



International Oceanographic  
Data and Information Exchange



# IODE



## *IODE history & objectives*

*“The IODE system has been established to enhance marine research, exploration, and development by **facilitating the exchange of oceanographic data and information** between participating Member States.”*

(Manual on International Oceanographic Data Exchange, IOC M&G No. 9, rev. 1991)

- Established in 1960



## ***IODE data centres?***

- **The IODE System is a global network of Data Centres. There are 4 different types of data centres, each with their own responsibilities:**
  - **World Data Centre (Oceanography)**
  - **Responsible National Oceanographic Data Centre**
  - **National Oceanographic Data Centre**
    - **Designated National Agency**



## ***IODE structure***

### **MANAGEMENT**

- The IOC Committee on IODE (Chair & Vice-Chair)
- The IODE Officers
- The IODE National Coordinators
- IODE Regional Coordinators
- The IOC Secretariat

### **OPERATION**

- The Groups of Experts (GEMIM, GETADE, GEBIO,... )
- Steering Groups (SG-ResKit, SG-MEDI,...)
- Projects



## ***IODE-XVI***

The logo for the 16th session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XVI). It features the text 'IODE-XVI' in a large, bold, black, sans-serif font. The 'O' is stylized with a white circle and a vertical line through it. The text is set against a white background with a thin black border.

IOC Committee on International Oceanographic  
Data and Information Exchange, 16<sup>th</sup> Session



- Lisbon, 31 October – 8 November 2000
- 100 participants from 37 countries



## *Structure today*

- 1960-2000: centralized structure
  - DNA, NODC, RNODC, WDC
- 2001: 70 data centres
- Collection, processing, QC, archiving
- Major historical archive of ocean data and information



## ***IODE-XVI decision***

- New paradigm!
- New users!
- New data types! Bio&Chem, Rem.Sens.
- Internet!
- Scientific & observing programmes develop data management capabilities!
- IODE to move towards distributed and cooperative structure



## ***IODE Distributed Model***

- Science and Monitoring programmes have data management functions
- NODCs maintain current role
- NODCs to coordinate data and information management at national/regional level with Sci & Monit. Programmes
- NODCs to advise on standards and protocols



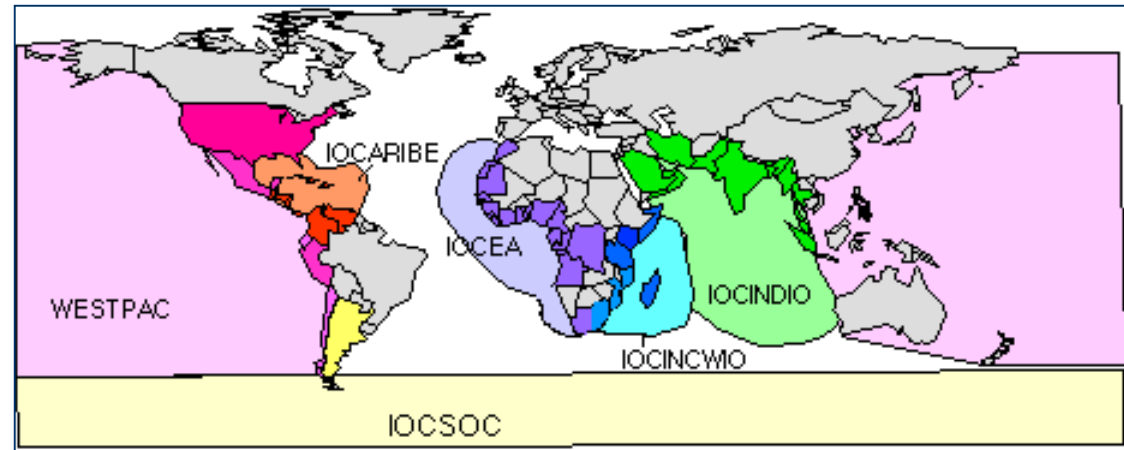


## *Linkages !*

- ✓ Steering Group to Establish, Maintain and Strengthen Cooperation between IODE and Science and Monitoring Programmes



## *IODE Regional Coordination*



- ✓ IODE-XV: IODE Regional Coordinators
- ✓ IODE-XVI: Increased Support for Regional Coordinator

