

OPEN MAPPING EDUCATION SERIES

Developed By: Maggie Cawley & Steven Johnson



OVERVIEW: OPEN MAPPING FOR EVERYONE

INTRODUCTION TO THE OPEN MAPPING TOOLKIT



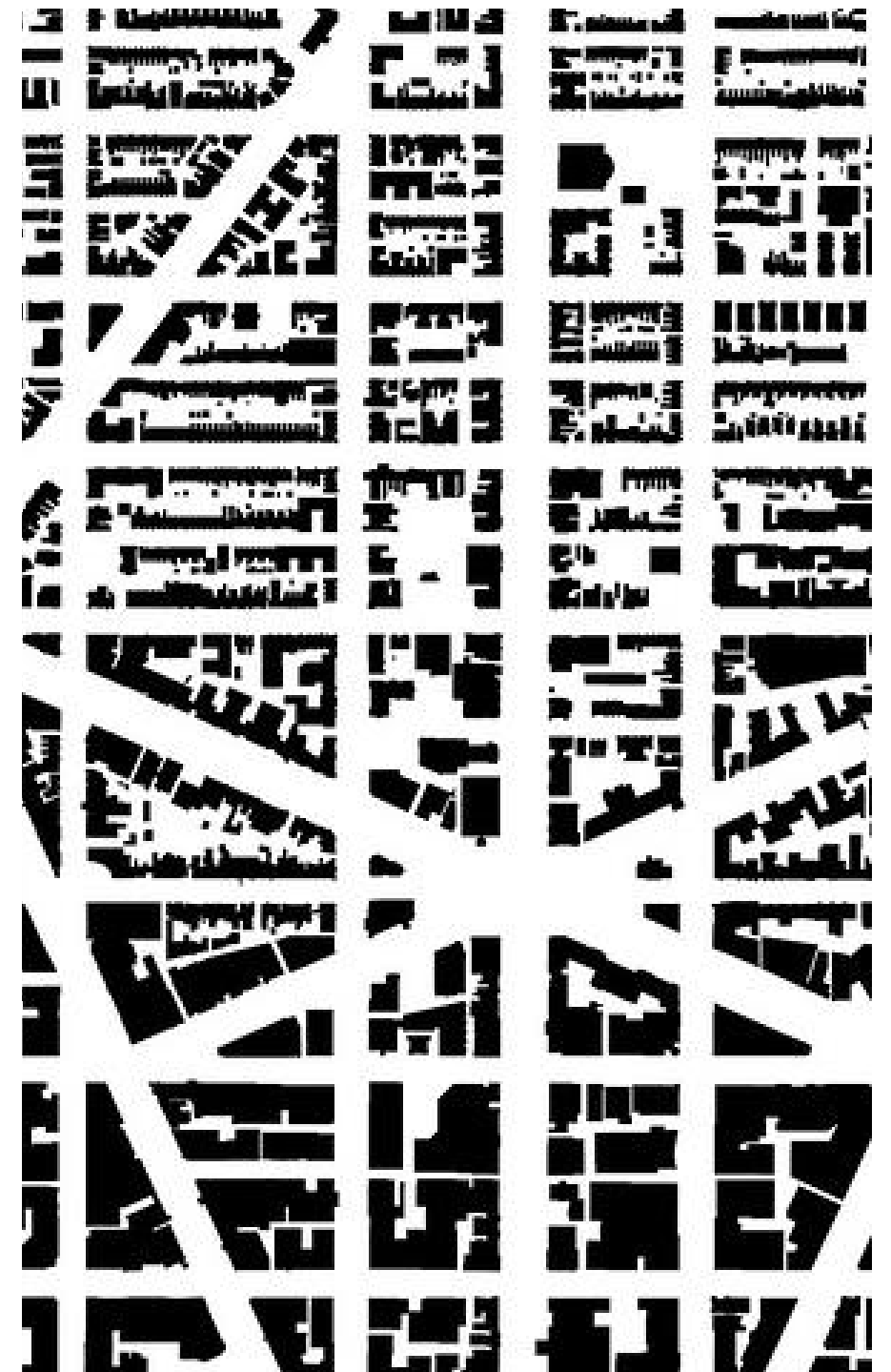
GETTING STARTED WITH OPEN MAPPING

Anyone can be a mapper. *You* can be a mapper.

This series of modules will get you started making your own maps. In the process, you will learn how geographers *do* geography by doing it yourself.

