

Data sharing and exchange: Experiences within the Ecological Society of America

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Example activities

- Data archives - *Ecological Archives*
- Vegetation classification
- SEEK & the semantic web
- Standards and registries
- Vision for data sharing & archiving

Slide 2

mj20

I took out a couple of hard returns so that that text flow is even.

jennings, 1/29/2002

The logo for the Ecological Society of America (ESA) features the lowercase letters 'esa' in a bold, white, sans-serif font. The background of the logo is a collage of green and blue circular patterns, resembling DNA helices or molecular structures.

Ecological Society of America

Ecological Archives

[esa home](#)[member services](#)[professional resources](#)[careers & certification](#)[teaching & learning](#)[public policy & media](#)[about esa](#)[author index](#)[ecology index](#)[ecological monographs index](#)[ecological applications index](#)[data papers](#)[instructions](#)[contacts](#)[home](#)

[Author index](#)

Index to *Ecological Archives* listed alphabetically by first author's last name.

[Ecology index](#)

Index to *Ecological Archives* in *Ecology* listed by volume number.

[Ecological Monographs index](#)

Index to *Ecological Archives* in *Ecological Monographs* listed by volume number.

[Ecological Applications index](#)

Index to *Ecological Archives* in *Ecological Applications* listed by volume number.

Data papers, supplements, and digital appendices for ESA journals

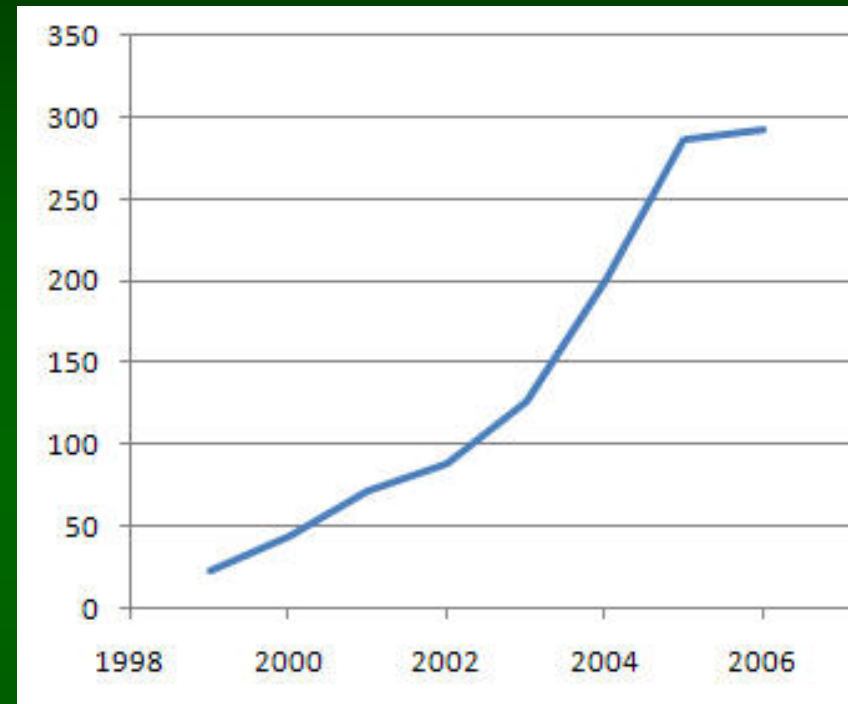
What does *Ecological Archives* publish?

Ecological Archives publishes materials that are supplemental to articles that appear in the ESA print journals (*Ecology*, *Ecological Applications*, and *Ecological Monographs*), as well as peer-reviewed Data Papers with abstracts published in the printed journals. *Ecological Archives* is published in digital, Internet-accessible form. Three kinds of publications appear in *Ecological Archives*: Appendices, Supplements, and Data Papers. Ability to publish appendices and supplements in *Ecological Archives* allows authors to shorten the paper version of a manuscript without withholding germane material not essential for understanding the paper. It also allows authors to make available substantial amounts of supporting material such as methodological details, data tables, graphs illustrating additional analyses, photographs, additional references, and supplemental discussion, all as citable entities.

