Geospatial Mapping & Data Visualization

ONLINE PROFESSIONAL DEVELOPMENT & APPLIED TRAINING PROGRAM

THE PROGRAM

The natural resources industry workforce is comprised of both professionals and non-technical users who increasingly need geographic information systems (GIS) technology skills for display and analysis of asset and resource location, data visualizations, maps, and metrics.

The **Geospatial Mapping & Data Visualization Program** is a fully-online professional development program intended primarily for natural resources industry professionals with little to no experience in geospatial technology.

Whether you are a skilled management professional, an entry-level worker, or new to the industry, the **Geospatial Mapping & Data Visualization Program** will help you build competencies in theoretical and applied geospatial concepts and techniques.

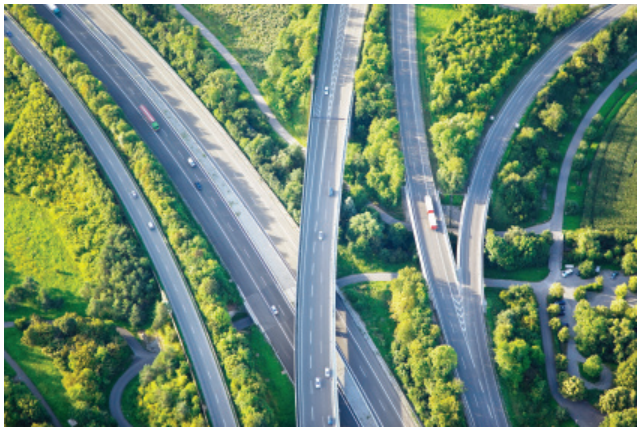
WHAT YOU'LL LEARN

This program addresses competencies in the following key geospatial areas:

1. Core theoretical foundations
2. Common data formats
3. Industry-standard software platforms
4. Data-driven decision making
5. Implementation and integration of spatial data

WHO WILL BENEFIT?

- Workers in industries including natural resources, public works, urban planning, supply chain, highways & transportation, industry, architecture & construction, agriculture, and health & human services.
- Those looking to a career in GIS, including cartographic design, data analysis, computer modeling, and business development.
- Current employees wanting to enhance the targeted skills needed to advance in their careers.
- Public and private sector employers who wish to provide their teams with professional development training.



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COURSE STRUCTURE & CURRICULUM

The self-paced, online program begins with a required core module that provides a concise, foundational understanding of geospatial terms, geographic data, and the core abilities of geospatial technologies. Participants can then choose from focused modules offer applied training within specific software environments and workflow requirements.

The course offers access to instructors with applied professional experience via e-mail and/or video chat. Participants will also conduct a series of applied exercises utilizing regional data to replicate common industry workflows. At the end of the modules, participants will complete an online assessment.

Participants will spend 3–4 weeks working through the course curriculum, and 1–2 additional weeks for the applied exercises and online assessment.

MODULES & TOPICS

- Required: Core Geospatial Concepts
  (28-32 hrs to complete)
- ArcGIS Online
  (12-18 hrs to complete)
- Data Visualization Using Tableau
  (12-18 hrs to complete)

PROGRAM PRICING

- Core Module: $400
- Core +1 Applied Module: $600
- Core +2 Applied Modules: $800

INSTRUCTORS

Peter Owens, Senior Project Analyst
Geographical Information Center • CSU, Chico

Ryan Miller, Senior Economic Analyst
Geographical Information Center • CSU, Chico

GET STARTED

Discounts available for 3 or more registrations from one organization.

To register for the **Geospatial Mapping & Data Visualization Program** or inquire about training for your team, please visit the website or contact:

Regional & Continuing Education
California State University, Chico
Chico, CA 95929-0250 | 530-898-6105
rce@csuchico.edu

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GIC GEOGRAPHICAL INFORMATION CENTER
California State University, Chico
www.gic.csuchico.edu

Regional & Continuing Education
California State University, Chico Research Foundation

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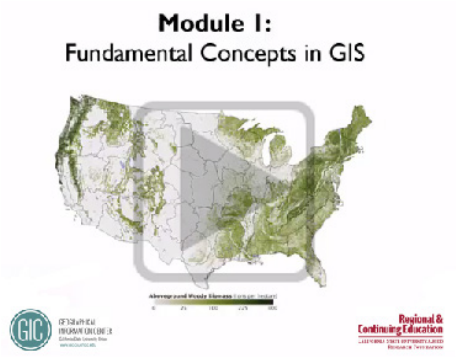
Methods of Instruction

- **Video Lecture Content –** Participants follow a series of instructor-designed, screen-capture videos that simulate traditional in-person lectures. Additional support is provided by chat boards, FAQs, and access to instructors via email.
- **Applied Content –** Participants utilize instructor-prepared materials to work through basic geospatial data manipulation and analysis on their personal computers, using free trial software.
- **Assessment –** Participants answer a series of multiple-choice questions at their own pace while working through module material to check their understanding.



Core Module:

Geographic Principles

- Functionality overview
- Tabular data
- Spatial data
- Geographic data types
- Tabular queries
- Spatial queries

ArcMap Basics

- ESRI software suite discussion
- Software installation
- Software layout, interface, and navigation
- Adding and identifying data
- Symbology
- Cartographic fundamentals

Applied ArcMap & Analysis

- Projections
- Queries
- Joins
- Basic geoprocessing
- Advanced symbology and labelling
- Creating & exporting a map
- ArcCatalog
- ArcToolbox
- ArcEditor

Applied Module: ArcGIS Online

Minimum expected time to complete: 12-18 hours

ArcGIS Online Introduction

- Functionality overview
- Creating an ArcGIS Online user account
- Navigating in the ArcGIS Online environment
- ESRI data sources and Living Atlas
- Uploading custom data

Applied & Instructional Content

- Spatial and tabular queries in AGOL
- Map creation in AGOL
- Geoprocessing in AGOL
- Map sharing and collaboration in AGOL

Deliverables

- Publicly accessible web map with custom data uploaded and user-specific symbology

Applied Module: Data Visualization with Tableau

Minimum expected time to complete: 12-18 hours

Introduction and Applied & Instructional Content

- Functionality overview
- Joining and blending data sources
- Visual analytics using charts and figures
- Creating and working with variable sets
- Data filtering, sorting, and grouping
- Parameters and formatting
- Mapping and geocoding
- Calculations and expressions

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