United States Department of Agriculture
Forest Service

Forest Atlas of the United States: Empowering 21st Century Partners and Stakeholders

Charles H. Perry
and many others

Our agenda

- Introduce the atlas project
- Review a few products in the portfolio
- Have a conversation about the next steps

Begin with the end in mind…

The atlas represents a new strategy and architecture for sharing data, information, and knowledge with the next generation of policy-makers, resource managers, land owners and constituents.

Why an atlas, and why now?

The Problem

Share of Time Spent per Day with Major Media by US Adults, 2010-2014
% of total

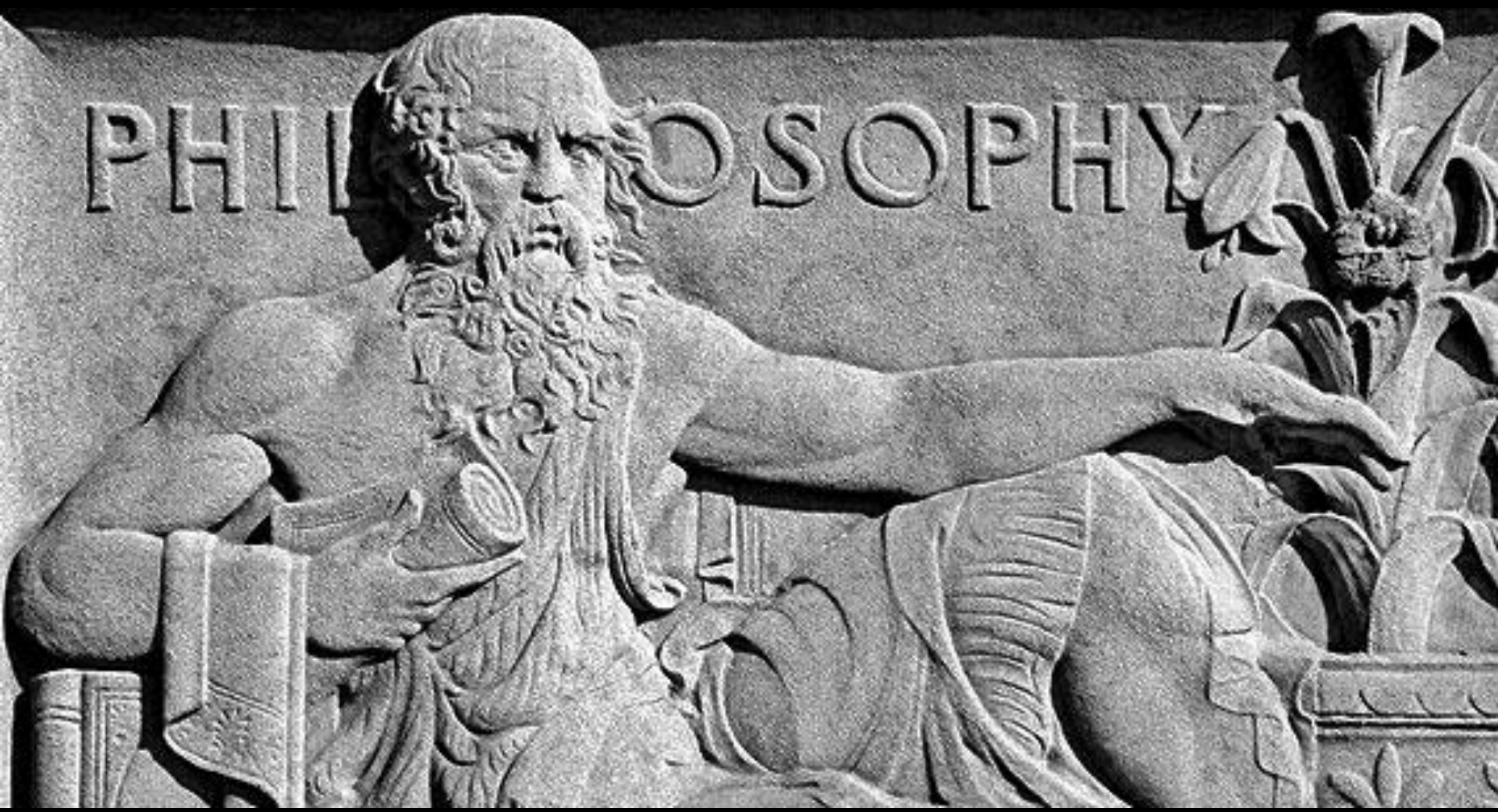
	2010	2011	2012	2013	2014
Digital	**29.6%**	**33.8%**	**38.5%**	**43.4%**	**47.1%**
—Mobile (nonvoice)	3.7%	7.1%	13.4%	19.2%	23.3%
—Online*	22.0%	22.6%	20.7%	19.2%	18.0%
—Other	3.9%	4.1%	4.3%	5.0%	5.9%
TV	**40.9%**	**40.4%**	**39.2%**	**37.5%**	**36.5%**
Radio	**14.9%**	**13.9%**	**13.0%**	**11.9%**	**10.9%**
Print**	**7.7%**	**6.5%**	**5.4%**	**4.4%**	**3.5%**
—Magazines	4.6%	3.8%	3.1%	2.5%	1.9%
—Newspapers	3.1%	2.7%	2.3%	1.9%	1.6%
Other	**7.0%**	**5.5%**	**4.0%**	**2.8%**	**1.9%**
Total (hrs:mins)	**10:46**	**11:18**	**11:49**	**12:03**	**12:14**