Appendices, Supplements, Data papers

Issues

- Citation and links
- Culture
- Format & migration
- Metadata
- Preservation
- Cost
- Intellectual property



<http://esapubs.org/archive/>

Vegetation Classification

The ESA Vegetation Classification Panel was established in 1993 with a mandate to support the emerging U.S. National Vegetation Classification.

Slide 5

mj17

I took out a couple of hard returns so that that text flow is even.

jennings, 1/29/2002

Partnership for Vegetation Classification

- Ecological Society of America - Standards, peer review, & publication.
- US Federal Geographic Data Committee - US government standards & funding
- NatureServe - Maintenance and distribution of the Classification.
- NBII & ITIS - Taxonomic standards and data dissemination

Federal Geographic Data Committee Vegetation Subcommittee

Dynamic content standards



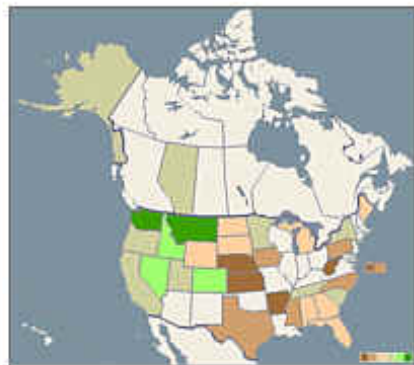
- Field plots
- Type descriptions
- Peer review
- Publication
- Data management

VegBank

- *VegBank* - a public archive for vegetation plot observations (<http://vegbank.org>).
- *VegBank* functions in a manner analogous to *GenBank*.
- Plot data can be deposited, discovered, viewed, cited, annotated, & downloaded.
- Plot data can be used for documentation validation and reanalysis.

Find Plots

- [What is a plot?](#)
- [Browse plots](#)
- [Simple search](#)
- [Advanced plot search](#)



Map Key: plots [Larger Map](#)

1-49	50-99	100-249
250-999	1,000-3,000	> 3,000

Plant Taxa

- [What is a plant concept?](#)
- [Browse plants](#)
- [Search plants](#)
- [Submit plants](#)

Plant Communities

- [What is a community?](#)
- [Search communities](#)
- [Submit communities](#)

Supplemental Data

- [People](#)
- [Stratum methods](#)
- [Cover methods](#)
- [Projects](#)
- [References](#)
- [Search supplemental data](#)

Learn About VegBank

- [What is VegBank?](#)
- [FAQ](#)
- [Tutorial](#)
- [Cite or link to VegBank](#)
- [Terms of use](#)
- [Site map](#)
- [Contact](#)

Contribute Plot Data

- [Submit plots](#)
- [Annotate plots](#)

Tools

- [Vegetation Classification](#)
- [Firefox toolbar](#)
- [VegBranch client database](#)
- [Data matrix normalizer](#)

Recently Added Plots

Project	Added
Cherokee National Forest	17-Nov-05
Talladega-Oakmulgee National ...	17-Nov-05
Osceola National Forest	17-Nov-05
Ocala National Forest	17-Nov-05

Data in VegBank

Plots:	21235
--Classified Plots:	14890
----to NVC communities:	4996
Plant Concepts:	91984
--accepted by USDA:	43753
----and on plots:	6829
Community Concepts:	15082
--in the NVC:	8390
----and on plots:	868

My VegBank Account

- [Edit profile information](#)
- [Manage datasets](#)

News

- » [Map plots: Example](#) | [Datacart](#) | [Multiple Datasets](#) (Requires Login)
- » [Save Your Datacart](#) | [Edit Datasets](#)
- » Create a [Constancy Table](#)

Proceedings

The U.S. National Vegetation Classification

June 14, 2005

Contents

[About](#)

[All Revisions](#)

[Query](#)

[Submit Proposal](#)

Introduction

The *Proceedings of The U.S. National Vegetation Classification* constitute the official record of revisions to the U.S. National Vegetation Classification (NVC) approved by the [Vegetation Panel of the Ecological Society of America](#) on behalf of the [Vegetation Subcommittee of the U.S. Federal Geographic Data Committee](#) and [NatureServe](#).



