



Exploring the ChemResponder Network

Megan Callan

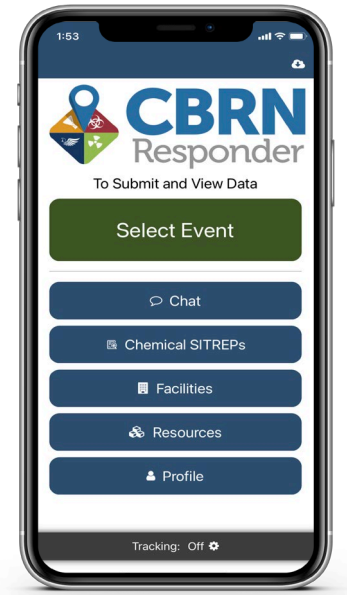
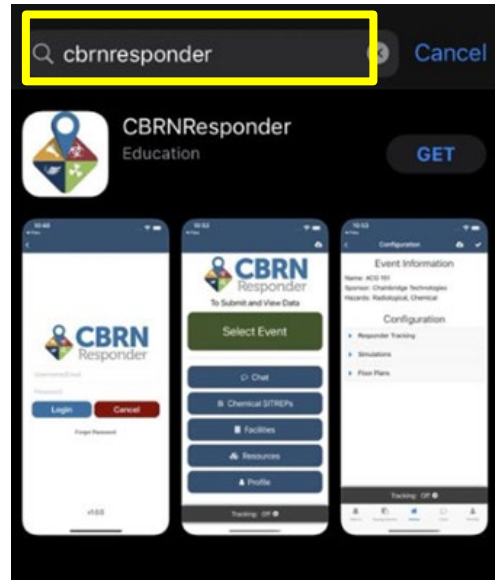
March 23, 2023



25th California Unified Program
Annual Training Conference
March 20 – 23, 2023

What You'll Need:

- ❑ ChemResponder Account
- ❑ CBRNResponder mobile application



**Participation is optional*

Training Accounts:

If you **DO NOT** have a ChemResponder Account, you can use one of these temporary accounts:

Username: SimulatedAccount1-20

Password: SimulatedAccount1-20

Example:

Username: SimulatedAccount7

Password: SimulatedAccount7



**Participation is optional*



CBRN Responder



RadResponder



ChemResponder



BioResponder



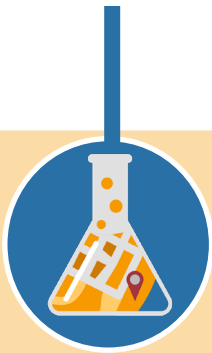
IMAAC Portal

CBRNResponder Evolution Timeline

RadResponder
Launched
(2013)



ChemResponder
Launched
(2018)



IMAAC Portal
Launched
(2021)



RadResponder
codified in NRIA
(2016)



CBRNResponder
Launched
(2019)



BioResponder
Launched
(2022)



ChemResponder

- ChemResponder is a **free**, whole community service, sponsored by the FEMA CBRN office and its federal partners, for the collection, management and sharing of chemical incident and preparedness information among Federal, State, Local, Tribal, and Territorial (FSLTT) response organizations designed to provide real-time chemical data collection, management, and sharing.
- Users create a **real-time common-operating picture** to share ground-truth data in addition to managing equipment, SITREPs, chemical facility information, lessons learned, and more, all which can be shared at the organization's discretion with any other FSLTT agency.

