



Standard Operating Procedure 2.3.06

Coastal Wetland Elevation Monitoring Database User Manual and Technical Documentation—Version 2.0

Please cite this as:

Wright, W., K. Montenegro, A. Kozlowski, J. Patterson, and M. Prats. 2023. Coastal Wetland Elevation Database User Manual and Technical Documentation—Version 2.0. Southeast Coast Network Standard Operating Procedure NPS/SECN/SOP—2.3.06. National Park Service Inventory and Monitoring Division. Fort Collins, Colorado.

Summary

This Standard Operating Procedure has been adapted from Montenegro et al (2021). The following standard operating procedure (SOP) outlines the procedures involved in entering rod surface elevation table data. All wetland elevation monitoring data are stored in the multi-network surface elevation table data management system managed and maintained by the National Park Service (NPS). The data management system is utilized by five NPS Inventory and Monitoring Networks along the Atlantic seaboard: the Northeast Coastal and Barrier Network (NCBN), the National Capital Region Network (NCRN), the Northeast Temperate Network (NETN), the Southeast Coast Network (SECN), and the South Florida/Caribbean Network (SFCN). The data system encompasses data from twenty national park units. It is the responsibility of the network data managers and wetland elevation protocol leads and staff to be thoroughly familiar with the standards and procedures within the protocol and companion SOPs, and ensure this SOP is updated to reflect any substantial changes made to that plan. All proposed changes to this SOP must be routed through the appropriate data managers for approval.

Revision Log

Revision Date	Author	Changes Made	Reason for Change	New Version #
April 2023	Wright, Kozlowski	Updated to include new database features and technical documentation	New database system	2.0

Contents

	Page
Overview.....	5
Technical Documentation	5
Accessing the Database	5
User Roles	6
Production Database.....	7
Development Database.....	7
Procedures.....	8
Network Selection	8
Adding New Data	8
Entering Sampling Data	9
Entering SET Data.....	10
Entering Deviation Information	13
Entering Marker Horizon Data.....	14
Uploading Images.....	15
Validation	15
Validating SET Data.....	15
Validating Marker Horizon Data.....	17
Data Processing Levels.....	17
Review/Editing Existing Data	18
Manage Lookup Information	20
Manage Equipment Lookup Information	20
Manage SET Instruments	20
Manage Pin Collections and Pins.....	20
Manage Stations and Benchmarks.....	25
Manage Users and Staff.....	27
Manage Users	28

Manage Staff	29
Application Maintenance and Development.....	29
Data Exports.....	29
Literature Cited	30

Overview

The Surface Elevation Table database system consists of a SQL Server backend database and a Microsoft .NET web interface running on a Microsoft IIS web server. The entire system resides within the Integrated Resource Management Applications (IRMA) portal.

This current surface elevation table (SET) database was facilitated by WASO IMD and contractors and developed cooperatively between the Northeast Coastal and Barrier Network (NCBN), National Capital Region Network (NCRN), Northeast Temperate Network (NETN), Southeast Coastal Network (SECN), and the South Florida Caribbean Inventory and Monitoring Network (SFCN). Collected data are stored within the online NPS SET application website by logging sampling events and recording information from the field data sheets to the sampling event tables created.

Technical Documentation

The following sections provide information on accessing and troubleshooting the database front-end (user interface; UI).

Accessing the Database

The Surface Elevation Table (SET) database is accessed using a web-browser (currently supported by Microsoft Edge and Google Chrome) at the following address: <https://irma.nps.gov/SET/>

If you are an authorized user and connected to the DOI network, upon entering the database you will see a 'Welcome' page instructing you to select a network for which you would like to add or manage SET data.

If you are not an authorized user, attempts to enter the database will result in the user being redirected to the IRMA partner access registry and authorization service webpage. Complete the following steps to provide unauthorized users with login access to the SET database.

Steps to be completed by the unauthorized user:

1. Complete the required DOI Information Management and Technology (IMT) Awareness Training available at the following address: <https://www.doi.gov/doitalent/training-download>. Upon completion of the training, you will be prompted to print a completion certificate. This printed certificate must be sent to one of the database administrators or project managers (e.g., participating I&M network Data Managers) prior to being granted access to the database.
2. Upon completion of IMT training, unauthorized users can create a new external account using the IRMA Partner Access site at the following address: <https://irma.nps.gov/PartnerSTS/Account/Create>.

Steps to be completed by staff with a SET Database Administrator or Project Manager role (see User Roles section below):

3. File the IMT training certificate in the SET Team → SET DB channel → [IMT Training Certificates folder](#).
4. Add the new user's account using the SET database user interface.
 - a. While connected to the network, access the [SET database](#).
 - b. Select the network to which you wish to add the new user.
 - c. Project Manager tab → Manage Users.
 - d. Scroll down to the 'Unassigned Partner's section and click the Show inactive 'Unassigned Partners Users' checkbox.
 - e. Click the 'Edit User' (pencil icon) to left of the username you wish to activate.
 - f. In the 'Edit User' popup, provide the user with a Role (see section below for an explanation of the roles) and check the 'Active' box.
 - g. Save.

User Roles

The available roles are:

- **Administrator**—An Administrator has access to update lookup table values and manages other administrator permissions. Administrators also have all permissions granted to Project Managers and Data Contributors.
- **Project Manager**—A Project Manager can add or modify Stations and Sites (including Marker Horizons), add or modify SET staff (users who may not be NPS personnel (i.e., partner users), assign or unassign partner users, add or modify pins and pin collections, and add or modify SET instrument lookup table values. Unused marker horizons, unused pin collections, and station visits can be deleted. Project Managers also have all permissions granted to Data Contributors.
- **Data Contributor**—A Data Contributor can add and edit field data (pin and marker horizon data).

Network Data Managers should hold the Project Manager or Administrator role and can assist in adding new users. Care is needed to provide the appropriate access level so that lists or records are not accidentally edited or deleted. To add or edit sampling event data, users only require Data Contributor status.

Permissions by role are detailed in Table 1.

Table 1. Permissions by user role for the SET user interface.

Action	Data Contributor	Project Manager	Administrator
Manage Staff	No	Yes	Yes, for all networks
Manage Sites/Stations	Yes, for their network	Yes, for their network	Yes, for all networks
Add or delete raw field data	Yes, for their network	Yes, for their network	Yes, for all networks
Set Raw data to Provisional	Yes, for their network	Yes, for their network	Yes, for all networks
Edit Provisional Data	Yes, for their network	Yes, for their network	Yes, for all networks
Delete Provisional Data	No	Yes, for their network	Yes, for all networks
Set Provisional to Accepted/Pre-Certified/Certified	No	Yes, for their network	Yes, for all networks
Edit Accepted/Pre-Certified/Certified Data	No	Yes, for their network	Yes, for all networks
Edit Lookup Tables	No	No	Yes, for all networks
Manage Data Contributors	No	Yes, for their Network	Yes, for all networks
Manage Project Managers	No	Yes, for their Network	Yes, for all networks
Manage Bureau Data Managers	No	No	Yes, for all networks

Production Database

To access the production version of the database, open the following link: <https://irma.nps.gov/SET/>. Login should be automatic for users with a Personal Identity Verification (PIV) card and who have been granted access to the application. Data entry, event-level quality assurance (QA), quality control (QC), and data browsing of the final data are done through this website.

Development Database

A separate beta/development database can be accessed at: <https://irmadev.nps.gov/SET/>. This database is where testing occurs, both to train users as well as to check updated features before they are released to the production environment. Login should be automatic for users with a Personal Identity Verification (PIV) card and who have been granted access to the application. Note that the production and development environment have separate user lists, so it is possible to have access to only one. The data on the development database is only for testing purposes and is periodically replaced with the latest copy from the production database.

