



National Regional and Global Invasive Species Information Management Initiatives

**Joint International Workshop
on Biodiversity Informatics
09 December 2004
Pune, India**

Annie Simpson
Invasive Species Theme Coordinator
National Biological Information Infrastructure
asimpson@usgs.gov
703.648.4281



Economic Impact of IAS

International problem that respects no borders.

Pimentel et al. (2002) estimate IAS damage at
5% of the World Economy, or
USD\$1.4 *trillion*...

US\$1,400,000,000,000 each year.

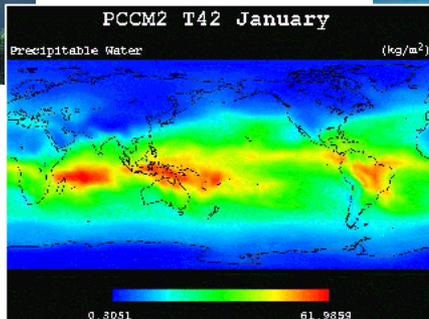
(That equals the value of China's gross domestic
production for 2003).



Invasive Species Information Node

National Biological Information Infrastructure: What is it?

- A broad, collaborative program to provide access to data and information on biological resources in the United States.





Invasive Species Information Node

NBII Vision

- A fully **digital, distributed, and interactive system of nodes** (digital library) that allows a vast community of users access to U.S. biological holdings





Why an NBII?

- Over a billion dollars a year invested in biological data collection and management
- Limited coordination, integration, and common standards
- Limited access to existing data, information, and analysis tools



www.nbii.gov

Your home for biological information on the Web



The National Biological Information Infrastructure

Invasivespecies.gov
A gateway to Federal and State invasive species activities and programs

Home Council Management Plan Search Contact Us

Welcome to Invasivespecies.gov!

Invasivespecies.gov is the gateway to Federal efforts concerning invasive species. On this site you can learn about the [impacts](#) of invasive species and the Federal government's [response](#), as well as read select [species profiles](#) and find links to [agencies and organizations](#) dealing with invasive species issues. Invasivespecies.gov is also the Web site for the [National Invasive Species Council](#), which coordinates Federal [responses](#) to the problem.

What is an Invasive Species?

An "invasive species" is defined as a species that is

1. non-native (or alien) to the ecosystem under consideration *and*
2. whose introduction causes or is likely to cause economic or environmental harm or harm to human health. ([Executive Order 13112](#)).

Invasive species can be plants, animals, and other organisms (e.g., microbes). Human actions are the **primary** means of invasive species introductions.

Invasive Species of the Month - November

[Caulerpa](#) | [Species Profile](#)



The National Invasive Species Council will highlight a different invasive species every month.

What's New

- Species Profiles
- Geographic Information
- News and Events
- Laws and Regulations
- Resources
- Manager's Tool Kit
- Databases
- Vectors and Pathways



Photo Information

This Web site is developed and maintained by the [National Agricultural Library](#) for the National Invasive Species Council

invasive@nal.usda.gov NAL's Disclaimers Site Map Partnerships

USDA

This Web site is a node of the [National Biological Information Infrastructure](#)



NBII Home

[ISIN Home](#)
[About ISIN](#)

[Current Projects](#)

[Species Info](#)

[Data & Maps](#)

[Identify & Report](#)

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Welcome to the Invasive Species Information Node!



Natural ecosystems are under siege by many harmful species of plants, animals and diseases. The current environmental, economic, and health costs of invasive species could exceed \$138 billion per year, more than all other natural disasters combined. Notorious examples include:

- [West Nile virus](#) and [Purple loosestrife](#) (northeast)
- [Kudzu](#), [water hyacinth](#), [nutria](#), and [fire ants](#) (southeast)
- [Zebra mussels](#) and [leafy spurge](#), (Midwest)
- [Salt cedar](#), [Russian olive](#), and [Africanized bees](#) (southwest)
- [Yellow star thistle](#) and [Asian clams](#) (California)
- [Cheatgrass](#), [knapweeds](#) and [thistles](#) (Great Basin)
- [Whirling disease](#) of salmonids (northwest)
- Hundreds of species ([microbes to mammals](#)) (Hawaii)
- The [brown tree snake](#) (Guam)



Hundreds of new species from other countries are introduced intentionally or accidentally into the U.S. each year. This threat intensifies the need for scientists, managers, and the many individuals who are interested in the health of our ecosystems.



