

United States
Department of
Agriculture

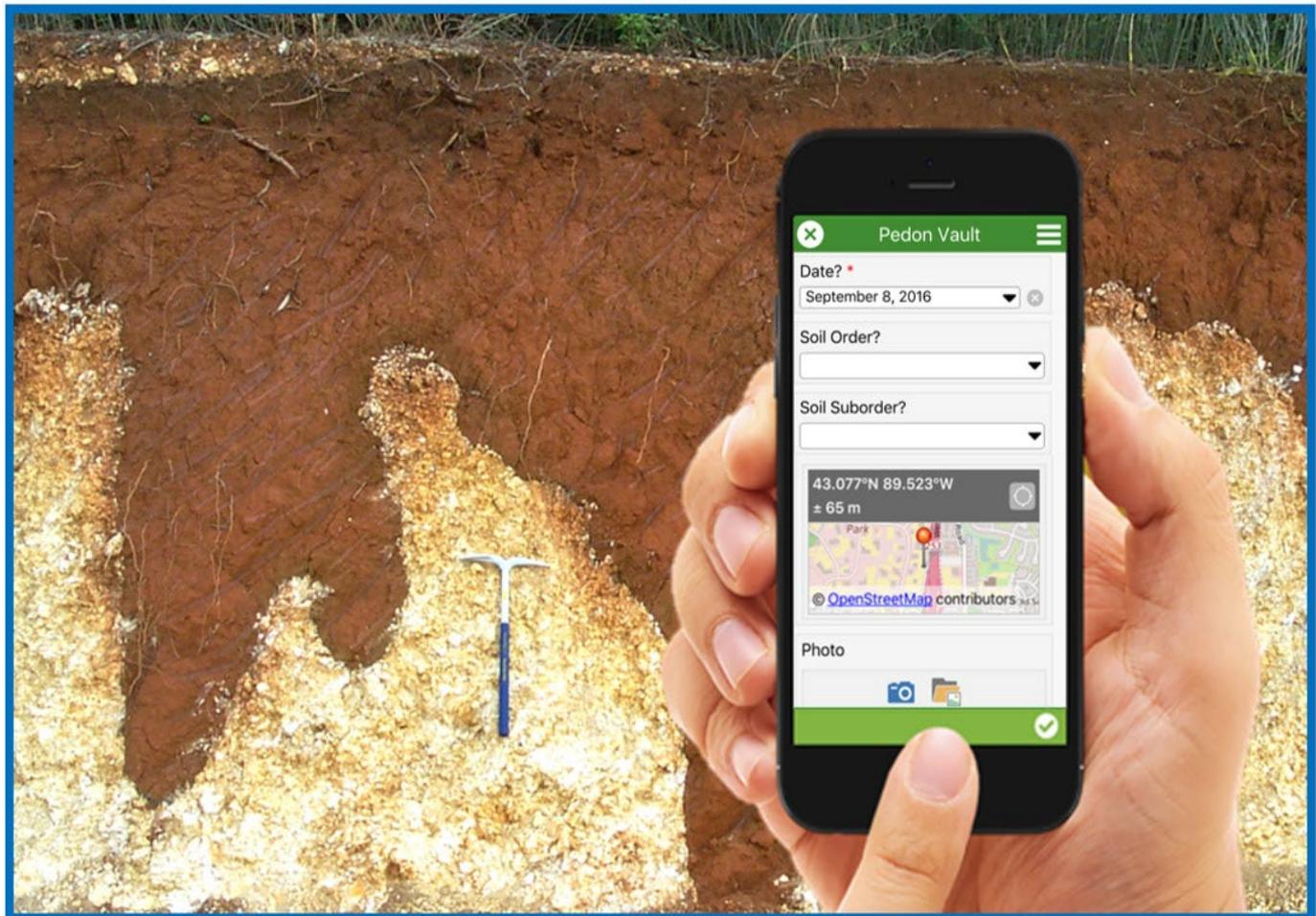
Natural
Resources
Conservation
Service

October 2016

ESRI Survey123 Mobile App

Pedon Vault

Soil Photos Data Collection



Background

Survey123 is a phone app that allows users to collaborate on data collection. The app is available to organizations with ArcGIS Online accounts. NRCS employees and university employees should contact their ESRI ArcGIS administrator for information on how to open an account.

Data collection is facilitated by sets of forms referred to as “surveys.” USDA–NRCS has created a survey named “Pedon Vault” to collect data on soil exposures. The intent of Pedon Vault is to gather, maintain, and distribute information on good exposures of soil profiles. The information collected by Pedon Vault is populated to a national database. Users of the data may include educators, universities classes, scientists, and soil judging teams.

