Field Data Collection Apps –
Top 5 Tips and Tricks

Garrett McKinney
Increase location accuracy
Increase location accuracy – GPS Averaging

Survey123 for ArcGIS

GPS AVERAGING

Average Locations

Number of Locations 10

GPS averaging can improve accuracy by using a set of averaged locations. Locations must be within the location accuracy to be included.
Increase location accuracy – Connect to external GPS via bluetooth

Survey123 for ArcGIS and Collector for ArcGIS

Airplane Mode
Wi-Fi
Bluetooth
Notifications
Control Center
Do Not Disturb
General

Bluetooth
Now discoverable as "bh_iPad4".

MY DEVICES

OTHER DEVICES

1CDEA7666950
Bad Elf GPS #001278
Bad Elf GPS #100015
macbook’s MacBook Pro
Increase location accuracy – Select a location provider and create a location profile

Collector for ArcGIS

<table>
<thead>
<tr>
<th>GPS Receivers</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Receiver</td>
<td>Accuracy: 15 ft, Provider: Integrated Receiver, Location Profile: Tennessee</td>
</tr>
<tr>
<td>Bad Elf GNSS Surveyor</td>
<td>Connected, Antenna Height 0.0 m</td>
</tr>
</tbody>
</table>
Integrate apps
Custom URL Scheme Workflow

- Use Collector for ArcGIS with Survey123 for ArcGIS

- Define web map for use in Collector
- Enable pop-ups for web map features
  - In pop-up, add a hyperlink that includes custom URL scheme
- Within Collector, click feature pop-up > click hyperlink
  - This will open Survey123
  - Optional: can pre-populate answers to survey questions
Integrate Workforce for ArcGIS

- Use Workforce for ArcGIS to assign tasks
  - Integrate Navigator to provide directions to assignment location
  - Use Collector/Survey123 to capture data in the field
Capture attachments
Capture attachments

Survey123 for ArcGIS and Collector for ArcGIS
Use Python to extract attachments

http://support.esri.com/en/technical-article/000011912

```python
import arcpy
from arcpy import da
import os

inTable = arcpy.ParameterAsText(0)
fileLocation = arcpy.ParameterAsText(1)

with da.SearchCursor(inTable, ['DATA', 'ATT_NAME', 'ATTACHMENTID']) as cursor:
    for item in cursor:
        attachment = item[0]
        filenum = "ATT" + str(item[2]) + "_
        filename = filenum + str(item[1])
        open(fileLocation + os.sep + filename, 'wb').write(attachment.tobytes())
        del item
        del filenum
        del filename
        del attachment
```
Track where Collectors go
Use location tracking

Asset management? Use barcodes and QR codes
Barcode Questions in Survey123 for ArcGIS

https://geonet.esri.com/groups/survey123/blog/2016/05/17/understanding-barcode-questions-in-survey123-for-arcgis
Please Take Our Survey on the Esri Events App!

Download the Esri Events app and find your event

Select the session you attended

Scroll down to find the survey

Complete Answers and Select “Submit”