Registering Climatic Variability

To increase our understanding of climatic variability it is vital to be able to measure changes in nature. One way of doing this is by measuring sea temperature, current speed and direction over time. Aanderaa Instruments in Norway has just delivered thirty Recording Current Meter RCM 11s (a Doppler Current Meter) for long-term ocean observation experiments. The aim is to study the worldâ€™s ocean circulation and climatic variability. The instruments will be placed in four key areas of ocean circulation in the world:

- The Canary Basin
- The Irminger Sea, Labrador Sea
- The Mozambique Channel
- East Indonesia

During the next five years the thirty RCMs will measure sea temperature, current direction and current speed every fifteenth minute, day and night. After 1Â½ years the instruments will be raised and information from their Data Storage Units collected before returning the instruments to their seabed moorings. This project is called Long-term Ocean Climate Observations (LOCO). The instruments are well suited for deep-sea operation and will be anchored from 1,500 down to 5,000 metres below sea level. Three or four instruments will be installed on each mooring line, with glass floats in between. In this way the current speed, current direction and temperature are measured in several layers in the ocean. The Recording Current Meters can have other sensors than the three sensors chosen here. Since the Dutch institute wanted to register information every 15th minute and store the information as long as 1Â½ years, there are certain limits for how much information the data storage unit and the battery can handle.