



# GISS and .....

# ArcGIS Collector

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# Agenda

- Overview and ESRI Strategy for Apps
- Collector for ArcGIS
- What it can/can't do
- Demo FIMT Data Collection
- Summary and Q & A

Adapted from presentation ***Using ArcGIS on Smartphones and Tablets in Disconnected Environments*** by Jeff Shaner, ESRI



# The ArcGIS Platform – Web Maps via “Portal”



# Web GIS Options – Hosted or On-Premises Web Maps

## ArcGIS Online (Hosted)

- Public URL
- Hosted Data
- ESRI account log in

## ArcGIS for Org (Hybrid)

- Public URL
- Hosted data or internal...
  - SDE
  - ArcServer
- ESRI account log in

## Portal (Internal)

- Internal URL
- Internal data
  - SDE
  - ArcServer
- AD Log in
- VPN?

# US FOREST SERVICE

100 Years of Caring for the *land* and serving *people*

## U.S. Forest Service



**Administrative Boundaries  
Map**



**Administrative Forest  
Boundaries**



**Administrative Ranger  
Districts**



**Administrative Region  
Boundaries**



<http://usfs.maps.arcgis.com>

USFS AGOL/AG40/Portal Strategy is being redefined

## USFS AGOL/AG40 Info

[http://fsteams.fs.fed.us/sites/womens/Shared%20Documents/WebFSGroup\\_ArcGIS.pdf](http://fsteams.fs.fed.us/sites/womens/Shared%20Documents/WebFSGroup_ArcGIS.pdf)

# ESRI Strategy Toward Mobility

Desktops



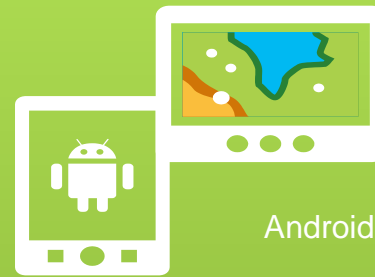
Browsers



Devices



Web GIS



Android



iOS



Browsers

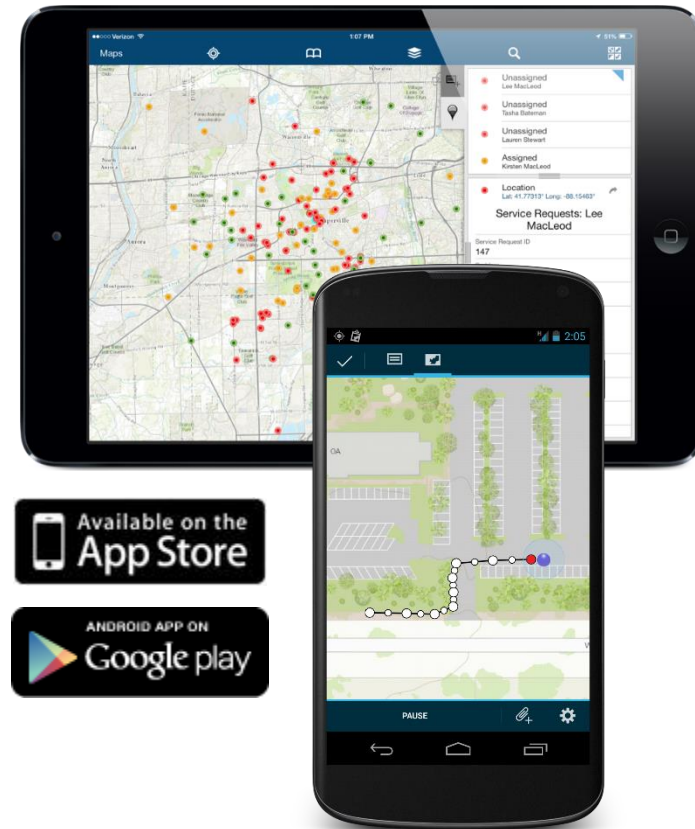


Windows



# Collector for ArcGIS

- COTS Mobile app targets field workflow needs
- Collect and update data
  - Using your location or the map
  - Fill out forms
  - Capture media (pictures, videos)
- Types of use
  - Collect asset locations and status
  - Ground-truth their GIS data
  - Make observations/conduct surveys
  - Replace paper-based forms/process
- Minimal Training Required
- “Free” \* Works with AG40 accounts





