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CERTIFIED GEOGRAPHIC INFORMATION SYSTEMS (GIS) FOR ENVIRONMENTAL IMPACT, MONITORING AND RISK ASSESSMENT

Fully Accredited By:

Chartered Institute of Professional Certifications

CPD Certification Service

CGIS™
CERTIFIED GEOGRAPHIC INFORMATION SYSTEMS PROFESSIONAL™

PROGRAM OVERVIEW

Geographic Information Systems (GIS) has become a cornerstone of modern environmental leadership, offering unparalleled tools for **assessing environmental impacts, monitoring environmental changes, and managing ecological risks**. As environmental regulations tighten and sustainability becomes central to corporate and public agendas, GIS has proven to be transformative. Organizations using GIS for environmental monitoring report **improved decision-making speed by up to 45%, while real-time GIS integration has enhanced predictive modeling accuracy by over 50% in environmental risk assessments**. In today's rapidly shifting landscape, GIS is not just a technology advantage—it is a strategic imperative.

This certified program is designed to provide you with comprehensive knowledge and practical skills to apply GIS effectively in environmental impact, monitoring, and risk assessment contexts. You will explore key concepts on **how GIS supports environmental assessment processes, risk evaluation, biodiversity conservation**, climate adaptation, and sustainable resource management. You will gain the ability to acquire and integrate diverse environmental datasets, **apply spatial analysis techniques, and use remote sensing, modeling, and visualization tools** to generate actionable insights.

Through detailed sessions, you will learn to **conduct cumulative effects assessments, model environmental risks such as floods, wildfires, and pollution**, and manage complex applications like water resource monitoring and species habitat analysis. With real-world case studies you will understand the consequences of weak GIS integration in environmental decision-making and showcase best practices from global projects.

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PROGRAM OVERVIEW

Furthermore, you will develop advanced **skills in visual storytelling with GIS, transforming technical outputs into clear, compelling maps and dashboards** that inform regulators, policymakers, and the public. Special emphasis will be placed on emerging practices, including stakeholder engagement, and the application of AI and machine learning in predictive environmental modeling. By the end of the program, you will have the knowledge, tools, and confidence to **apply GIS strategically for compliance, sustainability, and risk mitigation**.

Upon successful completion of the program, you will attain the **Certified Geographic Information Systems Professional (CGIS™)**. This globally recognized certification will validate your expertise in leveraging GIS for sustainable decision-making and regulatory compliance. It will enhance your professional credibility and demonstrate your ability to bridge the gap between technical geospatial analysis and real-world environmental and policy challenges.

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KEY SKILLS YOU WILL GAIN

From This Program

ENVIRONMENTAL IMPACT ANALYSIS
SPATIAL DATA MANAGEMENT
REMOTE SENSING APPLICATIONS
GIS-BASED RISK ASSESSMENT

CUMULATIVE EFFECTS MODELING
WATER RESOURCE MAPPING
BIODIVERSITY MONITORING
CLIMATE CHANGE MODELING

DISASTER RISK MAPPING
SPATIAL DATA INTEGRATION
POLICY AND REGULATORY ALIGNMENT
STAKEHOLDER ENGAGEMENT MAPPING

INDIGENOUS KNOWLEDGE INTEGRATION
CARTOGRAPHIC VISUALIZATION
INTERACTIVE DASHBOARD DESIGN
GEOSPATIAL DATABASE MANAGEMENT
SPATIAL QUERY TECHNIQUES

