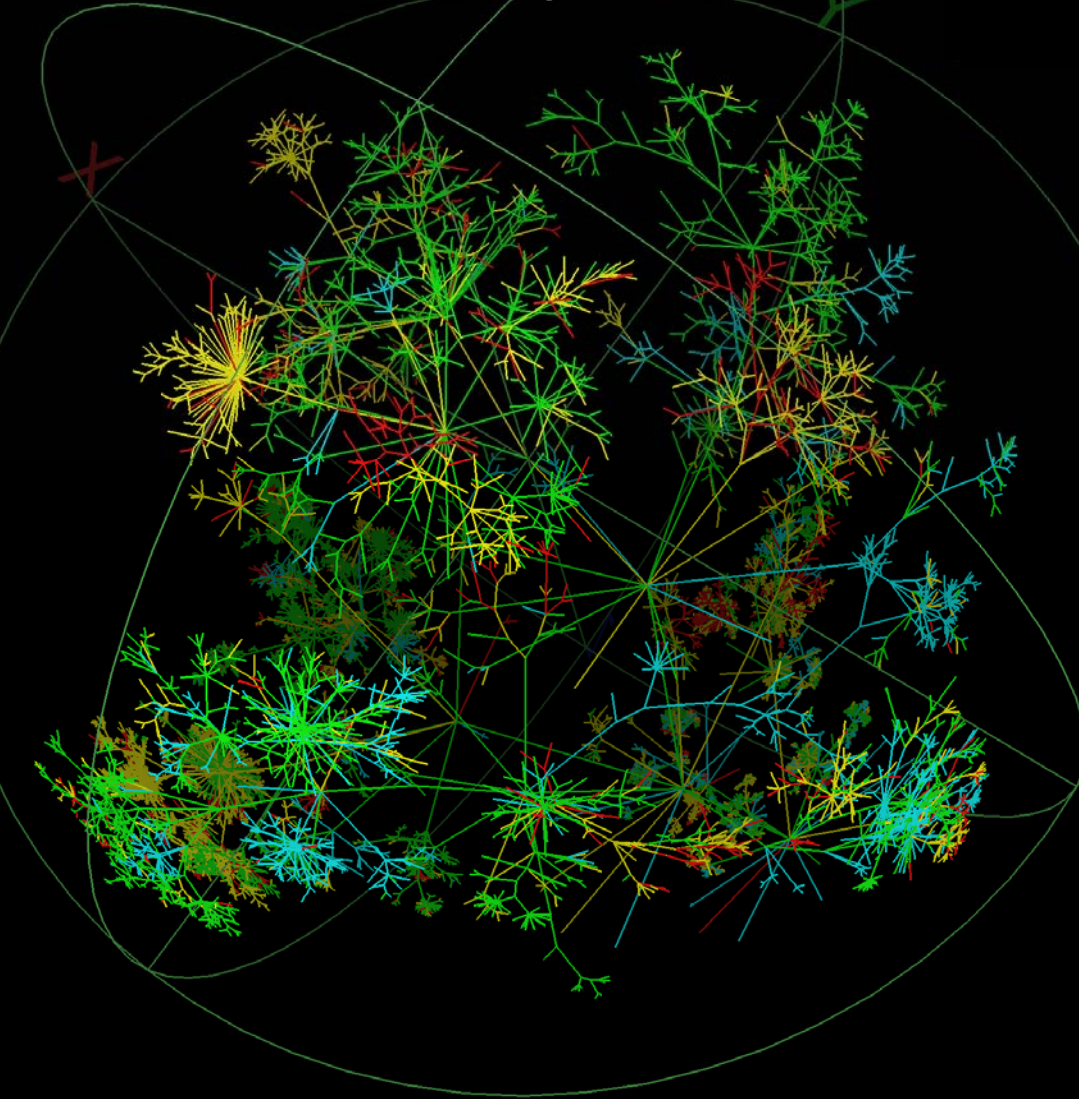
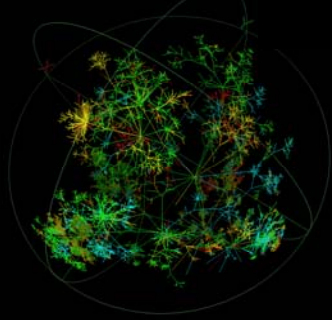




