Stereonet Mobile v. 4.0
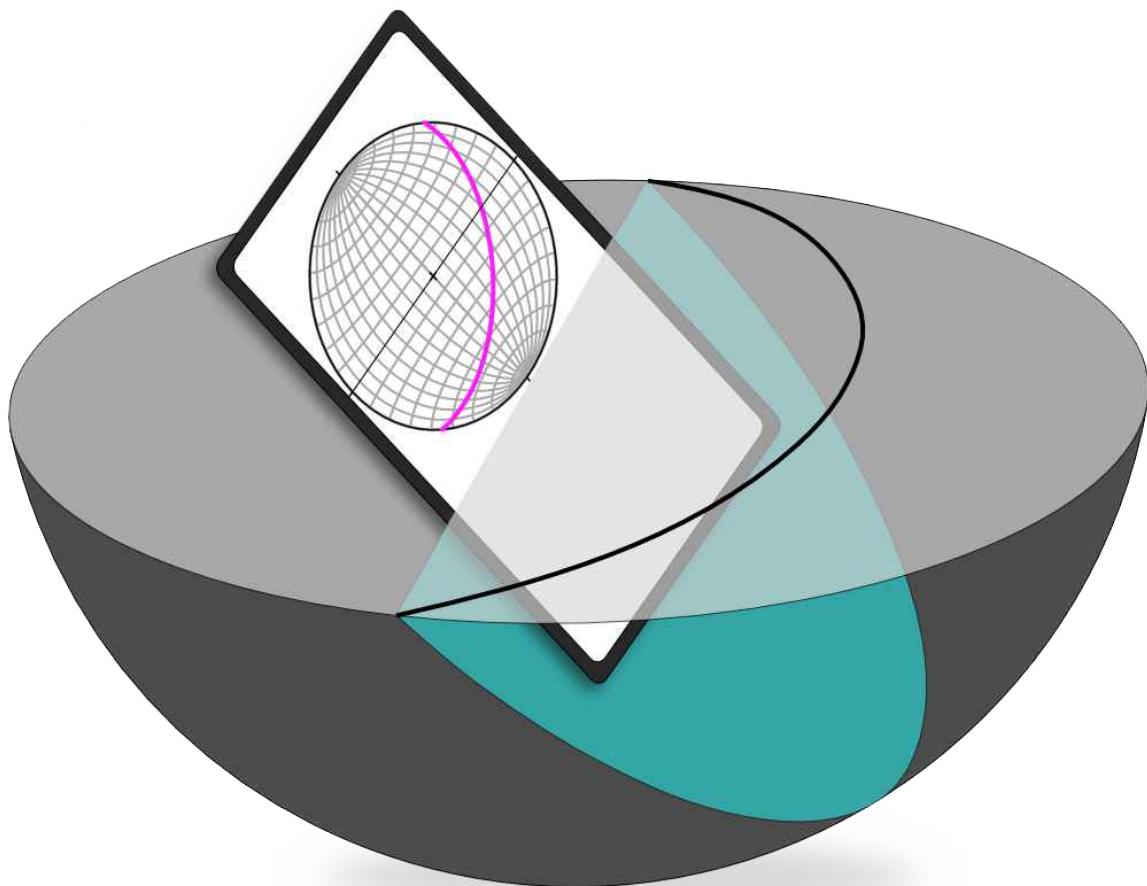# User's Manual

By Richard W. Allmendinger © 2022

Table of Contents

Stereonet Screen

Go to the [Settings Screen](#)

Specify the type of data being entered.

To enter a rake, first select plane and type in the strike and dip. Then tap the rake button and type in the line on the plane. Finally, tap Save. In Auto mode, you can tap Rake and the place the phone on the plane with the long axis parallel to the lineation.

Turn on Auto mode to use the phone orientation to measure the plane. You can tap anywhere in the stereonet to turn off auto mode and freeze the measurement

Turn on or off your device GPS. When on, the toolbar icon is filled and the current location appears below the plot

Go to the [Configure Plot Screen](#)

Go to the [Data List Screen](#)

The active orientation is shown here. You can type values into the text boxes if you want to enter data manually

Set the data type for the active orientation

Save the current measurement

The name of the current project (data-set) is shown here

The data that appears on the plot is controlled in three places/ways: (1) on the [Plot Configuration Screen](#), (2) the [Filter Data Screen](#), and (3) by toggling on or off individual measurements in the [Data List Screen](#), the [Datum Details Screen](#), or lassoing them in the Map screen and choosing Show or Hide.

Go to the [Calculations Screen](#)

Display the [Filter Data Types Screen](#)

Go to the [Sighting Screen](#) to sight through the device camera along a bedding plane
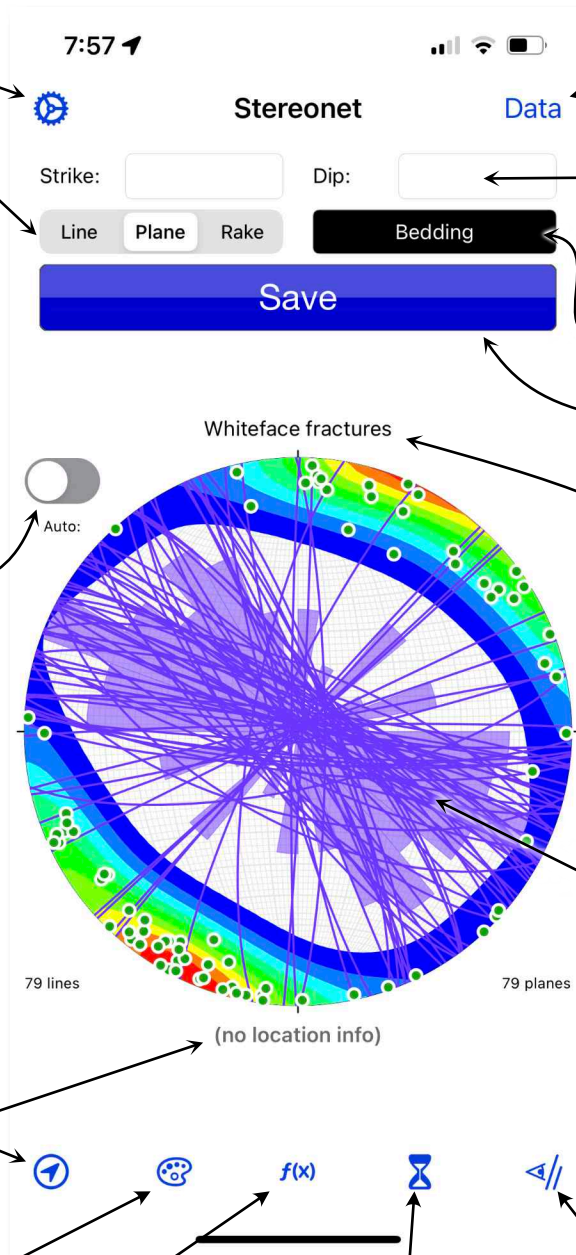
Sight on Contact Screen

To sight on a contact, you must be sure that your eye, and the pole to the device, is in the plane of the contact. It is a good method for smoothing out local bedding variations.

