



*Training Course:
Managing Marine Spatial Data: Collection,
Processing, Archival, and Retrieval*

*11 - 15 October 2026
Cairo (Egypt)*

Training Course: Managing Marine Spatial Data: Collection, Processing, Archival, and Retrieval

Training Course code: MM235297 From: 11 - 15 October 2026 Venue: Cairo (Egypt) - Training Course Fees: 4410 € Euro

Introduction

Marine spatial data is a cornerstone of modern maritime operations, supporting navigation safety, port development, offshore engineering, environmental monitoring, and marine resource management. As data volumes and complexity increase, organizations must adopt structured approaches to collect, process, store, and retrieve marine spatial data efficiently and accurately.

This program, developed by [Global Horizon Training Center](#), provides a comprehensive and practical framework for managing marine spatial data across its full lifecycle. It integrates hydrographic surveying, geospatial technologies, data management systems, and international standards to ensure high-quality and reliable data handling.

Participants will gain hands-on knowledge of data workflows, quality assurance, storage solutions, and retrieval systems, enabling them to support decision-making and operational efficiency in maritime and coastal environments.

Course Objectives

By the end of this program, participants will be able to:

- Understand the lifecycle of marine spatial data management
- Apply best practices in data collection and acquisition
- Process and validate hydrographic and geospatial data
- Design efficient data storage and archival systems
- Retrieve and utilize spatial data effectively
- Ensure data quality, accuracy, and compliance with standards
- Integrate GIS and database systems into workflows
- Support maritime decision-making using spatial data

Target Audience

This program is designed for:

- Hydrographic Surveyors and Marine Data Specialists
- GIS and Geospatial Analysts
- Marine Engineers and Offshore Professionals
- Port and Coastal Management Personnel
- Environmental and Oceanography Professionals
- Government and Maritime Authority Staff

Outline

Day 1: Fundamentals of Marine Spatial Data Management

- Introduction to Marine Spatial Data and Applications
- Types of Data Bathymetry, Oceanographic, Geospatial
- Data Lifecycle: Collection to Utilization
- Standards and Frameworks IHO, ISO, GIS Standards
- Data Accuracy and Quality Requirements

Day 2: Data Collection and Acquisition Techniques

- Hydrographic Survey Methods and Tools
- GNSS Positioning and Integration
- Multibeam, Single Beam, and Remote Sensing Techniques
- Environmental Data Collection Tides, Currents
- Field Data Collection Best Practices

Day 3: Data Processing and Quality Control

- Data Processing Workflows
- Cleaning, Filtering, and Validation Techniques
- Error Detection and Correction
- Data Standardization and Formatting
- Quality Assurance and Quality Control QA/QC

Day 4: Data Archival and Storage Systems

- Data Storage Solutions and Architectures
- Database Design for Marine Spatial Data
- Metadata Standards and Documentation
- Data Security and Backup Strategies
- Long-Term Data Preservation

Day 5: Data Retrieval, Analysis, and Applications

- Data Retrieval Techniques and Query Systems
- GIS Integration and Spatial Analysis
- Data Visualization and Mapping
- Applications in Navigation, Ports, and Offshore Projects
- Emerging Technologies AI, Big Data, Cloud Systems
- Final Workshop: Designing a Marine Data Management System

Registration form on the Training Course: Managing Marine Spatial Data: Collection, Processing, Archival, and Retrieval

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