An ArcGIS Online account is required to enter or view data. Eventually, however, ArcGIS online should be available to the general public. At such a time, the app will be great step toward involving citizen scientists with the national soils program.

Getting Started

Requirements

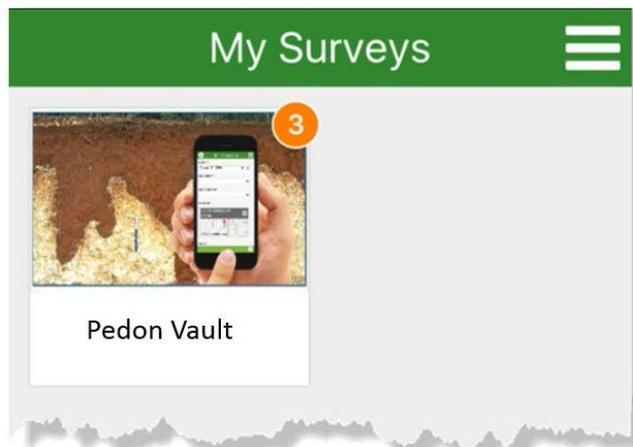
- ArcGIS Online Account
- Survey123 App for Android or Apple

Steps

If you are new to ArcGIS Online, request an account through your organization’s ESRI ArcGIS administrator.

1. Go to maps.arcgis.com and sign in.
2. Search for “Pedon Vault” or visit this [Link](#).
3. Request access to the Pedon Vault group.
4. Download Survey123 using the Apple App Store or Google Play
5. Login using your ESRI Account, and Pedon Vault will appear.

My Surveys



My Surveys page showing the Pedon Vault survey.

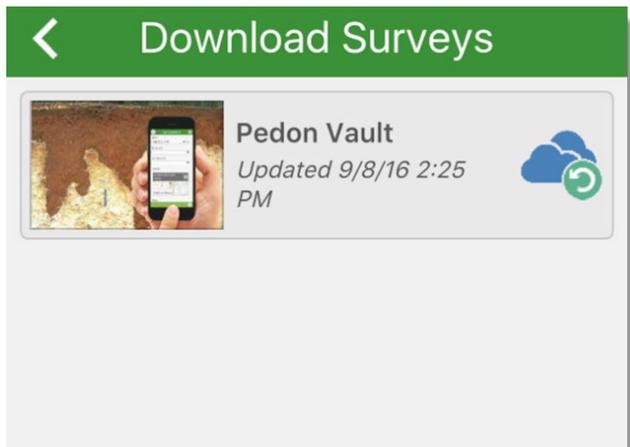
If you are a member of the Pedon Vault group, then the Pedon Vault survey will download automatically. The app will open to the starting page shown above. This is the table of contents for all of your currently installed surveys. To access the menu for Pedon Vault, simply select its icon. Numbers in the corner of the icon indicate unfinished or unsent data forms. The number of unfinished draft entries is listed in an orange circle. Entries that are queued to be sent later are numbered in a green circle.

Tap **Menu**  in the top-right to access the **Download Surveys** page, to sign in with your ArcGIS organization account, or to view settings. This menu will be available even if you have not yet downloaded Pedon Vault or other surveys.



QR code for website to join Pedon Vault group.

Download Surveys



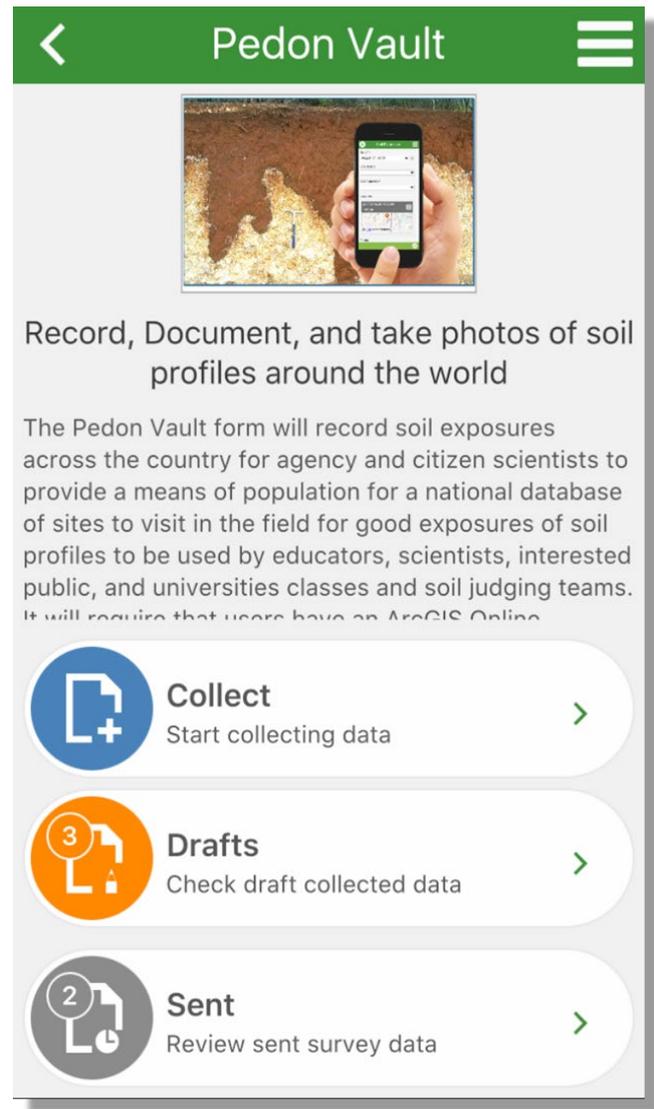
Download Surveys page showing the Pedon Vault survey being refreshed.

