

Draft Guidelines for Publishing and Sharing Information

Central US Earthquake Consortium (CUSEC), CAPSTONE 2014 Exercise

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DRAFT

Introduction

Capstone 2014 is a multi-year New Madrid Seismic Zone earthquake exercise organized around the Central US Earthquake Consortium (CUSEC). The intent of this document is to provide the CUSEC region with guidance on publishing and sharing geospatial information for the CAPSTONE 2014 Exercise.

During this exercise, each CUSEC member state will create and share a predetermined list of Essential Elements of Information (EEI) (*see appendix*) with the rest of the consortium. The CUSEC Member States and Associate States will publish and share the EEIs for the CAPSTONE 2014 Exercise so that they are accessible to the appropriate users and groups across the consortium.

Rather than serve as a definitive standard to meet every expected need, this document is intended to provide practical guidance which can be adapted by individual CUSEC members as is practical within their organizations. By approaching the process of publishing and sharing information in a coordinated, systematic, standards-based process, CUSEC Member and CUSEC Associate States will be able to more effectively access and use the set of EEIs during the Capstone 2014 disaster planning exercise, as well as for other events requiring intra/interstate information sharing and coordination.














Figure 1. CUSEC Member States








To improve information sharing during the Capstone 2014 Exercise, it is important that information is published from an organization's individual technology/information sharing platforms in a consistent manner. Below are series of guidelines, specific to key data publishing platforms, for effectively staging the content that you want to share.

Essential Elements of Information

The objective of Capstone 2014 is to develop, codify, and share a set of Essential Elements of Information (EEI) for specific operational needs. These EEIs will be the primary information shared during the exercise. The proposed set of 17 EEIs are included in the following table, along with the Feature Type (point, line, or polygon), Required/Minimum Attributes, Responsible ESF, and the definitions for the status indicators (green/yellow/red).

Table 1. Draft EEI List

EEI	Feature Type	Required Attributes	Responsible ESF	Status Red	Status Yellow	Status Green	Status Unknown	Status Inactive
Electricity Grid		Power type, name, location.	12-Energy	No availability	Limited availability	Available	Unknown	Inactive
Natural Gas Grid		Power type, name, location.	12-Energy	No availability	Limited availability	Available	Unknown	Inactive
Public Water Grid		Power type, name, location.	12-Energy	No availability	Limited availability	Available	Unknown	Inactive
Road Status (including bridges)		Road name, location (e.g. mile marker; lat/long; address; intersection), type (i.e. bridge, broken pavement, sinkhole), distance of closure.	1-Transportation	Major delays or closed	Minor delays due to road conditions	Passable	Unknown	Inactive
Rail network (including bridges)		Location (e.g. mile marker; lat/long; address; intersection), type (i.e. bridge, broken pavement, sinkhole), distance of closure.	1-Transportation	Major delays or closed	Minor delays due to road conditions	Passable	Unknown	Inactive
Navigable waterways		Location (e.g., river mile; lat/long), Name, type (e.g., debris closure...).	1-Transportation	Major delays or closed	Minor delays due to road conditions	Passable	Unknown	Inactive
Air Transportation Infrastructure		Airport name, location (lat/long; address).	1-Transportation	Closed	Limited use/emergency use only	Open	Unknown	Inactive
Area Command Locations		Name of EOC, address/location, primary phone number, status.	5-Emergency Management	Level 1-full activation	Level 2-partial activation	Level 3-operational/monitoring	Unknown	Inactive
Staging Areas		Name, address/location, primary phone number, POC, Type (e.g., vehicle, personnel, equipment).	5-Emergency Management	Closed	Limited use/emergency use only	Open	Unknown	Inactive
Points of Distribution (PODS)		Name, address/location, primary phone number, POC.	?	Closed	Limited use/emergency use only	Open	Unknown	Inactive
Joint Reception, Staging, Onward Movement and Integration (JRSOI) Sites		JRSOI Name, Address, POC, Capacity.	5-Emergency Management	Closed	Limited use/emergency use only	Open	Unknown	Inactive

EEI	Feature Type	Required Attributes	Responsible ESF	Status Red	Status Yellow	Status Green	Status Unknown	Status Inactive
Evacuation Orders		County name, Incident name, alert type, threat level, area of concern, POC.	5-Emergency Management	Mandatory	Voluntary/phase d	None	Unknown	Inactive
Injuries and Fatalities		County name, number of reports, time last updated.	8-Public Health and Medical Services	Confirmed fatalities/injuries	Fatality/injury confirmation underway	No fatality reports	Unknown	Inactive
Shelters		Name, address, max capacity, current capacity; NSS and FEMA shelter data required.	6-Mass Care-Emergency Assistance-Housing-Human Services	Full or over capacity	Open-more than 50% occupancy	Open-less than 50% occupancy or Closed	Unknown	Inactive
Private Sector Infrastructure		Retailer name/type, location, POC.	Other	Not Available	Deployed	Available	Unknown	Inactive
US Geological Survey Data (e.g., Prompt Assessment of Global Earthquakes for Response or PAGER)		Magnitude, Alert Level, Time, Location (lat/long), Max MMI.	?	1000+ Est. Fatalities / \$1 billion+ Est. Losses	1-999 Est. Fatalities / \$1M-\$1B Est. Losses	0 Est. Fatalities / < \$M Est. Losses	Unknown	Inactive
Communications (Public Safety and General Public)		County Name, Communications network type, name, owner, location, primary phone number.	2-Communications	Emergency communication failed or limited	Emergency communication up; commercial failed or limited, including cellular	Normal operations	Unknown	Inactive
Hospital Status		Name, address, max capacity, current capacity, phone number.	8-Public Health and Medical Services	Not operational	At or above capacity	Available capacity	Unknown	Inactive

Overview of Technology Capabilities

CUSEC Member states, with the exception of Alabama, use WebEOC as their primary Incident Management System (see *Table 2. Technology Capabilities of CUSEC Member States*). Several states also have licensed versions of WebFusion Server, which enables the ‘fusing’ of Boards from multiple WebEOC servers, thereby enabling the creation of a Board containing the aggregation of EEs from multiple EOCs (see *Figure 2. Overview of System Integration Workflow*).

Most states currently use ArcGIS Server for the GIS Platform within their operation’s centers to manage geospatial data, and the ArcGIS Viewer for Adobe Flex is the primary choice as a Situational Awareness Viewer. In addition, ArcGIS Online accounts have been provided to the CUSEC States by the National Information Sharing Consortium (NISC) to facilitate information access and sharing throughout CAPSTONE 2014.

