GeoOptix Data Broker

Training Manual

Contents

Overview

The Data Broker operates on the laptop and serves as a broker to move files between CHaMPMonitoring.org website, the broker, and the iPads. You will use the broker to receive scouting information for the sites you plan to visit, to check in data after visiting a site, and publish data sets for upload by CHaMPMonitoring.org. Typically, you will use the broker at the beginning of the week to prepare for field data collection and at the end of the week to check data in.

Pre-Hitch Preparation

Before leaving internet connectivity, you will need to organize all of the information and files needed to complete the set of planned site visits (i.e. surveys). This pre-hitch preparation will be completed using the "Visits" tab within the data broker. The Visits tab has a navigation pane on the left side listing the crews and hitches that belong to your organization. Crews are identified by an icon of two people. Hitches are identified by a briefcase icon. Inside each hitch there is a collection of sites to be visited during the hitch.

For each hitch, two files will be downloaded from CHaMPMonitoring.org. These files are scheduled to download automatically; however, you can click the link "Refresh list from www.champmonitoring.org" at any time. The MacroInvert Lables files can be viewed and printed.

- MacroInvert Labels – click view and then print to Avery shipping labels*
- GPX Waypoint File – this file will be loaded to your Garmin GPS unit using the BaseCamp software (see ProceduresForLoadingSitesToGPS.pdf)

* Note: labels should be 2 inches by 4 inches with 10 labels per sheet (Avery 15513, 5163, or 8163)

Verify Visits have been Downloaded to Data Broker

Prior to leaving internet connectivity, you must ensure the visit packets have been downloaded to the data broker. The visit packet contains all of the information the iPad needs to begin field data collection for that site.

- Select the Visit tab and highlight on hitch (brown briefcase)
- Check the status for the Aux column on each visit in the hitch
- The Aux column should say "Data Collection" for all visits
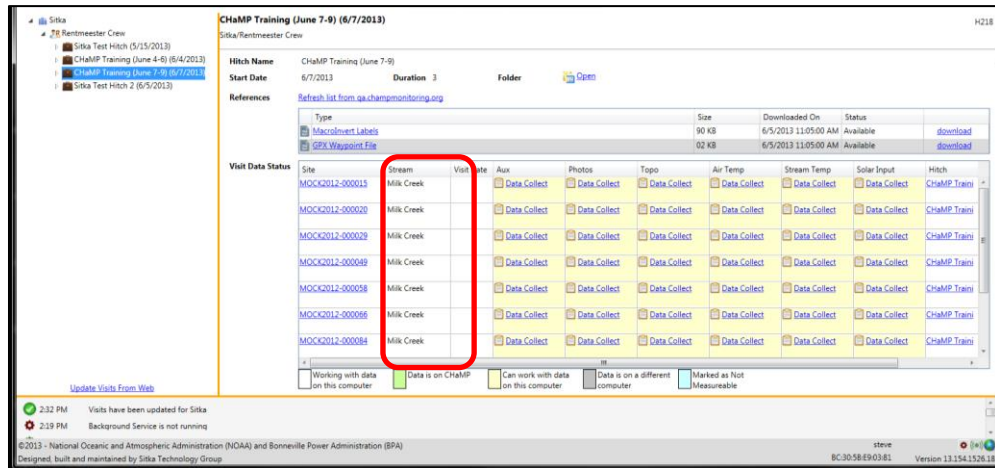
While visits should automatically be transferred to the data broker, if a visit has not yet been transferred to the data broker, Hitch grid will display "Waiting to Download" for the Auxiliary data packet.
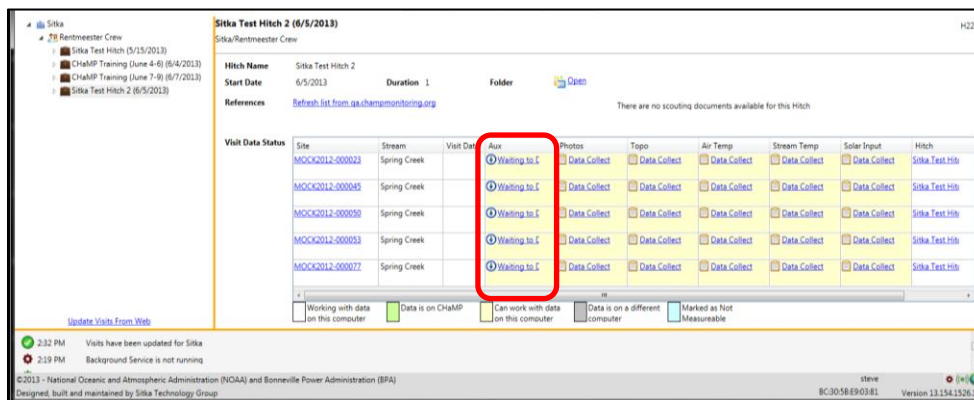
If Visits packets have not been loaded to the data broker, complete these two steps.