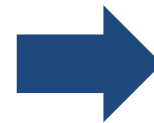


Coordinate Operations

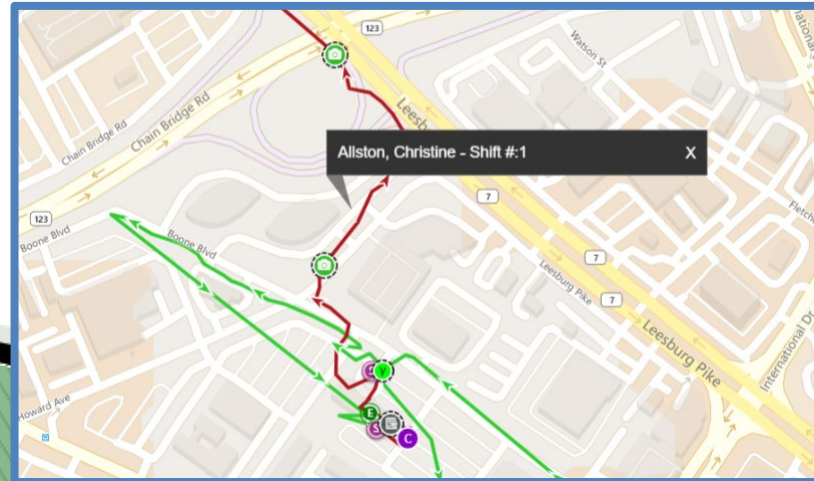
Upload
Equipment &
Manage
Personnel



Assign Personnel
& Equipment to
Field Teams




Track
Responders
in the Field




Upload Facility Information

- Tier II Data
- Chemicals
- Documents
- Floor Plans
- Points of Contact

 **Facilities** Demo Chem Organization



 Export to Excel


 Add Facility








 Tier 2 Import

Chemical Storage Facility Details

Dun & Bradstreet #	--	NAICS Code	--
TRI Facility ID	--	Maximum # of Occupants	--
RMP Facility ID	--	Is Manned?	Yes
Subject to Emergency Planning? under Section 302 of EPCRA (40 CFR part 355)	Yes		
Subject to Chemical Accident Prevention? under Section 112(r) of CAA (40 CFR part 68, Risk Management Program)	Yes		

Chemicals   Add Chemical

Quick Search Partial Exact  Choose Visible Columns

 Name	 CAS #	 Physical Hazards	 Health Hazards 
 Azinphos-methyl	86-50-0	Flammable (gases, aerosols, liquids, or solids) Gas under pressure (compressed gas)	--
 Chromyl chloride	14977-61-8	Self-heating	Carcinogenicity



