Art

Science

Data
Visualization

@martenhogeweg

Location Integrates Functional Areas…

Science/Modeling

Natural Resources

Conservation

Land Management

Congestion   Crime   Defense/Security

Pollution   Water   Agriculture/Forestry   Business Efficiency

Energy   Economic Recovery   Global Warming

Human Health

Biodiversity   Land Use   Population   Education   Facility Management

Public Safety   Development   Logistics

Environmental Protection

Urbanization   Humanitarian Relief   Law Enforcement

National Security   Energy

Emergency Management

Oceans

…at All Levels of Government…

…and Forces Governments to Share Data
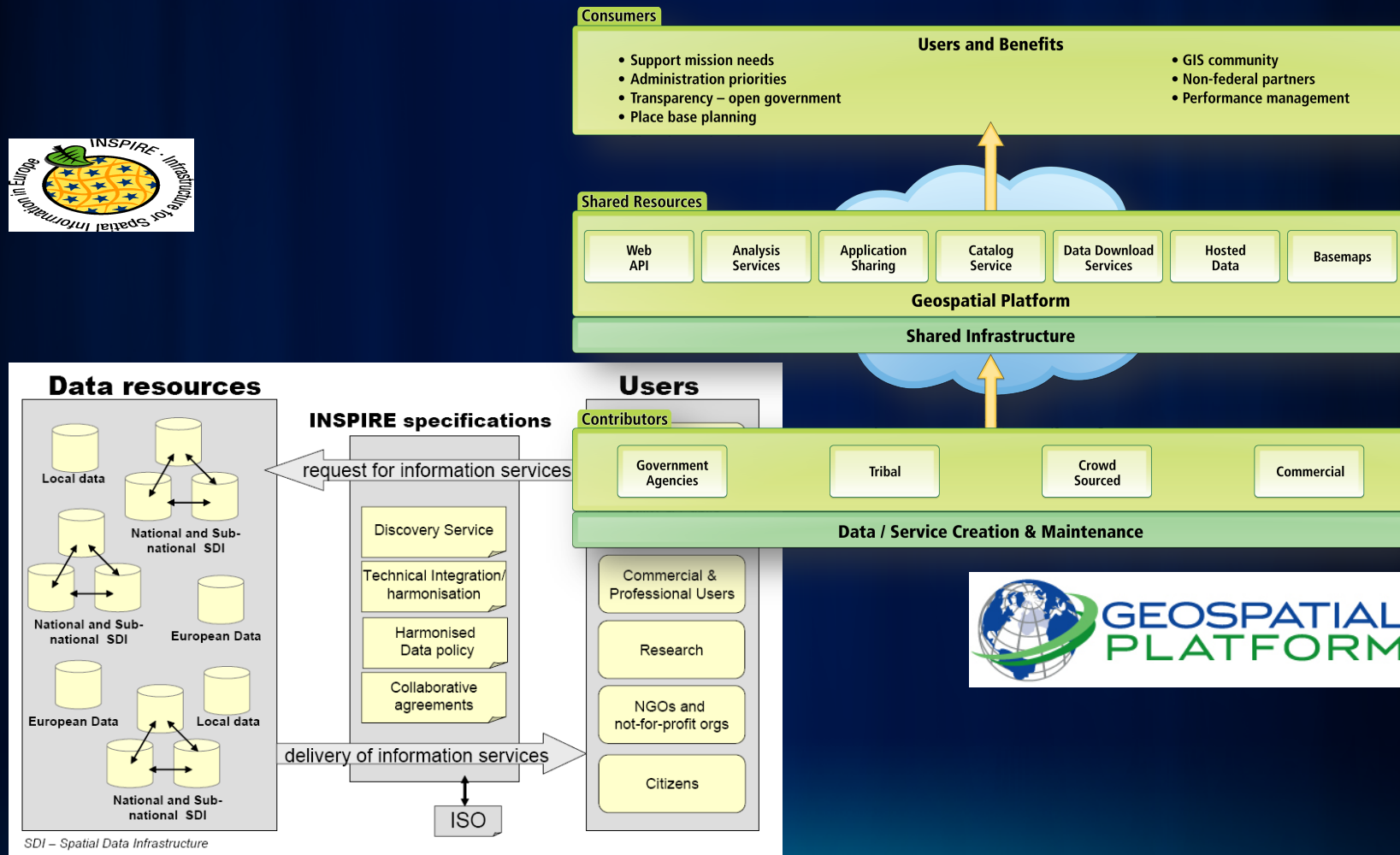
Source: http://inspire.jrc.ec.europa.eu/reports/position_papers/inspire_ast_pp_v4_3_en.pdf

