

THE WESTON TOWN CRIER

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Looking DEEP into the earth

By Susan L. Wagner / Staff Writer

For almost 75 years, the Weston Observatory – tucked down in a hollow behind the high-profile Campion Center on Concord Road – kept its jitters mostly to itself. Then, about 18 months ago, it started a series of lectures designed to inform and educate the public about its work.

Among the topics addressed over the past autumn and spring have been forecasting earthquakes; marine seismology and monitoring active volcanoes. Needless to say, after the disastrous tsunami in South Asia last December, the observatory suddenly became the focus of considerable attention.

“The local media – newspapers, TV, radio – were here around the clock for a couple of days,” said geophysicist Dina Smith, associate director of the facility.

Celebrating its 75th year of seismic recording at its current location, the observatory is the “laboratory” of the Department of Geology and Geophysics of Boston College.



“Both graduates and undergraduates from the college come out here to do their research,” Smith said. Founded by the Jesuits, the observatory retains a strong connection with the religious order. James W. Skehan, S.J., 82, who is the founder of the BC department and the author of “Roadside Geology of Massachusetts,” is, in fact, the director emeritus of the facility, where he retains an office and conducts much of his ongoing research.

John Ebel, director of the Weston Observatory, in the seismographic recording room. - Staff photos by Bear Cieri

Among its many activities, the observatory runs the New England Seismic Network, a series of stations that monitors earthquake activity throughout the six-state region. According to Smith, seismic hazards in the area range from low to medium.

“We’re in charge of determining exactly where it happened and how big it was and reporting that information to the relevant emergency management agencies,” she said.

Although most people who live in the region don’t remember experiencing an earthquake during their lifetimes, there was a 6.5 earthquake in central New Hampshire in 1638 and a 6.1 on Cape Ann in 1755.

“These are destructive-sized quakes,” Smith said, “and I really wouldn’t be surprised if it happened again. So, here at the observatory, we’re vigilant about studying our area, finding out about patterns and making possible predictions.”

To this end, the observatory has six seismometers that are part of a worldwide earthquake detecting network. They monitor the earth’s activity 24 hours a day, 365 days a year. Minute-by-minute tracings are recorded on a sheet of paper that Smith changes every night before she goes home. (Graduate students take over for her on the weekends.)

In addition to its lecture series, the observatory has also recently instituted the Boston College Educational Seismology Project.

“We work with local schools, teachers and school systems K to 12,” according to Marilyn Bibeau, who is in charge of the observatory’s finance and administration. “They put a small seismometer in the classroom, and we help them understand what they’re recording. So far, we’ve been involved with schools in Weston, Wellesley, Lexington, Somerville and Waltham, among others.”

The fact that earth sciences are de-emphasized in today’s public schools makes this outreach even more important. According to the observatory’s director, John Ebel, “It’s basically the big three – biology, chemistry and physics – that are part of the curriculum. The kids do study the earth sciences in middle school somewhere. After that, unless they really go after it, they just don’t see the earth sciences. But when they do, many of them see that this is truly a thriving field that’s every bit as important as biology, chemistry and physics. And, in fact, we provide a free internship program for such students from the area.”

In addition, the observatory welcomes school, scout and other groups of young people to come for guided tours of the facility.

“We just ask that they make a reservation ahead of time, so that we can gear the presentation to the age group involved. We want to take the fear out of science, to make this as interesting as possible, and to capture their attention,” Bibeau said.

Among the items that are sure to capture their attention are the rock and fossil collections and the 3D map of America that show the ages of the rocks.

“The kids put on the glasses and then they can see the rocks in different layers according to how old they are,” Smith said.

There’s also a display of antique seismometers, including a 1906 Bosch-Omori and a 1909 Weichert.

The upcoming lecture series will be announced later this year. Meantime, the facility quietly goes about its business. So quietly, in fact, that many people still think it’s an astronomical observatory.

One of the questions most frequently directed to them is: “Do you have public viewing times on your telescopes?” No, the staff answers patiently. “We don’t have any telescopes. We’re a geophysical observatory. We don’t look up at the sky. We’re looking the other way, down into the earth.”

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