Procedures

Database usage starts by creating the sites, stations/benchmarks, pins, and pin collections needed for data entry. Once site and equipment information are established, SET readings and marker horizon measurements from the field data sheets can be entered. For SET readings, a double entry can be performed to validate the data. Both SET and marker horizon readings can also be validated manually by having a second person review the entries against the original field sheets.

The following sections provide instructions for carrying out various functions within the database.

Network Selection

On the NPS SET application 'Home' page, choose the desired network from the drop-down list (Note: Only networks approved for your user role will be visible. Contact an Administrator if your desired network is not available). The label above the drop-down list indicates the currently selected network. Before proceeding, be certain that the desired network has been selected (Figure 1), as all Project Manager, Data Contributor, and Report functions will apply to the network selected on this page.

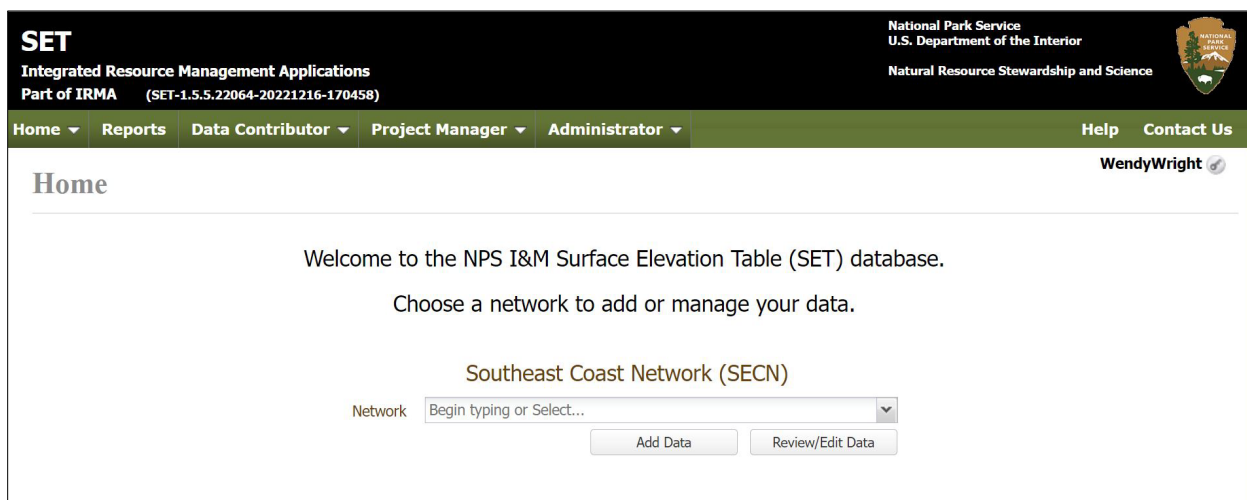


Figure 1. Application home screen displaying the currently selected network and drop-down menu used to change network selection.

Adding New Data

Once a network has been selected, click the 'Add Data' button (alternatively, click the 'Data Contributor' menu item and choose 'Add Data'). This will take you to the 'Add Data' page.

From the 'Add Data' page, review the 'Stations' list to find the row containing 'Park Name,' 'Site Name,' 'Station Name,' and 'Last Event Date' relevant to the sampling event you would like to add (Figure 2). The park and site drop-down filters at the top of the page are helpful in narrowing the choices. Keep in mind that typically (but not always) three stations/benchmarks are sampled at a site. These data entry steps will need to be repeated three times (once per station) to complete the site visit.

Add Data

Southeast Coast Network (SECN)

Park Name: Canaveral National Seashore

Site: CANA 221

Clear Filter

Stations				
	Park Name	Site Name	Station Name	Last Event Date
+	Canaveral National Seashore	CANA 221	CANA221A	11/14/2022
+	Canaveral National Seashore	CANA 221	CANA221B	11/14/2022
+	Canaveral National Seashore	CANA 221	CANA221C	11/14/2022

Figure 2. A screenshot of a webpage listing options for adding a sampling event to a station.

After locating the appropriate station that matches the sampling event's park, site, and benchmark number, click on the '+' button on the far-left side of the appropriate station's row. This will create a new sampling event for the selected station to which data can be entered (Figure 3).

Entering Sampling Data

In the 'Event Date' box, select the date that the data were collected in the field. In the 'Event Time' box, select the time closest to when the data were collected in the field. If the site was not dry during the sampling event, enter the depth of water on marsh surface in the 'Inundation Level (cm)' entry. The inundation level will truncate entries to two decimal points. If there were any additional notes on the pin data field sheet pertaining to the site, time of event, or inundation level, type them into the 'Notes' entry.

Add Data

Station: M11-1

Site: Marsh 11

Park: Assateague Island National Seashore

* Event Date: [Date Picker]

* Event Time: [Time Picker] Eastern time zone

Inundation Level (cm): 0 Depth of water on marsh surface

Notes: [Text Area]

No Marker Horizon Data: ☐

No Pin Data: ☐

Add "Double Read" Pin Data: ☐

Data Processing Level: Raw

Data Processing Level Note: [Text Area]

* indicates required field

Figure 3. The top of the Add Data page for sampling event information.

If Marker Horizons exist, but measurements were not attempted for this site, click the 'No Marker Horizon Data' checkbox. If this is checked, a required 'No Core Reason' box is shown. If Marker

Horizons were attempted, then skip this checkbox. Note that the ‘No Marker Horizon Data’ checkbox will remain hidden if there are no active marker horizons configured for the station.

If Pin data were not collected during this visit, check the ‘No Pin Data’ checkbox. When this box is checked the ‘SET Data’ data entry tab will be hidden.

If data from a second observer, SET instrument, or Pin Collection were collected check the ‘Add Double Read Pin Data’ checkbox. Checking this box will make available the ‘SET Data (Double Read)’ tab below into which these data can be entered. The ‘Double Read’ data entry form is identical to the standard ‘SET Data’ form except for the requirement to select a ‘Reason’ from the picklist.

Entering SET Data

By clicking on the ‘SET Data’ tab, SET pin data for the sampling event can be entered (Figure 4). The top half of the form contains providing context for the event. The bottom half of the form contains fields used to store pin readings and associated flags.

On the top of the ‘Set Data’ tab, from the ‘SET Reader’ box, select the name that matches the name of the SET Reader written on the field data sheet. In the ‘SET Recorder’ box, select the name that matches the name of the SET Recorder written on the field data sheet. In the ‘SET Instrument’ box, select the appropriate option for that station.

In the ‘Pin Collection’ box, select the option that corresponds to the pin collection used. Each park uses a different collection of SET measuring pins.

In the ‘Vegetation Notes’ box, type any comments that were written about the seagrass/vegetation during the sampling event. In the ‘Notes’ box, type any comments that were written in the ‘comments’ box at the end of the field data sheet.

The screenshot shows a web-based data entry form with two tabs at the top: 'SET Data' (selected) and 'Marker Horizon Data'. Below the tabs, there are four dropdown menus, each preceded by an asterisk: '* SET Reader' (with a placeholder 'Begin typing a name...'), '* SET Recorder' (with a placeholder 'Begin typing a name...'), '* SET Instrument' (with the value 'SFCN SET' selected), and '* Pin Collection' (with a placeholder 'Select pin collection...'). Below these are two text input areas: 'Vegetation Notes' and 'Notes'.

