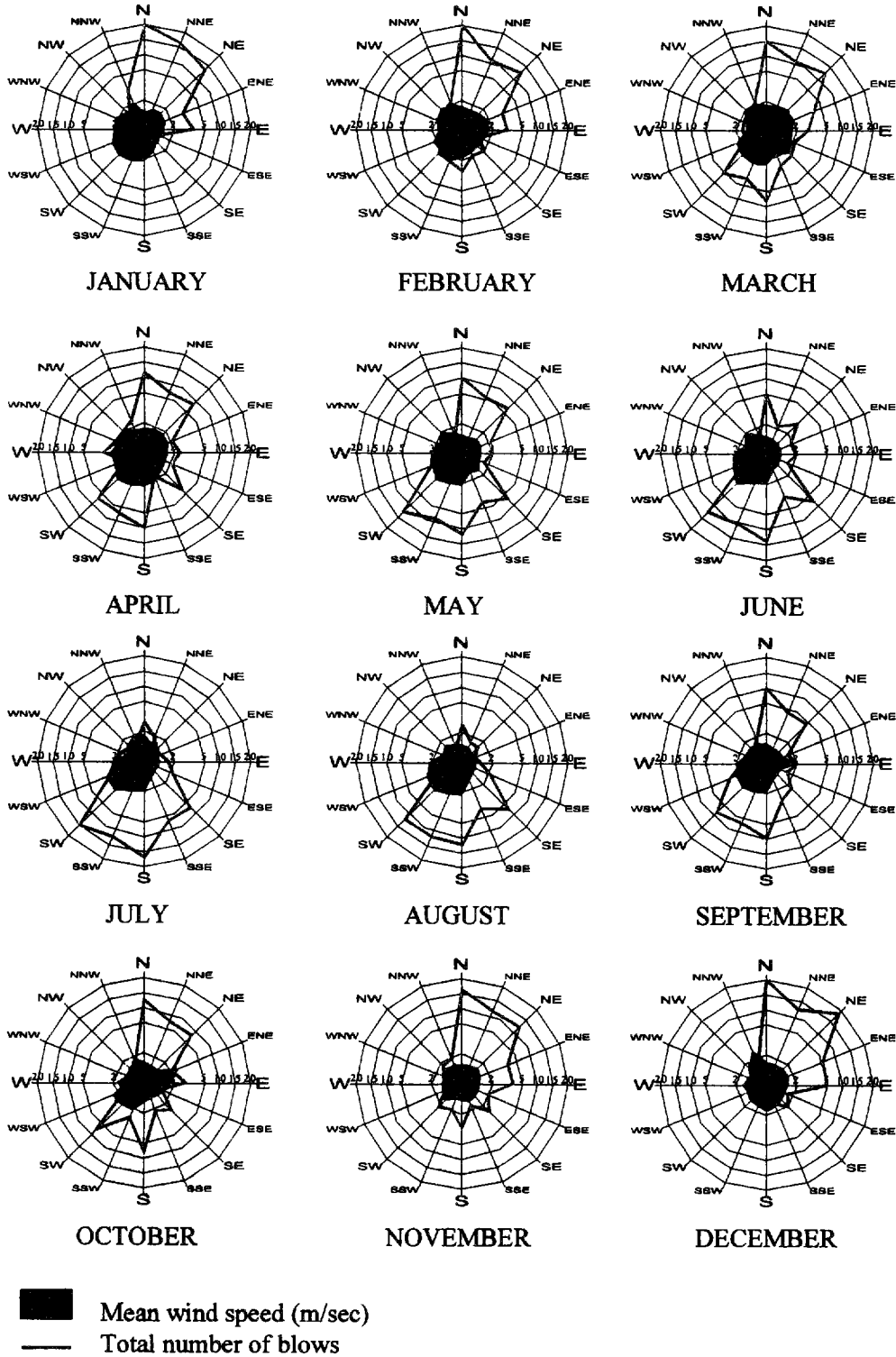


Figure 13-18: Wind Roses of Adana (S.M.I., 1998)