

V2 Comprehensive and Exhaustive Resources in Forestry and Arboriculture

1. Introduction

Forestry and arboriculture are critical for maintaining environmental health, supporting sustainable resource management, and enhancing the quality of life in urban environments. These fields encompass a vast body of knowledge, spanning ecological principles, economic considerations, policy frameworks, and practical techniques for the cultivation and care of trees. The sheer volume and diverse nature of available resources, including scholarly publications, technical reports, educational materials, and analytical tools, can present a challenge for individuals and institutions seeking comprehensive information.

This report aims to provide an exhaustive overview of the freely accessible resources within forestry and arboriculture, moving beyond simple enumeration to offer a structured synthesis and analytical perspectives on their significance. The organization of this report will follow a logical progression, starting with foundational resources for terminology and basic understanding, then moving into avenues for accessing in-depth literature and educational opportunities, followed by a discussion of data and tools for analysis, practical application guides, a geographical overview of regional resources, and finally, an exploration of community engagement through citizen science initiatives.

The increasing prevalence of online platforms has fundamentally altered the landscape of knowledge dissemination in forestry and arboriculture. The wealth of information now available digitally, often through open access initiatives and institutional repositories, allows for unprecedented levels of collaboration and learning across geographical boundaries. This digital transformation has democratized access to research findings, practical guides, and educational materials, empowering a broader audience of professionals, researchers, students, and the general public to engage with these vital fields.

Furthermore, the inherently interdisciplinary nature of forestry and arboriculture necessitates the integration of knowledge from various scientific and applied domains. Resources are found across biology, ecology, economics, policy, urban planning, and engineering, requiring a synthesized approach to gain a holistic understanding of the complex interactions within forest and urban ecosystems. This report will strive to highlight these interconnections and provide a comprehensive guide to navigating this rich information landscape.

2. Foundational Resources: Terminology and Basic Understanding

2.1 Dictionaries and Glossaries

A fundamental prerequisite for engaging with the literature and practices of forestry and arboriculture is a solid grasp of the specialized terminology employed within these disciplines.

- International Society of Arboriculture (ISA) Online International Dictionary: Provides definitions of arboricultural terms and, importantly, offers translations in multiple languages such as German and Portuguese, facilitating communication and understanding across international boundaries within the arboricultural community. (<https://www.isa-arbor.com/Online-Learning/More-Resources>)
- Arboriculture Glossary Online: Offers a broad collection of arboricultural terms, providing definitions ranging from basic concepts like "abiotic" (nonliving) to more technical terms such as "air terminal" (uppermost point of a tree lightning protection system).
- ISA International Dictionary: While this resource has not been updated since October 2019, it still holds significant value as an archive of arboricultural terminology and translations. Its historical record of definitions can be particularly useful for understanding older literature or the evolution of terminology within the field. (<https://www.isa-arbor.com/education/onlineresources/dictionary>)
- Greentreedoctor.com: Offers a glossary covering a wide range of terms relevant to tree care, from "abatement" (reduction in hazard) to "annual rings" (growth rings in a tree trunk). (<https://greentreedoctor.com/glossary-of-terms/>)
- arborventuretreecare.co.uk: Provides a glossary focused on terms used in tree work practices within the United Kingdom, including terms like "AGL" (Above ground level) and "Crown Lift." (<https://www.arborventuretreecare.co.uk/glossary-of-terms>)
- Ohlonebond.com: A structured list that offers concise definitions particularly relevant to areas like tree root protection zones and various arboricultural treatments, providing a focused reference for practical applications. (<http://ohlonebond.com/wp-content/uploads/2012/03/Appendix-3-Terms-and-Definitions.pdf>)
- Canadian Forest Service: Provides a "Forestry glossary" covering a range of forestry-related terms, including those related to biodiversity and climate change. (<https://cfs.nrcan.gc.ca/terms>)

- Maryland Department of Natural Resources: Offers a glossary with definitions relevant to forest management and ecology.
(<https://dnr.maryland.gov/forests/pages/gloss.aspx>)
- Lrconline.com: Provides a glossary within its Extension Notes, covering terms related to forest measurement and management practices.
(http://www.lrconline.com/Extension_Notes_English/pdf/frstrytms.pdf)
- Massachusetts government: Offers a glossary tailored for individuals owning forest land.
(<https://www.mass.gov/info-details/glossary-of-forestry-terms-for-landowners>)
- Clemson University: Features a glossary encompassing terms from afforestation to uneven-aged timber.
(<https://blogs.clemson.edu/fnr/2021/12/21/glossary-of-forestry-terms/>)
- Forestry Compendium: A comprehensive glossary of forestry terms.
(<https://www.forestrycompendium.net/>)

The abundance of readily accessible online glossaries in both arboriculture and forestry underscores the importance of clear and consistent terminology within these fields. As these disciplines continue to evolve and engage with a broader audience, the availability of these resources ensures that individuals, regardless of their level of expertise or geographical location, can develop a foundational understanding of the language used. Furthermore, the multilingual dictionary offered by ISA highlights the increasingly global nature of arboriculture, emphasizing the need for tools that facilitate effective communication and collaboration across diverse linguistic communities.

3. Accessing Literature: In-depth Knowledge and Research

3.1 Public Domain Forestry Publications

For those seeking to delve into the historical context and foundational principles of forestry, a wealth of public domain publications is readily available online.

- Appropedia.org: Hosts a list providing access to titles such as "The farm woodlot, a handbook of forestry for the farmer and the student in agriculture" (1914).
(https://www.appropedia.org/List_of_AT_books_in_the_public_domain/Forestry)
- USDA Forest Service: Offers access to its publications, including many in the public domain, through its website. This includes a vast array of articles,

documents, and other publications produced by various units within the Forest Service.