Tap the screen lightly when you are done to freeze the measurement which will automatically be transferred to the [Stereonet Screen](#)
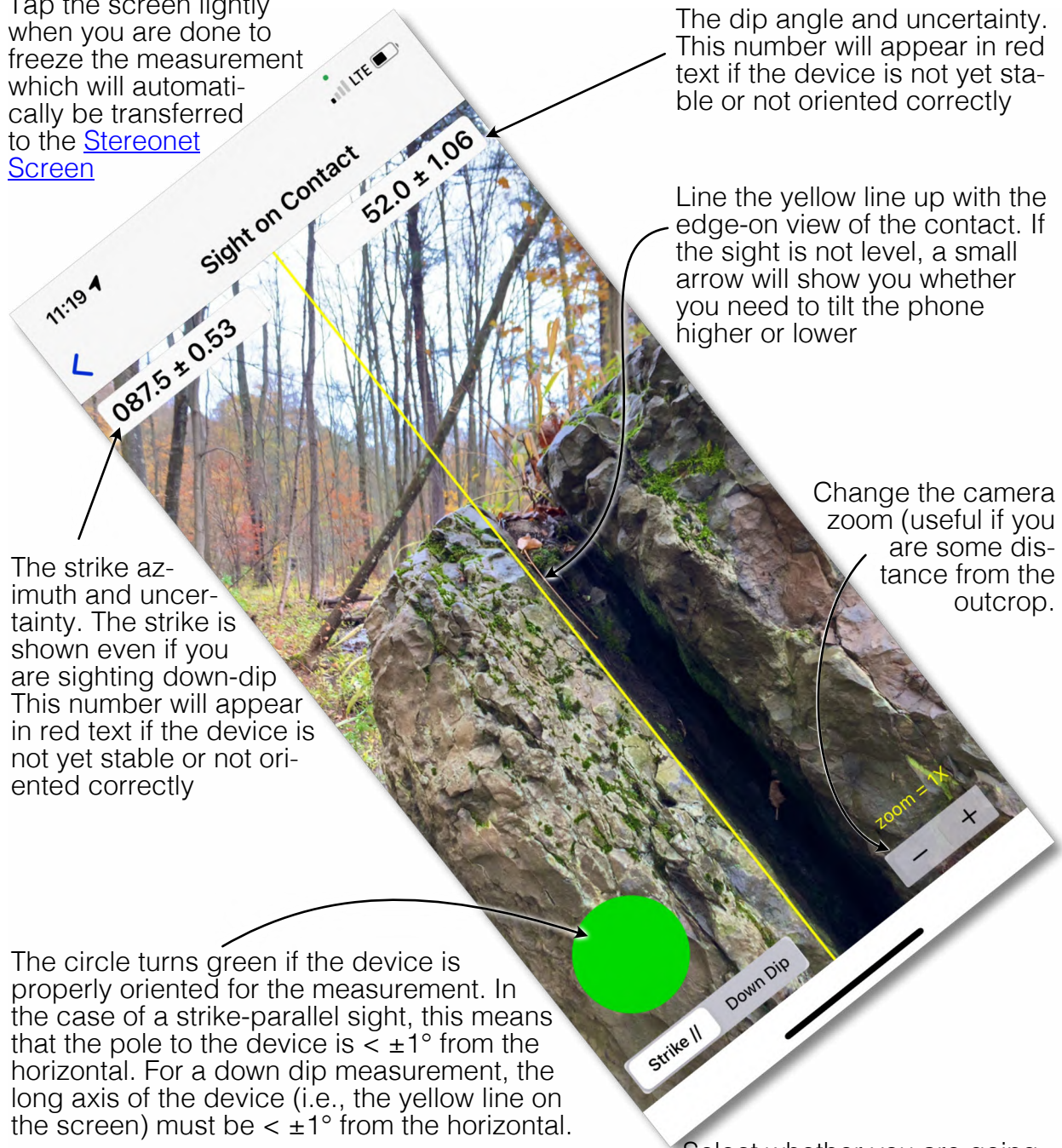
The dip angle and uncertainty. This number will appear in red text if the device is not yet stable or not oriented correctly

Line the yellow line up with the edge-on view of the contact. If the sight is not level, a small arrow will show you whether you need to tilt the phone higher or lower

The strike azimuth and uncertainty. The strike is shown even if you are sighting down-dip This number will appear in red text if the device is not yet stable or not oriented correctly

Change the camera zoom (useful if you are some distance from the outcrop.

The circle turns green if the device is properly oriented for the measurement. In the case of a strike-parallel sight, this means that the pole to the device is < ±1° from the horizontal. For a down dip measurement, the long axis of the device (i.e., the yellow line on the screen) must be < ±1° from the horizontal.

When not properly oriented, you will see a hollow red circle with a slash through it.

Select whether you are going to take a horizontal, strike-parallel sight on the bedding plane or sight down dip.

Settings Screen

ABOUT STEREONET MOBILE

Documentation   ›

About   ‹

Best Practices   ›

CONVENTIONS & REFERENCE SYSTEMS

Location As: Lat & Long   UTM

Planes Format: S & D   D & D Az   Poles

APPEARANCE

Stereonet Proj: Area   Angle   Polar

Stereonet Grid: None   Light   Dark

Change grid when tapping or dragging   ⬤

Negative plunges in upper hemisphere   ○

Line Sz = 4.0   Plane Sz = 1.5

CONTOURS

Contour Style: Color Fill   Lines O...   Both

Opaque ──●────────────────────── Transp

Contour lines use datatype color   ○

OFFSET TAP POINT

Δ X =   -35   Δ Y =   -35

CHANGE VIEW DIRECTION

Azimuth = 000.0   Plunge = 90.0

STRABOSPOT

StraboSpot Integration   ⬤

Geologist: Allmendinger

You're reading the documentation now!

Read the best practices for using a smart phone compass app

Display planar orientations as strike and dip (S&D), dip and dip azimuth (D&D Az) or as poles to planes

Select the prominence of the stereonet grid

When checked, negative plunges will be plotted in the upper hemisphere

Show contours as fill only, lines only or both

Contours will use data type color

Change the view direction for the stereonet. When you do this, the outside circle will no longer be horizontal

All observations are tagged with the geologist's name so you know who collected the data!
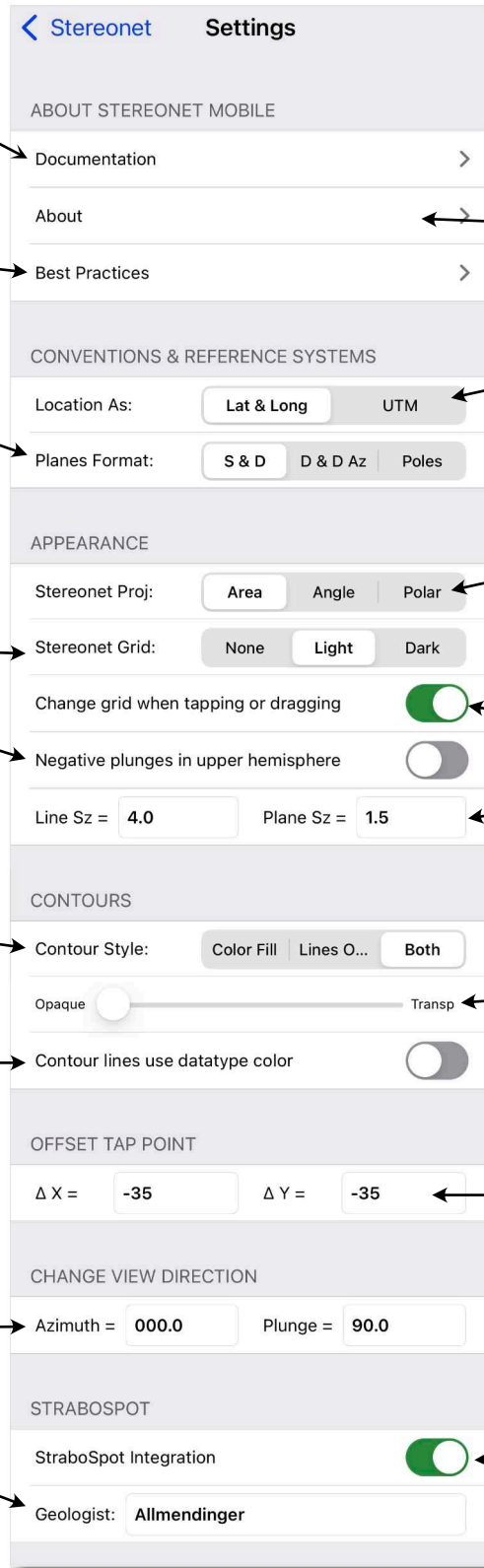
The app version, disclaimers, and acknowledgments