Figure 4. A screenshot of the center of the Add Data page which contains pin sampling information.

On the lower half of the ‘SET Data’ tab, input data values into the Pin Reading boxes based on their pin number and direction (Figure 5). The direction at which the SET reading was taken is at the top of each column of Pin Reading boxes.

All pin heights must be entered, unless the 'No Pin Reading' flag is selected. Zero is not a valid entry.

Pin:	Dir 2-77 (mm)	Dir 1-345 (mm)	Dir 3-260 (mm)	Dir 4-169 (mm)
1:	+	+	+	+
2:	+	+	+	+
3:	+	+	+	+
4:	+	+	+	+
5:	+	+	+	+
6:	+	+	+	+
7:	+	+	+	+
8:	+	+	+	+
9:	+	+	+	+

All 9 not read ->

All 9 not read ->

All 9 not read ->

All 9 not read ->

Notes

Notes

Notes

Notes

Figure 5. The bottom of the 'Add Data' page, which contains pin reading data and validation. Note the new option to 'Save and Reopen to Validate.'

Click the '+' button next to each Pin Reading Box to add notes or flags for a specific Pin Reading. Note that while in the 'Add Flags' dialog window, holding the control button down will allow you to make multiple flag selections (Figure 6). If there is no value for a specific pin reading, it is important that you check the 'No Pin Reading' box. Every pin reading must either have a pin value or the 'No Pin Reading' flag before the station visit can be saved. Hot tip: For entire arm directions without pin readings, you can flag all nine pins as 'Not Read' simultaneously using the 'All 9 not read → Flag' button found below each column of pin data (Figure 5).

In the 'Field Flag Notes' box, type any comments that were written in the 'comments' box of the field data sheet for that specific Pin Reading.

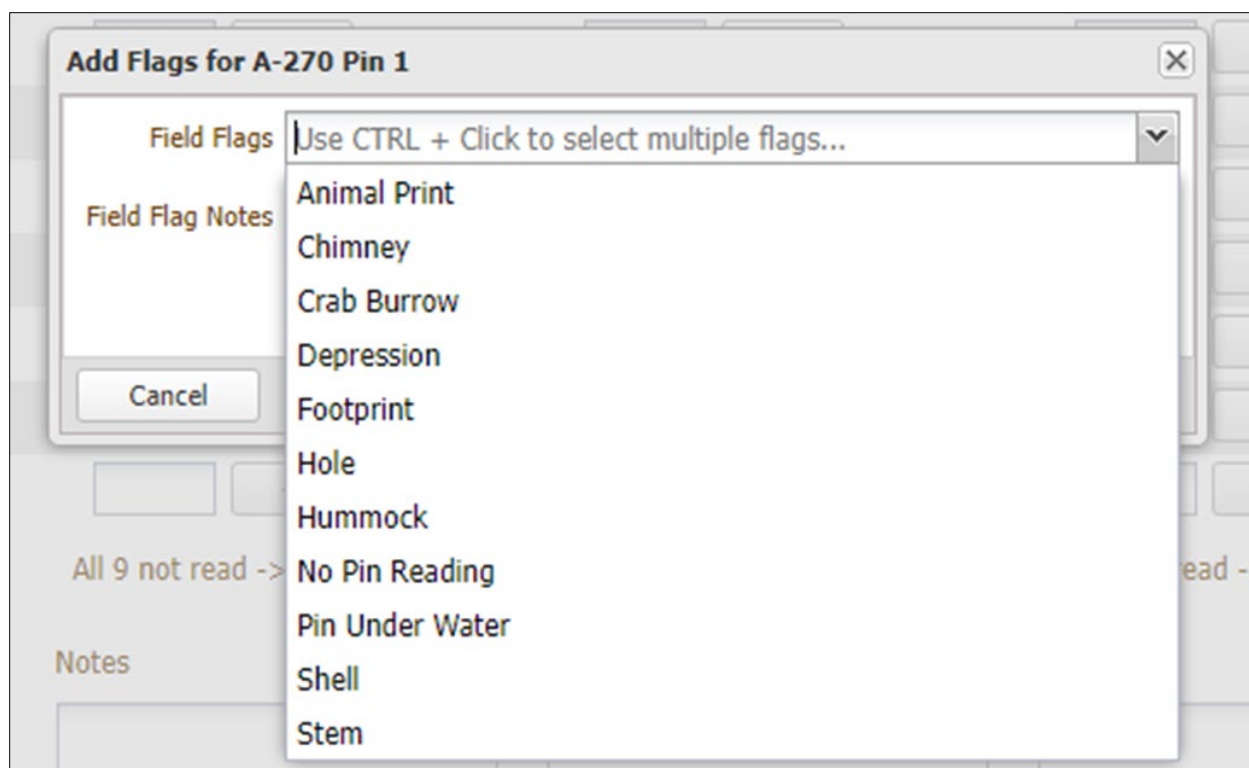


Figure 6. Using ctrl + click to select multiple flags.

Back on the 'SET Data' tab box, there are four 'Notes' boxes below each Pin Reading column. Type any comments concerning a specific direction into the appropriate 'Notes' box.

At this point you have three options: 'Save,' 'Save and Reopen to Validate' and 'Save & Close,' See Figure 5. 'Save' will save your entries up to that point. 'Save and Reopen to Validate' will save the record and reopen it for Double Entry Validation of the SET readings and make available additional tabs for data entry, and 'Save and Close' will save the record and close it without validation.

With Pin Data entry complete, the database expects you to move on to entering Marker Horizon data. If you want to complete your double-entry validation of Pin Data, first check the 'No Marker Horizon Data' at the top of the form to temporarily disable validation rules for the empty Marker Horizon tab that are triggered when saving and then click the green 'Save and Reopen to Validate' button at the bottom of the page. Using this method, once double-entry validation is complete, you will need to uncheck the 'No Marker Horizon Data' box to proceed with Marker Horizon data entry.

Note that you must click 'Save and Reopen to Validate' to enable additional tabs for deviation entry and image uploads (Figure 7).

The screenshot shows a web application interface with three tabs: 'SET Data', 'Images', and 'Deviations'. The 'Deviations' tab is selected. It contains several form fields:

- * SET Reader: A dropdown menu showing 'Vervaeke, William'.
- * SET Recorder: A dropdown menu showing 'Vervaeke, William'.
- * SET Instrument: A dropdown menu showing 'SECN RSET3'.
- * Pin Collection: A dropdown menu showing 'SECN 6'.
- Vegetation Notes: A large text input area.
- Notes: A large text input area.

Figure 7. The additional Deviations tab, which appears after saving an event record.

After saving, the ‘Double Entry’ and ‘Manual’ validation options appear at the bottom (Figure 8).

The screenshot shows the bottom section of the 'Deviations' tab. It includes a 'SET Data Validation' section with two buttons: 'Double Entry' and 'Manual'. To the right of these buttons is a 'Manual Validation Note' text area and a 'Validated by:' field. A 'Cancel' button is located at the bottom left of this section.

Figure 8. Graphic showing the ‘Double Entry’ and ‘Manual’ validation options.

At this point, you can continue to validate your SET readings. See the ‘Validation’ section for more information on data validation.

Entering Deviation Information

A ‘Deviations’ tab becomes available once a record has successfully been saved (i.e., has all its required fields populated). This tab is used to record any deviations from a normal monitoring event that may affect the interpretation of the data. Click the ‘Deviations’ tab, and ‘Add New Deviation.’ Select the category that most closely applies and enter details of the deviation (Figure 9). Click save. Repeat these steps to add information about multiple deviations.

