Stanford



Peter Vitousek

Clifford G. Morrison Professor of Population and Resource Studies and Professor of Earth System Science, Emeritus

Biology

Bio

ACADEMIC APPOINTMENTS

- Professor, Biology
- Emeritus Faculty, Acad Council, Earth System Science
- Senior Fellow, Stanford Woods Institute for the Environment

PROGRAM AFFILIATIONS

- Center for East Asian Studies
- Center for Latin American Studies

LINKS

- My Lab Site: https://web.stanford.edu/group/Vitousek/

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Please see 'Short research description.'

Teaching

COURSES

2024-25

- Island Ecology: MLA 383 (Win)

2023-24

- Island Ecology: ESS 16N (Aut)

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biology (School of Humanities and Sciences) (PhD Program)

Publications

PUBLICATIONS

- **Changes in belowground biodiversity during ecosystem development** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*

Delgado-Baquerizo, M., Bardgett, R. D., Vitousek, P. M., Maestre, F. T., Williams, M. A., Eldridge, D. J., Lambers, H., Neuhauser, S., Gallardo, A., Garcia-Velazquez, L., Sala, O. E., Abades, S. R., Alfaro, et al
2019; 116 (14): 6891–96

- **Changes in belowground biodiversity during ecosystem development.** *Proceedings of the National Academy of Sciences of the United States of America*
  Delgado-Baquerizo, M., Bardgett, R. D., Vitousek, P. M., Maestre, F. T., Williams, M. A., Eldridge, D. J., Lambers, H., Neuhauser, S., Gallardo, A., Garcia-Velazquez, L., Sala, O. E., Abades, S. R., Alfaro, et al
  2019
- **Restoration of ' Aina Malo'o on Hawai 'i Island: Expanding Biocultural Relationships** *SUSTAINABILITY*
  Lincoln, N., Rossen, J., Vitousek, P., Kahoonei, J., Shapiro, D., Kalawe, K., Pai, M., Marshall, K., Meheula, K.
  2018; 10 (11)
- **Soil fertility response to Ulex europaeus invasion and restoration efforts** *BIOLOGICAL INVASIONS*
  Bateman, J., Vitousek, P. M.
  2018; 20 (10): 2777–91
- **Combining spectroscopic and isotopic techniques gives a dynamic view of phosphorus cycling in soil** *NATURE COMMUNICATIONS*
  Helfenstein, J., Tamburini, F., von Sperber, C., Massey, M. S., Pistocchi, C., Chadwick, O. A., Vitousek, P. M., Kretzschmar, R., Frossard, E.
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- **Policy distortions, farm size, and the overuse of agricultural chemicals in China** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
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- **Response: Commentary: Rain, Sun, Soil, and Sweat: A Consideration of Population Limits on Rapa Nui (Easter Island) before European Contact** *FRONTIERS IN ECOLOGY AND EVOLUTION*
  Puleston, C. O., Ladefoged, T. N., Haoa, S., Chadwick, O. A., Vitousek, P. M., Stevenson, C. M.
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- **Plant acclimation to long-term high nitrogen deposition in an N-rich tropical forest** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Lu, X., Vitousek, P. M., Mao, Q., Gilliam, F. S., Luo, Y., Zhou, G., Zou, X., Bai, E., Scanlon, T. M., Hou, E., Mo, J.
  2018; 115 (20): 5187–92
- **Soil nutrients and pre-European contact agriculture in the leeward Kohala field system, Island of Hawai"i** *ARCHAEOLOGY IN OCEANIA*
  Ladefoged, T. N., Preston, A., Vitousek, P. M., Chadwick, O. A., Stein, J., Graves, M. W., Lincoln, N.
  2018; 53 (1): 28–40
- **Convergence and contrast in the community structure of Bacteria, Fungi and Archaea along a tropical elevation-climate gradient.** *FEMS microbiology ecology*
  Peay, K. G., von Sperber, C., Cardarelli, E., Toju, H., Francis, C. A., Chadwick, O. A., Vitousek, P. M.
  2017; 93 (5)
- **Controls of nitrogen cycling evaluated along a well-characterized climate gradient.** *Ecology*
  von Sperber, C., Chadwick, O. A., Casciotti, K. L., Peay, K. G., Francis, C. A., Kim, A. E., Vitousek, P. M.
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- **Parent material and pedogenic thresholds: observations and a simple model** *BIOGEOCHEMISTRY*
  Vitousek, P., Dixon, J. L., Chadwick, O. A.
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- **Climate-driven thresholds for chemical weathering in postglacial soils of New Zealand** *JOURNAL OF GEOPHYSICAL RESEARCH-EARTH SURFACE*
  Dixon, J. L., Chadwick, O. A., Vitousek, P. M.
  2016; 121 (9): 1619-1634
- **The soil and plant biogeochemistry sampling design for The National Ecological Observatory Network** *ECOSPHERE*

Hinckley, E. S., Bonan, G. B., Bowen, G. J., Colman, B. P., Duffy, P. A., Goodale, C. L., Houlton, B. Z., Marin-Spiotta, E., Ogle, K., Ollinger, S. V., Paul, E. A., Vitousek, P. M., Weathers, et al
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- **Evidence for a Historic Change Occurring in China.** *Environmental science & technology*
  Liu, X., Vitousek, P., Chang, Y., Zhang, W., Matson, P., Zhang, F.
  2016; 50 (2): 505-6
- **Nitrogen fixation during decomposition of sugarcane (Saccharum officinarum) is an important contribution to nutrient supply in traditional dryland agricultural systems of Hawai'i** *INTERNATIONAL JOURNAL OF AGRICULTURAL SUSTAINABILITY*
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  Liu, X., Vitousek, P., Chang, Y., Zhang, W., Matson, P., Zhang, F.
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  Qi, X., Vitousek, P. M., Liu, L.
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- **Using plant functional traits to restore Hawaiian rainforest** *JOURNAL OF APPLIED ECOLOGY*
  Ostertag, R., Warman, L., Cordell, S., Vitousek, P. M.
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- **Integrated reactive nitrogen budgets and future trends in China.** *Proceedings of the National Academy of Sciences of the United States of America*
  Gu, B., Ju, X., Chang, J., Ge, Y., Vitousek, P. M.
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- **Provincial food security in China: a quantitative risk assessment based on local food supply and demand trends** *FOOD SECURITY*
  Qi, X., Vitousek, P. M., Liu, L.
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- **Long-Term Effects of Compost and Cover Crops on Soil Phosphorus in Two California Agroecosystems** *SOIL SCIENCE SOCIETY OF AMERICA JOURNAL*
  Maltais-Landry, G., Scow, K., Brennan, E., Vitousek, P.
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- **Variation in Rapa Nui (Easter Island) land use indicates production and population peaks prior to European contact** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Stevenson, C. M., Puleston, C. O., Vitousek, P. M., Chadwick, O. A., Haoa, S., Ladefoged, T. N.
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  Vitousek, P. M.
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- **Vegetation Effects on Soil Organic Matter Chemistry of Aggregate Fractions in a Hawaiian Forest** *ECOSYSTEMS*
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