Display coordinates in latitude-longitude or UTM

Choose the type of projection that you want for the stereonet

Rotate the grid while tapping and dragging in the stereonet

Set the default sizes for lines and planes

Set the transparency of contour fill

When tapping and dragging in the stereonet or the map screens, it helps to offset the "hot point" of the tap from underneath your finger so you can see it! Negative values move the point up and to the left on the screen

Turn on (or off) StraboSpot. When off, you will not be able to access any of the StraboSpot Screens
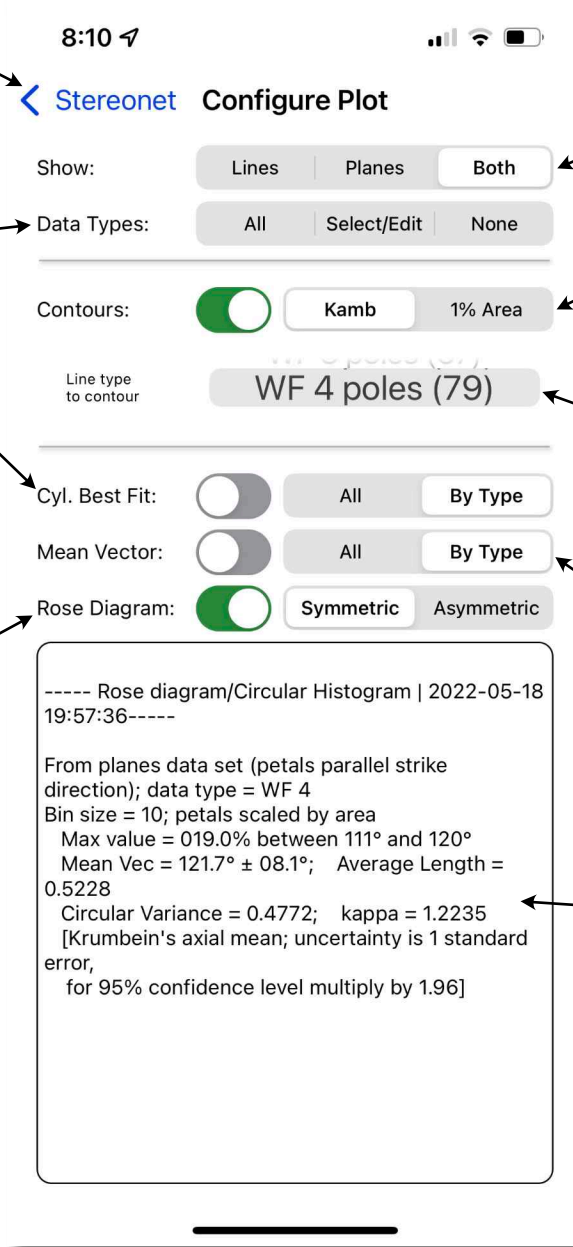
Configure Plot Screen

Return to the [Stereo-net Screen](#)

Select the data types to show on the plot. Select/Edit will display the [Filter Data Types Screen](#)

Turn on or off cylindrical best fit and whether or not to do separate calculations for each lines data type

Turn on or off rose diagram and whether or not the petals should be symmetrical

Choose what basic data categories to show on the plot

Turn on or off contours and select the method

You must also select which of the lines data types to contour

Turn on or off mean vector and whether or not to do separate calculations for each lines data type

The numerical results of the analyses you choose are shown in this text box. You can copy the text from here

---

8:10

< Stereonet **Configure Plot**

Show: | Lines | Planes | Both |

Data Types: | All | Select/Edit | None |

Contours: ⬤ | Kamb | 1% Area |

Line type to contour: **WF 4 poles (79)**

Cyl. Best Fit: ◯ | All | By Type |

Mean Vector: ◯ | All | By Type |

Rose Diagram: ⬤ | Symmetric | Asymmetric |

----- Rose diagram/Circular Histogram | 2022-05-18 19:57:36-----

From planes data set (petals parallel strike direction); data type = WF 4
Bin size = 10; petals scaled by area
  Max value = 019.0% between 111° and 120°
  Mean Vec = 121.7° ± 08.1°;   Average Length = 0.5228
  Circular Variance = 0.4772;   kappa = 1.2235
  [Krumbein's axial mean; uncertainty is 1 standard error,
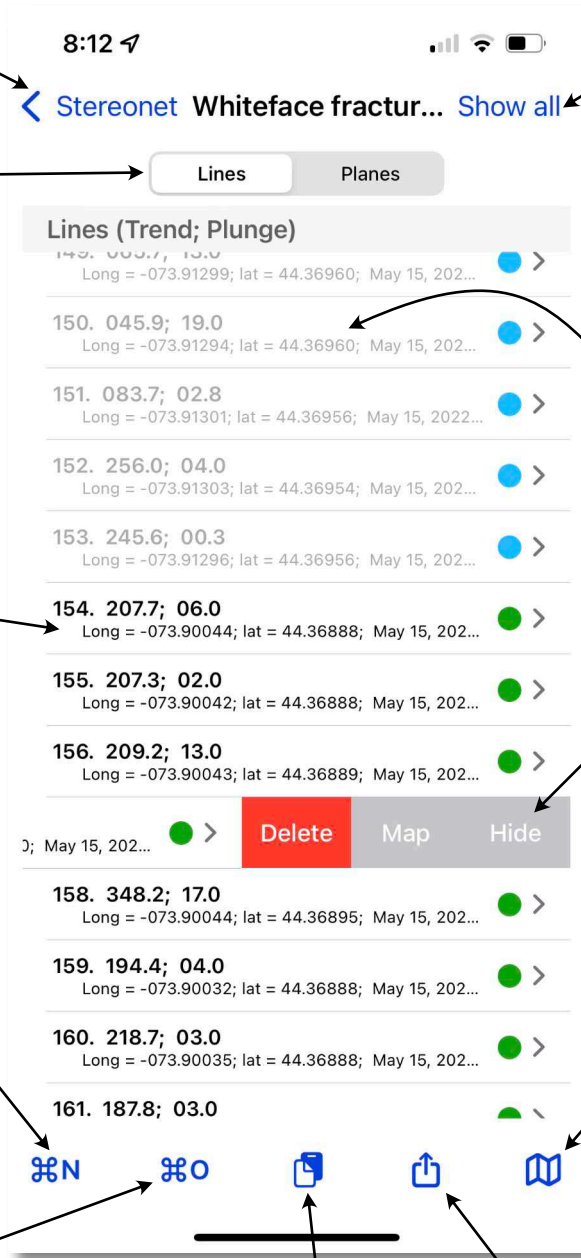   for 95% confidence level multiply by 1.96]

Data List Screen

Return to the [Stereo-net Screen](#)

Select whether to display lines or planes in the data list

Turn off any filtering and show all measurements

These measurements are in light gray because the are set to not be shown on the plot

These measurements are in black because they are showing on the plot. Tap one to go to the [Datum Details Screen](#) for that orientation.

Swipe left to reveal these choices of what to do with the selected datum. If you select delete, a message box will appear to confirm your choice.

Start a new project. The current project will automatically be saved before proceeding. You will also be given the option of adding the current measurements to the new project

Show all of the current, showing data on an [Apple Maps satellite view](#)

Open an [existing project, text file](#) or if StraboSpot is enabled, access the [StraboSpot download screen](#). You will be given the option to append to or replace the current project. If you choose replace the current project will automatically saved before closing it.

Import data on the clipboard and append to the current project

Export data as a database file, a text file, or if StraboSpot is enabled, access the [StraboSpot upload screen](#). If StraboSpot is not selected, then you will see the standard iOS Sharing Panel.

Within the screenshot:

8:12

‹ Stereonet **Whiteface fractur...** Show all

Lines | Planes

Lines (Trend; Plunge)

149. 083.7; 13.0
Long = -073.91299; lat = 44.36960; May 15, 202...

150. 045.9; 19.0
Long = -073.91294; lat = 44.36960; May 15, 202...