Integrate Raw Data

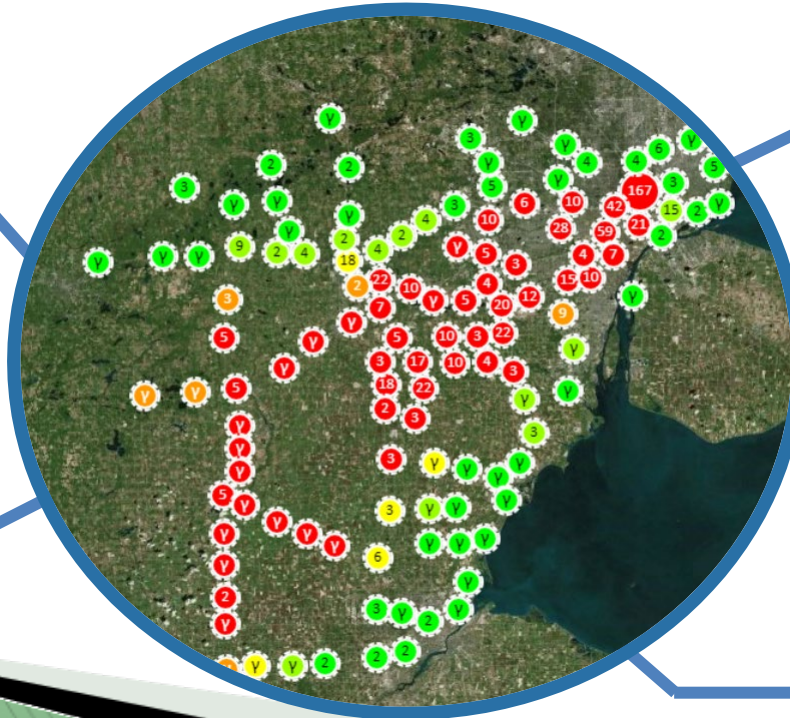
Mobile Application

Fixed Monitoring

Website Entry

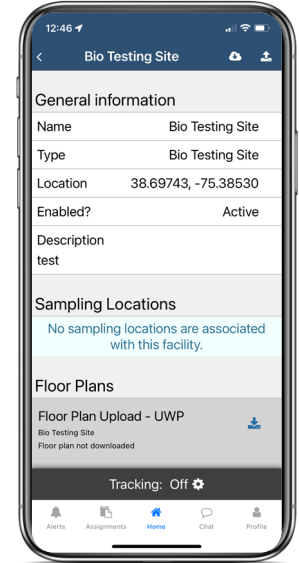
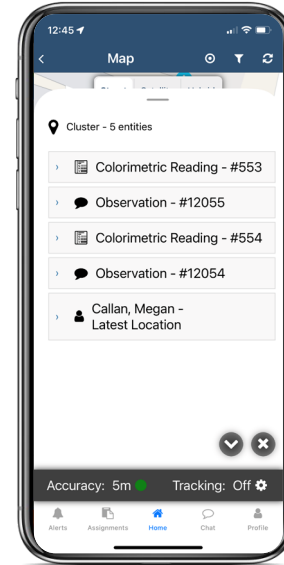
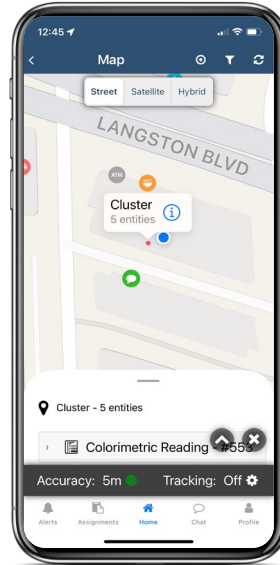
API Equipment

Mobile Surveys



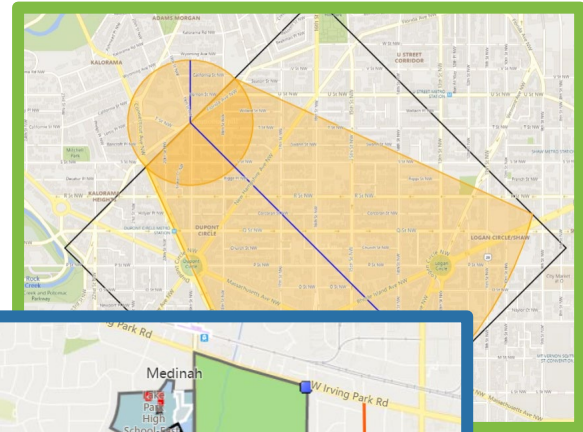
Situational Awareness on CBRNResponder Mobile App

- Display data points, facilities, sampling locations, and responders on the event map

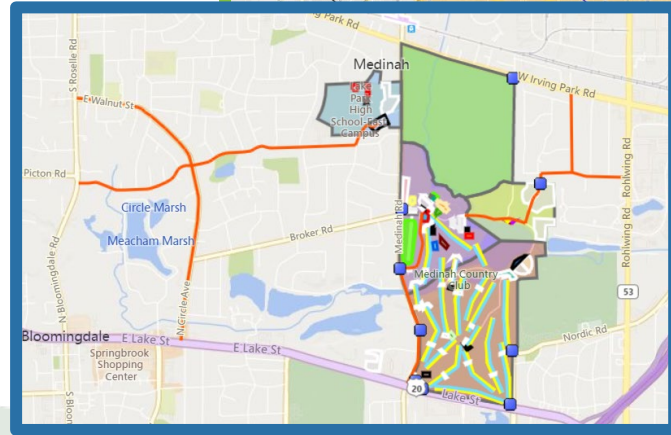


GIS Files

- Get initial prediction models or products pushed directly to the event map from the IMAAC Portal
- Upload your own GIS files (KML, KMZ, or Shapefiles)
 - ERG, Aloha or DTRA products
 - Critical infrastructure
 - Weather



