NBII Central Southwest/Gulf Coast Information Node

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Background

The National Biological Information Infrastructure (NBII) <www.nbii.gov> is an electronic information network that provides access to biological data and information on our nation's plants, animals, and ecosystems. Data and information maintained by federal, state, and local government agencies; non-government organizations; and private-sector organizations are linked through the NBII gateway and made accessible to a variety of audiences including researchers, natural resoursce managers, decision-makers, educators, students, and other citizens.

Chisos Mountain Range, Big Bend National Park

Implementation of the NBII is being accomplished through the development of nodes that serve as interconnected entry points to the NBII and the information held by partners. These nodes function as fully digital, distributed, and interactive systems that focus on developing, acquiring, and managing content on a defined subject area (thematic nodes) or a geographic region (regional nodes). One of the regional nodes is the Central Southwest/Gulf Coast Information Node (CSWGCIN).

Houston Skyline and Buffalo Bayou

Central Southwest/Gulf Coast Information Node

The CSWGCIN is housed at the Houston Advanced Research Center (HARC) in The Woodands, Texas. The CSWGCIN region represents a wide range of biologically diverse communities. The region is undergoing rapid population growth and is also experiencing significant stress (e.g., drought, fires, floods and hurricane damage, deforestation, urban sprawl, and invasive species). In response to these increasing pressures on natural resources, management agencies and scientists have created research projects that are targeted at developing better ways to restore and/or manage these valuable resources.

HARC

All of these projects result in new data and information. The NBII will help integrate diverse existing geologic, water, biological, and other environmental data so that it can be analyzed and used to make informed decisions regarding the region's natural resources and ecosystems.

Current Initiatives

Initially, the CSWGCIN is focusing on several projects in Texas, which are described below.

Black-Capped Vireo

Fort Hood, Black-Capped Vireo Habitats

The Nature Conservancy working at Fort Hood, Texas, has teamed with the NBII to evaluate the use of 3D Light Detection and Ranging (LIDAR) data in mapping the vertical structure of shrubland communities utilized by the endangered black-capped vireo (*Vireo atricapillus*). These results are critical in balancing training and other military uses with regulations to protect this species.

Sagebrush

NAFTA Highway Environmental Permit/National Environmental Policy Act (NEPA)

The NAFTA Highway runs from the Mexican border, near Brownsville, to the northeastern Texas border, eventually crossing the entire United State and:

- Represents a 1,000-mile north/south corridor in Texas.
- Encompasses numerous diverse regional ecosystems and urban environments.
- Requires the collection and analysis of a large amount of biological data for the permit process.
- Costs approximately $3.5 billion to construct, creating numerous rural and urban jobs in Texas.

The CSWGCIN is helping ingest, analyze, and disseminate biological information, as appropriate.

Big Bend National Park – 3-D Visualization

This project involves the collection and integration, within the CSWGCIN, of biological and remotely sensed data sets for Big Bend National Park in the Chihuahua Desert of western Texas. This project will forge international partnerships to obtain and integrate data for both sides of the border (with specific focus on migratory species).

Bayou Preservation Associations Stream Ranking and internet Map Server

The Bayou Preservation Association, working with HARC, has ranked the relative ecological integrity of over 2,600 linear miles of bayous and streams in Harris County, Texas, which includes Houston, the fourth largest city in the United States. Field data and digital photographs of stream segments can be assessed via an Internet map server that includes 38 other spatial data layers (with information links) that are relevant to water conservation and management isues in the region. The CSWGCIN will support the addition of biological and other environmental data, applications, and spatial analysis technologies to enhance the information resources provided by this site.

For More Information

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