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NOTE ON THE TEMPERATURE DROP AT KAMPUNG SUANG SUKA BEACH, KUDAT SABAH DURING THE TOTAL SOLAR ECLIPSE

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Total solar eclipse occured in the north of Sabah on 24 October 1995. The longest solar eclipses were in the order of 7 minutes (Lutgens and Tarbuck 1995) and in the recent eclipse, the duration was 134 seconds. Total solar eclipses were only observable within a band of not more than 300 km (Kutner 1987). On 24 October 1995, the total solar eclipse in the north of Sabah covered a band of about 100 km. As the moon blocked the sun, the amount of solar radiation received on the earth surface decreased, giving a gradual drop of temperature. Other factors, such as cloud cover, also play important roles in temperature variations.

The measurement of temperature drop during the total eclipse was carried out at Kampung Suang Suka beach, Kudat, Sabah (Figure 1) from 1100 to 1422 hrs. The village, located on the west coast of Kudat Peninsula, is a fishing village with a population of about 500 people. Four thermometres were held on retort stands, 0.4m above ground level, were arranged 1.5m apart. Readings were taken at even intervals (2 to 10 minutes).

Cloud cover during the first contact contributed to the drop of about 0.5°C, which remained constant for 20 minutes (Figure 2). The temperature then began to drop constantly from 30.5±0.5°C at 1126 hrs and continued dropping at the rate of 0.04°C per minute to the lowest temperature of 27.12±0.41°C at 1244 hrs. There was a short period of constant temperature of 27.38±0.28°C for 6 minutes from 1246 to 1252 hrs. Later, the temperature started to rise, slowly at first, and later climbed almost constantly at the rate of 0.06°C per minute. The temperature reached the initial reading at 1348 hrs; 35 minutes before the fourth contact. By excluding the possible effect of the cloud cover during the first contact, the total temperature drop was 3.38°C. During the last thirty minutes, the last phase of the eclipse had little effect on the ambient temperature at Kampung Suang Suka beach.