*ERG
Protective
Distances*



*User
Uploaded
GIS Files*

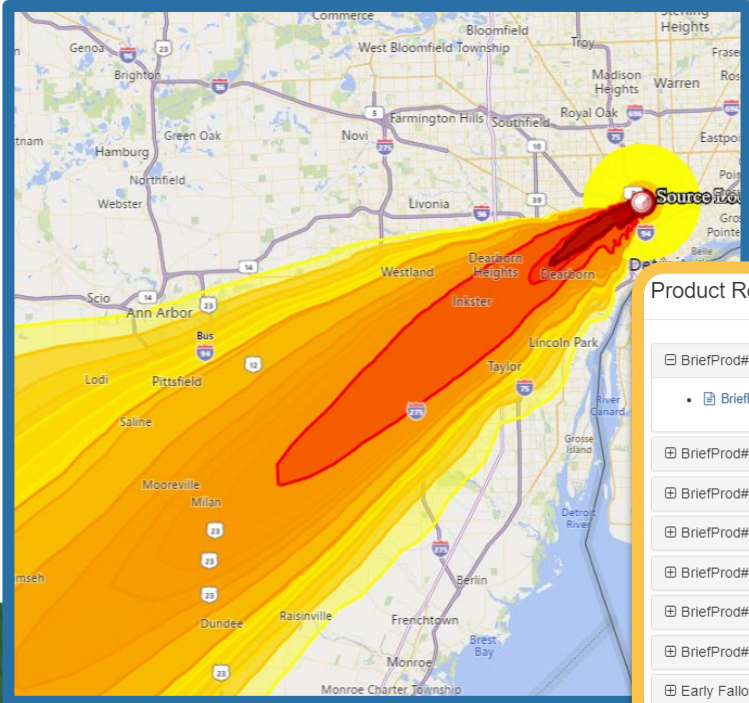


IMAAC Portal

- IMAAC is the Interagency Modeling and Atmospheric Assessment Center
- Provides a single point for the coordination and dissemination of Federal dispersion modeling and hazard prediction products that represent the Federal position during actual, or potential, incidents involving hazardous atmospheric releases
- IMAAC Portal allows any CBRNResponder user to request IMAAC models for exercises, and allows IMAAC to seamlessly push models and briefing products to users' events for exercises and/or real-world emergency events




IMAAC Portal



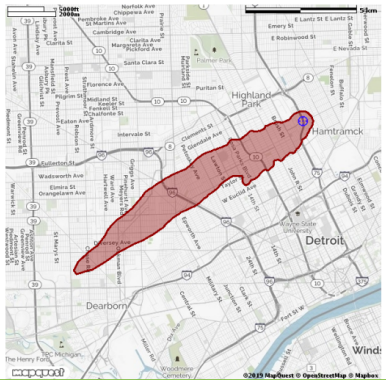
- ### Product Reports
- BriefProd#1_Dangerous_Fallout_Zone_TimeSeries
 - BriefProd#1_Dangerous_Fallout_Zone_TimeSeries.pdf
 - BriefProd#2_Hot_Zone_TimeSeries
 - BriefProd#3_Damage_Response_Zones_TimeSeries
 - BriefProd#4_Fallout_Casualties_TimeSeries
 - BriefProd#5_Prompt_Casualties
 - BriefProd#6_Evac_Shelter_Avoidable_Dose_TimeSeries
 - BriefProd#7_Relocation
 - Early Fallout Casualties
 - Early Phase Evac Shelter PAGs (12-108 hrs)
 - Early Phase Groundshine Dose (0.96 hrs)

EXERCISE EXERCISE EXERCISE



NARAC Report: Exercise
(42.39695, -83.06886)
Nuclear Detonation on 07 May 2019 15:05 UTC

BP#1 Predicted Dangerous Fallout Zone (DF) for 08 May 2019 03:05 UTC
Dangerous fallout zone posing immediate threat to survivors and responders
Presented in 6 time steps. This step represents 12 hr since detonation.



