

# Geospatial Systems in Ports

## *A discussion about grant funding*

Daniel Elroi

NorthSouth GIS LLC



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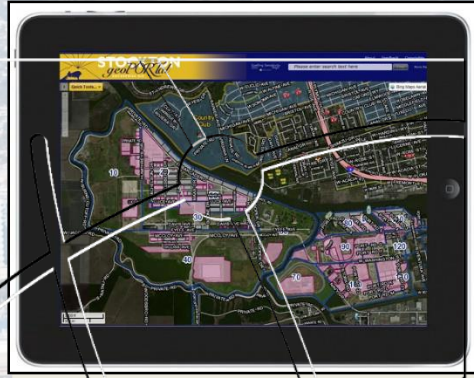
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# A Conversation with Daniel Elroi

- CEO of NorthSouth GIS, Los Angeles
- Geospatial systems integrator in ports
- Built Enterprise GIS systems for
  - Port of Los Angeles
  - Port of Oakland
  - Port of Stockton
  - Port of Tacoma
  - Port of Hueneme
- Also working for Ports of Long Beach, Tampa, San Diego

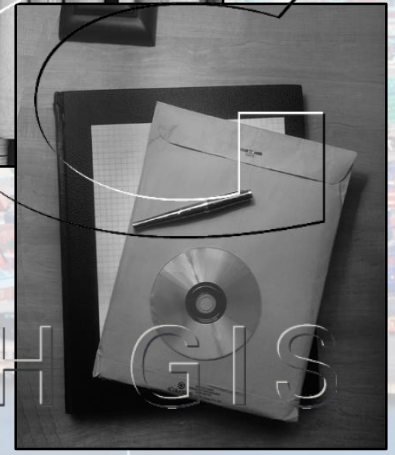
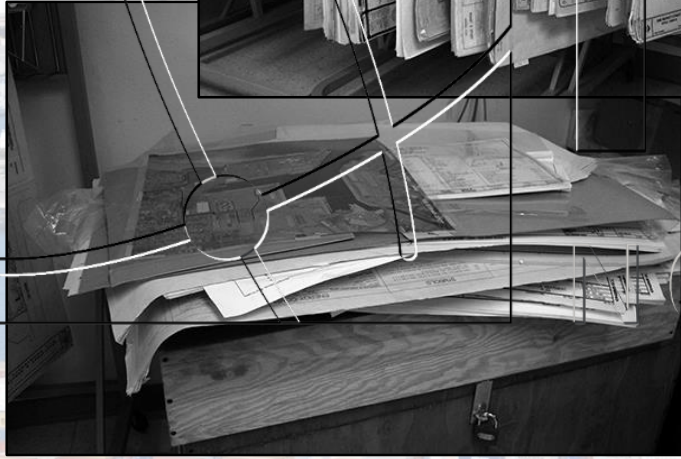
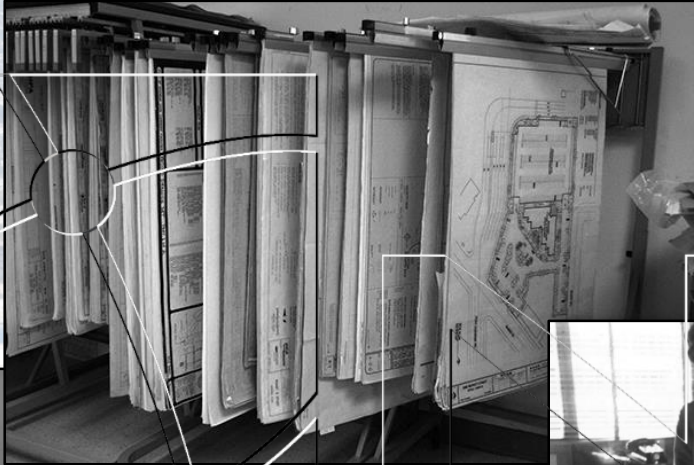