There are two learning paths presented here: GIS and open mapping. Explore the GIS path to create maps with QGIS. Try out the open mapping path to add features to OpenStreetMap. This module serves as the starting point for both learning paths.

Along these paths we'll cite examples and use data from the US Census Bureau. The Census Bureau is a major creator, publisher, and user of geographic data, making them a good example of *how* geographers practice their craft.



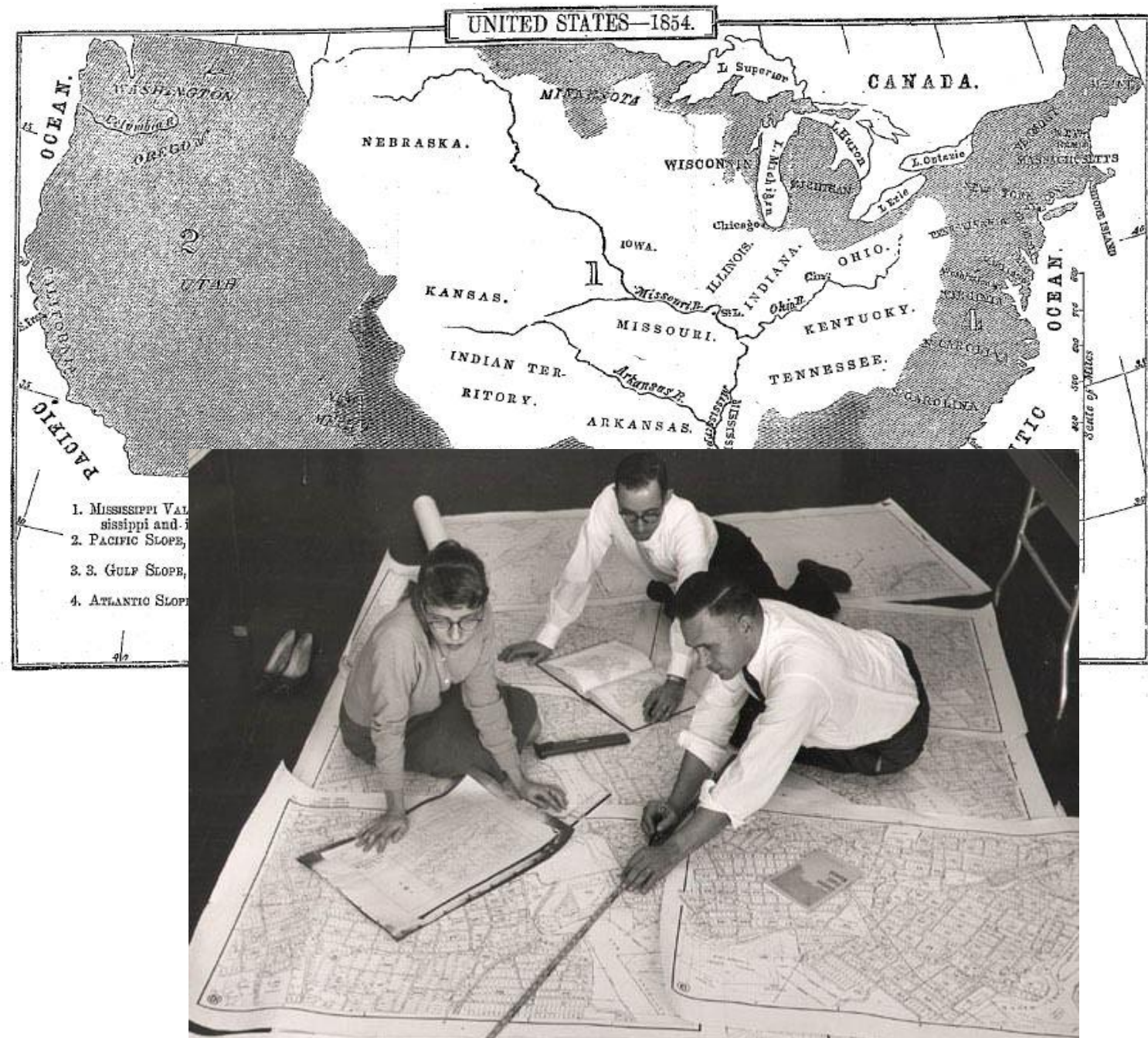
GEOGRAPHY, CENSUS, AND MAPS

Why look to the Census Bureau?

