

CURRICULUM VITAE

H. Gyde Lund III

6238 Settlers Trail Place

Gainesville, VA 20155-1374 USA

Tel: +1-703-743-1755

Fax: +1-703-743-1756

Email: gyde@comcast.net

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This document last modified on 02/25/2007 04:09:53. This document last modified on 12/23/2006 12:22:23. **Formal Education:**

1961. Bachelor of Science, Forest Management, [Utah State University](#), Logan, Utah, USA. Member Xi Sigma Pi and Phi Kappa Phi honorary fraternities. **Received Lifetime Achievement Award from USU, November 2000.**

1970. Master of Science, Forest Fire Sciences, [University of Washington](#), Seattle, Washington, USA. Thesis: Aerial Photography for Interpreting Understory Vegetation.

Publications: Nearly 200 publications mostly dealing with resource inventory, information needs assessment and advanced technologies. See <http://home.comcast.net/~gyde/lundpub.htm> for a listing and links.

Marital status: Married. Wife and I are both U.S. citizens

Security clearance: Information available upon request.

Positions:

(Reports highlighted in yellow available upon request).

Consultant -

- 2006 – Consultant to UNEP in developing an atlas - **Africa – An Atlas of our Changing Environment**. Sioux Falls, SD.
- 2006 – Instructor – **How to design and direct a large area or national inventory: A short course**. Portland, Oregon, USA. 3-5 October 2006. Western Forestry and Conservation Association.
- 2006 – Expert reviewer - **Fourth Global Environment Outlook (GEO-4) Report** (First and second drafts) UNEP
- 2006 – Reviewer – **Global Environmental Outlook for Deserts**. UNEP.
- 2005 – 2006 Consultant and contributing author to UNEP, GRID Sioux Falls on **African Lakes: An Atlas of Changing Environment**. See: **UNEP 2006. Africa's Lakes: Atlas of Our Changing Environment**. Nairobi, Kenya: United Nations Environment Programme, Division of Early Warning and Assessment (DEWA) 90p. <http://na.unep.net/AfricaLakes/>.
- 2005 – Expert reviewer, **2006 IPCC Guidelines for National Greenhouse**

- Gas Inventories.** First and second review.
- 2004 –2005 - Consultant to UNEP, GRID Sioux Falls. Lead writer for **One Planet, Many People – Atlas of Our Changing Environment.** 334 p. See: <http://www.na.unep.net/OnePlanetManyPeople/index.php> In June 2006, Members of the Government Documents Round Table (GODORT) of the American Library Association (ALA) awarded the Atlas with the prestigious Notable Government Documents Award. The Atlas was also selected by an international jury as a winner in the Report Category by the International Water Association (IWA). The award was presented at the IWA World Water Congress 10-14 September 2006 in Beijing, China. It also was a winner for the 2006 UN 21 Awards in the category of “team productivity.”
 - 2004 – Consultant to Meridian Inc. on **Forest – Rangeland Definitions Project.** Report - Lund, H. Gyde. 2004. Considerations for Developing U.S. Standard Definitions of Forest and Rangeland. Report prepared for Meridian Institute, Contract No. 0045-A. Project No. 9147.8 - Process to Develop a Definition of Forest and Rangeland. Gainesville, VA: Forest Information Services. 108 p. (Revised 6 May 2005) Online at http://fhm-server.lv-hrc.nevada.edu/fia/ab/issues/Final_report_F-R_7May05.doc
 - 2003. Consultant to METI for the North America Forestry Commission on North America Forest Ecological Database. Worked with Canada, USA and Mexican Forest Services. Report – **North American Ecoregion Database Project.** Management and Engineering Technologies International, Inc. (METI) Contract Number: 45318720535. Order Number: 43-3187-3-0620
 - 2003. Consultant to ARD (www.ardinc.com). USAID **Developing a Carbon Index for Mexico.** Provide technical backstopping in monitoring and inventory. Conducted background literature review. See: http://www.ine.gob.mx/dgicurg/cclimatico/taller_darum.html, <http://www.ardinc.com/documents/CarbonFactSheet-Spanish.pdf> and Taller sobre mejoras a los estimados de emisiones de gases de efecto invernadero, para el sector uso de suelo, cambio de uso de suelo y silvicultura. Febrero 26, 2003. Mexico City, Instituto Nacional de Ecología. http://www.ine.gob.mx/dgicurg/cclimatico/taller_darum.html
 - 2002. UNFF-2: Second Session of the United Nations Forum on Forests. <http://www.iisd.ca/forestry/unff/unff2/march08.html>
 - 2002. Smithsonian Man and Biosphere Biodiversity Inventory research. Report - **Biodiversity: Biodiversity in forests.** MS 146. 12 p. In: Encyclopedia of Forest Sciences. J. Burley, J. Evans and J. A. Youngquist (eds.). Elsevier/Academic Press. ISBN 0-12-145160-7. <http://books.elsevier.com/efs>.
 - 2002 -2004. Editorial Advisory Board (inventory sections), Encyclopedia of Forest Science, Author, Multipurpose Resource Inventories. Also coordinator of Inventory section.
 - 2002 -2003. Consultant to US EPA and Forest Service. Lead author – IPCC Task 2 – Definitions of Forest Degradation, Devegetation. Report - Penman, Jim et al. eds, 2003. **Definitions and methodological options to inventory emissions from direct human-induced degradation of forests and devegetation of other vegetation types.** 32 P. Intergovernmental Panel on Climate Change. IPCC-XXI/Doc. 8. Kanagawa, Japan: IPCC Secretariat. <http://www.ipcc-nggip.iges.or.jp/public/gpplulucf/degradation.htm> and **Review of published definitions of degraded forestland, devegetation, and related terms and antonyms.** Gainesville, VA: Forest Information Services. 31 p. prepared under EPA purchase order number 2W-1378-NATX. Also provided review and input to Penman, Jim et al. eds, 2003. **Good Practice Guidance for Land Use, Land-Use Change and Forestry.** Intergovernmental Panel on Climate Change: IPCC National Greenhouse Gas Inventories Programme. Kanagawa, Japan: Institute for Global Environmental Strategies (IGES) for the IPCC The Intergovernmental Panel on Climate Change. http://www.ipcc-nggip.iges.or.jp/public/gpplulucf/gpplulucf_contents.htm
 - 2001-2002. Consultant to ARD (www.ardinc.com). USAID **Mexico Deforestation Rate Estimation.** Provide technical backstopping in monitoring

