



**THE MFRDMD/SEAFDEC FIRST REGIONAL WORKSHOP ON  
REMOTE SENSING OF PHYTOPLANKTON**

**Kuala Terengganu, Malaysia, 17-18 November, 1998**

SEAFDEC/MFRDMD/WS/98/WP. 7

**GENERAL INFORMATION**

**REMOTE SENSING UNIT OF MFRDMD**

By:

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## **Remote Sensing Unit of MFRDMD**

- Formalized in 1993, when a Japanese remote sensing expert started the activities of the unit.
- NOAA AVHRR ground receiving system was installed (HRPT system).
- Organized by 3 staffs.

## **Equipment**

### **Installation (1994)**

- NOAA AVHRR HRPT Receiving system, developed by Dundee Satellite System, United Kingdom.
- Image processing system, SEASCAN, developed by SeaScan Inc. Canada.
- The system is MS-DOS based.
- Data reception :-
  - MS-DOS 6.2
  - CPU 486DX2, 16MB RAM, 2GB HDD
  - 21 inches SVGA monitor.
  - Software : Satellite Tracking System Ver 9, developed by DSS.
- Data storage :- EXABYTE Tape 8”.
- Data processing : SeaScan STAR.
- Image output : SEIKO color printer

### **Expansion (1997 and 1998)**

#### Image processing system

- New Pentium-PRO 200 PC for Image Processing.
- Windows 95
- 64MB RAM, 4MB VRAM, 2GB HDD
- Multimedia, internet ready
- Connected to LAN
- Accessories
- One unit of EXABYTE Tape Drive (8”)
- One unit SONY MO Drive (2.6GB)
- One unit HP CD-Writer
- Software: PCI EASI/PACE Version 6.2
- EPSON STYLUS Colour Printer

## **Maintenance**

- Since November 1997, the maintenance works are done by MFRDMD, with minimum supervision from DSS.

## **Data**

- NOAA AVHRR data since 1994.
- The data are stored in EXATAPE 8mm, 112m.
- One tape occupies about 20 AVHRR data.
- Each data is about 133 MB in size.

## **Research**

- Fish forecasting (joint venture with Universiti Putra Malaysia)
- Seagrass and ocean colour study (joint venture. with Universiti Teknologi Malaysia)
- Etc.

## **Future development**

### **Upgrading of HRPT system to also receive SeaWiFS data**

- The proposal was sent to NASA in July 1998.
- Accepted and verified on 1 September 1998.
- MFRDMD is waiting for permission from Malaysian government.
- Dundee Satellite System has been contacted for upgrading.
- Total cost will be RM100,000.00 (~USD27,000.00)
- The upgrading will include these items :-
  - Extra channel for HRPT receiver (1702.5 MHz)
  - Decryption box (given by OSC)
  - New PC for SeaWiFS data receiving and handling software.
  - SEADAS data processing software
  - SUN Workstation for SEADAS.
  - Networking for data transfer.
  - Internet ready

### **SeaWiFS validation system**

- The SeaWiFS Profiling Multichannel Radiometer (SPMR) will be purchased for seatruthing works.

## **Training**

- Once the upgrading is completed, MFRDMD will conduct training on “SeaWiFS data processing and research methodology” in 2000, for young scientists in the region.