To view the index of all revisions that have been approved, click the '[All revisions](#)' link under 'Contents' on the left side. To locate specific revisions by author, vegetation type, or date, click the '[Query](#)' link. Accepted revisions are posted in PDF format immediately upon approval, and are incorporated into the [NatureServe Explorer](#) website in as timely a manner as possible. Thoughtful comments on revisions are encouraged and will be maintained as a supplement to the *Proceedings*

If you wish to submit a proposal for revision of the NVC, or manage a prior submission, click the '[Submit Proposal](#)' link under 'Contents' on the left. You will need to register if you have not previously done so. After you login you can create, edit and submit proposals. After submission your proposal will be reviewed and evaluated. If approved, your proposal will be automatically published in these *Proceedings*. If revisions are requested, you will be asked to return to the site to modify your proposal.



[ESA Vegetation Panel](#)

SEEK & NCEAS

- EML: Ecological metadata specification
- Morpho: Tool to markup datasets
- MetaCat: Registry of datasets
 - ESA registry is a component
- Kepler: Workflow creation tool

www.ecoinformatics.org

Taxonomic database challenge:

Standardizing organism and community names

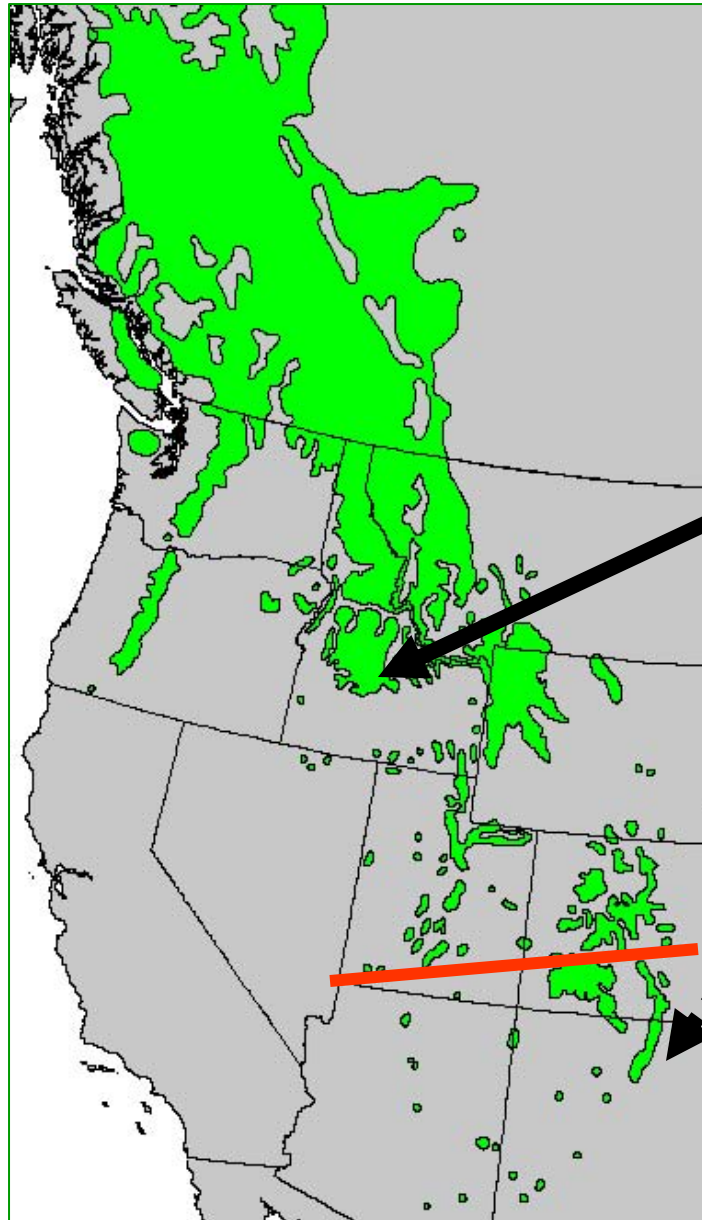
The problem:

Integration of data potentially representing different times, places, investigators and taxonomic standards.