151. 083.7; 02.8
Long = -073.91301; lat = 44.36956; May 15, 2022...

152. 256.0; 04.0
Long = -073.91303; lat = 44.36954; May 15, 202...

153. 245.6; 00.3
Long = -073.91296; lat = 44.36956; May 15, 202...

154. 207.7; 06.0
Long = -073.90044; lat = 44.36888; May 15, 202...

155. 207.3; 02.0
Long = -073.90042; lat = 44.36888; May 15, 202...

156. 209.2; 13.0
Long = -073.90043; lat = 44.36889; May 15, 202...

); May 15, 202... **Delete** **Map** **Hide**

158. 348.2; 17.0
Long = -073.90044; lat = 44.36895; May 15, 202...

159. 194.4; 04.0
Long = -073.90032; lat = 44.36888; May 15, 202...

160. 218.7; 03.0
Long = -073.90035; lat = 44.36888; May 15, 202...

161. 187.8; 03.0

⌘N ⌘O

Datum Details Screen

Return to the Data List Screen

Tap to enter Strabo Details. Only shown if StraboSpot Integration is turned on

Toggle this switch to show or hide an individual measurement.

Change the data type for the datum

Scroll through all of the measurements without having to return to the Data List Screen

Notes can have any text that you want associated with them. You can even use dictation to take notes although technical terminology poses a challenge to your device speech recognition!

Datum Details screen:

- 8:17
- ‹ List **Datum Details** Strabo
- Line: 158 display [toggle ON]
- Trend: 348.2 Plunge: 17.0
- Long: -73.9004446 Lat: 44.368953
- Elev: 1357.6
- Day: 15 Mon: 05 Year: 2022
- WF 4 poles Time: 07:55:21
- Scroll: [slider]
- Notes:
- you can type or dictate whatever you want here!

Delete the datum. A Message box will ask if you are sure!

If you want to reset the measurement location to your current position, tap the location button

Tap the Map button to see this individual measurement plotted on an Apple Maps satellite image.

StraboSpot Data Screen

StraboSpot Data Entry

Select StraboSpot Planes Type:

foliation
fracture
fault

Select Fracture Type:

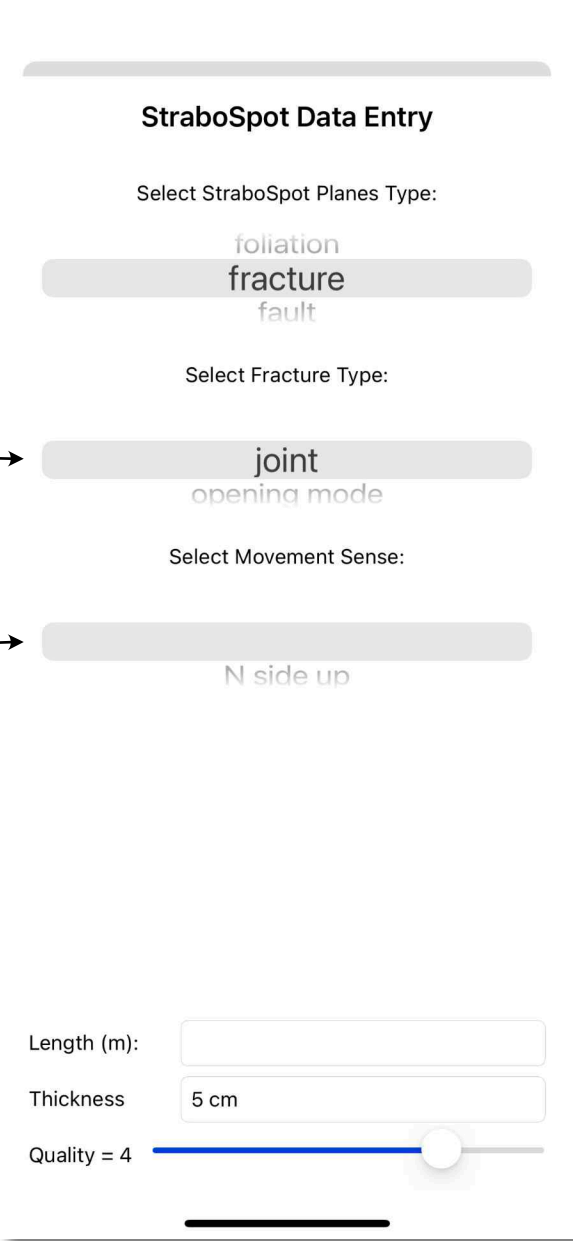### joint
opening mode

Select Movement Sense:

N side up

These spinning selectors change depending on your selection in the top spinner

Length (m):	
Thickness	5 cm
Quality = 4	

The StraboSpot data entry screen is where you apply the StraboSpot lexicon to your observations. Stereonet Mobile permits you to apply the lexicon up to three levels deep where appropriate. Once you make your entries, simply swipe downward to dismiss this screen. You cannot access this screen if StraboSpot integration is not enabled in the Settings Screen.

Apple Satellite View Screen

Return to the [Data List Screen](#) (or [Datum Details Screen](#) if you launched the map view from there)

This slider controls the opacity of the map. Slide it to the right to lighten the map and make your orientations more apparent

Set the type of base map to use.

Toggle on or off the device GPS. When on, your current location is show with a blue dot on the image.

Tap the Measure tool icon to enable you to get a location or measure a distance and bearing anywhere on the map. If you are showing a single datum, this tool will also allow you to relocate the datum by clicking on the map. The screen is frozen while you measure

Lasso points on the map and the you will will be given the option of showing, hiding, exporting, or deleting the selected points

Calculations Screen

Return to the [Stereonet Screen](#)

< Stereonet **Calculations**
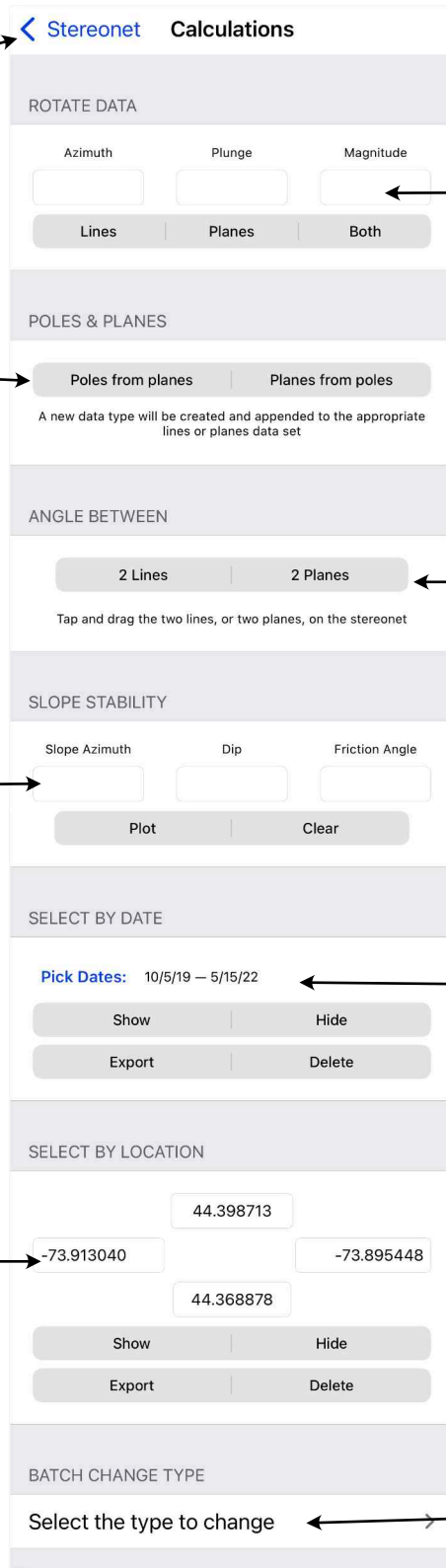
ROTATE DATA

Rotate data by entering the azimuth and plunge of the rotation axis, as well as the magnitude of the rotation. Rotations are clockwise positive looking in the direction of the given axis. New datasets are created, leaving the old data sets untouched.

