

# South Florida / Caribbean Network

National Park Service  
Inventory & Monitoring Division



## Standard Operating Procedure SET07

### *Rod-Surface Elevation Table (RSET) Database User Manual—Version 1.00*

Please cite this as:

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## Summary

The following standard operating procedure (SOP) outlines the procedures involved in inputting rod-surface elevation table data that is collected by the South Florida / Caribbean Network (SFCN). These procedures use the surface elevation table (SET) database that was developed in a cooperative effort between the Northeast Temperate Network (NETN), Northeast Coastal and Barrier Network (NCBN) and National Capital Region Network (NCRN) (Sanders et al. 2014).

## Revision Log

| Previous Version # | Revision Date | Author | Changes Made | Reason for Change | New Version # |
|--------------------|---------------|--------|--------------|-------------------|---------------|
|                    |               |        |              |                   |               |
|                    |               |        |              |                   |               |
|                    |               |        |              |                   |               |
|                    |               |        |              |                   |               |

## Purpose

The purpose of this SOP is to provide instructions for using the SFCN SET monitoring database.

## Reference Documents

Whelan, K.R.T. and M.C. Prats. 2016. Mangrove elevation monitoring—Version 1.00. South Florida / Caribbean Network Standard Operating Procedure NPS/SFCN/SOP—SET05. National Park Service, Miami, Florida.

“SOP-SET Database Documentation Ver. 1.7.docx” found at Integrated Resource Management Applications (IRMA) record [2222862](#).

## Procedures

The following sections provide step-by-step instructions for carrying out each of the different functions the database utilities offer.

### Database Design

The database is composed of two Microsoft Access files: (1) the “front-end” file, which includes all the forms and menus, and (2) the “back-end” file, where all of the data are stored. The two files, found at [Z:\SFCN\Vital\\_Signs\Coastal\\_Geomorphology\data\Database](#), must be linked for the database to function. The back-end file should never be used to edit data; the user should not need to open this file for any reason. Refer to “SOP-SET Database Documentation Ver. 1.7.docx” for linking files if necessary.

### Accessing the Database

To access the database, open the Access file titled “[SFCN\\_Soil\\_Elevation\\_Table\\_Monitoring\\_Database\\_Ver\\_2.75](#).” All data entry, quality assurance (QA), data browsing and summarizing will be done through this file. (DO NOT open the back-end file titled “[SFCN\\_SET\\_DB\\_BE\\_ver\\_2.94](#)”).

### Adding Contacts

Any and all personnel (including volunteers) working on a SET sampling event or data entry must be added as a contact to the database. In the main switchboard (Figure 1), click the “View/Edit Contacts” button next to the user drop-down menu.

The “View and Edit Contact Info” box will open (Figure 2).

Marsh Elevation Monitoring Database

NPS - NCRN  
Inventory and Monitoring Program

National Park Service  
U.S. Department of the Interior

**Marsh Elevation Monitoring Database**

Session Settings Utilities About = Required Field

SELECT PROJECT: SFCN Coastal Geomorphology Vital Sign View/Edit Projects

SELECT USER: Nicole Cortez View/Edit Contacts

SELECT SITE: BISC 1 (Biscayne National Park) View/Edit SET Sites

Clear Session Defaults

Enter TRIP Information BROWSE data SUMMARIZE Data EXPORT Data

Exit Version 2.75 (2/5/2014)

Current back-end file:  
Z:\SFCN\Vital\_Signs\Coastal\_Geomorphology\data\Database\SFCN\_SET\_DB\_BE\_ver\_2.94.mdb

**Figure 1.** The main switchboard (menu) of the SET database where projects, contacts, and SET sites can be edited.

View and edit contact information

Filter: ☐ View all contacts ☒ Filter by search

Search: Whelan, Kevin R

Close

First name Kevin Edit record New record

Middle initial R

Last name Whelan

Organization NPS-SFCN

Position/title Ecologist

Work phone (786) 249-0210 ext

Email kevin\_r\_whelan@nps.gov

Comments

Address Type Mailing and Physical

Address 1 18001 Old Cutler Road

Address 2 Suite 419

City Miami

State Code FL Zip Code 33157

Country USA

Contact ID {39B9E7A7-947E-481C-A8B0-E30C21C777D0}

Record: 1 of 1 Filtered Search

**Figure 2.** “View/Edit Contacts” form.

Then, click the “New Record” button. Choose “Mailing and Physical” address in the drop-down menu and proceed to enter the first and last name, organization, and address of the contact. If the address is not known use the SFCN office address. Click the “Done” button and close out when finished.