# Ports Want Their Data Like This



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# Instead of Like This



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# So That When These Happen

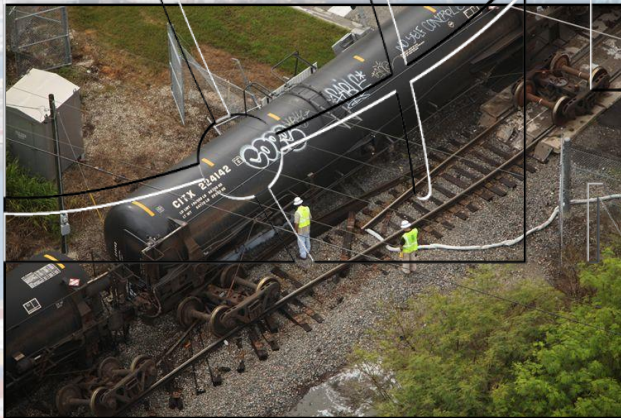
Image courtesy of CBS Los Angeles



Image courtesy of WPTV.com

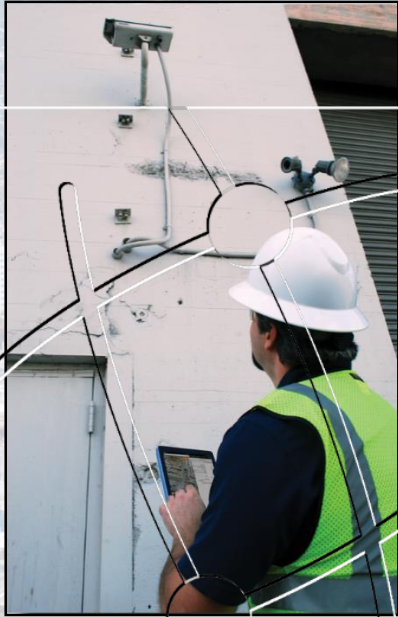


Image courtesy of Sun Sentinel



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# They Can Do This



# Instead of This



Photo credit: Nanette Stark, Washington Department of Fish and Wildlife

