

SPECIALISTS VERSUS GENERALISTS IN THE ENVIRONMENTAL SCIENCES

RONALD E. DOEL

Department of History, Florida State University, Tallahassee, Florida, USA,
Email: rdoel@fsu.edu

One legacy of von Humboldt's research was emphasis on the interconnectedness of nature. For von Humboldt, a key aim of "terrestrial physics" was identifying grand-scale geophysical phenomena. In the early 20th century, with this goal in mind, leaders of the newly-formed American Geophysical Union attempted to reinforce connections between its disciplinary sections even as researchers successfully applied reductionist approaches to immediate challenges. One generation later, in the 1930s, the broadly-trained geophysicist M. King Hubbert sought to envision a geophysics curriculum that would embrace all of its core fields, from seismology, hydrology and geomagnetism to oceanography, volcanology, meteorology, and aeronomy. Until the early cold war, however, no North American university offered courses or pursued research in all of these fields. What enhanced cross-disciplinary research in the aftermath of World War II was the U.S. military's greatly increased interest in understanding earth's physical environment in order to support national defense (particularly involving guided missiles and submarine warfare). This paper explores the Pentagon's role in sustaining the physical environmental sciences, including how military patronage helped create interdisciplinary academic earth science research centers such as Columbia University's Lamont Geological Observatory.

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Ronald E. Doel, Department of History, Florida State University, PO Box 3062200, Tallahassee, FL, USA 32306-2200, tel: 00-1-850-644-9540, fax: 00-1-850-644-6402, e-mail: rdoel@fsu.edu