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Challenges and Opportunities for Hydrology Education in a Changing World – The Modular Curriculum for Hydrologic Advancement

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'It takes a village to raise a child', but who does it take to educate a hydrologist who can solve today's and tomorrow's problems? Hydrology is inherently an interdisciplinary science, and therefore requires interdisciplinary training. We believe that the demands on current and future hydrologists will continue to increase, while training at undergraduate and graduate levels has not kept pace. How do we, as university faculty, educate hydrologists capable of solving complex problems in an interdisciplinary environment considering that current educators have often been taught in narrow traditional disciplines? We suggest a unified community effort to change the way that hydrologists are educated. The complexity of the task is ever increasing. Analysis techniques and tools required for solving emerging problems have to evolve away from focusing mainly on the analysis of past behavior because baselines are shifting as the world changes. The difficulties of providing an appropriate education are also increasing, especially given the growing demands on faculty time. To support hydrology educators and improve hydrology education, we have started a faculty community of educators (REACH) and implemented the Modular Curriculum for Hydrologic Advancement (MOCHA, http://www.mocha.psu.edu/). The goal of this effort is to support hydrology faculty as they educate hydrologists that can solve interdisciplinary problems that go far beyond the traditional disciplinary biased hydrology education most of us have experienced as students. Our current objective is to create an evolving core curriculum for university hydrology education, based on modern pedagogical standards, freely available to and developed and reviewed by the worldwide hydrologic community. We seek to establish an online faculty learning community for hydrology education and capacity building. In this presentation we discuss the results of a recent survey on current hydrology education (to compare with the state of hydrology education in 1991), show initial results of this new educational effort, and discuss future opportunities for connecting hydrology education and research in the context of a changing world.