

MIDDLE EAST WATER RESOURCES ON-LINE

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One of the beautiful features of the Internet is that there are no borders. This is a nice aspect of the net in general -- the wired in desk-jockey can browse art in the Louvre, skip to a discussion on diplomatic history moderated in Tokyo, and check the current salinity of Lake Baikal, all without passports, vaccinations, and unwieldy travel budgets -- but it is a vital component in facilitating dialog between scientists from across hostile frontiers.

Water resources likewise ignore boundaries. As a consequence, when water flows across disputed territory, particularly between contentious neighbors, it can perpetuate and exacerbate ongoing disputes. Alternately, because it is so vital to life and livelihood, water can facilitate cooperation. In order for this latter, more pacific option to hold sway, people from all sides have to be able to communicate -- regularly and freely.

The confluence of the flow of dialog and the flow of water in the arid and hostile Middle East can be found on the Internet. This article describes two resources: MEH2O-L, a discussion list, and MEWIN, the Middle East Water Information Network, which were organized to help facilitate dialog over this vital resource.

MEH2O-L

Eilat is located at the southern tip of Israel, wedged in on the northern shore of the Gulf of Aqaba. Directly to the east is the Hashemite Kingdom of Jordan's sole port, the city of Aqaba. To the south is Egyptian Sinai. About 12 miles away, on the Jordanian side, lies the expanse of Saudi Arabia, with its largely unpopulated western coast. For hundreds of kilometers in all directions is either vast desert or salty sea. The climate is hot and inhospitable.

From 1986-1993, Rob Chasan managed the Computing Services at Israel's National Center for Mariculture (NCM), located at the most southeasterly corner of Eilat and, by extension, of Israel. Adjoining the eastern edge of the Institute is a water pipeline, Israeli minefields, a no-man's-land including an international border, Jordanian minefields, and the seaside villa of Jordan's King Hussein and his royal family. On a good day, if the wind is right, one can faintly hear a muezzin

calling the faithful to prayer from one of the mosques in Aqaba. Eilat and Aqaba are so close to each other that, at night, one may watch the progress of individual vehicles driving up and down each other's coastal roadways. Additionally, on a clear day, from the mountains of Eilat it is possible to discern the Saudi Arabian border.

There are two oceanographic institutes in Eilat, the NCM and the Heinz Steinitz Inter-University Center. Just south of Aqaba is the Jordanian Marine Science Station. By 1992, Chasan was aware that the US government had quietly arranged meetings between the Jordanians and the Israelis in third countries, but, because there were no direct communications between the two nations, there was no regular exchange among scientists across the borders. He was also aware, from a contact in Norway, that there were elements within the Saudi government interested in the earthen fish pond technology developed at the NCM. Political constraints prevented the establishment of direct inquiries. In fact, with the exception of Egypt, there was no way for Israeli researchers to have routine, direct contact with their counterparts in most of the other nations of the Middle East. Not only were Israelis unable to make contact with Arabs, but political realignments in the Arab world in the aftermath of the 1990-91 Gulf War had fractured communications among Arab researchers in the various nations.

The situation was frustrating. The various nations of the Middle East are so tightly packed together that one country's environmental problems are generally shared by others. The situation concerning water is especially dire. Droughts are endemic, water consumption is rising and the populations keep growing. No one nation has enough fresh water for its needs. Everyone is arguing with each other about who gets what, with occasional threats of violence. The Mediterranean is overfished and overpolluted. The southern seas are home to fabulous coral reefs threatened by development, fishing and uncontrolled tourism. Enforcement of existing environmental laws, where they exist, are weak.

It occurred to Chasan one day in the early summer of 1992, while reading the day's ration of mail from the Aqua-L and Marine-L discussion groups, that a list dedicated to Middle Eastern water was necessary. It

seemed that most of the lists on the Internet, scientific or otherwise, are topically, rather than geographically oriented, but that didn't mean it always had to be that way. The establishment of a Middle East water list might provide a forum for individuals in otherwise adversarial lands to come together without the oversight of politicians and religious leaders. Politicians make de jure peace with the stroke of a pen, but citizens getting together with their foreign counterparts, even if only electronically, help make real peace.

One major stumbling block to the usefulness of a Middle Eastern water list was that the Arab nations did not permit e-mail from their countries to Israel. The other was that Internet access in the Arab world was not as common as it is in Israel or other countries of the West. The situation partly changed in September 1992, when Saudi Arabia permitted, for the first time, unrestricted electronic mail access to Israel. It seemed that now was the time to put the list in motion.