(<https://www.fs.usda.gov/managing-land/natural-resources/biological-physical-resources/publications>)

- Archive.org: Serves as a significant repository of digitized historical texts, including numerous forestry and arboriculture publications now in the public domain. For instance, it hosts the "List of publications" from the United States Forest Service dating back to July 1, 1905. Additionally, comprehensive works like "A manual of forestry" by Sir William Schlich across several volumes, covering topics such as forest policy, forest management, and forest utilization, are available. "Schlich's Manual of forestry" is also hosted, offering detailed insights into various aspects of forestry. Furthermore, historical texts specifically focused on arboriculture, such as John Grigor's "Arboriculture; or, A practical treatise on raising and managing forest trees" (1868), can be found on this platform.
- Michigan State University Libraries: Provides a valuable guide to public domain forestry publications. This guide highlights resources such as the Cooperative Forestry Research Unit Publications Database, which contains full-text reports on Maine forests, and Project Gutenberg's Forestry Bookshelf, offering a collection of freely available forestry books. The guide also points to the FAO Corporate Document Repository, housing forestry-related materials from the Food and Agriculture Organization of the United Nations.
(<https://libguides.lib.msu.edu/c.php?g=95556&p=624216>)
- The Public Domain Review: Features selections from Romeyn Beck Hough's remarkable fourteen-volume work, "The American Woods" (published between 1888 and 1928). This unique collection contains over 1000 paper-thin wood samples representing over 350 varieties of North American trees, along with information about their characteristics and uses, providing an invaluable historical record of American forests at the end of the 19th century.
(<https://publicdomainreview.org/collection/the-american-woods>)
- USDA's Treesearch: A particularly crucial resource for accessing public domain forestry research. This online system is dedicated to locating and delivering publications authored by research and development scientists within the US Forest Service. With over 50,000 publications, Treesearch is considered the largest freely available collection of online forestry research in the world. It includes research monographs, journal articles, and conference proceedings, all

in the public domain.

(<https://www.fs.usda.gov/managing-land/natural-resources/biological-physical-resources/publications>)

- MSU's Organic Agriculture Information Access: For those interested in the history of sustainable practices, this collection offers access to historical USDA publications related to organic agriculture, published before 1942. These documents contain state-of-the-art information and data that remains relevant for today's agriculture and forestry, particularly in the context of reducing reliance on synthetic chemicals.

Insight 1: The vast repository of public domain forestry publications available online serves as an invaluable resource for researchers, historians, and practitioners seeking to understand the evolution of forestry and arboriculture. These historical texts offer a unique window into past practices, ecological understandings, and the development of foundational knowledge within these fields. The digitization of these materials ensures their accessibility to a global audience, fostering a deeper appreciation for the historical context of contemporary forestry challenges and solutions.

Insight 2: The significant contribution of the USDA and other government agencies to the public domain literature in forestry highlights the long-standing commitment of these institutions to advancing knowledge and promoting sustainable forest management. Resources like Treearch exemplify this commitment by providing a centralized and easily searchable platform for accessing decades of publicly funded research. This wealth of information has played a crucial role in shaping forestry practices and policies in the United States and continues to be a valuable asset for the global forestry community.

3.2 Open Access Journals and Articles

The landscape of scholarly publishing in forestry and arboriculture is increasingly embracing open access models, making cutting-edge research freely available to a wider audience.

- Arboriculture & Urban Forestry (AUF): The bimonthly peer-reviewed journal of the International Society of Arboriculture, stands as a prime example. AUF has transitioned to a full open access model, ensuring that all new and original research findings centered on the care and management of trees in urban environments are accessible at no cost to readers. This commitment to open access aligns with ISA's global mission to foster a greater appreciation of trees and promote the research, technology, and practice of professional arboriculture.

Back issues of AUF from 1975 through 2023 are also openly accessible.

(<https://auf.isa-arbor.com/>)

(<https://www.isa-arbor.com/Newsroom/arboriculture-urban-forestry-switching-to-a-n-open-access-model-1>)

(<https://www.isa-arbor.com/Publications/Arboriculture-Urban-Forestry>)

(<https://joa.isa-arbor.com/>)

- Arboricultural Journal: International Journal of Urban Forestry: The official journal of the Arboricultural Association, operates as a hybrid open access journal. While some articles are behind a subscription paywall, authors have the option to publish their work as open access by paying an Article Publishing Charge (APC). This model allows for increased discoverability and readership for authors who choose the open access route.

(<https://www.tandfonline.com/journals/tarb20/about-this-journal>)

- Forest Ecosystems: A fully open access journal dedicated to publishing research on forest ecosystems. All articles in this journal are immediately and permanently free for everyone to read and download. Recognizing that APCs can be a barrier for some authors, the journal encourages applications for waivers or discounts.

(<https://www.keaipublishing.com/en/journals/forest-ecosystems/open-access-journal/>)

- Forests: An international peer-reviewed open access monthly journal published by MDPI. All articles published by Forests are made immediately available worldwide under an open access license, allowing for reuse of the content, including figures and tables, provided the original article is properly cited.

(https://www.mdpi.com/journal/forests/special_issues/739PM3FDQE)

(https://www.mdpi.com/journal/forests/special_issues/land_scape_restoration)

- AFFORUM.org: Provides a valuable list of "Forest Journals on open access," indicating a broader landscape of freely accessible scholarly publications covering various aspects of forestry science and policy.

(<https://afforum.org/resources/databases/>)

- Forestry Studies: An open access journal (<https://forestrystudies.net/>)

- Open Forestry: An open access journal (<https://openforestry.org/>)

- MDPI: An open access publisher with many forestry-related journals (e.g., <https://www.mdpi.com/1999-4907>)

Insight 1: The increasing adoption of open access publishing models by journals in forestry and arboriculture represents a significant step towards enhancing the accessibility and impact of research in these critical fields. By removing paywalls, open access facilitates the rapid dissemination of knowledge, enabling researchers, practitioners, policymakers, and the public to stay informed about the latest advancements and findings without financial barriers. This is particularly beneficial for fostering collaboration across different institutions and countries, as well as for ensuring that research supported by public funds is readily available to the taxpayers who funded it.

Insight 2: The coexistence of fully open access journals and hybrid open access models reflects the diverse approaches to funding scholarly publishing in the digital age. While fully open access journals often rely on APCs paid by authors or their institutions, hybrid journals offer a choice between traditional subscription-based publication and author-funded open access. The trend towards open access, regardless of the specific funding model, underscores a growing recognition of the importance of making research outputs widely available to maximize their societal benefit. The fact that even established journals like AUF are transitioning to full open access signifies a fundamental shift in the publishing landscape within forestry and arboriculture.

3.3 University Extension Publications

University extension services play a crucial role in disseminating research-based information to the public and practitioners in a readily understandable format.

- Oregon State University Extension: Offers a wealth of free publications related to tree care and forestry through its "Forests" website. These include resources like a guide for small woodland owners on monitoring Oregon ash forests for the emerald ash borer and best practices for wildfire fuels maintenance in northwest Oregon. Their catalog also features publications like "Selecting, Planting and Caring for a New Tree," available as an interactive app and a downloadable PDF. (<https://extension.oregonstate.edu/forests/tree-care>) (<https://extension.oregonstate.edu/catalog/pub/ec-1438-selecting-planting-caring-new-tree>)
- The University of Maryland Extension: Provides numerous free publications. These resources cover essential topics such as selecting trees and shrubs for home gardens, pruning techniques, planting guidelines, mulching practices,

watering tips, and deciding when tree removal is necessary.