Back on the main switch board (Figure 1) click the “View/Edit Projects” button next to the project drop-down menu. Under the “Project Personnel” section (Figure 7) click on the last empty space and use the drop-down button to select the new contact to add them to the project. This step is critical; otherwise the contact cannot be selected as part of the field crew during data entry in the data entry form. Close out when done—the changes are automatically saved.

## Creating SET Sites

In the main switchboard select the appropriate project and user from the drop-down menus of the “Session Settings” tab and click the “View/Edit SET Sites” button. Click the “Add New Site” button just below the Existing Sites list (Figure 3).

**Figure 3.** “SET Sites” form, where new sites can be created.

The fields will clear and a blank site will be added to the list. Select the appropriate “Organization” (NPS) and “Unit Code” (SFCN), and enter the “Site Name”. Enter any corresponding information in “Site Description” (i.e., vegetation, number of boards, direction of boards; these notes are written in the yellow field notebook not on the datasheets) and “Site Notes.” Create the “SET Pipes” for the site by selecting the “(New)” link (Figure 4).

**Monitoring Locations**

# SET Pipes

**Add New Plot**

Monitoring Site:  View Sites Unit  Sub-Unit

Pipe Name  Pipe Code:  Strata

**Location Details** **Elevation Survey Data**

**GPS Data**

Coordinate Units:    
 Coordinate System:    
 UTM Zone:    
 Datum:    
 X Coord:    
 Y Coord:

**Location Description:**

**Notes**

**SET Sample Events:**

**Pipe Establishment Info**

Established Date:    
 Depth of Pipe (ft):    
 Depth of Peat (ft):

**Equipment Info**

SET Information:    
 Equipment Name:

**SET Arm Positions**

| Position | Arm Direction:                     |
|----------|------------------------------------|
| A        | <input type="text" value="~000°"/> |
| B        | <input type="text" value="~090°"/> |
| C        | <input type="text" value="~180°"/> |
| D        | <input type="text" value="~270°"/> |
|          | <input type="text"/>               |

**Feldspar Layers**

| Layer: | Date Established:    | Position Description: |
|--------|----------------------|-----------------------|
| A      | <input type="text"/> | <input type="text"/>  |
| B      | <input type="text"/> | <input type="text"/>  |
| C      | <input type="text"/> | <input type="text"/>  |
|        | <input type="text"/> | <input type="text"/>  |

**Close Form** **Delete Pipe Record**

**Figure 4.** “SET Pipes” form for establishing existing SET pipe information for each site.

Enter the “Pipe Name” (Benchmark 1, 2, or 3). Under “GPS Data” enter the following information: for “Coordinate Units” select meters; for “Coordinate System” select UTM, for “UTM Zone” select 17N; and for Datum select NAD83 and use the XY coordinates recorded during the establishment or baseline sampling trip, found in the yellow field notebook or site characterization data form. In the “Pipe Establishment Info” section, enter the “Established Date” (this is not the same as the baseline sampling date), the “Depth of Pipe” (in feet), and the “Depth of Peat” (in feet). If available, these data are found in the yellow field notebook or site characterization data form. In the “Equipment Info” section, choose “Rod SET” from the “SET Information” drop-down menu and enter the “Equipment Name” (BISC SET Whelan, SARI SET Whelan, VIIS SET Whelan). For “SET Arm Positions” enter “Positions” (A, B, C, and D) and “Arm Direction” (Compass Bearing: i.e., 000°, 090°, 180°, 270°). In “Feldspar Layers” enter the “Layer” using only the letter codes A, B, and C (even for our DEF and GHI plots respectively for each benchmark). Exit “SET Pipes” by clicking the

