PAONESTOP.org
Nutrient Management Planning Mapping Module

PENNSTATE College of Agricultural Sciences Cooperative Extension Department of Crop & Soil Sciences

Use PAONESTOP to quickly generate farm planning and management maps. Update maps as needed easily through a secure online interface

What is PAONESTOP?
The Nutrient Management Mapping Module

PAONESTOP provides online tools to help farmers meet regulatory requirements for Conservation and Nutrient Management Planning. Development of PAONESTOP is ongoing and will be released to the public incrementally.

The first module of PAONESTOP is a Nutrient Management Mapping Module. This module provides a tool to extract data and generate high-quality maps that are required for completion of Nutrient Balance Sheets and Nutrient Management Plans. This module is available for use at www.paonestop.org.

The second module within PAONESTOP, and currently under development, will provide tools to assist farmers in developing Conservation Plans to meet regulatory requirements, reduce soil loss, and protect the water quality.

Why Do We Need PAONESTOP Mapping?

- There is a clear need for a simple tool for farmers to create farm planning maps easily and inexpensively; the PAONESTOP Nutrient Management Planning Mapping Module provides this tool through a simple, online interface.
- PA Nutrient Management regulations require that farmers develop Nutrient Management Plans and complete Nutrient Balance Sheets for manure transfers to protect water quality.
- PA State Conservation Commission estimates that more than 50,000 nutrient balance sheets are completed annually in Pennsylvania.
- Methods to develop Nutrient Management Plans and Balance Sheets are available to farmers but require farm planning maps as part of the process. Maps can be a challenge to produce and are expected to contain features such as field boundaries, acreages, stream and water features, wells, sinkholes, application setbacks and buffers, soils, aerial images and more.

Benefits & Features

- » Generate high-quality maps on aerial imagery.
- » No specialized software needed.
- » Farm information can be saved online for future edits and usage.
- » Farm only needs to be drawn once.
- » Field acreages automatically calculated.
- » Helps meet regulatory requirements designed to protect PA water resources.
- » Easy production of high-quality farm maps.
- » Air photo and topographic imagery provided.
- » Digital or hardcopy maps produced.
- » Individual farm information secured.
- » Extract NRCS soils data for individual fields.

NRCS

RGIS Rural Geospatial Innovations

SCC

Using PAOneStop Is Easy!

Who Can Access Farm Information

PAOneStop is maintained by Penn State University Cooperative Extension and information related to any individual farm will not be shared with or distributed to any other organization without permission of the individual farmer.

Use PAOneStop to quickly generate farm planning & management maps. Update maps easily through a secure online interface

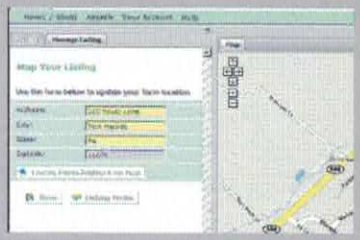
Who is Developing PAOneStop?

PAOneStop is being developed by Penn State Cooperative Extension in collaboration with and support from:

- PA State Conservation Commission
- PA Department of Agriculture
- PA Department of Environmental Protection
- USDA Natural Resources Conservation Services
- Chesapeake Bay Foundation
- National Consortium for Rural Geospatial Innovations in America

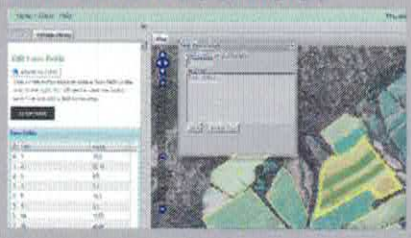
6 Easy Steps ...

1. Create Login



- Login to PAOneStop.org and establish an account with username and password.
- Locate farm using address and Google maps
- Develop maps for as many farms as you wish!

2. Locate Farm, 3. Draw & Label Fields

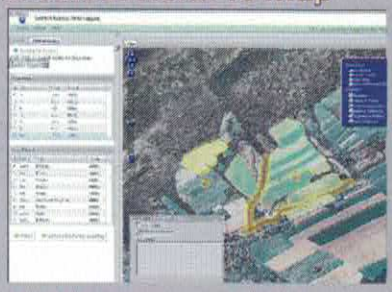


- Outline field boundaries, assign field identification number
- Describe fields
- Calculate acreages automatically
- Edit, add or delete fields as needed
- Aerial photography provided for your farm.

4. Draw Farm Features

- Draw other farm features needed for map (water wells, sinkholes, streams, manure staging areas).
- Generate manure setback areas & stream buffers.

5. Select Fields to Map



- Select features to appear on map. Only impacted fields need to be mapped.
- Hide any field or feature not needed for map. Select map background (aerial photograph or topography).

6. Create Digital or Hard Copy Maps

- Generate maps that are acceptable for PA Nutrient Balance Sheet submission
- Save maps and data securely online for future reference & mapping.
- Only need to draw fields and farm features once - all data are saved in a secure database that you can access at any time using your login.