Azimuth	Plunge	Magnitude

Lines	Planes	Both

POLES & PLANES

Calculate poles (normal vectors) for all of the planes data sets or planes from poles. New datasets are created.

Poles from planes	Planes from poles

A new data type will be created and appended to the appropriate lines or planes data set

ANGLE BETWEEN

Get the angle between two lines or two planes defined by two tap and drag gestures in the [Stereonet Screen](#)

2 Lines	2 Planes

Tap and drag the two lines, or two planes, on the stereonet

SLOPE STABILITY

Carry out a simple slope stability calculation and plot. This function is for educational purposes only!

Slope Azimuth	Dip	Friction Angle

Plot	Clear

SELECT BY DATE

Pick Dates: 10/5/19 — 5/15/22

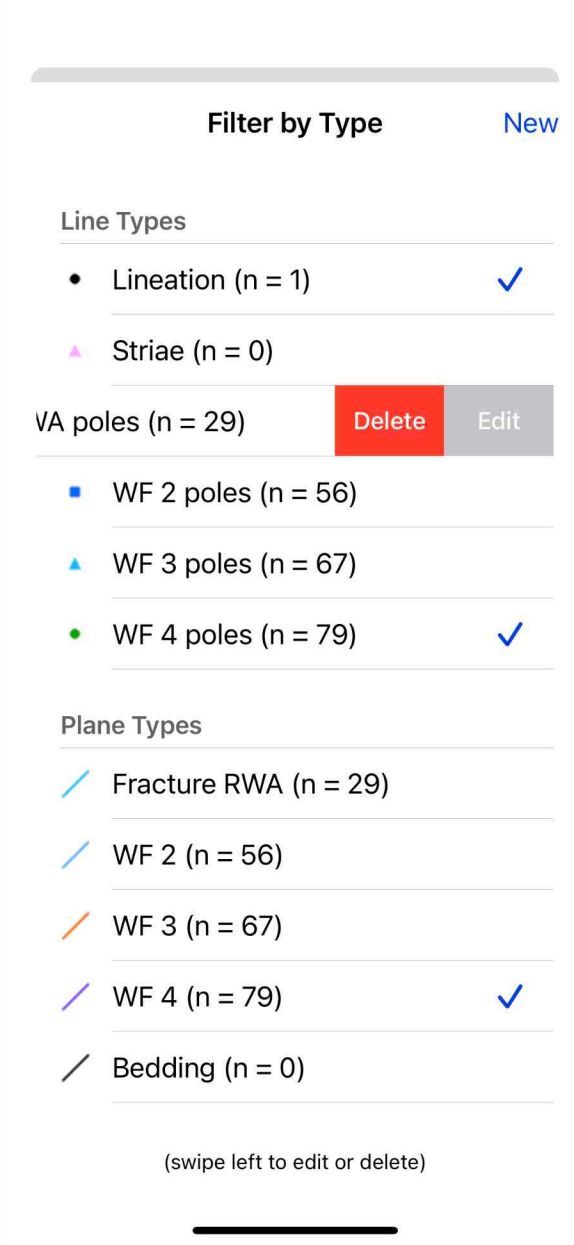| Show	Hide
Export	Delete

Select all data collected between two dates. Tap the Pick Dates button to select the dates. Once selected, you can choose to Show (which will show ONLY the selected data), Hide, Export, or Delete.

SELECT BY LOCATION

Select all data located between the entered longitude and latitude ranges. Once selected, you can choose to Show (which will show ONLY the selected data), Hide, Export, or Delete.

	44.398713	
-73.913040		-73.895448
	44.368878	

Show	Hide
Export	Delete

BATCH CHANGE TYPE

Select the type to change   >

Select all data of one type and change them all into a different type.

Filter Data Type Screen

Access the Data Type Edit Screen to enter a new data type

Filter by Type   New

Line Types

- • Lineation (n = 1)   ✓
- ▲ Striae (n = 0)

The number of measurements associated with each type is shown the parentheses.

VA poles (n = 29)   Delete   Edit

Access the Data Type Edit Screen to edit the data type selected in this row

- ■ WF 2 poles (n = 56)
- ▲ WF 3 poles (n = 67)
- • WF 4 poles (n = 79)   ✓

Plane Types

- / Fracture RWA (n = 29)
- / WF 2 (n = 56)
- / WF 3 (n = 67)
- / WF 4 (n = 79)   ✓
- / Bedding (n = 0)

(swipe left to edit or delete)

This popup modal screen enables you to check the data types that you wish to show and uncheck those that you do not. Swipe left on any data type to edit or delete it. If a data type has data assigned to it, you will be given the opportunity to delete just the data type (and assign any measurements to the first data type) or delete the type AND all associated measurements (be VERY careful!!!)

Edit/Add Data Type Screen

Enter the category for the data type. You can only change this if you are adding a new data type.

Enter or edit the name for the data type. This text box cannot be left empty

Specify the color for the data type, which is shown in the rectangle, below. Alpha sets the transparency. 0 is fully opaque and 255 completely transparent.
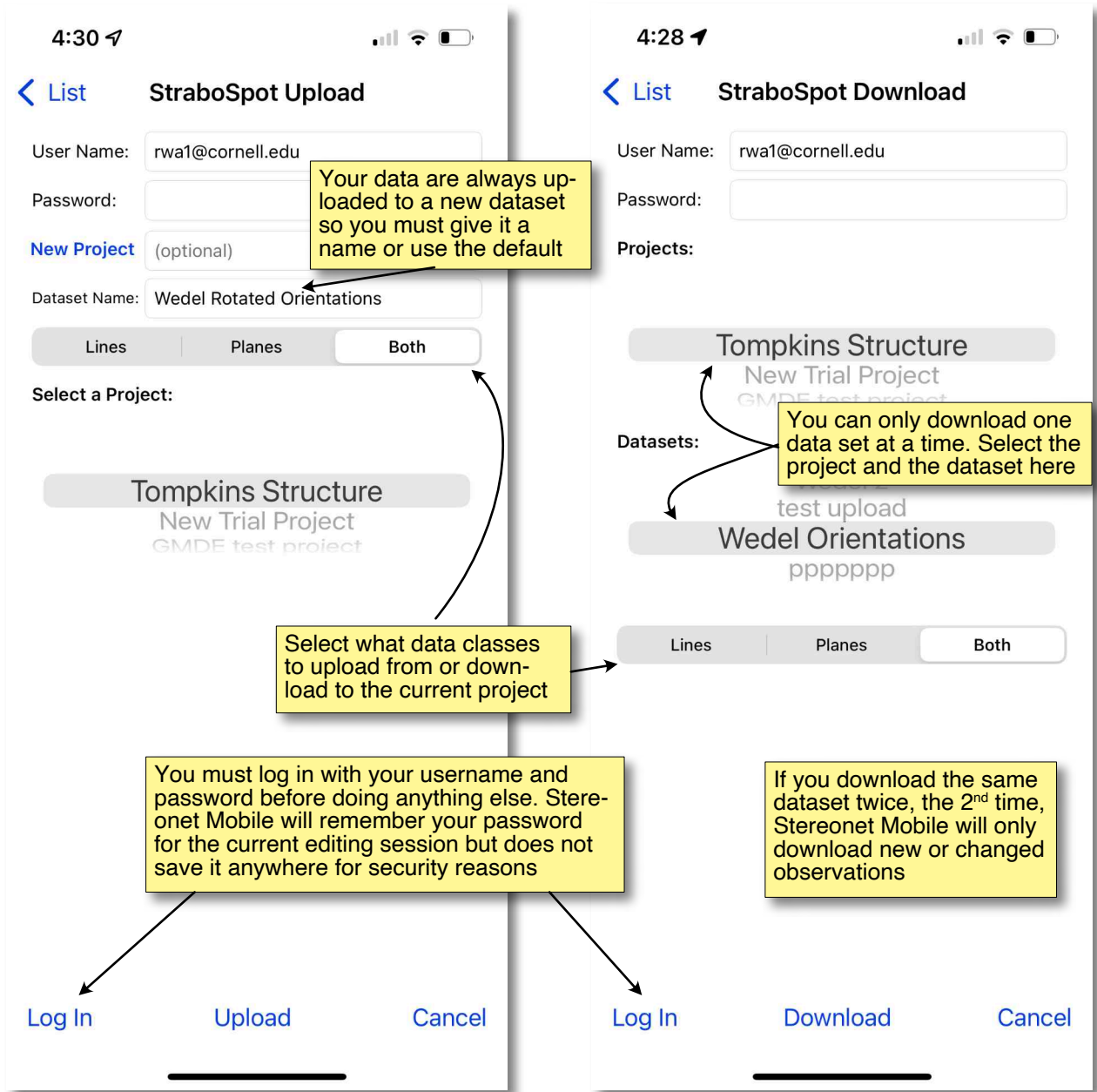
This rectangle shows the selected color.