# What Can It Do?

Version 10.2.2

## Can Do:

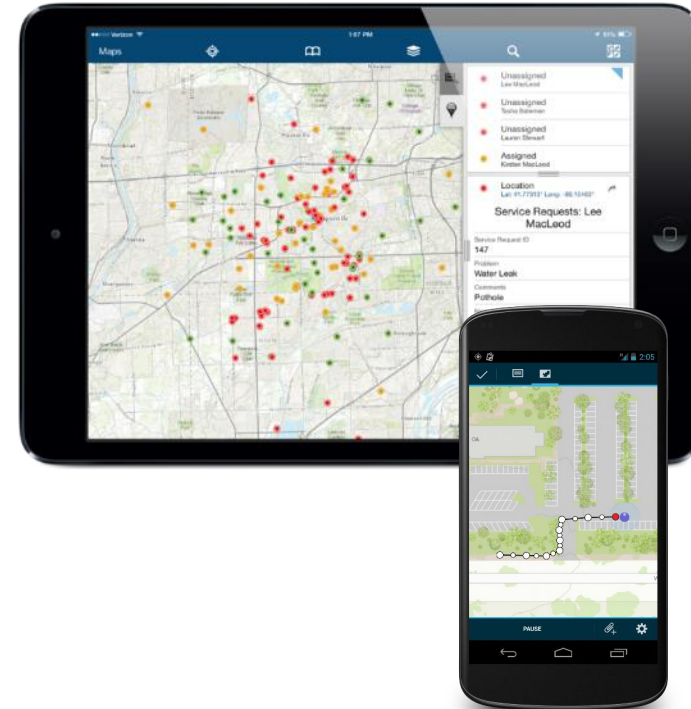
- Simple Feature Service Editing
  - Create, Update, Delete
  - PT/LN/PG
- Attribute Forms
- GPS or Digitize
- GPS Streaming
- Related Photo
- Rudimentary Form Design
- Repeated Attributes
- Repeat Geometry
- Offline Data
- Location Tracking \*
- Feature Editor Tracking
- Feature Accuracy Thresholds
- Side Loading TPK Base Maps

## Can't Do:

- Related Tables, complex schema
- Custom Forms
- Custom Scripting
- Versioned DB
- Local GDB Editing
- Feature Offsets
- Position Averaging
- Post-Processing GPS data
- Offline Location Tracking
- Only ESRI Base Maps \*
- Offline Map Services \*
- Windows OS Products

# Using Collector

Demo



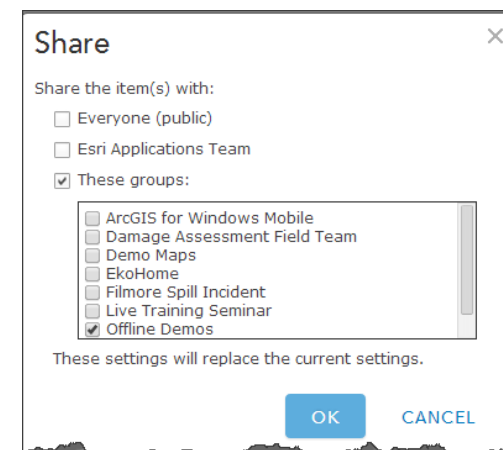
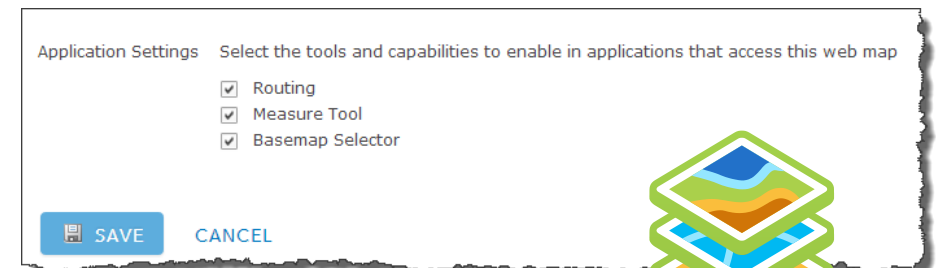


# GISS Benefits

- Real-time data updating
- Minimal data processing
- No cables, no download queue of Field Observers
- Fully attributed features
- Feature Metadata
  - Collector, date, accuracy
- Cross-Platform, multi-agency, shared with vetted collaborators
- Data can be pushed out to field observers
- Data can be taken offline

# Collector uses Web Maps

- Collector uses maps that include:
  - Layers from 1+ feature services (editable)
  - Location Tracking layer (optional)
  - Basemap
  - Application settings
- Share Maps to field workers using Groups:
  - Create Named Users for each field worker
  - Invite field workers to groups
  - Share maps into groups



# Feature Service Layers and Collection Templates

- Supported Types
  - ArcGIS Online (Hosted)
  - ArcGIS Server (On Premise)
- Supported Operations:
  - Editing options
  - Sync\*\*\*
- Popups and fields
  - Define the form experience in Collector
  - Take advantage of Geodatabase capabilities
    - Feature Templates
    - Field validation
    - Editor tracking

Editing  Enable editing and allow editors to:

- Add, update, and delete features
- Update feature attributes only
- Add features only

Export Data  Allow others to export to different formats.