PAOneStop

Penn State Cooperative Extension, Geospatial Technology Program
Visit us online! http://lal.cas.psu.edu
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www.paonestop.org

PAONESTOP.org

Farm Mapping and Planning System

PENNSTATE College of Agricultural Sciences Cooperative Extension Ecosystem Science & Management

What is PA*OneStop*?

PA*OneStop* provides online tools to help farmers meet regulatory requirements for Conservation, Nutrient and Manure Management Planning. Development of PA*OneStop* is ongoing and will be released to the public incrementally.

The first module of PA*OneStop* is a Farm Mapping Module. This module provides a tool to extract data and generate high-quality maps that are required for completion of Nutrient Balance Sheets and Nutrient Management, Erosion and Sediment Control (E&S) and Manure Management Plans. This module is available for use at www.paonestop.org.

Other modules, currently under development, within PA*OneStop*, will provide tools to assist farmers in developing E&S and Manure Management Plans to meet regulatory requirements, minimize soil loss and protect the water quality.

What is Ag E&S Planning?

DEP Chapter 102 regulations require written agricultural erosion and sedimentation control plans (Ag E&S) for all "agricultural plowing and tilling activities" greater than 5,000 square feet that must:

- limit soil loss from accelerated erosion to the soil loss tolerance (T) over the planned crop rotation
- contain additional BMPs for fields within 100 feet of river or perennial or intermittent stream and less than 25% plant or residue cover
- contain plan maps that show the location of features including surface waters of this Commonwealth, and drainage patterns, field and property boundaries, buildings and farm structures, animal heavy use areas, roads and crossroads, and BMPs; soils maps; and a description of BMPs including animal heavy use area practices and procedures, tillage systems, schedules, and crop rotations
- contain an implementation schedule
- be available for review and inspection at the agricultural operation

PA*OneStop* provides a free, easy to use, online tool to develop Ag E&S plans.

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PA*OneStop*

Penn State Cooperative Extension, Geospatial Technology Program Contact: Rick Day rday@psu.edu * toll free phone: 877.222.4724

PA ONESTOP SCC NRCS

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Farm Mapping and Planning System

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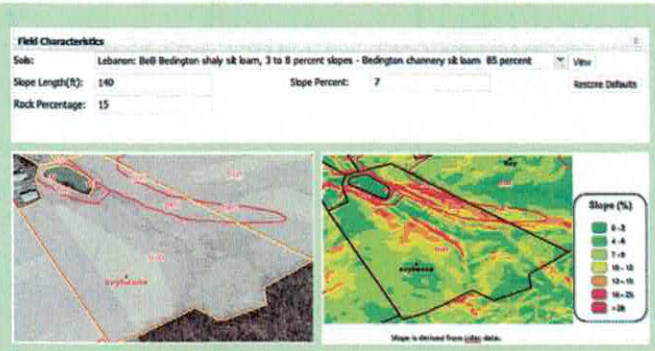
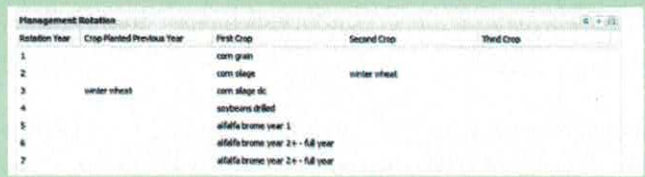


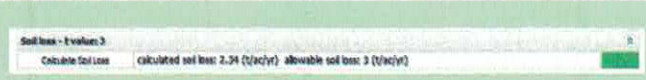
- The most representative soil within a field is used to calculate soil loss
- Slope and topographic characteristics are determined from LiDAR data for each field

Soil and topographic information is determined automatically by PaOneStop but users can change default values if necessary.

Conservation BMPs may be selected for each field including contouring, strip cropping, buffer strips, contour strips, diversions, and terraces.



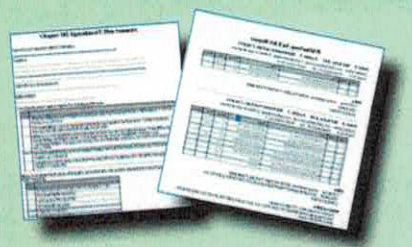
Multi-year crops rotations are easily entered with up to 3 crops planted per year. Soil loss is calculated for the entire crop rotation using long-term climatic data.



Based on user inputs, soil loss is calculated for each field using the RUSLE2 model , which is also used by NRCS for Conservation Planning.

- Calculated soil loss is compared to the NRCS "tolerable soil loss" value (T) for the field.
- If soil loss is acceptable, no changes in management are necessary.
- If soil loss is too high, PaOneStop can be used to evaluate the effects of changes in management practices on soil loss and to develop alternative management practices.
- Once acceptable soil losses are determined for all fields, an AgE&S Plan may be printed and saved within PaOneStop.

Alternative management scenarios can be created to help evaluate effects of management changes on soil loss. Once an acceptable management is chosen, it can be selected for use in the Ag E&S Plan for that field.



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