and inventory. Conducted background literature review. Report - **Mexico: Critical Analysis of the Current Deforestation Rate Estimates.** Report submitted to the United States Agency for International Development. ARD-BIOFOR IQC Consortium and Grupo Darum. 32 p. http://www.dec.org/pdf_docs/PNACP628.pdf.

- 2001. Consultant for [COFORD](#) (Ireland's National Council for Forest Research and Development). Provide background material for Ireland's national forest inventory. Also reviewed Non-wood forest products research proposals for COFORD. Report - **The National Forest Inventory of Ireland Quiz.**
- 2000. Consultant to Soria District, Spain on resource inventory considerations for regional inventories. Report - **Information and inventories to support sustainable forest management.**
- 2000. Consultant to United Nations Environment Program - (UNEP) - gathering background material and writing forestry issue papers for Global Environmental Outlook 3. Developed list of North America environment priorities for UNEP/GRID Sioux Falls (<http://grid2.cr.usgs.gov/> and <http://www.na.unep.net/publications/NA/NorthAmerica.pdf>).
- 2000 - 2002. Topic Author on National Forest Inventories and Global Forest Assessments and co-Editor for Forest and Plants articles for the [UNESCO's Encyclopedia of Life Support Systems](#).
- 2000. Review draft USFS Non-wood forest products inventory manual. (March)
- 2000. Organized and help instruct short course on Multiple Resource Inventory Designs, CATIE, Turrialba, Costa Rica (Feb.)
- 2000. Consultant to the [International Union of Forestry Research Organizations](#) and UNEP on definition of "low forest cover." (Feb) Report - **Definition of Low Forest Cover (LFC).** <http://home.comcast.net/~gyde/LFCreport.html> and <http://www.iisd.ca/forestry/iff4/2feb.html>
- 2000. Consultant for [Helsinki Consulting Group](#) reviewing Finland's Metsähallitus Landscape Ecological Planning system (July-Oct)
- 2000. Author for article on Agroforestry for the Encyclopedia of Environmetrics.
- 1999. Reviewed manuscript for Population Action International.
- 1999 and 2000. Developed report on biological diversity inventory methodology and a report on critical US environmental priorities for United Nations Environment Programme - UNEP/GRID (<http://grid2.cr.usgs.gov/>).
- 1998-2000. Consultant to United Nations Framework Convention on Climate Change (<http://www.unfccc.de/>) and the Intergovernmental Panel on Climate Change (<http://www.ipcc.ch/>) on Forest Classification.
- 1998-1999. Presented invited papers in Mexico (1998), Japan, Russia, Tanzania, and Spain (1999) on forestland classification and inventory needs.
- 1998. [Food and Agriculture Organizations of the United Nations Forestry Department](#) - Technical writing on global forest resource assessments.
- 1998. Team member reviewing USGS Vegetation Mapping Program. See: Moeller, John; Shaw, Denice; Lund, Gyde; Roper, Nancy; Loveland, Tom. 1998. **USGS - NPS Vegetation Mapping Program Report of Vegetation Mapping Review Team on the USGS Biological Resources Division Vegetation Mapping Program** <http://biology.usgs.gov/npsveg/reviews/peer2.html>
- 1998. [European Forest Institute](#) - URL database development on forestry and Kyoto Protocol and organizing and chairing an international workshop on Non-wood Forest Products.
- 1998, 2000. [WESTVACO](#) - Provide international connections.
- 1997-2000. [Pacific Meridian Resources](#) - Forestry technical backstopping, international connections.

