of their typical 50-year life expectancy, and the costly process of shoring up or replacing them could take decades. "It's a long-term problem, so we need to make sure that we have the right people around 20 years from now to deal with this," says Eric Halpin, special assistant for dam and levee safety for the corps in Washington DC.

Halpin needs scientists and engineers who can assess more than just the logistics of building and maintaining dams and levees. They also need to understand how decisions about infrastructure may affect the long-term well-being of a local economy and population. "What we're finding out right now is that engineers tend to look at every problem as an opportunity to build something new, a structural solution, and many times the solutions are not structural," he says. "Maybe it's managing your consequences better through building codes, or smart economic development or evacuation plans rather than a bigger levee."

RISKY POLICIES

In the aftermath of devastating storms such as Sandy and 2005's Hurricane Katrina, and amid growing concern over the coastal impacts of global warming, government officials around the world are debating when to rebuild barriers and when to pursue other risk-reduction strategies (see D. Moynihan *Nature* **495,** 7; 2013). The increasingly urgent discussions are opening doors for scientists and engineers versed in public policy.

Frauke Hoss, who is doing a PhD in engineering and public policy at Carnegie Mellon University in Pittsburgh, Pennsylvania, is German but trained in political science and hydraulic engineering in the Netherlands. She hopes to pursue an advisory role with the European Union or the Dutch or German government, combining her expertise in public policy and flood-control engineering. Hoss says that infrastructure decisions are affected by geography in much of Europe. "We live so densely that you will be building in an area where there's flooding potential," she says. "And as your economy grows, you have more value that you have to keep drier."

In the Netherlands, where 35% of the population lives on flood-prone land, officials are supplementing flood barriers with new and larger spillways and reservoirs as more natural ways to control inundations. Although unsure of her own prospects in helping to formulate policies, Hoss thinks that she is on the right track with her dual focus. "There will always be demand, because there are very few engineers who are interested in policy," she says.

That demand is relevant across Europe. The UK government's Foresight programme, for example, relied heavily on natural-sciences and public-policy expertise in crafting its 139-page report *Reducing Risks of Future Disasters*, released last November. The programme commissioned 18 independently peer-reviewed papers and workshop reports and enlisted a small army of academic, governmental and institutional experts to write and review the report, which calls for decision-makers worldwide to increase their reliance on science, technology and risk-assessment methods to help to reduce the impact of disasters.

SLOW GROWTH IN ACADEMIA

Because risk analysis often spans disciplines and tends to be highly applied, academic positions are the hardest to find. However, a modest corps of academic sites focuses at least in part on natural hazards; most, but not all, are in the United States and Europe. Some of the best known established sites include the Aon Benfield UCL Hazard Centre at University College London; the Disaster Prevention Research Institute at Kyoto University in Japan; the Center for Disaster Management and Risk Reduction Technology in Potsdam, Germany; and the Engineering and Public Policy department at Carnegie Mellon. That list is now expanding, with centres such as the Cabot Institute at the University of Bristol, UK, opened in 2010, and the Center for Risk Governance at Tsinghua University in Beijing, launched this year.

Despite the growing options for academics and students, employers tend to agree that few programmes prepare scientists for the multidisciplinary, holistic and hands-on responsibilities of applied risk analysis. Applicants may have to actively seek out practical experience on their own, as Hodge did in the insurance industry or as others have done in organizations that regularly assess disasters, such as one of the many national Red Cross and Red Crescent societies.

Depending on the employer, recruits may receive extensive in-house training that directs their expertise to applied ends — Swiss Re, for example, sometimes trains employees in financial modelling, and the US Army Corps of Engineers teaches them how to incorporate skills beyond their normal disciplines. "We hire some straight-up scientists in hydrology and geology and geomorphology; we hire some straight-up social scientists, particularly in the areas of life loss and vulnerability; and we hire some straight-up engineers," says Halpin. "And not one of them comes to the table with all of the skills. We build it in after they get on board."

The aim is to produce what Halpin calls a natural-hazards "super generalist" who is well versed in the application of multiple disciplines to real-world problem solving. "If you have the right foundation in one area and you're willing to learn about other areas, and you're willing to create some of the education in the workplace rather than in school, then that's the key," he says. ■

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AUSTRALIA

Foreign students wanted

Hoping to boost Australia's economy by bringing in more international students and researchers, the nation's government is adopting recommendations from its International Education Advisory Council. On 27 February, the council published *Australia — Educating Globally*, a report that outlines a 5-year plan for reaching Australia's international-enrolment goals. The number of international students at universities and other institutions in Australia could grow by some 30% by 2020, to 520,000 students, as a result of the council's plan, the report predicts; it estimates that this would add about Aus$19 billion (US$19.5 billion) to the country's economy and provide extra support for research positions. The recommendations include streamlining visa requirements and regulations for international academics and students; encouraging international research collaborations and partnerships; and offering incentives for top academics and doctoral students to come to Australia. Michael Chaney, chairman of the advisory council, says that the government is already implementing specific strategies to increase numbers of international scientists, such as establishing high-paying contracts for research posts.

UNITED STATES

Pay rise for presidents

US university presidents and academic officers, including deans, provosts and chancellors, saw their pay increase by a median of 2.3% in 2012, more than one-third above the inflation rate of 1.7%, according to a survey. The College and University Professional Association for Human Resources in Knoxville, Tennessee, polled 1,251 institutions for its 2012–13 *Administrators in Higher Education Salary Survey*, published on 25 February. The median pay for the president of an institution that grants doctorates rose by 2% for the year, to US$402,000. Deans of biological and life sciences at doctoral institutions also saw a pay rise: their median compensation climbed by 3% to $225,000 in 2012. Executive benefits included not only pay but also housing for 47.3% of university presidents, a car or car allowance for 51.6% and membership of a club such as a gym or airline for 31.6%, the survey says. More than one-quarter of presidents received deferred compensation such as pensions or stock options.