

Fig. 1 Hydrographic parameters of Palk Bay and Gulf of Mannar (July 2002-June 2003)

Dissolved oxygen : In an earlier study, Jayaraman (1954) observed greater variation in the oxygen content in the Palk Bay than in Gulf of Mannar. The dissolved oxygen value varied between 3-5ml/l for Palk Bay during May 1951 to April 1953. During April 2003, the value for Palk Bay was 2.96ml/l. An exceptional increase was observed during June (Fig.1).

Gross and Net Primary Production : In Palk Bay, the Net Primary Productivity (NPP) and Gross Primary Productivity (GPP) were higher during July-September 2002 compared to April -June in Gulf of Mannar. In the present study the average GPP for Palk Bay was 0.67mgC/l/day and for Gulf of Mannar 0.68mgC/l/day. It was observed that reduced light intensity due to clouds has affected the primary productivity during October, November, December 2002 and January 2003.

Plankton biomass : The volume of plankton biomass determined on a monthly basis, ranged between 1- 4.8ml for Palk Bay and 1-5.2ml for Gulf of Mannar. Girijavallaban *et al.* (1982) observed that the average values of zooplankton production in Mandapam waters showed a declining trend from 1979 to 1982. In those three years, the values were 18cc, 19cc and 5cc respectively for 10 minutes surface haul.

Meteorological observations : The maximum rainfall was in October (382mm), which occurred at a stretch of

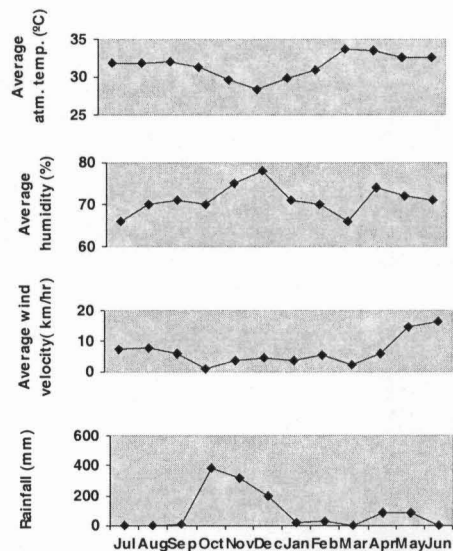


Fig. 2 The monthly rainfall, average wind velocity, humidity and atmospheric temperature from July 02-June 03

10 days. The rainfall during September, November and December accounted for 81% (909.7mm) of the total annual rainfall in the region during 2002. The larger amount of rainfall leads to more drainage from the catchment area, which would significantly influence the water quality of the near shore areas. The total annual rainfall for the year 1978-1979 was 1235mm with most of it falling during northeast monsoon months (James and Najmuddin, 1986). In the present study the humidity observed was highest (78%) in December and lowest (66%) in July. Humidity influences the evaporation rate, which in turn can affect the salinity.

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