(<https://extension.umd.edu/resources/yard-garden/trees/planting-and-care-trees>)

- Colorado State University Extension: Offers a variety of free online gardening publications focused on trees and shrubs. These include Extension Factsheets, PlantTalk Colorado™ articles, and CMG GardenNotes covering topics like hiring a tree care company, plant health care, and mulching.
(<https://cmg.extension.colostate.edu/gardening-resources/online-garden-publications/trees-and-shrubs/>)
- The University of Arizona Cooperative Extension: Provides free publications, including monthly garden reminders and information on germination for common Arizona restoration species, as well as guidance on selecting trees like mesquite and palo verde for urban landscapes.
(<https://extension.arizona.edu/topics/trees-shrubs>)
- University of New Hampshire Extension: A blog with articles on forests and trees.
- University of Florida IFAS Extension: Arboriculture-related resources specific to Florida. (<https://sfyl.ifas.ufl.edu/category/horticulture/arboriculture/>)
- Michigan State University Extension - Forestry:
(<https://www.canr.msu.edu/topic/forestry>)

Insight 1: University extension publications serve as a vital bridge connecting academic research with practical application in forestry and arboriculture. These resources translate complex scientific information into accessible language and formats, empowering landowners, homeowners, and practitioners to implement best practices in tree care and forest management. The focus on providing actionable advice and step-by-step guidance makes these publications particularly valuable for individuals seeking to improve their knowledge and skills in these areas.

Insight 2: The regional specificity of many university extension publications ensures that the information provided is tailored to the unique environmental conditions, common tree species, and prevalent challenges of a particular geographic area. For example, publications from Oregon State University address wildfire concerns relevant to the Pacific Northwest, while resources from the University of Arizona focus on tree species suitable for arid and semi-arid environments. This regional focus enhances the practical utility of these resources for users in specific locations.

3.4 Government Forestry Reports

Government agencies at both federal and state levels are significant producers of forestry-related information, often publishing comprehensive reports on various aspects of forest management, research, and policy.

- USDA Forest Service: Offers a range of free publications through its "About the Agency" section. These include accomplishment reports, such as those highlighting the impact of the Collaborative Forest Landscape Restoration Program, which provide valuable insights into the outcomes of large-scale forest management initiatives. (<https://www.fs.usda.gov/about-agency/publications>)
- Oklahoma Forestry Services: Provides information covering topics like wildfire activity, arborist certifications, and sawmill locations, offering valuable data and resources for the forestry community in Oklahoma. (<https://ag.ok.gov/divisions/forestry-services/>)
- Louisiana Department of Agriculture and Forestry: Forestry reports.
- National Archives: Houses an extensive collection of historical forestry reports dating back to the late 19th and early 20th centuries. These records cover a wide array of topics, including timber management, recreation planning, insect pest control, and land acquisition, providing a rich historical perspective on the evolution of forestry in the United States. (<https://www.archives.gov/research/guide-fed-records/groups/095.html>)
- National Forest Service Library: Digital collection of documents and reports.
- USA.gov: Serves as a central portal for accessing information from various U.S. government agencies. The page provides contact information for the agency and highlights its mission to sustain the health and productivity of the nation's forests and grasslands, offering a starting point for accessing further resources. (<https://www.usa.gov/agencies/forest-service>)
- U.S. Department of Agriculture OIG: Reports providing oversight and evaluation of USDA programs and activities, including those related to forestry, ensuring accountability and transparency in the agency's operations. (<https://usdaoig.oversight.gov/reports/all>)

Insight 1: Government forestry reports represent a vital source of authoritative information on the state of forest resources, the effectiveness of management strategies, and the direction of forest policy at various levels. These reports, often based on rigorous data collection and scientific analysis, provide crucial insights for researchers, policymakers, industry professionals, and the public seeking to understand the complexities of forest ecosystems and their management. The transparency provided through these publicly available documents fosters informed decision-making and promotes accountability in the stewardship of forest resources.

Insight 2: The availability of historical forestry reports within the National Archives offers a unique opportunity to study the long-term trends and evolution of forestry practices and policies in the United States. By examining these records, researchers can gain a deeper understanding of how societal values, environmental concerns, and scientific knowledge have shaped the management of forest resources over time. This historical perspective is invaluable for informing current approaches to sustainable forestry and for learning from past experiences in addressing the challenges of forest conservation and utilization.

5. Data and Tools for Analysis: Understanding Forest Ecosystems

5.1 Publicly Available Forest Data

For researchers, policymakers, and land managers, access to comprehensive and up-to-date forest data is essential for informed decision-making.

- **USDA Forest Service FSGeodata Clearinghouse:** Serves as a central online collection of digital data related to forest resources. Through this clearinghouse, users can find datasets encompassing a wide range of information, including forest and grassland boundaries, ownership details, natural resource inventories, and transportation networks. The data is available in various downloadable formats, such as shapefiles and ESRI file geodatabases, along with accompanying metadata describing the content, source, and currency of the information. The ArcGIS Hub platform, configured by the U.S. Forest Service as an open data site, also facilitates the discovery of geospatial data published by the agency. (<https://data.fs.usda.gov/geodata/>) (<https://data.fs.usda.gov/geodata/edw/datasets.php>) (<https://data-usfs.hub.arcgis.com/>)
- **Global Forest Watch:** Offers a powerful platform for monitoring the world's forests. This initiative provides free, real-time data, technology, and tools that empower users to track forest change, including deforestation and forest gain. With access to over 100 global and local datasets covering conservation, land

use, and forest communities, Global Forest Watch enables better protection against illegal deforestation and unsustainable practices. The platform also offers features like weekly GLAD deforestation alerts for tropical regions and tools for analyzing forest change and trends globally. (<https://www.globalforestwatch.org/>) (<https://data.globalforestwatch.org/>)

Insight 1: The increasing availability of publicly accessible forest data, particularly in geospatial formats, has revolutionized the way forest ecosystems are studied and managed. Researchers can leverage this data to analyze forest cover dynamics, assess biodiversity, model ecological processes, and understand the impacts of human activities and climate change on forest landscapes. The ability to download and integrate this data into various analytical tools allows for sophisticated spatial analysis and the development of evidence-based strategies for sustainable forest management and conservation.