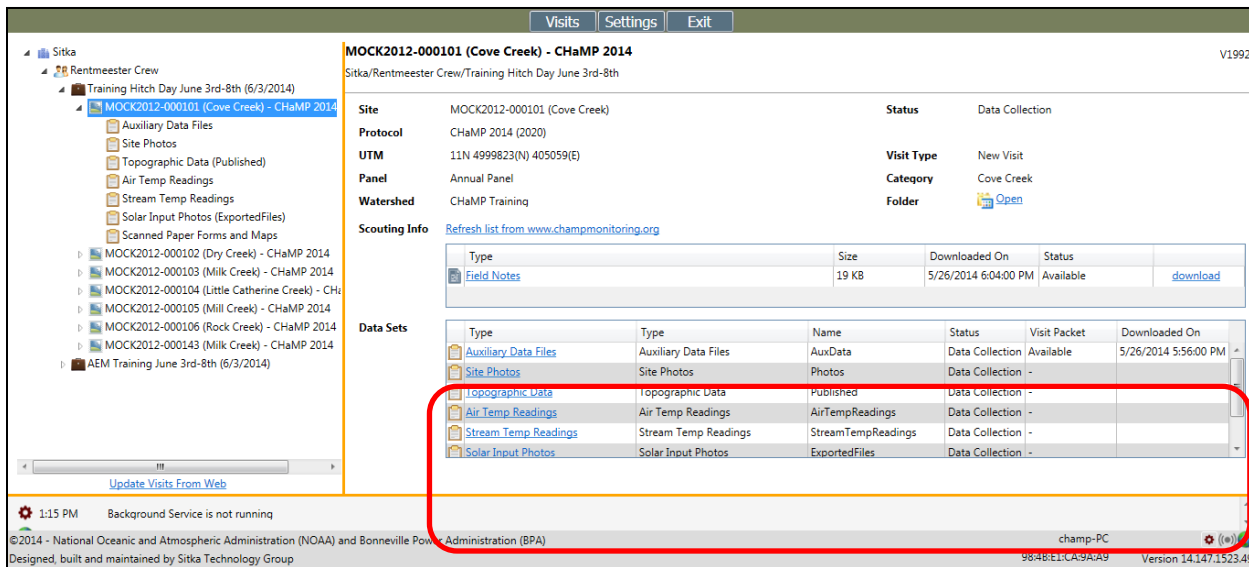- On the Visit tab, click "Update Visits From Web" in the lower left
- Download Data Packet from the Auxiliary Data Files page
  - o Double click on each visit to expand that visit
  - o Click on Auxiliary Data Files
  - o Click the "Download Data Packet" button from the upper right corner

Once you have verified that all visits for the hitch have been transferred to the data broker, you are ready to send visits to the iPad.

3

Publish Data Set Components

After field data collection has been completed, files have been saved to the data broker, and the auxiliary data retrieved to the Broker, it will be necessary to publish air temperature files, stream temperature files and solar input files. Each component of the dataset must be published using the Data Broker. Once the component has been published, the Data Broker will send those files to CM.org and the files will be loaded to the website.

When working in the Data Broker, go to the Visit Tab. Expand the brown briefcase for one hitch and then expand one site visit. By expanding the site visit you will be able to see each of the dataset components.

- Auxiliary Data Files – files from the iPad
- Site Photos – files from the digital camera on iPad
- Topographic Data – files that are published by the Topo Tools in ArcGIS
- Air Temp Readings - .ltd and .csv files that are exported from the LogTag Analyzer software
- Stream Temp Reading - .hobo and .csv files that are exported from the Hoboware software
- Solar Input Photos - ~165 files exported from the Solemetric SunEye software
- Scanned Paper Forms and Maps – scanned images (e.g. SiteMap.jpg and SurveyWorkflow.jpg)

Auxiliary Data Files are published on the iPad. Once published on the iPad, the files can be pushed from the iPad to the Broker. Once the auxiliary files are pushed to the Broker, the files are automatically transferred from the Broker and up to CM.org.

Topographic Data are published using the CHaMP Topo Toolbar in ArcGIS. Once the topographic survey data have been published in ArcGIS, the Broker will automatically detect the published data and send those files to CM.org.

