CLEARINGHOUSE EXERCISE
PARTICIPATION DIRECTIONS:
XCHANGECORE CONNECTOR
FOR AGOL
WHAT DOES PARTICIPATION MEAN

You will view and share Essential Elements of Information with the following applications connected to XchangeCore: ArcGIS Online with XchangeCore Connector, Web EOC, and SpotOnResponse. In addition, you will be able to view information on Google Earth from applications connected with XchangeCore.

What does participation mean?

- If you have not practiced with ArcGIS Online XchangeCore connector before the exercise, DO NOT use this tool to participate in the exercise
- Connect to an application
- Connect and pull data (1 element/1 time)
- Connect and push data (1 element/1 time)
- Connect and pull and push data (1 element/1 time)
- Connect and pull and push data (>1 element or >1 time)
- Connect and see GeoRSS feed of incidents or observations from other applications connected to XchangeCore
- View Incidents you created and data you shared in Google Earth or SpotOnResponse

PARTICIPATING using ArcGIS Online

These are NOT comprehensive directions on how to use AGOL, but rather, the minimum steps to follow to participate in the exercise. Please only work with point features for the exercise. Line and polygon feature, and layer data, will be included in future exercises.

You MUST have BOTH AGOL and XchangeCore credentials to proceed.

It is recommended that you bookmark the XchangeCore connector in your browser for easy access.

GENERAL WORK FLOW FOR USING XchangeCore Connector with AGOL

Set up an Arcgis.com map that will display the layers of data you have for an earthquake (e.g. collector layer, fault lines, landslide/liquefaction map)

-Connect to the XchangeCore using that map’s webmap ID. If you open a new map in AGOL, you MUST remember to copy/paste the new web map ID into the XchangeCore connector.

-This will then allow any other users who are connected to the XchangeCore to select your incident and click on “>Content” so they could add any of your layers (collector layer, fault lines, landslide/liquefaction map) to their own arcgis.com or google earth maps. Our field maps that use Arc Collector would be updated in real time.

-Add other people’s data to your own arcgis.com map using the same method.
CONNECT TO APPLICATION: AGOL SPECIFIC WORKFLOW

A. Log in to AGOL

For the purposes of the exercise, you should make the map and data you are using Public. You do not need to make your map public to share through XchangeCore, but the person who wants to USE the information must belong to the same organization ... or it must be public i.e. it is not a requirement of XchangeCore, but certainly a requirement of recipient of data who wants to get it to use it.

For data, for each item in a map, go to Share and make public there.

Save

B. Create a new map to use in the exercise

Home
My content
Create > Map
Name map
Tag
OK

You will now see map of United States

C. Add content to your map to get started

Add
Search for Layers
Find: <search for desired layer>
In: <choose appropriate option from drop down list>
GO
Select layer
Add to map
Done adding layers
Left side of window will see layer just added

TO SELECT PREVIOUSLY CREATED MAP
D. ADD XchangeCore Connector to your map

The XchangeCore connector sits “on top” of your AGOL web map. You add the connector in a new browser window. Your AGOL map will be in one browser window, and your AGOL map with the XchangeCore connector will be in a separate browser window. You will add or share content using the map in the browser window with the XchangeCore connector (the XchangeCore symbol in the upper right hand corner of the map). You will build the map and save it; refresh the browser window to see the new content in the XchangeCore connector. You can view, share, anything in the XchangeCore connector, but if you want to do anything to your map, use AGOL-save-then refresh the connector to synchronize your map changes with the connector.

To use the XchangeCore Connector for ArcGIS Online you enter a URL into a browser. The URL consists of two parts: the first part links to the connector and the second part identifies the web map.

1. For example: http://arcgis.spotonresponse.com/uicds-viewer-template-master/index.html?webmap=1f5787b840b146fREPLACETHIS3b346afed471982cd in which the blue part calls the adapter and the yellow part identifies the web map

2. When someone Saves a map in AGOL, a URL appears in the browser that looks like the illustration below and ends with webmap=somenumbersandletters. Those numbers and letters following the = sign are combined with a connector URL to use the connector to access the web map you desire.

3. Paste the connector link into a browser substituting your web map ID number as shown here in yellow

NOTE: It is recommended that you bookmark the XchangeCore connector in your
browser for easy access. **If you open a new map in AGOL, you MUST remember to copy/paste the new web map ID into the XchangeCore connector.**

4. You will be asked for your ArcGIS Online credentials
5. In the browser you then will see your selected web map with a display that indicates the menu and buttons shown below

6. The red arrow highlights the XchangeCore Connector button which will activate the AGOL-XchangeCore Connector. Click on it.
7. As shown below with red arrow A, ENTER the following XchangeCore URL: [https://caloes.keystone.spotonresponse.com](https://caloes.keystone.spotonresponse.com).