OVERLAY AND BUFFER ANALYSIS
IOT DATA INTEGRATION

YOUR FACULTY DIRECTOR

Dr. Gianmarco Paris

Environmental GIS & Earth Observation (EO) Expert

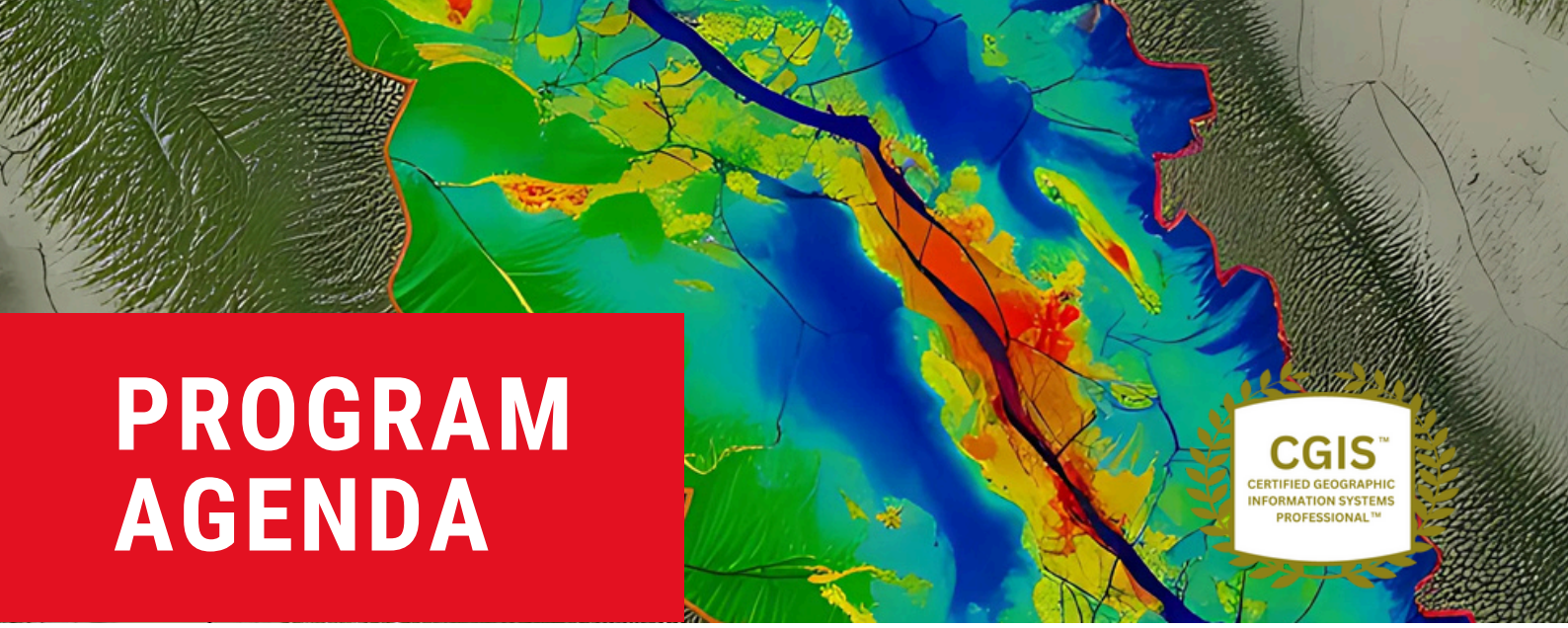
Dr. Gianmarco Paris is a highly respected environmental GIS and earth observation expert with over three decades of academic and professional experience advancing geospatial applications in ecology, environmental assessment, and spatial planning across Europe. He has supported scientists, consultants, and public-sector stakeholders in **applying GIS and EO as strategic tools for Environmental Impact Assessment (EIA), climate risk analysis, and sustainable territorial planning**.

His expertise spans **applied ecology, spatial decision-support systems, and the integration of Copernicus and other Earth Observation datasets into environmental workflows**. By combining strong ecological foundations with advanced spatial analytics, Dr. Paris has helped organizations strengthen regulatory compliance, improve environmental monitoring, and deliver evidence-based, climate-resilient solutions.

An accomplished educator, Dr. Paris has taught GIS at undergraduate and postgraduate levels since 1994 and has delivered extensive professional training across academic and applied settings. He is **an active member of the EIT Climate-KIC Network of Climate Coaches** and serves as Italy's **in-country trainer for the Copernicus Climate Change Service (C3S)**, where he provides expert guidance on climate data access, analysis, and operational integration for environmental decision-making.

OUR PARTICIPANTS

Over 70% of FORTUNE 500 Companies Have Attended Our Accredited Programs Before



PROGRAM AGENDA

MODULE 1 - THE EU ENVIRONMENTAL IMPACT ASSESSMENT (EIA) DIRECTIVE

- Overview of the EU EIA Directive (2011/92/EU as Amended by 2014/52/EU)
- Core Requirements and the Role of Annex IV
- Integrating Vulnerability and Climate Risk

MODULE 2 - GIS AS THE BACKBONE OF ENVIRONMENTAL IMPACT, MONITORING AND RISK ASSESSMENTS

- Spatial Nature of Environmental Problems
- The Role of GIS Within EIA Procedures
- Key Spatial Datasets Used in EIA Across the EU

MODULE 3 - FUNDAMENTALS OF GIS AND SPATIAL DATA

- Core GIS Concepts (Vector, Raster, Coordinate Systems)
- Data Quality, Resolution, Scale, and Uncertainty
- Metadata and the INSPIRE Directive

MODULE 4 - BASELINE DATA COMPILATION AND ENVIRONMENTAL CHARACTERIZATION

- EU and Global Open Datasets (Copernicus, ESA, EEA, Eurostat, OSM)
- Hydrological and Topographic Data Preparation
- Mapping Protected Areas and Sensitive Receptors