Because the Census Bureau collects population data and links it to geography to create maps showing where Americans live and work.

Numerous governments, businesses, and organizations use this linked information to guide decisions.

Using this data, we can gain insights that inform policy and help allocate the nation's resources.



To learn more about US Census Bureau geography, see the Geographic Areas Reference Manual: <https://www.census.gov/geo/reference/garm.html>

COURSE OVERVIEW: LEARNING PATHS

There are two open mapping learning paths each focusing on a different platform. Each module builds on the content of the previous module. It doesn't matter which you do first, but you should complete all the modules in the path. Both paths start with this module, the Overview of the Open Mapping Toolkit

OPENSTREETMAP (OSM)

1. OSM Basics: Account & Interface
2. OSM Basics: Editing & Tagging
3. OSM Tasking Manager
4. Using Field Papers
5. Starting Mobile Mapping

GIS

1. Introduction to GIS & Data
2. Basics of QGIS I
3. Basics of QGIS II
4. Thematic Maps Using Census Data
5. Mapping OSM Data In QGIS

THE OPENSTREETMAP LEARNING PATH

The OpenStreetMap path will teach you how to make maps by adding features to OpenStreetMap. The modules cover basic editing techniques, how to collect geographic data in the field, and even how to map using your smartphone.

OVERVIEW OF THE OPEN MAPPING TOOLKIT

- MODULE 1 - OSM BASICS 1 : Account Creation & Interface
- MODULE 2 - OSM BASICS 2: Editing & Tagging
- MODULE 3 - The OSM TASKING MANAGER
- MODULE 4 - USING FIELD PAPERS (DATA COLLECTION)
- MODULE 5 - STARTING MOBILE MAPPING

THE GIS LEARNING PATH

In the GIS learning path you will learn what makes a GIS, how to download and install your own desktop GIS, and how to create beautiful maps in QGIS using data from the US Census Bureau and other sources.

OVERVIEW OF THE OPEN MAPPING TOOLKIT

- MODULE 1 - INTRODUCTION TO GIS & DATA
- MODULE 2 - QGIS BASICS I
- MODULE 3 - QGIS BASICS II
- MODULE 4 - THEMATIC MAPS & CENSUS DATA
- MODULE 5 - OPENSTREETMAP DATA IN QGIS

THE OPEN MAPPING TOOLKIT - AN OVERVIEW



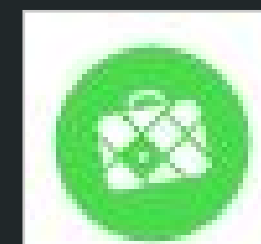
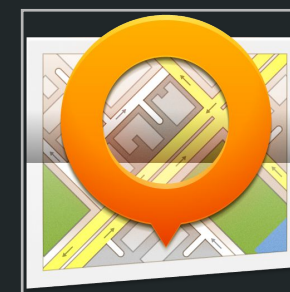
Field Papers



TASKING MANAGER

 TeachOSM Tasking Manager

 Mapillary



INTRODUCING THE TOOLS

The following pages introduce FREE tools for open mapping. Most of these tools in the Open Mapping Education Series are not only free, but also open source.

Please investigate each tool using the links provided so you understand the place of the tool in the open mapping process.

Once you have investigated each tool, you can better decide which of the two learning paths you want to take.

Why Open Source?

- Designates a broader set of values, generally something people can modify and share because the code is publicly accessible.
- Invites exchange of ideas, collaborative participation, transparency, and community-oriented development.
- Open source software is more liberally licensed than proprietary licenses.

OPENSTREETMAP (OSM)



- A freely-editable map of the world unconstrained by proprietary ownership, often described as the “Wikipedia for maps”.
- OpenStreetMap domain registered in 2004 in the United Kingdom, where the Crown held copyright on geospatial data and there was little free geo-data.
- Simple goal of creating a free, publicly-available database of geospatial data.
- See <https://openstreetmap.org/>

iD EDITOR



- The default in-browser tool developed for OSM that allows you to make edits and contribute to the OpenStreetMap project.
- iD works directly in the browser without plugins.

Field Papers

Field Papers



Mappers typically annotate the map in the field, recording streetside information such as addresses and building type.

Field Papers can also be used for other purposes where a printed map is needed, such as figure-ground maps.

