INTERNATIONAL COOPERATION IN FOREST FIRE RESEARCH[1]

Dubé, D.

A) UNITED STATES:

Pacific Forest Research Centre

The Pacific Forest Research Centre, Fire Research Unit, is an active participant in the Northwest Fire Council and played a leading role in organizing the 1983 program on prescribed burning. The Council will meet in Victoria, B.C. in 1985. Continuing informal but productive dialogue takes place with the University of Washington and the Pacific Northwest Forest and Range Experiment Station on fire research subjects of mutual interest.

Northern Forest Research Centre

The Northern Forest Research Centre (NoFRC), Fire Research Unit, is an active member of the Intermountain Fire Council, a member council of the Western Forestry and Conservation Association. The Intermountain Fire Council (IFC) is sponsored by governments, industries, and universities from Montana, Idaho, Utah, western Wyoming, Alberta, and the NWT.

Scientific and technical exchanges are presented in a conference-workshop format on a specific fire theme. Annual meetings are rotated among member agencies. The IFC has met twice in Canada: in 1978 (Edmonton, Alberta) and in 1983 (Banff, Alberta). The 1983 meeting, cohosted by the Alberta Forest Service and Canadian Forestry Service, (CFS), NoFRC, explored the theme of "Suppression options and alternatives". Representatives from across Canada, the U.S. (including Alaska), and Australia actively participated.

Fire researchers at NoFRC have enjoyed close contact with their U.S. counterparts for several years. Assistance and cooperation from the USFS Northern Forest Fire Lab, San Dimas Equipment Development Center, and the Missoula Equipment Development Center have greatly aided NoFRC fire retardant and air tanker research programs in the past. Most Canadian manufactured retardants have been submitted to US specification testing as there is currently no certification process for retardants in Canada.

Through workshops, meetings, and work travel · isits with the USFS, the California Department of Forestry, and US-based retardant manufacturers, considerable progress has been made in retardant application, operations, and testing, while ensuring that Canadian interests have been considered in product and equipment development and modification.

NoFRC fire research staff have had many fruitful R & D exchanges with several federal and state agencies and US universities over the last two decades.

Great Lakes Forest Research Centre

Great Lakes Forest Research Centre (GLFRC), Fire Research Unit, has signed an agreement with the Intermountain Forest and Range Experiment Station to cooperate with fire researchers from the Northern Forest Fire Laboratory (NFFL) in Missoula, Montana, in modeling crown fire propagation. GLFRC has a large amount of empirical crown fire data accumulated over a number of years of experimental burning, and the NFFL group has a lot of modeling expertise. Information has frequently been exchanged between the two groups and close cooperation is continuing.

Contact with fire researchers at NFFL has led to interest in forest fire research being expressed by modeling groups in the U.S. Researchers involved in mass fire, resulting

[1] A paper presented at the CIF/SAF Joint Annual Meeting held at Quebec City, Quebec on August 6-9, 1984.

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from nuclear war, have shown an interest in large-scale forest fires and prescribed burns as a means of gathering related data. This has led to communication with modeling researchers from the Defence Nuclear Agency, the Lawrence Livermore Laboratory, the Pacific Sierra Research Corporation, and the TRW Defence and Space Technology Group in the US. Papers on GLFRC fire behavior studies have been presented to researchers from these groups.

The GLFRC fire research group has had close contact for a number of years with the fire research team from the USFS North Central Forest Experiment Station, located in East Lansing, Michigan. Annual meetings to share research findings have been held since 1973 and the East Lansing group has attended some GLFRC experimental fires in Ontario. In the last two years this relationship has been formalized somewhat by including the PNFI fire research group in a formal three-party meeting to be held every second year.

Interested USFS and state fire personnel have attended a number of experimental and operational burns in Ontario, particularly due to increased interest in fire potential in spruce-budworm-killed balsam fir.

Petawawa National Forestry Institute

The Petawawa National Forestry Institute (PNFI) fire research group often represents the CFS internationally. The program director of fire research at PNFI regularly attends meetings of the US-based National Fire Protection Association.

In 1982, a senior fire scientist from PNFI received a Certificate of Appreciation from the Chief of the USFS for his "Contribution to the design, development and evaluation of the 1980 National Fire Management Analysis and Planning System".