“Close form” button. The new information is saved automatically. Repeat these steps for each benchmark. Exit the “SET Sites” window. On the main switchboard select the “View/Edit Projects” button (Figure 1) and select the newly created SET site under the “Project Sites” list to add it to the project (Figure 5). This step is very important: the site must be added to the project otherwise it will be unavailable for data entry from the main switchboard drop-down list.

Close out the “SET Project Information” window. The new SET site is ready for data entry.

**Project Information**

## SET Project Information

**Project Title:** Coastal Geomorphology Vital Sign

**Project Description:** SET monitoring of coastal mangrove habitat throughout the SFCN South Florida and Caribbean parks.

**Organization:** NPS **Network/Region:** SFCN **Protocol Version:** 1.6

**Project Sites** **Project Personnel**

| User name         | User role  | Primary Contact                     |
|-------------------|------------|-------------------------------------|
| Craig Perry       |            | <input type="checkbox"/>            |
| Josh Torres       |            | <input type="checkbox"/>            |
| Nicole Cortez     |            | <input type="checkbox"/>            |
| Kevin Whelan      | SET Reader | <input checked="" type="checkbox"/> |
| Raul Urgelles     |            | <input type="checkbox"/>            |
| Jamie Kilgo       |            | <input type="checkbox"/>            |
| Clayton ?         |            | <input type="checkbox"/>            |
| Momo Squires      |            | <input type="checkbox"/>            |
| Brooke Shamblin   |            | <input type="checkbox"/>            |
| Mary-Jo Hernandez |            | <input type="checkbox"/>            |

**Project Sites**

- Water Creek (U.S Virgin Islands)
- BISC 2 (Biscayne National Park)
- Mary's Creek (U.S Virgin Islands)
- SARI 1 (U.S. Virgin Islands)
- BISC 1 (Biscayne National Park)

**View/Edit Site Information** **View/Edit Personnel Information**

**Project Geospatial Information**

Coordinate System: UTM  
Datum: NAD83  
GIS\_Units: m  
UTMZone: 17N  
SPZone:

**Project Defaults**

SET QA Units: 30 SET Units: mm  
Accretion QA Units: 30 Accretion Units: mm

**Add New Project** **Close**

**Figure 5.** “SET Project Information” form where sites, contacts, and defaults are set.

### Entering Sampling Data

Select the appropriate project, user and site from the drop-down menu of the session setting tab on the main switchboard and click the “Enter TRIP Information” button (Figure 1). The “SET Sampling Trip Information” window will open (Figure 6); in the “Filter by Site” drop-down menu select the appropriate site for which data is being added; select the appropriate site again in the “site” drop-

down menu, and enter the “Start Date” and “End Date” as well as the “Field Crew” (making sure to designate a SET Reader, Accretion Reader, and Data Recorder). In the “Description” field enter the appropriate sampling event description (i.e., baseline, sample 1, sample 2). Use the “Notes” field for notes regarding the trip as a whole (not individual pin, bearing or benchmark notes).

**Figure 6.** “SET Sampling Trip Information” form.

Click the “Add Field Data” button; the “SET Sampling Events” window will open. In the “Event Info” tab (Figure 7) check that the correct site name reads at the top of the window. Select the benchmark for which data will be added in the “Select a Pipe” drop-down menu, re-enter the “Sampling Date” in the box provided, and re-enter the crew members and their roles under “Observers.” In the notes field, enter notes that pertain specifically to that benchmark as a whole, such as start and end time, not pin notes or bearing notes.

Enter pin readings in the appropriate boxes in the “Field Data” tab (Figure 8). Enter pin-specific notes by clicking on the “pencil” icon next to each pin reading box. The larger “Notes” field at the bottom of each column is for bearing notes.