Table 2. Technology Capabilities of CUSEC Member States

STATE	INCIDENT MGT SYSTEM	GIS PLATFORM	SITUATIONAL AWARENESS VIEWER
ALABAMA	EMITS	ArcGIS	FlexViewer
ARKANSAS	WebEOC	MapTac & Emergio	MapTac
ILLINOIS	WebEOC / WebFusion	ArcGIS	FlexViewer, Google Earth, Mapper Pro
INDIANA	WebEOC / WebFusion	ArcGIS	FlexViewer
KENTUCKY	WebEOC / WebFusion	ArcGIS	FlexViewer
MISSISSIPPI	WebEOC	ArcGIS	FlexViewer
MISSOURI	WebEOC	ArcGIS	ArcGIS Online
TENNESSEE	WebEOC / WebFusion	ArcGIS	FlexViewer

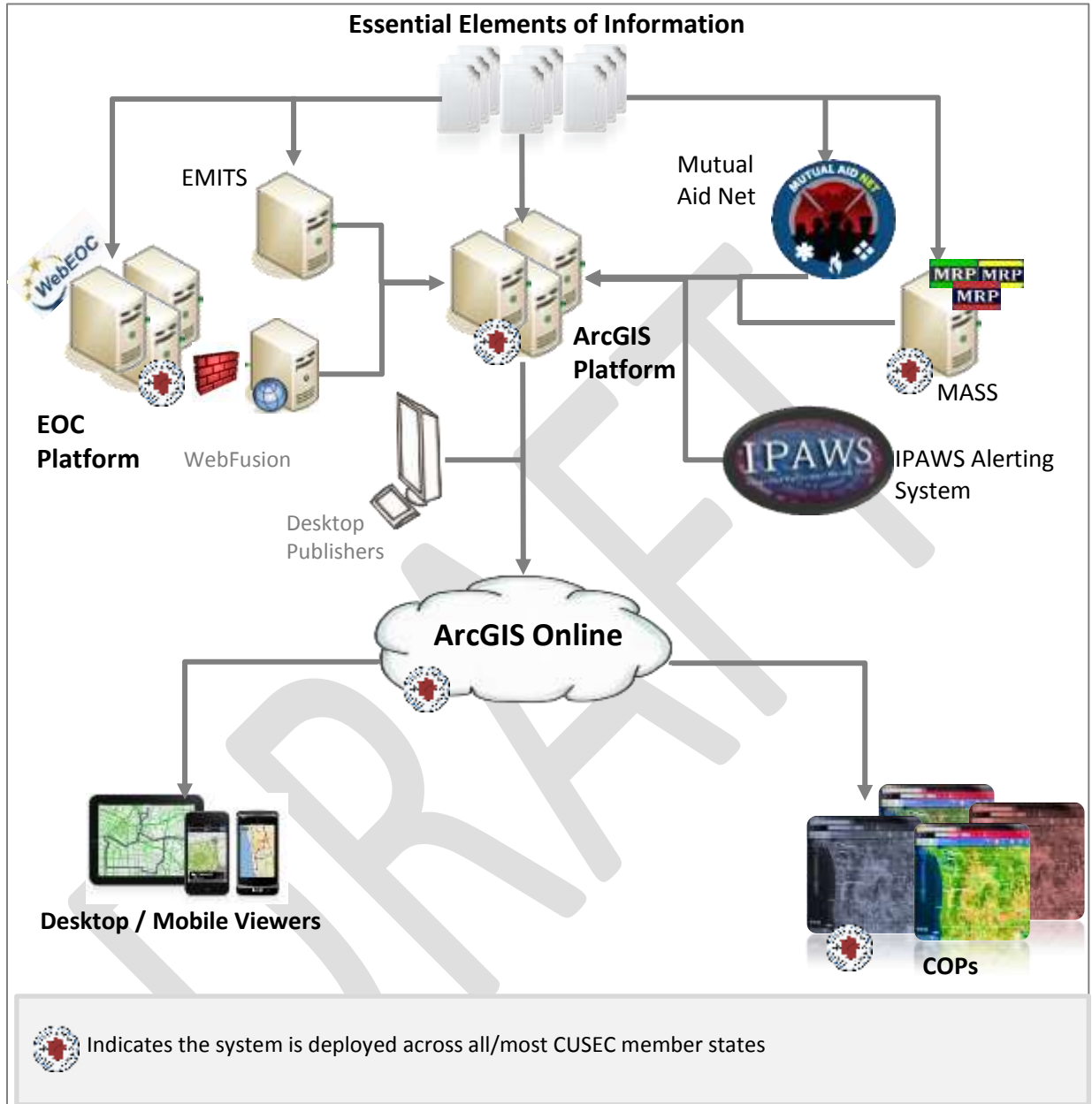


Figure 2. Overview of System Integration Workflow

Guidance for Incident Management Information Systems

Sharing from WebEOC

CUSEC member states that use WebEOC as their primary Incident Management System (IMS) will develop a common set of WebEOC Boards to standardize the way they create, report, and share EEIs. One or more WebFusion servers will be setup by Members to fuse Boards from other Consortium Members.

The Department of Homeland Security Science and Technology Directorate (DHS S&T) First Responders Group (FRG) will provide training and help to develop workflows to enable the extraction of information from WebFusion Boards, joining the information to appropriate geographic context (if location elements exist), and publishing the data as a Map Service (i.e., an ArcGIS map service) to ArcGIS Online (AGOL).

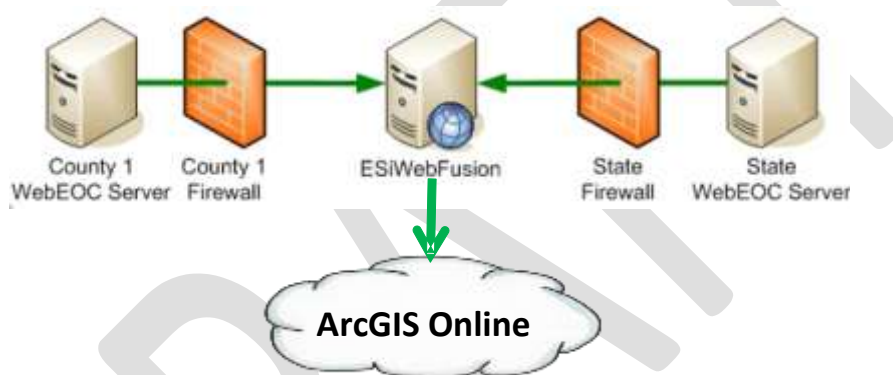


Figure 3. WebEOC - WebFusion Workflow

Once CUSEC members agree upon sharing common EEIs on one or more WebEOC common boards (WebEOC-CBs), members will connect their WebEOC instance to a regional WebFusion hub, and agree on the terms of information sharing.