Select the symbol to use for a line type. If you are adding/editing a plane, this list will show various dash patterns

Enter the size of the line symbol or the width of the plane type's great circle

StraboSpot Upload & Download

StraboSpot is a community online database for field geologists funded by the National Science Foundation. You can get an account at https://strabospot.org

4:30 ⏱

❮ List   **StraboSpot Upload**

User Name: rwa1@cornell.edu

Password:

New Project   (optional)

Dataset Name: Wedel Rotated Orientations

| Lines | Planes | Both |

Select a Project:

Tompkins Structure
New Trial Project
GMDE test project

Your data are always uploaded to a new dataset so you must give it a name or use the default

Select what data classes to upload from or download to the current project

You must log in with your username and password before doing anything else. Stereonet Mobile will remember your password for the current editing session but does not save it anywhere for security reasons

Log In   Upload   Cancel

4:28 ⏱

❮ List   **StraboSpot Download**

User Name: rwa1@cornell.edu

Password:

Projects:

Tompkins Structure
New Trial Project
GMDE test project

You can only download one data set at a time. Select the project and the dataset here

Datasets:

test upload
Wedel Orientations
ppppppp

| Lines | Planes | Both |

If you download the same dataset twice, the 2nd time, Stereonet Mobile will only download new or changed observations

Log In   Download   Cancel

You must tap Upload to initiate the transfer of data to StraboSpot. Stereonet Mobile will tell you when the transfer is complete

You must tap Download to initiate the transfer of data from StraboSpot. Stereonet Mobile will tell you when the transfer is complete

Note: StraboSpot upload and download is only available when you have enabled StraboSpot in the Settings Screen. If your project uses the default, freeform lexicon of types, you cannot up- or download to StraboSpot

# The Open File Browser

The file browser that appears when you click the Open toolbar icon in the Data List Screen is an embedded extension of the Files app that allows you to browse the file types that Stereonet Mobile can open, either on iCloud Drive or on the phone itself ("On My iPhone)
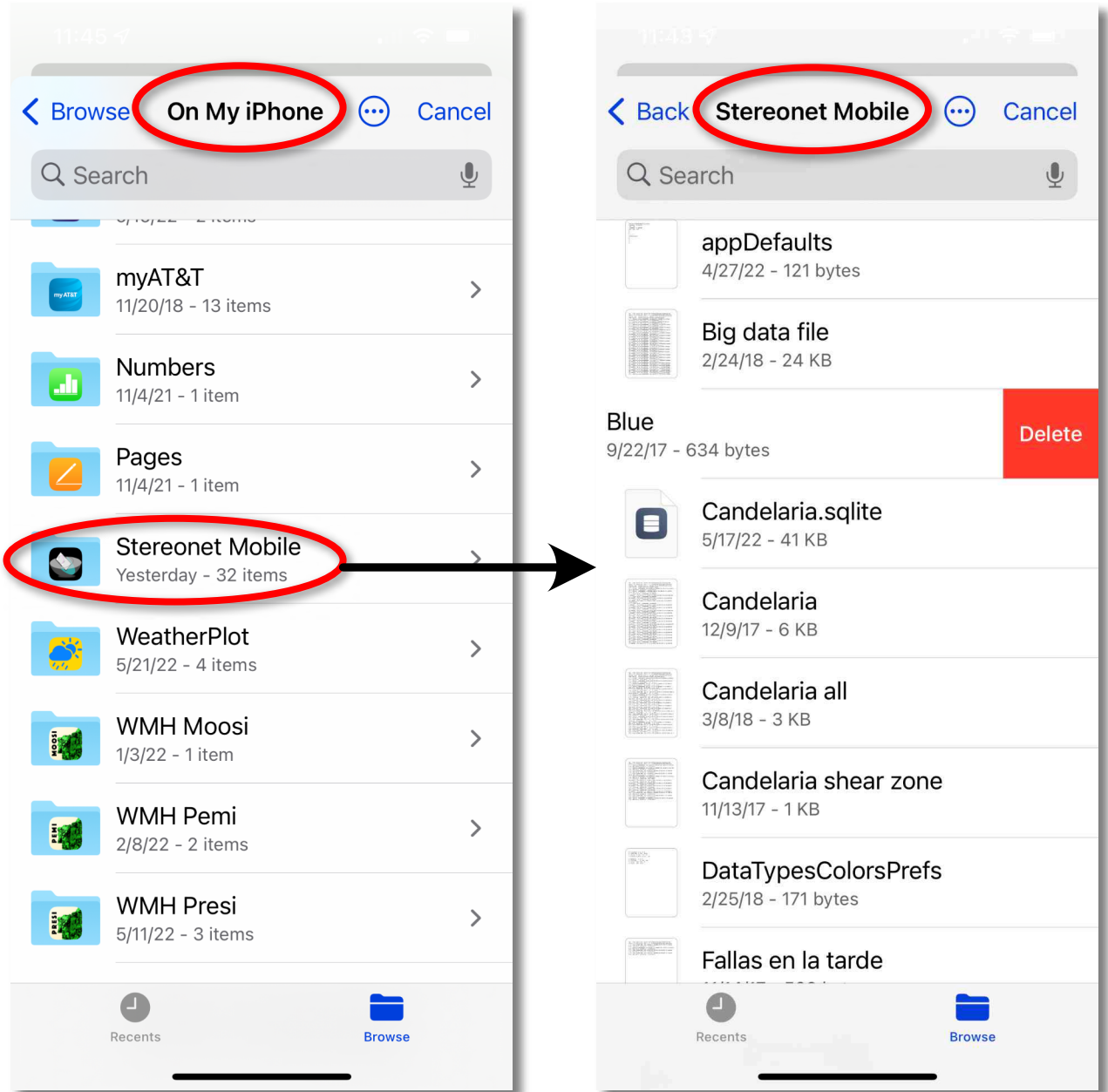
When opening a file, all text files and SQLite database files are shown. The app will tell you if it cannot open a selected file. After you select a file, the app will ask whether you want to append or replace the current project file. Note that you can also delete files from this interface by swiping left (NO warning is given!). All Stereonet Mobile project files are SQLite database files.