**SET Sampling Events**

SFCN  
BISC 1 (Biscayne National Park)

Current Mode: BROWSE ONLY - Click to Edit

Create New Event 20140303203953-209674477 577209 20140303203953-209674477 577209

Select a pipe: Benchmark 1 View Locations Sampling Date: 9/13/2013

Event Info Field Data Field Data QA Photos

| Contact        | Role             |
|----------------|------------------|
| Perry, Craig   | Accretion Reader |
| Cortez, Nicole | Data Recorder    |
| Whelan, Kevin  | SET Reader       |
| *              |                  |

Notes

Event Metadata:

Entered By: Cortez  
Date Entered: 3/3/2014

Data Verification (QA/QC)  
Data has been verified: ☒  
Verified By: Cortez  
Date Verified: 5/9/2014

Data Update Details  
Date:  Updated By:   
Update Description:

Close Form Delete Event

Records: 14 of 63 Unfiltered Search

Figure 7. "Event Info" tab in sampling events form.

**SET Sampling Events**

SFCN  
BISC 1 (Biscayne National Park)

Current Mode: Data Entry

Create New Event 20140303203953-209674477 577209 20140303203953-209674477 577209

Select a pipe: Benchmark 1 View Locations Sampling Date:

Event Info Field Data Field Data QA Photos

SET Data for this project recorded in: mm

| Position: A - 001           | Position: B - 092           | Position: C - 138           | Position: D - 270           |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Pin1: <input type="text"/>  | Pin1: <input type="text"/>  | Pin1: <input type="text"/>  | Pin1: <input type="text"/>  |
| Pin2: <input type="text"/>  | Pin2: <input type="text"/>  | Pin2: <input type="text"/>  | Pin2: <input type="text"/>  |
| Pin3: <input type="text"/>  | Pin3: <input type="text"/>  | Pin3: <input type="text"/>  | Pin3: <input type="text"/>  |
| Pin4: <input type="text"/>  | Pin4: <input type="text"/>  | Pin4: <input type="text"/>  | Pin4: <input type="text"/>  |
| Pin5: <input type="text"/>  | Pin5: <input type="text"/>  | Pin5: <input type="text"/>  | Pin5: <input type="text"/>  |
| Pin6: <input type="text"/>  | Pin6: <input type="text"/>  | Pin6: <input type="text"/>  | Pin6: <input type="text"/>  |
| Pin7: <input type="text"/>  | Pin7: <input type="text"/>  | Pin7: <input type="text"/>  | Pin7: <input type="text"/>  |
| Pin8: <input type="text"/>  | Pin8: <input type="text"/>  | Pin8: <input type="text"/>  | Pin8: <input type="text"/>  |
| Pin9: <input type="text"/>  | Pin9: <input type="text"/>  | Pin9: <input type="text"/>  | Pin9: <input type="text"/>  |
| Notes: <input type="text"/> | Notes: <input type="text"/> | Notes: <input type="text"/> | Notes: <input type="text"/> |

Close Form Delete Event

Records: 14 of 64 Unfiltered Search

Figure 8. "Field Data" tab in sampling events form.

In the same tab, scroll down to enter “Accretion (Feldspar) Data” (Figure 9). Select the plot, or “Layer” (A, B, or C), and enter the TOP readings from field datasheet; the bottom readings are not used in the database. In the “Core Type” field enter the method of core extraction (e.g., syringe or cut plug), in the “Core Condition” field enter the condition of the core using the letter codes specified on the field sheet, and in the description enter the number of attempts.

The screenshot shows a web-based data entry form for 'SET Sampling Events'. The form is titled 'SFCN BISC 1 (Biscayne National Park)' and is in 'Current Mode: Data Entry'. It features a 'Create New Event' button and a long alphanumeric code. The form is divided into sections for Pin 7, Pin 8, Pin 9, and Notes. Below these is the 'Accretion (Feldspar) Data' section, which contains a table with columns for Layer, 1, 2, 3, 4, 5, Core Type, and Core Condition. A green arrow points to the 'Accretion (Feldspar) Data' section. Another green arrow points to the 'Create New Event' button.

