The Practice of Geospatial Leadership

John P. Wilson, Ph.D.

Professor of Spatial Sciences, Sociology, Architecture, Civil & Environmental Engineering, and Computer Science

Founding Director, Spatial Sciences Institute

Visiting Professor, Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences

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Outline

- My background
- My vision for spatial
- USC Spatial Sciences Institute
- Geospatial technology project management
- The practice of geospatial leadership
- Learning outcomes
- Class assignments
- Completing an assignment
- Questions
My background

- New Zealand
- Canada (1979-1984)
- California (1997 to present)
- Visiting positions
  - Australian National University
  - University of Canterbury
  - Chinese Academy of Sciences
  - University of Utrecht
  - University of Waikato
- Department of Geography
- Spatial Sciences Institute
  - Founding Director (2007)
- Department of Sociology plus ...

| Founding Editor (1995) Transactions in GIS |
| Founding Member (1995) UNIGIS International Association |
| Editor-in-Chief, GIS&T BoK Project (2016-present) University Consortium for Geographic Information Science |
| Lifetime Achievement Award (2016) Association of Chinese Professionals Working in Geographic Information Systems |
My spatial vision

- The spatial sciences include all of the different ways in which location may be used to organize, represent, store, analyze, model and visualize information.

- The spatial sciences can be thought of as an enabling discipline, much like statistics.

Location | Power of Place | Science of Where | Spatial Thinking | Spatial Turn
Spatial Sciences Institute

- Established 1\textsuperscript{st} July, 2010
- Rapid growth
  - 15 interdisciplinary faculty
  - 25 faculty affiliates
  - 7 staff
- AHF Building
  - Faculty & staff offices
  - Dedicated classroom & laboratories
- Full suite of academic programs
- Substantial research enterprise
  - Faculty & staff offices
  - Dedicated classroom & laboratories
- Large computing infrastructure
Interdisciplinary courses and degrees at every level

- **Undergraduate**
  - BS in Geodesign
  - Minors in Human Security & Geospatial Intelligence, Spatial Studies

- **Masters students**
  - MS in GIS&T, Spatial Informatics
  - Graduate Certificates in GIS&T, Geospatial Intelligence, Geospatial Leadership
  - GeoHealth Track in Keck’s MPH degree

- **Doctoral Students**
  - PhD in Population, Health and Place
  - Graduate Certificate in Spatial Analytics
Charles Becker, M.S. GIST ’16
Intelligence Officer, US Air Force

Analyzed spatial and non-spatial relationships to assess accessibility of primary care for military veterans

Melodie Grubbs, M.S. GIST ‘17
GISCorps Volunteer

Led a world-wide volunteer effort that mapped the Ebola outbreak for the World Health Organization and the Centers for Disease Control and Prevention

Kelly Wright, M.S. GIST ‘17

Designed an app to enable humanitarian aid workers to gather demographic and medical information on the disease tungiasis

Steven Rubinyi, M.S. GIST ’14
D.Phil. Candidate, Oxford University

Analyzing the effectiveness of coastal adaptive infrastructure in Bangladesh based upon work with the World Bank
Geospatial technology project management

- Geospatial project management principles
- Running a geospatial technology project
- Human resources
- Current and emerging trends
Learning outcomes

- Identify and critically analyze the issues involved in organizing, planning, monitoring, and controlling a geospatial technology project.
- Initiate a small-scale geospatial technology project by developing project plans and financial budgets, assembling project costs and benefits, developing investment appraisal methods, and using authorization, monitoring, and control processes.
- Discuss the role, significance, and impact of people in a project management setting, and evaluate and implement strategies for managing people in geospatial technology projects.
- Review current geospatial technology project management methodologies and appraise their effectiveness and efficacy for managing different types of geospatial projects.
Course schedule: A weekly breakdown

Introduction

Geospatial Program Development

Geospatial Program Organizational Structure, Governance, & Coordination

Human Resources

Funding, Financial Management, & Collaboration

Geospatial Program Legal Issues

Management of Geospatial Program Technical Elements

Geospatial Office Operations, Service Delivery, & User Support

Geospatial Projects & Project Management

Wrap-up
The practice of geospatial leadership

- Geospatial value proposition
- Leadership fundamentals
- Innovation practice
- Leadership at work
- Future trends
Learning outcomes