Export Data & Sharing Panel
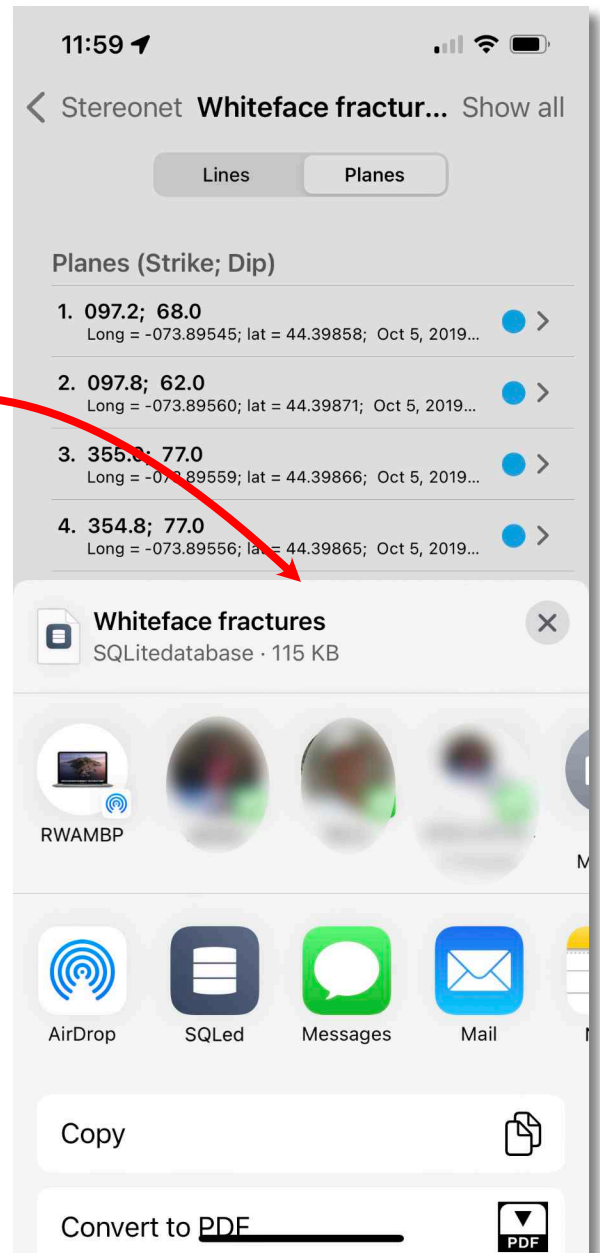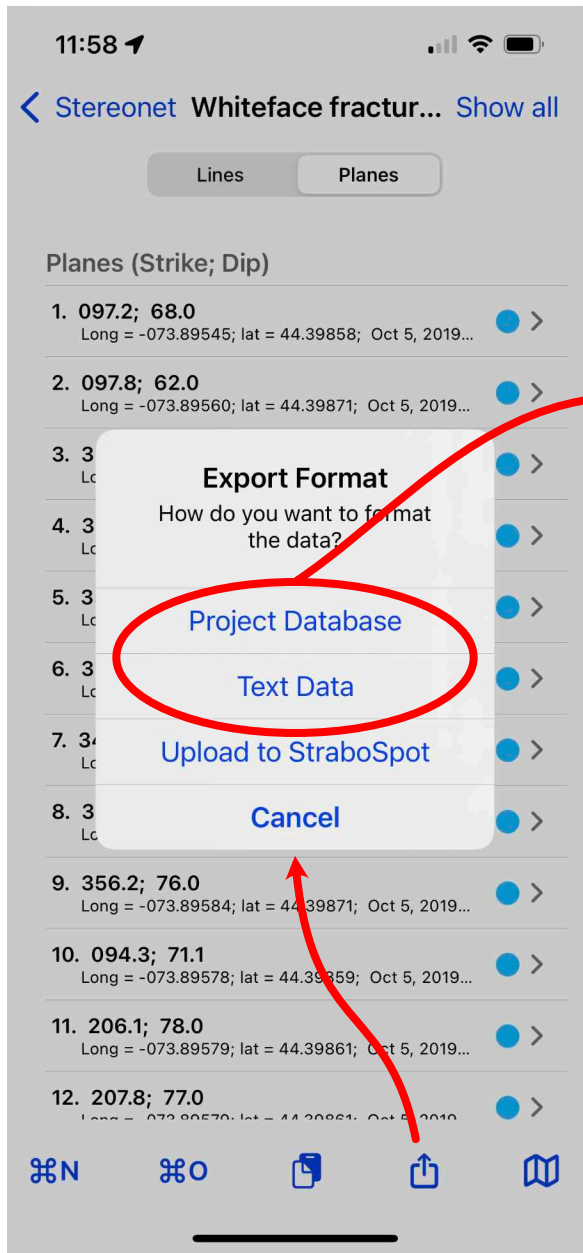
When you tap the Export button, you'll first see this message box. Selecting Upload to StraboSpot will take you to the StraboSpot Upload Screen. Selecting either of the other two will display the standard iOS Sharing panel to the right. *Use Text Data if you are going to copy to the system Clipboard*

Using AirDrop in the Sharing Panel is particularly convenient way to share files. If you have Universal Clipboard sharing enabled between your devices, select Text Data and then tap the copy button. Use the Project Database or Text Data option to send a copy of the file to another app.

Best Practices

1. Consider device purchase carefully — The four different iPhones tested by Allmendinger et al. (2017) appear to be demonstrably superior for data collection to the two Android devices tested by Novakova and Pavlis (2017). This suggests that anyone contemplating data collection with a smart phone should consider their device purchases very carefully, prioritizing quality and reliability over economy. However, on both platforms, phone components and operating systems change all the time and no one can guarantee absolutely that the most reliable phone today will be so two years from now. Unfortunately, most phone manufacturers have little incentive to make phones that are ideal for the structural geologist's purpose.

2. Test individual devices for accuracy prior to field use — Regardless of the device purchased, one should always do careful tests similar to those described here to determine the reliability of their individual instrument before heading out to the field. General reputation of a manufacturer does not guarantee that the individual device will be adequate to the task. If a particular device proves faulty, many apps, including those described here, can still be used as data recorders, providing the user with automatic time, date, and location tagging of all observations. Test should include:

   2.1. Monitor sensors for stability using an app designed for that purpose. Test the sensitivity of the magnetometer by passing metal objects nearby.

   2.2. If using analog compass measurements as a baseline, be sure to compare average of multiple measurements of the Brunton to the average of multiple measurements of the phone app. Do not assume that a single Brunton measurement has absolute accuracy.

   2.3. Compare the angular difference of the average poles to planes determined by each instrument. Strike measurement comparisons are only accurate when the dip of the device is 90° (see the supplemental material in Allmendinger et al., 2017, for an explanation of why this is true.).

   2.4. If possible, compare phone measurements to the orientation of structures as viewed on high resolution satellite imagery or topographic data (e.g., LiDAR). This test is independent of devices that depend on measuring magnetic field orientation.

3. Remove metallic and electronic objects from the vicinity when taking measurements — When using a smart phone in the field, special care beyond that normally used with analog compasses should be taken around metal objects, magnets, and other electronic devices. There are many phone cases available with magnetic clips or closures that can thoroughly spoil your phone readings. Additionally, the user should be careful to remove from proximity seemingly innocent things like metal wristwatches, pens, hand lenses, pocket knives, tablets and laptops, etc.

4. Calibrate the magnetometer in the device frequently — Even though the magnetometer calibration screen seldom appears anymore in iOS 10, in our experience, it is a best practice to perform similar motions (figure-8s, tilting the phone in all orientations) before starting on any new outcrop. Additionally, similar calibrations should be undertaken periodically on a single outcrop, whenever a reading does not

appear to make sense, or where digital and analog measurements differ significantly. Using a program that can display an orientation on a high-resolution satellite image so the user can verify that a measurement agrees with local geologic strike of the feature being measured can provided added confidence. Several field-based GIS systems, Fieldmove Clino, and the latest version of Stereonet Mobile can all do this.

5. Take a traditional analog compass to the field with you — You will want this to check your phone measurements periodically and whenever data from the phone doesn't seem right.

6. Use a ruggedized water and dust proof case for the phone — It goes without saying that any phone being used for data collection should be protected from dust, water, and other abuse in a ruggedized, non-magnetic case.

7. Back up your data whenever you have a cell phone signal by emailing the data to yourself or uploading to the cloud — In some ways, data collection with a well-protected phone may actually be more secure than in a paper notebook: whenever the user has a cell or wifi signal, s/he can simply email the current data file to themselves. This facilitates back up of critical field data at more frequent intervals than one would do if they had to wait until returning to town to find a photocopy shop to copy one's field notes!

