

Temporal Analysis of the Keetch-Byram Drought Index in Malaysia: Implications for Forest Fire Management

ABSTRACT

In this study, daily KBDI values were calculated and temporal trends were analyzed at four selected stations; Kota Bharu, Kuching, Sandakan and Subang in Malaysia for the period 1990-1995 using a KBDI software. The highest monthly mean KBDI values were 1550 in February, 1120 in July, 1355 in April, 1370 in July and the lowest were 380 in November, 240 in January, 380 in December, 680 in December at Kota Bharu, Kuching, Sandakan and Subang, respectively. In the frequency analysis, Kota Bharu had 773 Moderate Fire Danger (MFD) days and 684 Low Fire Danger (LFD) days. Kuching had 1497 LFD days and 120 High Fire Danger (HFD) days while Sandakan had 1056 LFD days and 424 HFD days. Subang had 926 MFD days and 366 HFD days. In terms of forest fire management perspectives, the Kota Bharu station faces higher risk in January compared to the other stations in the same month. On the other hand, areas within the Kuching station faces the lowest risk of fire in January compared to the other stations in the same months.

Keyword: Forest fire, KBDI, Fire danger index, drought, fire risk