

Forest Innovation: Supporting Information

Researched by Dr A. Bostock, 2019.

FAO: Food and Agriculture Organisation of the UN Global Forest Resources Assessments:

<http://www.fao.org/forest-resources-assessment/en/>

State of the World's Forests

<http://www.fao.org/state-of-forests/en/>

Forest inventory and assessment: country experiences and needs:

<http://www.fao.org/docrep/005/y4001e/Y4001E06a.htm>

Landsat: <https://landsat.gsfc.nasa.gov/>

<https://landsat.gsfc.nasa.gov/landsat-used-to-predict-tree-species-distributions-in-peruvian-lowland-amazonia/>

European forest innovation workshop

<https://www.efi.int/events/forest-innovation-workshop-2018-2018-04-26>

https://www.efi.int/sites/default/files/files/events/2018/innovation_workshop2-Kleinschmit.pdf

Market trends and new demands; needs; and ideas.

Satmodo – Timber Harvesting Technology

https://www.efi.int/sites/default/files/files/events/2018/innovation_workshop-Carlin.pdf

Integrated digital platforms to develop logging technology companies

https://www.efi.int/sites/default/files/files/events/2018/innovation_workshop-Grigolato.pdf

https://www.efi.int/sites/default/files/files/events/2018/innovation_workshop1-Claramunt.pdf

A platform to gather biodiversity data [includes citizen science]

https://www.efi.int/sites/default/files/files/events/2018/innovation_workshop3-Liu.pdf

using System Engineering, Big data, AI, and Cloud computing

<http://forestcloud.ca/Help/Content/IntroductionofFSOS.pdf>

[AI simulates forest to give desired scenarios]

https://www.efi.int/sites/default/files/files/events/2018/innovation_workshop1-Tome-Soto.pdf

LiDAR data is now available in La Rioja. Assess fuel resources for forest fire prevention. An increasing number of European countries have national programs to capture LiDAR data.

https://www.efi.int/sites/default/files/files/events/2018/innovation_workshop2-Lepist%C3%B6.pdf

a free portal of forest data for forest owners and service providers

https://www.efi.int/sites/default/files/files/events/2018/innovation_workshop3-V%C3%A4is%C3%A4nen.pdf

Virtual Forest New Digital Tool for Forest and Landscape Planning

More than **1 billion hectares of degraded areas** throughout the world are suitable for forest landscape restoration. At the current time, **thirteen million hectares of forests are being lost every year** while the persistent degradation of drylands has led to the **desertification of 3.6 billion hectares**. Even though up to 15% of land is currently under protection, biodiversity is still at risk. Deforestation and desertification – caused by human activities and climate change – pose major challenges to sustainable development and have affected the lives and livelihoods of millions of people in the fight against poverty. [UN: <https://www.un.org/sustainabledevelopment/biodiversity/>]

In comparison the total global forest coverage is ~ 4 billion hectares (~30% of the land). [2010]

[*An opportunity to double or triple the amount of forest coverage.*]

<http://www.earth-policy.org/indicators/C56/>

<http://www.fao.org/forestry/statistics/80938/en/>

In 2017, the wood consumption in million m³ was:

Wood fuel	1890
Industrial roundwood	1907

Forest area (% of land area): <https://data.worldbank.org/indicator/AG.LND.FRST.ZS>

[Staying Alert: How a New Landsat-Based Tool Spots Deforestation « Landsat Science](#)

[Global Forest Resources Assessments | Food and Agriculture Organization of the United Nations](#)

[Forest Inventory | SilviaTerra](#)

[Forests, desertification and biodiversity - United Nations Sustainable Development](#)

[United Nations Forests Page](#)

[European forestry innovation: charting a path towards a green economy - YouTube](#)

[BIO CARBON ENGINEERING - UNITED KINGDOM - Automatization of tree planting with drones on Vimeo](#)

[Carbon capture: Tree size matters | Yale Environment Review](#)

[\(PDF\) Rate of tree carbon accumulation increases continuously with tree size](#)

[Collect Earth: Open Foris](#)

[Dr Alan Grainger | School of Geography | University of Leeds](#)

[Home: Open Foris](#)

[Naming of entities and variables 18Dec2018.pdf - Google Drive](#)

[tree-identification-key.pdf](#)

[2015 FAO Yearbook of Forest Products](#)

[State of the world's forests 1999 Global trends in forest products](#)

[Forest products statistics](#)

[Dynamics of global forest area: Results from the FAO Global Forest Resources Assessment 2015 - ScienceDirect](#)

[United Nations Convention to Combat Desertification](#)

[The Great Green Wall Initiative | UNCCD](#)

[Citizen Observatories and the New Earth Observation Science](#)

[Forest monitoring designed for action | Global Forest Watch](#)

[DSpace@MIT: Absolute localization of mobile robots in forest environments by correlating ground LiDAR to overhead imagery](#)

[MIT Corp. Relations News: ILP Insider](#)

[Walking Tractor Timberjack by John Deere - The Old Robot's Web Site](#)

[Fleets of drones could aid searches for lost hikers | MIT News](#)

[Self-flying drone dips, darts and dives through trees at 30 mph | MIT CSAIL](#)

[WOOD BASED BIOENERGY-FINAL.doc](#)

[UN-REDD Programme](#)

[How to generate electricity from living plants | World Economic Forum](#)

[Life cycle of a tree: From seed to snag - Woodland Trust](#)

[Survey Step1Sitetreehealthsurvey.pdf](#)

[FRA 2000 - Rationale & methodology for global forest survey](#)

[NASA Happily Reports the Earth is Greener, With More Trees Than 20 Years Ago—and It's Thanks to China, India](#)

[www.fao.org/sustainable-forest-management/toolbox/modules/wood-harvesting/cases/en/?type=111](#)

[Effects of harvesting practice on soil sustainability - Forest Research](#)

[afo_how_to_harvest_woodfuel_sustainably_flyer_en.pdf](#)

[\(PDF\) Effects of green pruning on growth of Pinus radiata](#)

[Effects of green pruning on growth and stem shape of Eucalyptus nitens \(Deane and Maiden\) Maiden | SpringerLink](#)

[Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments — IPCC](#)