

	Aandaraa RCM9	-2		-200
Wind Velocity	Anemometer	+4		+5
Air Temperature (°C)	Thermistor	+3		+5
Relative Humidity	Hygrometer?			
Visibility	<b>Aandaraa 3544</b>	+32		
$\Delta pCO_2$	<b>Custom (MBARI)</b>			+5 (MBARI, YSI, LODCY, Tufts & SAMI)

\* See Hayes *et al.* 1991 for a description of the TAO ATLAS core measurements and instrumentation.

**Table 3.4:** Radiometric, bio-optical and ancillary measurements and instruments on selected examples of drifting bio-optical buoys used in oceanographic experiments.

Project (Institution)		JGOFS EQPAC (Dalhousie)	SOFeX (MBARI)	SOFeX (OSU)
Variable	Sensor	z (m)	z (m)	z (m)
$E_s(\lambda)$	<b>ED-100</b> (490 NM)	+1	+0.5	+0.25
$L_u(z, \lambda)$	OCR100	-0.5	-2.5	-0.2
Chl <i>a</i> Fluorescence	HS2		-2.5	
$b_b(z, \lambda)$	HS2		-2.5	
Water Temp. (°C) & Conductivity	<b>SBE/CT</b>	-.05	-2.5	-0.2 (SST only)
Dissolved O <sub>2</sub>	SBE		-2.5	
Nitrate	ISUS (MBARI)		-2.5	
CO <sub>2</sub>	Licor GasHound (LI-800)		+0.5 and -2.5	
Barometric pressure		+1		
Air Temp (°C)		+1		

The STOR-X (used on PIRATA) is a commercial data acquisition system designed for data storage and telemetry of up to five serial (RS-232) inputs. The system operates a preprogrammed user schedule, switches sensor power, acquires data from the various sensors, and stores the time tagged data onto a solid-state flash disk. The system can also be programmed to process and transmit data on ARGOS (as in PIRATA), cellular phone systems and broadband telemetry systems such as Freewave.

The data acquisition system used on MEPS is DACNet, which is a complete mooring management system capable of multinode operation. DACNet typically consists of three main components, a PC104 computer system on each buoy node, a wireless telemetry system, and a shore based central server. The MEPS configuration of DACNet has three buoy nodes located within 6km of a shore station. Each buoy node has 12 high-speed (up to 115kbps) serial (RS-232) inputs, some of which were connected to serial instrument networks. In the initial deployment MEPS had 18 individual sensors connected to each node collecting approximately 3MB of data in 20 minutes of data collection each hour. This data was stored on a 1GB microdrive in each buoy and transmitted via a wireless telemetry system at up to 11Mbps back to the central server. Each buoy has four 85W solar panels charging a 250Ah battery pack which is sufficient to serve a peak load of 40W for 20 minutes each hour, 24 hours a day. Guest ports on each buoy allow for the easy addition of new sensors and the ability to allow visiting scientists to connect sensors into the system, while device drivers are remotely loaded via the central server over the internet. User access to the system for configuration control and maintenance is via web browser using secure HTTP. Data