## *JCOMM*

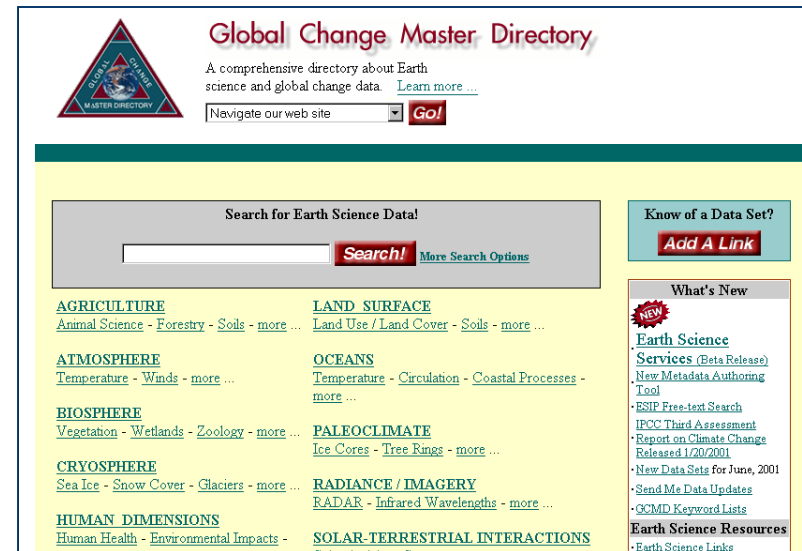
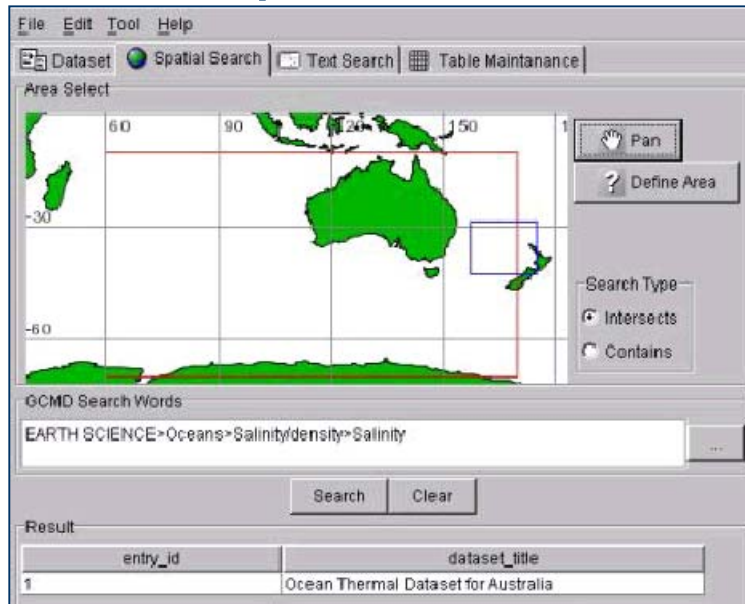
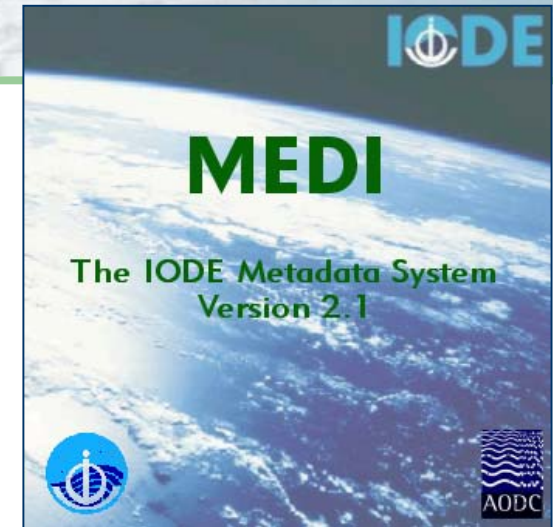
- GTSP: end-to-end data management
- JCOMM:
  - ✓ IODE member of JCOMM Management Committee
  - ✓ IODE member of Data Management Coordination Group – IODE experts in Data Management Experts Team(s)
  - ✓ IOC/IODE to host JCOMM web site (CMS)
- JCOMM MC: recommends IOC data & information management strategy

## ***IODE Projects:***

- **MEDI**
  - Metadata management at institutional, national, regional, global level
- **Marine XML**
  - Cooperation with ICES
- **GLODIR**
  - Global Directory of Marine and Freshwater Professionals (re-engineering in March/April 2002)
- **OceanPortal**
- **Dynamic Content Management System (CMS)**