Invasive Species Information Node

Online Invasive Species Early Detection & Rapid Response Information System Components

User ID & validation

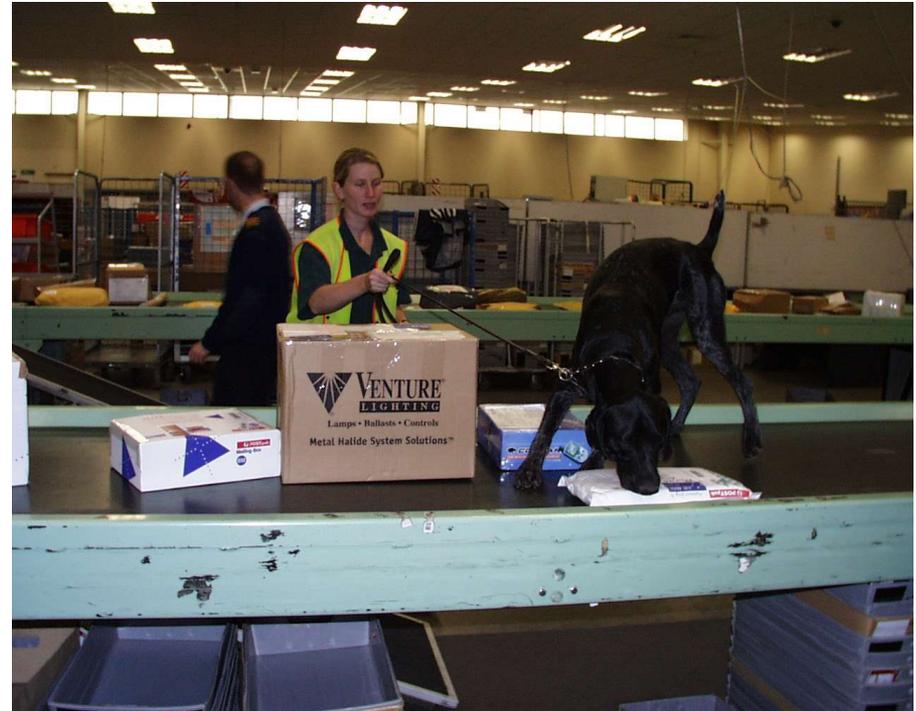
Reporting

Expert Verification

Occurrence DBs

Rapid Assessment

Rapid Response

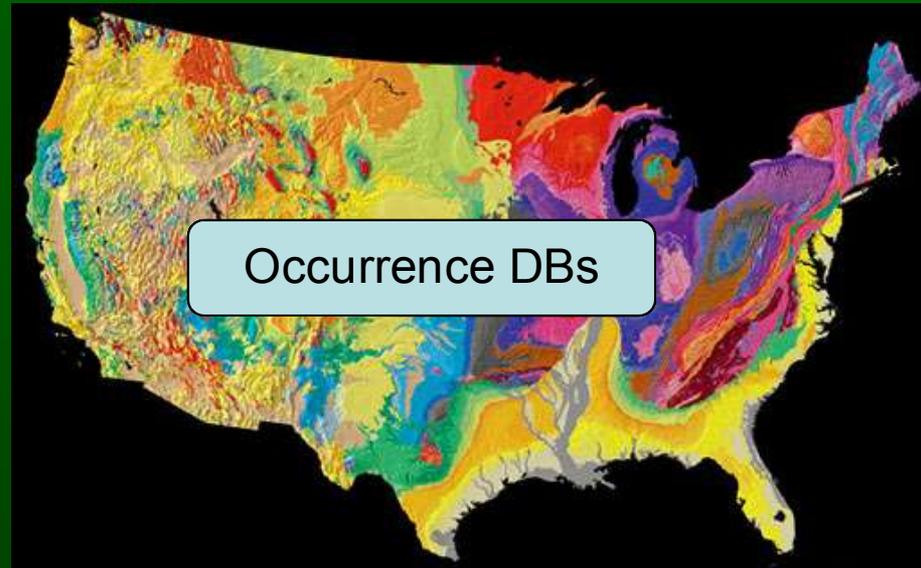




Invasive Species Information Node

Key Partners:

2. National Institute of Invasive Species Science
3. USGS Center for Aquatic Resource Studies
4. Integrated Taxonomic Information System
5. DiscoverLife.org & The Polistes Foundation
6. Invasive Species Specialist Group
7. Conservation Management Institute
8. Southwest Exotic Plant Mapping Program
9. Invasive Plant Atlas of New England
10. Mississippi State University



Key Products:

2. Tamarisk mapping application
3. NISbase distributed invasive species database system
4. Taxonomic treatments and online ID tools for invasive species
5. Global Invasive Species Database and invasive species profiles
6. Regional early detection / rapid assessment and response projects

Global Invasive Species Information Network (GISIN)

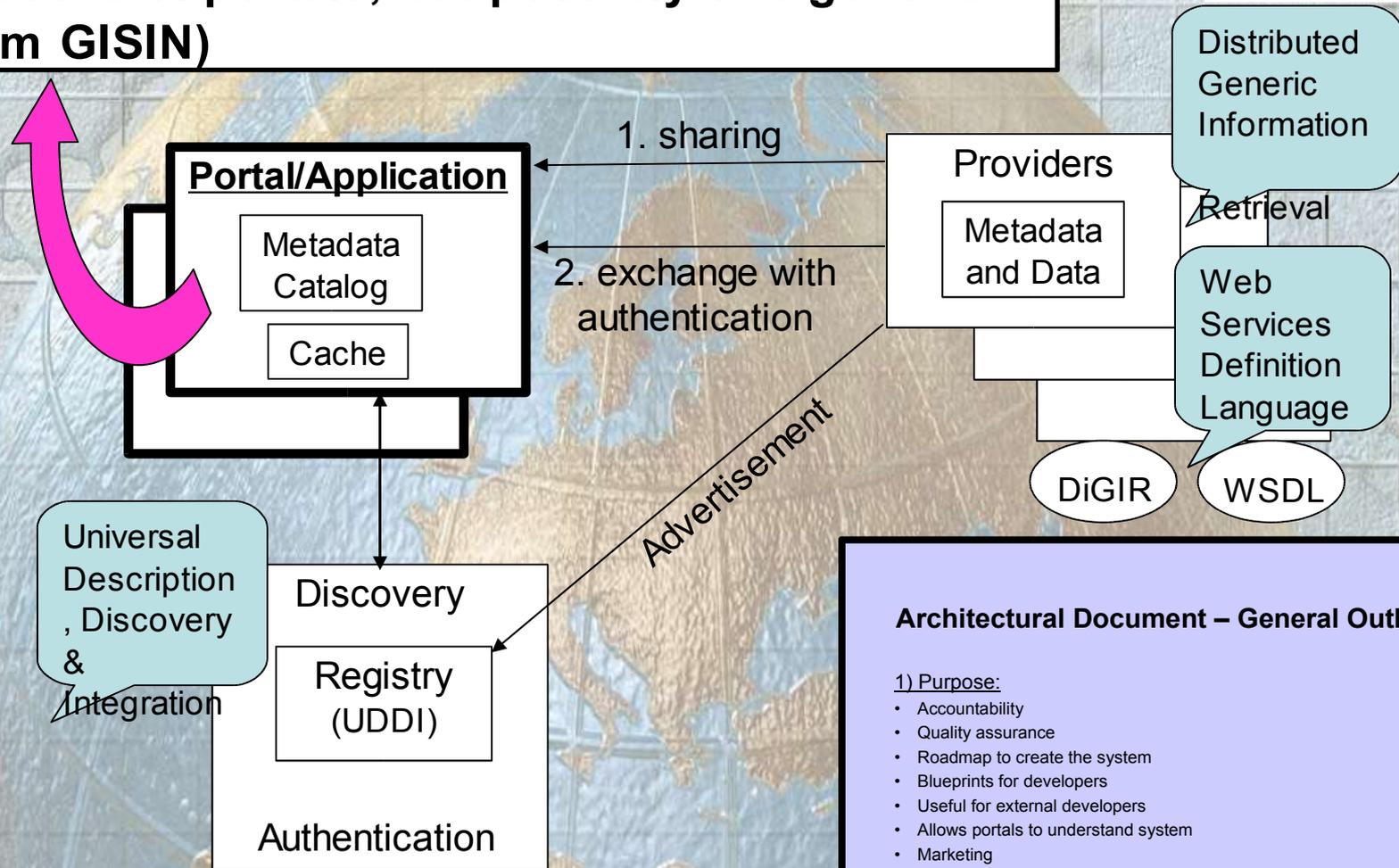


MISSION:

