Legal and Policy Frameworks Around Geospatial Information Management

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Objectives

• What Are the Unique Aspects of Geospatial Information From a Legal and Policy Standpoint?
Geospatial Information Management Undergoing Tremendous Change

• Collection of Geospatial Information
  o Small Satellites
  o Mobile devices
  o Unmanned Systems (Air, Ground, Maritime)
  o Internet of Things

• Use of Geospatial Information
  o Software
  o Computing Power
  o Machine Learning

Geospatial Information Management Undergoing Tremendous Change

• Distribution of Geospatial Information
  o Standards
  o Technical interoperability
  o API’s

• Storage of Geospatial Information
  o Cloud
  o Distributed Networks
Increased Awareness of Value of Geospatial Information

Governments
- Spatial Data Infrastructures
- Place-based policies
- Sustainable Development Goals
- Climate Change
- Homeland Security/Law Enforcement
- Disaster Response

Increased Awareness of Value of Geospatial Information

Businesses
- Location Based Services
- Business Intelligence
- Internet of Things
- Visualization
  - Customers
- Tracking
  - Assets
  - Employees
Increased Awareness of Value of Geospatial Information

**Individuals**
- Navigation
- Social Media
  - WhatsApp
- Loved Ones
  - Monitoring elderly parents and children
- Gaming
  - Pokémon

Growing Evidence Supporting Value of Geoinformation

- Google study (2012)
  - Geospatial services companies generate $1.6 Trillion in revenue and $1.4 Trillion in cost savings
- Ordnance Survey of Ireland study (2014)
  - Total value add to economy - 126.4 Million Euros
  - FTE Jobs in total economy - 3,078
- Natural Resource Canada study (2015)
  - $21 billion of value to Canada’s Gross Domestic Product (1.1%),
  - generate approximately 19,000 jobs in Canada’s economy
A Geospatial Ecosystem In Which Everyone is a Data Collector and User

- Universities, Citizens, NGOs
- Industry
- Government
- Data Provider
- Data User
- Geospatial Community

Geospatial Information

- Versatile
  - A data set can be used in a number of different applications, but . . .
  - Doesn't mean data is suited for all such uses
- Geospatial information and other types of big data are relatively new, . . .
  - and applications using them are evolving
- Creating a new ecosystem
- Cuts Across Technology Platforms ....
- And legal/policy domains
Unique Aspects of Geospatial Information

- **Privacy**
  - Uncertainty over privacy from a location standpoint
  - Difficult to put location into existing privacy framework
  - Spatial data is critical to so many important applications

- **Data Quality/Liability**
  - New Applications
  - Versatility
  - Little precedent

- **Intellectual Property**
  - Role of Government Data
  - Variety of Sources
  - Uncertainty Associated with Copyright

- **Defense/Intelligence Roots**

- **Sector specific regulations**
  - Satellites, drones, autonomous vehicles

Risk that laws, regulations, precedents, policies developed to address one user groups use of geospatial information will impact other uses.

Why Legal Issues Are Important?

Geospatial products and services are increasingly be developed using data from a variety of sources
- Government
- Industry
- Crowd

Each are subject to their own licenses/data sharing agreements with varying terms/restrictions

Licensing becoming more complex and increases risks
UN-GGIM Survey
Impact of Privacy Concerns

UN-GGIM Survey
Impact of Liability Concerns
UN-GGIM Survey
Impact of National Security Concerns

UN-GGIM Survey
Impact of Licensing/Data Sharing Concerns
Legal Issues Impact All Stakeholders in Geospatial Community

• **Government Agencies**
  o Law Enforcement, Homeland Security, FEMA, Census

• **Mapping, Navigation, Remote Sensing**
  o Garmin, Digital Globe, Pictometry

• **Internet and Social Media**
  o Google, Facebook, Twitter

• **Future Technologies**
  o Augmented Reality, Smart Grid, Autonomous Vehicles

Conclusions

• Geospatial Information Management Undergoing Tremendous Change
• Increased Awareness of Value of Geospatial Information by Governments, Industry and Individuals
• As a result, geospatial information is becoming common
• Creating a Geospatial Ecosystem where government, industry and the “crowd” (citizens, NGO’s, research organizations, etc.) are both collectors and users of geospatial information, often simultaneously.
• Many unique aspects of geospatial information from operational and legal/policy standpoint.
• Having an impact on use across entire geospatial community