Volunteer services -

- **Expert:** USGS Biological Resources Division (BRD) National Park Vegetation Mapping Program Review Team. 1998.
- **Moderator:** [IUFRO 6.03.02](#) Reforestation, Afforestation, Deforestation (RAD) discussion group. 1998.
- **Expert:** Meeting on Harmonizing Forest-Related Definitions for Use by Various

Stakeholders. FAO, Rome, Italy. 2002.

- **Expert:** Global Observations of Forest Cover (GOFC) Coarse Resolution Product Design Team. 1998.
- **Editor/Publisher** of [Forest Information Update \(FIU\)](#) a free weekly electronic newsletter on recent developments in resource inventory and monitoring technology. 1998-2006.

1997 - 1998	Senior Researcher, European Forest Institute. Worked on methods to reduce resource inventory costs and development of non-wood forest products including a comparison study of multipurpose resource inventories throughout the world and the completion of the IUFRO Guidelines for designing Multipurpose resource inventories . Helped organize and conduct an international workshop on Non-wood forest products in the cold temperate and boreal forest regions .
1992 - 1997	Research Forester on the Forest Inventory, Economics, and Recreation Research (FIERR) Staff, in Washington, DC. My job was to serve as the international resource assessment liaison for the staff. My main duties were lining up support for FAO and UNEP for global assessments and to provide technical backstopping to our International Forestry Deputy Area for resource inventory, remote sensing, and GIS. I have served on seven UN supported meetings of Experts and five developed by the World Resources Institute dealing with global assessments of forest resources and organized two workshops in the US to provide support for the Forest Resource Assessment 2000. I served on the following: <ul style="list-style-type: none">• Committee on Environment and Natural Resources (CENR) on Observations and Data Management (Forest Service Representative)• Space Policy Review Subcommittee (USDA Representative).• Federal Geographic Data Committee (FGDC) Vegetation Subcommittee (Executive Secretary) - Oversaw the development of draft US Vegetation Classification and Information Standards, worked the standards through public review and submitted it to the FGDC for approval as the national standard.• Federal Geographic Data Committee (FGDC) Standards Working Group (Forest Service Representative)• Federal Geographic Data Committee (FGDC) Earth Cover Working Group - Provided major link between the Earth Cover Working Group and the FAO's Land Cover Classification System being developed through the AFRICOVER program.• U.S. - Japan Global Observation Information Network (GOIN) (Forest Service and USDA Representative).• World Resources Institute/USAID Natural Resources Information Consultative Group for Africa.• EARTHMAP Expert Group on Spatial and Remote Sensing Data - Quality, Availability, Access, Standards, and Transfer and Expert• Group on Earthmap Applications and Cost/Benefit. (Forest Service Representative). I also served on the ECOMAP Task Group, the Forest Service Remote Sensing Steering Committee (RSSC), the Nationwide Forest Health• Assessment Team, and the FS/NRCS Geospatial Natural Resource Information Working Group. Under ECOMAP, I helped organize a National Workshop on Integrating Ecological and Resource Inventories and edited the proceedings. Through the RSSC, I promoted the use of remote sensing linked with GIS in the Forest Service. As to associated activities:

- I coordinated the development of a Forestry Chapter for a revised Manual of Photographic Interpretation published by the American Society for Photogrammetry and Remote Sensing.
- Working with fellow Forest Service employees, I have developed a Primer on Evaluation and Use of Natural Resource Information for Corporate Data Bases. This has been published as a WO General Technical Report.
- Developed a draft IUFRO World Series publication - IUFRO Guidelines for Designing Multiple Resource Inventories.

