International Collaboration in Forest Science in the U.S.

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The People’s Republic of China

- Population: 1.4 billion
- Forest Coverage: 22%
- Biodiversity:
  - Higher plants: 3rd in the world
    - (1st: Malaysia, 2nd: Brazil)
  - Birds: 1st in the world
  - Many endemic species
Collaboration

When we each give a little, we can achieve a lot!
Collaboration

Local Collaboration

International Collaboration
25% of the world’s scientific papers are co-authored internationally.
Current Status of International Collaboration in Forest Science in the U.S.
International Collaboration in Forest Science in the U.S.

Government Agency: US Forest Service

Educational Institution: OSU College of Forestry

Consultant: Gary S. Hartshorn

Business (TIMO): GreenWood Resources

NGO: The Nature Conservancy
<table>
<thead>
<tr>
<th>Who</th>
<th>Why</th>
<th>How</th>
<th>Where</th>
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<tbody>
<tr>
<td>US Forest Service</td>
<td>• Accomplish the agency’s mission</td>
<td>• USFS scientists – counterparts worldwide</td>
<td>• East Africa</td>
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<td></td>
<td>• Provide scientific and technical expertise to the government</td>
<td>• Long-term research between FS and other organizations</td>
<td>• New Zealand</td>
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<td>• Networking through regional associations or global networks</td>
<td>• China</td>
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<td>• International Visitor Program</td>
<td>• North America</td>
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<td></td>
<td></td>
<td></td>
<td>• Globe</td>
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<td>OSU College of Forestry</td>
<td>• Academic exchange</td>
<td>• Opportunities abroad</td>
<td>• Chile</td>
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<td>• Visiting students and scholars</td>
<td>• Malaysian Borneo</td>
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<td>• International partnerships</td>
<td>• Costa Rica</td>
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<td>The Nature Conservancy</td>
<td>• Conserve the lands and waters on which all life depends</td>
<td>• 600 scientists</td>
<td>• 72 countries</td>
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<td>• Partners (from individuals and governments to local nonprofits and corporations)</td>
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<tr>
<td>GreenWood Resources</td>
<td>• Internal use and publication</td>
<td>• 100 professionals</td>
<td>• North America</td>
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<td></td>
<td>• Profit</td>
<td>• Economics research</td>
<td>• Latin America</td>
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<td></td>
<td></td>
<td>• Biological research</td>
<td>• Europe</td>
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<tr>
<td>Gary S. Hartshorn</td>
<td>• Research interest in tropical forest</td>
<td>• International organizations (WWF, TNC, TSC, OTS, ICWA, WRI, WFC)</td>
<td>• Asia</td>
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<td></td>
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<td>• Latin America</td>
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<td>• Tanzania</td>
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<td>• Australia…</td>
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</tbody>
</table>
How does international scientific collaboration start?

- Agreements between institutions
- International collaboration programs
- Frequent academic exchange between groups

Forming connections at a personal level

Scientist - scientist
Instruments to Enhance International Collaboration in the U.S.
Instruments to Enhance International Collaboration in the U.S.

Meetings, exchanges, and academic events
Meetings, exchanges, and academic events

Instruments to Enhance International Collaboration in the U.S.

A comprehensive website
A geospatial search engine for discovering multi-format geospatial data across the web

The volume of publicly available geospatial data on the web is rapidly increasing due to advances in server-based technologies and the ease at which data can now be created. However, challenges remain with connecting individuals searching for geospatial data with servers and websites where such data exist. The objective of this paper is to present a publicly ...

Author(s): Christopher Bone, Alan Ager, Ken Bunten, Lauren Temrey
Year: 2014
Keywords: geospatial data, web crawler, search engine, Web Map Service, data access
Source: International Journal of Digital Earth

Spies, Thomas A.; Long, Jonathan W.; Stine, Peter; Charnley, Susan; Cerveny, Lee; Marcot, Bruce G.; Reeves, Gordon; Hassburg, Paul R.; Lesmeister, Damon J.; Reilly, Matthew J.; Raphaël, Martin G.; Davis, Raymond J. 2018. Chapter 12: Integrating Ecological And Social Science To Inform Land Management In The Area Of The Northwest Forest Plan.


Marcot, Bruce G. 2017. Common Quandaries And Their Practical Solutions In Bayesian Network Modeling.

Marcot, Bruce G. 2017. Ecosystem Processes Related To Wood Decay.
中国农科院机构知识库

中国科学院生物工程研究所

本文的主要内容包括：

1. 植物园景观规划设计的技术方法
   - 充分利用植物资源，营造具有地方特色的植物园景观。
   - 与自然环境相结合，打造生态和谐的植物园景观。
   - 考虑植物的季节变化，营造四季分明的植物园景观。

2. 基于综合评价法的果树优树选择
   - 采用综合评价法，对果树进行优树选择。
   - 考虑果树的生长习性、抗病性、产量等因素。
   - 根据综合评价结果，挑选出优良的果树品种。

3. 重要药用植物甘草的遗传改良研究进展
   - 甘草（Phyllanthus emblica）是一种重要的药用植物。
   - 通过遗传改良，提高甘草的药用价值和产量。
   - 结合现代生物技术，实现甘草的遗传改良。
Instruments to Enhance International Collaboration in the U.S.

Meetings, exchanges, and academic events

A comprehensive website

Training programs

Forming connections

World Forest Institute

USDA Forest Service

WWF

UC San Diego
Carbon Measurements in Forest Land Conversion
(Advanced Terrestrial Carbon Accounting)
Local Collaborations in the State of Oregon
Important things to establish international collaboration

- **Communication skills**: Proficient English
- **Opportunities to meet researchers from other countries**
- **Cultural understanding**
- **Knowledge sharing**
What can we do at the Chinese Academy of Forestry?

- Compile information about relevant conferences
- Fund researchers who speak good English to attend
- Encourage our researchers to give presentations
- Train on cultural differences and communication skills
- Build a comprehensive website in English and create new knowledge sharing systems
- Encourage more inter collaboration
Thank you!