1. States will push their WebEOC-CBs to the regional WebFusion hub, creating a fused board containing each state's data.
2. WebEOC hub server will be configured to run a scheduled task, executed at a user-defined interval, which extracts the fused boards and saves it as a CSV file.
3. The CSV file will be converted to a dynamic, web accessible format (e.g., KML Links, Map Service). The exact workflow will depend on the spatial capabilities of either the individual states (assuming that the WebFusion board can accommodate the information from each participating board in the native structure) or the spatial capabilities of the State with the lowest level of capabilities (assuming the fusion board is structured based on the lowest common denominator of the participating boards).
4. Once a Map Service is published, it will be registered with ArcGIS Online and shared with the appropriate groups; See workflow for ArcGIS Online. (Access controlled using ArcGIS Online user/group security).

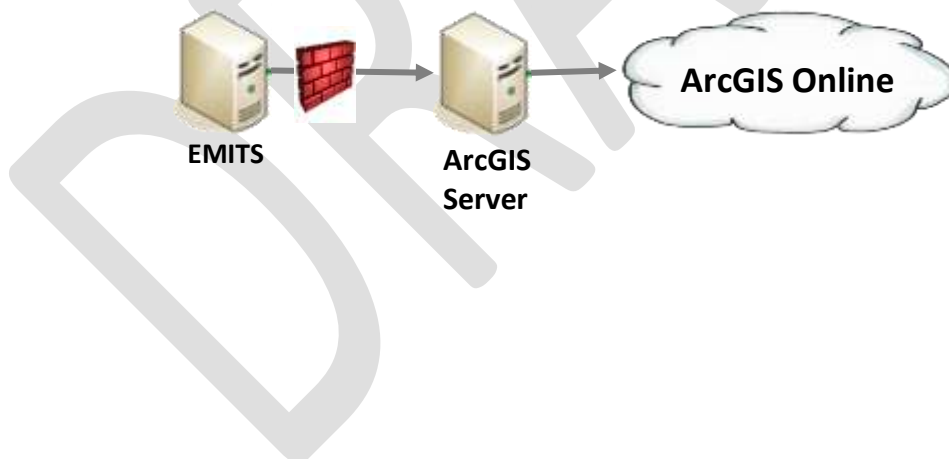
5. Participating states and other permitted entities will be issued login credentials to the WebFusion server, allowing them to consume information shared by other CUSEC members from within a WebEOC Board (access controlled by WebEOC user/group security).

Table 3. WebEOC Mapping Workflows

Spatial Capabilities in WebEOC	Possible Workflow
EOC Mapper	Register and/or Publish existing Map Service to ArcGIS Online.
SQL Server w/ attributes for Lat/long	Develop query layer using data from WebEOC Board, publish directly as Map Service, KML, etc.
Other 'clean' geographic data (e.g., attributes for addresses, county name, etc.)	Use script to geocode data, and then publish as Map Service, KML, etc.
No geographic data / or mixed with other attributes	TBD

Sharing from EMITS

Alabama EMA uses the Emergency Management Incident Tracking System (EMITS) to track incidents. EMITS is currently equipped to track the status of spatially-defined EEIs and is integrated with ArcGIS Server in order to publish Map Services that are consumed in the state's emergency management COP. The workflow to share EEIs with surrounding CUSEC members will setting up an ArcGIS Server outside of the state's firewall and registering and/or publishing existing services to ArcGIS Online.



Guidance for Sharing Geospatial Resources

Publishing Services with ArcGIS Server

Prepare Map Document for publishing

For ArcGIS desktop users, the map document will form the basis of the Map Service published with ArcGIS Server, and ultimately what is shared on ArcGIS Online. Map documents should contain one or more layers, each with proper metadata, important attributes exposed, and standard symbology applied. ArcGIS Online will import many of the settings (e.g., visible fields, field aliases, etc.) and metadata (e.g., summary, description, tags) that are defined in the map document. Taking steps to properly prepare the map document in this step will minimize the time required to document the Map Service when registered with ArcGIS Online, and provide valuable information to users directly accessing the Map Service.

A Checklist for Publishing Map Services

- ✓ Remove layers that should not be part of the final service, this includes:
 - Basemap layers (e.g., imagery, street maps, terrain).
 - Avoid publishing layers that are already available as a service, in order to avoid redundancy.
- ✓ Create a feature template for the layers to be published (essentially, a stored definition of its symbology).
- ✓ Fill out the metadata items for the map document, and the individual layers within the map document.
- ✓ Run the 'Analyze' utility in the Service Editor and correct any errors or high severity warnings that arise.

The following table contains elements of the overall map document, as well as individual layers contained in the map document, that require either configuration or documentation:

Table 4. Properties of Map Documents and Map Layers

Document	Properties
Map document	<ul style="list-style-type: none">• Map name, summary, description<ul style="list-style-type: none">• What is the purpose of the Map Service?• When was the map document created?• Who's the author, the authority?• Apply standardized Tags/Keywords• List of map layers• Properties for each layer
Layer	<ul style="list-style-type: none">• Layer name, summary, description, and so on<ul style="list-style-type: none">• How current is the data?• Where is the data from?• Properties (name, metadata, map scales, data source, transparency, and so on)• Attributes: Visible fields, alias names, display expressions, read-only versus update, and so on<ul style="list-style-type: none">• Just show the important fields, hide those that are for internal use only• Use aliases to make the fields more understandable.• Must keep the ObjectID and Shape fields

	<ul style="list-style-type: none"> • Use layer definitions to hide data that isn't relevant (e.g., outdated/archival data) • Symbology Recommendation: Use MASAS / ERS as suggested starting point (See Appendix: Situational Awareness Symbology Assessment). • Labeling • Editing properties • Attachments to features • Identify and pop-up properties • Time-aware properties
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This table was adapted from [Esri](#)

Map Services Folder Structure

Organize Map Services into a logical folder structure. Keep folder names short, descriptive and easy to understand.

Table 5. Proposed Folder Naming Structure

Folder Name	Folder contains Map Services related to...
Events	Current or past emergency events; e.g., for an earthquake event this may include the location of the epicenter, impacted areas, etc.
Facilities	Facilities that a) may be impacted during a disaster; e.g., schools, power facilities; or b) facilities that serve important functions during a disaster event; e.g., hospitals, police stations.
Hazards	Potentially hazardous areas (e.g., fault lines, flood zones)
Operational	Operational data including real-time or near real-time sensors (e.g., seismic, flood, video) or other dynamically generated data representing on-the-ground condition, such as fire perimeters, flooded areas, etc.
Planning	Locations of staging sites, evacuation areas and routes.
Reference	Other geospatial reference data that may be useful, including administrative boundaries, populations density,
Transportation	Transportation networks, bridges, traffic.
Utilities	Utility networks, including electric, gas, and telecommunication lines
Weather	Weather data

Map Service Naming Pattern

Map Service names should not contain spaces or special characters, and their length must be less than 120 characters. A single Map Service name may contain multiple elements of information, beyond a descriptive name. These elements provide additional information to the end-user, examples are provided here:

Position	Element	Description, example
1	Event Name	Referencing the name of the current, past or future (for planning exercises) event. Optional. Example: <i>NMSZ</i>
2	Date	Date associated with the layer, formatted in YYYY_MM_DD (note, uses

Position	Element	Description, example
		underscore, not hyphen). This element is optional, however if the date is used then the year must be specified while the month and date are optional. Example: 2014_07_26
3	Base Name	Required element containing a descriptive name of the data. Example: <i>EarthquakeEpicenter</i>
4	Originator	Optional element defining the originator of the data, using standard well-known acronym. Example: <i>USGS</i> .
5	Scale	Optional reference scale indicating the scale that the Map Service is intended for use, using K to denote scales in the thousands or M to denote millions. Example: <i>24K</i>
6	Projections	Optional element for identifying the projected coordinate system applied to the Map Service. Use SP to denote state plane, WM for Web Mercator.