Sync  Enable Sync (disconnected editing with synchronization).

Track Edits  Keep track of who created and last updated features.  
 Editors can only update and delete the features they add.

### Configure Attributes

Check the fields you want to display. Select a field to change its alias, order it, and format it.

Display	Field Name	Field Alias
<input type="checkbox"/>	{OBJECTID}	OBJECTID
<input checked="" type="checkbox"/>	{REPRESENT}	Owner / Occupant
<input checked="" type="checkbox"/>	{PRIMRES}	Primary Residence
<input checked="" type="checkbox"/>	{HABITABLE}	Habitable
<input checked="" type="checkbox"/>	{NUMOCCUP}	Number of Occupants
<input checked="" type="checkbox"/>	{STRINSUR}	Structure Insured
<input checked="" type="checkbox"/>	{EARINSUR}	Earthquake Coverage
<input checked="" type="checkbox"/>	{FLOODINSUR}	Flood Coverage

Field Name	Data Type
SHAPE	Geometry
REPRESENT	Text
PRIMRES	Text
HABITABLE	Text
NUMOCCUP	Long Integer
STRINSUR	Text
EARINSUR	Text
FLOODINSUR	Text
FIREINSUR	Text
DEDUCT	Double
PREDISVAL	Double
STRLOSS	Double
TYPDAMAGE	Text

### Create Features

<Search>

#### Damage to Residential Buildings

- Affected  Destroyed
- Inaccessible  Major
- Minor

Click any field to see its properties.

#### Field Properties

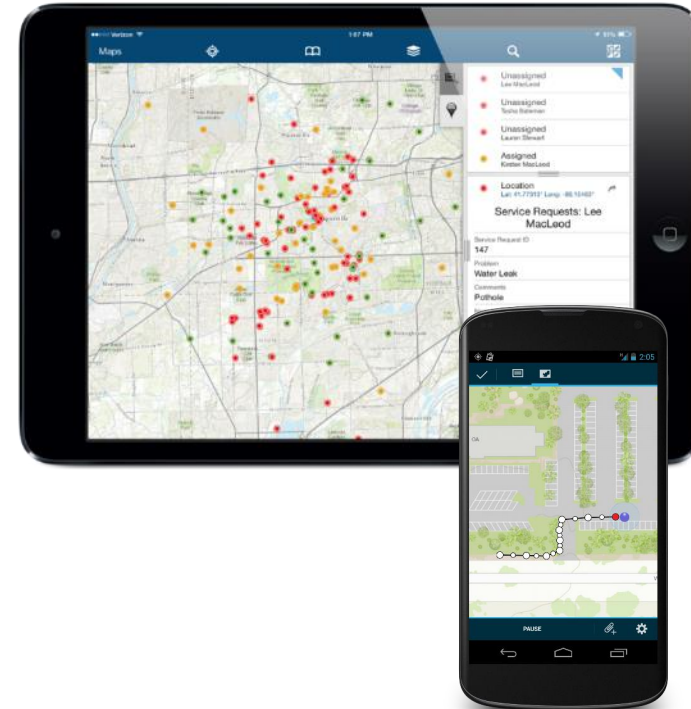
Alias	Extent of Damage
Allow NULL values	Yes
Default Value	
Domain	daDegreeDamage
Length	20

Import...

To add a new field, type the name into an empty row in the Field Name column, click in the Data Type column to choose the data type, then edit the Field Properties.