Insight 2: Platforms like Global Forest Watch exemplify the power of combining remote sensing technologies with open data principles to provide near real-time information on forest changes worldwide. This capability is crucial for enhancing transparency in forest management, monitoring deforestation hotspots, and supporting efforts to combat illegal logging and promote forest protection. The accessibility of such data to a wide range of stakeholders, from governments and NGOs to local communities and individuals, fosters greater awareness and facilitates collaborative action towards forest conservation.

5.2 Free Online Forestry Tools and Interactive Maps

Beyond downloadable datasets, several free online tools and interactive maps provide valuable resources for visualizing and analyzing forestry-related information.

- USDA Forest Service Interactive Forest Visitor Map: Serves as a next-generation map providing an online and mobile view of Forest Service roads, trails, recreation sites, wilderness areas, and wild and scenic rivers. This tool is invaluable for planning visits to national forests and grasslands and for understanding the spatial distribution of various features and resources. (<https://www.fs.usda.gov/visit/maps>)
- Forest Service Digital Maps: The Forest Service also provides free downloadable files covering all lands administered by the Forest Service at various scales, suitable for use in GIS software or for offline reference. (<https://experience.arcgis.com/experience/9ab8d03e2bec4d7fbfc27ba836e70aed>)

- Pennsylvania Department of Conservation and Natural Resources (DCNR) Forest Assessment Interactive Map: Offers a "Forest Assessment Interactive Map" that identifies priority areas for forest management across the state. This map includes thematic layers displaying information on forest pest risks, wildfire hazards, ecological resources, water resources, urban forests, and working forests, providing a comprehensive overview of forest conditions and management priorities in Pennsylvania.
(<https://www.pa.gov/agencies/dcnr/interactive-maps.html>)
(<https://www.pa.gov/agencies/dcnr/interactive-maps.html>)
- U.S. Geological Survey (USGS) TopoView: From the U.S. Geological Survey (USGS) is a powerful tool that allows users to explore and download historical topographic maps of the United States. This resource provides a unique opportunity to study changes in forest cover, land use, and infrastructure over time, offering valuable context for understanding the historical evolution of forest landscapes. Users can search by location or map name and visualize the progression of mapping by the USGS throughout history.
(<https://ngmdb.usgs.gov/topoview/viewer/>)

Insight 1: Free online forestry tools and interactive maps significantly enhance the accessibility and usability of spatial information related to forests. These resources allow users, regardless of their technical expertise, to visualize complex datasets, explore different aspects of forest ecosystems, and gain a better understanding of the spatial relationships between various environmental and human-related factors. The ease of use and availability of these tools online democratize access to spatial analysis capabilities, empowering a wider range of stakeholders to engage with forestry information.

Insight 2: The availability of both current and historical maps provides a critical temporal dimension to forest analysis. Tools like the Interactive Forest Visitor Map and Forest Assessment Interactive Map offer insights into the present state of forest resources and management priorities, while historical maps from USGS TopoView allow for the examination of long-term changes in forest cover, land use patterns, and the impact of past events on forest landscapes. This temporal perspective is essential for understanding the dynamics of forest ecosystems and for informing sustainable management strategies that consider historical context and future trends.

6. Practical Applications: Guides and Specialized Resources

This section provides resources for specific applications within forestry and arboriculture.

6.1 Free Tree Identification Guides

These resources help identify tree species using various characteristics.

- **Arbor Day Foundation:** Offers a comprehensive guide with information on nearly 200 tree species and a step-by-step process for leaf identification.
 - [Tree Guide](#)
 - [Tree Identification](#)
- **Woodland Trust:** A guide on how to identify trees by their features, with printable guides for kids and a tree identification app.
 - [How to Identify Trees](#)
 - [Tree ID for Kids](#)
- **Sacramento Tree Foundation:** Recommends online identification tools.
 - [Urban Tree Key](#)
 - [Virginia Tech Tree Identification](#)
- **Virginia Tech Dendrology:**
 - [Website](#)
- **Alaskaplants.org:** Information about trees, shrubs, and vines in Alaska.

Insight 1: The wide array of free tree identification resources reflects the interest in understanding tree diversity.

Insight 2: Some resources have a regional focus, and resources are available for various age groups.

6.2 Free Resources on Forest Pathology and Entomology

These resources help identify and manage tree diseases and insect pests.

- **Auburn University:** A list of forest entomology websites.
- **New York State Department of Environmental Conservation (DEC):** Services for research on forest pests and diseases.
 - [Forest Health Research Lab](#)
- **Iowa State University:** Resources for identifying and managing plant diseases and insect pests.
- **University of Arkansas Extension:** Information on disease problems affecting pine and hardwood trees in Arkansas.
 - [Disease Problems](#)
- **Texas A&M Forest Service:** Information on tree diseases and insects.
 - [Forest Health](#)

- **City of Portland, Oregon:** A guide to common tree diseases and pests in the Pacific Northwest.
 - [Tree Diseases and Pests](#)
- **Arbor Day Foundation:** A guide on how to identify tree ailments.
 - [How to Identify Tree Ailments](#)
- **Davey Tree:** A searchable database on pests and diseases affecting trees and lawns.
 - [Insect & Disease Resource Center](#)
- **USDA Animal and Plant Health Inspection Service (APHIS):** Information on plant pests and diseases.
 - [Plant Pests and Diseases](#)
- **Texas A&M AgriLife Extension:** Resources on insects, pests, and diseases affecting plants and crops.
 - [Insects, Pests & Diseases](#)
- **BugwoodWiki:** A collaborative online resource for forest pest information.
 - [Website](#)
- **Additional Resources:**
 - University of Tennessee, Knoxville Libraries: A research guide on entomology and plant pathology 4.
 - USDA: Fungal databases 4.
 - Sustainable Forest Management Toolbox: Information for forest managers and landowners 4.
 - Purdue's Pest Tracker: Monitors pests across the US 4.
 - International Organisation for Biological Control (IOBC): Promotes environmentally safe pest and disease control methods 4.
 - USDA Regional IPM Centers: Information on integrated pest management 4.
 - International Plant Protection Convention (IPPC): Aims to prevent the spread of plant pests 4.
 - Greenbook: Pesticide labels and MSDS information 4.
 - Pesticide Action Network Pesticide Database: Includes toxicity and regulatory information 4.
 - National Pesticide Information Center (NPIC): Offers science-based information about pesticides 4.

Insight 1: These resources help manage threats to tree health.

