Natural Resource News

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Cary de Wit

Right: Two contestants in the Forest Sports Festival's birling contest.

Maddux wins ARCUS research award

Research on wastewater treatment using controlled wetlands has earned SALRM Ph.D. graduate David Maddux an ARCUS Award for Arctic Research Excellence. ARCUS, the Arctic Research Consortium of the US, sponsors an annual student paper competition to recognize meritorious work of young Arctic researchers. Maddux won the award in the interdisciplinary category for his thesis: "Constructed wetlands for wastewater treatment in the sub-Arctic: fact or fiction?" He earned his Ph.D. in plant and animal soil science at SALRM, working under professor Stephen Sparrow.

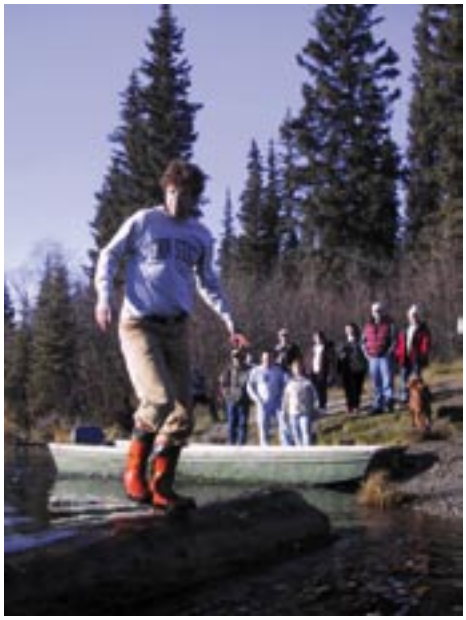
A constructed wetland is basically a wastewater treatment system designed to simulate natural wetlands, which act as biological filters. In a two-part study, Maddux investigated the capability of subarctic macrophytes (aquatic plants) to remove heavy metals from wastewater, and he explored the feasibility of using constructed wetlands for sewage wastewater treatment in a subarctic environment, focusing on rural application of this method. For each project he tested five species of plants.

During a greenhouse study, indigenous subarctic plants were subjected to heavy metal pollutants similar to those found in roadway runoff. He found significant differences in metal uptake among species and that more metals were stored in belowground plant parts than in aboveground parts.

For the constructed wetland study, Maddux built a five-cell system. During each growing season for three years, he measured bi-weekly the biological oxygen demand, total suspended solids, fecal coliforms, total phosphorous, total Kjeldahl nitrogen, and ammonium nitrogen. The pollutant reduction level he found indicated that constructed wetlands could work well in the subarctic. Vegetation colonized the constructed wetland rapidly, with a complex community structure emerging over the study period. Pollutant reduction appeared to be limited by the size of the constructed wetland and not by the extreme climatic conditions.

ARCUS is a nonprofit agency that was formed in 1988 to identify and bring together the distributed human and facilities resources of the Arctic research community. It provides a mechanism for the Arctic community to complement the advisory roles of other national organizations, such as the US Arctic Research Commission (USARC), the Polar Research Board (PRB), and Interagency Arctic Research Policy Committee (IARPC), that are concerned with the Arctic. Its membership consists of institutions organized and operated for educational, professional, or scientific purposes. ARCUS is headquartered in Fairbanks, Alaska (e-mail: arcus@arcus.org; Internet home page: www.arcus.org). Guidelines and submission information on the student paper competition are available at the ARCUS Web site.

Photo: Cattails, or Typha latifolia, *one of the plants Ph.D. graduate David Maddux used in his wetlands research.*



Left: Scott Rupp balances carefully atop a slippery log at Ballaine Lake at the Fifth Annual Forest Sports Festival.

Cary de Wit

Fifth Annual Farthest North Forest Sports Festival

The 2002 festival enjoyed a good turnout at the Fairbanks Experiment Farm and Ballaine Lake on October 5. Events were the single- and double-buck saw (one or two people using a bucksaw to cut a log), birling (two contestants balance on a floating log and try to unbalance each other into the cold water), the log roll (rolling a long log along the ground for a certain distance and back) the pulp toss (a game similar to horseshoes involving four-foot lengths of log), and the axe throw.

Cary de Wit

The end result of the typical birling event.