Most recently I developed a cooperative research program with Indonesia in the fields of remote sensing, mapping, forest health monitoring and ecological classification. I also provided inventory and mapping technical assistance to the Ministry of Forestry in Papua New Guinea.

Inventory Forester (GM 460-14), Timber Management Staff, USDA Forest Service, Washington, DC

Responsible for developing national direction for the timber resource inventories and monitoring efforts on 54 million hectares of forest land within the National Forest System. In addition, I had responsibilities for coordinating our data collection activities with timber inventories on the remaining 603 million acres (244 million ha) of forest land in the United States and with other resource inventories on the entire 191 million acres (77 million hectares) in the National Forest System.

Approximately 16.6 million acres of National Forest System lands are inventoried and monitored yearly under the timber management program. The average annual budget for these inventories is about \$4.5 million. I was responsible for the overall adequacy and timeliness of these inventories. I provided nation-wide inventory leadership to support the RPA assessment, timber resource management planning, and project development through policy development and technical assistance and reviews. I provided support to Chief and Staff and respond to Congressional and public requests for information on volumes, growth and extent of the National Forest timber resource. I reviewed draft Forest Plans and Environmental Impact Statements for adequacy and compliance with national direction and have helped draft national direction on timber planning. I also served on the following task groups:

- Resource Inventory Coordination Task Group
Organized 2 national workshops on integrated resource inventories
Developed FSH 1909.14 Resource Inventory Handbook and the Interim Resource Inventory Glossary. Wrote and published A Primer on Integrating Resource Inventories.
- Permanent Plot Task Group
Participated in drafting final report. Organized a Timber Task Group to develop national direction regarding the establishment and measurement of permanent plots for monitoring timber growth and yield. Developed draft of timber permanent plot handbook for the Forest Service.
- Remote Sensing Review Team, Remote Sensing Steering Committee, and FS International Advisory Panel on Remote Sensing.
On going review of existing technology. Helped organize a joint Engineering-TM-FIERR remote sensing workshop held in Slidell, LA in 1988. Was co-author of the Remote Sensing Plan. Through position in International Union of Forestry Research Organizations (IUFRO) was instrumental in assisting in getting Landsat funded.

1982-1992

Was instrumental in getting budget for advance digital imagery analysis support (hardware, software, and technical expertise) for the Forest Service. Coordinator for workgroups for 1990 Tucson Remote Sensing meeting.

- Wilderness Awareness Committee
Served as Timber Management Staff representative.
- National GIS Steering Committee
Served as representative for Timber Management Staff on Committee meetings. Committee provides oversight to GIS Implementation Plan.
- Forest Health Monitoring Task Group
Served as Timber Management Representative when this task group met. Helped develop action plan to implement Forest Health Monitoring on a National Basis.
- Canada-US Technical Exchange Team
Initiated exchange of technical inventory handbooks and publications.
- Mexico-US Technical Exchange Team
Developed action plan for timber activities with Mexico. Initiated exchange of technical inventory handbooks and publications. Organized an international conference and workshop on Land and Resource Evaluation for National Planning in the Tropics held in Chetumal, Mexico. Acted as liaison between Mexico and USFS in the technical assistance for the Mexico Forest Inventory Program.
- ECO-MAP Group
Help develop a workshop to integrate an ecological approach to management to be held in Salt Lake in April 92.
- US Army Land Inventory Advisory Group
Reviewed and made recommendations on techniques to evaluate the natural resources on military lands.
- NFS Environmental Health Technical Group.
Chairperson of group working towards getting NFS more involved in the Forest Health Monitoring program, the EPA's Environmental Monitoring and Assessment Program (EMAP), and Global Change Research.

I have developed a General Technical Report **A Primer on Stand and Forest Inventories** to serve as a briefing vehicle for resource managers and as a training text for beginning inventory specialists. This was co-authored with Dr. Charles Thomas, Southern Research Station and contains discussions, equations, examples, and options for sampling within stands, for sampling a forest where no prior mapping exists (including the use of satellite imagery); and for sampling a forest where mapping does exist. In October 1989, I was presented with a Certificate of Merit for my work in resource inventory and in February 1992 for my international work.

1979-1982

Supervisory Research Forester (GM 460-13), National Resource Inventory Techniques and Remote Sensing Research Work Units, USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.