Add Deviation [X]

* indicates required field

* **Category** Select... ▼

- * **Details**
 - Disturbance
 - Equipment
 - None
 - Not required
 - Other
 - Procedural
 - Schedule
 - Staffing

Cancel Save

Figure 9. Graphic showing the ‘Deviations’ categories.

Entering Marker Horizon Data

Note: If no marker horizons were initially set up for the site neither the ‘Marker Horizon Data’ tab nor the ‘No Marker Horizon Data’ checkbox will be visible, and no marker horizon data will be required to validate the event. Users assigned the Project Manager role or higher can view and edit a station’s Marker Horizons from the green menu banner (‘Project Manager’ → ‘Manage Stations’).

By clicking on the ‘Marker Horizon Data’ tab, Marker Horizon data information for the sampling event can be entered. In the ‘Core Reader’ box, select the name of the person who collected and measured the core. In the ‘Core Recorder’ box, select the name of the person who recorded the data on the field marker horizon data sheet. In the ‘Core Type’ box, select the option that best describes the method used to extract the core from the ground. Any additional comments pertaining to the core can be written within the ‘Notes’ box (Figure 10).

SET Data SET Data (Double Read) **Marker Horizon Data** Images

* Core Reader Begin typing a name... ▼

* Core Recorder Begin typing a name... ▼

* Core Type Select a core type... ▼

Notes

Create/Update Marker Horizons definitions Help

Figure 10. The top of the ‘Marker Horizon Data’ tab.

In the 'Marker Horizon Data' tab, there are multiple columns (up to 15) designated for each active Marker Horizon plot at the site (Figure 11). At the top of each column, select the 'Condition' from the drop-down menu. The readings for each plot are entered in the appropriate column. Additional information regarding the core plots is recorded within the 'Notes' field below each core reading column.

The screenshot displays the bottom section of the 'Marker Horizon Data' tab. It features a table with four columns: '1_Top (mm)', '2_Top (mm)', '3_Top (mm)', and 'E1_To (mm)'. Each column has a 'Condition' dropdown menu at the top. Below the dropdowns, there are five rows of input fields for data entry. To the left of the table, there is a vertical label 'Observation' and a 'Condition' dropdown. Below the table, there are four 'Notes' text areas. At the bottom, there is a 'Core Data Validation' section with a 'Manual Validation Note' text area, a 'Validated by:' field, and a 'Manual' button. The bottom of the form includes 'Cancel', 'Save', and 'Save & Close' buttons.

Figure 11. The bottom of the 'Marker Horizon Data' tab, which contains core reading data and validation.

Uploading Images

An 'Images' tab becomes available once a record has successfully been saved (i.e., has all its required fields populated). This tab is used for uploading scanned images of data sheets and any photographic documentation collected during this specific SET read event.

Validation

After data entry, both the SET Data and Marker Horizon Data can be validated. When validation is performed, both the name of the validator and the date of validation are recorded in the database. Once SET readings and marker horizon data have been validated, the Data Processing Level (DPL) of the record will automatically change from 'Raw' to 'Provisional' to signify validation has been completed. Note: Any modification to data in a record's event header or on its SET Data or Marker Horizon tabs will nullify its validation status (i.e., drop its DPL from Provisional back to Raw). The record will need to be validated again to regain a 'Provisional' DPL status.

Validating SET Data

At the bottom of the 'SET Data' tab there is a 'SET Data Validation' section. There are two options for validating SET data. The preferred method is 'Double Entry' and involves retyping each pin

reading until they match the original. To do this, look for the ‘SET Data Validation’ section at the bottom of the page. Click on the ‘Double Entry’ button and a ‘Double Pin Entry’ box will appear.

Within the ‘Double Pin Entry’ box, re-type the pin reading values directly from the field data sheets for each directional column like before (Figure 12). While entering pin reading values in the ‘Double Pin Entry’ box, you do not have to enter any additional flags or comments for the values. Only the measured numerical values, or blanks as appropriate, are required.

Once all the pin readings are entered, press the ‘Validate’ button. If one or more values do not match the original data entry, a warning message will display, and the mismatched values are highlighted in red. If the mistake is not in the double entry, but in the pin heights originally entered, back out of the Double Entry window, correct the data issues on the main form, and click ‘Double Entry’ to proceed with validation again. Original double entry values are preserved as long as user does not move away from SET Data tab.

Pin:	A-1 (mm)	B-92 (mm)	C-138 (mm)	D-270 (mm)
1:				
2:				
3:				
4:				
5:				
6:				
7:				
8:				
9:				

Cancel Validate

Figure 12. The Double Pin Entry box which contains columns to input the pin measurements again.

After successfully validating the SET data, the name of the current user will appear in front of ‘Validated By:’ along with the date of validation. Validation can also occur without double-entry (i.e., Manual), but should be reserved for situations when the double entry was previously completed in the Access database or in Excel files. Manual validation requires a note explaining why double entry validation was not completed.

When validation is finished, click the ‘Save’ button at the bottom of the ‘Add Station Data’ box.

Validating Marker Horizon Data

At the bottom of the 'Marker Horizon Data' tab there is a 'Core Data Validation' section. Click on the 'Manual' button and a 'Validation Summary' box will open (Figure 13). After visually inspecting the data as entered, add a note and click 'Save'.

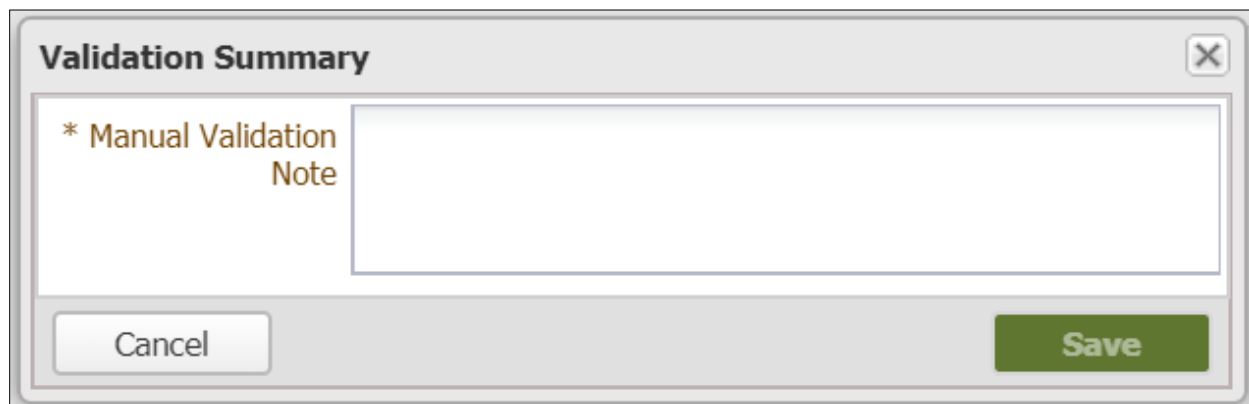
The image shows a 'Validation Summary' dialog box. It has a title bar with the text 'Validation Summary' and a close button (X) in the top right corner. Inside the dialog, there is a label '* Manual Validation Note' in brown text. To the right of this label is a large, empty rectangular text box for entering a note. At the bottom of the dialog, there are two buttons: a 'Cancel' button on the left and a 'Save' button on the right. The 'Save' button is highlighted in green.

Figure 13. The 'Validation Summary' pop-up box which contains a 'Manual Validation Note' text box to confirm that the Marker Horizon data was validated.

Data Processing Levels

Data processing levels (DPL) are closely tied to data validation. There are three data processing levels that can be used to flag a record.

