PRELIMINARY RESULTS OF THE SOUTH CHINA SEA MONSOON EXPERIMENT SOUNDING NETWORK

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During the May-June 1998 South China Sea Monsoon Experiment (SCSMEX), a sounding network was established in the South China Sea (SCS) and surrounding region to investigate the onset and development of the East Asian monsoon. Six-hourly soundings were obtained during two Intensive Observing Periods (IOPs) (5-25 May and 5-25 June) from two ships, several islands and coastal stations in the SCS. Most of the sounding data were transmitted onto the Global Telecommunications System (GTS). These data were also ingested and processed in realtime by CSU staff at the Hong Kong University of Science and Technology. Gridded sounding analysis products were prepared in realtime and made available to the SCSMEX Operations Center in Guangzhou.

Overall, the SCSMEX sounding operations was a success. The monsoon onset was well-documented by the network. It consisted of several prominent events: the development of a tropical cyclone near Sri Lanka around 13 May marking the beginning of strong southwesterlies over the Bay of Bengal, the strengthening of southwesterlies accompanying the onset over the northern SCS around 17 May, the reversal of the low-level flow in the southern SCS from easterly to westerly around 20 May marking the onset there, and the occurrence of a strong tropical cyclone over the Arabian Sea around 8 June.

Monsoon indices indicate that the onset fairly well coincided in time with a reversal in the upper-tropospheric temperature gradient between the Tibetan Plateau and the equator. Prominent two-week oscillations in this gradient were observed prior to the onset. As the monsoon shifted northward, the upper-level anticyclone shifted from the southern SCS along the IndoChina to the Tibetan Plateau. Details of the evolution of the onset will be presented at the conference.

Key words: monsoon, sounding network, SCSMEX