See <http://fieldpapers.org/>

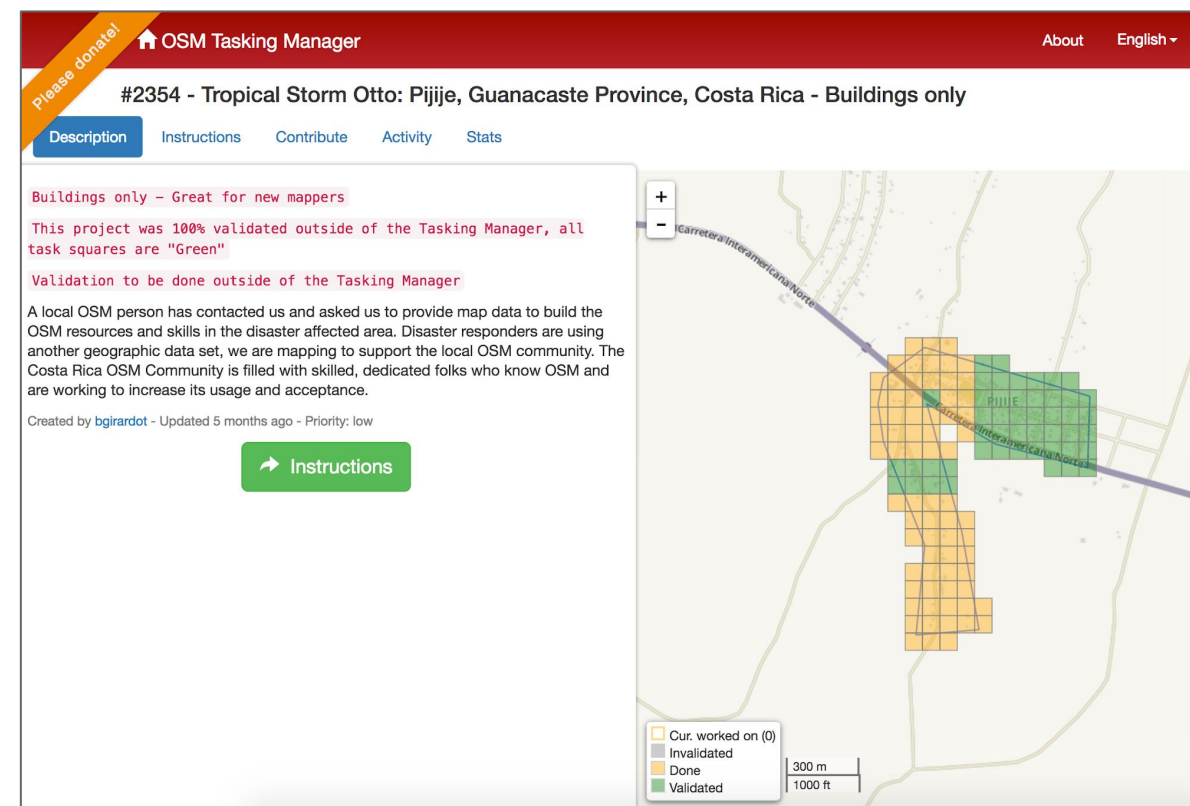
OSM TASKING MANAGER

The Tasking Manager helps coordinate workflow in a distributed environment, such as a ‘mapathon’.

Used to create a mapping job that divides an area of interest into many smaller sub-areas.

Mappers choose one sub-area to map in, preventing mappers from duplicating effort.

<http://tasks.teachosm.org>



MOBILE MAPPING TOOLS

One of the fastest growing applications of open mapping is using smartphones to make maps while out and about. Several applications exist for both Android and iOS platforms. Typically all that is needed is a cell phone signal, although the apps make use of the phone's built-in GPS for positioning. The mapping apps presented here are OSMAnd, Mapillary, and Maps.Me.



<https://osmand.net/>



<https://www.mapillary.com/>



<https://maps.me/download/>

QUANTUM GIS



Quantum GIS (QGIS) is robust, desktop software used to create maps as well as conduct more advanced geospatial analysis.

QGIS is a full-functioned, open source GIS package that allows for simple mapping and cartography as well as sophisticated spatial analytical functions, such as cluster analysis and spatial autocorrelation.

The GIS path will introduce you to the key functions of QGIS, and you will be making your own printed maps after just a few short lessons.

<https://qgis.org>

NEXT IN THE SERIES - OpenStreetMap *OR* GIS

OPENSTREETMAP BASICS I - ACCOUNT & INTERFACE

OR

INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS)