
MR02-K06 Leg2 Cruise Summary



TRITON buoy deployment:	8 sites
TRITON buoy recovery:	7 sites
TRITON buoy visit:	1 site
CTD(Salinity, Temperature, Depth):	10 sites
XCTD (Salinity, Temperature, Depth):	30 times down to 1000m
Surface meteorology:	continuous
ADCP measurements:	continuous
Surface temperature, salinity measurements by intake method:	continuous

Other specially designed observations have been carried out successfully.

Observed oceanic and atmospheric conditions:

This MR02-K06-Leg-2 cruise was carried out under the mature stage of the 2002 El Nino. The data from TAO/TRITON buoy array indicates that since December 2001 the strong westerly wind burst (WWB) events continuously occurred in the western Pacific, and after May 2002, the Sea Surface temperature (SST) in the central and eastern pacific increased. The SST fields in November- December 2002 indicate the mature stage of El Nino with high SST anomaly more than 3 degree-C. The TRITON buoy data will provide the precise information on the 2002 El Nino with the TAO buoy data.

During this cruise, the sea surface temperature (SST) along 156E, the SST was higher than 29 degree-C, and the temperature and salinity vertical section along 156E showed no indication of equatorial upwelling. The depth of thermocline is shallower (50 meters) than normal, indicating the loss of heat storage resulted from the eastward displacement of warm water pool. The surface current measured by shipboard ADCP indicated the weak eastward current from 2N to 2S along 156E, and the surface wind observed on the R/V Mirai indicated the weak westerly wind near the Equator. Such conditions were associated with the El Nino. Since January 6th 2003, due to the sever weather condition more than 3 meters wave height and more than 12m/s wind speed, the TRITON buoy at 5N156E was not be able to recover. This sever weather was caused by the enhancement of the atmospheric convection east of 160E generated by the eastward movement of warm water pool located at the same area. The convection continued for more than 1 week since January 6, the maintenance works of TRITON buoys (recovery of the old 5N156E buoy, deployment of the new 8N156E buoy and recovery of the old 8N156E buoy) were unable to finish.