**Figure 9.** Feldspar data fields.

When finished entering data for a benchmark and moving on to another benchmark or sampling date click the “Create New Event” button (top center of the window). Select the benchmark for which data will be added in the “Select a Pipe” drop-down menu, enter the “Sampling Date” in the box provided, and select the crew members under “Observers.” Repeat the data entry steps.

### Quality Checking Data

Select the appropriate project, user and site from the drop-down menu of the session setting tab on the main switchboard and click the “BROWSE data” button; the “Sample Data Gateway” box will open (Figure 10); double check the site is correct and use the filter utility as necessary (i.e., by year); now double click on the blue visit date for the site and benchmark.

Sample Data Gateway - List of data that have been entered

\* Double-click on the field label to change sort order. Double-click on a Location Name to open the Locations form for that record or a Visit Date to open the Data Entry form for that record.

Close

**Filters**

Park: SFCN Site: BISC 1 (Biscay Location Name: Visit Date: Year: 2013 Verified: Records: 6 Filter Is On Clear Filter

| Unit* | Site Name*          | Location Name* | Visit date* | Year* | Verified? | Entered/updated* | Verified Date: |
|-------|---------------------|----------------|-------------|-------|-----------|------------------|----------------|
| SFCN  | BISC 1 (Biscayne Na | Benchmark 1    | 20 Feb 2013 | 2013  | ✓         | 3/3/2014         | 4/30/2014      |
| SFCN  | BISC 1 (Biscayne Na | Benchmark 1    | 13 Sep 2013 | 2013  | ✓         | 3/3/2014         | 5/9/2014       |
| SFCN  | BISC 1 (Biscayne Na | Benchmark 2    | 20 Feb 2013 | 2013  | ✓         | 3/3/2014         | 5/5/2014       |
| SFCN  | BISC 1 (Biscayne Na | Benchmark 2    | 13 Sep 2013 | 2013  | ✓         | 3/3/2014         | 5/12/2014      |
| SFCN  | BISC 1 (Biscayne Na | Benchmark 3    | 13 Sep 2013 | 2013  | ✓         | 3/3/2014         | 5/12/2014      |
| SFCN  | BISC 1 (Biscayne Na | Benchmark 3    | 20 Feb 2013 | 2013  | ✓         | 3/3/2014         | 5/5/2014       |

**Figure 10.** “Sample Data Gateway” for browsing through data and QA.

The “SET Sampling Events” box will open (Figure 11); select the benchmark that will be quality checked from the box in the upper left corner, then click the “Current Mode” button, just to the right of the benchmark selection window, to turn on edit mode and press “OK” when the edit alert box pops up. In the “Event Info” tab check that the correct field personnel are listed with their correlated duty on the visit date. Check general notes like start/stop times, tide, and general visit notes for the benchmark. Click on the “Field Data QA” tab (Figure 11) and enter the pin readings in the appropriate box (paying attention to the bearing positions).

Back on the “Field Data” tab, check if any pin readings are highlighted—orange (for missing or omitted readings in either the QA or Field Data) or red (for readings that do not match between the QA and field data)—and refer to the original datasheet to make corrections as necessary (Figure 12). To quality control (QC; pin-specific) notes return to the “Field Data” tab and click on the pencil icon to double check the notes; pins with notes are marked by an asterisk (Figure 12).

Scroll down the form in the “Field Data” tab to QC the feldspar data. When done, check off “Data has been verified” in the “Data Verification (QA/QC)” box. Your name and the date will autofill (Figure 13).

Turn off edit mode and exit the form. After completing the QA and ensuring all the data is up to date, proceed to the instructions for summarizing the data.