# Cyberinfrastructure for GIScience or Geospatial Cyberinfrastructure

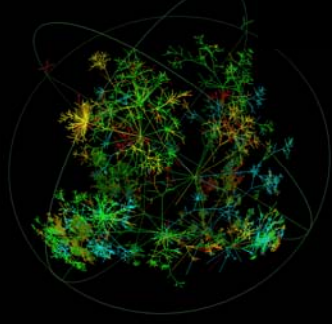


Marc Armstrong – U Iowa  
Ann Johnson - ESRI  
Tim Nyerges – U Washington  
Judd Patterson - K-State  
Lynn Usery - USGS  
Dalia Varanka - USGS  
Dawn Wright – Oregon St  
Lance Yarbrough - U of  
Mississippi



# Topics

- Metadata analysis and enforcement
- Ontology
- Semantic and tool interoperability
- Semantic web
- Software/data infrastructure
- Understanding of change/trends
- Rapid transformations on the web (e.g. projections)
- Validation, epistemology for agent-based models
- Using data autonomous sensor networks
- 3D modeling
- Volume, true 3D, scale/data sets
- Volumetric, true 3D, scale, large data sets – especially for global climate, oceans
- Geospatial data volumes
- Geospatial cyberinfrastructure
- Large volumes web



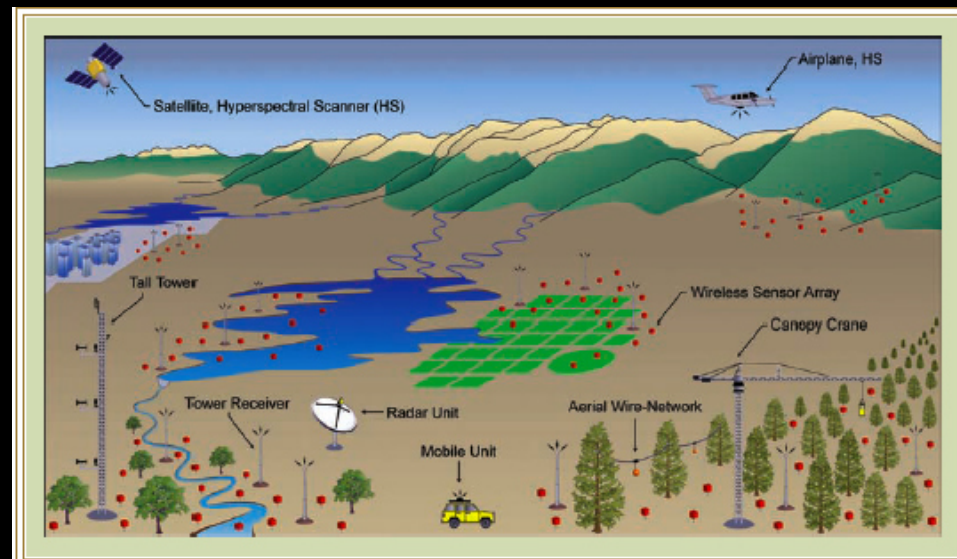
# Format / Audience

- Multiple workshops
- Raise awareness w/in GISci community
- Serve other application domains



# Applications / Sensors

- Ag, veg modeling, transportation
- National Map
- Agent-based modeling and sensors
- Ocean observing systems
- Typology of sensors?
- “CI for IC”



# NSF and Cyberinfrastructure

- Already ramping up (GEON, NEON, ORION, etc.)
- Unique niche for GIScience?
- Timing is right - topic resonates
- Bringing big science to society
  - Society/social science/humanities
- Sensors to support collaboratories
- Hazards, health, security, even immigration



# Terms That Should Appear in a Workshop Proposal

- Geospatial meaning making
- Geomiddleware
- Knowledge discovery
- Cyberinfrastructure
- GIScience
- Distributed geospatial data collection or sensing
- Distributed geospatial data storage
- Distributed geospatial data analysis
- Synthesizing distributed data for display
- Context modeling
- Probabilistic modeling
- Social networking
- Agent-based modeling
- Web portal
- Web services
- Spatial/temporal 3D modeling





# “Cyberinfrastructure”

- High performance computing is commonplace (not just for supercomputer users)
- Computing power distributed as well as the data
  - “loose coupling”
  - Distributed servers for sharing and intergrating data
  - Nationwide
- Development of frameworks for searching and analyzing the data