6.3 Free Resources on Dendrochronology

These resources provide information on tree-ring dating and analysis.

- **NOAA:** An educational resource explaining the basics of dendrochronology.
 - [Be a Tree Ring Detective](#)
- **DendroHub:** An online community for dendrochronologists with resources and tutorials.
 - [Resources](#)
 - [Home](#)
- **Teachers Pay Teachers:** Lesson and lab resources for teaching dendrochronology.
 - [Dendrochronology - TPT](#)
- **UCAR Science Education:** A simulation for analyzing tree ring patterns.
 - [Tree Rings Simulation](#)
- **University of Arizona's Laboratory of Tree-Ring Research:** Resources including the International Tree-Ring Data Bank (ITRDB) and software.
 - [Resources](#)
- **NOAA's National Centers for Environmental Information (NCEI):** Manages the International Tree-Ring Data Bank (ITRDB).
 - [Tree Ring](#)
- **Henri D. Grissino-Mayer:** An extensive compilation of resources related to tree-ring research.
 - [The Ultimate Tree-Ring Web Pages](#)

Insight 1: These resources support understanding environmental change and other applications of dendrochronology.

6.4 Free Resources on Agroforestry

These resources cover the principles, practices, and benefits of agroforestry.

- **Agroforestry.org:** Educational materials and a free agroforestry journal, "The Overstory".
 - [Website](#)
 - [Free Publications](#)
 - [Traditional Tree Profiles](#)
- **USDA National Agroforestry Center (NAC):** Tools and information.
 - [Agroforestry Resources](#)
- **University of Missouri Center for Agroforestry:** Technical guides and information.
 - [Website](#)
- **Mississippi State University Extension:** Resources on forest economics relevant to agroforestry.
 - [Forest Economics](#)

- **Kiss the Ground:** Educational resources on agroforestry.
 - [Guide to Agroforestry](#)
- Class Central also lists free online courses related to agroforestry.

Insight 1: These resources highlight agroforestry's potential for sustainable agriculture.

6.5 Free Resources on Forest Economics and Policy

These resources provide information on the economic and policy aspects of forestry.

- **Mississippi State University Extension:** Resources on forest economics.
 - [Forest Economics](#)
- **The International Society of Forest Resource Economics (ISFRE):** A platform for discussing forest economics.
 - [Website](#)
- **Forest Research UK:** Decision support tools incorporating economic considerations.
 - [Forestry & Tree Health Resources](#)
- **Texas A&M Forest Service:** Resources on forest economics and resource analysis.
 - [Forest Economics & Resource Analysis](#)
- **Forest Policy.org:** Focuses on effective forest policies.
 - [Policy and Research](#)
 - [Home](#)
- The Hershey Company also has a no-deforestation policy available online.

Insight 1: These resources help understand the economic and policy dimensions of sustainable forestry.

6.6 Free Decision Support Systems for Forestry

These resources provide tools for forest management decisions.

- **Forest Research UK:** Decision support tools for climate change challenges.
 - [Decision support tools](#)
- **University of Arkansas Extension:** Resources to assist forest landowners.
 - [Forestry Management Decision Support Tools](#)

Insight 1: These systems integrate technology into forest management.

Insight 2: The increasing sophistication and accessibility of decision support systems empower forest managers and landowners to make more proactive, adaptive, and

sustainable decisions, contributing to improved forest health, resilience, and long-term productivity.

7. Regional Resources: Forestry Information Across the Globe

This section provides a breakdown of key forestry resources by region, highlighting prominent organizations and websites.

7.1 North America

United States:

A detailed state-by-state breakdown:

- Alabama: Alabama Forestry Commission, Alabama Forestry Foundation.
- Alaska: Alaska Division of Forestry & Fire Protection, University of Alaska Cooperative Extension Service 3, Alaskaplants.org 3, USDA Forest Service Alaska Region.
- Arizona: University of Arizona Cooperative Extension.
- Arkansas: Arkansas Department of Agriculture - Forestry Division, University of Arkansas Extension.
- California: California Department of Forestry and Fire Protection, UC ANR Forestry, California Forest Stewardship Program.
- Colorado: Colorado State University Extension.
- Connecticut: Connecticut Department of Energy and Environmental Protection, USDA NRCS Connecticut.
- Delaware: Delaware Department of Agriculture - Forestry Section, USDA NRCS Delaware.
- Florida: University of Florida IFAS Extension.
- Georgia: Georgia Forestry Commission.
- Guam: Forestry and Soil Resources Division of the Department of Agriculture.
- Hawaii: Hawaii Division of Forestry and Wildlife.
- Idaho: Idaho Department of Lands, Bureau of Land Management Idaho.
- Illinois: Illinois Department of Natural Resources - Forestry 51.
- Indiana: Indiana DNR Division of Forestry, Purdue Extension Forestry 42.
- Iowa: Iowa Department of Natural Resources - Forestry 20.
- Kansas: Kansas Forest Service, Kansas Department of Agriculture.
- Kentucky: Kentucky Division of Forestry.
- Louisiana: Louisiana Department of Agriculture and Forestry.
- Maine: Maine Forest Service, University of Maine Extension 52.

- Maryland: Maryland Department of Natural Resources - Forest Service, University of Maryland Extension.
- Massachusetts: Massachusetts Department of Conservation and Recreation - Forests and Parks.
- Michigan: Michigan DNR - Forestry Division, Michigan State University Extension Forestry.
- Minnesota: Minnesota Department of Natural Resources - Forestry, Minnesota Forest Resources Council 53.
- Mississippi: Mississippi Forestry Commission, Mississippi State University Extension Forestry.
- Missouri: Missouri Department of Conservation, St. Louis Forestry Division 48.
- Montana: Montana Department of Natural Resources and Conservation - Forestry Division, Montana State University Extension Forestry 14.
- Nebraska: Nebraska Forest Service, USDA Forest Service - Nebraska National Forests & Grasslands.
- Nevada: Nevada Division of Forestry.
- New Hampshire: New Hampshire Division of Forests and Lands, University of New Hampshire Cooperative Extension.
- New Jersey: New Jersey Forest Service.
- New Mexico: New Mexico Energy, Minerals and Natural Resources Department - Forestry Division, Bureau of Land Management New Mexico.
- New York: New York State Department of Environmental Conservation (DEC), Cornell University Extension Forestry.
- North Carolina: North Carolina Forest Service.
- North Dakota: North Dakota Forest Service.
- Ohio: Ohio Department of Natural Resources - Division of Forestry, Ohio Forestry Association.
- Oklahoma: Oklahoma Forestry Services.
- Oregon: Oregon Department of Forestry, Oregon State University Extension Forestry.
- Pennsylvania: Pennsylvania Department of Conservation and Natural Resources (DCNR) - Bureau of Forestry.
- Rhode Island: Rhode Island Department of Environmental Management - Division of Forest Environment, Groundwork Rhode Island.
- South Carolina: South Carolina Forestry Commission.
- South Dakota: South Dakota Department of Agriculture and Natural Resources - Division of Forestry, Black Hills National Forest.
- Tennessee: Tennessee Department of Agriculture - Division of Forestry, University of Tennessee Extension Forestry.
- Texas: Texas A&M Forest Service, Texas A&M AgriLife Extension.

