OSU College of Earth, Ocean, and Atmospheric Sciences

Winter 17 - GEOG 371

GeoVisualization: Web Mapping

Course Introduction

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College of Earth, Ocean and Atmospheric Sciences

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Technology and Society
GIS Project Management
Climate Change Social Justice
Historical GIS
Transportation Planning Historical Site Planning Environmental Governance
Geospatial Big Data Techniques
Land Use Planning VGI
Web GIS Cyber Infrastructure Spatial Database
GIS Fundamentals Cartography and Geovisualization

Nanjing Univ., China Univ. of Florida Harvard Univ. Ohio State Univ. Harvard Univ. Oregon State Univ.
Dept. of GIS Urban and Regional Planning CGA Dept of Geography Kennedy School CEOAS

2002   2006   2008   2009   2010   2012   2015   2016   2016.10 >>>

Teaching:

My goal is to help students efficiently and friendly communicate with the targeting audience using geovisualization.
- Geog 370: Web Mapping
- Geog 3/571: Web Mapping
- Geog 4/572: Geovisual Analytics

Former Student Project Gallery

Current Research:

- Location-based Social Media; Location Spoofing
- Storymap.js – a open source map storytelling library

Visualization LGBT community in Beijing

Now, why are you here …?

So, why study Web Mapping?
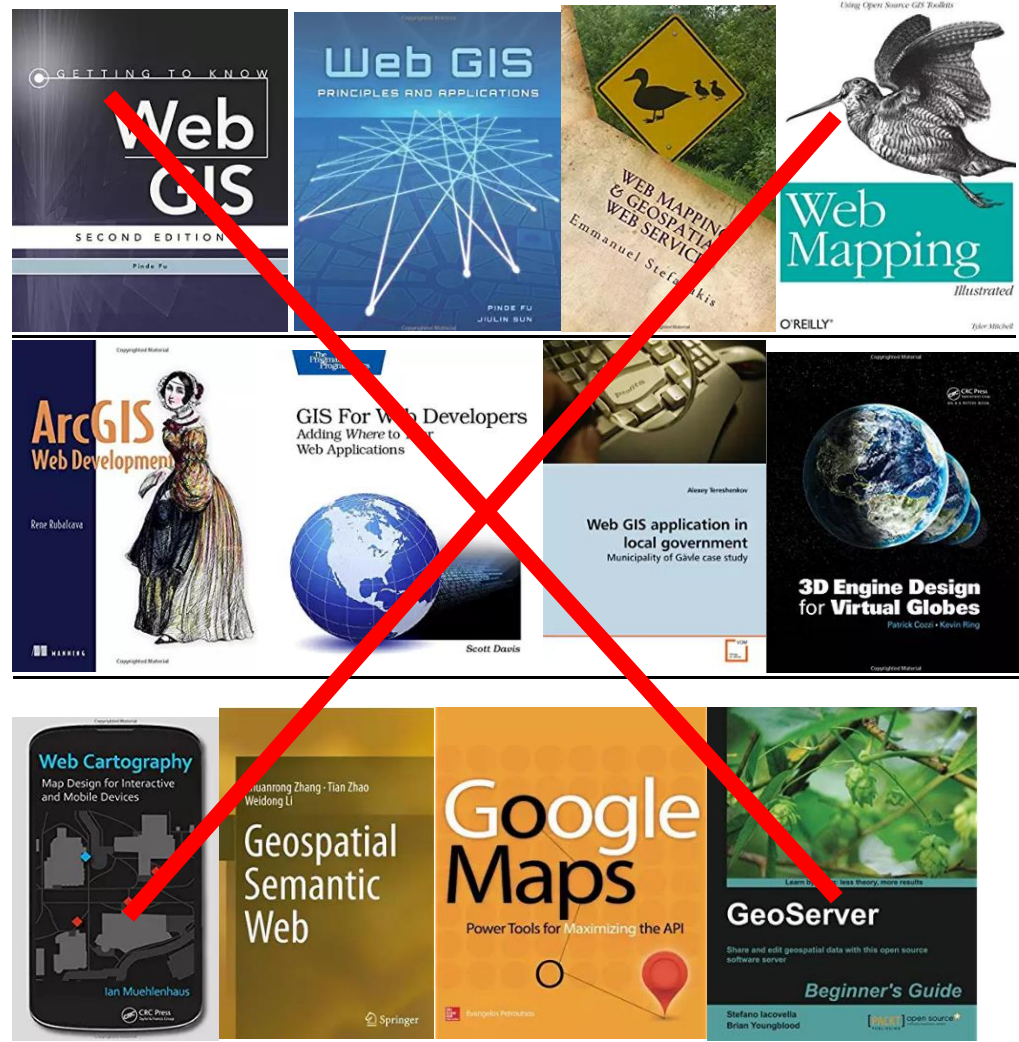
Instructor:	Bo Zhao, zhao2@oregonstate.edu
	Office: 347 Strand Ag Hall
	Office Hours: 2-3pm W or by appointment
Credits:	4
Meetings:	Lecture: MWF 1200-1250 @Wilkinson 235; Lab: Th 1000-1150 @Wilkinson 210
Prerequisites:	GEOG 201 or GEO 301
Grades:	Letter grading (A to F)