Sampling Events

**SET Sampling Events**

SFCN  
BISC 1 (Biscayne National Park)

Current Mode: EDIT MODE - Click to Lock Record

Create New Event 20140303203953-209674477.577209

20140303203953-209674477.577209

Select a pipe Benchmark 1 View Locations Sampling Date 9/13/2013

Event Info Field Data Field Data QA Photos

| Position: A - 001 | Position: B - 092 | Position: C - 138 | Position: D - 270 |
|-------------------|-------------------|-------------------|-------------------|
| Pin1: 235         | Pin1: 252         | Pin1:             | Pin1: 259         |
| Pin2: 239         | Pin2: 228         | Pin2: 246         | Pin2: 261         |
| Pin3: 234         | Pin3:             | Pin3: 245         | Pin3: 247         |
| Pin4: 239         | Pin4: 244         | Pin4: 246         | Pin4: 250         |
| Pin5: 238         | Pin5: 245         | Pin5: 248         | Pin5: 248         |
| Pin6: 235         | Pin6: 243         | Pin6: 242         | Pin6: 243         |
| Pin7: 234         | Pin7: 241         | Pin7: 244         | Pin7: 246         |
| Pin8: 228         | Pin8: 239         | Pin8: 247         | Pin8: 247         |
| Pin9: 225         | Pin9: 238         | Pin9: 248         | Pin9: 247         |

Close Form Delete Event

Record: 14 of 63 Unfiltered Search

Figure 11. "Field Data QA" tab.

Sampling Events

**SET Sampling Events**

SFCN  
BISC 1 (Biscayne National Park)

Current Mode: EDIT MODE - Click to Lock Record

Create New Event 20140303203953-209674477.577209

Select a pipe Benchmark 1 View Locations Sampling Date 9/13/2013

Event Info Field Data Field Data QA Photos

SET Data for this project

Pin Notes:

In hole

| Position: A - 001 | Position: B - 092 | Position: C - 138 | Position: D - 270 |
|-------------------|-------------------|-------------------|-------------------|
| Pin1: 235         | Pin1: 252         | Pin1:             | Pin1: 259         |
| Pin2: 239         | Pin2: 228         | Pin2: 246         | Pin2: 261         |
| Pin3: 234         | Pin3:             | Pin3: 245         | Pin3: 247         |
| Pin4: 239         | Pin4: 244         | Pin4: 246         | Pin4: 250         |
| Pin5: 238         | Pin5: 245         | Pin5: 248         | Pin5: 248         |
| Pin6: 235         | Pin6: 243         | Pin6: 242         | Pin6: 243         |
| Pin7: 234         | Pin7: 241         | Pin7: 244         | Pin7: 246         |
| Pin8: 228         | Pin8: 239         | Pin8: 247         | Pin8: 247         |
| Pin9: 225         | Pin9: 238         | Pin9: 248         | Pin9: 247         |

Notes:

Close Form Delete Event

Record: 14 of 63 Unfiltered Search

Figure 12. "Field Data" tab during QA.

The screenshot shows the 'SET Sampling Events' form. At the top, there's a header with 'SFCN BISC 1 (Biscayne National Park)' and a logo. Below this, a table lists benchmarks: Benchmark 1, 2, and 3, all dated 9/13/2013. A 'Current Mode: BROWSE ONLY - Click to Edit' message is displayed. A 'Create New Event' button is present, along with two ID numbers: 20140303203953-209674477.577209 and 20140303203953-209674477.577209. The 'Select a pipe' dropdown is set to 'Benchmark 1', and the 'Sampling Date' is '9/13/2013'. The 'Event Info' tab is active, showing 'Field Data', 'Field Data QA', and 'Photos' sub-tabs. Under 'Event Info', there's an 'Observers' table with columns 'Contact' and 'Role'. The table lists: Perry, Craig (Accretion Reader), Cortez, Nicole (Data Recorder), and Whelan, Kevin (SET Reader). A green arrow points to the 'Data Verification (QA/QC)' section, which shows 'Data has been verified: [checked]', 'Verified By: Cortez', and 'Date Verified: 5/9/2014'. The 'Data Update Details' section has two identical boxes for 'Date', 'Updated By', and 'Update Description'. At the bottom, there's a 'Close Form' button and a 'Delete Event' button. The footer shows 'Record: 14 of 63' and 'Unfiltered Search'.