Served as project leader for the two groups under the Resources Evaluation Techniques Program. Position required coordinating with

	<p>SCS, BLM and F&WS. In total, the Research Work Units developed 3 problem analyses, 14 study plans, and 73 publications and reports. Incumbent developed strategy for incorporating existing field plots with Landsat imagery and ancillary terrain data. R-5, PNW-FIA (AK), INT-FIA, and S0-FIA are now using similar techniques.</p> <p>Organized an international conference on Arid Land Resource Inventories: Developing Cost Effective Methods held in La Paz, Mexico in 1980. Also organized a national conference on In-place Inventories: Principles and Practices held in Orono, Maine in 1981. Served on an USDA Team to Poland on cooperative remote sensing research.</p>
1978-1979	<p>Supervisory Forester (GM 460-14), Forestry Staff, Division of Standards and Technology, USDI Bureau of Land Management, Denver Service Center, Denver, Colorado.</p> <p>Developed national timber assistance programs and oversaw staff that provided training and technical assistance to 11 Western BLM State Offices in forest modeling, allowable cut planning, forest inventories, silviculture, and special studies. Developed several sampling strategies for multiple resource inventories for the BLM. Several of the techniques developed are in use today by INT, R-1, R-2, R-3, R-4, R-5, R-6, and R-10. Served on a special task force for developing a strategy for coordinating resource inventories within the BLM.</p>
1976-1978	<p>Forestry Information Systems Specialist (GS 460-13), Forestry Staff, Division of Standards and Technology, USDI Bureau of Land Management, Denver Service Center, Denver, Colorado.</p> <p>Developed timber users' requirements for BLM's Strategic Land Management Planning System and coordinated requirements with other functional staffs. Organized a national conference on Integrated Inventories of Renewable Resources held in Tucson, Arizona in 1978.</p>
1974-1976	<p>Forest Management Systems Specialist (GS 460-13), USDA Forest Service, State and Private Forestry, Northeast Area, Upper Darby, Pennsylvania.</p> <p>Provided technical assistance and training to State organizations and private industries in the 19-state Northeast Area in the fields of remote sensing, forest inventory and monitoring, financial analysis, linear programming and computer systems. Assisted about 5 industries and 3 states in developing their inventory systems. Help organized several university short courses on inventory techniques. Also initiated the Resource Inventory Notes (a technology transfer newsletter that ceased publication in 1981 due to budget cuts). The Notes or the later version "Resource Evaluation Newsletter" was distributed to nearly 7000 individuals including 1300 foreign addresses when it was terminated.</p>
1971-1974	<p>Inventory Forester (GS 460-12), Forestry Staff, Division of Standards and Technology, USDI Bureau of Land Management, Denver Service Center, Denver, Colorado.</p> <p>Developed and administered the BLM timber inventories in the 11 public domain states. Work required coordination with FS INT and PNW Forest Survey Units. Received a unit citation for this work. Also developed the first multi-resource inventory for the BLM and one of the first in the U.S.</p>
1966-1971	<p>Associate Photogrammetrist (GS 460-11), National Fuel Appraisal Project, USDA Forest Service, Pacific Northwest Forest and Range Experiment Station, Seattle, Washington.</p> <p>Conducted research on the reconnaissance and mapping of forest fuels using remote sensing.</p>

1964-1966	Mensurationist (GS 460-9), Forest Survey Staff, USDA Forest Service, Institute of Northern Forestry, Juneau, Alaska. Planned and participated in the forest inventories of Southeast Alaska.
1963-1964	Timber Management Assistant (GS 460-7), USDA Forest Service, Snoqualmie National Forest, Naches Ranger District, Naches, Washington. Prepared reports of timber sales, stand improvement and disease and insect control.
1961-1963	Imagery Interpretation Officer, US Army, 24th Military Intelligence Detachment, Augsburg, Germany. Developed Standing Operating Procedures for the unit. Received the Army Commendation Medal for work.
1958-1961	Forestry Technician and Junior Forester on the Ochoco National Forest including, road location, timber marking, waste scaling, range surveys.
1957	Laborer and Crew Leader, Superior National Forest. Blister rust control.

