

Water quality and aquatic insects study at the Lower Kinabatangan river catchment, Sabah: in response to weak La Niña event

ABSTRACT

A study on water quality and aquatic insects has been conducted at the Lower Kinabatangan River Catchment, Sabah, Malaysia. The quality of water surface and aquatic insects' composition were studied in streams near to oil palm plantation (OP), secondary forest (SF) and oxbow lake (OB). The study also aims to identify the seasonal variation in the aquatic insects' composition during the weak La Niña event. A total of 135 water samples and 1678 aquatic insect individuals (four orders and 14 families) were collected during fieldwork campaign that spanned over the inter-monsoonal period, wet and dry seasons between October 2004 and June 2005. OP has the highest abundance of aquatic insects particularly during the dry season. Biological indices showed that all stations were in moderate water category. The water quality index (WQI) was calculated and indicated that the quality of the river categorised into Class II. Discriminant analysis (DA) was employed to classify the independent variables into mutually-exclusive groups. Suspended sediment (SS) and chemical oxygen demand (COD) were high during the wet season. Suspended sediment was high in oxbow lake and could be a strong reason behind low abundance of aquatic insects. Precipitation anomalies were found to affect seasonal variations of water quality and aquatic insects at the Lower Kinabatangan River.