Geodata.gov > Data.gov > Geo.Data.gov

6/2003	Geodata.gov launched as e-Gov initiative.
3/2009	Data.gov – promotes transparent government.
6/2009	Data.gov connects to Geodata.gov web service and grows from 50 to 300,000 resources overnight.
10/2011	Geodata.gov becomes Geo.Data.gov.
7/2012	Geo.Data.gov includes 850,000+ resources.

Open Government Gone Wild?

Need a place to stay?

Open Government Made Useful

Recovery.gov Expenditures vs. Need

Haiti AID Funding

World Bank Projects

Visualize Data From Agency-specific API

Climate Change and African Political Stability Program
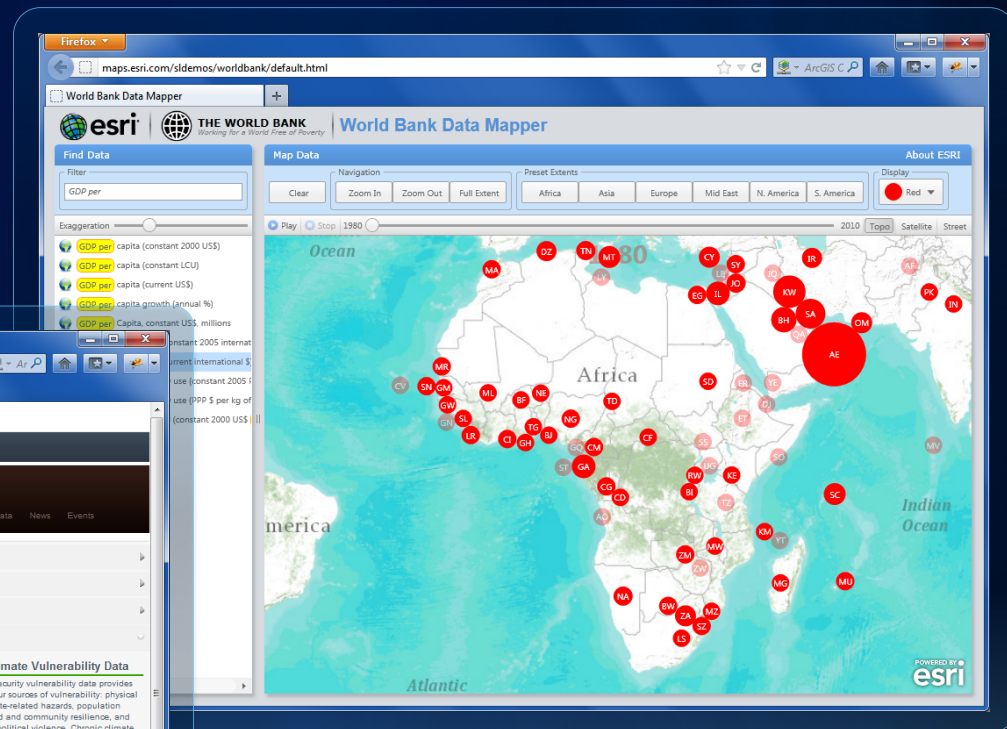
World Bank Data Mapper

HOWEVER: Open Data Comes In Layers…

- **Data on Employee Desktops**

- **Scanned Reports without Data Access**

- **Sprouting API**

Can We Get Some Direction Please?