# Geospatial Data is Everywhere in

## Ports





# So How Do Ports Get There?



# The *Process* View

5. Train and Promote Adoption



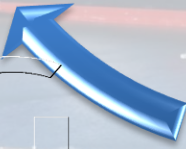
1. Determine & Prioritize Needs



2. Assess Conditions & Create a Plan



3. Build & Enhance the Data



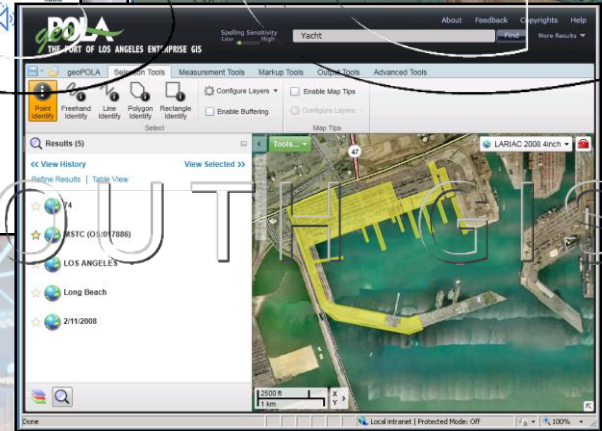
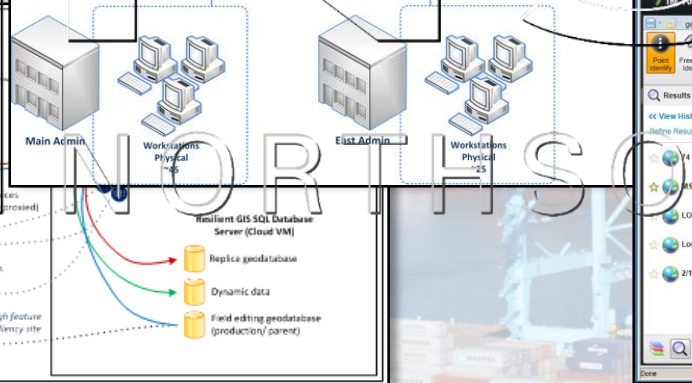
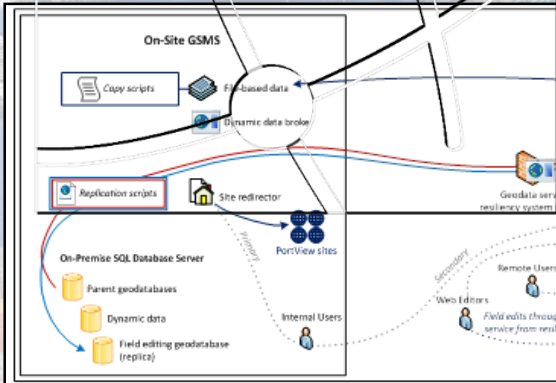
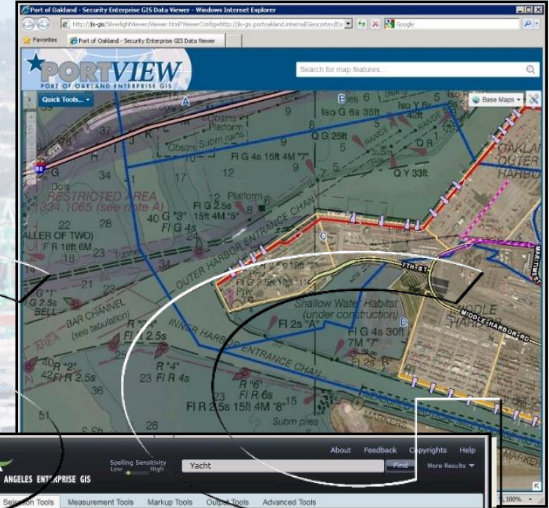
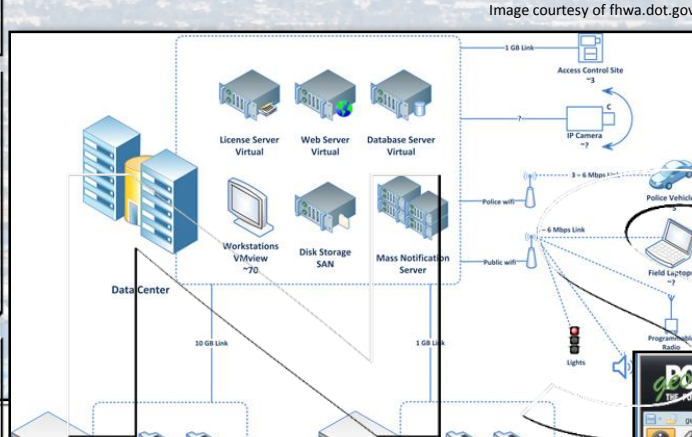
4. Implement Software