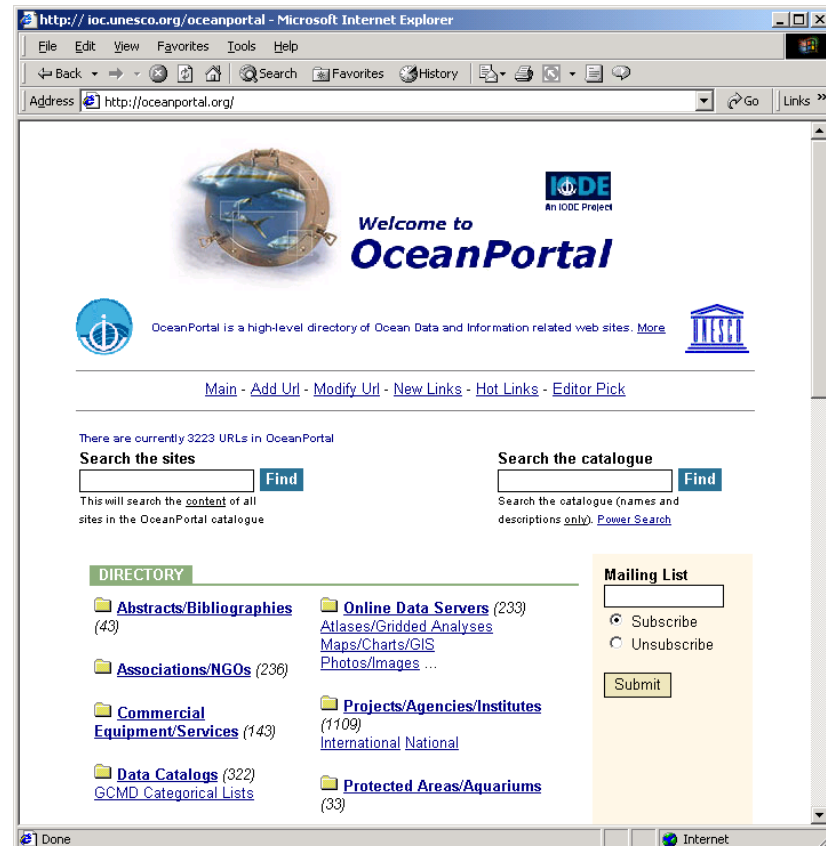
# *IODE Projects* : **MEDI**

- MEDI Software Tool
- Cooperation NASA/GCMD
- Geo-spatial interface



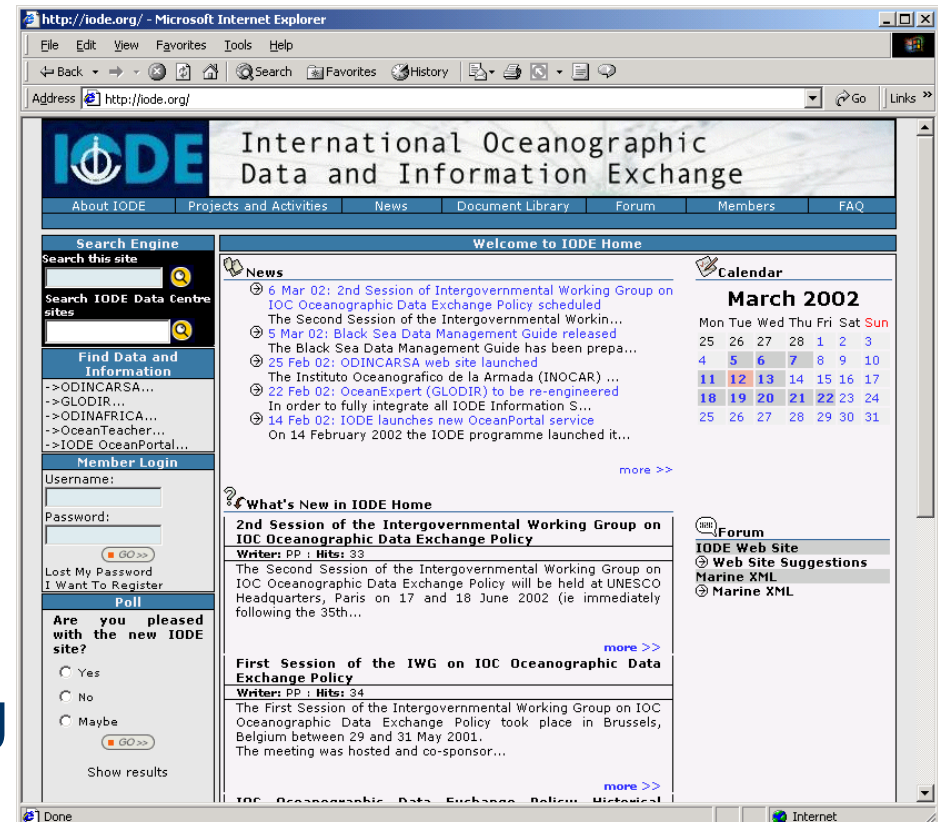
# *OceanPortal* (<http://www.oceanportal.org>)