Example:

‘/Events/NMSZ_EarthquakeEpicenter_2013_07_USGS_24K’
 Folder name / event name _ description _ date _ originator _ scale

Sharing Content with ArcGIS Online

Member states will publish content to their AGOL Organizational accounts (*more on sharing below*), and CUSEC will publish and share relevant content to support of the member states. Adherence to the following guidelines when registering your Organization’s content on ArcGIS Online will increase the value of the information you post.

Publishers and Administrators should be aware that using certain Map Services on ArcGIS Online, including Feature Service Storage, consumes credits (see *Table 6. What Uses Credits?*), which every AGOL Organization has a finite amount before needing to purchase more. For this reason, it’s important to be deliberate before you publish a new Map Service. Consider whether the service is already available elsewhere (i.e., avoid redundancy!), if creating the Map Services involves geocoding a large number of addresses that you could otherwise geocode separately in ArcGIS Desktop, and ensure that the Map Services is documented sufficiently to be useful for its intended purpose.

Table 6. What Uses Credits?

ArcGIS Online Feature	Credits Used
Map Tile Generation	1 credit per 1,000 tiles generated
Feature Services Storage	2.4 credits per 10 MB stored per month
Tile and Data Storage	1.2 credits per 1 GB stored per month
Geocoding	40 credits per 1,000 geocodes
Simple Routes	0.04 credits per simple route
Optimized Routes	0.5 credits per optimized route
Drive-Times (Service Areas)	0.5 credits per drive-time
Closest Facilities	0.5 credits per closest facilities route
Multi-Vehicle Routes (VRP)	2 credits per multi-vehicle route
Demographic and Lifestyle Maps	10 credits per 1,000 map requests

Data Enrichment	10 credits per 1,000 data variables (attributes)
Infographics	10 credits per 1,000 views
Reports	10 credits per report
Spatial Analysis	1 credit per 1,000 features


See Esri's Service Credits Estimator to calculate expected credit usage based on your Organization uses ArcGIS Online: <http://www.esri.com/software/arcgis/arcgisonline/credits/estimator>.

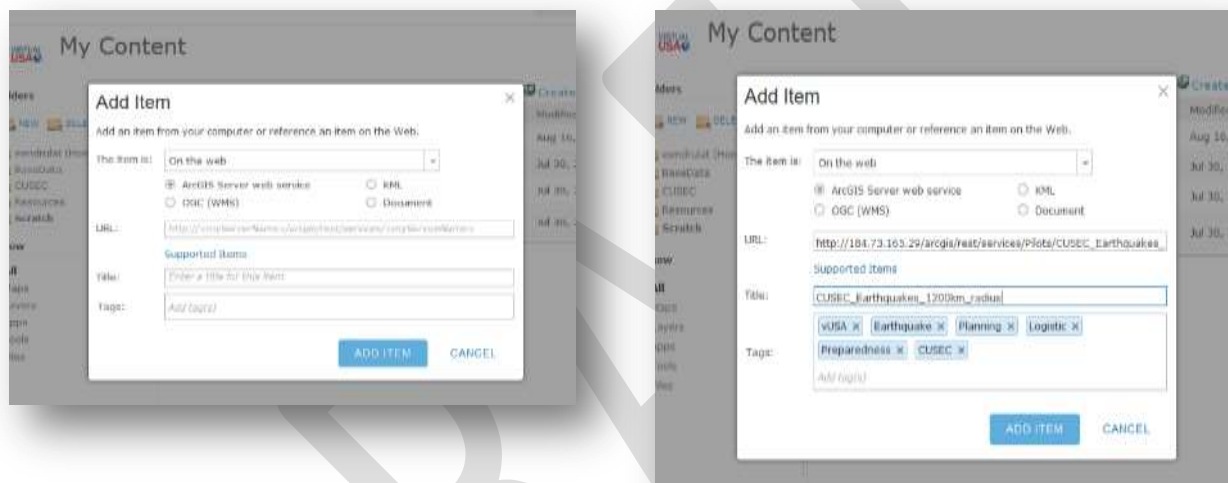
Guidelines for all items

- **Titles** should be simple and easily understandable, aligned with the EEI's identified for CUSEC exercise.
- **Metadata**, including Summary, Description, and Access Use/Constraints sections should be completed. (ArcGIS Online will automatically apply what was registered on ArcGIS Server, so you can skip this step if it's already complete). Refer to vUSA Metadata Standards in the Virtual USA National Information Sharing Agreement v.2.0 (see appendix) for further guidance.
- **Tags** should be used to capture other important elements that users may search for. Refer to the vUSA-NISC tagging standard document in the Appendix for more details. Here are some suggestions:
 - The tag 'CUSEC' should be included for all resources
 - Jurisdiction (city, state)
 - Domain (e.g. Emergency Management, Law enforcement, GIS clearinghouse, Fire, Mutual Aid etc.)
 - Resource Provider (Emergency Support Functions (ESFs)) Provider of Data (may be ESF or other).
 - Hazard type (e.g., event_earthquake, event_hurricane)
 - Event Incident Name (e.g., Capstone 2014, NMSZ) (*Optional*)
 - Originating Agency Name (name of publishing agency – custodial owner of data, e.g., KYEM)
 - Custodial owner, other group names, keywords
- Avoid publishing content that is already posted elsewhere (reuse where possible to avoid unnecessary redundancy), instead Share items with the appropriate groups (*identified below*).
- Enable sharing, and share with appropriate groups
- Create AGOL WebMaps that group relevant Map Services together
 - Pop Up windows should be configured to enable easy information queries

Adding Existing Map Services

To leverage your existing in-house resources, we recommend registering your Organization's existing Map Services, and other content related to the Capstone 2014 exercise. Doing so makes these services more readily discoverable by your own Organization, as well as for other CUSEC members.