*Set the Gears in Motion*



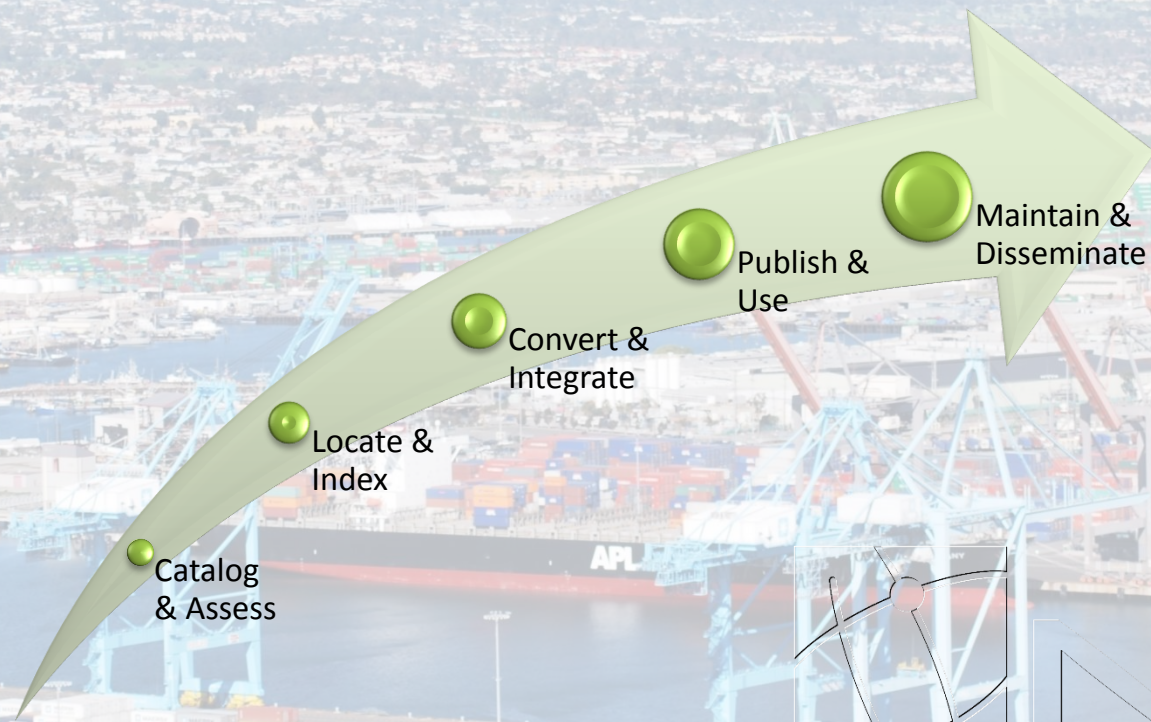
# The Software View



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# The *Data* View



# The *Funding* View



# Costs

- 2009 – 2015, based on 5 “NSG Ports”
  - Oakland, Los Angeles, Stockton, Tacoma, Hueneme
- GIS expenditures
  - \$0.5M to >\$1.0M / year
  - + 0 to 3 GIS staff



# Benefits

- Port-wide access to GIS viewers
- Enhanced situational and domain awareness
- 10s to 100s of map layers, incl. AIS & other dynamic data
- Multiple application and integrations





# Breakdown

- Planning (15%)
- Hardware/Software (5%)
- Data (20%)
- Implementation (19%)
- Integration (20%)
- Training & Outreach (3%)
- Support (18%)

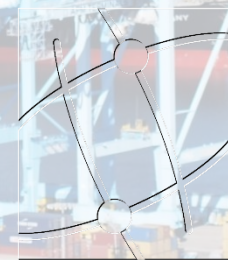


# Cost Alternatives

- Planning
- Hardware/Software: Cloud subscription
- Data: Defer/phase utilities data
- Implementation: Cloud subscription
- Integration: Defer/avoid until can do in-house
- Training & Outreach: Increase to maximize ROI
- Support/Staffing: Outsource managed service

# The other SaaS: “Service as a Service”

- 2016 & beyond
  - On-premise, self-managed; versus
  - Cloud-hosted, managed service – “Service as a Service”
    - 2012 Financial Times article by Matthew Le Merle:
      - *“...the on-demand business model is a better mousetrap for the vast majority of customers who really shouldn’t be in the IT business themselves.”*
      - *“Going forward, on-demand service will be critical to making sure... innovative technology solutions can reach their full potential.”*
  - \$100K to \$400K / year, 0 staff



# Funding Sources

- Capital Expenditures
  - Capital Investments
- Operating Expenditures
  - Operating Budget



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# Port Security Grants

- FEMA dedicates \$100M/yr to security grants
- Starting 2015 this is 100% competitive
- 4 times the available amount are requested
- Since 2009 Pacific US ports have received about \$20M in grants for geospatial work
- Results are good, FEMA likes it



# What FEMA Has Funded

- Consulting, Implementation, Integration
- Hardware & Software (incl. 1-2 years of maintenance)
- Data Conversion
- Support



# Strings Are Attached

- Can support other port elements so long as security purpose is achieved and there is no additional cost
- 25% port match is non-negotiable, but can be “in-kind”
- Expenditure is up-front, then reimbursed

# The Justification

- Program Objectives
  - Enhancing Maritime Domain Awareness
  - Enhancing Cybersecurity Capabilities
  - Supporting Port Resilience and Recovery



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# The Justification

- Program Priorities
  - Information sharing systems
  - Enhancement of command and control
  - Interoperable communications & asset tracking
  - Cybersecurity
  - Risk mitigation plans; security plans



# Schedules

- Typically
  - Announcement in March/April
  - Submittal in May/June
  - Decisions in July/August
  - Funds availability in September
- But can be early or late depending on Federal budget and congressional actions

# Complimentary Funding

- Internal
  - Asset Management
  - Real Estate
  - Engineering
  - Environmental
- External
  - State grants
  - TIGER grants
  - UASI grants



# Resources

- NorthSouth GIS: *Funding GIS for Port Security with PSGP Grants*
- Fellow Pacific ports grant applicants
- PSGP grant administrator and coordinators



# Learn More

- Visit <http://ports.northsouthgis.com>
- E-mail [ports@northsouthgis.com](mailto:ports@northsouthgis.com)
- Call Daniel Elroi at  [\(800\) 866-5013 ext. 11](tel:(800)866-5013)