8. Click on Fetch B)
9. Authenticate with your XchangeCore (NOT AGOL) username/password (C) and then you will see incidents from the core (D). NOTE: Username and password are case sensitive.
10. You have now created the connection between ArcGIS Online and XchangeCore and you are seeing incidents created by the various applications also connected to XchangeCore. We will now associate various geospatial and non-geospatial information with one of these incidents to exchange that data through XchangeCore.

**PULL DATA : ADD CONTENT TO YOUR AGOL MAP**

Everyone is adding data to XchangeCore. Incidents mark locations where something noteworthy is happening e.g. Cajon Pass, or, represent information related to a specific topic of interest e.g. aftershocks. In an Incident’s associated OGC Map Context Work Product might be geospatial data from other ArcGIS analysts, or from other GIS programs, or KML feeds, or GeoRSS feeds, or many other sources of geospatial data. To use those in your own AGOL, you will want to put them into My content. From there it is just like any other data. If you have permission to see the data you will be able to add it to your maps.
When you add layers or data to your AGOL map, be sure to save and then refresh the browser window with the XchangeCore connector icon so that the new content appears.

Scroll down the list of incidents on the left side of the XchangeCore connector

Select incident named: Cajon Pass

Click on -> Content button

You will see a list of layers of information you can add from the XchangeCore to your map

Select desired layer

Click on submit Map Context

Go back to your AGOL map (browser window with map without XchangeCore icon in upper right corner of map)

Add

Search for Layers

Find: <look for layer you selected in -> My Content in XchangeCore>

In: My content

May or may not need to check “within map area” box depending on extent of your map and location of layer you just added.
A list of your AGOL content will appear
Select information just added from XchangeCore
Add
Click on Details button in top left corner to see all layers on your map
SAVE

PUSH DATA

A. Exchanging an ArcGIS Online Web Map through XchangeCore

To associate geospatial data with an incident, select an incident (left-side of screen, below, red arrow A). When you select the incident, the map centers on the incident location and shows a blue X.

To exchange an AGOL Web Map through XchangeCore, click on the Map button (arrow B)

The right-hand image shows that the appropriate Map URL (arrow C) will be automatically entered into the form. The Map URL (arrow C) will have the same webmap=somenumbersandletters as the webmap=somenumbersandletters of your original map that you are sharing.

You can edit any of the name, title, or description information (D).

And then press Submit (E) to have the data added to the XchangeCore OGC Map Context document associated with the selected incident.

Exchanging an ArcGIS Online Layer through XchangeCore

When you select the incident to associate geospatial information (red arrow A), the map centers on the incident location and shows a blue X.

To exchange an AGOL Layer through XchangeCore, click on the Layer button (arrow B), below, to display the Layer list. The layers shown in the drop down on the connector are the layers that are on the web map for which there is a web map id in your URL. If there are more layers than you think you have in your web map, it might be that you need you refresh the connector, or that the connector is pointing to
a different web than you have in front of you. Check the Web Map ID. Also remember that you must save the web map, and refresh the connector, in order to synchronize the two of them.

Click on a layer radio button and click on Choose to display the form with the Layer URL (arrow C) above, automatically entered.

You can edit any of the name, title, or description information (D).

And then press Submit (E) to have the data added to the XchangeCore OGC Map Context document associated with the selected incident.

B. Exchanging ArcGIS Online Features through XchangeCore

When you select the incident to associate geospatial information (red arrow A), the map centers on the incident location and shows a blue X.

To share Features with a selected incident, click on the Feature Select Layers button (a). The features shown in the connector are the features that are on layer(s) that are turned on in the web map for which there is a web map id in your URL. To see the layers turned on in the map connected to the XchangeCore connector, click on the Legend button in the upper left corner of the map. If the features shown in the connector do not match your AGOL map, it might be that you need you refresh the connector, or that the connector is pointing to a different web map than you have in front of you. Check the Web Map ID. Also remember that if you turn layers on or off in your AGOL map, you must save the web map, and refresh the connector, in order to synchronize the two of them.
Click on the Layer you choose (B).

Click on a selection type (arrow C):

a. Single = click on the single feature you wish to select.

b. Multiple = rectangular area selection. In the map in the connector, draw a box around the features you wish to select.

c. Buffer = buffer around an area (see below)

The selected Features appear in yellow with a red box (D).

When the Features appear, the Features button lights up (E).

Click on the Features button and the submission form appears to edit (F).

ESRI JSON is exclusively for use in AGOL. It will not show up in Google Earth or just about anything else without conversion to GeoJSON which is the OGC standard.

KML can be displayed in AGOL as well as other applications such as Google Earth and SpotOnResponse.

In the AGOL Connector, you can select JSON or KML from data that resides on the ESRI Map Server ONLY. Data that is on the AGOL Feature Server will only appear as JSON (KML is blank when you click it).

Submit when completed (G).

