

# **CENTER FOR REMOTE SENSING AND OCEAN SCIENCES (CReSOS)**

## **I. BACKGROUND**

The vast coastlines of Indonesia and the rich bio-diversity of the coastal waters provide a huge resource base. The Indonesian through flow is one of the most significant oceanic processes, which exerts control over the global climate in general, and the tropical climate in particular. Upwelling of Sumatra and Java promotes the productivity of the waters in this region and adds to the fishing stocks. Ocean remote sensing is an efficient tool for exploration of the marine resources and monitoring the environment, and thereby provides a good opportunity for the oceanographic community from Indonesia to share the knowledge and use it for the development of the nation.

Bali Island located in the middle part of Indonesia is one of the most popular tourist destinations in the world. It has a pleasant environment; unique culture and traditions and the natural beauty of landscapes, mountainous areas, lakes and coastal areas. In order to increase the productivity, conservation and maintain sustainability of these natural resources, the development of a remote sensing centre is needed. Through this centre we would like to enhance the image of Bali not only as a tourist destination, but also for the promotion of science and technology.

## **II. MISSION**

The mission of Udayana University's Center for Remote Sensing and Ocean Sciences (CReSOS) will be directed to the conduction of high quality research through training, graduate programs and dissemination of information related to the application of remote sensing technology. The CReSOS of Udayana University can help to train the decision-makers involved in coastal management, monitoring and exploration of the marine resources, agriculture development, tourism and environmental conservation.

## **III. OBJECTIVE**

1. To initiate training and education for human resources development and to enhance the image of Bali island as tourist destination, science and technology promotion.
2. To initiate regional and international collaboration among scientists in the field of remote sensing.
3. To invite the researchers from all over the world to do research related to application of remote sensing.
4. Host seminars, workshops and conferences.

## **IV. ACTIVITIES**

- 1) Training service
  - a. To provide a better environment and facilities suitable for the training of remote sensing manpower in order to increase their capability and research, instruments operation, data analysis, interpretation of satellite image, dissemination of information related to the environmental issues.
  - b. To enhance and strengthen graduate programs in the field of environmental sciences at Udayana University and in Indonesia.
- 2) Research activity  
The topics will include studies on:
  - a. Bio-diversity of coastal waters in Bali and neighboring islands.
  - b. Monitoring and exploration of the marine resources and environment.
  - c. Empowering the society in coastal areas to increase their productivity.
  - d. To attain better understanding of the sea-dynamic, land and atmospheric interaction.
  - e. Coastal zoning particularly in the region of Southeast Asia.

## **V. ORGANIZATION OF UDAYANA UNIVERSITY CReSOS/UNUD**

### **ADVISERS**

Dr. Takashi Moriyama (NASDA) ( Visiting Prof., UNUD)  
Dr. Mahdi Kartasasmita (Administrator/LAPAN)  
Prof. Dr. Wayan Wita (Rector/UNUD)

### **DIRECTORS**

Prof. Dr. Yasuhiro Sugimori (Prof. UNUD since April, 2004)  
Co-Director : Prof. Ir. Wayan Redi (Vice-Rector, Prof. Aryanta, Ph.D.)

### **SECRETARY**

Dr. Ir. Nyoman Arya

### **TREASURER**

Dr. Ir. I. Gede Mahardika.  
Dr. Jun Suwa

### **STAFF MEMBERS**

Visiting Prof. Dr. Masahisa Kubota (Tokai Uni.)  
Visiting Prof. Naoto Ebuchi (Hokkaido Uni.)  
Visiting Prof. Dr. Yasuhiro Senga (Tokai Uni.)  
Visiting Prof. Dr. Tasuku Tanaka (NASDA/EORC)  
Visiting Prof. Dr. Takashi Moriyama (NASDA)  
Visiting Prof. Dr. Ryutaro Tateishi (CEReS, ChibaUni.)  
Visiting Associate Prof. Dr. Jun Suwa (UNUD)  
Visiting Prof. Dr. Bonar P. Pasaribu  
Visiting Prof. Dr. R. Kaswadji  
Visiting Associate Prof. Dr. Djisman Manurung  
Visiting Associate Prof. Dr. I Nyoman Arnaya  
Visiting Associate Prof. Dr. I Wayan Nurjaya

## **VI. MARINE STUDY PROGRAM AT GRADUATE LEVEL (S2) WILL BE ESTABLISHED AT THE UNIVERSITY OF UDAYANA**

- Tentative schedule of student recruitment: March to June, 2003
- Expected student enrollments are from Eastern Universities and other institutions in Indonesia (total student number will be about 20 persons)
- Specializations in marine studies are oceanography, air-sea interactions, coastal estuaries dynamics, marine biology and fishery, satellite remote sensing and GIS, marine acoustics and instrumentations, marine optics, and signal processing.
- Academic staff members are from CReSOS/UNUD, IPB, LAPAN, NASDA, JAFIC, Chiba-U, Tokai-U., Kyoto-U., PORSEC association, etc.
- Research facilities are provided by CReSOS/UNUD and several research institutions in Bali area, as well as fishing boats owned by private fishing industries.