- Provide **international sharing invasive species information** at the **global level**, via the **internet** and other digital **news**.
- Offer **the reporting and tracking of new alien species** through the **International Nonindigenous Species Database Network**.
- Develop **information management tools** to better **identify, map, and predict the spread** of invasive species at regional and global levels.
- **Build the capacity of network members** in the development of invasive species information tools.



- Query Registry: get list of providers and services
 - Query Providers
- (Expect several portals, but possibly one generic one from GISIN)



Architectural Document – General Outline

1) Purpose:

- Accountability
- Quality assurance
- Roadmap to create the system
- Blueprints for developers
- Useful for external developers
- Allows portals to understand system
- Marketing
- Cost estimates

GISP

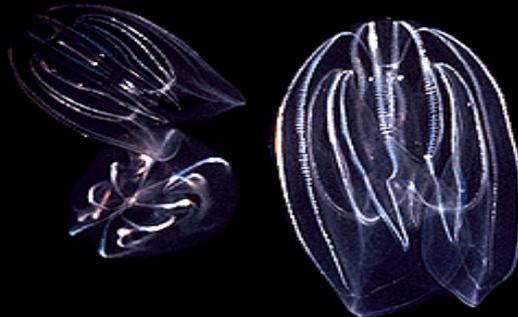
The Global Invasive Species Programme



Global Invasive Species Programme

Founded in 1997 by CABI, IUCN, and SCOPE.

Mission: To conserve biodiversity and sustain human livelihoods by minimizing the spread and impact of invasive alien species



Inter-American Biodiversity Information Network



IABIN

***Linking the Americas to
Biodiversity Networks Worldwide***

Objectives of I3N Project

- **Develop standard invasive species catalogs in each country**

Species

Experts

Projects

Data sets

IABIN

- **Make catalogs Web-accessible**
- **Build capacity**

*Linking the Americas to
Biodiversity Networks Worldwide*



Invasive Species Information Node

NBII Invasive Species Community

- GISIN community
- ISSG collaboration
- NBII invasives working group

COMMUNITY HOME PAGE | GISIN LISTSERV | GISIN DOCUMENTS | GISIN CALENDAR

Project Selector [EDIT] [X]

Getting Started

- New Project
- Manage Project Templates
- Restore Projects

Check the project(s) you want to see. Collaboration Server displays project information.

Project	Status
<input checked="" type="checkbox"/> Logistical Staff	On Schedule
<input checked="" type="checkbox"/> SpeciesProfiles	On Schedule
<input checked="" type="checkbox"/> Steering Committee GISIN	On Schedule
<input checked="" type="checkbox"/> Work Area	On Schedule

Community Folders [EDIT] [X]

- News & Media Reports**
 - BioNET Bulletin (May 2004)
 - SAFRINET Contribution to GISIN
 - GISP Press Release (M.Cocks)
- Online Resources**
 - Invasive Species Databases (Proceedings of a Workshop)
 - Controlling Pests with GIS (Geospatial Solutions)
 - Understanding the WTO Agreement on Sanitary & Phytosanitary Measures
 - Global Information System on Fishes (FishBase)
 - NISbase: Nonindigenous Species Database Network

Invasive Species Working Group Announcements

GLOBAL INVASIVE SPECIES INFORMATION NETWORK

Welcome to the Discussion Forum on Implementation of a Global Invasive Species Information Network (GISIN)!

Problems? If you are experiencing difficulty in accessing/viewing the components of the GISIN community, please email Liz at esellers@usgs.gov.