- Ocean Portal is a high-level directory of Ocean Data and Information related web sites. Its objective is to help scientists and other ocean experts in locating such data & information
- Over 3000 sites described
- New: crawler – over 500,000 pages indexed



## *Dynamic Content Management Systems*

- Empowering communities to publish information and communicate
- IODE, ODINAFRICA, JCOMM, ...
- Free software
- IODE:  
<http://www.iode.org>



The screenshot shows the IODE website in a Microsoft Internet Explorer browser window. The address bar displays <http://iode.org/>. The website header includes the IODE logo and the text "International Oceanographic Data and Information Exchange". A navigation menu contains links for "About IODE", "Projects and Activities", "News", "Document Library", "Forum", "Members", and "FAQ".

The main content area is titled "Welcome to IODE Home" and features several sections:

- Search Engine:** A search box with the text "Search this site" and "Search IODE Data Centre sites".
- Find Data and Information:** A list of links including "ODINCARSA...", "GLODIR...", "ODINAFRICA...", "OceanTeacher...", and "IODE OceanPortal...".
- Member Login:** A form with fields for "Username:" and "Password:", a "GO >>" button, and links for "Lost My Password" and "I Want To Register".
- Poll:** A section titled "Are you pleased with the new IODE site?" with radio button options for "Yes", "No", and "Maybe", a "GO >>" button, and a "Show results" link.
- News:** A list of recent news items, including "6 Mar 02: 2nd Session of Intergovernmental Working Group on IOC Oceanographic Data Exchange Policy scheduled" and "5 Mar 02: Black Sea Data Management Guide released".
- Calendar:** A calendar for March 2002, showing days of the week and dates.
- What's New in IODE Home:** A section with two news items: "2nd Session of the Intergovernmental Working Group on IOC Oceanographic Data Exchange Policy" and "First Session of the IWG on IOC Oceanographic Data Exchange Policy".
- Forum:** A section with links for "IODE Web Site", "Web Site Suggestions", "Marine XML", and "Marine XML".

The browser window also shows the standard menu bar (File, Edit, View, Favorites, Tools, Help) and the address bar with "Done" and "Internet" status indicators at the bottom.

## *Capacity Building*

- 4 decades of Capacity Building!
- New strategy  
**EQUIPMENT – TRAINING – OPER. SUPPORT**
- First example:

**ODINAFRICA**





## *Training & Education*

### **OceanTeacher**

**(<http://www.oceanteacher.org>)**



## *What is OceanTeacher ?*

- Standard curriculum training system for Oceanographic Data and Information Management.
- Used during IODE Training Courses but can also be used for self training and continuous professional development