From Stove-pipe Applications to Platforms…

Web Client

Desktop Client   **Web Client**   **Mobile Client**

- RESTful Services
- Easily Discovered
- Open Standards
- Application Programming Interfaces

Highest Point Service

Web Services

Health Data

Demographic

Point-to-Point Services

Loosely Coupled and Orchestrated Services
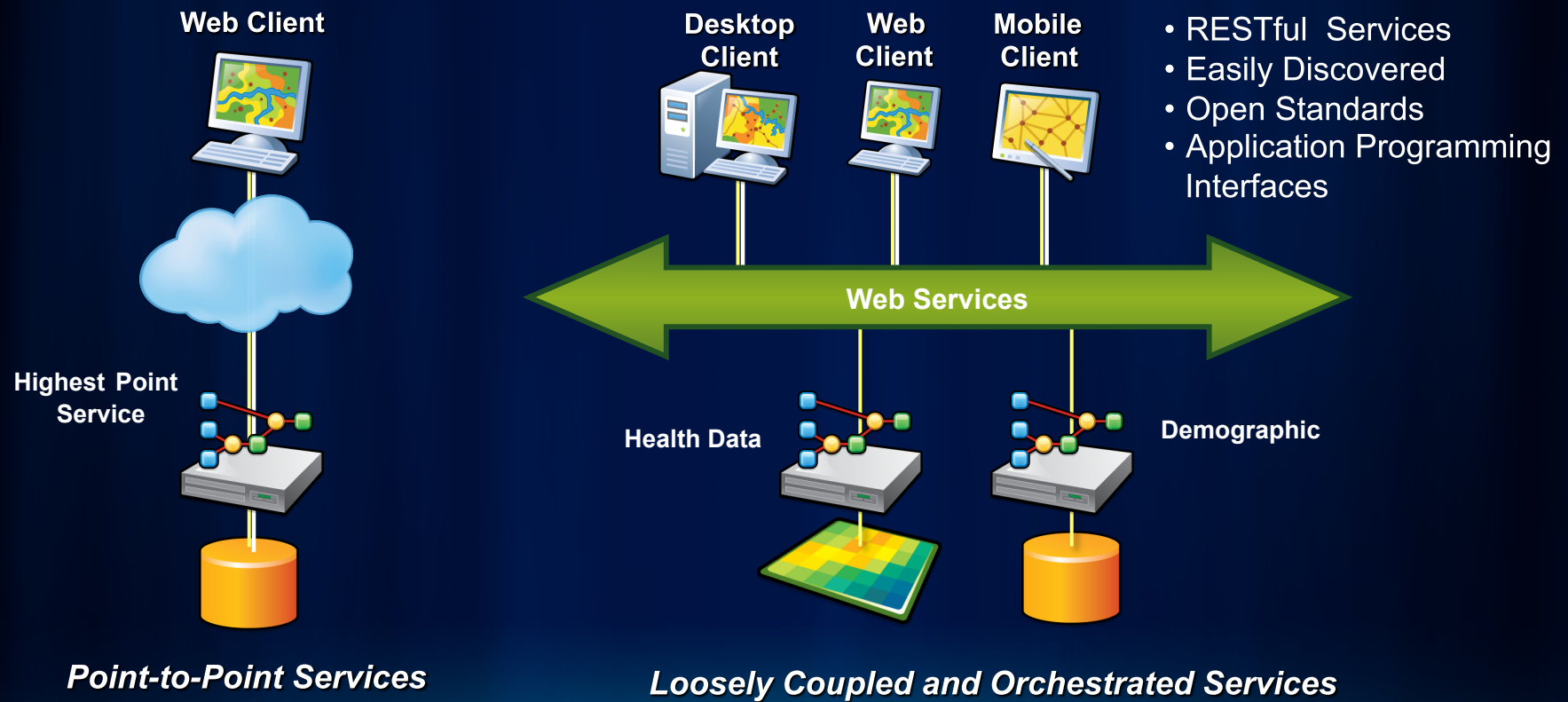
Opening Data Is Not Rocket Science

- **Publish API:**
  - **FCC.gov, Aiddata.org, Worldbank.org, Recovery.gov…**
  - **Open Geospatial Consortium**
  - **Product API**

- **Find Geospatial Content At:**
  - **Data.gov/Geo.Data.gov**
  - **Geoplatform.gov**
  - **ArcGIS.com**