- In the My Content section, select the  **Add Item** option.
- Select the on the web option from the first drop down list.
- Select the ArcGIS Server web service option.
- Copy and paste the Map Service URL.
- Add the appropriate Title using the naming standards outlined in this document.
- Tag the new item appropriately.

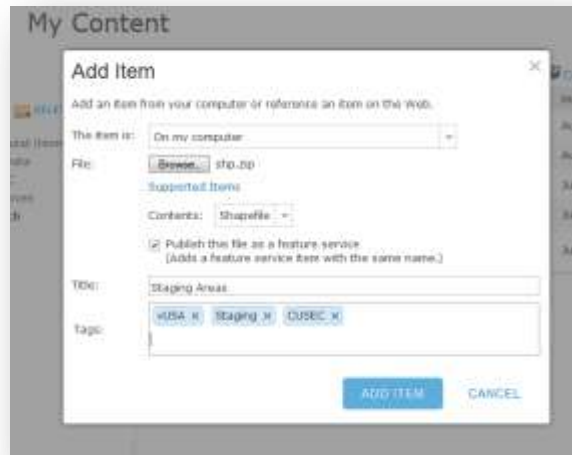


Publishing Hosted Feature Services

The ability to publish hosted feature services is one of the most useful functions of the ArcGIS Online platform. This enables you to quickly stand up high-availability cloud-based services, which you can use to augment your existing ArcGIS infrastructure, or create redundant copies in the event that your network is compromised. You can also create feature services modeled on a template from another Organization, promoting better standardization.


Publishing a Feature Service from an Existing File

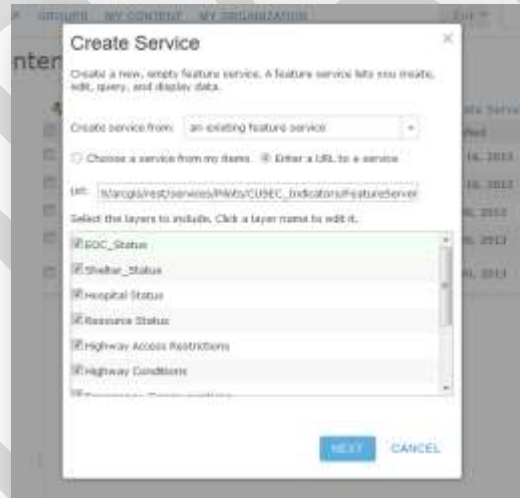
- In the My Content section, select the  **Add Item** option.
- Select the Shapefile, or a CSV file (note: CSV files must contain Addresses or Latitude/Longitude) that you want to publish.



- Name the file, and apply the appropriate tags.

Creating a Hosted Feature Service from an Existing Feature Service or Template

- In the My Content section, select the  **Create Service** option.
- Select an existing feature service from items in your content, your organization's items or from a URL.
- Select the layers to include in your hosted Map Service.



Publishing Hosted Feature Services from ArcGIS Desktop

In order to complete this section you will need the following:

- *ArcGIS Desktop version 10.0 or later.*
- *An ArcGIS Online organization account.*
- *Publisher or Administrator rights with your ArcGIS Online organization.*

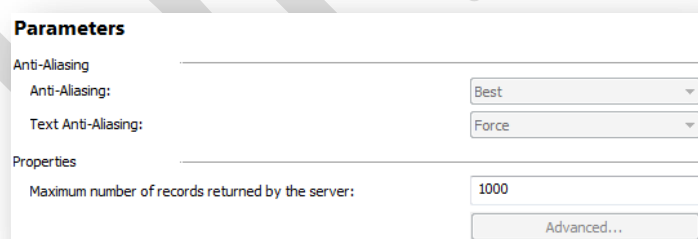
Publish a Hosted Feature Service in ArcGIS Online

- Review the 'Prepare Map Document for publishing' section above for information about properly staging the map.
- Publish the feature service:
 - In ArcMap, click the File menu and choose Sign In.
 - Enter your ArcGIS Online user name and password and click Sign In.



The image shows the ArcGIS Online sign-in dialog box. It has a dark blue header with the text 'ArcGIS Online' and 'Maps and Apps for Everyone'. Below the header, it says 'Enter your username and password to sign in to ArcGIS Online.' There are two input fields: 'Name:' with a placeholder 'YourName' and 'Password:' with a masked password '.....'.

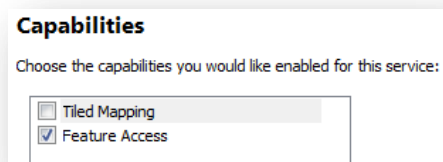
- Click File again, choose Share As, and select 'Service...'
- Select 'Publish a service.'
- Select the ArcGIS Online Organization connection from the 'Choose a connection' list.
- Enter the Map Service Name; refer to the *Map Service Naming* Pattern section for guidance.
- The Service Editor will open to the Parameters section; The recommendation is to leave the default number of records returned by the server as '1000'; however this can be increased (to ensure that all of the records are displayed even at small scales, compromising Map Service speed) or decreased (to make the Map Service more responsive, potentially compromising access to all features) as necessary.



The image shows the 'Parameters' section of the Service Editor. It has a title 'Parameters' and two sections: 'Anti-Aliasing' and 'Properties'. Under 'Anti-Aliasing', there are two dropdown menus: 'Anti-Aliasing:' with a value of 'Best' and 'Text Anti-Aliasing:' with a value of 'Force'. Under 'Properties', there is a text input field for 'Maximum number of records returned by the server:' with a value of '1000'. There is also an 'Advanced...' button at the bottom right.

- Under the Capabilities section, ensure that 'Tiled Mapping' is unchecked and that Feature Access is checked. (*Note: Generating Cached/Tiled Map Services can consume a large number of your Organization's credits; avoid enabling this capability unless the situation*

requires it).



Capabilities

Choose the capabilities you would like enabled for this service:

☐ Tiled Mapping

☒ Feature Access

- In the Feature Access section under Capabilities, check off which Operations you want to enable for the service.



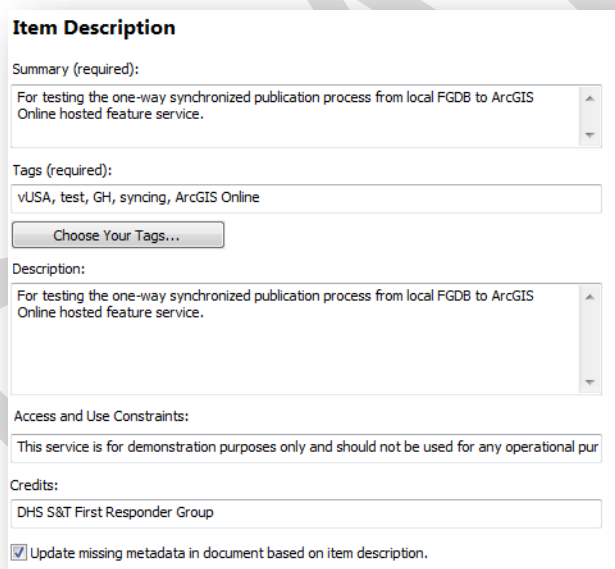
Feature Access

REST URL: The REST URL will be defined once the service is published.

