SERVICE FIRST ONLINE WORKSHOP

Technology and GIS

Donald P. Harper

Geographer – Southern Nevada Agency Partnership

TECHNOLOGY AND GIS

- GIS is a tool for analysis of spatial information
- Generally thought of as making pretty maps
- Historically spatial data had been rare and difficult to find
- GIS professionals were forced to develop their own data or beg, borrow and steal to get the spatial data, leading to a natural fit for GIS in a Service first environment

TECHNOLOGY AND GIS

- Today we have an abundance of spatial data
- Knowing what data to use is the key to success
- Today we have networks in the GIS community that are supportive and eager to share their information
- Managing the spatial data and systems are the challenges we face now and in the future

TECHNOLOGY AND GIS

- Every project has a spatial component
- Every mission benefits from the information retrieved from spatial data
- We now have the technology, infrastructure and spatial data to move GIS into the age of information
- Today GIS is truly an information system

UNIFYING DATA SYSTEMS – EXOTIC PLANTS

- A partnership between three National Park Service Inventory & Monitoring networks and two US Fish & Wildlife Service Inventory & Monitoring zones.
- The organizations monitor ecological conditions (vital signs) within the Sonoran Desert, Chihuahuan Desert and Southern Plains.
- Share scientists, survey protocols and field crews.
- Consolidate data management through shared data storage, field collection applications and reporting.

UNIFYING DATA SYSTEMS – EXOTIC PLANTS

- Successes
  - Utilize the diverse skills of data management staff across all monitoring units.
    - IT infrastructure, GIS, Project Management, Software Development
  - Only need to develop and support one set of tools for data management, analysis and reporting.
  - One data set used across lands in all 5 monitoring units.
    - Reduces cost spent on analysis.
    - Scientists can analyze patterns across larger scales.

UNIFYING DATA SYSTEMS – EXOTIC PLANTS

- Time and cost savings
  - Chihuahuan Desert Network estimated a savings of $30,000 and 4 months of time by adopting an existing protocol instead of developing a new one.
  - Using the same protocol saves each monitoring unit an estimated 6 to 8 weeks of analysis per year.

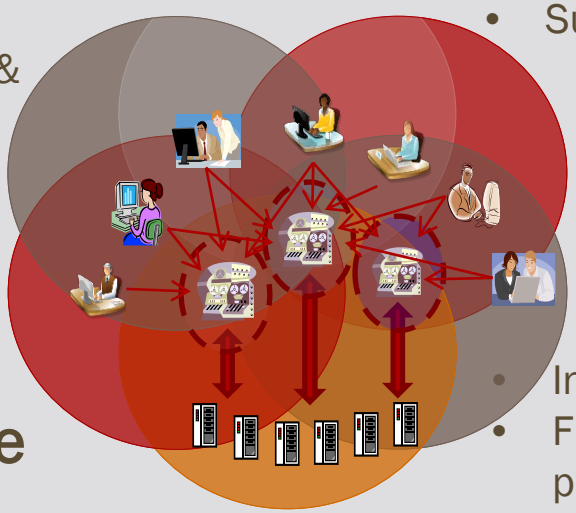
UNIFYING DATA SYSTEMS – EXOTIC PLANTS

- Challenges
  - Overcoming different terminology and techniques (scientific nomenclature, naming conventions, etc.)
  - Data availability at each office
    - IT network connection speed vary between offices.
    - Working with agency and department CIO staff to allow IT network communication across agencies (NPS –FWS).

LC MAP: CONSERVATION THROUGH DATA MANAGEMENT

Discovery & Acquisition

- Search broadly for source data
- Access common data themes (lineages, versions)
- Efficiently vet data for uses & limitations



Analysis & Modeling

- Shared work environment for real-time, distributed collaboration
- Supporting communication pieces an "open door"
  - Automated metadata updates