1. Raw: The record contains all required fields, but the data entered has not been validated. A 'Raw' DPL is automatically assigned to a record by the database after its first successful save.
2. Provisional: The record contains all required fields, and the data has been reviewed and agrees with what was recorded on the field data sheets. A 'Provisional' DPL is automatically assigned to a record by the database once validation of event header, pin data, and marker horizon data have been completed.
3. Accepted: The record contains all required fields, has been validated, and has completed all additional QAQC steps as defined by the protocol. Database records are manually upgraded from 'Provisional' to 'Accepted' after being thoroughly reviewed (e.g., SET Dashboard). Adding or removing 'Accepted' status to a record is limited to users with the Project Manager role or above.

See Figure 14 for more information.

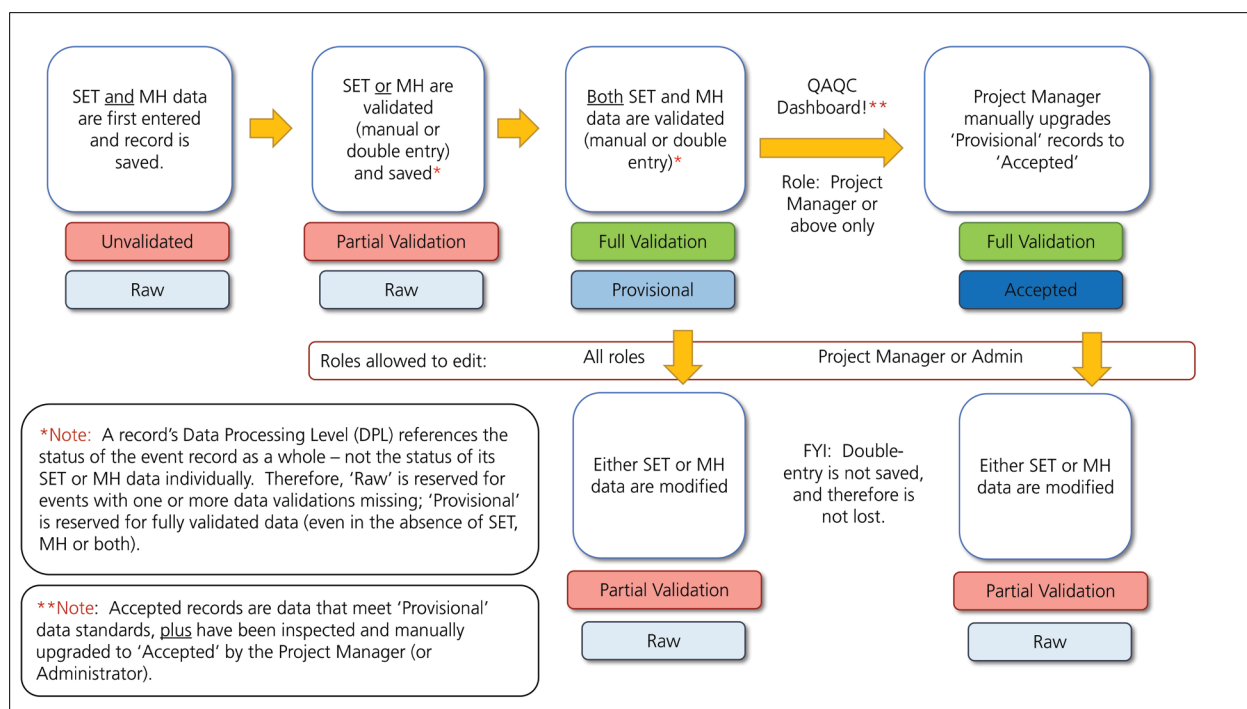


Figure 14. Data processing levels, validation levels, and roles required for each level.

Review/Editing Existing Data

Data can be edited/updated after its initial entry. On the NPS SET application homepage, choose the target network from the drop-down list. The label above the drop-down list displays the currently selected network (Figure 15).

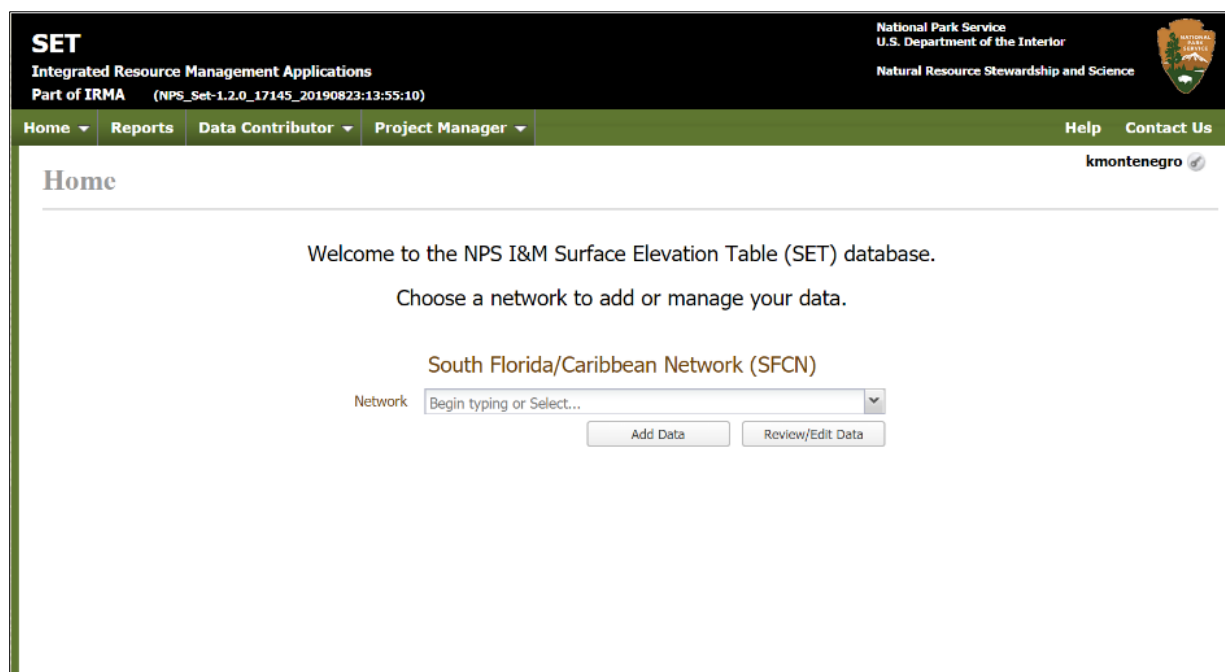


Figure 15. Online database home screen displaying network drop-down menu.

Click the 'Review/Edit Data' button (alternatively, click the 'Data Contributor' menu item and choose 'Review/Edit Data'). In the 'Stations' box, find the row containing 'Park Name', 'Event Date', 'Site Name', and 'Station Name' relevant to the sampling event you would like to review. Park and Site filters can be used to narrow the choices.

After locating the station visit of interest, click on the 'View/Edit Data' button on the far-left side of the appropriate row (highlighted in yellow on Figure 16). Be aware that on the far right-side Project Managers will also see a 'Delete Station Data' button which will permanently delete a sampling event (circled in red on Figure 16).