When the CFS-operated Forest Fire Research Institute closed in Ottawa in 1979, the fire Technical Information Centre was moved to PNFI, where it has since been kept at least partially functioning. The Technical Information Centre (TIC) provided two main services: (1) an abstracting and indexing service, and (2) an information storage and retrieval system. The abstracting service resulted in the publication of a quarterly bulletin, The forest fire control abstracts, which first appeared in 1950. The abstracts were immensely popular and were circulated widely throughout the world. They provided an excellent vehicle for national and international communication. With the move of TIC to PNFI, it was not possible to continue production of the abstracts. There continues to be many requests for the missing abstracts and many expressions of regret that the 28-year life of the abstract series should come to an end, particularly at a time when there seems to be an even greater need for a thorough exchange of information and technology in forest fire management. A strong recommendation currently exists within CFS to reinstate the Forest Fire Control Abstracts and full operation of the Technical Information Centre.

B. AUSTRALIA:

There have been five organized exchanges of fire management specialists between Australia and North America (U.S. and Canada) since 1970. In that year the FAO sponsored a tour of Australia for 30 delegates from a variety of countries (including two Canadians). The most recent tour was in 1982 when seven participants (five Americans and two Canadians) visited Australia. It is anticipated that the next Australian tour of North America will take place in 1985. A formal agreement standardizing the timing and procedure for future exchanges is being negotiated by the US, Australia, and Canada.

C. CHINA:

The Jiagedagi (JAG-A-DACH-E - a region of a northern Chinese province) project, a five-year, 8 million dollar fire management program involving fire research and operational personnel from Canadian agencies, is currently under way between China and Canada.

D. NEW ZEALAND:

New Zealand recently (1980) implemented the Canadian Forest Fire Weather Index System, a subsystem of the Canadian Forest Fire Danger Rating System (CFFDRS). Discussions are continuing between New Zealand and Canada to facilitate effective application of the CFFDRS.

E. MEXICO:

Cooperation with Mexico takes place largely through the Fire Management Study Group (FMSG) of the North American Forestry Commission, which includes Canada, the US, and Mexico. The 17th meeting of the FMSG took place in Valle de Bravo, Mexico, in early December 1983. The next meeting is scheduled for Canada, probably in Alberta or B.C., in October 1984. Canadian Forestry Service fire researchers contribute regularly to Forest fire news, a report prepared on behalf of the FMSG by the US Forest Service.

F. OTHER COUNTRIES:

Several other countries have expressed an interest in the Canadian Fire Weather Index System. These include;

Spain	Finland
France	Yugoslavia
Greece	Jamaica
Mexico	Argentina
Honduras	Uganda
Belize	China
India	

Communication, including infrequent visits to other countries (i.e., USSR, Poland, Australia, France), is an ongoing productive process between CFS fire researchers and their international colleagues.

Canadian Forestry Service fire researchers contribute frequently to Fire management notes, an international quarterly periodical devoted to forest fire management, issued by the Forest Service of the USDA.

A recent contribution to international fire research is the just-published (1983) Fire in Forestry, a two-volume text on all major aspects of wild land fire control and fire use. Authors are from the US, Canada, England, France, and Australia. Publication of fire research findings in internationally-distributed formal journals and agency reports, contribute significantly to international cooperation in fire research.

CFS fire research staff have attended courses at the National Advanced Resources Technology Centre (NARTC) in Marana, Arizona. This provides an excellent opportunity for effective communication with US fire researchers. It is perhaps appropriate at this meeting to thank those individuals and member agencies of the National Wildfire Coordinating Group, particularly the USDA Forest Service, for inviting Canadians to the NARTC sessions. They are an opportunity and learning experience that we value highly.

Several meetings, workshops, conferences, and symposiums have been held over the last 20 years that have fostered international cooperation in fire research. CFS fire research staff have attended and/or contributed to many of these. Some of the more memorable ones are noted below.

1) Annual Tall Timbers Fire Ecology Conferences. (1962-1976. Proceedings Published - 15 volumes).

2) Fire in the Northern Environment - A Symposium. (1971. Sponsored by Alaska Forest Fire Council and Alaska Section, Society of American Foresters. Edited by C.W. Slaughter, R.J. Barney and G.M. Hansen. Published by Pacific Northwest Forest and Range Experiment Station, USDA, Forest Service).

3) Fire in the Environment Symposium. (1972. Published by the USDA, Forest Service in Cooperation with the Fire Services of Canada, Mexico and the United States - Members of the Fire Management Study Group, North American Forestry Commission, FAO).

