Achieving and Maintaining Interoperability of Spatial Data

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FIG working week
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Objectives

- Understand the importance of associativity
- Learn how data relations can be modeled
- Discover how change can be managed effectively

Data Acquisition

- GIS
- Digitizing
- Geo-Referencing

Data
- Local Coordinates
- Global Coordinates

σ_xy ≈ 1m

Observations
- Distances
- Directions

Global Coordinates
σ_xy ≈ 0.01m

Layers

- User data
- Base data

Distinctive relationship, but usually not stored
Change of base map (Real world change)

Hierarchical data model

- Feature collection (surface=3D)
- Polygons
- Lines
- Points

1:1

Relationships

- OGC
- Cadastre systems
- ArcInfo coverage
- Oracle 10g (U.S. census)
- fractional
Digital National Framework (DNF)

set of enabling principles …
… to facilitate the integration of geodata

Capture once, use many times

TS21.1 Keith Murray et al:
Enabling Information Integrity within SDI’s —
The Digital National Framework Concept
14:00-15:30 Blue Nile room

Distance Function

User data

Base map

Distance function

Change of base map
Comparison of distance functions

Workflow: Integration and managing change

Prototype available soon

DNF Level 2: Integrated Geography
- User data
  - Complex polygon
  - IDs
  - Base data
  - Polygons

Brave new WFS world

Verification

Achieve and maintain
- Describe relationships
- Associativity
  - Quality
  - Data interoperability
- Integration – Maintenance – Validation

Thank you!