The traditional solution:

A standard list

One concept of *Abies lasiocarpa*



USDA Plants & ITIS

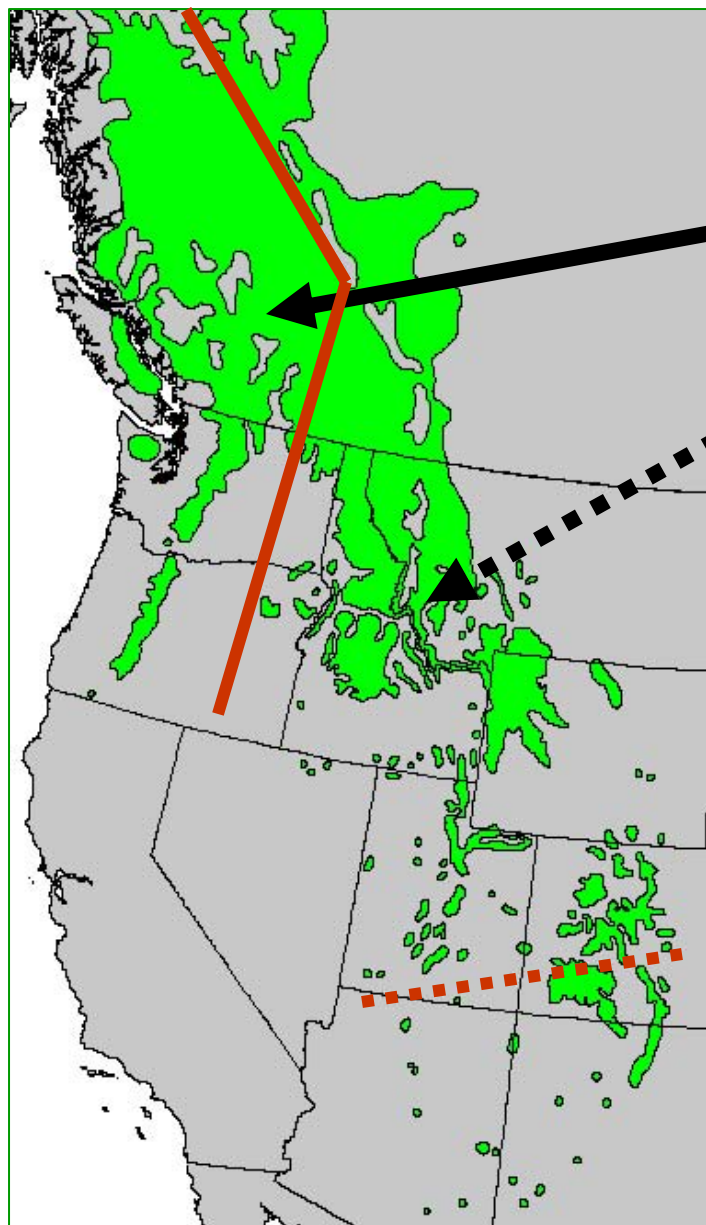
Abies lasiocarpa

var. lasiocarpa

var. arizonica



A narrow concept of *Abies lasiocarpa*



Flora North America

Abies lasiocarpa

Abies bifolia



Partnership with USDA plants
to provide plant concepts for
data integration

Data registries and archives

- Movement within ESA to require access to data
- Institutional repositories as a home for registered data
- Pressure from funding agencies can be a strong motivator for both individuals and institutions

Roles & Responsibilities

Professional Societies

- Set standards
 - Data content and exchange format
 - Data archiving and access (discrete, well-circumscribed elements)
- Assure quality control (peer review)

Roles & Responsibilities Government Agencies

- Formulate federal standards and policies (in context of disciplinary standards).
- Mandate and implement federal standards (e.g., FGDC standards)
- Assure critical infrastructure exists

Roles & Responsibilities Granting Agencies

- Set requirements for data archiving and sharing
- Pay for archiving and publication, directly or through overhead

Roles & Responsibilities Data Centers

- Maintain a portfolio of critical, discipline-specific database systems
- Maintain key infrastructure content
 - Digital identifiers
 - Common objects (e.g. taxa, publications)
 - Data registries

Roles & Responsibilities

Digital repositories and libraries

- Archive and provide access to publications and data
- Meet institutional responsibilities to granting agencies
- Potential security for databases

Roles & Responsibilities Publishers

- Require that specific types of data be archived (e.g., GenBank, VegBank)
- Imbed links as a form of citation for standard data elements (e.g., literature, taxon concepts, datasets)
- Provide archives for and links to supporting documentation

