Solmetric SunEye Post-Processing Procedures

This section describes the necessary steps for editing SunEye images and transferring data from the SunEye to the CHaMP database. For more specific instructions, the user's manual can be downloaded here: Solmetric SunEye User Guide.pdf

Transferring Raw SunEye Data to Laptop

Step 1. Attach the SunEye to the laptop computer using the USB cable provided with the SunEye and turn the power on.

Step 2. Launch the SunEye application from the SunEye icon on your laptop or from the Windows Start button by selecting **All Programs > Solmetric > SunEye > Solmetric SunEye**.

Step 3. Within the SunEye application, select **File > Transfer from Device**. When prompted to transfer the sessions from the SunEye, select Yes. The data transfer moves all sessions and skylines from your hand-held device to your laptop PC. The data files are no longer available on the hand-held device after the data transfer takes place. The data is stored on your PC in the location Documents\Solmetric\SunEye\Sessions.

The directory name for each transferred session is a combination of the session name (e.g., site ID and date) and the time and date the session was created. For example, "2012_08_16.222016;CBW05583-108010-20120801." This naming convention ensures that multiple sessions with the same name do not get overwritten. **It is important not to alter the folder contents or file names.**

Editing SunEye Images

Step 1. Within the SunEye application, select **Session > Browse**. Locate the session that you want to edit, click on the session name, then click **Open**.

Step 2. Open a skyline image for editing by selecting **Skyline** > **Browse**. Click on the skyline number you want to edit, then click **Open**.

Step 3. Select **Skyline > Edit Open Sky.** Uncheck the box that says "Show shading outside sunpaths". Edits only need to be made to the sunpath zone of the image, as this is the only data used to estimate solar radiation.

Step 4. Edit the image. All pixels in the skyline image are shaded either yellow (representing open sky) or green (representing shade-causing obstructions such as vegetation, land forms, buildings, etc.). In some cases, the software incorrectly determines whether a pixel represents open sky or an obstruction due to problems with solar glare, cloud cover, poor contrast between vegetation and open sky, or other image quality issues. These errors can be corrected by either adding open sky, or adding obstructions using the paintbrush editing tools.

a. To add open sky to an image, select the yellow open sky paintbrush icon  , click in the image where you want to add open sky, and paint by moving the box around in the image. The size of the paintbrush can by changed by clicking the paintbrush icon again. Also, you can zoom in on the image for high-precision editing, or zoom out for rapid, low precision editing.
b. Similarly, you can add obstructions to an image by selecting the green obstruction paintbrush icon  and following the same procedures described in step 4a.

Focus on editing obvious errors such as clouds that are coded as obstructions or tree trunks and foliage that is coded as open sky. Try to ensure that major gaps in the tree canopy are coded as open sky, but do not try to edit every single small gap in the canopy.

Step 5. Once the image has been edited to your satisfaction, select the **X** icon in the upper right corner and then select "Apply Changes".

Step 6. Edit the remaining skyline images following steps 2-5.

Creating a SunEye Report

Step 1. Within the SunEye application, Select **File > Export Session Report and Data**.

Step 2. Under "Client Name", enter the site ID and date separated by a dash (e.g., CBW05583-108010-20120801). Leave all other fields blank. Then select **Next**.

Step 3. Under "Your name", enter your full name followed by your agency acronym (e.g., Casey Justice CRITFC). Leave all other fields blank. Then select **Next.**

Step 4. Select all the skylines you'd like to include in the report by checking the box next to each skyline. Leave the "Obstruction Elevation" and "Solar Access" boxes unchecked. Then select **Next.**

Step 5. Save report as "HTML".

Step 6. Select **Change folder**, navigate to:

C:\ChampBroker*Your Organization**Your Crew**Current Hitch**Site Id*\ SolarInput\Exported

Step 7. Select **OK**, then **Export**, then **Close.**

Save .sky and .son files

Step 1. Open the folder "C:\Users\champ\Documents\Solmetric\SunEye\Sessions\"

Step 2. Open the session folder for the current survey

Step 3. Locate the 11 files with the ".sky" extension and the one file with the ".son" extension

Step 4. Copy the 11 ".sky" files and one ".son" file

Step 5. Navigate to:

C:\ChampBroker*Your Organization**Your Crew**Current Hitch**Site Id*\SolarInput\Exported

Step 6. Paste the12 files into the ChampBroker survey folder.