SET
Integrated Resource Management Applications
Part of IRMA (SET-1.5.6.22327-20230310-112617)

National Park Service
U.S. Department of the Interior
Natural Resource Stewardship and Science

Home ▾ Reports Data Contributor ▾ Project Manager ▾ Administrator ▾ Help Contact Us

akozlowski

Review/Edit Data

Northeast Coastal and Barrier Network (NCBN)

Park Name:

Site:

Station:

Event Year:

Stations						
	Park Name	Site Name	Station Name	DPL	Event Date	
☒	Assateague Island National Seashore	Marsh 11	M11-1	Provisional	04/21/2023	☒
☒	Assateague Island National Seashore	Marsh 11	M11-1	Provisional	04/20/2023	☒
☒	Assateague Island National Seashore	Marsh 11	M11-1	Accepted	11/29/2022	☒
☒	Assateague Island National Seashore	Marsh 11	M11-1	Accepted	06/07/2022	☒
☒	Assateague Island National Seashore	Marsh 11	M11-1	Accepted	12/15/2021	☒
☒	Assateague Island National Seashore	Marsh 11	M11-1	Accepted	05/10/2021	☒
☒	Assateague Island National Seashore	Marsh 11	M11-1	Provisional	12/12/2019	☒
☒	Assateague Island National Seashore	Marsh 11	M11-1	Provisional	04/10/2019	☒
☒	Assateague Island National Seashore	Marsh 11	M11-1	Raw	09/17/2018	☒

Figure 16. The Review/Edit Data Station screen with the 'Edit/Review Data' buttons highlighted in yellow on the far-left side, and the 'Delete Station Data' buttons circled in red on the far-right side of the 'Stations' box.

An 'Add Pin' dialogue box will appear (Figure 18). Fill out the pertinent information. 'Label' identifies where the pin is assigned to be used. 'Pin material' described what material the pin is made out of: brass, fiberglass, or steel. 'Pin position' identifies which number pin (1–9) you are entering. This position number is permanent. 'Length (mm)' is the total length of the pin. 'Pin Diameter (in)' is the diameter of the pin. 'Foot present' is checked if there is a 'foot' at one end of the pin where it will rest on the surface of the ground. 'Active' is checked if the pin being entered is going to be actively used. This box is unchecked in the event a pin is retired.

Click the green 'Save' button on the bottom right of the box when done. This form needs to be filled out for each of the nine pins.

The screenshot shows the NPS SET application interface. At the top, the header includes 'SET Integrated Resource Management Applications', 'Part of IRMA', and 'National Park Service U.S. Department of the Interior Natural Resource Stewardship and Science'. A navigation bar contains 'Home', 'Reports', 'Data Contributor', 'Project Manager', 'Help', and 'Contact Us'. The main content area is titled 'Manage Pins' and features a table with columns: Label, Pin Material, Position, Length (mm), Diameter (in), Foot, and Foot Diameter (in). A list of labels is on the left, including FL_1 through FL_9 and New_SARI_1 through New_SARI_7. An 'Add New Pin' button is in the top right. An 'Add Pin' dialogue box is open in the center, containing fields for Label (Practice1), Pin Material (Fiberglass), Pin Position (1), Length (mm) (750), Pin Diameter (in) (radio buttons for 3/16 and 1/4, with 1/4 selected), Foot Present (checkbox), and Active (checkbox). The dialogue box has 'Cancel' and 'Save' buttons at the bottom. A table of existing pins is visible in the background, showing details for pins like 'Fiberglass' with position 7 and length 1141.

Figure 18. The 'Add Pin' dialogue box that appears after selecting 'Add New Pin.'

Adding a Pin Collection

In this step, individual pins are assigned to a collection. On the NPS SET application homepage, hover over the green 'Project Manager' drop down at the top of the site and select 'Manage Pin Collections.' The next page is a list of the pin collections in the database. Each pin collection contains nine individual pins and their specifications. On the next page, select the 'Add New Pin Collection' button from the top right corner of the list (Figure 19).

SET

Integrated Resource Management Applications

Part of IRMA (NPS_Set-1.3.0_17703_20200214:08:00:21)

National Park Service

U.S. Department of the Interior

Natural Resource Stewardship and Science



Home

Reports

Data Contributor

Project Manager

Help

Contact Us

mprats

Pin Collections

Filter by Label:

Add New Pin Collection

Label	Date Created	In Use
☒ BISC_pins	02/11/2011	true
☒ SARI_long_pins	12/14/2014	true
☒ SARI_short_pins	06/22/2012	false
☒ VIIS_pins	06/03/2014	true

Add new pin collection

Show Retired Pin Collections ☐

Figure 19. The ‘Manage Pin Collections’ page.

At the top of the next page, fill out the new collection’s information. ‘Label’ needs to be descriptive enough that it can be easily associated with sampling events. In many cases the pin collection is named based on the park where it is used for all sites (e.g., VIIS_pins). Next, check ‘Show/Hide Available Pins’ to see a list of all available pins that can be added to a collection (Figure 20).

Edit Pin Collection mprats

* indicates required field

* Label

* Date Created

Retire this Pin Collection ☐

Show/Hide Available Pins ☒

Assigned Pins							
	Pin Label	Pin Material	Pin Position ^	Pin Length (mm)	Pin Diameter (in)	Foot	Foot Diameter (in)
(X)	Practice1_1	Fiberglass	1	750	0.25	false	0

Available Pins							
	Pin Label	Pin Material	Pin Position ^	Pin Length (mm)	Pin Diameter (in)	Foot	Foot Diameter (in)
(+)	New_SARI_1	Fiberglass	1	1141	0.25	false	0
(+)	Old_SARI_1	Fiberglass	1	759	0.25	false	0
(+)	STJohn_1	Fiberglass	1	763	0.25	false	0
(+)	FL_1	Fiberglass	1	761	0.25	false	0
(+)	New_SARI_2	Fiberglass	2	1141	0.25	false	0
(+)	Old_SARI_2	Fiberglass	2	759	0.25	false	0
(+)	STJohn_2	Fiberglass	2	763	0.25	false	0
(+)	FL_2	Fiberglass	2	761	0.25	false	0
(+)	Practice1_2	Fiberglass	2	750	0.25	false	0
(+)	New_SARI_3	Fiberglass	3	1140	0.25	false	0
(+)	Old_SARI_3	Fiberglass	3	759	0.25	false	0
(+)	STJohn_3	Fiberglass	3	763	0.25	false	0
(+)	FL_3	Fiberglass	3	762	0.25	false	0
(+)	Practice1_3	Fiberglass	3	751	0.25	false	0
(+)	New_SARI_4	Fiberglass	4	1141	0.25	false	0
(+)	Old_SARI_4	Fiberglass	4	759	0.25	false	0
(+)	STJohn_4	Fiberglass	4	763	0.25	false	0
(+)	FL_4	Fiberglass	4	761	0.25	false	0

Figure 20. The 'Edit Pin Collection' page where the new pin collection information is entered.

Next, go down the list and click the plus sign to the left of the 'Pin Label' for each pin within that collection (e.g., Practice1_1, Practice1_2, Practice1_3, etc.). Note that each pin has a 'Pin Position' attribute and only one pin from each position can be assigned to a collection.

Once all nine pins have been added, click the green button 'Save & Close' at the bottom right of the window. The new pin collection will now appear in the list of available pin collections (Figure 21).

SET
Integrated Resource Management Applications
Part of IRMA (NPS_Set-1.3.0_17703_20200214:08:00:21)

National Park Service
U.S. Department of the Interior
Natural Resource Stewardship and Science

Help Contact Us

Pin Collections mprats

Filter by Label:	Add New Pin Collection	
Label ^	Date Created	In Use
(X) BISC_pins	02/11/2011	true
(X) Practice1	05/07/2020	false
(X) SARI_long_pins	12/14/2014	true
(X) SARI_short_pins	06/22/2012	false
(X) VIIS_pins	06/03/2014	true

Figure 21. List of available Pin Collections.

