



Editor
Dr. Robert Schemenauer

Contributions of short articles, news items and photographs for upcoming issues of the Newsletter are welcome. They should be sent to: FogQuest@rogers.com or to the address at the end of this Newsletter.

The Newsletter's primary purpose is to be a means of exchanging information with our members. We hope that it will also promote better communications between those working on water projects using fog, rainfall and dew collection, and those studying the many scientific aspects related to these atmospheric water sources. The Newsletter is sent three times a year to members of FogQuest: sustainable water solutions. The current issue is available on the web site www.FogQuest.org. Information on membership can also be obtained on the web site.

I would like to say a very big thank you to all the members who renewed for 2004. It is a real financial challenge to run a small charity and your support makes a substantial difference. Your renewal is appreciated both because it provides moral support to those in the office and in the field and also because it is a significant help in covering the operating costs and project expenses.

The last several months have been particularly busy. Pablo Osses has been in Yemen working on two projects and you will see some photos of the fog collectors and the people of northern Yemen in this issue. Melissa Rosato was in Guatemala in December and Juan Luis Garcia is there now. Their work is also illustrated in this issue. At the end of January we had a small open house for the members in the Toronto area. It was an opportunity to get to know one another and for most it was their first chance to meet Pablo. Hopefully we will do something like this again later this year when it is a bit warmer! The 3rd International Conference on Fog, Fog Collection and Dew is moving ahead well thanks to the guidance of Hannes Rautenbach, Jana Olivier and an international scientific committee headed by Detlev Möller and Simon Berkowicz. Please see the new information on page 4 of this issue.

FOG COLLECTION PROJECTS HAJJA AND SAADA, YEMEN

Pablo Osses was in Yemen from late December to late January working in two regions. The project in the Hajja Governorate builds on the evaluation done there last winter. This year the

funding agency is the German Development Agency (GTZ) and our local partner is International Community Services (ICS). A total of 25 large fog collectors (LFCs) were built for four communities located about 30 minutes by truck to the northwest of the city of Hajja. The area is

very arid and rocky and the construction of the LFCs was a challenge. You will see some of the dramatic results in this newsletter. The water from each pair of LFCs goes to a 1 m³



Large fog collectors were built to provide water for the small village of Shamsan, Yemen.



This photo shows the terrain where many of the 25 LFCs were installed in Yemen. All of the four villages are located on or near the ridge.



The team that constructed the LFCs, from FogQuest, ICS, and the villages



WHAT IS FogQuest?

FogQuest is an innovative, international, non-governmental, non-profit organization, which implements and promotes the environmentally appropriate, socially beneficial and economically viable use of fog, rain and dew as sustainable water resources for people in arid regions of developing countries.

galvanized metal tank. The overflow goes to the traditional in-ground stone or cement cisterns that the people use. They can thus take clean water from the tanks, which are constantly refilled, and other water from the cisterns as needed. The production rate from a pair of LFCs is estimated to be about 360 L of water per day in the winter dry period. This can be sufficient for 36 people at a subsistence level, or 12 people (two families) at a more generous 30 L per person per day.

The project in the Saada Governorate is in the rural areas to the west of the city. The locations are high towns in spectacular rocky settings. The project is financed by USAID through the local NGO, Adventist Development Relief



The village of Assaga, Yemen, where fog water is now being provided to some residents.

Agency, (ADRA). It is part of a larger project examining alternative sources of water and social conditions in the region. Ten standard fog collectors (SFCs) were sited in areas that appeared to have good potential for fog collection. Results from the first days after installation were very promising and a report will be prepared after several months of field data are available. The need for clean water in the villages is very evident and hopefully FogQuest will be able to help the people improve their daily lives.



There are many children in the villages in Yemen and all are curious as to how the big structures will produce water.

HOW CAN YOU HELP?

Please consider taking out a membership in FogQuest. A solid network of members will be our means of spreading information on fog collection and generating support that is vital to our operations. The annual membership fee of \$35.00 Canadian, or \$30.00 US for those outside of Canada, can be paid by check or by credit card. We accept VISA or MasterCard. Students receive a \$5.00 discount on their membership fee. Donations from both individuals and institutions are encouraged and can be directed for general support or to our projects in Guatemala, Chile, Yemen and Nepal.

STORM PEAK LABORATORY

COLORADO, USA

Submitted by Randy Borys

Storm Peak Laboratory (SPL) is operated by the Desert Research Institute of the University of Nevada and is celebrating its 23rd year on the mountain near Steamboat Springs, CO. It is located at 10,525 feet above sea level and provides a laboratory environment from which to study cloud and precipitation properties, primarily in the winter, when the lab is frequently enveloped in fog generated by orographic cloud. SPL is used much like an aircraft to access weather near the 700 mb level of the atmosphere. Studies range from assessing how pollutants interact with clouds and reduce their ability to produce precipitation, to long range transport of bacteria from the oceans and dust from the deserts of China.