*Note: ages 18+; time spent with each medium includes all time spent with that medium, regardless of multitasking; for example, 1 hour of multitasking online while watching TV is counted as 1 hour for TV and 1 hour for online; numbers may not add up to 100% due to rounding; *includes all internet activities on desktop and laptop computers; **offline reading only*
Source: eMarketer, April 2014

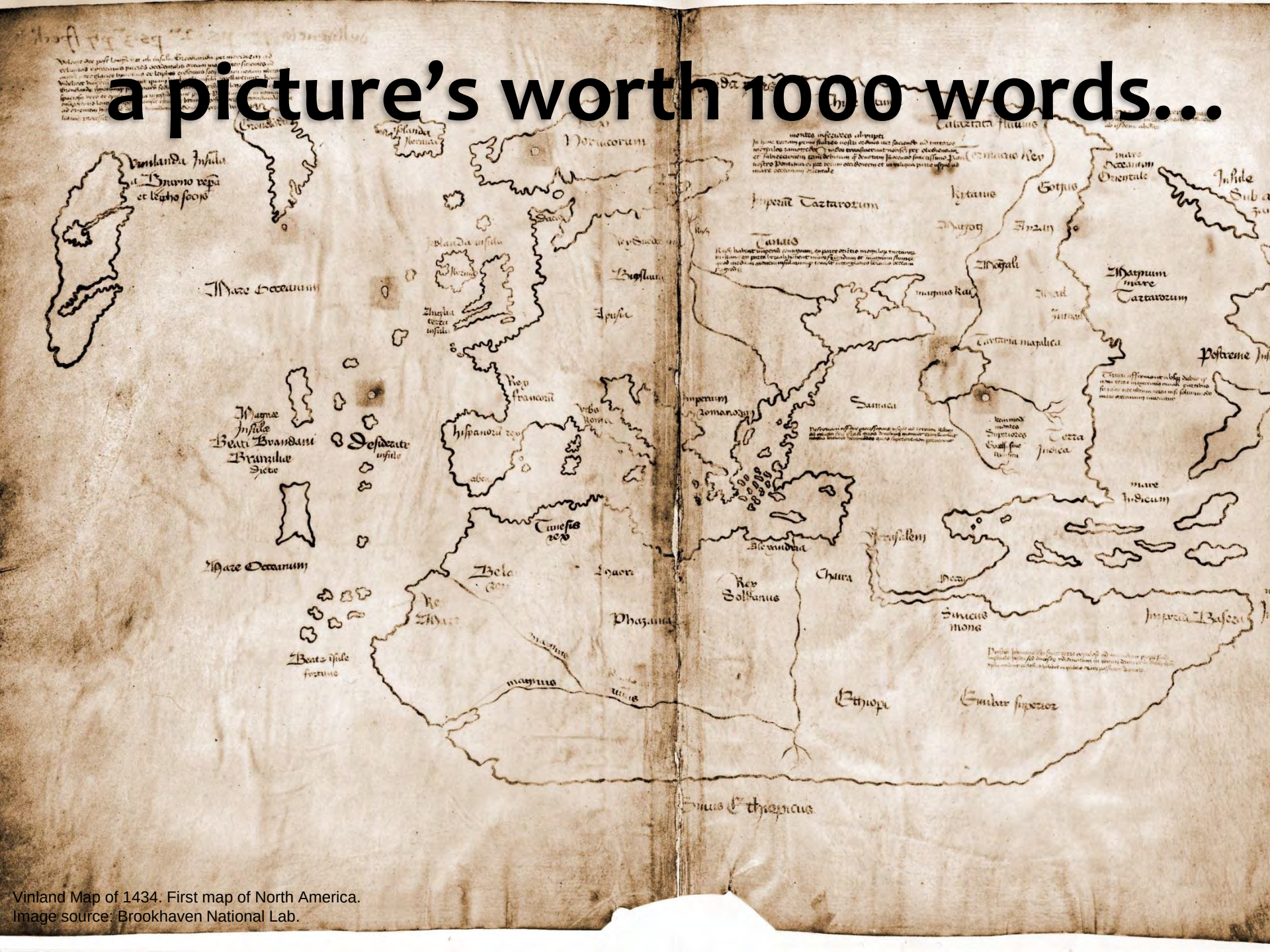
171915 www.eMarketer.com

Print readership declined by 50% even as total media use went up 12%.

We know ideas empower people…



a picture's worth 1000 words...



Vinland Map of 1434. First map of North America.
Image source: Brookhaven National Lab.

And, informed decisions require data and knowledge.

So how has FIA historically addressed this need?


USDA
United States Department of Agriculture
Islands on the Edge:
Housing Development
and Other Threats to
Pacific and
Forests
Forests of Southeast and
South-Central Alaska,
2004–2008
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RMRS-RB-15
July 2012
Montana's Forest Resources,
2003–2009
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gan, Colin Sorenson,
USDA
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National Pulpwood Production, 2010
Ronald J. Piva
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er, Mary Stuever, Todd A. Morgan,
en W. Hayes, and Chelsea P. McIver
USDA
United States Department of Agriculture
Virginia's
Forests, 2011
Anita K. Rose
Ohio's Forests
2011
Resource Bulletin
NRS-90

Population dynamics of sugar maple through the southern portion of its range: implications for range migration

Justin L. Hart, Christopher M. Oswalt, and Craig M. Turberville

Abstract: The range of sugar maple (Acer saccharum Marsh.) is expected to shift northward in accord with changing climate. However, a pattern of increased sugar maple abundance has been reported from sites throughout the eastern US. The goal of our study was to examine the stability of the sugar maple southern range boundary by analyzing its demography through the extent of its distribution. We analyzed changes in sugar maple basal area, relative frequency, relative density, relative ... distributions, and the ratio of sapling biomass to total sugar maple biomass at three spatial ... the species' range using forest inventory data from the USDA Forest Service Forest ... period (1990–2010). We contend that the southern range boundary of ... related that biophysical changes caused by succession ... for mesophytic tree species.