MODULE 5 - GIS IN BIODIVERSITY AND CLIMATE IMPACT ASSESSMENT

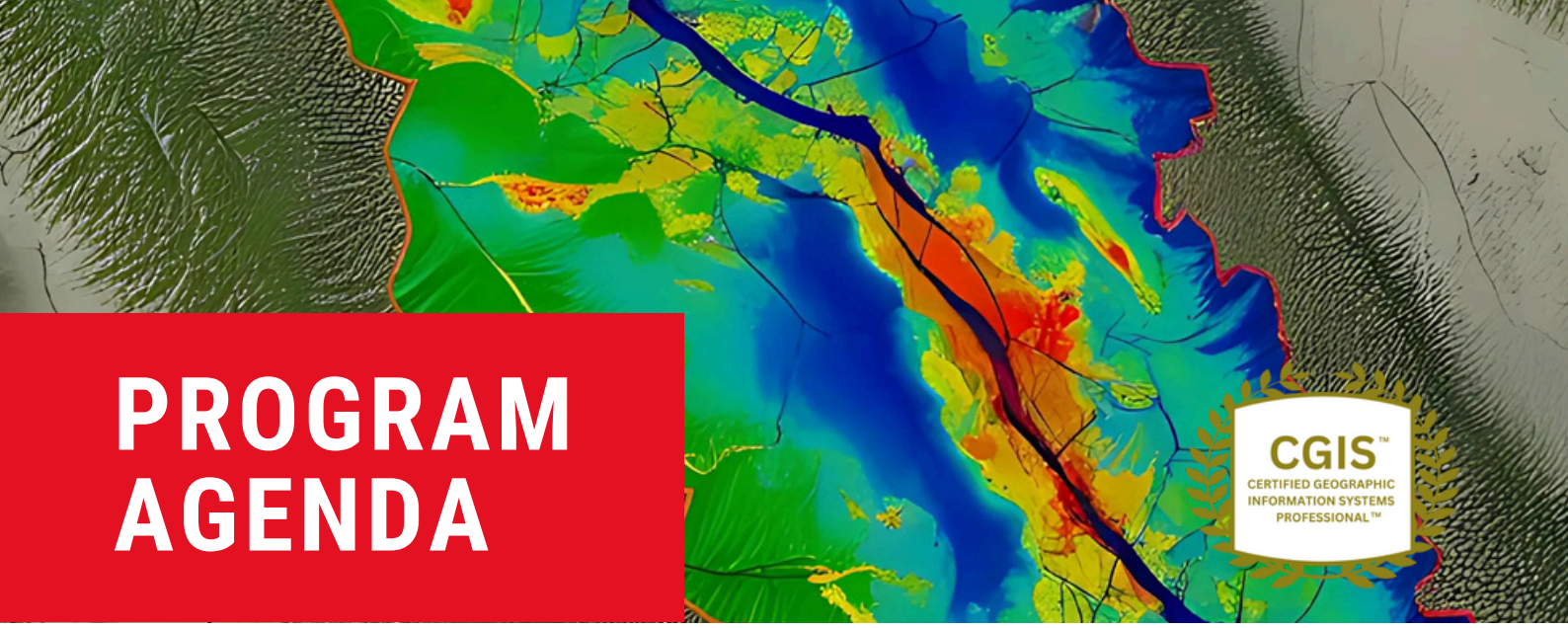
- Ecological Spatial Indicators and Habitat Mapping
- Connectivity Analysis and Fragmentation
- Habitat Suitability Modeling
- Climate Scenarios and Biodiversity Losses

MODULE 6 - GIS FOR POLLUTION AND NOISE MODELING

- Air Quality and Dispersion Modeling Integration
- Water Quality and Non-point Source Pollution
- Noise Contours and Impact Zones

MODULE 7 - SPATIAL ANALYSIS FOR IMPACT PREDICTION

- Proximity and Buffer Analysis
- Overlay Analysis
- Visibility and Visual Impact Modeling



PROGRAM AGENDA

MODULE 8 - ADVANCED GIS FOR ENVIRONMENTAL RISK ASSESSMENT

- Natural Hazard Mapping (Floods, Landslides, Wildfires)
- Exposure and Vulnerability Assessment
- Risk Quantification and Visualization

MODULE 9 - GIS AND REMOTE SENSING FOR ENVIRONMENTAL MONITORING

- Remote Sensing Data Sources for Monitoring
- Indices for Vegetation, Water, Soil, and Built-up (NDVI, MNDWI, NDWI, NDBI)
- Time-series Analysis for Change Detection

MODULE 10 - COMMUNICATING RESULTS AND STAKEHOLDER ENGAGEMENT

- Principles of Environmental Cartography
- Generating Compliant Visualizations and Reports
- Web GIS for Public Participation

MODULE 11 - THE FUTURE OF GIS FOR ENVIRONMENTAL ASSESSMENT

- Artificial Intelligence (AI) and Machine Learning (ML) Driven Predictive Analytics
- Digital Twins for Real-time Environmental Monitoring
- Integrated, Automated, and Collaborative Assessment Workflows

YOUR CHARTER DESIGNATION

Chartered Institute of Professional Certifications' programs are unique as they provide you with professional charter designations and marks that can be used across your lifetime once you have completed our programs.

Upon successfully completing this program, you will earn the **Certified Geographic Information Systems Professional (CGIS™)** designation, an industry-recognized credential with lifelong validity. This globally respected certification will validate your expertise in applying GIS to environmental assessments, risk modeling, and sustainability monitoring, while demonstrating your ability to integrate complex spatial data into compliance frameworks and policy decisions in the EU. A powerful addition to your professional profile, it highlights your commitment to excellence in geospatial intelligence and sustainable development. This program is developed by **Chartered Institute of Professional Certifications** and the content of this program has been certified by **CPD Certification Service** as conforming to continuing professional principles.

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OUR FACULTY DIRECTORS

We Collaborate With Instructors From Renowned Institutions

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LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Columbia Business School

London Business School

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We Thank You for Your Ongoing Support of Our Programs

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