



Spatial Data Quality  
 +  
 Legal Liability  
 +  
 Risk Management  
 =  
**Evolving Professional Practices**

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## We Have Entered the 5<sup>th</sup> Decade of Digital Spatial Data

- ◆ **1970s:** arrival of the digital era in geomatics, mostly for researchers and early adopters
- ◆ **1980s:** mastering the new digital technologies and producing digital data, mostly by specialists
- ◆ **1990s:** integrating data, building standards and promoting interoperability, mostly by skilled peoples at work in several fields
- ◆ **2000s:** spatial data infrastructures and democratization of spatial data and technologies, mostly for general public
- ◆ **2010s: increasing awareness of data misuses**
  - ◆ Society is adapting to growing number of misuses
  - ◆ New prevention services required

## Examples of Society's Adaptation to Spatial Data Misuses

Don't follow

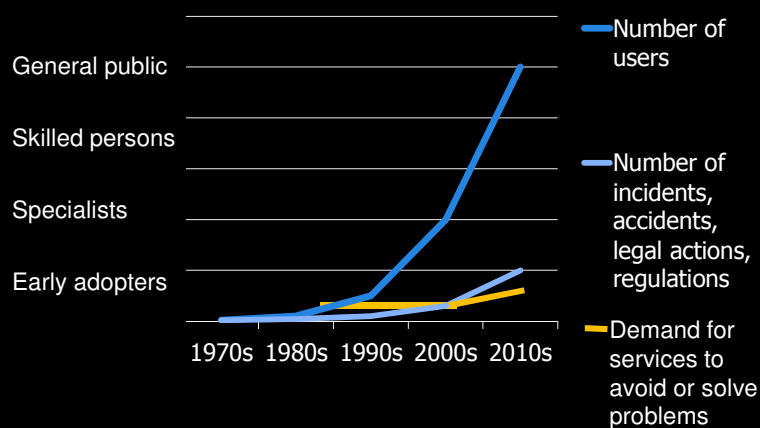


Regulation

**LAWSUIT**



## Evolution of a Successful Domain



## Spatial Data Quality

- ◆ Uncertainty can be reduced
  - Better observation technologies and methods
  - Standards
  - Training ...
- ◆ There always remain residual uncertainty
- ◆ Residual uncertainty = risk absorbed by
  - data producers
  - Data brokers
  - Users
- ◆ Jurisdictions' laws, Court decisions and regulations define who take or share that risk

Data quality issues begin in the hands of professionals but they end up in the hands of Society <sup>5</sup>

## Spatial Data Quality and Liability

- ◆ Typical users take digital data for granted, assuming their quality is high and fits the intended usage
- ◆ It is a duty for the expert to care about users and to inform them about inappropriate usages of spatial data

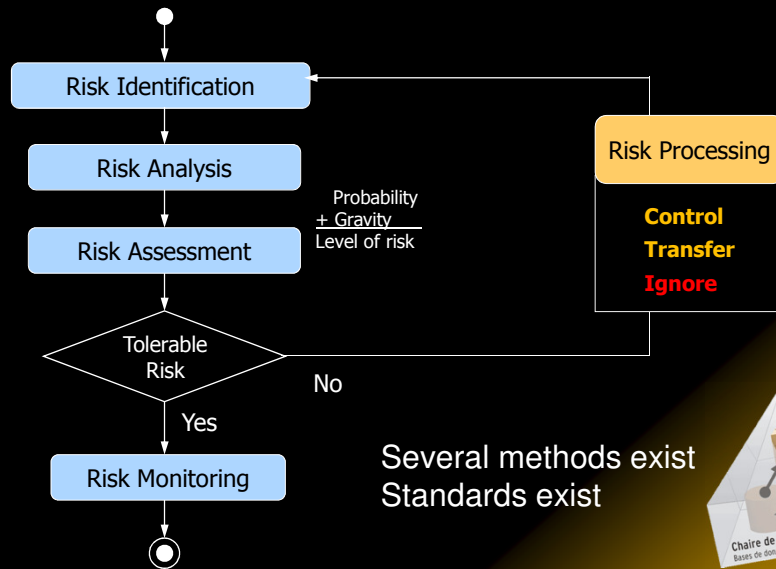
## Spatial Data Quality and Liability

- ◆ Ethics and Court decisions support that
  - ◆ Poor quality data should not be used for sensitive applications where it poses a risk of harm
  - ◆ If it is to be used, then it will be necessary to build in appropriate safeguards to avoid the harm, and to provide effective warnings

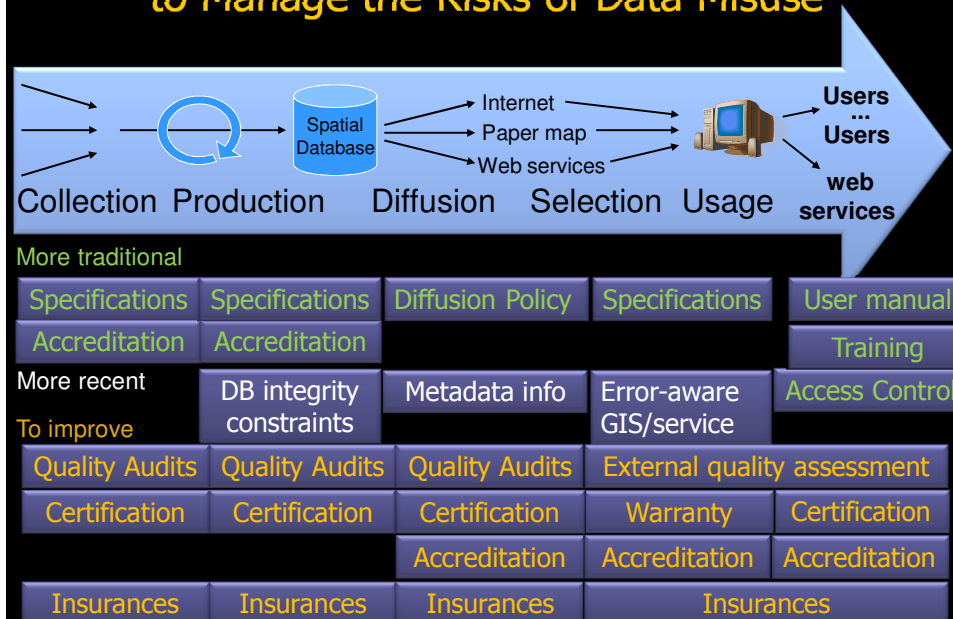
## Spatial Data Quality and Liability

- ◆ Ethics and Court decisions support that
  - ◆ It is always possible, however, that a Court might find that the sensitive application ought not to have been designed at all if the risks posed by the poor data are too serious
  - ◆ It is not enough just to anticipate the intended uses and data quality requirements of a system. It is also important to anticipate the possible misuses of the system as well

# Risk Management



# Enlarging the Body of Professional Practices to Manage the Risks of Data Misuse



## Conclusion

- ◆ We have entered a new era where spatial data have become mass-market commodity
- ◆ Society always organize itself when a mass of citizens is facing increasing risks of misusing given products or services
- ◆ We must further expand our professional activities, organizations and curricula regarding spatial data quality and risk management
  - ◆ *quality assessment, quality assurance, quality control, certification, accreditation, inspection, audit, warranty, etc.*

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