All other dataset components must be manually published by the crew using the Data Broker. Below is a description of the requirements for publishing Site Photos, Air Temp Readings, Stream Temp Readings, and Solar Input Photos.

Site Photos
1. From the Broker, expand the Hitch and the Visit to display the six data set components.
2. Select the "Site Photos" component
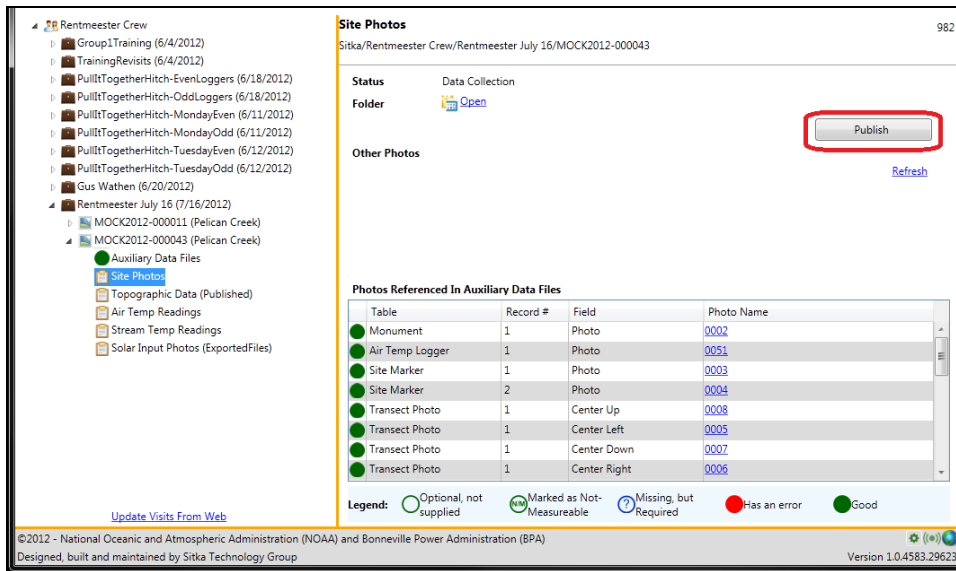
3. Click the "Publish" button to send the Site Photos to CM.org
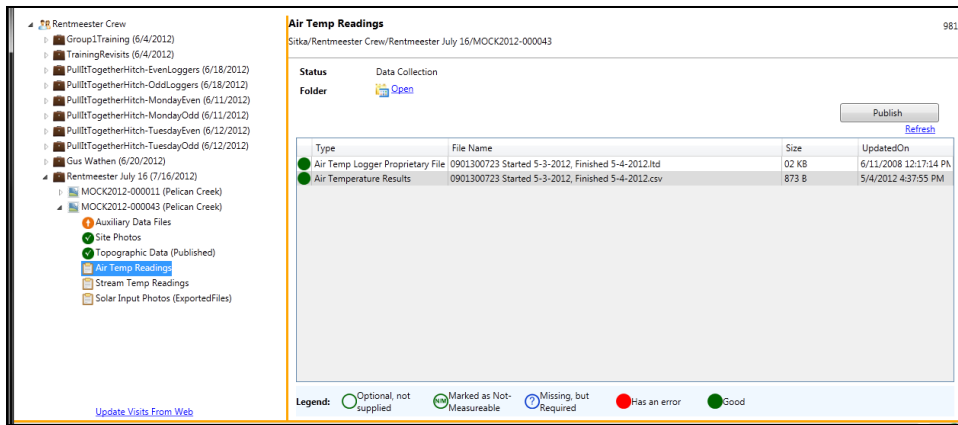
Air Temp Readings