- Describe the geospatial value proposition, identifying all of the ways in which geospatial information and spatial thinking can promote human well-being
- Examine how leaders can help shape a context in which other people will help geospatial information management groups and organizations achieve extraordinary results
- Examine the role of teamwork in helping geospatial information management groups and organizations achieve extraordinary results
- Examine the role of personal leadership skills and styles in helping geospatial information management groups and organizations achieve extraordinary results
Learning outcomes (2)

- Discuss why ideas matter and how the various elements of a geospatial information management group or organization’s innovation practice influences the successful generation, adoption and deployment of new ideas.
- Critically evaluate how disruptive technologies might affect geospatial information management and the potential to capture and use some of these changes to help a geospatial information management group or organization prosper.
- Develop a vision for how the geospatial information management domain is likely to grow and evolve during the next 5-10 years.
Course schedule: A weekly breakdown

Introduction
US Geospatial Services Industry
Economic Impact of Geospatial Services
The Art of Leadership
LF: The Organizational Context
LF: Conversations with Geospatial Leaders
LF: Leadership Fundamentals

LF: Role of Teamwork
LF: How to Lead
LF: Why Ideas Matter
Innovation Practice
Disruptive Technologies
Business Communication Revolution
Future Trends in Geospatial Information Management
Class assignments

- 3 Exercises
- 2 Presentations
- 10 Reflections
- 1 Final Report

Read the book entitled "The Business Communications Revolution" authored by Richard Hughes referred to in your Week 12 Course Materials and send me a brief report (two-page maximum, typed using a 12-point font and standard margins) identifying two things you learned that were important to you (task #1), explaining why these things were important to you (task #2), and drawing some implications for your future actions (task #3).
Exercise #2: Self-assessment of strengths & weaknesses

- For this exercise you will flesh out an assessment of your own strengths and weaknesses using a variety of approaches that I have gathered and cobbled together from a series of websites that perform more or less the same service.

- The rationale for including an exercise like this one is simple since we are all more likely to succeed in life if we use our talents to the fullest extent and of course, we will experience fewer problems if we know what our weaknesses are and, if we manage these weaknesses so they do not influence or interfere with the work we do.

- The MindTools® website, for example, suggests conducting a personal SWOT analysis and while we will not pursue this particular approach, some of their introductory material is helpful in getting started with the tasks that will be assigned below. Their approach focuses on strengths, weaknesses, opportunities and threats.
Exercise #2: Strengths and weaknesses

**Strengths**

- **What** advantages do you have that others don't have (for example, skills, certifications, education, or connections)?
- **What** do you do better than anyone else?
- **What** personal resources can you access?
- **What** do other people (and your boss, in particular) see as your strengths?
- **Which** of your achievements are you most proud of?
- **What** values do you believe in that others fail to exhibit?
- **Are** you part of a network that no one else is involved in? If so, what connections do you have with influential people?

**Weaknesses**

- **What** tasks do you usually avoid because you don't feel confident doing them?
- **What** will the people around you see as your weaknesses?
- **Are** you completely confident in your education and skills training? If not, where are you weakest?
- **What** are your negative work habits (for example, are you often late, are you disorganized, do you have a short temper, or are you poor at handling stress)?
- **Do** you have personality traits that hold you back in your field? For instance, if you have to conduct meetings on a regular basis, a fear of public speaking would be a major weakness.
Exercise #2: Opportunities and threats

**Opportunities**

What new technology can help you? Or can you get help from others or from people via the Internet?  
Is your industry growing? If so, how can you take advantage of the current market?  
Do you have a network of strategic contacts to help you, or offer good advice?  
What trends (management or otherwise) do you see in your company, and how can you take advantage of them?  
Are any of your competitors failing to do something important? If so, can you take advantage of their mistakes?  
Is there a need in your company or industry that no one is filling?  
Do your customers or vendors complain about something in your company? If so, could you create an opportunity by offering a solution?  

**Threats**

What obstacles do you currently face at work?  
Are any of your colleagues competing with you for projects or roles?  
Is your job (or the demand for the things you do) changing?  
Does changing technology threaten your position?  
Could any of your weaknesses lead to threats?
Exercise #3: Constructing Life Maps
Final project: The development of a personal plan

- The final project requires you to craft a personal plan for the next phase of your growth as a leader in two parts.

- The first is a **final report** (30 points), which is the focus of this particular document, and the second is a **presentation** (5 points), and both should draw on material from the entire course.

- For example, you may want to include as appendices in the final report your self-assessments, life maps, etc. (so hopefully you still have them), and you may also want to include materials from outside the course that you consider relevant, such as past performance evaluations or advertisements documenting the kind of position you aspire to apply for in the near future.