Forum Examines Agriculture's Future

This year, for the first time in Alaska, farmers, ranchers, and producers were invited to meet with representatives of the government agencies that deal with agricultural activities. The goal of the Alaska Agricultural Forum 2002 was to involve agricultural practitioners in information sharing, generating ideas, and creating workable, measurable goals. Several SALRM faculty and staff attended the Anchorage meeting, which was held this year in lieu of the traditional agricultural symposium. It was sponsored by the Alaska Farm Bureau, UAF Cooperative Extension Service, SALRM, State of Alaska Division of Agriculture, and Country Companies Insurance Group. Government entities invited to participate from UAF were the Extension Service, SALRM, and AFES; other agencies were the Alaska Rural Rehabilitation Corporation, Natural Resources Conservation Service, Farm Service Agency, State of Alaska Division of Land, Mining, and Water, State of Alaska Division of Agriculture, USDA Rural Development, Agricultural Research Service, and Agricultural Statistics.

Serving on the forum planning committee were Milan Shipka, Don Carling, and Jeff Werner of SALRM, along with Mike Shultz, Tony Nakazawa, Jackie DeJong, Bill Ward, and Colleen Wright.

Earthquake Housekeeping

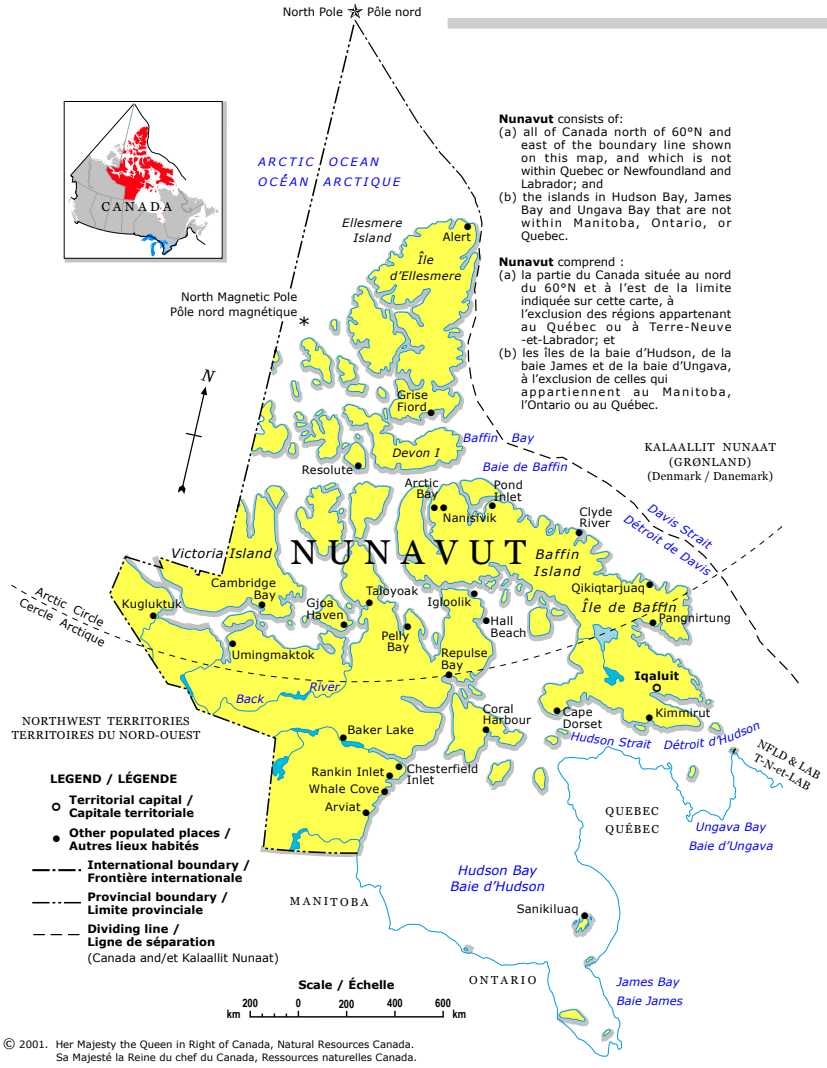
Coming into the office on Monday morning after the 7.9 earthquake of November 3, centered near Cantwell, Alaska, the staff here in the O'Neill building on the UAF campus found that books had leapt off the shelves and shelves had fallen over, spilling many pounds of office supplies. It was a good reminder that earthquakes can occur without warning at any time, and that hazards can take many unsuspected forms. It doesn't take too many books or boxes of xerox paper to add up to 50 or 100 pounds.

To prevent injury, it is a good idea to conduct a hazard hunt around your office, laboratory, and home. After eliminating the hazards, adopt some simple earthquake housekeeping measures to help keep yourself, family, and coworkers safe during the next big shake.

Among the most common hazards are unsecured objects that fall from walls, shelves, and other furniture.

