



*Training Course:
Planning and Management of the National Tide
Gauge Network*

*26 - 30 October 2025
Dubai (UAE)*

Residence Inn by Marriott Sheikh Zayed Road, Dubai

Training Course: Planning and Management of the National Tide Gauge Network

Training Course code: MM235304 From: 26 - 30 October 2025 Venue: Dubai (UAE) - Residence Inn by Marriott Sheikh Zayed Road, Dubai Training Course Fees: 5300 € Euro

Introduction

The health and well-being of our coastal communities rely heavily on accurate and timely data, a responsibility entrusted to national tide gauge networks. These intricate systems provide invaluable insights into sea level changes, coastal processes, and crucial information for navigation, disaster preparedness, and climate change monitoring. Recognizing the significance of these networks, this 5-day intensive training program aims to equip professionals with the necessary knowledge and skills to effectively plan, manage, and maintain these vital infrastructures.

Objectives

This comprehensive program is designed to:

- Deepen understanding: Participants will gain a profound appreciation for the critical role of tide gauge networks in various fields, including coastal research, management, safety, and climate change studies.
- Build technical expertise: Explore the diverse range of tide gauge technologies, delve into data acquisition and quality control procedures, and master best practices for installation and maintenance.
- Sharpen strategic planning: Develop valuable skills in network planning, site selection, and resource management, ensuring the efficiency and sustainability of national tide gauge networks.
- Harness data power: Learn the intricacies of data management, archiving, and dissemination, unlocking the full potential of the collected information for stakeholders and various applications.
- Embrace innovation: Stay at the forefront of the field by exploring emerging technologies and applications, preparing participants to adapt and incorporate advancements into their network management strategies.
- Foster collaboration: Create a space for knowledge exchange and collaboration, uniting professionals from diverse backgrounds to collectively address challenges and develop sustainable solutions for the future of national tide gauge networks.

Target Audience

This program is ideally suited for a diverse group of professionals with a vested interest in the planning, operation, and maintenance of national tide gauge networks. This includes:

- Engineers and scientists: Responsible for designing, installing, and calibrating tide gauges, analyzing data, and developing applications.
- Technicians: Overseeing routine maintenance, data collection, and quality control procedures.
- Data managers and analysts: Ensuring data integrity, accessibility, and effective dissemination for various stakeholders.
- Policymakers and administrators: Involved in planning, funding, and overseeing national tide gauge network

operations.

Training Program Outline

Day 1:

- Importance of Tide Gauge Networks: Applications in coastal research, management, safety, and climate change.
- Types of Tide Gauges: Mechanical, acoustic, radar, GNSS technologies, advantages and limitations.
- Data Acquisition and Quality Control: Principles of data collection, transmission, and quality assurance.
- Case Studies: Examples of successful national tide gauge networks.

Day 2:

- Network Planning Considerations: Factors influencing network design, station selection, and deployment strategies.
- Site Selection Criteria: Data needs, environmental factors, accessibility, and stakeholder considerations.
- Installation and Maintenance Procedures: Best practices for station construction, equipment setup, and routine maintenance.
- Data Management and Archiving: Long-term data storage, access policies, and quality control protocols.
- Data Dissemination and Utilization: Sharing data with stakeholders, including real-time platforms and web services.
- Financial and Resource Management: Funding strategies, budgeting, and resource allocation for sustainable operation.

Day 3:

- Advanced Technologies: GNSS-based tide gauges, ADCPs, remote sensing for calibration.
- Data Analysis and Interpretation: Methods for analyzing tidal data, trends, and coastal processes.
- Modeling and Prediction: Utilizing tide gauge data for storm surge forecasting and wave modeling.
- The Future of Tide Gauge Networks: New technologies, automation, and citizen science initiatives.

Day 4:

- Data Access and Processing Workshop: Practice processing, analysis, and visualization techniques with real-world data.
- Network Planning Simulation: Group exercise to design a national tide gauge network for specific scenarios.
- Software Tutorials: Introduction to software used for data management and analysis.

Day 5:

- International Standards and Guidelines: Overview of global best practices for tide gauge networks.
- Collaboration and Stakeholder Engagement: Building partnerships and engaging stakeholders in network management.
- Challenges and Opportunities: Discussing common challenges and innovative solutions for sustainable network operation.
- Program Wrap-up and Feedback: Sharing key takeaways, Q&A, and course evaluation.

Registration form on the Training Course: Planning and Management of the National Tide Gauge Network

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