

Community Resources

Some of the many data resources available to those who want to learn more phosphorus in various contexts are listed below. If you would like to suggest other resources, please [contact us](#).

Agriculture

A Nutrient Use Information System (NuGIS) for the U.S. International Plant and Nutrition Institute. (2012). Norcross, GA. January 12, 2012. Includes information about phosphorus use and recovery at state- and county-levels across the US. Free account required. <http://nugis.ipni.net/About%20NuGIS/>

SERA-17 publications. The information exchange group, Southern Extension and Research Activity (SERA) – 17, provides a library of publications that touch on issues including: methods of sampling and analysis for phosphorus in soils, sediments and manures; best management practices for phosphorus use; and phosphorus indexing. <https://sera17.org/publications/>

2017 Census of Agriculture from USDA. Provides a complete count of US farms and ranches along with a wealth of data on nutrient applications, manure generation, and other topics. The website provides data navigation tools as well. <https://www.nass.usda.gov/AgCensus/>

Best Management Practices to Minimize Agricultural Phosphorus Impacts on Water Quality from USDA. July 2006. <https://www.ars.usda.gov/is/np/BestMgmtPractices/Best%20Management%20Practices.pdf>

CropScape and Cropland Data Layer from the USDA National Agricultural Statistics Service. (2018). Provides current and historical acreage data for major US commodities. https://www.nass.usda.gov/Research_and_Science/Cropland/SARS1a.php.

SSURGO Database from USDA. Contains a century's worth of soil data for the US and its territories. https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/?cid=nrcs142p2_053627

STATSGO2 Database from USDA. Contains an inventory of soil and land use data across the US and its territories. https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/geo/?cid=nrcs142p2_053629

CTIC (Conservation Technology Information Center). Provides information about farm conservation practices across the US. <https://www.ctic.org/>

Pollution/Water Quality

Western Lake Erie Basin Nutrient Source Inventory. Inventory and mapping tool that identifies causes of impairment and potential pollutant sources that need to be controlled to achieve desired nutrient load reductions.

<http://lceo.maps.arcgis.com/apps/webappviewer/index.html?id=00025229b609423dad7e055678dac6e5>

National Aquatic Resources Surveys from US EPA . Surveys phosphorus pollution across US waters, including those found within the National Coastal Condition Assessment (2010), the National Lakes Assessment (2012), the National Rivers and Streams Assessment (2008-9), and the National Wetlands Condition Assessment (2011). All available at <https://www.epa.gov/national-aquatic-resource-surveys>.

Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, 2017 Report to Congress.
<https://www.epa.gov/ms-htf/hypoxia-task-force-reports-congress>

Nitrogen and Phosphorus Pollution Data Downloads from U.S. Environmental Protection Agency, Office of Water. These include valuable datasets such as N/P values for US lakes and streams, lists of facilities likely to discharge N/P to water, permitting data for concentrated animal feeding operations, lists of waters listed for N/P impairments and with set total maximum daily loads (TMDLs), and sources of drinking water. <https://gispub2.epa.gov/NPDAT/DataDownloads.html>

Water Quality Portal from the National Water Quality Monitoring Council. Includes water-quality data collected by over 400 state, federal, tribal, and local agencies in the US.
<https://www.waterqualitydata.us/>

Regulations

A Compendium of Regulated Concentrated Animal Feeding Operation (CAFO) Manure Land Application Regulations. Rauh E, Scholz M, Muenich R. (2019). <http://bit.ly/manurecomp>.

A Compendium of Biosolids Land Application Regulations. Rauh E, Scholz M, Muenich R. (2019).
<http://bit.ly/biosolidscomp>.

NPDES CAFO Regulations Implementation Status Report-National Summary from U.S. Environmental Protection Agency. (2017). Available as of March 2019 at: <https://www.epa.gov/npdes/npdes-cafo-regulations-implementation-status-reports>

ECHO (Enforcement and Compliance History Online) from US EPA. Permits users to search for facilities in the US and assess their compliance with environmental regulations. <https://echo.epa.gov/>

Stocks and Flows

County, subregional and regional phosphorus data derived from the net anthropogenic nitrogen/phosphorus inputs (NANI/NAPI) toolbox from Swaney, D. and Howarth, R. (2019) Data in Brief vol. 25. Aug.
<https://www.sciencedirect.com/science/article/pii/S2352340919306195?via%3Dihub>

Phosphorus use-efficiency of agriculture and food system in the US. Suh, S. & Yee, S. *Chemosphere* **84**, 806–813 (2011).
<https://linkinghub.elsevier.com/retrieve/pii/S0045653511000798>

Annual Mineral Commodities Summaries (including phosphorus) from the US Geological Survey.
<https://www.usgs.gov/centers/nmic/mineral-commodity-summaries>

County-level estimates of nutrient inputs to the land surface of the conterminous United States, 1982–2001 from Ruddy, B.C., D.L. Lorenz, and D.K. Mueller (2006). : U.S. Geological Survey Scientific Investigations Report 2006-5012. <https://pubs.er.usgs.gov/publication/sir20065012>

County-level estimates of nitrogen and phosphorus from animal manure for the conterminous United States, 2007 and 2012 from Gronberg JM, Arnold TL. (2017). U.S. Geological Survey Open-File Report 2017–1021, 6 p., <https://doi.org/10.3133/ofr20171021>.

County-Level Estimates of Nitrogen and Phosphorus from Commercial Fertilizer for the Conterminous United States, 1987-2012 from Brakebill JW Gronberg JM. (2017). U.S. Geological Survey data release, <https://doi.org/10.5066/F7H41PKX>.

Waste Treatment and Recycling

Guidelines and Permitting for Livestock Anaerobic Digesters from US EPA's AgSTAR program. Includes resources for designing and operating AD systems, codigestion materials, permitting information, and guidelines for connecting AD to the electrical grid: <https://www.epa.gov/agstar/guidelines-and-permitting-livestock-anaerobic-digesters>

Newtrient Technology Catalog. Provides a 9-point scoring system for evaluating nutrient management technologies for dairy farmers. <https://www.newtrient.com/catalog/technology-catalog>

Survey of anaerobic digestion facilities processing food waste from US Environmental Protection Agency.
<https://www.epa.gov/anaerobic-digestion/anaerobic-digestion-facilities-processing-food-waste-united-states-survey>

List of phosphorus recovery from the wastewater stream facilities 2017 by P-REX (www.p-rex.eu, contact Christian Kabbe)
https://www.phosphorusplatform.eu/images/download/Kabbe_Tech_implementation-Table_20170208.pdf

Excess Food Opportunities Map from the US Environmental Protection Agency. 1.2 million excess-food generating establishments are mapped. <https://www.epa.gov/sustainable-management-food/excess-food-opportunities-map>