

# GIS: FIELD DATA COLLECTION

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**SPRING 2026**

**TUESDAYS 6 - 9PM**

**LAB 2 1223B - CAL EAST**

Students in this course will learn about how to take GIS out of the office. Mobile GIS lets users perform mapping and collect spatial data while working in a field research situation, often outdoors. The Android or iOS smartphone device enables mobile GIS capabilities, even when the survey user is beyond the reach of cell phone range. This course teaches students how to design and deploy Esri Survey123, Esri Field Maps, and Esri QuickCapture. All three can be used for populating a GIS database with field observations. Students will learn how to use data collected in the field to create maps and perform spatial analysis.

Municipalities use mobile-GIS capabilities to collect near-real-time data from field observations. Businesses conduct surveys of customers, and policy makers use surveys to poll public opinion. Scientists rely on field surveys for measuring, and collecting data about human behavior, public opinion, and public engagement. Global Positioning Satellite (GPS) capabilities let scientists track animal behaviors, measure environmental qualities, and create inventories of assets and problem-areas in the landscape.

Competency in the deployment of mobile GIS capabilities enables students to take a leading role in organizations that rely on up-to-date mapping of their situation. Students will begin learning Survey123, Field Maps, and QuickCapture by entering a set of survey questions using a simple drag-and-drop design tool (Survey123), or by designing a layer to be used to collect data in the field (Field Maps and QuickCapture). Then they will progress to more complex designs that enable logical branching, cascade selections, default values, in-form computations, the use of the Arcade scripting language, and the integration of photography, audio, and video content. Students will deploy their field applications and collect their own field data based on a topic of their personal interest. The data will then be brought into ArcGIS Online for students to analyze, create maps, and publish in a web-app. Fieldwork will be required to conduct field investigations and collect data appropriate to the student project topic.

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