The lab is an excellent location from which to conduct classes in the atmospheric sciences. Students from middle school through graduate school can use state of the art equipment and do hands on experiments. It is one of the few locations where students of meteorology have this



A special set of collectors for fog/cloud water used to assess the presence of bacteria in the air.

opportunity. Recently, even atmospheric modelers are finding SPL to be an excellent location from which to run their models, which predict cloud microphysical parameters, precipitation, winds, etc., in mountainous terrain, and actually be able to verify the accuracy of their models in real time. SPL is available to any researcher or educator to conduct their studies or classes. Researchers from as far as Switzerland and educators from as far as New York have used the lab.



Storm Peak Laboratory, Colorado



The Forward Scattering Spectrometer Probe used to measure droplet sizes and concentrations.

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FOG COLLECTION PROJECT

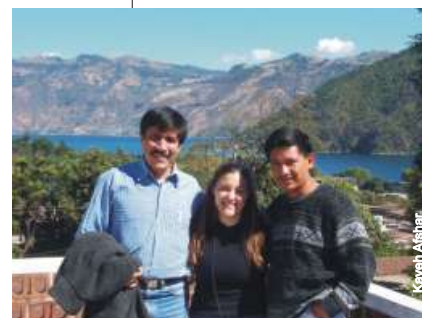
LAKE ATITLAN, GUATEMALA

At the time that this newsletter is being prepared, there are 15 SFCs being installed in the watershed around Lake Atitlan. The lake itself is at 1600 m and the SFCs are being placed at altitudes from 1800 to 3000 m. There are several small cities where tourism is important on the shore of the lake and outside of the cities there are many small villages and farms. When the rains stop, over the period from approximately December to April, the people in rural areas have a



Washing clothes in Lake Atitlan, Guatemala.

serious shortage of potable water. FogQuest is working with local groups to assess whether using fog collectors to collect both fog and the occasional rainfall can provide a new source of clean water. We are working with Veterinarians Without Borders (France), directed by Gonzalo Cardona, and the government watershed authority, AMSCLAE, directed by Juan Skinner. Funding for the construction of the SFCs is coming from the Canadian Embassy in Guatemala. In addition to determining whether a new type of water supply is viable, the project will provide data to help assess the importance of fog in sustaining the high elevation forests around the lake. When we have more data from the project we will provide an update in a future newsletter.



Melissa Rosato with Gonzalo Cardona (L) and Juan José of Veterinarians Without Borders (France) in San Lucas Toliman, Guatemala.



An SFC near Lake Atitlan, Guatemala. Juan Luis Garcia is in the front, center, with the notebook.



3rd INTERNATIONAL CONFERENCE ON FOG, FOG COLLECTION AND DEW

CAPE TOWN, SOUTH AFRICA 11 - 15 October 2004

The conference in Cape Town is now accepting abstracts of papers. Short abstracts of up to 300 words must be submitted by 15 May 2004. They will be reviewed by the Scientific Committee and the authors notified as to whether their papers are accepted. Extended abstracts of up to four pages in length are due by 30 June 2004. They will be published in a conference proceedings volume. The Conference will be held in the Commodore Hotel on the waterfront. It is being organized by Professors Hannes Rautenbach and Jana Olivier of the University of Pretoria. For more information, please contact Professor Rautenbach at hannes.rautenbach@up.ac.za. You can reach the conference website through the FogQuest site.



Pablo Osses

These are three of the ten standard fog collector locations in the Saada Governorate, which is in the far north of Yemen.

NEWS

Werner Eugster and Reto Burkard of the Swiss Institute of Technology and the University of Bern, respectively, in Switzerland, wrote a very nice article in December 2003 for the magazine Die Alpin. It was entitled "Fog is also Water" and appeared in both German and French. They donated the fee for the article to FogQuest, for which we are very grateful. Don McKay has retired from Environment Canada and has taken a position as General Manager of ORTECH Environmental Inc. in Mississauga, Canada. He kindly donated his retirement gifts from both Environment Canada and the International Joint Commission to FogQuest. José Manual Molina is continuing his field measurements at four sites in the western Andes of Colombia until April 2004. He has had very positive fog collection rates. Pablo Osses stopped at the FogQuest office in Toronto on his way home from Yemen to Chile. Pablo is getting married in March and we offer him our very best wishes.

At any given time, FogQuest has a number of students doing school projects or theses related to fog collection or one of our field projects. José Alejandro Aristizabal and a colleague at the National University of Colombia have built an SFC and are doing some fog collection measurements near Medellin, Colombia. Melissa Rosato has finished her co-op term at the office in Canada and is now developing a new fog collection

project in Venezuela as part of an undergraduate thesis. Stephanie Ewing, a graduate student at the University of California, Berkeley, USA, is interested in the role of fog in determining the soil chemistry of the Atacama Desert in Chile. Tomasi Anne Melle in France is doing an ecological project on fog collection for a competition. Nicholas Arsenault of the University of Waterloo in Canada is planning to do an undergraduate thesis tied to a FogQuest field project later this year. Kellee Koenig at Brigham Young University in Provo, USA, is writing a paper on the clearing of advection fog. Sheri Burke at Carleton University in Ottawa, Canada, has just completed an assessment of the applicability of fog collection as a water supply for a community near Kathmandu, Nepal. Alon Gross is a student in his final year at the Technological College of Design in Tel Aviv, Israel, and is doing a project on a fog/dew collector for arid areas.

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