



Recent Enrollment Trends in American Soil Science Programs

Eric C. Brevik (1), Sergio Abit (2), David Brown (3), Holly Dolliver (4), David Hopkins (5), David Lindbo (6), Andrew Manu (7), Monday Mbila (8), Sanjai J. Parikh (9), Darrell Schulze (10), Joey Shaw (11), Ray Weil (12), and David Weindorf (13)

(1) Department of Natural Sciences, Dickinson State University, Dickinson, ND, USA (eric.brevik@dickinsonstate.edu), (2) Department of Plant and Soil Sciences, Oklahoma State University, Stillwater, OK, USA (sergio.abit@okstate.edu), (3) Department of Crop and Soil Sciences, Washington State University, Pullman, WA, USA (dave.brown@wsu.edu), (4) Department of Plant and Earth Science, University of Wisconsin River Falls, River Falls, WI, USA (holly.dolliver@uwrf.edu), (5) Department of Soil Science, North Dakota State University, Fargo, ND, USA (david.hopkins@ndsu.edu), (6) Department of Soil Science, North Carolina State University, Raleigh, NC, USA (david_lindbo@ncsu.edu), (7) Department of Agronomy, Iowa State University, Ames, IA, USA (akmanu@iastate.edu), (8) Department of Biological and Environmental Sciences, Alabama A&M University, Normal, AL, USA (Monday.mbila@aamu.edu), (9) Department of Land, Air, and Water Resources, University of California-Davis, Davis, CA, USA (sjarikh@ucdavis.edu), (10) Department of Agronomy, Purdue University, West Lafayette, IN, USA (dschulze@purdue.edu), (11) Department of Agronomy and Soils, Auburn University, Auburn, AL, USA (shawjo1@auburn.edu), (12) Department of Environmental Science and Technology, University of Maryland, College Park, MD, USA (rweil@umd.edu), (13) Department of Plant and Soil Science, Texas Tech University, Lubbock, TX, USA (david.weindorf@ttu.edu)

Soil science student enrollment was on the decline in the United States from the early 1990s through the early 2000s. Overall undergraduate student enrollment in American colleges and universities rose by about 11% over the same time period. This fact created considerable consternation among the American soil science community. As we head into the International Year of Soil, it seemed to be a good time to revisit this issue and examine current enrollment trends. Fourteen universities that offer undergraduate and/or graduate programs in soil science were surveyed for their enrollments over the time period 2007-2014 (the last seven academic years). The 14 schools represent about 20% of the institutions that offer soil science degrees/programs in the United States. Thirteen institutions submitted undergraduate data and 10 submitted graduate data, which was analyzed by individual institution and in aggregate. Simple linear regression was used to find the slope of best-fit trend lines. For individual institutions, a slope of ≥ 0.5 (on average, the school gained 0.5 students per year or more) was considered to be growing enrollment, ≤ -0.5 was considered shrinking enrollment, and between -0.5 and 0.5 was considered to be stable enrollment. For aggregated data, the 0.5 slope standard was multiplied by the number of schools in the aggregated survey to determine whether enrollment was growing, shrinking, or stable. Over the period of the study, six of the 13 schools reporting undergraduate data showed enrollment gains, five of the 13 showed stable enrollments, one of the 13 showed declining enrollments, and one of the 13 discontinued their undergraduate degree program. The linear regression trend line for the undergraduate schools' composite data had a slope of 55.0 students/year ($R^2 = 0.96$), indicating a strong overall trend of undergraduate enrollment growth at these schools. However, the largest school had also seen large growth in enrollment. To ensure that this one institution was not masking an overall declining enrollment trend, the regression was also run with that institution removed. This gave a linear trend line with a slope of 6.6 students/year ($R^2 = 0.90$), indicating more moderate growth but still a trend towards growth in undergraduate enrollment. Four of the 10 graduate programs showed enrollment gains, five of the 10 showed stable enrollments, and one of the 10 showed declining enrollments. The linear regression trend line for the composite graduate school data had a slope of 12.0 students/year ($R^2 = 0.97$), indicating an overall trend of enrollment growth at these schools. As a whole, both the undergraduate and graduate programs investigated showed moderate growth trends, which represent a reversal of enrollment trends reported at the beginning of the 21st Century. Challenges in obtaining the data used for this study included 1) differences in data collection and archiving by institutions and 2) only some schools still offer a soil science degree; many schools offer another degree (e.g., agricultural studies, agronomy, environmental resource science, environmental science, plant and soil science, etc.) with a soils option or emphasis. In the second case it was necessary to identify which students in these other degree programs pursued the soil science option or emphasis.