Community Announcements

NEW - BALTIMORE DECLARATION (Work Area project\Documents)
Posted by Liz Sellers on 6/21/04 9:15 AM in project Work Area

NEW - GISIN Summary Report DEVELOPMENT - Baltimore Declaration GISIN Work Plan (Interim Steering Committee)
Posted by Liz Sellers on 6/10/04 3:47 PM in project Work Area

NatureServe announces the release of a NEW SCIENTIFIC METHODOLOGY evaluating the impacts of non-native plants and conservation areas - Protocol: Evaluating Non-Native Plants for their Impact on Biodiversity (Morse, et. al., NatureServe, 2004). See the Press Release and Protocol in the Work Area project References folder.
* NatureServeInvasiveSpeciesR...
Posted by Liz Sellers on 6/10/04 2:25 PM in project Work Area

Welcome to the MyNBII Portal! Portal Settings | Administration | Logout

COMMUNITIES INVASIVE SPECIES WORKING GROUP **NBII.Gov**

Document Search [] all Languages [] Go

Search Options: advanced | BioBot Search | Saved

MY PAGES | COMMUNITIES | DOCUMENTS | NBII NODES | BID/CBI | DEVELOPMENT NB...

COMMUNITY HOME PAGE | GISIN LISTSERV | GISIN DOCUMENTS | GISIN CALENDAR

Community Documents [EDIT] [X]

Upload File

Summary view: 10 most recent documents from selected projects

File	Project	Last Checked In	Checked In By
GISIN Proceedings DRAFT-Appendices.doc	Logistical Staff	7/9/04	Liz Sellers
GISIN Proceedings DRAFT-Part IV-2.doc	Logistical Staff	7/9/04	asimpson
GISIN Proceedings DRAFT-Part III.doc	Logistical Staff	7/9/04	asimpson

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 - Global Information System on Fishes (FishBase)
 - NISbase: Nonindigenous Species Database Network
- Help / Instructions**
 - GISIN Community Overview (Final)
 - How to Subscribe or Unsubscribe to a Discussion
 - Important - You Must Edit Your User Profile (122 KB)

NEW - BALTIMORE DECLARATION is now available for distribution (Work Area project\Documents\Baltimore...)
Posted by Liz Sellers on 6/21/04 9:15 AM in project Work Area

NEW - GISIN Summary Report (Muir Sellers, Simpson) - 2; IN DEVELOPMENT - Baltimore Declaration (Interim Steering Committee), GISIN Work Plan (Interim Steering Committee), & Proceedings (NBII).
Posted by Liz Sellers on 6/10/04 3:47 PM in project Work Area

NatureServe announces the release of a NEW SCIENTIFIC METHODOLOGY evaluating the impacts of non-native plants and conservation areas - An Invasive Species Assessment Protocol: Evaluating Non-Native Plants for their Impact on Biodiversity (Morse, et. al., NatureServe, 2004). See the Press Release and Protocol in the Work Area project References folder.
* NatureServeInvasiveSpeciesR...
Posted by Liz Sellers on 6/10/04 2:25 PM in project Work Area

NEED HELP using or finding something in the GISIN Community? - Consult the documents in the "Help / Instructions" folder in the Community Folders box, or email Liz at esellers@usgs.gov or Nichole at mncneely@usgs.gov.
Posted by Liz Sellers on 6/17/04 10:50 AM in project Work Area

PHOTOGRAPHS are now uploaded in the Documents\Photographs folder.
Posted by Liz Sellers on 5/12/04 4:35 PM in project Work Area

EDITED PRESENTATION TRANSCRIPTS are now in the Work Area project - Documents\Presentations & E-posters folder.
Posted by Liz Sellers on 6/22/04 11:46 AM in project Work Area

CERTIFICATES OF PARTICIPATION are available for GISIN meeting attendees who need them. Please email Annie at asimpson@usgs.gov

Acronym Search [] [EDIT] [X]

Don't know an acronym? Search here.