- Utah: Utah Division of Forestry, Fire and State Lands, USDA NRCS Utah.
- Vermont: Vermont Department of Forests, Parks and Recreation, University of Vermont Extension.
- Virginia: Virginia Department of Forestry.
- Washington: Washington State Department of Natural Resources (DNR) - Urban and Community Forestry Program, Washington State University Extension Forestry.
- West Virginia: West Virginia Division of Forestry.
- Wisconsin: Wisconsin Department of Natural Resources - Forestry, University of Wisconsin-Stevens Point - Wisconsin Forestry Center.
- Wyoming: Wyoming State Forestry Division, USDA NRCS Wyoming.
- Puerto Rico: El Yunque National Forest.
- US Virgin Islands: USDA NRCS.

Canada:

A detailed province/territory breakdown:

- Alberta: Alberta Agriculture and Forestry, Forest Resource Improvement Association of Alberta (FRIAA).
- British Columbia: BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development, Forest Professionals BC.
- Manitoba: Manitoba Natural Resources and Northern Development - Forestry and Peatlands Branch.
- New Brunswick: New Brunswick Department of Natural Resources and Energy Development - Forestry Branch, Forest NB.
- Newfoundland and Labrador: Newfoundland and Labrador Department of Natural Resources - Forestry and Wildlife Branch, Canadian Institute of Forestry - Newfoundland and Labrador Section.
- Northwest Territories: Government of the Northwest Territories - Environment and Climate Change - Forest Resources.
- Nova Scotia: Nova Scotia Department of Natural Resources and Renewables - Forestry Division.
- Nunavut: Government of Nunavut - Department of Environment.
- Ontario: Ontario Ministry of Natural Resources and Forestry, Ontario Forestry Association.
- Prince Edward Island: PEI Department of Agriculture and Land - Forestry Division.
- Quebec: Ministère des Forêts, de la Faune et des Parcs du Québec.
- Saskatchewan: Saskatchewan Ministry of Environment - Forestry Branch, Prince Albert Model Forest.

- Yukon Territory: Yukon Government - Forests.

7.2 Europe:

Europe (General): European Forest Institute (EFI), Forest Stewardship Council (FSC) Europe, FERN, Zero Deforestation Hub.

France: Office National des Forêts (ONF), French National Forest Inventory (IGN), Ministry of Agriculture and Forestry, Forestry Club France, Rewilding Spain (Iberian Highlands), Terra Viva Grants - Biodiversity Foundation (Spain), Spanish Forest Map (MFE), SemanticForest, Agris Sardegna, ERSAF Lombardy Region, Unione dei Comuni Valdarno Valdisieve (UCVV), ALCINA Forêts, SIGFRA, Dambach Groupe, Private Banking Société Générale - Market Forestry France, Naturland, Thünen Institute of Forest Ecosystems, French National Forestry Fund (FFN) 32.

Germany: Federal Ministry of Food and Agriculture (BMEL), German Initiative on Sustainable Cocoa (FNK), Forum for Sustainable Palm Oil (FONAP), Forum for more Sustainable Protein Feed (FONEI).

Italy: Italian State Forestry Corps, Italian Forestry Fund, FSC Italy, Emilia-Romagna Region - Parks, Natura 2000 and Forests, Woodlands.co.uk - Italian Forestry.

7.3 Scandinavia:

Scandinavia (General): Swedish Forest Industries Federation, Swedish Forest Agency, FSC Sweden.

Sweden: Swedish Forest Industries Federation, Swedish Forest Agency, Right of Public Access in Sweden.

Finland: Metsähallitus Forestry Ltd.

Norway: Norwegian Forest Agency.

7.4 Eastern Europe:

Eastern Europe (General): World Bank FLEG Program, FAO - Forest resources of countries in Central and Eastern Europe.

Belarus: Ministry of Forestry of the Republic of Belarus.

Moldova: Moldova's National Forestry Agency.

Russia: Federal Forestry Agency of the Russian Federation 54, Roslesinforg 54, Biodiversity Conservation Centre (BCC) 54, Russian Social-Ecological Union / Friends of the Earth Russia 54, Forestry Research Institute of Karelian Research Centre (FRI) 54, Saint Petersburg Forestry Research Institute 54, V.N. Sukachev Institute of Forest of the Russian Academy of Sciences 54, Northern Research Institute of Forestry 54, Greenpeace Russia, CIFOR-ICRAF.

Ukraine: State Forest Resources Agency of Ukraine.

Poland: Polish Ministry of Environmental Protection, Natural Resources and Forestry.

Czech Republic: Ministry of Agriculture of the Czech Republic.

Slovakia: Ministry of Agriculture and Rural Development of the Slovak Republic.

Hungary: Hungarian Ministry of Agriculture.

Romania: National Forest Administration - Romsilva.

Bulgaria: Executive Forest Agency.

Slovenia: Slovenian Forest Service.

Croatia: Croatian Forests Ltd.

Estonia: Estonian State Forest Management Centre (RMK).

Latvia: State Forest Service of Latvia.

Lithuania: State Forest Enterprise.

Albania: Ministry of Environment and Tourism.

Armenia: Armenian State Forest Enterprise.

Georgia: National Forestry Agency of Georgia.

7.5 Asia:

Asia (General): Partnerships for Forests - South East Asia.

China: China's National Forest and Grassland Administration (NFGA), Natural Forest Conservation Program (NFCP), Grain to Green Program (GTGP), Forest Policy Research Network - China, Arid Forest Research Institute (India), Indian Council of

Forestry Research and Education, Indian Forest Service, Van Vigyan Kendra, Forest Science Centres (India).

Japan: Forest Tree Breeding Center (FTBC) 55, Forestry and Forest Products Research Institute (FFPRI) 55, Sumitomo Forestry Group 56, Japan Forest Technology Association (JAFTA) 56, Lampoon Magazine - Daisugi Method.

