

# Peace Building Through Scientific Collaboration

## The International Arid Lands Consortium

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### ARIZONA LAND & PEOPLE

**D**esert and arid zones make up nearly a third of the Earth's surface and extend across nearly half of the world's countries. Land and environmental degradation is occurring in these regions at an alarming rate, with drought, famine and economic disruption threatening the livelihood of nearly 900 million people, or a fifth of the world's human population.

These severe conditions resulting from human impact and climatic change are well documented, and pose huge problems for individual countries attempting to battle them. Add to this the ongoing and often violent political confrontations in these areas, particularly in the Middle East and in dryland sections of Africa and Asia, and the situation appears overwhelming.

Scientists belonging to the International Arid Lands Consortium (IALC) believe one step toward untangling the mess may literally lie beneath our feet, in the soil and water that sustain us all. The way we manage and preserve soil fertility, water quality, and factors related to those resources can make a difference in whether a country, a culture or even an entire civilization survives. By solving problems arid regions have in common in managing their soil, water and other natural resources, IALC members hope to reduce environmental stresses, transform arid lands into more habitable environments for the well-being of their people, and promote peaceful interactions among different countries in the process.

Twelve years ago IALC member institutions—six from the United States and one each from Israel, Jordan and Egypt—began their independent, nonprofit organization to promote cooperative research and practical application of new knowledge for developing sustainable ecological practices in arid lands. The IALC was authorized by U.S. Congress in 1990 and is headquartered at the Office of Arid Lands Studies (OALS) in the UA College of Agriculture and Life Sciences in Tucson (see page 7). Jim Chamie is its managing director.



*Sandstone formations in Timnah Park, southern Israel.*

Jim Chamie

“The vision of the IALC is to be the acknowledged leading international organization supporting ecological sustainability of arid and semiarid lands,” Chamie says. “In addition, the IALC continues to support and promote the Middle East peace process through its workshops and symposia. Scientist and researchers from Israel, Egypt, Morocco, and the Palestinian National Authority have collaborated on such topics as deforestation, salinization, and arid lands management.”

Activities include scientific and technical programs; research, demonstration and technology transfer projects; workshops and symposia; publications; and information retrieval and dissemination technologies, such as online archiving and remote sensing.

Since 1992, IALC collaborations have produced scientific contributions through more than 100 projects in the following areas:

- Soil and water resources development and conservation
- Land use and reclamation
- Processes enhancing the management of ecological systems
- Inventory and monitoring technology

The IALC has conducted hands-on projects in the Southwestern United States, the Middle East, and South America (Chile). Much of the research has taken place in the Sonoran, Chihuahuan and Negev deserts. Among their many projects, soil scientists, ecologists, agricultural engineers, plant scientists, and other researchers have measured soil aggregates in New Mexico, assessed effluent residues on drip-irrigated crops in Arizona, worked with farmers to reduce pesticide use in the West Bank and Gaza, harvested surface run-off for groundwater recharge in Jordan, measured cheatgrass invasion in the Great Basin, built landscapes to reduce water run-off in Israel, used remote sensing and other data to evaluate rangeland in Arizona, measured dust emissions in California, and monitored desert mule deer in the U.S. Southwest and the Nubian ibex in Israel. (For a more comprehensive list of projects refer to the web site below.) In all cases, project data is stored online and on CD-ROMs, and shared in Arabic, English and Hebrew.

The IALC works across political and ideological constraints, serving as a catalyst for peace between Arabs, Israelis and Americans. Through the IALC Peace Fellowship Program, student scientists can also participate in this process, extending the opportunity to promote insight and understanding and communication among the youth of the United States and the Middle East.

Through this program, qualified undergraduate and graduate students from IALC member institutions have the opportunity to conduct research in the sustainable development of arid lands. They spend one month or more working in the field with lead scientists on projects spon-



Jim Chamie

*Riparian area in the Negev Desert, Israel.*

sored by the Consortium. Students conduct their research in a country other than their home country, working on projects that focus on practical knowledge and application of research.

“With scientist-to-scientist collaboration for a common goal, other differences drop away,” says Akrum Tamimi, visiting assistant professor from Hebron University, West Bank, Palestine. “Meaningful and comprehensive agricultural development projects that concentrate on the human and material aspects are ways to foster understanding between cultures.”

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## The International Arid Lands Consortium (IALC)

The International Arid Lands Consortium (IALC), established in 1990, promotes research, education, and training activities related to the development, management, and restoration or reclamation of arid and semi-arid lands worldwide, with a focus on the Southwestern United States and the Middle East.

The IALC has formed a global network of scientists and professionals in sustainable arid lands resource management from nine institutions, including the University of Arizona, New Mexico State University, the Jewish National Fund, South Dakota State University, the University of Illinois, Texas A&M University-Kingsville, the Desert Research Institute—University and Community College System of Nevada, Jordan’s Higher Council for Science and Technology, and Egypt’s Ministry of Agriculture and

Land Reclamation. The IALC also works extensively with U.S. government agencies involved with the stewardship of arid lands.

The independent, nonprofit IALC supports applied and advanced research and demonstration projects. It conducts training, and supports graduate and undergraduate education and research in arid land and water resources, and ecosystems. The organization has significantly advanced the state of knowledge on soil-water-plant and wildlife relationships in arid environments, and has focused on assessing and mitigating desertification.

IALC scientists have developed cooperative projects in Arizona, Texas, Israel, Illinois, South Dakota, New Mexico, Jordan, the Palestinian Authority, Ethiopia, Chile, Mexico, and other regions.

For more information see [ialcworld.org](http://ialcworld.org).