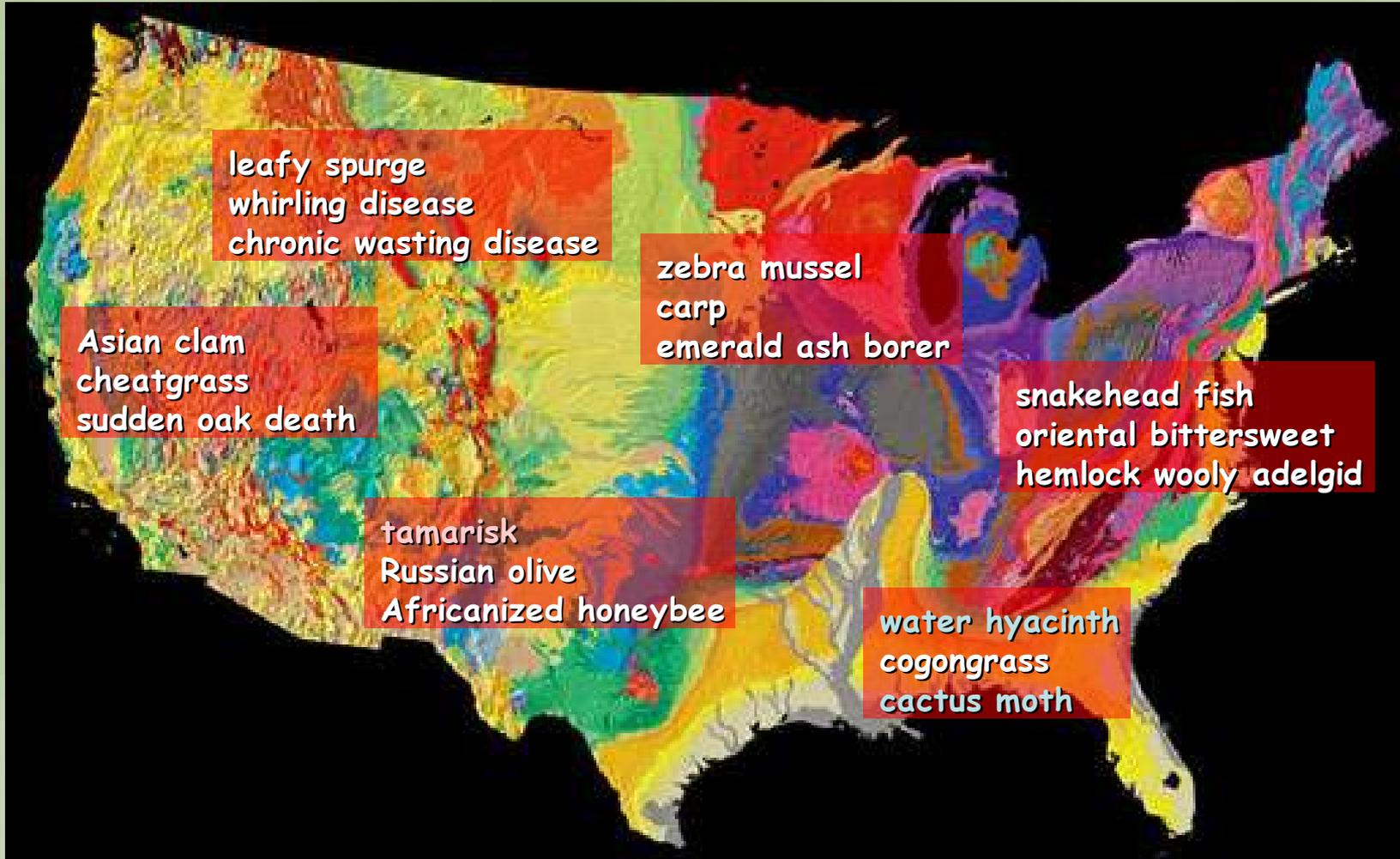
Acronym: Contains []

Definition: Contains []

Other: Contains []

<http://my.nbii.gov>

Some invasive "low-lights" from across the nation





Invasive Species Information Node

ISIN Mission:

Establish, maintain, and accelerate the sharing, standardization, completeness, and accessibility of existing information on non-native plants, animals, and diseases.

ISIN products to achieve this mission:

- Mirroring the Global Invasive Species Database
- Identification tools to help distinguish invasives from their look-alikes
- Mapping and reporting system for scientists and other citizens
- Invasive species distribution maps with links to occurrence data
- Models for future spread of invasives and habitat vulnerabilities
- Single entry point to diverse information from many IAS databases
- A platform to promote data standards and database interoperability