NRC Research Press

Forest Ecology and Management 306 (2013) 1–8

Contents lists available at SciVerse ScienceDirect

Forest Ecology and Management

journal homepage: www.elsevier.com/locate/foreco

ELSEVIER

Full length article

A simple tool for estimating throughfall nitrogen deposition in forests of western North America using lichens

Heather T. Root [a,*], Linda H. Geiser [a], Mark E. Fenn [b], Sarah Jovan [c], Martin A. Hutten [d], Suraj Ahuja [e], Karen Dillman [f], David Schirokauer [g], Shanti Berryman [h], Jill A. McMurray [i]

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[g] ... Park, AK 99755, United States
[h] ... Missoula, MT 59711, United States
[i] ... Laramie, WY 82071, United States

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Forest Ecology and Management

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ELSEVIER

An indicator of tree migration in forests of the eastern United States

C.W. Woodall [a,*], C.M. Oswalt [b], J.A. Westfall [c], C.H. Perry [a], M.D. Nelson [a], A.O. Finley [d]

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ABSTRACT

Changes in tree species distributions are a potential impact of climate change on forest ecosystems. The examination of tree species shifts in forests of the eastern United States largely has been limited to simulation activities due to a lack of consistent, long-term forest inventory datasets. The goal of this study was to compare current geographic distributions of tree seedlings (trees with a diameter at breast height ≤2.5 cm) with biomass (trees with a diameter at breast height > 2.5 cm) for sets of northern, southern, and general tree species in the eastern United States using a spatially balanced, region-wide forest inventory. Compared to mean latitude of tree biomass, mean latitude of seedlings was significantly farther north (>20 km) for the northern study species, while southern species had no shift, and general species demonstrated southern expansion. Density of seedlings relative to tree biomass of northern tree ... times higher in northern latitudes compared to southern latitudes. For forest ... where southern tree species were identified, their ... it is hypothesized th...

REVIEWS REVIEWS REVIEWS

Bringing an ecological view of change to Landsat-based remote sensing

Robert E Kennedy[1]*, Serge Andréfouët[2], Warren B Cohen[3], Cristina Gómez[4], Patrick Griffiths[5], Martin Hais[6], Sean P Healey[7], Eileen H Helmer[8], Patrick Hostert[5], Mitchell B Lyons[9,11], Garrett W Meigs[10], Dirk Pflugmacher[5], Stuart R Phinn[11], Scott L Powell[12], Peter Scarth[11], Susmita Sen[13], Todd A Schroeder[7], Annemarie Schneider[14], Ruth Sonnenschein[15], James E Vogelmann[16], Michael A Wulder[17], and Zhe Zhu[1]

When characteriz... processes that shape ecosystems, ecologists increasingly use the unique perspective offered by repeat ... sensed imagery. However, the concept of change embodied in much of the traditional ... limited to capturing large or extreme changes occurring in natural syste... terest to ecologists. Recent technical advances have led to a funda... though this conceptual shift began with coarser-scale ... datasets have temporal and spatial charac... relevant perspec- tive of chan... long- term trends ... standing o...

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Journal of Great Lakes Research 39 (2013) 211–223

Contents lists available at SciVerse ScienceDirect

Journal of Great Lakes Research

journal homepage: www.elsevier.com/locate/jglr

ELSEVIER

IAGL

Landscape-scale modeling of water quality in Lake Superior and Lake Michigan watersheds: How useful are forest-based indicators?

Titus S. Seilheimer [a,*], Patrick L. Zimmerman [a,b], Kirk M. Stueve [a,1], Charles H. Perry [a,2]

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Index words:

ABSTRACT

The Great Lakes watersheds have an important influence on the water quality of the ... therefore, watershed characteristics can be used to predict ... novel landscape information describing the ... land cover data to predict ...

... shore environment. ... he streams. We used ... data and established ... uperior, we modeled ... est disturbed during ... rease in the propor- ... 2. In Lake Michigan, ... of forest disturbed ... and we modeled ... disturbed during ... identify priority ... ntral and south- ... ty in watersheds ... ersheds will aid ... nds, which will ...

... akes Research.