Operations allowed:

☒ Create ☒ Delete ☒ Query ☒ Sync ☒ Update

- Ensure that the Item Description section is completely filled out.



Item Description

Summary (required):

For testing the one-way synchronized publication process from local FGDB to ArcGIS Online hosted feature service.

Tags (required):

vUSA, test, GH, syncing, ArcGIS Online

Choose Your Tags...

Description:

For testing the one-way synchronized publication process from local FGDB to ArcGIS Online hosted feature service.

Access and Use Constraints:

This service is for demonstration purposes only and should not be used for any operational pur

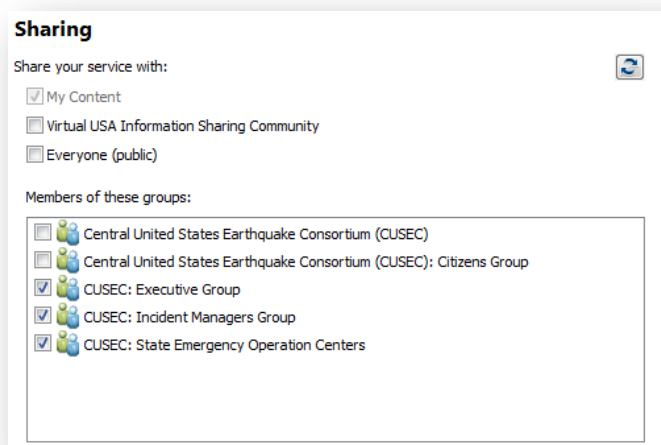
Credits:

DHS S&T First Responder Group

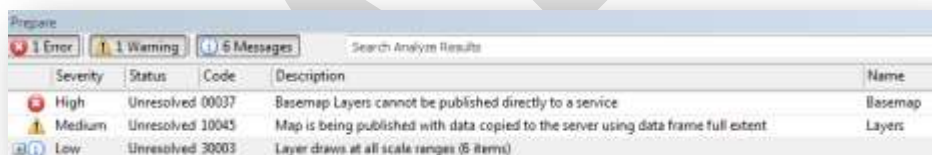
☒ Update missing metadata in document based on item description.

- Set the groups that you want to share the service with (see

- *ArcGIS Online Group-level Sharing* section for guidance).



- Select the  **Analyze** button at the top of the Service Editor, and correct any Errors or Severe Warnings.



- Select  **Publish** to publish the Feature Service to your ArcGIS Online Organization.

Symbology

To enable better interoperability of information among CUSEC Member States, the GIS/IT Working Group recommends that each agency, to the extent that they are able, adhere to consistent conventions for symbology. For example, the status variables for each EEI should follow the green-yellow-red convention (see **Error! Reference source not found.**). The status of a particular EEI may be represented at one or more geographic scales, e.g., from statewide, county, town, or a specific point location.

For polygon features, which are best suited for small scales such as state or county level, we recommend that polygons are used to represent the jurisdiction. Polygons should follow the green-yellow-red color combination. It is recommended that a transparency of at least 40% be applied to the polygons so that the basemap is legible.

For local features at a large scale such as a neighborhood, or specific address, it is recommended that Members use *[INSERT SYMBOLOGY SET HERE - this needs to be determined by the GIS/IT Working group]*. See

Situational Awareness Symbology Brief for more information and a side by side analysis of symbology sets available for use.

ArcGIS Online Group-level Sharing

ArcGIS Online provides a sharing model based on users and groups that the users explicitly share the content with. By default, items posted on ArcGIS Online are private and only accessible to the user that added the item. CUSEC will establish four separate groups for member states to share content with, according to the following four-tier system:

- **Tier I:** The base tier contains the Incident Management Teams group. Depending on the needs of the CAPSTONE-14 exercise, other operations-oriented private groups can be added to Tier I, however, the Incident Management group is currently a catch-all. Membership and Contributions will be restricted to CUSEC participants, content posted here will only be viewable to CUSEC members. This tier includes the most unfiltered information for operational purposes, of which some of it will be vetted and shared to Tier II.
- **Tier II:** This tier, open to anyone within the Organization, is for sharing information to the State Emergency Operation Centers. Membership and Contributions will be restricted to CUSEC participants, content posted here will only be viewable to CUSEC members. Members of this group will vet and approve appropriate content and share it to Tier III.
- **Tier III:** Like Tier II, this tier is open to all CUSEC members, but focused on executive-level members of the incident response group. Membership and Contributions will be restricted to selected CUSEC participants, content posted here will only be viewable to those members.
- **Tier IV:** This is a Citizens Group for sharing content with the general populace. Membership and Contributions to the group will be restricted to CUSEC participants, though the content posted here will be viewable to everyone.

In addition to the CUSEC groups identified above, member states can create their own private groups for sharing content internally within their Organization or with other selected AGOL users, for example CUSEC associate states.

Associate member states will have the option to participate in the CUSEC-ArcGIS Online sharing model if they meet one of the following criteria: 1) have their own AGOL for Organizations subscription, 2) purchase a AGOL for Organizations subscription from the NISC, or 3) request access to a user account on the NISC AGOL Organization.