1. From the Broker, expand the Hitch and the Visit to display the six data set components.
2. Select the "Air Temp Readings" component
3. Find the word "**Folder**" and the link "Open" near the top left of the main window
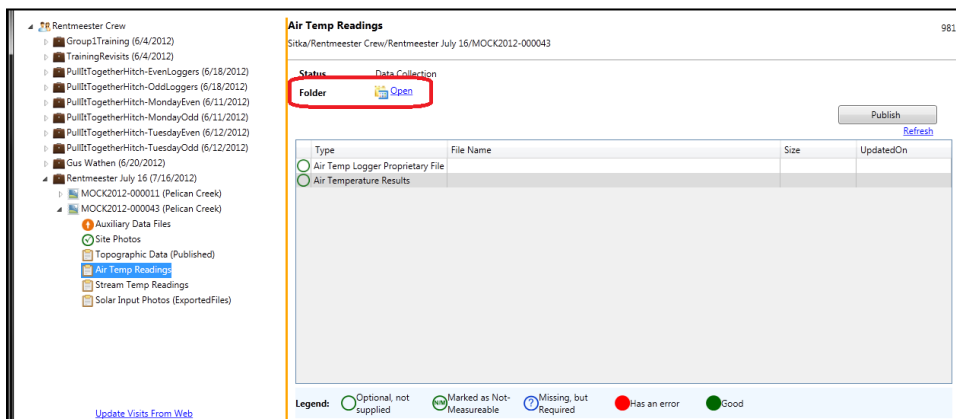
4. Click the "Open" to open the folder where photos will be copied to.
5. Drag and drop air temperature files exported from LogTag Analyzer softer to the folder that opened when the "Open" link was clicked. Be sure to include both the .ltd and .csv files that are exported from the LogTag Analyzer software.
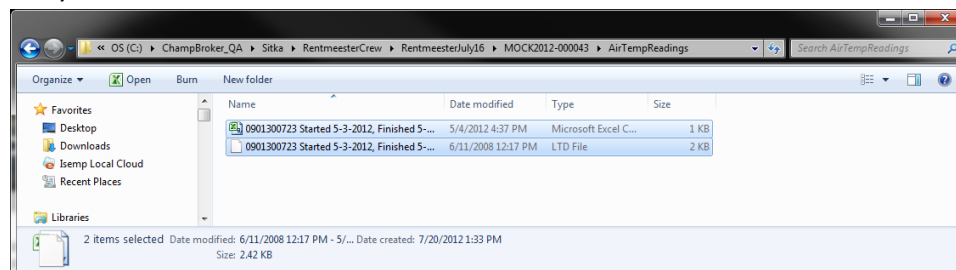
6. Refresh the Broker screen by double clicking the Visits Tab again.
7. Once the screen has been refreshed, the icon in front of each file should become a solid green circle.

8. Important Note: Air Temperature Reading files are optional and will not be provided for all site visits. If no files are provide, the icon will be a hollow green circle (i.e. "Optional, not supplied"). Given that air temperature reading files are optional, the Broker will allow you to publish even when no files have been provided. If you plan to provide air temperature files, be sure to supply the files before you publish.

9. Click the "Publish" button to send the Air Temperature Files to CM.org

Stream Temp Readings

Follow the instructions for Air Temp Reading files. When completing step 5, be sure to add both the .hobo and .csv files that are exported from the Hoboware software.
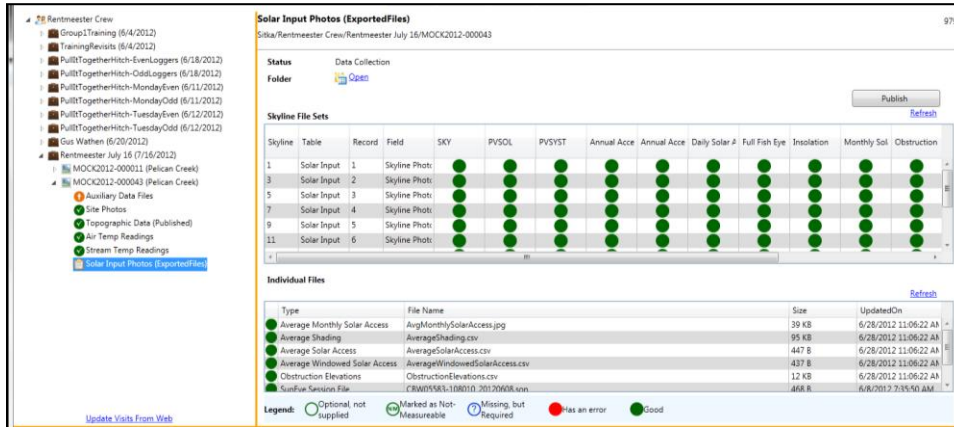
Solar Input Photos (ExportedFiles)