Wilson et al. Carbon Balance and Management 2013, 8:1
http://www.cbmjournal.com/content/8/1/1

CBM CARBON BALANCE AND MANAGEMENT

RESEARCH Open Access

Imputing forest carbon stock estimates from inventory plots to a nationally continuous coverage

Barry Tyler Wilson*, Christopher W Woodall and Douglas M Griffith

Abstract

The U.S. has been providing national-scale estimates of forest carbon (C) stocks and stock change to meet United Nations Framework Convention on Climate Change (UNFCCC) reporting requirements for years. Although these currently are provided as national estimates by pool and year to meet greenhouse gas monitoring requirements, there is growing need to disaggregate these estimates to finer scales to enable strategic forest management and monitoring activities focused on various ecosystem services such as C storage enhancement. Through application of a nearest-neighbor imputation approach, spatially extant estimates of forest C density were developed for the conterminous U.S. using the U.S.'s annual forest inventory. Results suggest that an existing forest inventory plot imputation approach can be readily modified to provide raster maps of C density across a range of pools (e.g., live tree to soil organic carbon) and spatial scales (e.g., sub-county to biome). Comparisons among imputed maps indicate strong regional differences across C pools. The C density of pools closely related to detrital input (e.g., dead wood) is often highest in forests suffering from recent mortality events such as those in the northern Rocky Mountains (e.g., beetle infestations). In contrast, live tree carbon density is often highest on the highest quality forest sites such as those found in the Pacific Northwest. Validation results suggest strong agreement between the estimates produced from the forest inventory plots and those from the imputed ... is closely associated with the imputation model (e.g., ... weaker agreement for ...

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Forest Atlas of the United States

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Contents

Forest Atlas

forest-atlas.fs.fed.us

Forest Atlas of the United States

The United States of America has impressive forests-more than 800 million acres of natural and planted forests and woodlands-providing clean water, clean air, wildlife and fish habitat, recreational opportunities, and resources for economic development.

This Atlas combines state-of-the-art inventory and monitoring information with tree pollen counts, mill surveys, ownership records, bird

Click here to visit the interactive website.

Where do trees grow and why?

What else lives in the forest?

What shapes the forest?

Forest Atlas of the United

usfs-forestatlas.maps.arcgis.com/home/index.html

HOME GALLERY MAP GROUPS MY CONTENT MY ORGANIZATION Hobie

Ch 1. Where do trees grow?


BARedMapleL10


Basal area, Sugar maple (level 10)


LittleRangeRedMapleIntBdy


SMRange_INT

The United States has a tremendous forest resource—more than 750 million acres of native and planted forests managed by public and private landowners for forest products, recreation, wilderness, wildlife habitat, and many other purposes. Over the past 150 years, basic surveys of United States forests have evolved into a rigorous inventory program that we can use to share information about the value of these forests and the challenges that confront them. In the Forest Atlas of the United States, we explore many questions about our forests and share relevant geospatial data and analytical products.

America's Private Forest C ×

usfs-forestatlas.maps.arcgis.com/apps/MapJournal/?appid=256e541a10ee4fd594c15bc71812ce4c

