

For information on storing and operating IceMap in cold temperatures, please refer to the IceMap Operation Manual.


IceMap system connections

Setup

- 1 The diagram on the right shows the components inside the Electronics Box for the IceMap system.
- 2 Connect the battery to power up the system. The blue LCD screen on the front of the SPIDAR NIC-500 will illuminate.
- 3 Turn on the laptop and login. The laptop automatically connects to the Wi-Fi network on the NIC-500 (“IceMapXXXX”), the Wireless Access Point and the Noggin sensor. This takes 1 to 2 minutes. Once all the connections are established, the NIC-500 LCD screen displays the message below.



Settings


- 4  Run the IceMap software. The status at the top left of the screen will say **Searching**, then **Found** and finally **Ready**. If the status says **Searching** for an extended time, check to make sure the PC is connected to the IceMap network.



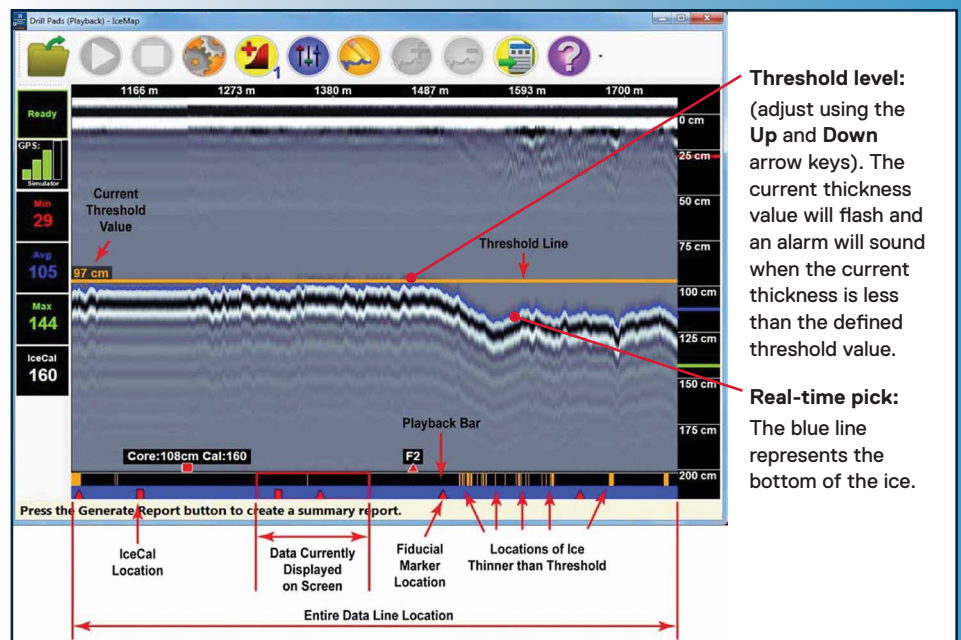
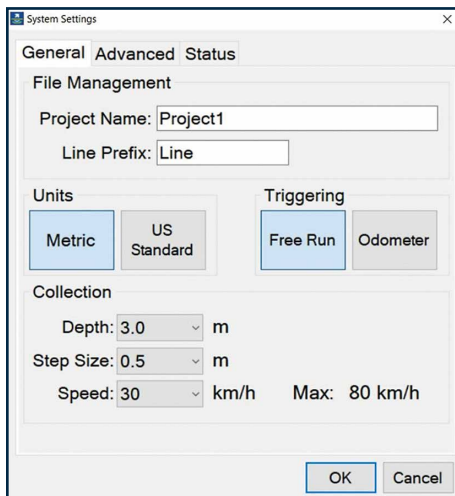
- 5 Review the **System** and **View Settings** by clicking on the icons at the top of the screen.



System Settings View Settings

- 6 Now you are ready to begin collecting data. Press  and choose **Run and Save** to save data (or **Run Without Saving** to do a test line). The status will say **Initializing** and finally **Ready to Start**. Click anywhere on the screen to start data collection.
- 7 A cross-section image will begin to scroll across the screen. The bottom of the ice is picked in real time, and a pick (.IPK) file is saved along with each data file. The minimum, maximum, and current ice thickness is displayed at the side of the window.

Set the **Depth, Step Size and Speed**.
The current GPS status is displayed on the left side of the screen under the IceMap system status:

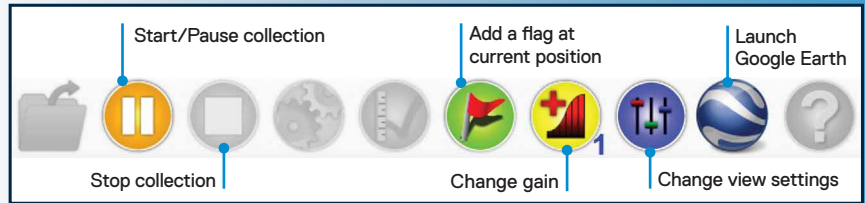


Threshold level: (adjust using the Up and Down arrow keys). The current thickness value will flash and an alarm will sound when the current thickness is less than the defined threshold value.