- Tour your spaces to make sure furnishings, fixtures and major appliances are secure.
- Don't store hazardous, heavy, or breakable objects above where anyone might be sitting or lying down.
- Move such materials to lower, enclosed cabinets.
- Keep items on shelving with metal, wire, or elastic guard rails on shelves; attach heavy cases to wall studs.
- Install strong latches on all cabinet doors. (baby guard latches will work).
- Anchor furniture (bookcases, china cabinets, etc.) to wall studs.
- For tall filing cabinets, secure to wall with angle brackets at top or sides; for a row of them, anchor to each other and secure to wall.
- Stabilize computer and other office equipment with Velcro-type fasteners or latches and straps, shelf edges, bungee cords, small chains attached to wall, etc.
- Secure overhead light fixtures to ceiling joists. Check suspended light fixtures; install extra support, ties, etc. to prevent falling and excessive swaying.
- For hanging plants, provide added restraints (extra eyehooks on pot, extra nylon or monofilament line.
- Framed hanging items: attach to wall with closed eyebolt in wood stud; attach wire to frame with closed hook or closed wire loop.
- Seek expert help to install flexible fittings on water heaters and major natural gas and water appliances.
- Attach gas water heaters to wall with strapping to prevent tipping.
- Make sure a free-standing wood stove and flue are properly bolted and clipped to withstand shaking.

There is a lot of good earthquake information on the Internet, including details on how to accomplish some of the above measures. Also see *uaf.edu.seagrant.earthquake.*



Geography grant

The Inuit territory of Nunavut in Canada is the subject of a $15,000 grant that will fund a multidisciplinary symposium series at UAF next spring. The series will bring Nunavut administrators and leaders, as well as Canadian scholars with Nunavut expertise together with UAF faculty for several days of presentations, panels, and discussions related to shared U.S. and Canadian interests. Geography professor Cary de Wit, Louann Rank, professor of Alaska Native and rural development, and Amy Lovecraft, professor of political science, received the grant from the Canadian government. They have been working together as program development coordinators to increase Canadian content in the UAF curriculum. They hope to develop an interdisciplinary program for Canadian Studies at UAF, drawing in part on resources from several existing programs. The university's proximity to Canada and its traditional involvement in circumpolar issues make it a good candidate for this development.

Nunavut, which encompasses much of the Canadian Arctic, is the first territory in which Canada has returned political control to the indigenous population. The guest speakers for the symposium will be individuals who were and continue to be closely involved with the territory's development.

The organizers hope to continue an annual or biannual speaker series related to different Canadian topics, regularly have visiting Canadian scholars come to teach, and to develop Canadian courses and course content.

Other UAF faculty involved in the development of Canadian Studies are Anna Berge, Richard Caulfield, George Charles, Jim Gladden, Oscar Kawagley, and John Kawula.

FFA Honors Werner

The national FFA organization (Future Farmers of America) this month presented its highest honor, the Honorary American FFA Degree, to AFES research associate Jeff Werner at its 75th convention in Louisville, Kentucky. The award recognizes exceptional service and contributions to agriculture, agricultural education, and the FFA.

Werner is the state director and advisor of the Alaska FFA, a post he has held since 1997. He manages the state organization and serves as a liaison for issues related to vocations, agricultural education involving K-12, natural resources, and to the Alaska Department of Education and Early Development, UAF, and the career and technical student organizations at state and national levels.

In Alaska there are nine FFA chapters. Students who attended the national convention won several awards, with the team from the Polaris FFA of Anchorage ranking twelfth nationally in the natural resources category, including one individual gold medal.

On November 16 in Anchorage, the FFA students participated with 4-H members in the first Alaska Youth in Agriculture Conference, which was held in conjunction with the Agricultural Forum.

New Staff Member

Karen Monty has joined the geography department and SALRM as part-time administrative assistant. She is on duty in the department office, 303 O'Neill Building from 9 am to 1 pm weekdays. Since coming to Alaska from New York state several months ago, Karen has taken up cold-water scuba diving. A former Air Force technical sergeant, she is also interested in camping and whitewater rafting. Asked what she looks forward to the most in Alaska, her first answer was "spring," followed almost immediately by "a Florida vacation." Monty is also employed in the admissions department at Fairbanks Memorial Hospital.

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Poster Award

Carolyn Sheehy, graduate student in forest sciences and graphic designer, was awarded first place for her poster presentation at the American Foresters' national convention in Winston-Salem, North Carolina, in October. Sheehy's research poster, "Growth and Yield of Black Spruce in Alaska's Tanana Valley," was judged the best student poster presented. Along with a first prize ribbon, she received $100 to help defray travel expenses, which were covered in part by a UAF Graduate School travel grant. Her major advisor is professor Edmond Packee.