8. Take large capacity backup batteries to the field with you — Standard field gear should include large capacity, rechargeable lithium ion batteries. Small, portable batteries with capacities exceeding 20,000 mAh cost less than $50 and can recharge a smart phone completely 5-7 times. When we were using our phones to make 300 or more measurements/day in Chile, the battery would become completely depleted at or even before the end of a ten hour field day. With 4 or 5 days between return trips into town, having such batteries available in one's camp and backpack is essential.

Use in the Field

Stereonet Mobile or GMDE Lite?

Both Stereonet Mobile and GMDE Lite can measure and record orientations so which should you use in the field? That is a matter of personal preference. GMDE Lite is a "map-centric" app but, nonetheless, is actually more versatile than Stereonet Mobile at measuring orientations because it can do all of the measurements that Stereonet Mobile can do (except for measuring rakes on planes), but it can also calculate orientations from three or more points. In contrast, Stereonet Mobile provides a richer array of functions for analyzing and displaying your orientations, but has only rudimentary map functions compared to GMDE Lite.

Fortunately, you do not have to choose! Many people prefer to use Stereonet Mobile on an iPhone for making measurements in the field because of the phone's smaller footprint, but prefer to do their mapping and visualization in GMDE Lite on an iPad because of the larger screen size. As described later in this document, using clipboard sharing between devices, it is easy to send data from one program to the other. Because both programs assign a unique identifier to each datum, data that are already in one program are not duplicated in the other during import.

Assigning Data Types

Basic data types in Stereonet Mobile are very flexible, because they can be anything you want, but are only one level of hierarchy deep. This can present a conundrum for the user because you may want to have both a location or observation site-based categorization plus feature type categorization. While you can achieve this by using data types for location, and StraboSpot attributes for feature type, color and symbology are assigned only based on the data type.

I suggest that, most commonly, you use your data type for geological features, not location. If you need to see the data from just one site within a project, you can easily achieve this by lassoing the points in the Apple Maps Satellite Screen and selecting "Show". This will isolate and show only the observations from that site, hiding all of the other observations outside of the lasso.

For certain types of studies, however, it may be better to make data types which combine location and geological feature type. For example: "Site 1 - cleavage", "Site 2 - cleavage", "Site 2 - bedding", etc.

Moving Data Between Apps

Stereonet Mobile can easily exchange data with my desktop Stereonet program, my desktop GMDE program, and my program GMDE Lite for iOS devices. Additionally, the user may want to upload or download data from their account at StraboSpot.A common usage scenario is using both Stereonet Mobile and GMDE Lite in the field. This section describes the basic means of doing that.

Universal Clipboard Sharing

If all of your devices are running iOS or are Mac desktop computers and are **all registered to the same AppleID**, then the easiest way to transfer data is by using Apple's Universal Clipboard technology. In Stereonet Mobile, go to the Data List Screen, Tap the export button, Select Text Data in the ensuing message box, and then tap the "Copy" button in the iOS Sharing panel. Now launch GMDE Lite and go to the Data List Screen, and tap "Paste" on the toolbar. For MacOS programs likeStereonet or GMDE simply choose paste from the edit menu. If you have older version of those programs, you may have to use the parse text dialog box. Because the data on the clipboard is in simple text format, you can also paste the data into any spreadsheet or word processor.

Using that same basic approach, you can also copy data from GMDE Lite or the desktop programs and the paste it into Stereonet Mobile by tapping the clipboard icon (🗐)in the toolbar of the Data List Screen. Pasted data are always appended to the existing project in Stereonet Mobile. You cannot start a new project with data on the clipboard.

Universal Clipboard sharing works even when you do not have a wireless connection as long as the devices are close enough to establish a Bluetooth connection.

AirDrop File Sharing

If you are sending data from Stereonet Mobile to another iOS device or to a Mac computer *registered to a different AppleID*, Apple's AirDrop technology is the way to go. AirDrop can be used between devices that are registered to different AppleIDs. AirDrop has different levels of access defined by the user. You can turn AirDrop off completely, set it so that you can only receive AirDrops from people in your address book, or set it so anyone can request to send you a file. The latter option should be used with extreme caution in public settings, but you can turn it on temporarily if you know someone is going to send you a document and then turn it off immediately afterwards.

In Stereonet Mobile, tap the export button on the toolbar of the Data List Screen and then choose the file type that you want to send to another user (either project database or text file). Then tap the AirDrop icon in the sharing panel. You will, after a short delay, see all of the nearby devices that can receive an AirDrop from you. Tap the one that you want. If the device belongs to a different AppleID than your device, the receiving device will ask their user to accept or decline the AirDrop. When they accept, they will be asked where the file should go. Choose the Files app and they can place it anywhere that they have access to in the Files app, perhaps most conveniently their own Stereonet Mobile or GMDE Lite folder. The other user can now launch their version of GMDE Lite or Stereonet Mobile and import the data. Use the same procedure to receive files from other users.

Airdrop works even when you do not have a wireless connection as long as the devices are close enough to establish a Bluetooth connection.

iCloud Drive

iCloud Drive is an Apple technology that can be accessed by all iOS users and Mac and Windows users, alike. iCloud Drive is built into all Apple devices; in Windows, you will either have to access iCloud Drive by installing Apple's iCloud Drive program for Windows or access your iCloud Drive in any modern web browser.

In Stereonet Mobile, tap the Export button on the toolbar of the Data List Screen. Select the file format to save to iCloud Drive. Then, in the Sharing Panel, scroll down until you find the "Save to Files" button. Tap that and in the ensuing iOS File Browser, you will see iCloud Drive listed at the top of the list. When you tap that, you can select any location or folder within your iCloud Drive and than tap the Save button in the upper right corner. Before tapping Save, you can name the file to something recognizable by tapping the text icon at the top of the file browser.

On a Mac, the file that you just saved to iCloud Drive will show up in your iCloud directory, which is usually accessed in the side bar of any Finder window. On Windows, you will have to access the file from a web browser (log into your iCloud account and then select iCloud Drive) or more easily if you have installed Apple's iCloud Drive software for Windows.

StraboSpot

Finally, you can move your data around by using your StraboSpot account (you do have one, don't you?). To export data to StraboSpot, tap the Export button on the Data List Screen toolbar, and then choose Upload to StraboSpot in the ensuing message

box. You will be presented with [the StraboSpot upload screen](#). Enter your credentials if necessary and you will then see a list of your projects. Select the project to which you wish to upload the data. ***Stereonet Mobile always uploads your data to a new dataset*** so you must give that dataset a name. Once you do, tap the Upload button on the tool-bar and you will be informed when the upload has completed.

In the receiving app or program, select the StraboSpot download option. Navigate to the project and data set that you just uploaded. Then tap the Download button. Alter-natively, you can log into your StraboSpot account in any web browser and then down-load a file with the data you just uploaded from there in a variety of formats.

Acknowledgments

Stereonet Mobile is provided "as is" without any warranty, explicit or implicit. The au-thor will not be liable for direct, indirect, incidental, or consequential damages resulting from any defect in this software or the user's manual. Recall that your iOS device is very sensitive to magnetic fields and the compass bearings can easily be off by 10-20°! Use this app at your own risk. This program should not be used as a sole source of navigation data. This program may not be sold or offered as an inducement to buy any other product.

With thanks to Jason King for his IOSKit, beta testers Paul Karabinos, Néstor Cardozo, and Haakon Fossen, and students in my structural geology course. I am grateful to Basil Tikoff and Doug Walker for encouraging me to incorporate StraboSpot functional-ity into Stereonet Mobile and to Jason Ash who helped me understand the StraboSpot API.

If you use this program in your research please reference:

Allmendinger, R.W., Siron, C.R., and Scott, C.P., 2017, Structural data collection with mobile devices: Accuracy, redundancy, and best practices: Journal of Structural Geol-ogy, v. 102, p. 98–112, doi:10.1016/j.jsg.2017.07.011."