On the Download Surveys page, you can browse all surveys currently available to your account, listed alphabetically. In the picture above, Pedon Vault is the only survey downloaded and it is being refreshed . If you have not yet downloaded Pedon Vault, a **Download** icon will be visible.

To download Pedon Vault or another new survey, tap either the **Download** icon or the survey's name. Choosing the **Refresh** icon replaces the locally-saved survey with the latest update. You can also open an already-downloaded survey directly from this page by tapping the survey's name.

Tap **Pedon Vault**.

Survey Contents

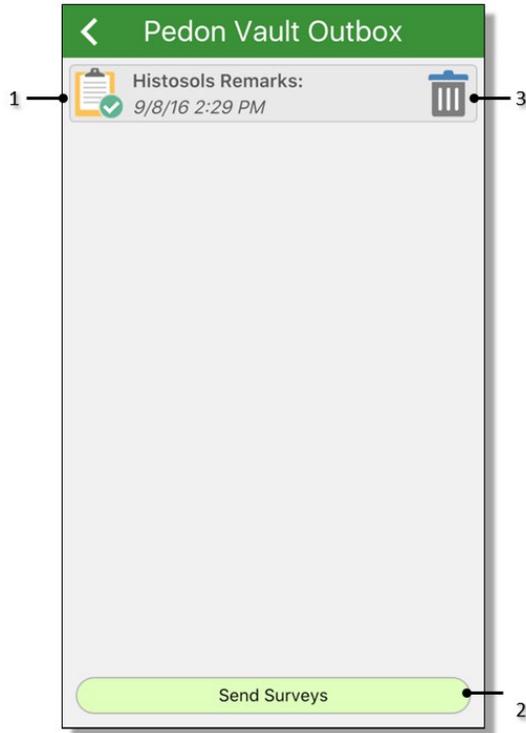


Pedon Vault page showing the Collect, Drafts, and Sent buttons.

The Pedon Vault page pictured above is opened by tapping Pedon Vault on the previous **My Surveys** page. From this page, you can start collecting new data or can access previously collected information.

- **Collect** opens a new, blank input page for data.
- **Drafts** opens any currently uncompleted forms. Drafts are created by closing the survey before sending it.
- **Sent** contains the records of all forms submitted to the database (unless you selected **Empty Sent Survey**).

- **Outbox** will appear if you have any forms that are finished, yet unsent. Unsent forms can be created either by choice or because your device was offline when you submitted. Tapping this button gives you a list of those forms.



Pedon Vault Outbox page showing a form that is finished but unsent.