4) The Ecological Role of Fire in Natural Conifer Forests of Western and Northern America. Symposium (1972. Annual meeting of the "Ecological Society of America and the American Institute of Biological Sciences. Published in Quaternary Research, Vol. 3, Number 3, Oct. 1973. Guest Editors, H.E. Wright, Jr. and M.L. Heinselman).

5) National Parks - Wilderness Fire Management Workshops (chaired and organized by R. Mutch, USFS, Missoula, Montana. Three annual meetings between 1973-1975. No formal proceedings published).

6) Conferences on Fire and Forest Meteorology (Sponsored by the American Meteorological Society and the Society of American Foresters. Seven Conferences between 1968-1983. Proceedings for the last four conferences have been published. Only abstracts are readily available for the first three conferences).

7) Canadian-Alaskan Seminar on Research Needs in Fire Ecology and Fire Management in the North (1975. Sponsored by the F.A.O., North American Forestry Commission, Fire Management Study Group).

8) National Fire Effects Workshop. (1978. Sponsored by the USFS. Six state-of-knowledge reports were prepared on soil, water, air, flora, fauna, and fuels).

9) Air Quality and Smoke from Urban and Forest Fires, International Symposium. (1973. Conducted by Committee of Fire Research, Commission on Sociotechnical Systems and National Research Council. Published by US National Academy of Sciences, 1976).

10) Fire Ecology in Resource Management. Workshop Proceedings (1977. Sponsored by Northern Forest Research Centre, Canadian Forestry Service, NOR-X-210. 1978. Proceedings compiled by D.E. Dubé).

11) Intermountain Fire Council (Annual meetings from 1955-1983. Proceedings published in 1970, 74, 77, 78, 79, 81, 82 and 1983 in preparation).

12) Fire History Workshop. (1980. Sponsored by USDA Forest Service and Laboratory of Tree-Ring Research, University of Arizona. GTR RN-81. Technical Coordinators Marvin A. Stokes and John H. Dieterich).

13) Lightning Location and Protection Workshops. (1978-1983. Met annually for the past six years. No Proceedings available).

14) Wilderness Fire: A Symposium on Fire Management, Policy, Programs and Issues in Parks, Wildernesses and other Natural Areas. (1983. Sponsored by USFS, Univ. of Montana, National Wildfire Coordinating Group and Society of American Foresters. Proceedings in Preparation).

15) SCOPE Conferences (Scientific Committee on Problems of the Environment. Five conferences under the auspices of SCOPE have been held and proceedings published; two in the US and one each in Australia, Canada and South Africa).

SUMMARY

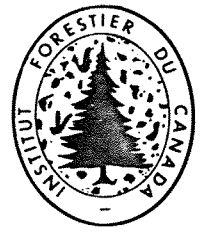
International CFS cooperation in fire research is conducted both formally and informally. Impediments to effective cooperation include funding and travel restrictions, an imposing mountain of red tape, and language barriers with some nations. Notwithstanding these restrictions, it is my impression that effective communication and cooperation is substantial in fire research particularly, and understandably, with our US counterparts and notably in relation to other forest research disciplines.

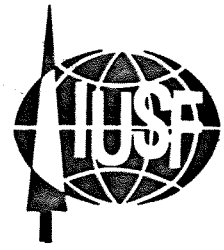
As with most aspects of our daily lives, however, we can improve. As noted earlier, much cooperation occurs on an ad hoc basis, making financial and logistical arrangements difficult. I would suggest two ways to enhance Canada-US cooperation immediately. First we should develop a memorandum of understanding on fire research between the Canadian Forestry Service and the US Forest Service. Under this M.O.U., several sub-agreements may be developed among CFS research centers and USFS research stations similar to the one between the Great Lakes Forest Research Centre and the Intermountain Forest and Range Experiment Station. Second, I suggest a Canada-US Fire Research Conference, sponsored by the CIF/SAF with financial support from the Canadian Forestry Service, Canadian Committee on Forest Fire Management, US Forest Service, and the National Wildfire Coordinating Group. The conference should take place in the near future at a mutually agreed location.

SPEECHES AND PAPERS
CONFERENCES ET CONTRIBUTIONS

FOREST RESOURCES MANAGEMENT — THE INFLUENCE OF POLICY AND LAW

L'INFLUENCE DES POLITIQUES ET DES LOIS SUR LA GESTION DES RESSOURCES FORESTIERES





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