**Figure 13.** Data has been verified.

### Editing/Updating Existing Data

Data can be edited/updated during the QA session. If editing is required after QA to make approved changes, enter a sampling trip through the “Browse Data” utility and choose the benchmark and visit-date to be edited. Click the “Edit” button at the top of the “Sampling Events” form and press “OK” when the edit alert box pops up. Proceed to edit or update the data as necessary. On the “Event Info” tab, indicate new update information in the “Data Update Details” boxes (Figure 14).

Once editing is complete, turn off the edit mode to return the form to “Browse Mode” and exit the form.

**Sampling Events**

| Benchmark   | Date      |
|-------------|-----------|
| Benchmark 1 | 9/13/2013 |
| Benchmark 2 | 9/13/2013 |
| Benchmark 3 | 9/13/2013 |

**SET Sampling Events**  
**SFCN**  
**BISC 1 (Biscayne National Park)**

Current Mode: **EDIT MODE** – Click to Lock Record

Create New Event 20140303203953-209674477.577209 20140303203953-209674477.577209

Select a pipe: Benchmark 1 View Locations Sampling Date: 9/13/2013

Event Info | Field Data | Field Data QA | Photos

**Observers**

| Contact        | Role             |
|----------------|------------------|
| Perry, Craig   | Accretion Reader |
| Cortez, Nicole | Data Recorder    |
| Whelan, Kevin  | SET Reader       |

**Event Metadata:**

Entered By: Cortez  
Date Entered: 3/3/2014

**Data Verification (QA/QC)**

Data has been verified: ☒  
Verified By: Cortez  
Date Verified: 5/9/2014

**Data Update Details**

Date: 5/9/2014 Updated By: Cortez

Update Description: Re-entered Pin 1 reading for bearing B (092°) from 226 to 252 per original datasheet. Omitted Pin 1 reading for bearing C (138°) per Kevin, bad number in crab hole.

**Figure 14.** Example of “Data Update Details.”

## Summarizing Data

Select the appropriate project, user and site from the drop-down menu of the session setting tab on the main switchboard and click the “SUMMARIZE data” button (Figure 1). The “SET Summary” form will open. The form will be “blank,” the “Summarize Raw Data Values” box at the top of the form will be unchecked, and the field next to the check box indicates the date when the data was last recalculated (Figure 15). With the box unchecked, a pipe (benchmark) for the site can be selected from the drop-down menu to view the raw data and any previous data summaries.