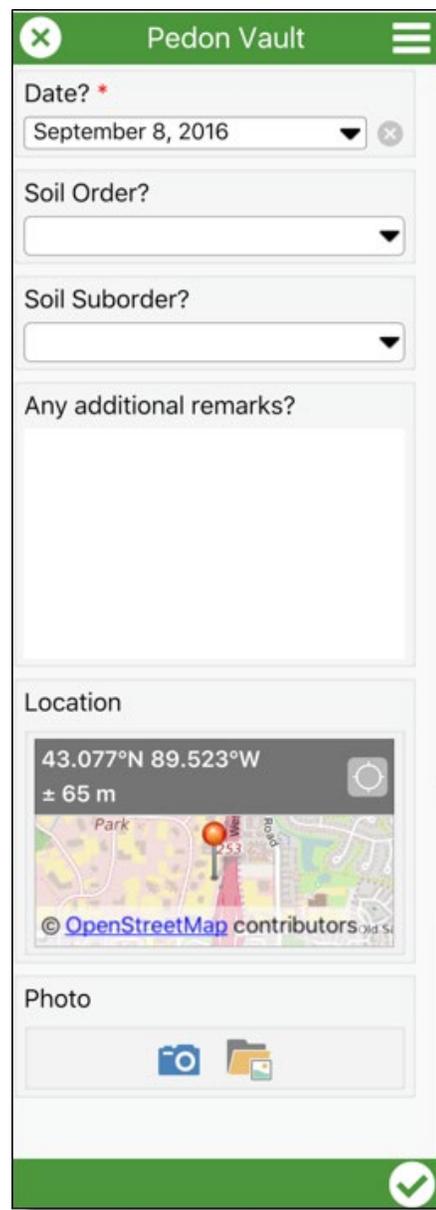
The Menu  contains an option to delete the Pedon Vault from your device. It also contains an option to download an associated basemap. (The download basemap option is available only if a basemap is associated with the survey).

All of the pages in **Drafts**, **Outbox**, and **Sent** have similar layouts and standardized buttons and functions.

Pictured below is the **Outbox** page. Note that all three pages look and behave similarly.

1. On the **Draft** and **Outbox** pages, tapping the field for a form re-opens it. On the **Sent** page, this opens a copy of the form and its answers. The text in this field defaults to the raw data of the survey. To replace the text, see [instance names](#).

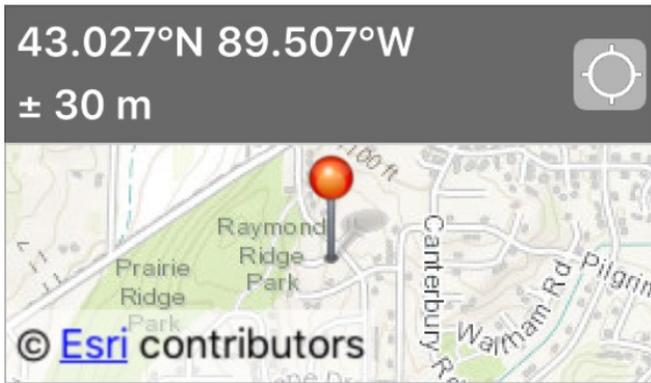
2. On the **Outbox** page, tapping the **Send Surveys** button submits all forms currently listed in the **Outbox**. On the **Sent** page, this button is replaced with an **Empty Sent Surveys** button, which clears the listing of all sent forms. It does not delete the surveys from their destination. The **Drafts** page does not have a corresponding button.
3. Tapping the **Delete**  button deletes the form from the device. This button is not present on the **Sent** page.



Full view of the Pedon Vault form.

Geopoint Questions

The forms include questions about location. These questions can be answered through two types of presentation. Initially, the requests for location are presented on a location panel in the form itself. When you tap the location panel, it expands to a full screen map that has additional functions for location. You can capture a point on either the location panel or full screen map.

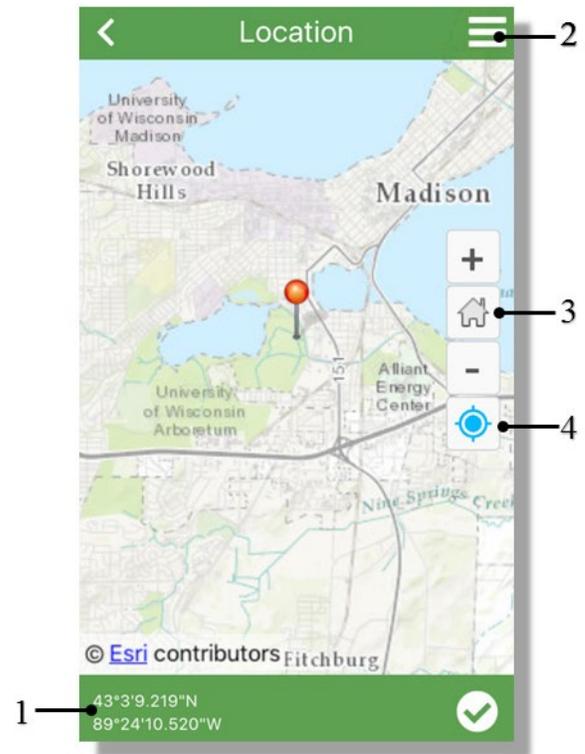


Location panel.

The **Location Averaging**  button at the top-right of the location panel captures an average of locations rather than a single result if you tap and hold it. To stop the averaging, tap the button again. For more information, refer to [locations and geopoints](#).

When you tap the location panel, it expands to a full screen map.