Real-time pick: The blue line represents the bottom of the ice.

Survey

- 8 While acquiring data, you can add **Flags**, change the **Gain** and **View Settings**, press the “Z” key to change the zoom level, and launch **Google Earth** to track your path and position in real-time.



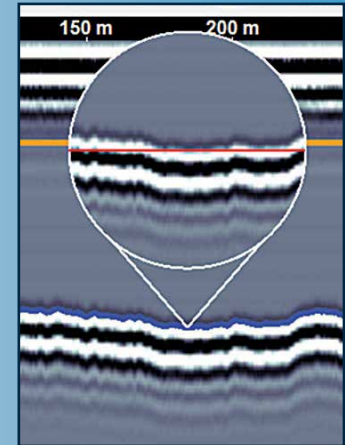
Calibrate

- 9 It is important to calibrate on the thinnest, floating ice often to ensure accurate depth measurements. Follow these steps to define an Ice Cal value.

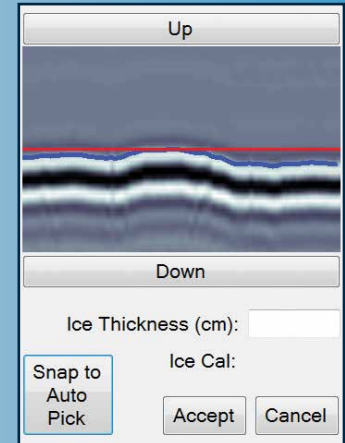
1. Press to pause data collection.
2. Click on the **Calibrate** icon at the top of the screen. The calibration bubble will appear in the window (right, top).
3. Drag the bubble to the bottom of the ice reflection at the spot you wish to calibrate. This depth can be fine-tuned later.
4. Click the **Calibrate** icon again to open the calibration dialog. The area defined earlier in the calibration bubble is shown here (right, bottom). The blue line is the automatic pick, and the red line is the pick that will be used in the Ice Cal calculation.
5. In most circumstances, the auto pick should be used. Click **Snap to Auto Pick** to use the bottom of the ice as picked by IceMap.
6. Drill a hole in the ice directly below the Noggin unit and measure the ice thickness.
7. Enter the measured ice thickness in centimetres or inches, depending on your unit choice. The Ice Cal value is calculated and displayed. Values are typically 140 to 170.
8. Click **Accept** to finish the calibration.
9. Press to resume data collection.



Calibrate icon



The calibration bubble

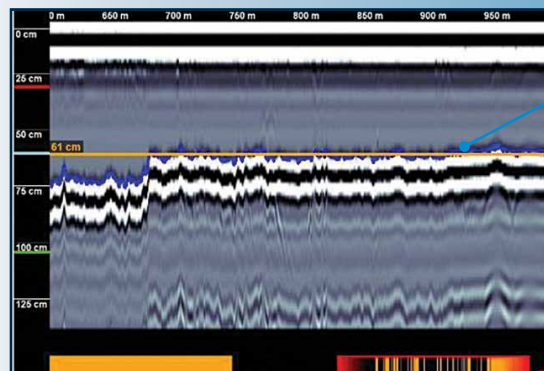
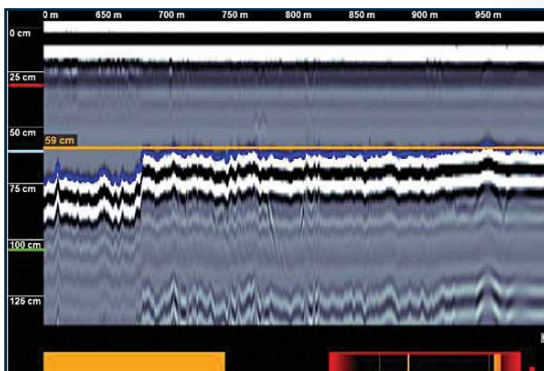


The calibration dialog

NOTE: To view previous core and calibration data, click on the **View Settings** icon and go to the **Ice Cal** tab. You can choose to use the **latest** or an **average** Ice Cal value, or you can enter an Ice Cal value manually.

Review

- 10 When you are finished a line, press to pause and to stop collection. If the line has been saved, it loads for review. Scroll through the data using the left and right arrow keys or jump to a specific spot by clicking on the playback bar at the bottom of the screen with the mouse.



Use the Threshold line to identify the thinnest areas surveyed.

- 11 Areas that are thinner than the threshold thickness will appear as orange blocks and spikes in the playback bar. Click on these spikes to jump to thin spots in the data. Move the threshold line using the **Up** and **Down** arrow keys, the Playback Bar instantly updates.

To edit the ice thickness picks, click on the Edit button on the toolbar.



This guide summarizes the set-up and operation of the IceMap system. Refer to the IceMap operation manual for additional details.