1. From the Broker, expand the Hitch and the Visit to display the six data set components.
2. Select the "Solar Input Photos" component
3. Find the word "**Folder**" and the link "Open" near the top left of the main window
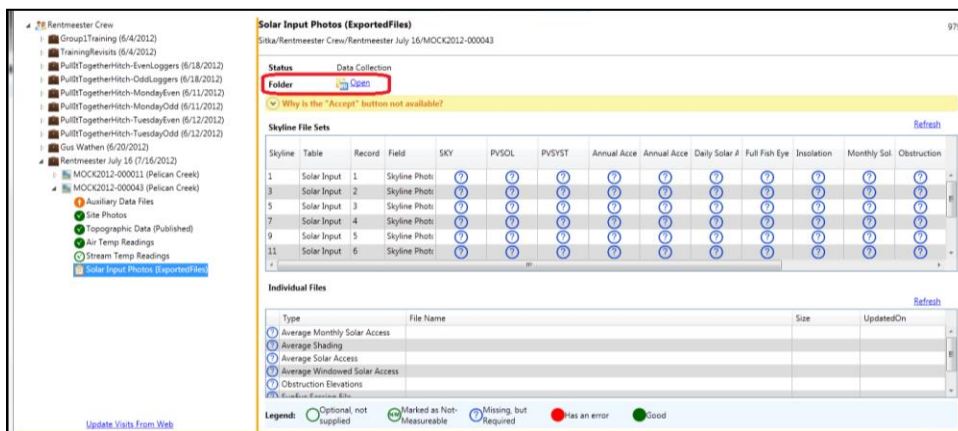
4. Click the "Open" to open the folder where solar input files will be copied to.
5. Drag and drop solar input photos and exported files from the Solemetric software to the folder that opened when the "Open" link was clicked (e.g. "\\CBW05583-012345\SolarInput\ExportFiles"). Be sure to include both the session file (.son) and the skyline images (.sky). In total there will be 166 files copied to the designation folder.
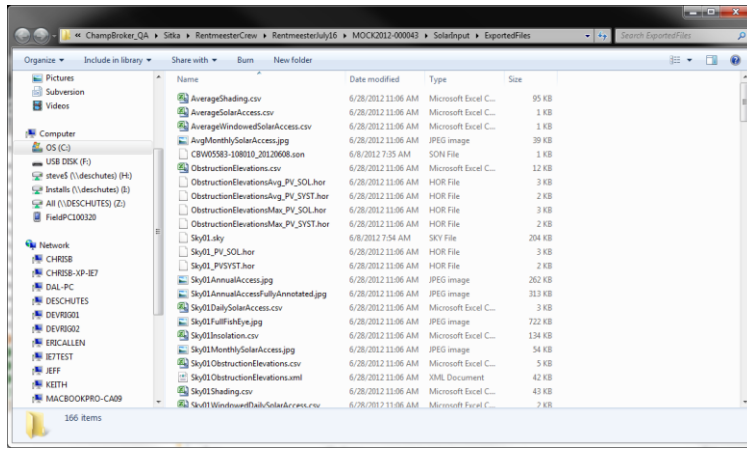
6. Refresh the Broker screen by double clicking the Visits Tab again.
7. Once the screen has been refreshed, the icon in front of each file should become a solid green circle.

8. Click the "Publish" button to send the Solar Input files to CM.org

Scanned Paper Forms and Maps

1. From the Broker, expand the Hitch and the Visit to display the six data set components.
2. Select the "Scanned Paper Forms and Maps" component
3. Find the word "**Folder**" and the link "Open" near the top left of the main window
4. Click the "Open" to open the folder where photos will be copied to.
5. Add the SiteMap.jpg file (created by scanning or photographing the paper drawing)
6. Optionally, include "SurveyWorkflow.jpg" (scan the survey workflow form)
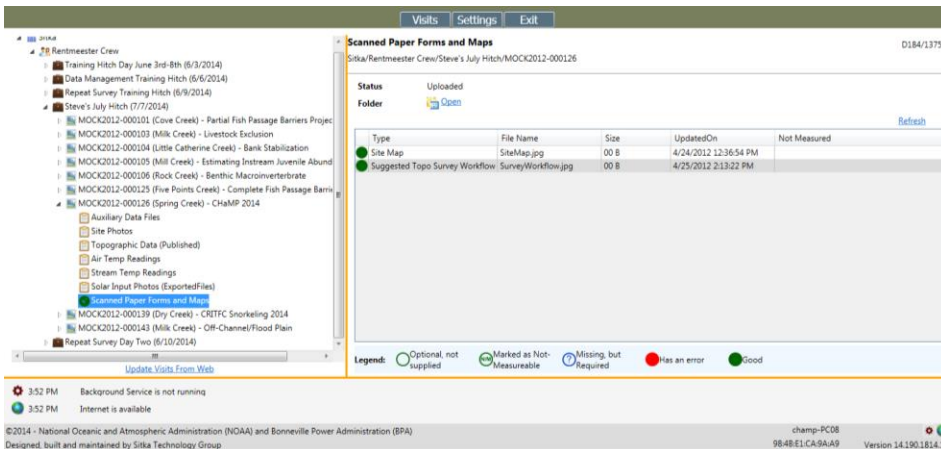
Appendix A: Installing the Data Broker Software

For 2015, you should uninstall the existing 2014 Broker before installing this year's version. If you are updating a 2015 broker, you do not need to uninstall first.