- **Bottom Line:**
  - **Web Services**
  - **Web Services**
  - **Web Services**

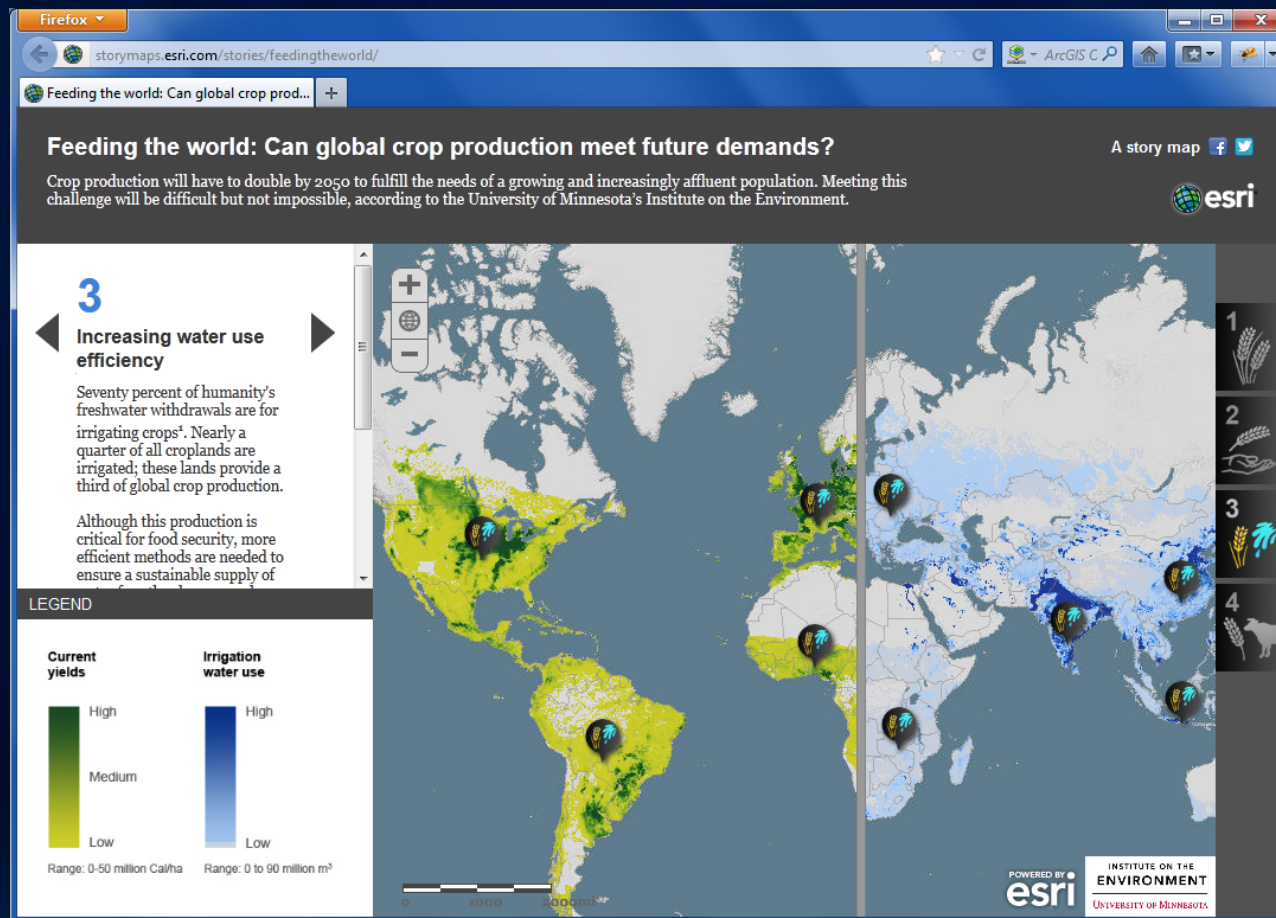*Unlike Predicting the End of the World…*

The Art of Open Data Visualization is in the API

- **Simple**

- **Stable**

- **Forgiving**

- **Useful**

- **Meaningful**

The Result: Informed Users

Telling Stories With Open Government Data