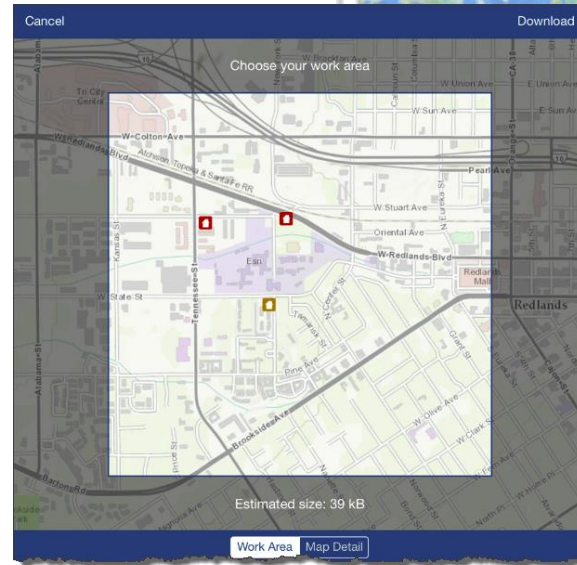
# Creating and Publishing

Demo



# Working Offline...

- Field user can take their map offline and...
  - View and interact with map
  - Measure distances and areas
  - View popups and media
  - Collect and update features
  - Synchronize changes between field and office
- Map layer support for disconnected editing...
  - Feature Services that support editing operations (Create, Update, or Delete)  
\*\*Must have Sync enabled
  - Tiled Map Services (on-premises/hosted)
  - Esri Basemap Services



Residential Damage Assessments (Offline Ready)

Updated today  
speedy32

with Collector to assess  
to residential properties.



More >

# Supported Download Workflows...

March release (10.2.2)