1. The latitude and longitude of your current location are listed as shown in the picture above. Tapping the area converts the values into editable fields, allowing you to declare a different location.
2. The **Menu**  provides any directly associated basemaps. It also provides a number of basemaps



Full screen map.

as alternatives to the default. The alternatives are available for a range of purposes.

3. **Home**  returns the map marker to the home location designated by the survey creator. If no home location was designated, the button returns the marker to your location.
4. **Location**  starts black, indicating the location sensor is disabled. Tap the button to swap to **Navigation**  mode, enabling Location and tracking the current location of the device. Moving the map marker, either directly on the map or by changing the coordinates, changes the location and coordinates. The location of the device remains visible as a pulsing blue dot while doing so. If you move the marker, the button switches to the **Active Location**  icon. Tap it to return to **Navigation** .

Settings

Settings are accessed from the **Menu**  on the apps initial page. They contain a number of options and choices to customize Survey123 to your preference.

Text Settings

The slider in the **Text** tab allows you to alter the scale of text within the app by up to 200% of the default. The text preview updates in real time to display the currently selected scale.

Map Settings

You can designate the Map Library Folder, which is the location from which the app pulls offline basemaps. The Map Library can be accessed within the app through **Menu**  in the **Settings** pages.

Viewing Online

Online maps are available at [Map Viewer](#). The map viewer allows you to view, edit, query, or analyze all Pedon Vault

locations in real time. It also allows you to export data to CSV files.

Acknowledgements

These directions are adapted from *Survey123 for ArcGIS*.

Concept by David Hoover, National Leader for Soil Business Systems, National Soil Survey Center, USDA-NRCS (David.Hoover@lin.usda.gov).

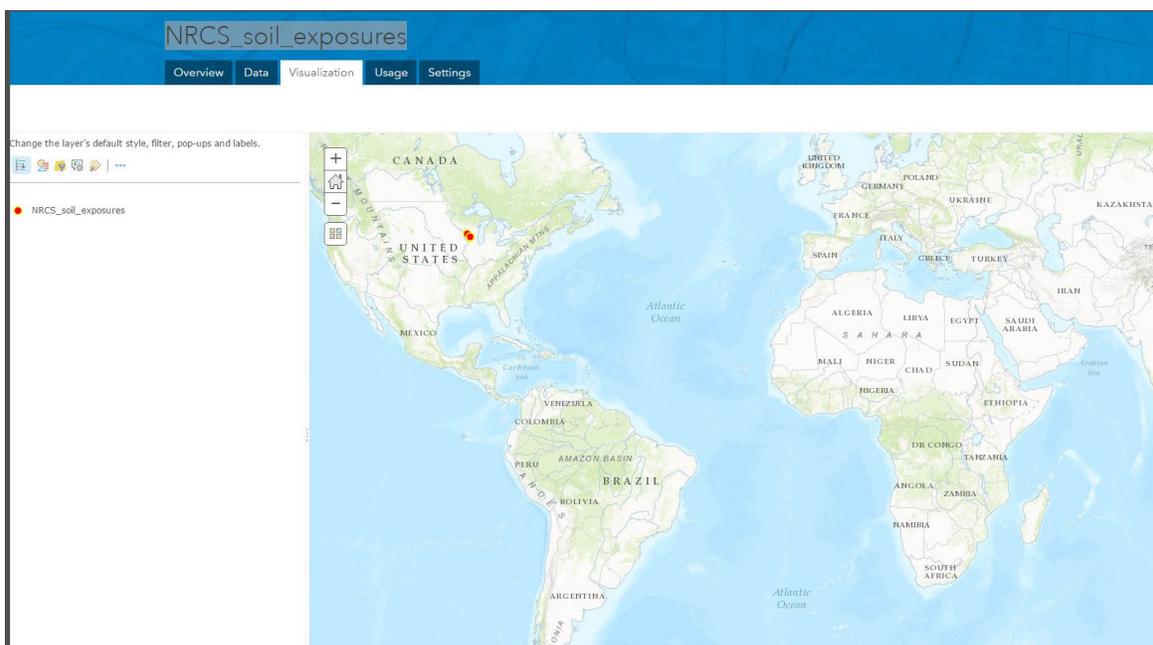
Development by Jason Nemecek, State Soil Scientist, Wisconsin, USDA-NRCS (Jason.Nemecek@wi.usda.gov).

Collaboration by The World!

References

Survey123 for ArcGIS. (n.d.). <https://doc.arcgis.com/en/survey123/> (accessed 7 September 2016).

Robert Gavenda Ph.D. (Photographer). 2010. Guam.



NRCS soil exposures are viewable online.