Other Activities:

1. Society of American Foresters (SAF): Member since 1961.

1994	Elected as Fellow.
1984	Contributing author to the inventory chapter in second edition of the Forestry Handbook. Co-authors were Harold Burkhart (VPI) and Jim Barrett (UNH).
1982-1984	Elected Forest Resource Measurements Subject Area Representative, Forestry Sciences and Technology Board. (Working groups that I "supervised", A-1 Forest Inventory, A-2 Photogrammetry and Remote Sensing, and A-3 Biometrics, were among the most active in the SAF during that period).
1982	Organized a national conference on In-place Inventories: Principles and Practices held in Orono, Maine
1980	Organized an international conference on Arid Land Resource Inventories: Developing Cost Effective Methods held in La Paz, Mexico
1978	Organized SAF International Conference on Integrated Inventories of Renewable Resources. Tucson, Arizona.
1977-1978	Elected Chairman Inventory Working Group (working group most active in SAF during that time).
1975-1976	Elected Vice-chairman Inventory Working Group (working group most active in SAF during that time).

2. International Union of Forestry Research Organizations (IUFRO): Member 1978 - 2003.

2002-2003	FAO Expert Meeting on Harmonization of Forest Definitions, Rome, Italy
2000	Represented IUFRO at the Intergovernmental Forest Forum meeting at United Nations, NY in February. Presented discussion paper on low forest cover definitions.

1998-1999	Steering committee for Workshop on Remote Sensing of Forests, Rogow, Poland
1996	Served on Steering Committee for International Conference on Spatial Accuracy, Fort Collins, CO.
1995	Arranged a panel on Global Forest Assessments Beyond 2001 at the IUFRO World Congress, Tampere, Finland.
1995	Awarded the IUFRO Distinguished Service Award, Tampere, Finland.
1992-1993	Worked with fellow IUFRO S 4.02 Officers, FAO, and UNEP to develop a set of International Guides for Forest Monitoring.
1990-1993	Worked with Society of American Foresters and International Society of Tropical Foresters to organize an international conference on Stand Inventory Technologies held in Portland, OR in 1992 and one on Inventorying and Monitoring Techniques for Catastrophic Occurrences held in Pennsylvania in 1993.
1987-1997	Editor IUFRO Forest Resource Inventory and Monitoring Newsletter. Newsletter is published twice a year and distributed to nearly 2300 addresses.
1987-1996	Leader S 4.02 Forest Resource Inventories and Monitoring Subject Group. The group has about 2000 members.
1987-1989	Program and proceedings coordinator for international conference and workshop on Global Natural Resource Monitoring and Assessments: Preparing for the 21st Century held in Venice, Italy September 24-30, 1989.
1987	Organized an international conference and workshop on Land and Resource Evaluation for National Planning in the Tropics held in Chetumal, Mexico
1984	Helped organized IUFRO sponsored conference on Inventorying Forest and Other Vegetation of the High Latitude and High Altitude Regions held in Fairbanks, Alaska.
1983	Helped organized IUFRO sponsored conference on Renewable Resource Inventories for Monitoring Changes and Trends held in Corvallis, Oregon.
1979-1986	Co-chairman Subject Group S 4.02.02 Resource inventories in temperate zones.
1979	Helped organized IUFRO sponsored conference on Forest Resource Inventories held in Ft. Collins, CO.

3. International Society of Tropical Foresters: Charter member since 1979.

Served on membership committee
 Represented ISTF at numerous international meetings.

4. Other Consultancies

1994	USAID Remote Sensing/Inventory Expert to Papua New Guinea . Reviewed the inventory and mapping needs of the Forest Authority and made recommendations as to how to proceed with mapping of country.
1989-1990	USAID Forest Inventory Expert to Sudan . Implemented a multi-resource mapping and inventory system in the Kasgail Rural Council of Sudan following up on the project initiated in number 7 above. The demonstration was initiated and completed within a 3 month period and involved image mapping, vegetation mapping, resource inventory, and rehabilitation studies. Advanced technologies such as satellite imagery, global positioning systems and geographic information systems were involved. In addition to helping design and conduct the inventory and developing a procedural manual, I assisted in briefings to the World Bank, USAID, and officials from the Government of Sudan which were

	instrumental in having the project continue after USAID withdrew support.
1987	USAID Consultant to Sudan to develop a scope of work, methodology, and cost estimates for the Resource Inventory and Vegetation/Physiographic Mapping Component of the Sudan-Reforestation and Anti-desertification Project (650-0082). This is a Landsat based inventory. Approximately \$3.3 million dollars will be invested in the mapping and inventory component of the project over a 3-year period when accepted.
1980	FAO consultant (1980) on fuelwood inventories in arid zones. Developed report on Biomass Estimation in Woodlands and Scrub Formations for Assessing Potential Fuelwood Production and Availability. Work was conducted in Italy, France, England and the US but directed towards developing countries. Two-month assignment.

Language Skills:

English - excellent (Level C). Spanish - fair/slight (Level B)

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