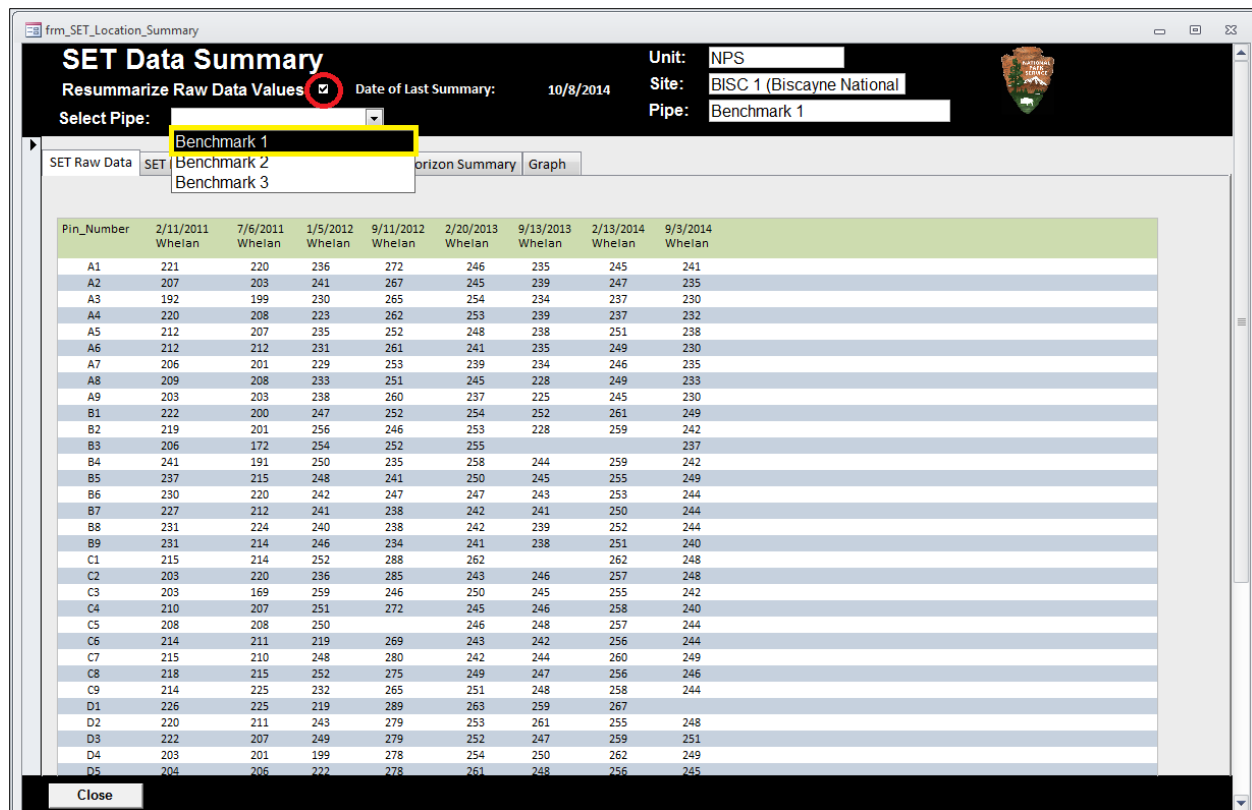


**Figure 15.** SET raw data in summary form.

The first tab, “SET Raw Data,” is a reorientation of all the data for the pipe. The second tab, “SET Interval Data,” shows the difference between sampling intervals, calculated by subtracting the last sampling trip pin reading from the recent sampling trip pin reading ( $T1 - T0$ ), providing the change in each individual pin. Data that exceed the QA threshold show up highlighted according to the color key at the top of the tab (blue, if the values are  $>$  threshold in mm; versus red, if the values are  $<$  threshold in mm), to help identify outliers and potential data entry errors. (Remember: the threshold value is defined in the “Project Form” and can be adjusted as necessary through the “View/Edit Projects” button on the main switchboard.) The third summary tab, “SET Summary,” provides averages of the data for each arm direction from one interval to the next as well as summarizing the data for the entire plot including average, standard deviation and standard error. The fourth tab, “Marker Horizon Summary,” provides a summary of the raw feldspar data, including the averages for each individual subplot, and an average value for the entire plot. The last tab, “Graph,” provides a graphical interpretation of SET and accretion trends at each plot benchmark.

If new data has been added or existing data changed, check the “Summarize Raw Data Values” box and reselect the pipe from the drop-down menu to recalculate the raw data values, interval differences and summaries. The data should be summarized after each sampling trip by the quality checker once QA is done and any corrections or updates have been made. To (re)summarize the data, check the “Summarize Raw Data Values” box and choose the pipe from the drop-down menu again.

The “Processing Status” box will appear and indicate that new records are being added and summarized. When the blue progress bar stops, the box disappears and the new summary is done.

## **Application Maintenance and Development**

The SET database was developed in a cooperative effort between a number of NPS I&M networks. These include the Northeast Temperate Network (NETN), North Coast and Barrier Network (NCBN) and National Capital Region Network (NCRN). The South Florida / Caribbean Network has worked with Geoffrey Sanders (NCRN) in adapting the database for the SFCN Coastal Geomorphology Vital Sign.

## **Literature Cited**

Sanders, G., A. Kozlowski, and D. Skidds. 2014. Surface elevation table (SET) monitoring—database design Standard Operating Procedure Version 1.7

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