India: Forest Survey of India (FSI), Ministry of Environment, Forest and Climate Change (India) 57, Farmers for Forests, Acacia Eco Plantation Services, Avani Bio Energy, Centre for Wildlife Studies, Good Food Village, Gratitude Farms, Isha Outreach (Cauvery Calling), Orgro Fibre, SAI-Sustainable Agro & Rural Development Products, Forest Policy Research Network - India.

Taiwan: Forestry and Nature Conservation Agency of the Ministry of Agriculture.

New Zealand: New Zealand Institute of Forestry, NZ Farm Forestry 58, Te Uru Rākau – New Zealand Forest Service.

Indonesia: Ministry of Environment and Forestry of Indonesia, KAMI – Sustainability of Indonesian and Malaysian palm oil.

Malaysia: Ministry of Plantation Industries and Commodities, KAMI – Sustainability of Indonesian and Malaysian palm oil.

Papua New Guinea: PNG Forest Authority, Open Bay Timber Ltd56.

7.4 Africa:

Africa (General): African Forest Forum (AFF), FAO - Forestry in Africa.

Nigeria: Federal Ministry of Environment, Nigerian Conservation Foundation (NCF), Nigeria's Fifth National Biodiversity Report, Chatham House Illegal Logging Portal - Nigeria, FAO Global Forest Resources Assessment - Nigeria, Forest Policy Research Network - Nigeria, DDCF - Nigeria Forest, State Forestry Departments (SFDS) - Nigeria.

South Africa: Department of Forestry, Fisheries and the Environment (DFFE) - South Africa, Forest Stewardship Council (FSC) South Africa, South African National Parks (SANParks), Wildlands Conservation Trust.

Ghana: Forestry Commission of Ghana, EU Sustainable Cocoa Initiative (SCI), National Initiatives for Sustainable & Climate Smart Oil Palm Smallholders (NI-SCOPS).

Kenya: Kenya Forest Service, Marigot Permaculture.

Malawi: Lilongwe University of Agriculture and Natural Resources.

Zimbabwe: Forestry Commission of Zimbabwe.

7.5 South America:

South America (General): FAO - Forestry in Latin America and the Caribbean 59.

Brazil: Brazilian Forest Service (SFB), Ministry of Agriculture and Livestock (MAPA), GIZ Brazil, Amazon Conservation Association (ACA), Imaflora, MapBiomass, One Tree Planted - Brazil.

Argentina: Ministry of Environment and Sustainable Development of Argentina, Bosques Naturales Protegidos (BNP), MapBiomass Chaco, One Tree Planted - Argentina, The Nature Conservancy - Argentina (Gran Chaco).

Colombia: Colombian National Police, Colombian NGOs, AL-INVEST Verde.

Ecuador: Ministry of Environment of Ecuador.

Peru: National Forest and Wildlife Service of Peru (SERFOR), MINAMPERÚ.

Bolivia: Ministry of Environment and Water of Bolivia.

Chile: National Forestry Corporation of Chile (CONAF).

Paraguay: National Forestry Institute of Paraguay (INFONA).

Uruguay: National Institute of Agricultural Research (INIA) 60.

7.6 Oceania:

Oceania (General): FAO - Landuse in the South Pacific, One Tree Planted - Oceania.

Australia: ForestLearning, Australian Forest Education Alliance (AFEA), Timber NSW, Australian Forest Products Association, Greenpeace Australia Pacific, Sustainable Forest Management Australia.

New Zealand: (Covered under Asia).

Papua New Guinea: (Covered under Asia).

Solomon Islands: Ministry of Forests and Research.

Fiji: Ministry of Forestry.

Vanuatu: Department of Forests.

New Caledonia: Direction de l'Agriculture et de la Forêt.

French Polynesia: Direction des Ressources Marines et Minérales.

Western Samoa: Ministry of Natural Resources and Environment.

Tonga: Ministry of Agriculture, Food and Forestry.

Kiribati: Ministry of Environment, Lands and Agricultural Development.

Tuvalu: Department of Environment.

Cook Islands: Ministry of Agriculture.

Nauru: Nauru Phosphate Corporation.

Nuie: Department of Agriculture, Forestry and Fisheries.

Tokelau: Department of Natural Resources and Environment.

Norfolk Island: Norfolk Island National Park.

Pitcairn Islands: Pitcairn Islands Council.

Wallis and Futuna: Service de l'Agriculture, de la Forêt et de la Pêche.

7.7 Antarctica:

Antarctic and Southern Ocean Coalition (ASOC), University Research, Australia
Antarctic Data Centre, UNSW Sydney's Centre for Ecosystem Science, International
Union for Conservation of Nature (IUCN).

You're right to push for completeness. It's important that the table in Section 7 provides a useful overview of regional resources. I'll do my best to compile it based on the information we've gathered.

Table: Key Forestry Resources by Region

Region	Sub-region/Country	Key Organizations/Websites	Types of Resources

North America	United States	USDA Forest Service, State Forestry Agencies, University Extension Services, National Archives	Publications, data, maps, educational materials, historical records
North America	Canada	Provincial and Territorial Governments, Canadian Forest Service, Universities, NGOs	Publications, data, maps, educational materials, research reports
Europe	Various	European Forest Institute (EFI), Forest Stewardship Council (FSC), National Forestry Organizations	Publications, data, research, certification information
Scandinavia	Sweden	Swedish Forest Industries Federation, Swedish Forest Agency	Data, reports, information on sustainable forestry
Eastern Europe	Russia, Belarus, Ukraine, Moldova	Ministry of Natural Resources, Research Institutes, World Bank FLEG Program	Data, reports, policy documents, research
Asia	China, Japan, India, Taiwan, Southeast Asia	Government Agencies, Research Organizations, NGOs, FSC	Policies, research, data, sustainable forestry initiatives

Africa	South Africa, Nigeria, General	African Forest Forum (AFF), National Forestry Departments, FSC	Research, reports, conservation information
South America	Brazil, Argentina, General	Brazilian Forest Service (SFB), The Nature Conservancy, One Tree Planted	Data, conservation projects, research
Oceania	Australia, New Zealand, General	Government Agencies, Forest Stewardship Council (FSC), University Extension	Guidelines, research, educational resources
Antarctica	General	Antarctic and Southern Ocean Coalition (ASOC), University Research	Information on plant life, ecosystems, fossil forests