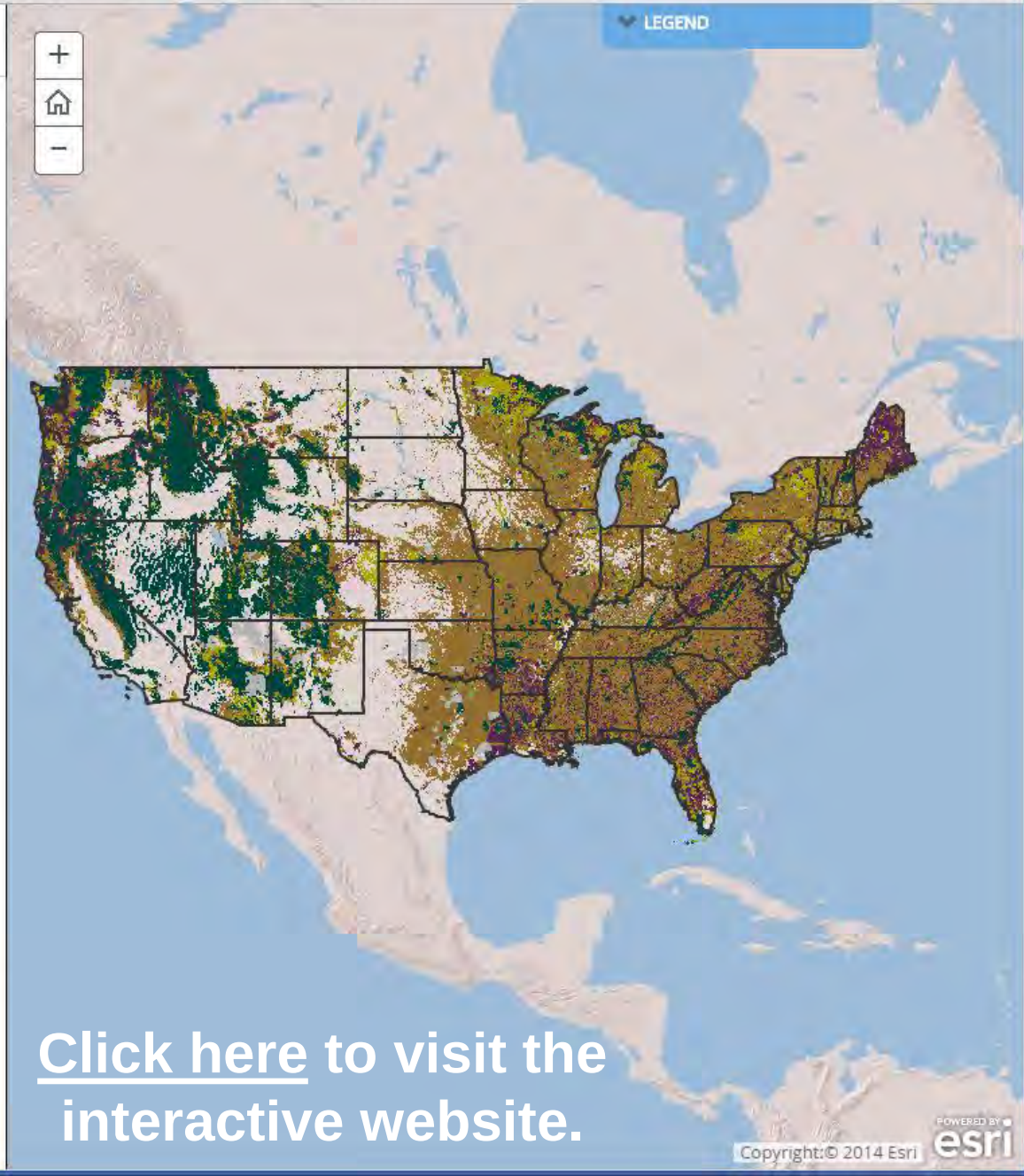
America's Private Forest Owners

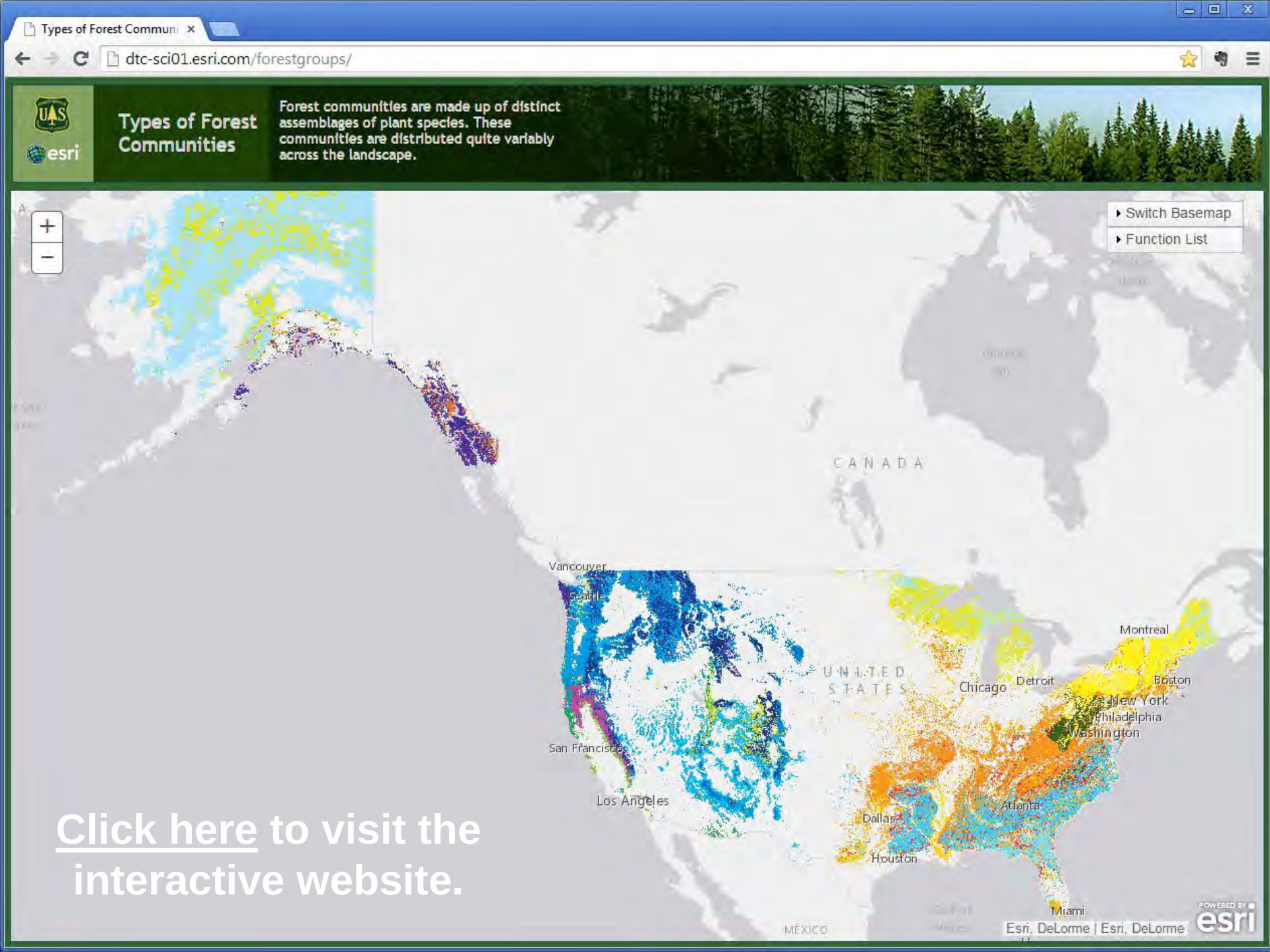
Private forest owners control 56 percent of the forest land in the contiguous U.S. This group includes more than 11 million families, individuals, corporations, tribes, and other private groups. The values and objectives of these owners, within the constraints and opportunities their forests provide, determine what can and will be done on their land.

Most private forest land (62 percent) is owned by an estimated 10 million families, individuals, trusts, estates, and other groups who are collectively referred to as family forest owners. There are four major "types" of family forest owners:

1. 49 percent of owners who seek to establish a woodland retreat with high amenity values;
2. 28 percent who own the land to meet multiple aesthetic, recreational, and financial objectives;
3. 5 percent of owners who are focused primarily on the financial gains they can earn from their land; and
4. the remaining 18 percent of owners who do not have strong objectives for their property.

Corporations own 33 percent of private forest land. This group includes multi-national, regional, and local companies. Forestry is the primary objective for some of these owners, but others are energy companies or own it for other reasons, such as buffers around manufacturing plants. Two newer types of corporations are timber




Types of Forest Communi
dtc-sci01.esri.com/forestgroups/
Types of Forest Communities
Forest communities are made up of distinct assemblages of plant species. These communities are distributed quite variably across the landscape.
Switch Basemap
Function List
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Next steps…

How can you help?

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Contact Information

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