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MEASURABLE INDICATORS OF SUCCESSFUL GEOLOGY DEPARTMENTS Abstract

Abstract

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Studies on STEM workforce contributions as it pertains to departmental growth and development are prevalent in the field of medicine and engineering where industry and academia are tightly coupled. In other areas of academia there is stark absence of such workforce measures of professional achievement and standing. While each user group (faculty, students, administrators, employers, consumers of geoscience knowledge) may have their own indicators of quality and define success differently, other parametric quantities relating to departmental standing and institutional support are often less recognized, yet potentially more significant indices in terms of departmental growth, support and standing. Working from robust databases of information, including AGI's Directory of Geoscience Departments, and the Integrated Postsecondary Education Data System (IPEDS) of the National Center of Educational Statistics, a temporal study was undertaken of multivariate indices covering a 30 year time period (1980 to present). Principal indices included: identifying geoscience departments that were eliminated or added, changes in tenure/tenure track faculty numbers, changes in faculty specialty areas, and departmental degrees granted in all three award levels. At a time when the supply of geoscientists is falling short of existing and future demands, one particularly troubling finding is the decline of over 3000 bachelor's degrees awarded annually over a time period where undergraduate enrollment more than doubled. While classic criteria such as citations and grant awards are widely used as a conventional measure of research production, this study provides a template by which departments are able to measure their achievement toward success profiles more broadly defined by their geoscience-discipline constituents.

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