## *The Structure*

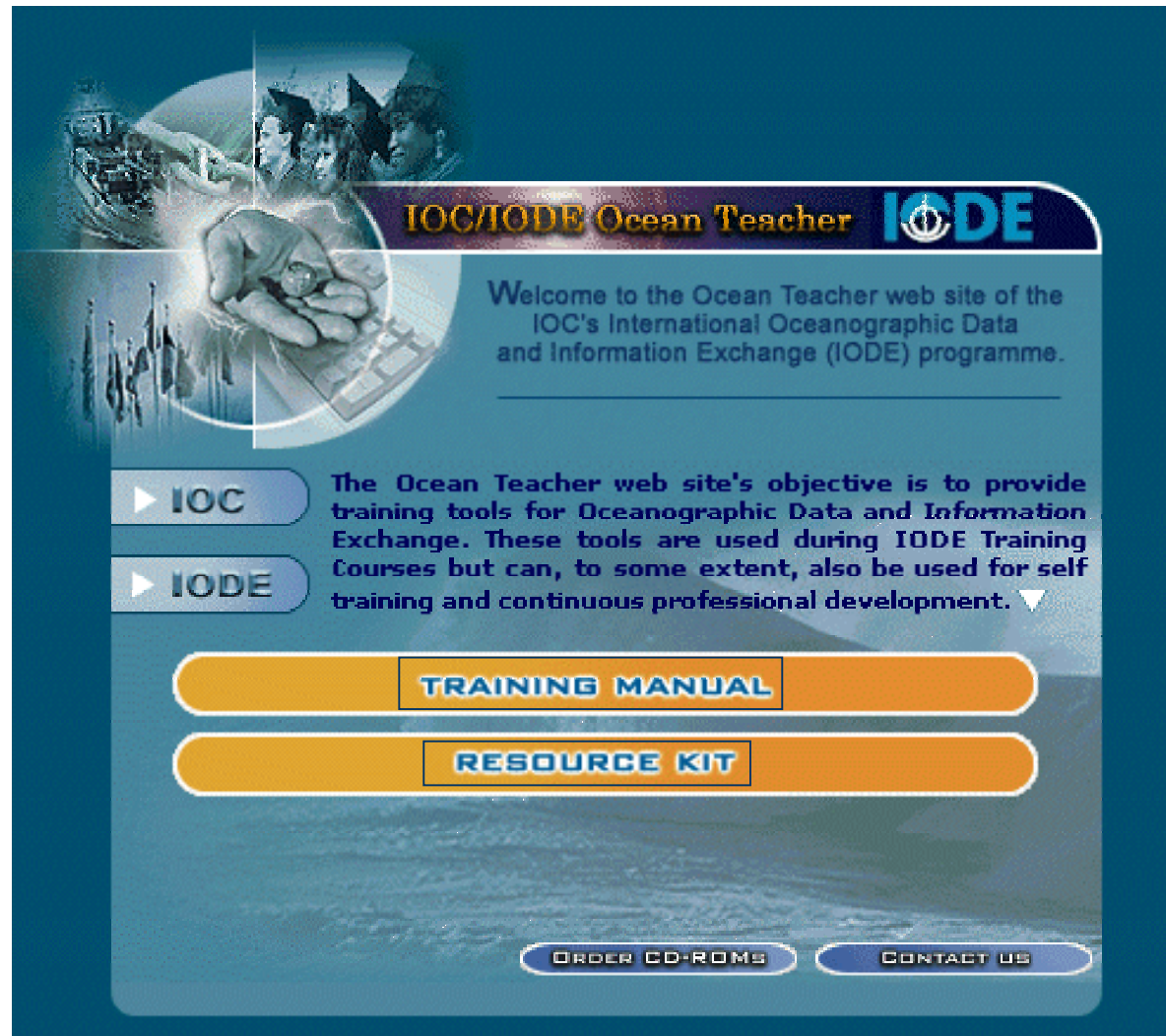
- Two components:
  - **The IODE Resource Kit ~13000 pp**
    - software tools, QC and analysis strategies, manuals & guides,...
  - **The Resource Kit Training Manual ~ 700 pp**
    - outlines, notes, examples,...




## COURSE I

Contents:

- Introduction
- Abstract
- Objectives
- Workshop Info
- IOCIODE
  - Overview
  - World Data Centers
  - Marine Data
- Use of PCs
  - Skills Assessment
  - Computer Hardware
  - Operating Systems
  - Software-Editors
  - Software-Browsers
  - Software-Spreadsheets
  - Computer Networks
  - Computer Maintenance
- Data Concepts
  - Data Formats
  - Special Topics
- Data, Metadata & Info
  - Global Sources of Data
  - Metadata
  - Marine Info Management
- Operations
  - DM Procedures&Policies
  - NODC examples
  - Business Plans
- Relational DBMS
  - RDMS theory
  - Marine Data Tutorial
- Data Analysis
  - Software: Analysis Tool
  - Format conversion
  - Capturing digital data
  - Data processing
  - Data quality control
  - Data gridding & contour.
  - Roadmap Tutorials
  - Data products
  - GIS
- The Internet
  - Intersessional Goals
  - SEARCH THE MANUAL
  - JUMP TO RESOURCE KIT
  - OceanTeacher home



**IOC/IODE Ocean Teacher** 

Welcome to the Ocean Teacher web site of the IOC's International Oceanographic Data and Information Exchange (IODE) programme.

▶ **IOC**    The Ocean Teacher web site's objective is to provide training tools for Oceanographic Data and Information Exchange. These tools are used during IODE Training Courses but can, to some extent, also be used for self training and continuous professional development. ▼

▶ **IODE**

[TRAINING MANUAL](#)

[RESOURCE KIT](#)

[ORDER CD-ROMS](#)    [CONTACT US](#)

## ***IODE-MAMA?***

- MEDAR/MEDATLAS experience
- Capacity Building: OceanTeacher (WP5)
- Community tools: CMS, GLODIR (MeDir) (WP6)
- Data & Information sourcing: OceanPortal, MEDI (WP6)
- Regional networking: ODINAFRICA linkage (WP5)