C. Using Buffer to Select Features

Feature Buffer allows you to select a buffer distance around a Point, Line or Polygon, as shown below. Here the selected Layer of Waste Water Treatment facilities that intersected a 10 mile buffer around a line are shown as yellow squares with red borders.
Feature Buffer also allows you to buffer a distance around an incident. When you select an incident, the map centers on the blue X representing the location of the incident.

a. Select a layer
b. Click the Buffer button
c. Set your buffer distance
d. Click the incident button
e. The buffer shows those Features that are within the buffer area.
f. Below, you see Dams of Concern within a 100 mile buffer around an incident at a Waste Water Treatment Plant.
D. Creating an Incident from ArcGIS Features

An incident happens at a facility or location for which you have an entry in ArcGIS Online. Incidents mark locations where something noteworthy is happening e.g. Cajon Pass, or, represent information related to a specific topic of interest e.g. aftershocks, a spill at a chemical facility. Incidents appear on the list on the left side of the XchangeCore connector dialog box (A) below. No longer do you have to manually or verbally transfer the information about that location to first responders. You can use the data you have in AGOL to create an incident exchanged through XchangeCore. When someone clicks on an incident on the left side of the connector dialog box, such as “Waste Water Treatment Plants near chemical spill”, they will understand that there is something important they need to know about. When they click on the incident, instead of seeing a layer with ALL Waste Water Treatment Plants, they will see only what you identified as important, e.g. only the Waste Water Treatment Plants you have identified as being vulnerable to a nearby chemical spill. The benefit is that by creating an incident, you alert people to specific important events, and can manage information so emergency priorities are not obscured by unrelated information.

Select an incident (A) to activate and click the Feature Select button (B).

Select the Layer (C) containing the Feature you want to become an XchangeCore incident

Select the Single Feature button (D) and click on the Feature you want. When you do this, you are identifying the specific location or subject of importance you want to turn into an incident e.g. location of a single Waste Water Treatment Plant. After you create a specific incident, the next step will be to associate Features with this incident e.g. fires burning within 2 miles of that specific Waste Water
Treatment plant. The single Feature you select to become an incident turns yellow with a red border (E).

Click on the +Incident button (F) to add an incident to your XchangeCore.

Appearing will be an Incident entry form (G) which contains the latitude/longitude data from the AGOL data.

Enter a name and location for the incident you are creating (H) e.g. Waste Water Treatment Plant and fires within 2 mi.

Note that all of the data contained in the original AGOL Feature (I) is now present in the Description field on the form. The data is prepared in its original JSON format and will be transferred to XchangeCore so that external applications can digest the JSON data and compose it into their own visualization.

Click Submit (J) and the XchangeCore Incident will be created. You will be provided with a feedback window reporting the success of the creation on the XchangeCore to which you are connected.

See Exchanging ArcGIS Online Features through XchangeCore section, above, to share AGOL Features with the incident you just created.

CONNECT AND SEE GeoRSS FEED OF INCIDENTS OR OBSERVATIONS FROM OTHER APPLICATIONS CONNECTED TO XCHANGECORE

Add
Layer from Web
From dropdown list, select A GeoRSS File
Copy and paste:
Agol all incidents
https://caloes.keystone.spotonresponse.com/uicds/pub/search?productType=Incident&format=rss

Agol all observations
https://caloes.keystone.spotonresponse.com/uicds/pub/search?productType=SOI&format=rss
You create a new incident in SpotOnResponse associated with an incident on a GIS layer. GIS data is provided by the data owner and is not changed at the source. Rather, improvements or associated data you provide from the field are provided to XchangeCore from which the original GIS data owner can populate or modify their GIS database. GIS data is used for content and location of an XchangeCore Incident (think a building is on fire, you don’t change the data about the building, you say it is on fire). That building on fire incident resides on XchangeCore and all observations (pictures of the fire) are on XchangeCore. At the option of the GIS data owner they may update their GIS database (say the building has burned down) based on XchangeCore information you provide when you create an incident in SpotOnResponse.

Set location to <e.g. Cajon Pass>

Turn on GIS layers that are important to what you are doing e.g NASA JPL model results, or Quaternary Faults provided by CGS, Nursing Homes within 10 miles of Cajon pass from CA Dept. of Public Health, and USGS ShakeMap (see image above)

Next, YOU add the ground-truth information from the field:
Click on point in GIS layer and a white box will open and display attributes associated with that feature

Copy lat/long information

Click on green + button, upper left corner of map window, and a dialog box will open

Paste lat/long information into the description field in the dialog box

Use the lat/long information you pasted into the description field to update the lat long fields in the dialog box

Select appropriate incident category from drop down e.g. Incident-Critical Facility for nursing home

Add subject e.g. Nursing home near fault and in high shaking zone

Add Description e.g. observe fractures in ground in nursing home parking lot; liquefaction present and may affect structure

Save changes.