Download from: http://www.champmonitoring.org/fieldsupport/downloadbrokerinstaller/1

If the Broker is already installed and running the current version, the installer will install the same version over the top of the installed version. This is how you can repair a damaged install.

Before installing the broker, IIS needs to be installed. You can install this by going to Control Panel → Programs → Turn Windows Features on or Off.
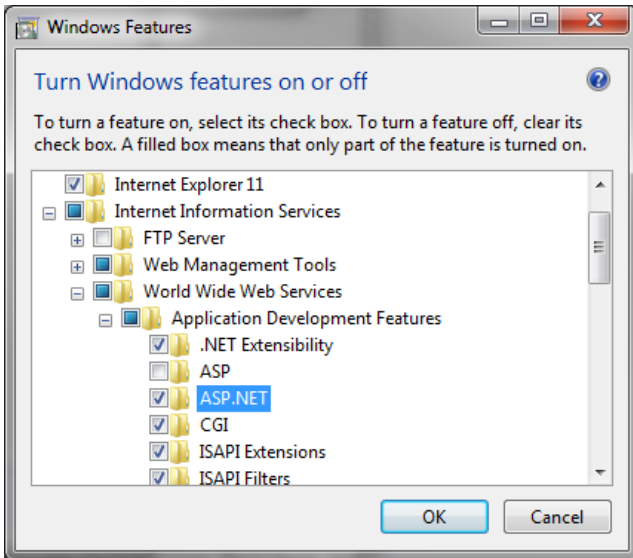
Once IIS is installed, you can run the broker installer.

1. Run the installer (ChampBrokerSetup.exe). You might be prompted about verification. If so, click "Run".
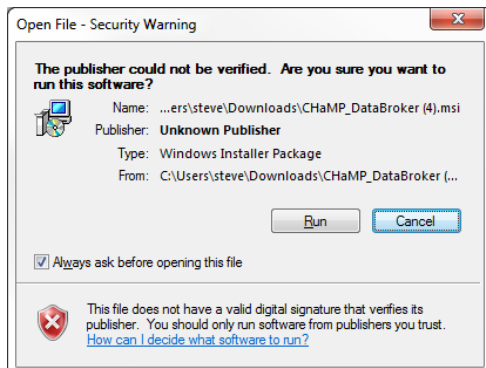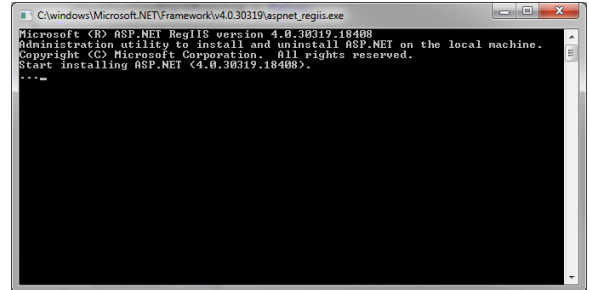

