

## **IODE Capacity building in Ocean Data and Information Networks (ODINs): current status and challenges for the future**

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The IODE (International Oceanographic Data and Information Exchange Programme) system forms a worldwide service-oriented network of over 60 marine data centres. This network has been able to collect, control the quality of, and archive millions of ocean observations, and makes these available to Member States of IOC. One of objectives of the IODE programme is providing assistance to member states to acquire the necessary capacity to manage marine data and information and become partners in the IODE network. These capacity building activities are embedded within the regional ODIN projects of IODE. The ODIN strategy (or Ocean Data and Information Networks) consists of several elements to support data centres: provision of equipment, training and seed funding for operational activities of newly created data centres and marine libraries. It works in a regional context, with six ODINs having been deployed. Capacity building activities are adapted to the specific needs of the different ODINs and take into account the level of development of the individual marine data and information centres. IODE capacity building has shifted more and more from basic data and information management courses in the past towards training for development and support of advanced data and information products and techniques (e.g. coastal atlases, modeling, sea level monitoring, electronic repositories, data management for modeling purposes, GIS and remote sensing). Training activities of the IODE Programme are organized either at the UNESCO/IOC Project Office for IODE in Ostend (Belgium), which is fully equipped to serve this purpose, or in IOC Member States. IODE training activities are underpinned by OceanTeacher, the main e-learning tool used by the IODE community and a growing group of university students and scientists (<http://www.oceanteacher.org>). It contains a huge collection of reference documents (digital library) as well as courses (including hands-on data management exercises and tools). The training materials in OceanTeacher are further supported by online video lectures, which enable distance learning and continuous professional development. In order to continuously assess the impact of IODE training on the career of former trainees, the IODE alumni database has been developed (<http://www.iode.org/alumni>).