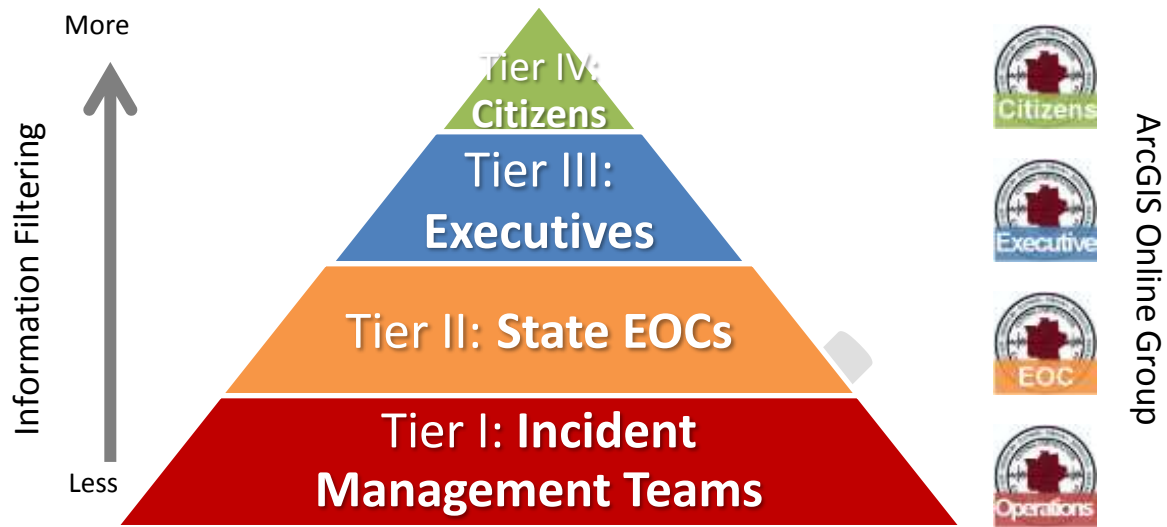
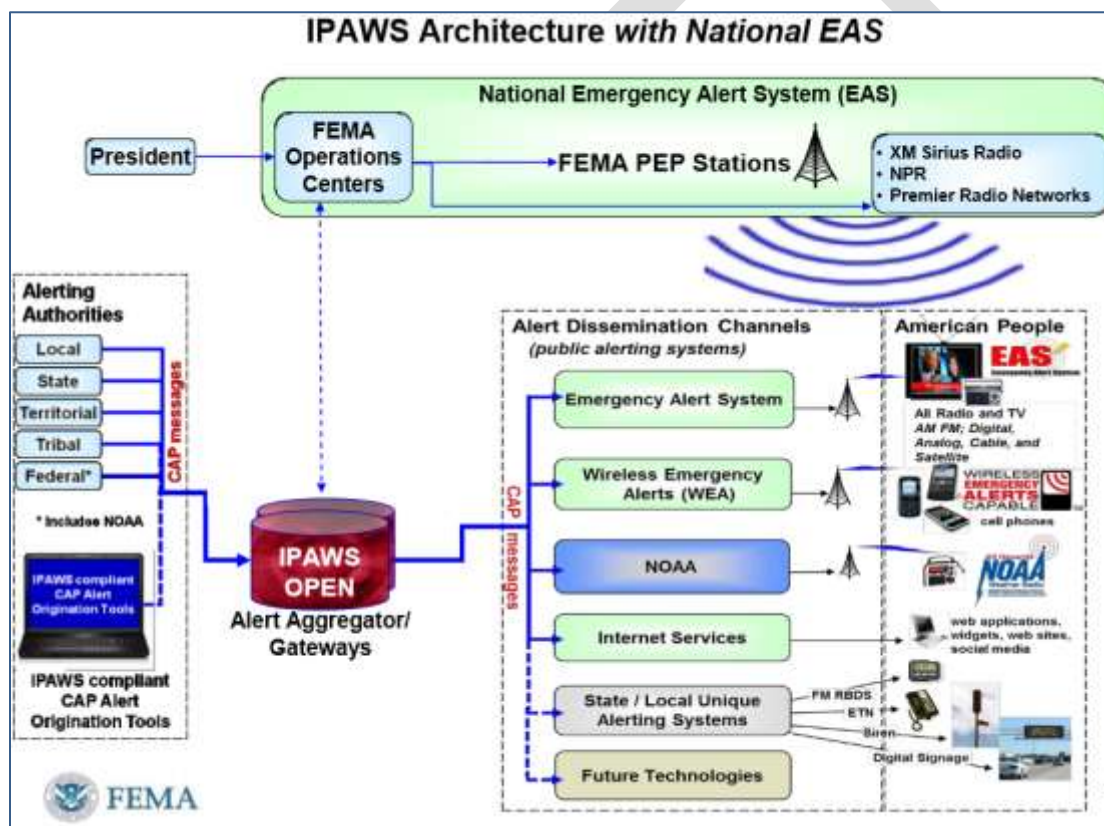


Figure 4. Proposed CUSEG Information Sharing Hierarchy

Publishing and Receiving Alerts from IPAWS

The Capstone 2014 Exercise will be kicked-off by an Integrated Public Alert and Warning System (IPAWS) alert propagated using the Emergency Alert System (EAS). IPAWS is a system that integrates the nation's alert and warning infrastructure through the Common Alerting Protocol (CAP). IPAWS alerts can be converted into a geospatial format by using custom programs (provided by DHS/G&H as well as other third-party vendors). For the CAPSTONE 2014 exercise, the IPAWS Test Development Lab (TDL) environment will be used for all alerts during to enable testing and operational usage.

The goal for the CAPSTONE 2014 exercise is to be able to visualize alerts and warnings originating from the National Emergency Alerting System (EAS) as well from individual Collaborative Operating Group (COGs) in CUSEC Member states native geospatial applications. Alerts can be sent to pre-assigned COG ID's of the CUSEC Member states.



IPAWS Notification Workflow

- Incident is first reported in WebEOC.
- The incident invokes the need to send an alert. An alert is originated from various COTS solutions (e.g. WebEOC IPAWS plugin, On the Go Alerting iPad App et al).
- Incident information is sent to the IPAWS aggregator.
- Incident is displayed in CUSEC member's AGOL Organization Accounts.



Follow these steps to be able to receive and send alerts over IPAWS:

1. Select IPAWS compatible software.
 - DHS S&T will provide the necessary scripts (requires PHP 5.4 and JAVA)
 - Optional: Download the IPAWS On-The-Go Alerting mobile APP (available on iTunes and Google Play)
2. Apply for a [Memorandum of Agreement \(MOA\)](#) with FEMA.
 - Obtain Collaborative Operating Group (COG) ID and Digital Certificate, Password and Zip File Password
 - Configure application / scripts selected in step one with your COG ID and digital certificate.
3. Apply for Public Alerting permissions.
4. Complete IPAWS web-based training, [IS-247a Integrated Public Alert and Warning System](#).

For more information, see the [How to Sign Up for Integrated Public Alert and Warning System \(IPAWS\) - Fact Sheet](#).