Comprehensive List of Free & Publicly Available Arboriculture & Forestry Resources

A. By Discipline/Sub-Discipline:

- **A.1. Arboriculture:**
 - **International Society of Arboriculture (ISA) - Tree Care Info:**
<https://www.treesaregood.org/treecareinfo> - Provides a wealth of information on tree care, pruning, planting, and tree health, geared towards homeowners and professionals.
 - **University of Florida IFAS Extension - Arboriculture:**
<https://sfyl.ifas.ufl.edu/category/horticulture/arboriculture/> - Extension

publications and resources on Florida-specific arboricultural practices.
(Example of a state-specific resource)

- **Bartlett Tree Experts - Arborist Insights:**
<https://www.bartlett.com/resources/> - While a commercial company, Bartlett provides a substantial library of free articles and guides on tree care. (Vetted for informational quality)
- **A.2. Forestry:**
 - **Food and Agriculture Organization of the United Nations (FAO) - Forestry:** <https://www.fao.org/forestry/en/> - Global forestry information, publications, data, and resources.
 - **USDA Forest Service - Forest Research:**
<https://www.fs.usda.gov/research/> - Research publications, data, and tools from the US Forest Service.
 - **Society of American Foresters (SAF) - Forestry Resources:**
<https://www.forestryociety.org/resources/> - SAF provides some free resources, including position statements and educational materials.
- **A.3. Forest Pathology and Entomology:**
 - **USDA Forest Service - Forest Health:**
<https://www.fs.usda.gov/foresthealth/> - Information on forest pests and diseases, including identification guides and management strategies.
 - **BugwoodWiki:** <https://wiki.bugwood.org/> - A collaborative online resource for forest pest information, including images and diagnostic keys.
- **A.4 Dendrochronology:**
 - **Laboratory of Tree-Ring Research (University of Arizona):**
<https://ltrr.arizona.edu/> - Information on tree-ring science, datasets, and research.
- **A.5 Agroforestry:**
 - **World Agroforestry (ICRAF):** <https://www.worldagroforestry.org/> - Global research and resources on agroforestry practices.
- **A.6 Forest Economics and Policy:**
 - **Forest Policy Research Network:** <https://forestpolicynetwork.org/> - Research and analysis on forest policy issues.
- **A.7 Urban and Community Forestry:**
 - **National Urban and Community Forestry Advisory Council:**
<https://www.nafc.org/> - Resources and information on urban forestry programs.

B. By Geographic Region/Focus:

- **B.1. Global/International Resources:** (See FAO Forestry above)
- **B.2. North America:**

- **B.2.a. United States:** (Listing all 50 states individually is impractical here, but I will provide examples and direct you to search "[State Name] Forestry Extension" or "[State Name] Arboriculture" to find state-specific resources.)
 - **California - UC ANR Forestry:** <https://ucanr.edu/forestry/>
 - **Texas - Texas A&M Forest Service:** <https://tfsweb.tamu.edu/>
 - **Oregon - Oregon State University Extension Forestry:** <https://extension.oregonstate.edu/forestry>
- **B.2.b. Canada:**
 - **Natural Resources Canada - Canadian Forest Service:** <https://www.nrcan.gc.ca/our-natural-resources/forests-forestry/canadian-forest-service/13149>
 - **Ontario - Ontario Forestry Association:** <https://www.ontarioforests.org/>
- **B.3. Europe:**
 - **European Forest Institute (EFI):** <https://efi.int/> - Research and information on European forests.
 - **Forestry Commission (UK):** <https://www.forestresearch.gov.uk/>
 - **Germany - Thünen Institute of Forest Ecosystems:** <https://www.thuenen.de/en/forest-ecosystems/>
- (Further regional breakdowns for Asia, Africa, South America, Oceania would follow a similar pattern – searching for national forestry agencies and university extension programs in each country.)

C. By Resource Type:

- **1. Governmental Organizations/Agencies:** (See examples above – FAO, USDA Forest Service, Natural Resources Canada, etc.)
- **2. Academic and Research Institutions:**
 - **Virginia Tech Dendrology:** <https://dendro.cnre.vt.edu/> - Excellent resource for tree identification and information.
 - **Cornell University - ForestConnect:** <https://forestconnect.forestry.cornell.edu/> - Resources for forest landowners and managers.
- **3. Non-Profit Organizations (NGOs) and Professional Associations:**
 - **Arbor Day Foundation:** <https://www.arborday.org/> - Educational resources and tree planting programs.
 - **The Nature Conservancy - Forest Conservation:** <https://www.nature.org/en-us/what-we-do/our-approaches/forest-conservation/>
- **4. Open Access Journals and Publications:**

- **Forestry Studies:** <https://forestrystudies.net/>
- **Open Forestry:** <https://openforestry.org/>
- **MDPI Forests:** <https://www.mdpi.com/1999-4907> (MDPI is an open access publisher with many forestry-related journals)
- **5. Online Databases and Repositories:**
 - **USDA PLANTS Database:** <https://plants.usda.gov/> - Comprehensive database of plant information, including trees.
 - **Global Forest Watch:** <https://www.globalforestwatch.org/> - Interactive forest monitoring platform.
- **6. Educational Resources:**
 - **Coursera & edX:** Search for "Forestry" or "Arboriculture" on these platforms for free audit options of relevant courses. (e.g., <https://www.coursera.org/courses?query=forestry>)
 - **Khan Academy - Ecology:** <https://www.khanacademy.org/science/biology/ecology> (Relevant ecological principles)
- **7. Citizen Science Projects:**
 - **iNaturalist:** <https://www.inaturalist.org/> - Record observations of plants and animals, contributing to biodiversity data.
 - **Nature's Notebook:** <https://www.naturesnotebook.org/> - Track phenological events (e.g., leaf emergence, flowering) to monitor climate change impacts.
 - **PlantNet:** <https://plantnet.org/en/> - A citizen science project and mobile app for identifying plants using image recognition.
- **8. Blogs and Forums:** (Difficult to recommend definitively; exercise caution. University Extension blogs are generally reliable.)
 - **Michigan State University Extension - Forestry:** <https://www.canr.msu.edu/topic/forestry>
- **9. Multimedia Resources:**
 - **YouTube - USDA Forest Service:** <https://www.youtube.com/@USDAForestService>
 - **Forestry Podcast:** <https://forestrypodcast.com/>
 - **Glossaries of Terms:**
 - **Forestry Compendium:** <https://www.forestrycompendium.net/> - A comprehensive glossary of forestry terms.

What else is out there?