

# Distinguished Alumni

## Morisawa brings love of geology to field, classroom



Distinguished alumna Marie Morisawa has shared her love for her profession with countless students, whether they be graduate geology students or undergraduates in an introductory course. (Courtesy photos)

As an undergraduate, distinguished alumna Marie Morisawa (MA '52) knew she would be teaching some day; but until she took her first geology course, she didn't realize that the subject matter would be rivers and natural hazards.

That introductory class changed the course of Morisawa's professional aspirations. The internationally-known geomorphologist finished her bachelor's degree in mathematics (1941, cum laude from Hunter College in New York). But when graduate studies called, she headed for the University of Wyoming Geology Department.

Morisawa investigated master's programs in the West, where area geology is more "classic and evident." She applied to UW, Colorado School of Mines and Montana School of Mines; but only Wyoming accepted women into their graduate geology programs.

"I really have a fondness in my heart for the University of Wyoming because of that," Morisawa says. "They (UW) were the only one of the three that figured, as a woman, I could make it in geology."

Once at Wyoming, Morisawa received the kind of support she needed to reach her goal. UW's Geology Department was small, she says, but its environment was stimulating and friendly. Morisawa recalls fondly the department's faculty, including Don Blackstone, Brainerd Mears, Bill Thomas and former department head Samuel Knight. She also enjoyed a strong working relationship



with her peers, despite being the only female of about 50 graduate students in the department.

The extensive field work required for geological research helped draw Morisawa to the profession. While in Wyoming, she took advantage of every available opportunity to surround herself with the state's rich and varied environment. As a member of the university's outing club, she frequently hiked the mountains near Laramie with others who enjoyed the outdoors.

### International Field Studies

Over the years, Morisawa's studies of surface geology have taken her around the country, across the U.S. border and overseas.

Rivers hold special meaning for the Ohio native — many of her studies focus on wild rivers such as the Green and Wind Rivers in Wyoming, the White River in Colorado and the Buffalo River in Arkansas. Among her numerous research awards over the years were a two-year study on the impact of urbanization on rivers and an evaluation of wild rivers, both for the U.S. Department of the Interior's Office of Water Research and Technology.

Officials in Mexico invited her to research water resources in that country.

Natural hazards also take Morisawa to distant, and sometimes dangerous, locations. She was one of the first researchers on-site following the 1959 Hebgen earthquake in Montana. A National Science Foundation research award took Morisawa back to the Hebgen site 20 years later to study the changes that had occurred.

She also worked the Mount St. Helens volcano site in Washington state shortly after its 1980 eruption. Morisawa researched post-eruption erosion there for the National Science Foundation. In addition to her work in the U.S., Morisawa has researched volcanos in Japan.

Field research frequently includes an element of danger, and Morisawa has dealt with her share over the years. Mount St. Helens erupted several times after the initial incident; though officials monitored the situation constantly, there was always a risk for researchers and others in the area. Morisawa's river studies offered their own excitement. On one, a raft trip down the Wind River, a swift current once carried her party away.

### A Pioneer in Her Field

As one of only a handful of women scientists in the 1950s and 60s, Morisawa walked a sometimes rocky path professionally. The respect and support she had at Wyoming was not a universal experience during that period.

Initially, she faced overt discrimination — potential employers told her she wasn't tough enough to face a class of 200 male geology students, or to handle field work. On one Easter break research trip to lead mines in Virginia during the 1960s, Morisawa and her female students couldn't accompany the males in their party into the mines.

The days of blatant discrimination are generally over, according to Morisawa. Still, she has some advice for female students considering a science career: "I tell them they have to be good," Morisawa says. "They have to be better than the men to get ahead."

Recruitment of quality women students into the sciences has levelled off since the concerted push of the late 70s and early 80s — even declined in some areas. Morisawa says the United States can't afford to overlook women as candidates to fill the vacancies. (Continued on page 12)



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"We are falling down in numbers of scientists," she says, "and that's a huge, untapped group that could be in there if we pushed a bit more."

Teaching has always been in Morisawa's career plan.

"I had such good teachers, and I thought education was important," she says of her motivation to head to the classroom.

With the exception of a stint with the U.S. Geological Survey in Washington, D.C. (1961-62), virtually all of Morisawa's career has been in teaching. She began in 1955 as an instructor at Bryn Mawr College in Pennsylvania, then served as assistant professor at the University of Montana from 1959-61. From 1963-69, Morisawa was on the faculty of Antioch College at Yellow Springs, Ohio. In 1970, she moved to the State University of New York at

Binghamton and spent 20 years there as an associate and then full professor.

Although Morisawa recently retired from SUNY-Binghamton, she maintains her ties to the classroom. This fall, she plans to teach an undergraduate course on natural hazards. In those sessions, Morisawa will draw upon her knowledge of earthquakes, volcanic eruptions, landslides and related phenomena to inspire the next generation of potential scientists.

Her classroom assignments over the years included both undergraduate and graduate courses, with each requiring a slightly different teaching approach. Graduates are self-motivated and already somewhat knowledgeable. Undergraduates, however, may be completely unfamiliar with the topic.

"Most of them think of geology in terms of two things — oil and rocks," Morisawa says.

That attitude resembles the traditional

posture taken in most geology departments. This is changing a little, according to Morisawa, as job opportunities in the oil industry continue to decline. Educators of geologists must adjust to this trend, she says, and equip graduates with skills in other areas.

"I think the big opening for geologists is the environment," Morisawa says, studying such issues as hazards and pollution. That means specialists like herself may find themselves in the geological spotlight soon.

"Many departments have always considered geomorphologists on the fringe," she says. "I think they have to change this viewpoint."

Morisawa enjoys the relative freedom that the academic life offers. She admits it isn't for everyone — a teacher must be intensely interested in students and in helping them learn. But academia offers many advantages, such the opportunity to spend summers in the field doing

research that can be shared with the world. The fellowship of other geologists is another "plus" of the job.

Morisawa's name is a familiar one in her profession. She is the author of more than 30 significant articles in major geological journals, an editor and contributor to two volumes on stream processes, founder and editor-in-chief of a major journal (*Geomorphology*), and author of an internationally-respected textbook (*Streams: Their Dynamics and Morphology*).

Morisawa has been elected councilor of the Geological Society of America and was selected to the editorial board of the *Bulletin of the Geological Society of America*. In addition, she co-founded the annual Binghamton Geomorphology Symposia in 1970. This event has grown to become a prestigious conference attracting speakers from around the world and between 200 and 300 participants each year.