

ΑΝΑΛΥΤΙΚΗ ΠΡΟΔΙΑΓΡΑΦΗ ΠΡΟΓΡΑΜΜΑΤΟΣ ΚΑΤΑΡΤΙΣΗΣ

1. Τίτλος προγράμματος κατάρτισης:

Applied Meteorology & Air Quality - Εφαρμοσμένη Μετεωρολογία και Ποιότητα Αέρα

2. Σύνδεση με Πρότυπα Επαγγελματικών Προσόντων:

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3. Διάρκεια κατάρτισης (ώρες): 20

4. Ανάγκη κατάρτισης:

Understanding atmospheric physics, weather system dynamics, climate variability, and air quality observations is essential for anyone working in fields related to the atmosphere, environment, or meteorology. Although many routinely work with atmospheric datasets—from surface networks, numerical models, satellite platforms, and airborne sensors—they often lack the foundational scientific framework needed for accurate interpretation and operational application. This training program addresses that need by providing applied, operationally relevant competency in atmospheric science, covering weather analysis, climate processes, and environmental monitoring.

5. Στόχοι:

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

- Define and identify how the atmosphere is composed, measured, and observed at the surface, and compare key meteorological variables that describe weather conditions - Weather Systems
- Interpret synoptic weather maps to identify fronts and mid-latitude cyclones and analyze the weather patterns they produce - Fronts and Cyclones
- Explain and analyze Earth's energy balance and how radiative forcings drive long-term climate change and sea-level rise - Climate Change
- Identify aerosols and gases and how they are measured using in-situ and remote sensing platforms to assess air quality - Air Quality with In-situ & Remote Sensing Observation

6. Περιγραφή υποψηφίων για συμμετοχή:

- Environmental scientists/engineers/officers
- Department of Fisheries and Maritime Affairs
- Department of Meteorology
- Department of Environment
- Climate/energy professionals
- Public agency/municipality staff
- Students entering meteorology or climate fields
- Risk & resilience planners

7. Περιεχόμενο κατάρτισης:

Α/Α Ενότητας	ΑΝΑΛΥΣΗ ΠΕΡΙΕΧΟΜΕΝΟΥ ΕΝΟΤΗΤΩΝ	ΔΙΑΡΚΕΙΑ (ΩΡΕΣ)
Ενότητα 1	<p>Τίτλος: Weather systems Περιεχόμενο:</p> <ul style="list-style-type: none"> • Training program introduction • What is the atmosphere made of? • Surface weather stations • Meteorological parameters: Mean Sea Level Pressure, Temperature, relative humidity, density, dew point temperature, wind velocity and wind speed, wind direction • Water in the atmosphere: explain how water exists in the air in different forms—such as vapor, liquid droplets, and ice—and how these states influence weather processes • How clouds form, the different types of clouds, and what they indicate about current and future weather conditions (including exercise identifying cloud types and relating them to atmospheric processes) 	5
Ενότητα 2	<p>Τίτλος: Weather fronts and cyclones Περιεχόμενο:</p> <ul style="list-style-type: none"> • Intro & conceptual foundations • Types of fronts and how they form at the boundaries between differing air masses • Mid-latitude cyclones and cyclogenesis • Weather map analysis + case studies (including exercise) • Basics on forecasting 	5
Ενότητα 3	<p>Τίτλος: Climate Change Περιεχόμενο:</p> <ul style="list-style-type: none"> • Definition of climate • Understand radiative forcings and balance: how various factors alter the balance between incoming and outgoing radiation in the Earth's climate system. • Climate models overview • Sea level change (including exercise) 	5
Ενότητα 4	<p>Τίτλος: Air quality with In-situ and Remote sensing observations Περιεχόμενο:</p> <ul style="list-style-type: none"> • Describe the main types of aerosols and gases in the atmosphere and the instruments used to measure them for weather and environmental applications • Ground-based platforms (in-situ and remote-sensing) • Airborne platforms (atmospheric balloons, UAS, satellites) • Take-home messages 	5