Manage Location Information

Location information includes information about the sites, stations, and benchmarks at each site.

Manage Sites

On the NPS SET application homepage, hover over the green ‘Project Manager’ drop down at the top of the site and click on ‘Manage Sites’. On the next page, select the ‘Add New Site’ button on the right (Figure 22).

Park Name ^	Site Name ^
Biscayne National Park	BISC 1
Biscayne National Park	BISC 2
Salt River Bay National Historical Park and Ecological Preserve	SARI 1
Virgin Islands National Park	Mary's Creek
Virgin Islands National Park	Water Creek

Figure 22. ‘Manage Sites’ page, under the Project Manager tab.

Fill out the site information dialogue box that opens. ‘Park Name’ is the name of the park unit where the SET was established. ‘Site Name’ identifies the SET site within the park. ‘Site Code’ is a short hand for the Site Name. ‘Site Centroid/Reference Point’ is the latitude and longitude (in decimal degrees) for the site’s geographic location. ‘Description’ is for any details or notes about the site.

Once all sections are filled in, click the green ‘Submit’ button on the bottom right (Figure 23). The newly created site will now appear on the site list, sorted by Park Name then Site Name.

Figure 23. The ‘Add Site’ dialogue box that appears after selecting ‘Add New Site.’

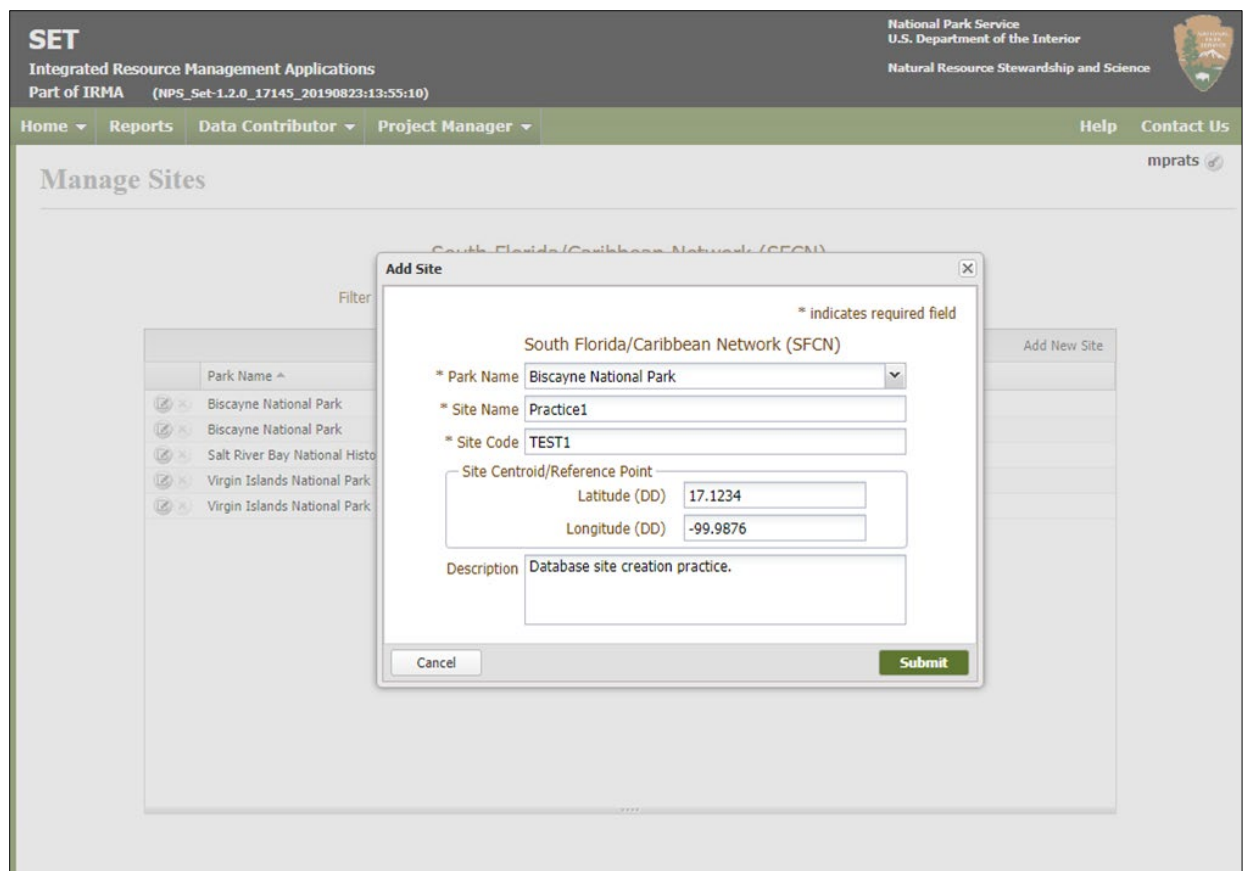


Figure 23. The 'Add Site' dialogue box that appears after selecting 'Add New Site.'

Manage Stations and Benchmarks

On the NPS SET application homepage, hover over the green 'Project Manager' drop down at the top of the site and click on 'Manage Stations.' On the next page, there is a list of all stations in the database. At the top of the window there are two drop down boxes to narrow the list. First, select the correct Park from the 'Filter by Park Name' drop down box and then select the correct site name from the 'Filter by Site' drop down box (Figure 24). Next, select the 'Add New Station' button in upper right corner of the list.

Figure 24. ‘Manage Stations’ page with park name and site filters selected.

Fill in all available information about the site Station. Notice, there are three sections to fill out, Basic Information, Installation Information, and Data Processing Level (Figure 25).

Under Basic Information, select the correct ‘Park Name’ and ‘Site.’ The site stations are the SET benchmarks at the SET site. ‘Station Name’ therefore, is Benchmark 1, 2, or 3. ‘Station Code’ is the code used as the shorthand of the site location. ‘Latitude (DD)’ and ‘Longitude (DD)’ hold the coordinates for the specific station in decimal degrees. ‘Receiver Pipe Elevation’ is the National Geodetic Survey measurement for the elevation of the benchmark. ‘Time Zone’ is selected based on the location. ‘Default SET Instrument’ and ‘Default Pin Collection’ are chosen from the available options in the database. These equipment options will become the defaults for future station visits but can be overridden at the time of data entry. There is a ‘Description’ text box to write out any important Station information. ‘Protected Status’ indicates if the station location should be considered sensitive, protected information.

In the Installation Information section, fill out the ‘Date Established’ with the date of installation. Fill in the manufacturer information for the Receiver and the Rod. ‘Rod Depth (m)’ is the depth of rod installed below ground (in meters). For the ‘Method of Install’ drop down the method by which the rod was installed below ground. Check the box indicating if the Rod Depth hit Refusal.

The Data Processing Level section indicates if the Station data has been reviewed. The default is Raw, but after confirmation of station details this can be changed to Accepted.

South Florida/Caribbean Network (SFCN)
Biscayne National Park
Practice1 -

Information Images Marker Horizons SET Direction

* indicates required field

Basic Information

* Park Name Biscayne National Park

* Site Practice1

* Station Name Benchmark 1

* Station Code TEST1_1

* Latitude (DD) 17.2111

* Longitude (DD) -99.9854

Receiver Pipe Elevation (m) .2

* Time Zone Eastern

* Default SET Instrument SFCN SET

* Default SET Pin Collection Practice1

Description

* Protected Status Not Protected

Installation Information

* Date Established 05/07/2020

Receiver Manufacturer Receiver M

Rod Manufacturer Rod maker

* Rod Depth (m) 40

SET Receiver Height (mm) 21

Is Rod Depth Refusal ☒ (Check for "YES")

* Method of Install Demolition Hammer

Data Processing Level

* Data Processing Level Accepted

Data Processing Level Note

Cancel Save Save & Close

Figure 25. The 'New Station' information window, with example information filled in.