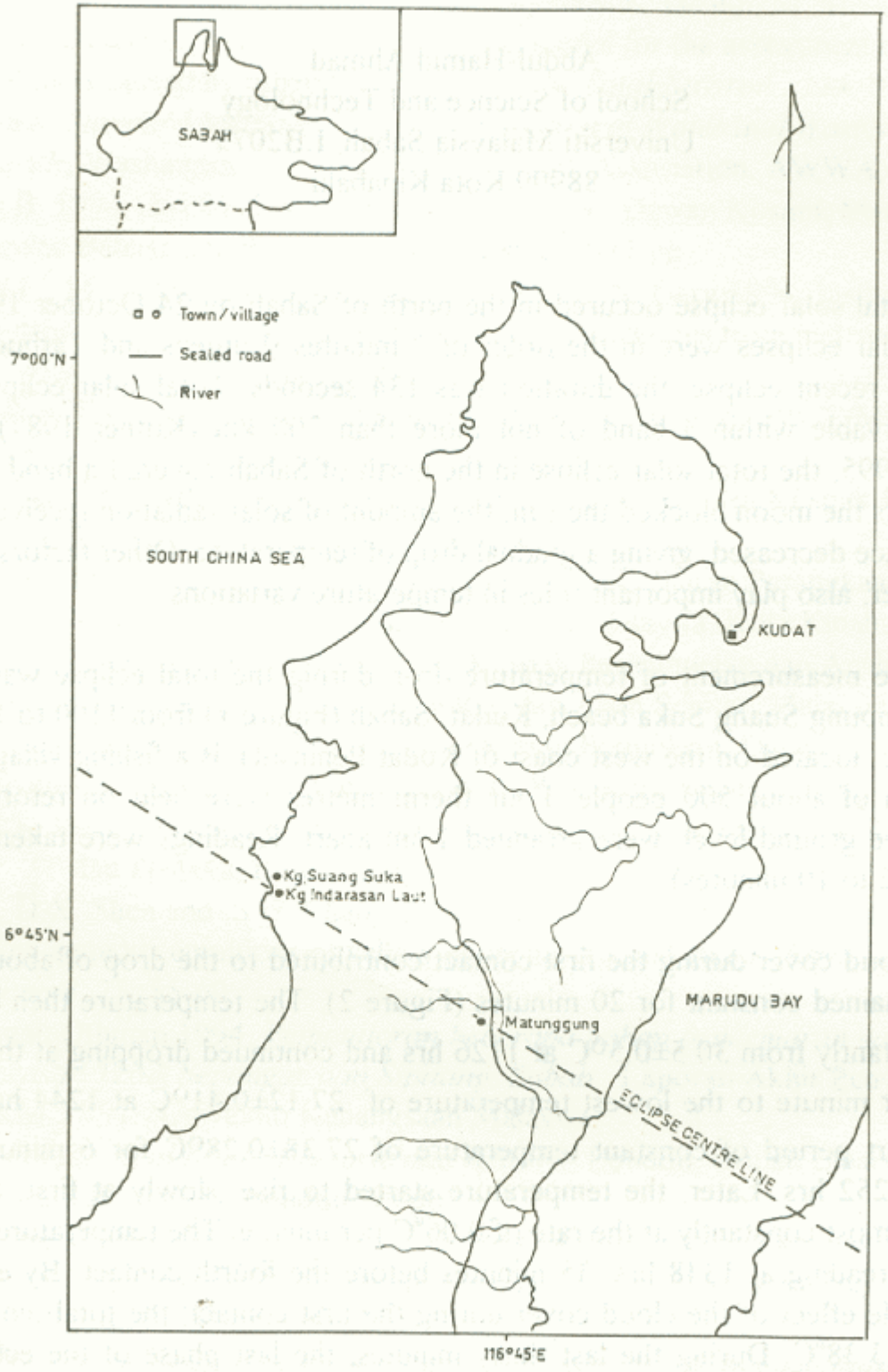

Figure 1. Map showing the location of Kampung Suang Suka beach.

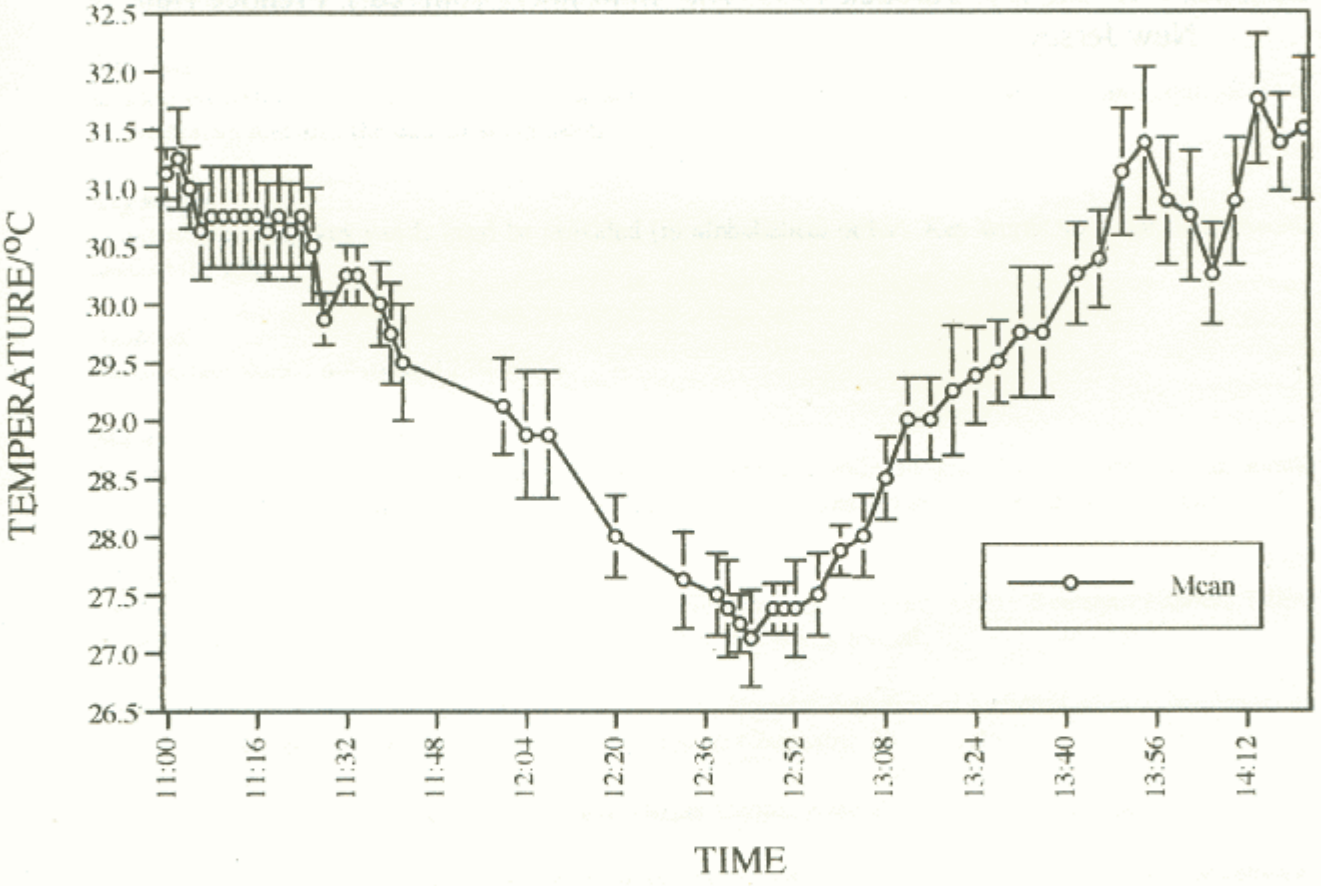

Figure 2. Temperature drop at Kampung Suang Suka beach during the total solar eclipse.

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