

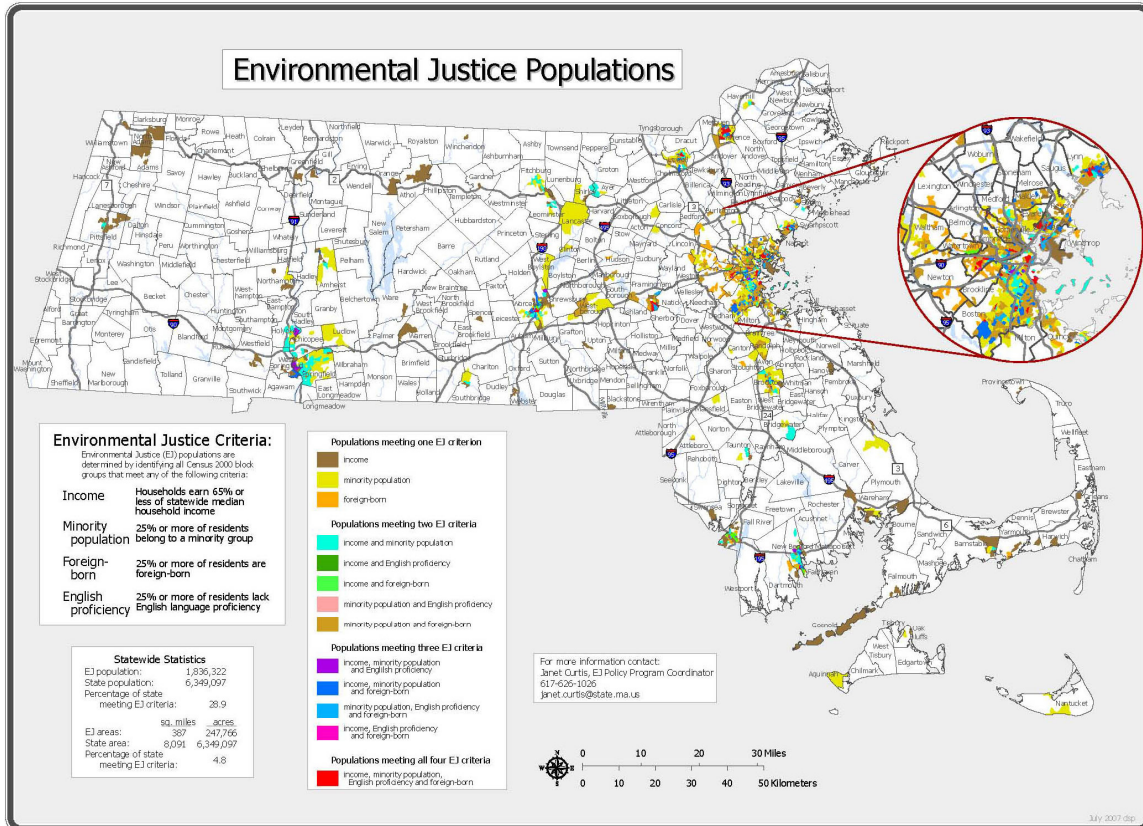
# MAPPING FOR CHANGE

## (Introduction to Computer Cartography using ArcGIS)

Winter Quarter 2018 – Thursday night, 6pm-9:50pm – Lab 2 CAL

A 4-credit course, open to all levels, Freshpersons to Seniors

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Maps are powerful tools for understanding the relationships between people and place. They have been used to divide and unite, to expose environmental problems, to plan for peace, and to prepare for war. If a picture is worth a thousand words, a map might be worth millions.

In this course, students will learn the basics of Geographic Information Systems (GIS) for the production of digital and paper maps. We will study the elements of good cartographic design and apply those elements to produce meaningful maps with a purpose. The quarter will culminate in a project to produce a series of maps that illustrate a social or environmental problem, and which could be used to advocate for a change in policy or to raise public awareness about the issue.

Credits may be awarded in Geography, GIS, Cartography, and possibly mathematics or statistics, depending on a project's sophistication.

**Prerequisites:** This course is intended for people with no prior GIS experience. However, students who enroll should be intermediate or advanced computer users (*understanding the organization of the Windows file system is crucial*), have knowledge of basic algebra, and some experience using spreadsheet software. Both upper and lower division students are welcome.

## Course Requirements:

- **Attendance at class meetings:** there will be only ten 4-hour sessions, each of which will include time to work with the software and develop your project, with my technical support assistance. Work in the computer lab setting cannot be replicated at home, so attendance is crucial.
- **Timely completion of all assignments**
- **Participation at an in-class symposium** where you will report on your project
- **Portfolio and final project** including in-class assignments, drafts, and a final project package submitted as per the ePortfolio instructions

## Required Materials:

A USB storage device with a *minimum* 2 GB capacity.

