

South Florida/Caribbean Network

National Park Service
Inventory and Monitoring Division



Standard Operating Procedure WT04

Deploying and Retrieving HOBO[®] Pro v2 Temperature Loggers—Version 1.1

Please cite this as:

South Florida/Caribbean Network. 2020. Deploying and retrieving HOBO[®] pro v2 temperature loggers —Version 1.1. South Florida/Caribbean Network Standard Operating Procedure NPS/SFCN/SOP—WT04. South Florida/Caribbean Network, Palmetto Bay, Florida.

Purpose

This standard operating procedure (SOP) describes the process for collecting data from loggers using the HOBO[®] Optic USB Base Station. The base station is a device used to connect the HOBO[®] loggers directly to a PC or laptop and transfer data between the computer and the data logger. The base station is typically used as an alternative to the HOBO[®] waterproof shuttle to launch or retrieve data from loggers on the surface; **the base station can't be used underwater.**

Note: When retrieving loggers, it is preferred that they are downloaded with the HOBO[®] waterproof shuttle before retrieving them to the surface (See SOP WT03 *HOBO[®] Temperature Pro v2 Field Data collection using the HOBO[®] Waterproof Shuttle - U-DTW-1* [SFCN2020a]). This will save QA/QC time by preventing post-deployment temperature spikes and minimizes the loss of data if a logger accidentally floats away or otherwise is lost.

Revision Log

Revision Date	Author	Changes Made	Reason for Change	New Version #
4/15/2020	Lee Richter	Removed 4 yr replacement interval Updated SOP references, minor edits	Changed to 5 yr interval Operational review	1.1

Procedures

Deploying and Retrieving Loggers

1. The following equipment will be needed (along with standard dive equipment):
 - a. GPS coordinates and/or laminated map showing the specific locations of the loggers
 - b. Underwater shuttle—**handle with care while diving. The shuttle is positively buoyant and will easily float away from a diver.**
 - c. Two 12-inch (30.5 centimeters) cable ties per logger
 - d. Dive knife or shears
 - e. Water temperature field log and pen
 - f. Field notebook
2. Prior to field work, any new loggers are tested using SOP WT01 *Testing the Precision of HOBO® Loggers in a Cold Bath—Version 1.1* (SFCN 2020b) and launched using SOP WT02 *Launch HOBO® Temperature Pro v2 Logger—Version 1.1* (SFCN 2020c).
3. Dive to the specific location where the current loggers are attached.
4. Use knife or shears to remove both loggers from mounting device, remembering to retrieve the used cable ties from the bottom for disposal. **Use caution as the loggers are positively buoyant.**
5. Download the loggers using the underwater shuttle (see SOP WT03 [SFCN 2020a]). If shuttle is not working, then data will be downloaded from the logger using the procedures below.
6. Secure the new loggers to the mounting pin at this time. Attach the loggers (in rubber boots and caps) to the appropriate location with two cable ties. One cable tie goes through the eye of the logger; the second goes around the logger body. Assure the cable ties are very snug (loggers should withstand hurricanes that may pass over the site). The loggers are positioned vertically and inverted with respect to each other.
7. Bring old loggers to boat.
8. At completion of the dive, record the following information in the field logbook:
 - a. Date
 - b. Site Name
 - c. Number of loggers transferred

- d. Comments: Any pertinent information not mentioned above shall be recorded here
9. If this is a first-time deployment at a site, also record:
- a. Depth (in feet)
 - b. GPS coordinates (in UTM)

Downloading Data from a Logger with the Base Station and Re-launching Logger

1. When re-launching rather than replacing loggers, take them to the surface at the completion of your dive.
2. Assure that the base station is plugged into the laptop by the USB cable, and that HOBOWare® Pro opened properly.
3. Remove the logger from the rubber boot and cap. Don't get water or dirt from inside the boot on the laptop!
4. Align the mark on the logger with the mark on the coupler and insert the logger completely into the coupler. This will activate the base station and it will be "found" by the HOBOWare® Pro software.
5. Select "Device" drop down menu.
6. Click "readout."
7. At the Select Device dialog box, click "ok" when the program recognizes the shuttle.
8. Select the "stop Logger" dialog box to stop and transfer the data from the logger at this time.
9. In the Save dialog box, browse to the appropriate storage file for temperature data. Select "save" once you are in the proper location. You will not need to rename the files at this time. Allow the files to be downloaded with the name that comes from the shuttle. The file extension will be "*.hobo."
10. If desired, view the plot, since the Plot Setup window is open. Select PLOT.
11. If you are deploying this logger back to the site, you need to launch it. Follow the steps outlined in SOP WT02 (SFCN 2020c).
12. When you have completed transferring (readout) and launching all loggers at this site, record the following information in the field logbook:
 - a. Station name (location where deployed)
 - b. Serial number for each of the two loggers
 - c. Sensor number (1 or 2)

- d. Date and time of data retrieval
 - e. Comments: Any pertinent information not mentioned above shall be recorded in this section.
13. Repeat Steps 1–12 for each logger retrieved at the site.
14. Make additional relevant notes, such as:
- a. Damage observed
 - b. Difficulty downloading data
 - c. Discrepancies with name, serial number or data
 - d. Length of time the logger has been deployed. Note: The loggers will be replaced every five years or as needed.

Literature Cited

South Florida/Caribbean Network. 2020a. HOBO[®] temperature pro v2 field data collection using the HOBO[®] waterproof shuttle - U-DTW-1—Version 1.1. South Florida/Caribbean Network Standard Operating Procedure NPS/SFCN/SOP—WT03. South Florida/Caribbean Network, Palmetto Bay, Florida. Available at: <https://irma.nps.gov/DataStore/Reference/Profile/2278934> (last accessed November 2020).

South Florida/Caribbean Network. 2020b. Testing the precision of HOBO[®] loggers in a cold bath—Version 1.1. South Florida/Caribbean Network Standard Operating Procedure NPS/SFCN/SOP—WT01. South Florida/Caribbean Network, Palmetto Bay, Florida. Available at: <https://irma.nps.gov/DataStore/Reference/Profile/2278932> (last accessed November 2020).

South Florida/Caribbean Network. 2020c. Launch HOBO[®] temperature pro v2 logger—Version 1.1. South Florida/Caribbean Network Standard Operating Procedure NPS/SFCN/SOP—WT02. South Florida/Caribbean Network, Palmetto Bay, Florida. Available at: <https://irma.nps.gov/DataStore/Reference/Profile/2278933> (last accessed November 2020).