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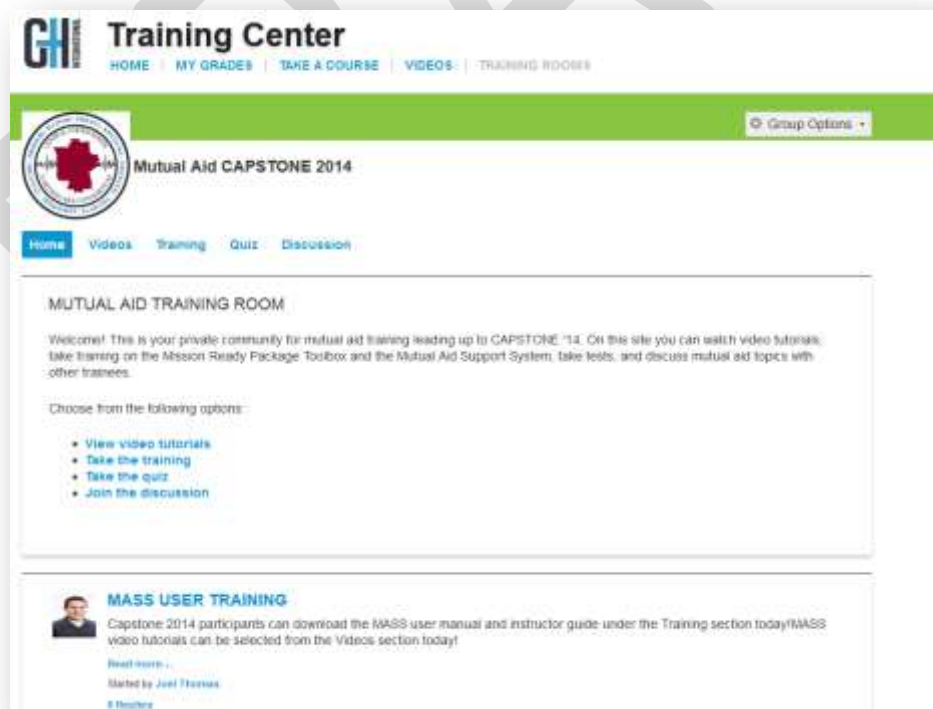
Guidance for Resource Management Systems

Mutual Aid Support System

CUSEC members will receive training on how to use and Mutual Aid Support System (MASS), including how to upload Mission Ready Packages (MRPs) by the Kentucky Division of Emergency Management (KYEM). Upon completion of the MASS training, each state will be given access to MASS in order to:

- Establish an **Enterprise** consisting of Organizations, Sites, Personnel, Buildings, and Positions.
 - Each state should spend the appropriate amount of time to make sure the step above is thoroughly completed as it will save time when creating MRPs.
- Establish an **Equipment** Inventory.
- Create **Mission Ready Packages**, a combination of personnel and equipment necessary to properly respond to a mutual aid request.
- DHS S&T will provide a MASS user manual and a web-based training to accomplish the tasks above.

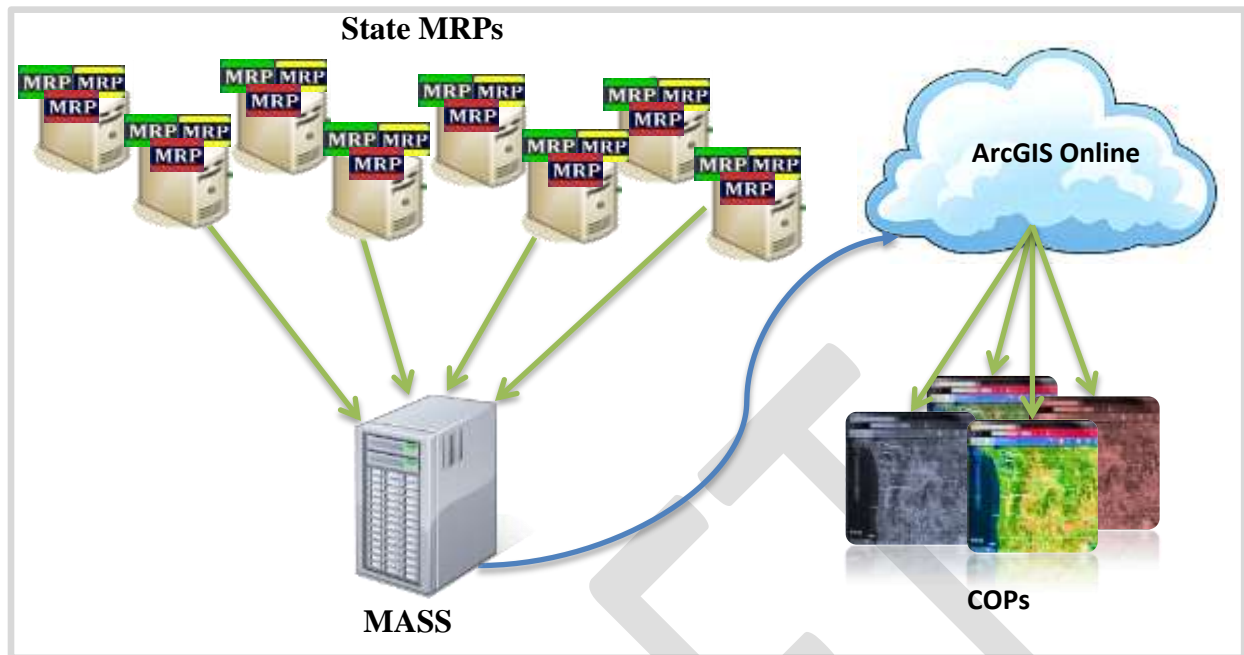
Training user manuals, video tutorials and related materials for how to use MASS and how to use the MRP geospatial tools can be found [here](#). The training center provides a self-guided training experience to any Capstone 2014 participant that is unable to attend the training webinars. If you need assistance accessing these documents or videos please contact training@ghinternational.com.



The CUSEC states have agreed to publish a baseline set of MRPs to MASS including the following:

- Search and Rescue
 - USAR-caliber,
 - Technical Rescue Teams,
 - Non-technical SAR
- Incident Management Teams
 - Type III, Type II, Type I
- EOC Management Team
- EMAC A-Team
- Building Inspection Teams
- Bridge Inspection Team
- HAZMAT Team
- Medical Strike Team
 - Ambulance,
 - Field Hospital
- Water Rescue Team
 - Swift water
 - Standard
- Communications Strike Team
- Debris Removal Team
- Law Enforcement Strike Team
- Law Enforcement Crowd Control Team
- Homeland Response Force (National Guard)
- CERFP (National Guard)
- Civil Support Team (National Guard)
- Rotary-wing Air (National Guard)

After states upload and create MRPs in MASS, KYEM will publish a feature service to the CUSEC AGOL organization using the appropriate publication guidance in this document. The MRPs will then be consumed by each state in their native environment.



EMAC Operations System

Section to be completed in partnership with NEMA/EMAC team.

Mutual Aid Net

Section to be completed in partnership with IAFC. www.Mutualaidnet.org

APPENDICES

CAPSTONE 2014 Ready Document

Available here: <http://184.73.165.29/downloads/CAPSTONE%20READY.docx>

Situational Awareness Symbology Brief

Available here: <http://184.73.165.29/downloads/Capstone%202014%20Symbology%20Brief.docx>

vUSA Standardized Items Tags

[Available upon request from the NISC]

vUSA National Information Sharing Agreement

Available here: <https://vusa.us/resources.html>

NIMS Resource Types

Available here: <https://www.rkb.us>

Mission Ready Package (MRP) Resource Types

See the list of MRP types provided by the CUSEC Board for use. See www.emacweb.org for more info.

NIEM IEPD Data Models

A [NIEM IEPD](#) is under development

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