

SHORT COURSE:
REMOTE SENSING FUNDAMENTALS AND APPLICATIONS
(with a reference to marine & fisheries management)

I. BACKGROUND

The remote sensing training course has been designed by the authors for promoting remote sensing for the sustainable development of natural resources and environment in Vietnam. The course specifically is directed towards Professionals working in fisheries industry involved in the preparation and planning of spatial and non-spatial geo-information within their organizations. It aims to introduce Professionals the concepts and skills required to use remote sensing for systematic analysis of environment and natural resource problems. The emphasis is on the concepts and methods, rather than on comprehensive software training, enabling participants to apply the approach (e.g., to use, analyse and extract useful information from remote sensing data) to the specific conditions of their own office environment.

II. LEARNING METHODS

The course program will be conducted using the following methods: lectures & case studies (40%) in the morning, hands-on sessions / practical exercises (40%), discussions / group assignments and presentations (20%) in the afternoon.

III. CONTENTS & TENTATIVE SCHEDULE

The course is designed for 2 weeks (10 working days) with tentative programme as follows:

Date	Time	Contents / Activities
Day 1	8:30 – 11:30	<ul style="list-style-type: none">• <i>Opening ceremony</i>• Fundamentals of remote sensing
	13:30 – 16:30	<ul style="list-style-type: none">• Introduction to ENVI

Day 2	8:30 – 11:30	<ul style="list-style-type: none"> • Remote sensors and platforms for remote sensing • Data to be used in remote sensing
	13:30 – 16:30	<ul style="list-style-type: none"> • Image display, enhancement, calibration and transformation with ENVI
Day 3	8:30 – 11:30	<ul style="list-style-type: none"> • Image interpretation
	13:30 – 16:30	<ul style="list-style-type: none"> • Visual interpretation & map composition with ENVI
Day 4	8:30 – 11:30	<ul style="list-style-type: none"> • Digital image processing
	13:30 – 16:30	<ul style="list-style-type: none"> • Image georeferencing and registration with ENVI
Day 5	8:30 – 11:30	<ul style="list-style-type: none"> • Image classification
	13:30 – 16:30	<ul style="list-style-type: none"> • Image classification with ENVI
Day 6	8:30 – 11:30	<ul style="list-style-type: none"> • RS & GIS integration
	13:30 – 16:30	<ul style="list-style-type: none"> • Vector overlay and GIS analysis in ENVI • Data conversion from and to ENVI
Day 7	8:30 – 11:30	<ul style="list-style-type: none"> • Applications to natural resources monitoring and management with case studies
	13:30 – 16:30	<ul style="list-style-type: none"> • Selected advanced functions in ENVI • Discussions on possible mini-project topics
Day 8	8:30 – 11:30	<ul style="list-style-type: none"> • Applications to environment and disaster management with case studies
	13:30 – 16:30	<ul style="list-style-type: none"> • Group working on selected mini-project topics of RS applications with ENVI
Day 9	8:30 – 11:30	<ul style="list-style-type: none"> • Applications to range & coastal resources (aquaculture) with case studies
	13:30 – 16:30	<ul style="list-style-type: none"> • Group working on selected mini-project topics of RS applications with ENVI

Day 10	8:30 – 11:30	<ul style="list-style-type: none"> • Application of to oceanography and marine resources (fishery) with case studies
	13:30 – 16:30	<ul style="list-style-type: none"> • Group presentations & discussions • <i>Closing ceremony</i>

IV. INSTRUCTOR:

Serving as the course's main instructor is Dr. Tran Hung (of GeoViet Consulting Co. Ltd.), who has more than one decade of experience in conducting short term training program in Thailand, Laos, Japan and Vietnam and carrying out various research projects. Dr. Nguyen Ngoc Sinh and staffs from the Training Centre for Land Administration (Vietnam Research Institute of Land Administration) will contribute in hands-on session and some guest lecturers will be invited to present his/her own case studies.

V. COURSE MATERIALS AND SOFTWARES:

The course materials are prepared by Dr. Tran Hung and Dr. Nguyen Ngoc Sinh based on the latest up-to-date reference on the subject, the actual applications / case studies in Vietnam and surrounding countries as well as based on the instructor's own researches.

Sample RS data in Vietnam will be selected for practical hands-on sessions to ensure the real experiences of the participants. The materials will be provided at the beginning of each session.

The software used for hands-on sessions will be ENVI for image processing & ArcView for RS & GIS integration.