In November of that year, Chasan created the MEH2O-L list. The initial reception was underwhelming. Membership grew very slowly and mail was practically non-existent. With each step of progress in the regional peace process, however, membership subscription has shown a substantial jump. Today, membership fluctuates between 160-180 individuals. Correspondents from twenty different countries are registered on the list. The vast majority of these people are located in the United States, followed by Israel, Great Britain, and Australia. Most heartening is the fact that people from Saudi Arabia, Kuwait, Iran, and Egypt have subscribed. Their numbers are relatively small, but a perusal of the member names indicates that researchers from Middle Eastern countries currently residing in the West are subscribed to the list.

Recent issues have included postings on the various peace talks, Ethiopian control of the headwaters of the Nile, interest in Yemen's resources, an Egyptian plan to study potable water wastage in neighborhoods, the proposal of a fresh-water "Peace Pipeline" from Turkey to the more southerly countries, and policy studies. Many members have expressed interest in receiving the Proceedings from the landmark "Our Shared Environment" conference sponsored by the Israel/Palestine Center for Research and Information, which included representatives from Israel, Jordan, the West Bank, and Gaza. It is hoped that the Proceedings will spark some interesting discussions when it becomes available. With the exception of two early postings, there has been no rudeness or overt political or religious partisanship. That alone is cause for hope.

MEWIN -- The Middle East Water Information Network

For their seminal 1984 work on Middle East water resources, *Water in the Middle East: Conflict or Cooperation?*, Tom Naff and Ruth Matson of the University of Pennsylvania accumulated one of the most comprehensive libraries on the subject in existence. Demand for such a resource led Professor Naff to create the Associates for Middle East Research (AMER) Middle East Water Database, which over time grew to over 7,000 items and 70,000 pages of documents with a computerized index.

While the AMER database was growing, demand for a centralized collection of Middle East water data was also growing, both in diplomatic and in academic circles. Even before the Middle East Peace Talks began in 1991, academics, notably Joyce Starr, then with the Center for Strategic and International Studies, and John Kolars, of the University of Michigan, argued that water data could, and should, be collected for regional benefit. Prof. Kolars made such a presentation for the US water negotiating team at the US State Department's Foreign Service Institute in June 1992. The topic, "Enhancement of Water Data," was one of four subjects agreed to by consensus of all the parties involved in the multilateral peace negotiations at the third round of water talks in Washington in December 1992.

Along with progress in the peace talks came increasing dialog on water issues. This included several academic conferences on Middle Eastern water resources in, among other places, Canada, Turkey, Illinois, Washington DC (3) and, notably, the first Israeli-Palestinian conference on water resources in Geneva; unofficial "track II" dialogs in Nevada, Cairo, and Idaho; and the establishment by the IWRA of the "Middle East Water Commission" to help facilitate research on the subject. All had some component on data collection and sharing.

In April 1994, Prof. Tom Naff invited a group of leading water specialists from nations in the Middle East, Europe, and North America to the University of Pennsylvania to discuss the establishment of a regional network of water-related expertise and information. The participants of that meeting officially created the Middle East Water Information Network -- MEWIN.

MEWIN is an international, professional, non-profit research and educational organization founded to improve regional planning and management of water resources in the Middle East (and, by example, in other world regions)

and to promote the peaceful and cooperative use of this vital resource.

To accomplish these goal, MEWIN seeks to:

- promote and facilitate communication among its members;
- create an electronic, distributed source of Middle East water data and information;
- promote improved access to existing sources of data and information on water;
- facilitate development of standards for collection and analysis of available data;
- serve as a clearinghouse for information on activities, projects, technological developments, and information resources.

MEWIN's initial tasks have been to increase membership and to generate the funding necessary to achieve its long-term goals. As it develops its on-line capabilities, it will be creating a distributed information ("pointer") system together with a distributed database network. A newsletter is forthcoming to MEWIN members, which will also be distributed electronically to those with Internet access.

MEWIN membership consists of scientists, social scientists, legal experts, diverse researchers and analysts, managers, and resource planners and includes members

from leading academic institutions and such international organizations as the World Bank and agencies of the United Nations.

Membership is open to any individual, institution, organization, or agency with an interest in water resources. Membership entails furthering the interests and goals of MEWIN and payment of \$25.00 membership dues.

TO SUBSCRIBE TO MEH2O-L: Send the following line to LISTSERV@VM.TAU.AC.IL: sub MEH2O-L <your name> (Be sure to type meh2o-l with the letter O and not the number zero).

To send mail to the list, write to MEH2O-L@VM.TAU.AC.IL

FOR MORE INFORMATION ON MEWIN: Please contact Prof. Thomas Naff, Executive Director, MEWIN, 847 Williams Hall, University of Pennsylvania, Phila., PA, 19104-6305, 215-471-0167, tnaff@sas.upenn.edu, fax 215-747-6211 or 215-898-5756.