Texts

No required textbook.

Required papers and online materials will be available on canvas.

Syllabus

Week	Lecture (M)	Lecture (W)	Lab (Th)	Lecture (F)	Reading
Wk *	N/A	Intro to the course	Lab 1: Project Management	Intro to Web Mapping	Markdown, GitHub, Typora, and Webstorm.
Wk 01	Web Programming Basics I: HTML 5 and CSS	Web Mapping Architecture	Lab 2: Web Programming Basics	Lab 2: Web Programming Basics II: Javascript	HTML, CSS and Javascript
Wk 02	Spatial Data for Web Mapping	Map Client I: Basics and Geographic Features	Lab 3: Web Map Design	Map Client II: Map Events and Mashup	Leaflet and JQuery
Wk 03	Map Client III: Web Map Interaction	Map Server I: Intro to GeoServer	Lab 3: Cont'd	Map Server II: Styling	GeoServer docs
Wk 04	Map Server III: Web Map Services	Base Map and Mapbox	Lab 4: Web Map Service	Map Server IV: Map Tiles	Bing Map Tile, and GeoWebCache
Wk 05	Midterm Exam	Map Design I: Web Template and Framework	Lab 4: Cont'd	Map Design II: Bootstrap	Bootstrap docs, Kosara and Mackinlay (2013)
Wk 06	Storytelling with Web Map I	Storytelling with Web Map II	Lab 5: Story Map	Map Design III: User Friendly Design Principles	storymap.js
Wk 07	Time Series	Heat Map	Lab 5: Cont'd	Veterans Day	
Wk 08	Map Design IV: Map Critiques	3D Web Mapping I: Basics	Lab 6: Thematic Map on the Virtual Globe	3D Web Mapping II: Build a Virtual Environment	
Wk 09	3D Web Mapping III: Thematic Map on a Virtual Globe	Final Project Discussion and Preparation	Lab 6: Cont'd	Thanksgiving Break	
Wk 10	Emerging Topics on Web Mapping	Final Project Discussion and Preparation	Final Project Discussion and Preparation	Final Project Presentation	Elwood et al. (2012), Sui and Zhao (2015)

Grading

Item	Description	% of final grade
Quizzes	3 in-class and/or take-home quizzes covering topics from lecture and reading assignments.	12
Lab Assignments	6 lab assignments (9% each). We understand that many of the programming techniques discussed early in the course will be relatively new. Recognizing this, the first few assignments will contain more detailed instructions.	54
Mid-term	Evaluating your understanding about the basic concepts of web mapping programming. It is a closed book exam and will cover material presented before the midterm.	14
Final Project	Each student is required to design a web map and deploy it to a dedicated server. Each student will make a presentation to demonstrate their work. This final project is mainly evaluated by both the presentation and the quality of the web map.	20
TOTAL		100

Any questions?