Vital Signs Monitoring Internet Mapping Service

NPS Natural Resource & GIS Program

What is the Vital Signs Monitoring Internet Mapping Service?

Until recently, National Park Service natural resource data stewards lacked a consistent way to share and analyze their natural resource vital signs monitoring data in a spatial context. The NPS Inventory and Monitoring Program developed an ArcIMS™ and ArcSDE™-based application to provide these functions to data managers, biologists, resource managers, and other stakeholders: the Vital Signs Monitoring Internet Mapping Service (VSMIMS).

Examples of Vital Signs Monitoring Data

Vegetation Sampling - Klamath Network

Natural resource vital signs for parks are determined via a ranking process. The 32 monitoring networks prioritize their vital signs and design protocols to capture monitoring data.

Monitoring data protocols include field surveys, fixed station samples, incidental detections, plot sampling, and mark-recapture studies.

Example data include population sampling like fish capture/release, amphibian pitfall traps or breeding bird detections. Also, vegetation and habitat assessments, water and air quality measurements and anthropogenic impacts are measured. These data include standardized spatial locations that are used in the VSMIMS application.

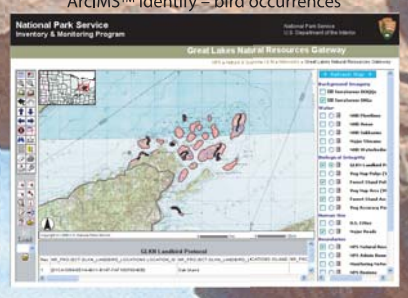
How does the Vital Signs Monitoring Internet Mapping Service work?

ArcIMS™ and ArcSDE™ are integrated into a tool allowing users to browse, query, and download vital signs monitoring data and spatial layers.

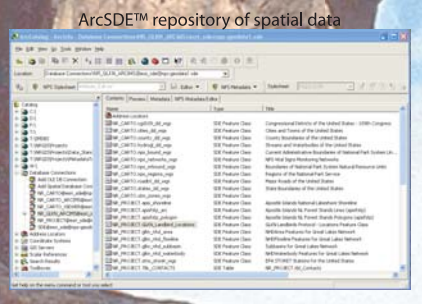
Users can select areas of interest by drawing on maps in ArcIMS™. These custom areas can then be used to query monitoring datasets, like bird occurrence or water quality.

To protect data integrity, each network stewards their own data. The VSMIMS application authenticates users and displays only those data to which the user has access. Querying capability is also determined by user permissions.

ArcIMS™ identify – bird occurrences



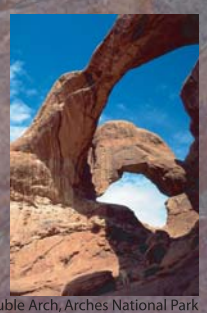
ArcSDE™ repository of spatial data



Custom ArcIMS™ area of interest query

What are the future plans for the Vital Signs Monitoring Internet Mapping Service?

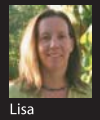
Planned capabilities include additional spatial data layers (e.g., high-resolution imagery), monitoring data upload and management tools, and additional security functions.



Double Arch, Arches National Park
Photo courtesy NPS

The VSMIMS Team:

Peter Budde



Lisa Nelson

Bill Thorp

Learn more about the VSMIMS at:
http://science.nature.nps.gov/nrims

Questions?
E-mail the VSMIMS team at:
WASO-NRPC_NRIMS@nps.gov