## Required Texts:

Hillier, A. 2011. *Manual for Working with ArcGIS 10*. University of Pennsylvania School of Design. Free, online publication.

Law, M. and A. Collins. 2015. *Getting to Know ArcGIS Desktop*. 4th Edition. ESRI Press.  
[NOTE: make absolutely sure your order the version that is geared for the latest version of ArcGIS 10.x !!!]

Monmonier, M. 1996. *How to Lie with Maps*. 2<sup>nd</sup> Edition. University of Chicago Press.

**\*Map Credit:** Environmental Justice Policy Program. “Environmental Justice Populations.”  
State of Massachusetts.

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# Overview of the Quarter

(subject to change during the quarter to best accommodate student needs)

WEEK 1	<ul style="list-style-type: none"><li>• <b>Intro to GIS &amp; Principles of Cartographic Design</b></li><li>• <b>Lab 1 Demo</b></li></ul>	Hillier, Ch. 1-2
WEEK 2	<ul style="list-style-type: none"><li>• <b>Thinking Through the Project &amp; Intro to US Census Data</b></li><li>• <b>Lab 2 Demo</b></li></ul>	Hillier, Ch. 3-4 <b>Lab 1 Due</b>
WEEK 3	<ul style="list-style-type: none"><li>• <b>Data Wrangling &amp; US Census Data, Pt. 2</b></li><li>• <b>Lab 3 Demo</b></li></ul>	Hillier, Ch. 5-6 <b>Lab 2 Due</b>
WEEK 4	<ul style="list-style-type: none"><li>• <b>Data Wrangling &amp; Creating Your Own Shapefiles using DOQQs</b></li><li>• <b>Lab 4 Demo</b></li></ul>	Hillier, Ch. 7-9 <b>Lab 3 Due</b>
WEEK 5	<ul style="list-style-type: none"><li>• <b>Final Projects Advice &amp; Planning</b></li></ul>	<b>Project Proposal Due</b> <b>Lab 4 Due</b>
WEEK 6	<b>Symposium I</b> <ul style="list-style-type: none"><li>• Present project concept and initial map drafts</li></ul>	
WEEK 7	<b>Project Work and Support</b> <ul style="list-style-type: none"><li>• Seminar on <i>How to Lie With Maps</i></li><li>• In-class project development work</li></ul>	Monmonier, <i>How to Lie with Maps</i> (All)
WEEK 8	<b>Project Work and Support</b> <ul style="list-style-type: none"><li>• In-class project development work</li></ul>	
WEEK 9	<ul style="list-style-type: none"><li>• <b>QuantumGIS—an Open Source Alternative to ArcGIS</b></li><li>• <b>Project Work and Support</b></li></ul>	
WEEK 10	<b>Symposium II</b> <ul style="list-style-type: none"><li>• Final Presentations to Peers</li></ul>	<b>Final Project Due</b> <b>With Electronic Portfolio</b>

## YOUR ePORTFOLIO

In order to be considered for full credit, you must turn in a complete portfolio at the end of the quarter. Complete portfolios will include the following:

- copies of all your lab assignment final products
- all the raw data for your lab assignments, so your professor can examine them
- your Final Project, including:
  - copies of all drafts and notes, including notes from peer-review workshops
  - your final series of high-quality maps, printed in color
  - a typewritten guide to your maps (double spaced, 12-point font, 1-inch margins). This guide should give a detailed interpretation of each map and should also include an overall explanation of how the maps work together to make the case

for which you are arguing or advocating. More information on the project expectations will be explained during class meetings.

- a formal “Data Sources List” that includes names and web locations of your project data sources, along with the date the data was downloaded.
- all of the raw data for your final project, so your professor can examine them
- a self-evaluation
- A student evaluation of faculty must be submitted to the online system as a condition of full credit for this course.

**Your portfolio MUST be submitted in electronic format according to the instructions provided on the course page and in class. Failure to submit your complete ePortfolio according to these instructions will result in loss of credit, as your professor will not be able to examine the raw data on which your maps are based. See the ePortfolio Instructions handout (posted on our course Canvas site) for more information.**

### **OPTIONAL EVALUATION CONFERENCES**

**Evaluation conferences are not required.** Any student who wishes to have a conference during Eval Week should schedule an appointment with the faculty member during the Week 10 class meeting.