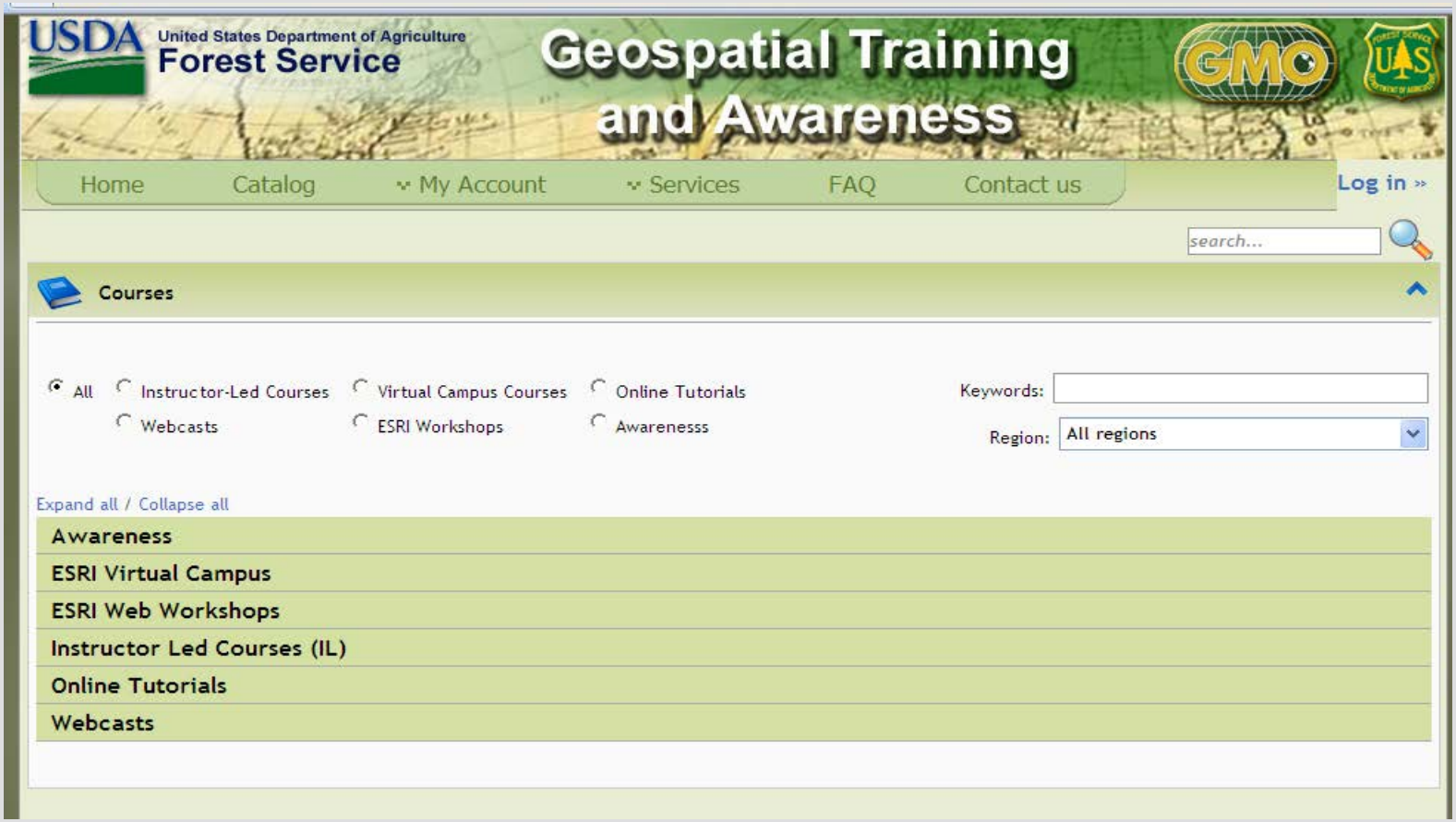
Store, Define & Share

- Data stored/delivered from readily accessible (and replicated) sources
- Common workspaces set up and managed for project-level data
- State-of-the-art documentation and data manipulation tools
- Data security inherent in distributed system

Delivery & Outcomes

- Integrated QA/QC tools
- Fine-tune control of data sharing and publication
- Flexible output formats, easily ingestible by most data viewers
- User-friendly visualization interface via partnerships (i.e., *DataBasin*)

GEOSPATIAL TRAINING AND AWARENESS WEBSITE



GEOSPATIAL TRAINING AND AWARENESS WEBSITE

- Successes
  - Training material available for all to use
  - Leverage agencies resources for comprehensive training opportunities
  - The materials are updated regularly
  - Save considerable amounts of money and duplicated effort

GEOSPATIAL TRAINING AND AWARENESS WEBSITE

- Challenges
  - Need input/participation from both agencies
  - Turnover/loss of staff – difficult to maintain continuity
  - Not being used to the fullest potential
  - Not well advertised across the agencies

SNAP GIS TEAM

- Southern Nevada Agency Partnership (SNAP)
- Funded under Southern Nevada Public Lands Management Act (SNPLMA) 1998
- Facilitated the partnering of the four land management agencies (BLM,USFS, NPS & USFWS) in Southern Nevada

SNAP GIS TEAM

- SNAP consist of a board of directors and 14 interagency teams
- The SNAP GIS Team was designed to support the organization as a whole
- We began work in 2005

SNAP GIS TEAM

- Challenges
  - Working with variables such as agency missions, personalities, and Bureaucratic red tape.
  - Organizational goals
  - National initiatives
  - Changing technology
  - Data integration
  - IT Security

SNAP GIS TEAM

- Successes
  - Partnered with Mojave Desert Ecosystem Program (MDEP) not only do we cover Southern Nevada we are now tied into the Mojave desert region
  - Mobile applications and services are being developed to aid in field operations
  - Data is being integrated to better aid in local and regional natural resource management decisions

SNAP GIS TEAM

- Successes Cont.
  - Partnerships are growing, we now have expanded outside of SNAP to include USGS, USBOR, USAF and NGA in data sharing and integration
  - Duplication of data acquisition and data development have been minimalized
  - Cost sharing cooperatives have been developed within SNAP as well as with other Federal, State, Tribal and Local Government organizations