- Collector user can download map areas to their device



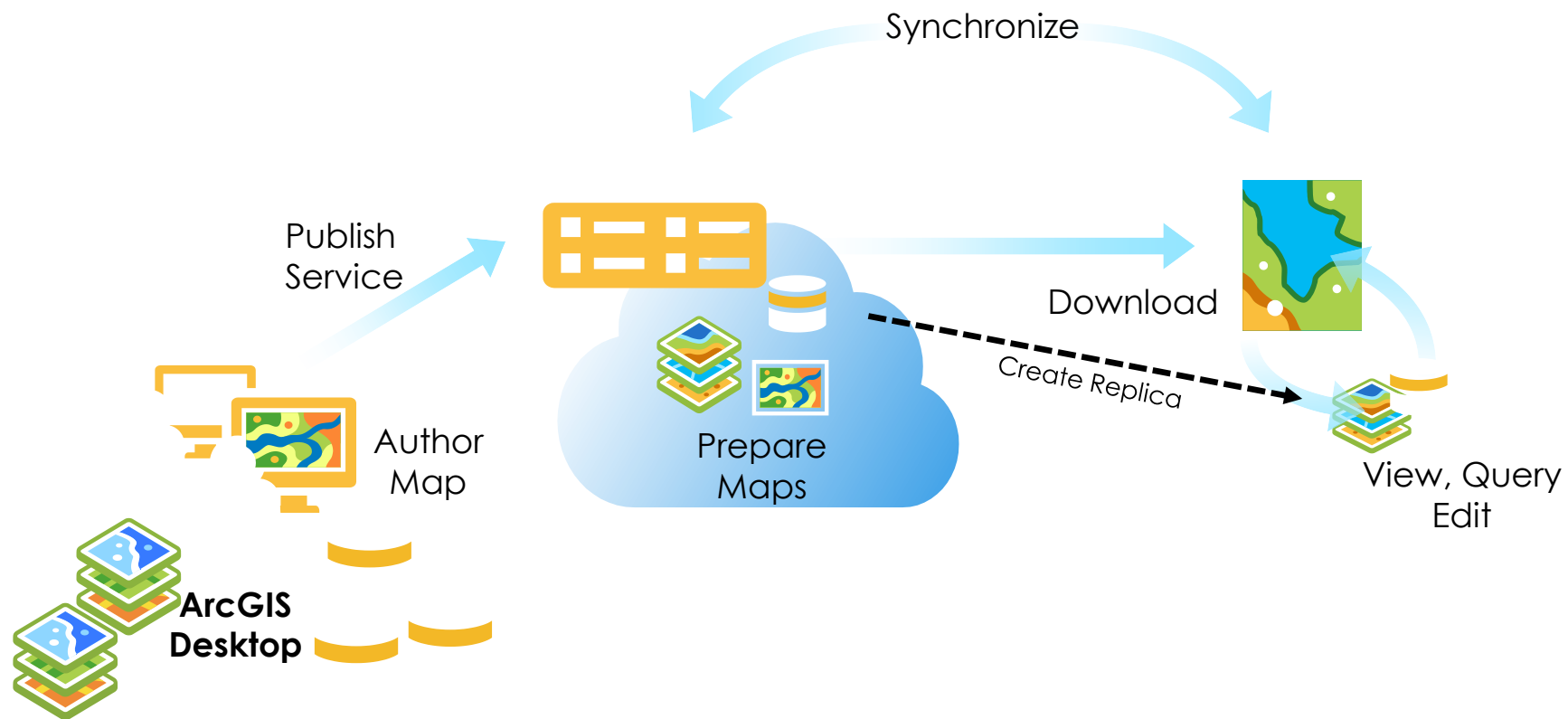
July release

- Field managers can improve field workflows by preparing maps for Collectors

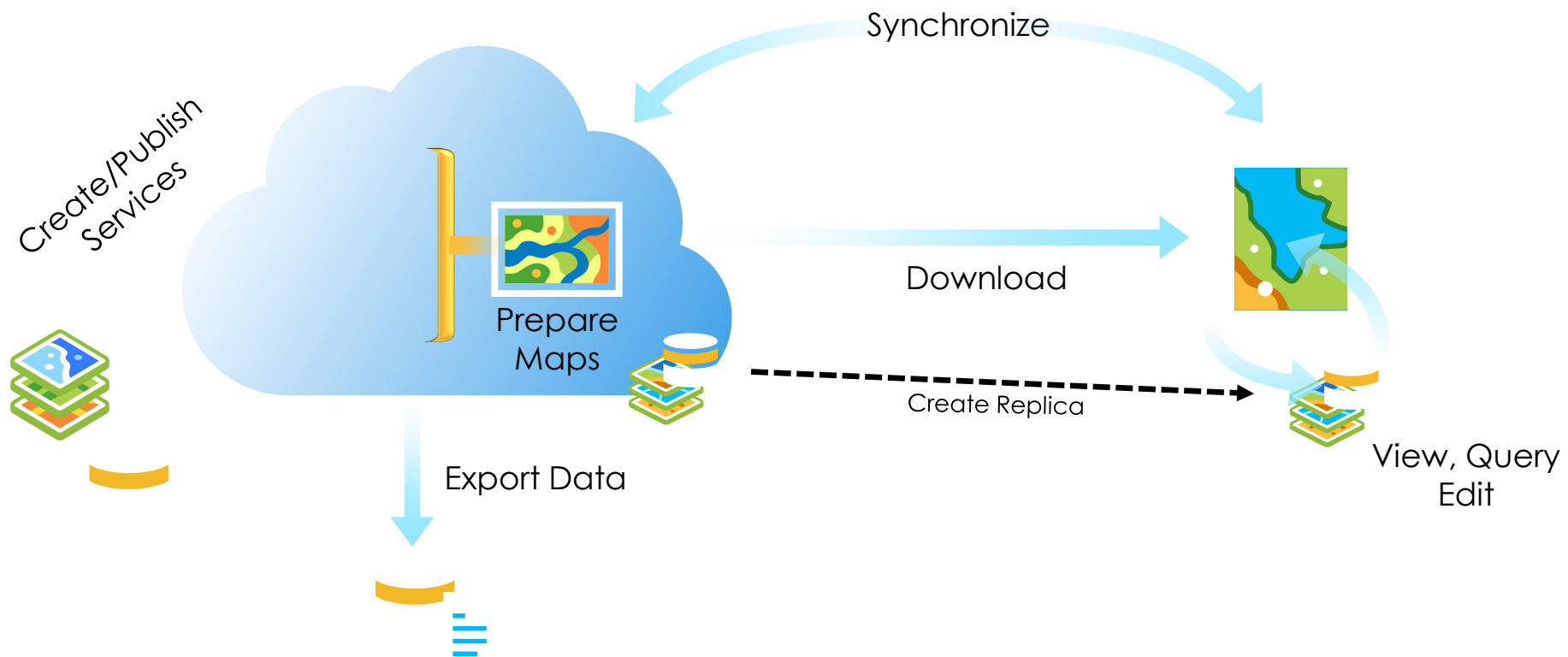




# Synchronization Workflows (On-Premises Services)



# Synchronization Workflows (Managed Services)



# Things you should know...

## Maps

- Feature Service and Tiled Map Service Layers only
- Both hosted and on-premises Feature Services supported
- Synchronization is bi-directional

## Preparing your data and services

- Must enable sync operation on feature services
  - Multi-user geodatabases/managed databases only
  - Must archive your feature classes to edit (no versioned editing support)
  - Global ID must be primary key for relationships/attachments
- 
- USFS AGOL/AG4O/Portal Strategy is being redefined
  - Pilot Project FY14 – ArcGIS Collector and Fire

# Additional Collector Info

- <http://blogs.esri.com/esri/arcgis/tag/collector/>
- <http://doc.arcgis.com/en/collector/>
- <http://doc.arcgis.com/en/collector/android/collect-data/offline-use.htm>