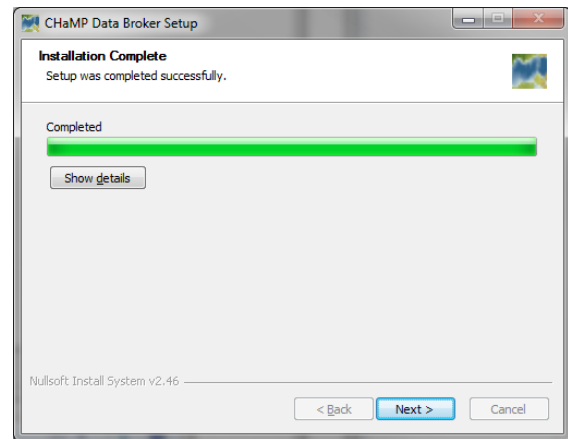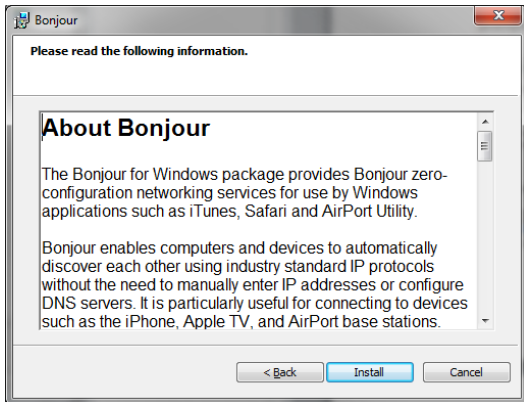2. The installer needs to install Bonjour to talk to the iPad. Run through the bonjour install.
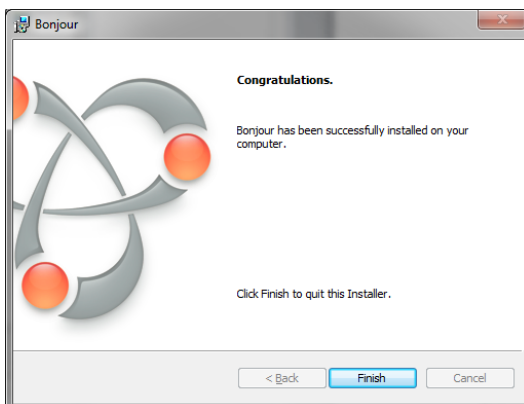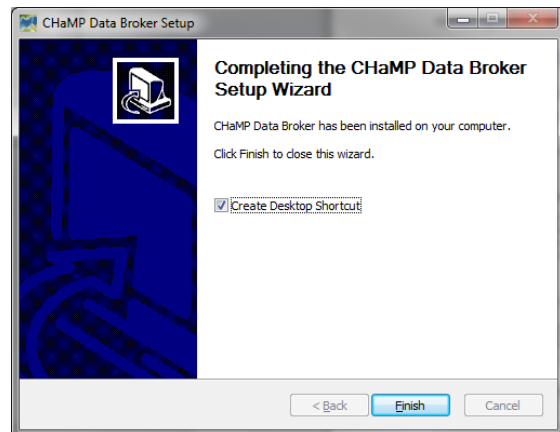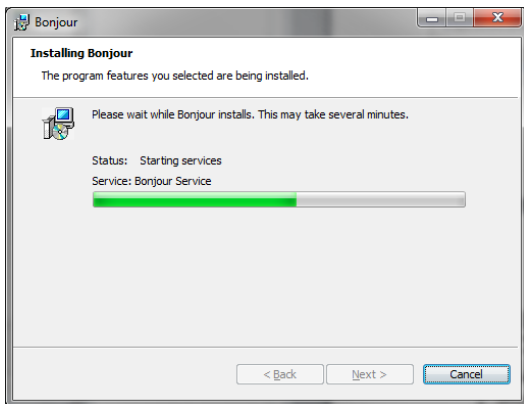
3. Let the installer continue to run. Windows will flash by, and black windows will open and close. This is normal.

4. When you see "installation complete", click "next.


5. Click Finish.

Appendix B: Updating the Data Broker Software

If there is a new version, the broker will prompt you to install it.

When you agree to install the update, you'll see a 30-second countdown window before the installer runs. This is because the broker has to exit completely and close all of its files before we can replace them, and that can take a bit.

After that, installing the update is exactly the same as a new install. See above.

You'll see a screen that says "Change or remove Bonjour". Click cancel, then yes, then finish. The rest of the install will continue as normal.
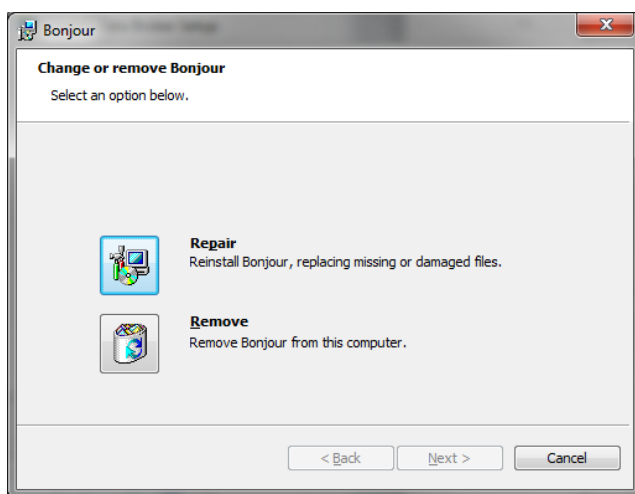
Appendix C: Start the Broker Background Service

Once the Broker has been installed, you will need to start the background service. Once the background service has been started, updates will occur automatically.