When done entering the station information, click on the green 'Save & Close' button on the bottom right. Complete this form for all three stations at the site.

Manage Users and Staff

You must have either Project Manager or Administrator access to the database to manage Staff or Users. See Table 1 for a full description of User Roles. Staff are employees who work on the SET project in the field, and whose information will be used to fill fields such as SET Reader and SET recorder. Users are employees who will require access to the database to enter or validate data.

Manage Users

To manage users, use the 'Project Manager' tab at the top, and open the 'Manage Users' interface. Click 'Add Database User.' Any authorized users in your network (except for Administrators) will be listed here. To show prior users that are currently inactive, check the 'Show Inactive Internal Users' box. Assigned Partners and Unassigned Partners waiting to be assigned to your network will also be listed here. See Figure 26.

Manage Database Access WendyWright

Southeast Coast Network (SECN)

Internal

☐ Add Database User

Last Name ^	First Name ^	Full Name	Email	Role
☒ Gonzalez	Abigail	Gonzalez, Abigail	abigail_gonzalez@partner.nps.gov	Data Contributor ☒
☒ Vervaeke	William	Vervaeke, William	vervaeke@usgs.gov	Project Manager ☒

☐ Show inactive Internal Users

Assigned Partners

Last Name ^	First Name ^	Full Name	Email	Role
No Users Found				

☐ Show inactive Assigned Partners Users

Unassigned Partners

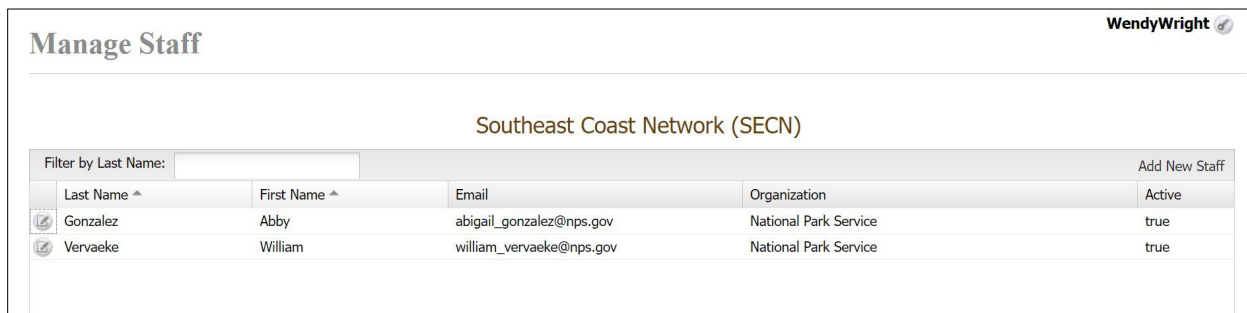
Last Name ^	First Name ^	Full Name	Email	Active	Role
-------------	--------------	-----------	-------	--------	------

Figure 26. The 'Manage Database Access' information window, used to grant database access to new users or manage access for existing users.

After you click the 'Add Database User,' an 'Add User' window will open. Enter the users Active Directory ID, which will autofill the name and email information. Note that if the User already has an assigned role (such as Administrator or Inactive User) in the SET database, their name will not show in this list. If the user will need access to the database views, check the 'Grant – Database Access' check box.

Manage Staff

To manage staff, use the ‘Project Manager’ tab at the top, and open the ‘Manage Staff’ interface. Click ‘Add New Staff.’ All staff in your network will be listed here (Figure 27). Use the ‘Show Inactive Staff’ check box to toggle active and inactive users.



Southeast Coast Network (SECN)				
Filter by Last Name:				Add New Staff
Last Name ^	First Name ^	Email	Organization	Active
 Gonzalez	Abby	abigail_gonzalez@nps.gov	National Park Service	true
 Vervaeke	William	william_vervaeke@nps.gov	National Park Service	true

Figure 27. The ‘Manage Staff’ information window, used to add staff to the staff lookup table.

Application Maintenance and Development

This SET application is frequently updated with bugs fixes and new features. While the actual changes are completed through IMD contractors in Fort Collins, the coordination of each update is made by the ‘NPS IMD SET’ team using the Microsoft Teams program. This team is comprised of the NPS staff who collect, manage, and analyze SET data. If you find changes or corrections are required for the UI, please contact your network data manager.

Data Exports

The SET database system has several options for exporting data. The preferred export method depends on the intended purpose of the data. All data to be used in decision making, analysis, or publication should be obtained from the [most recently published data package](#). For data intended for internal use and QAQC purposes, there is an [R script](#) (Wright et al 2022a) that can be run to pull data directly from the back end of the database.

The [Surface Elevation Table Database System and Data Publication Workflows Project](#) (NPS 2023) will have links to the most recent information and toolsets regarding the SET database system. The Project record is available to the public, but individual records are occasionally limited to internal or specific users based on security requirements.

For more information on data publication and how to access data, see SOP 2.3.05 *Monitoring Coastal Wetland Elevation Data QAQC and Data Publication—Version 1.0* (Wright et al 2023). For more information on the format of the data and views, see *Monitoring Coastal Wetland Elevation Data Management and Database Technical Documentation—Version 2.1* (Wright et al 2022b).

Literature Cited

- Lynch, J., W. Vervaeke, K. R. T. Whelan, and J. P. Schmit. 2023. Surface Elevation Table (SET) Data Package. National Park Service. Fort Collins, Colorado. Available at: <https://irma.nps.gov/DataStore/Reference/Profile/2298730> (last accessed April 2023)
- Montenegro, K., J. M. Patterson, and M.C. Prats. 2021. Mangrove rod-soil surface elevation table (RSET) database procedure—Version 2.0. South Florida/Caribbean Network Standard Operating Procedure NPS/SFCN/SOP—SET07. South Florida/Caribbean Network, Palmetto Bay, Florida. Available at: <https://irma.nps.gov/DataStore/Reference/Profile/2285046> (last accessed April 2023).
- National Park Service. 2023. Surface Elevation Table Database System and Data Publication Workflows Project. Available at: <https://irma.nps.gov/DataStore/Reference/Profile/2294781> (last accessed April 2023).
- Wright, W., D. Jones, and A. Kozlowski. 2022a. Surface Elevation Table monitoring export views data pull (R Script). Available at: <https://irma.nps.gov/DataStore/Reference/Profile/2294820> (last accessed April 2023).
- Wright, W., A. Kozlowski, J. Patterson, A. Okunoye. 2022b. Monitoring Coastal Wetland Elevation Data Management and Database Technical Documentation—Version 2.1. Southeast Coast Network Standard Operating Procedure NPS/SECN/SOP—2.3.07. Southeast Coast Network, Athens, Georgia. Available at: <https://irma.nps.gov/DataStore/Reference/Profile/2294179> (last accessed April 2023).
- Wright, W., D. Skidds, E. Cheng, and A. Kozlowski. 2023. Monitoring Coastal Wetland Elevation Data QAQC and Data Publication—Version 1.0. Southeast Coast Network Standard Operating Procedure NPS/SECN/SOP—2.3.05. Southeast Coast Network, Athens, Georgia. Available at: <https://irma.nps.gov/DataStore/Reference/Profile/2298702> (In Review).