1. Open the Broker application
2. Click the red gear icon in the lower right corner of the Broker window
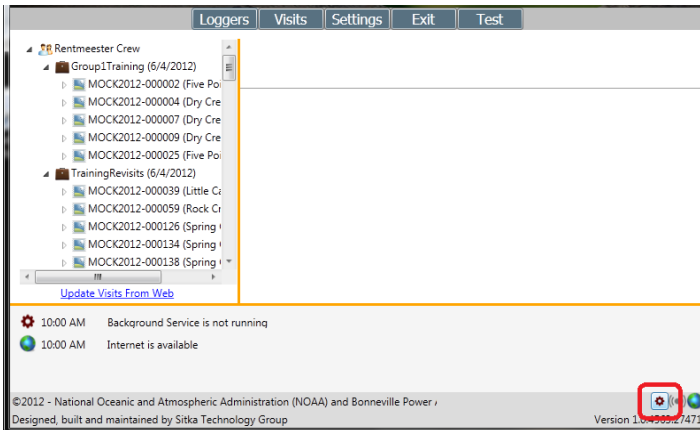
3. Allow the Broker a minute or two to turn on the service
4. Verify that the background service is running.
   a. The gear icon will now be green
   b. A message will report "Background Service is running"
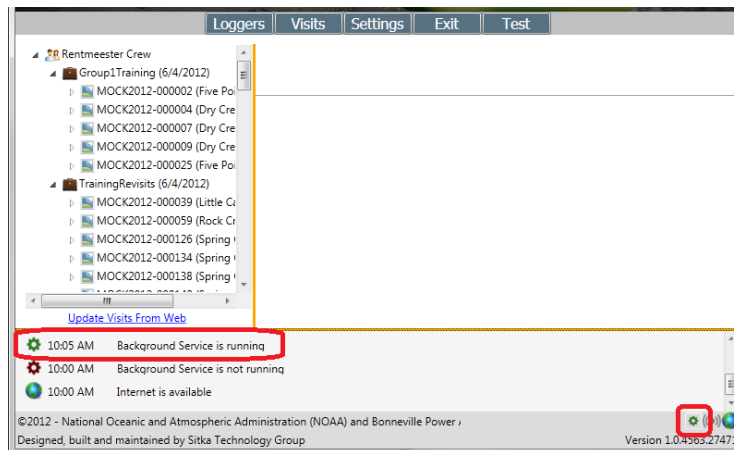

The broker must be running in order for the iPad to communicate with it.

If your laptop has gone to sleep with the broker running, your network address may have changed. In that case, you'll need to close and re-open the broker for the iPad to see it.
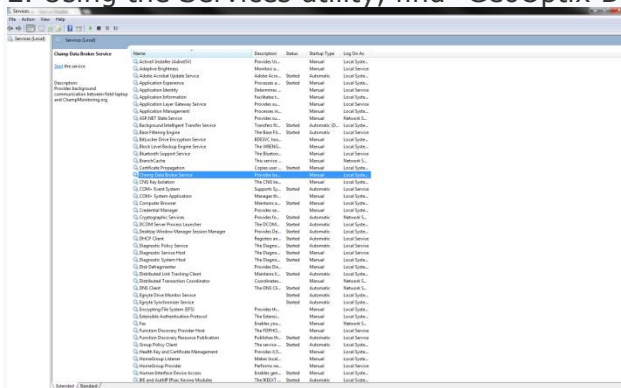
Appendix D: Manually Start or Stop the Broker Service

1. Open the Start Menu.

A) In the search line, type **services.msc** and press **Enter**. (See screenshot below)
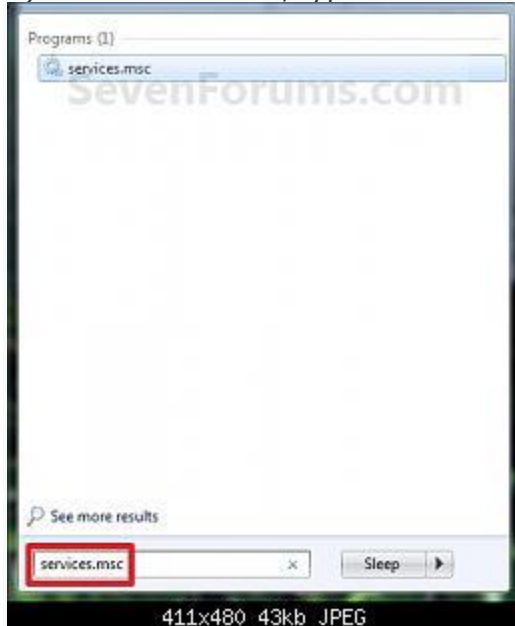
2. Using the Services utility, find "GeoOptix Data Broker Service" in the list of local services.

3. Right click on "GeoOptix Data Broker Service" and select "Start" from the context menu