Dangerous Fallout Zone (DF) - Dangerous radiation levels exceeding 10 R/h (0.1 Sv/h). The best initial action is to seek adequate shelter. Delay responder entry (several hours) unless undertaking a carefully planned mission with sufficient benefit to justify the anticipated radiation dose. Estimated Population: 36,500 Area: 17.6 km² Extent: 12.3 km

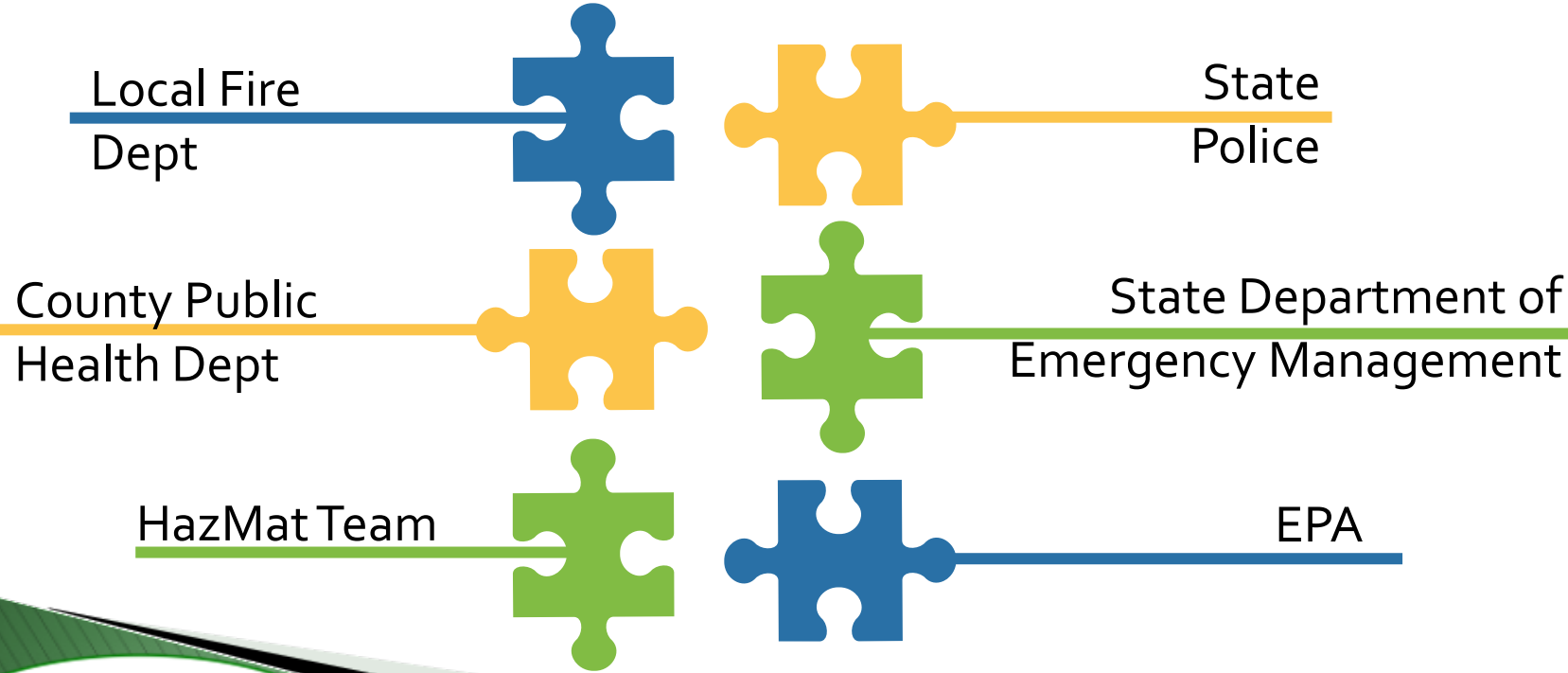
Notes:

- Communicating protective actions to the public is critical. Sheltering-in-place followed by informed evacuation may be most protective. Evacuation through heavy fallout may increase dose and decrease survivability.
- The highest hazard from fallout occurs in the first hours. However, the radiation levels in the zone and the size of the zone itself rapidly decrease as short-lived nuclides decay. Once short-lived nuclides have decayed away and only longer-lived nuclides remain the decay rate slows.
- Dangerous Fallout Zone is entirely embedded in Hot Zone (not shown here, see separate figures Predicted Hot Zone).

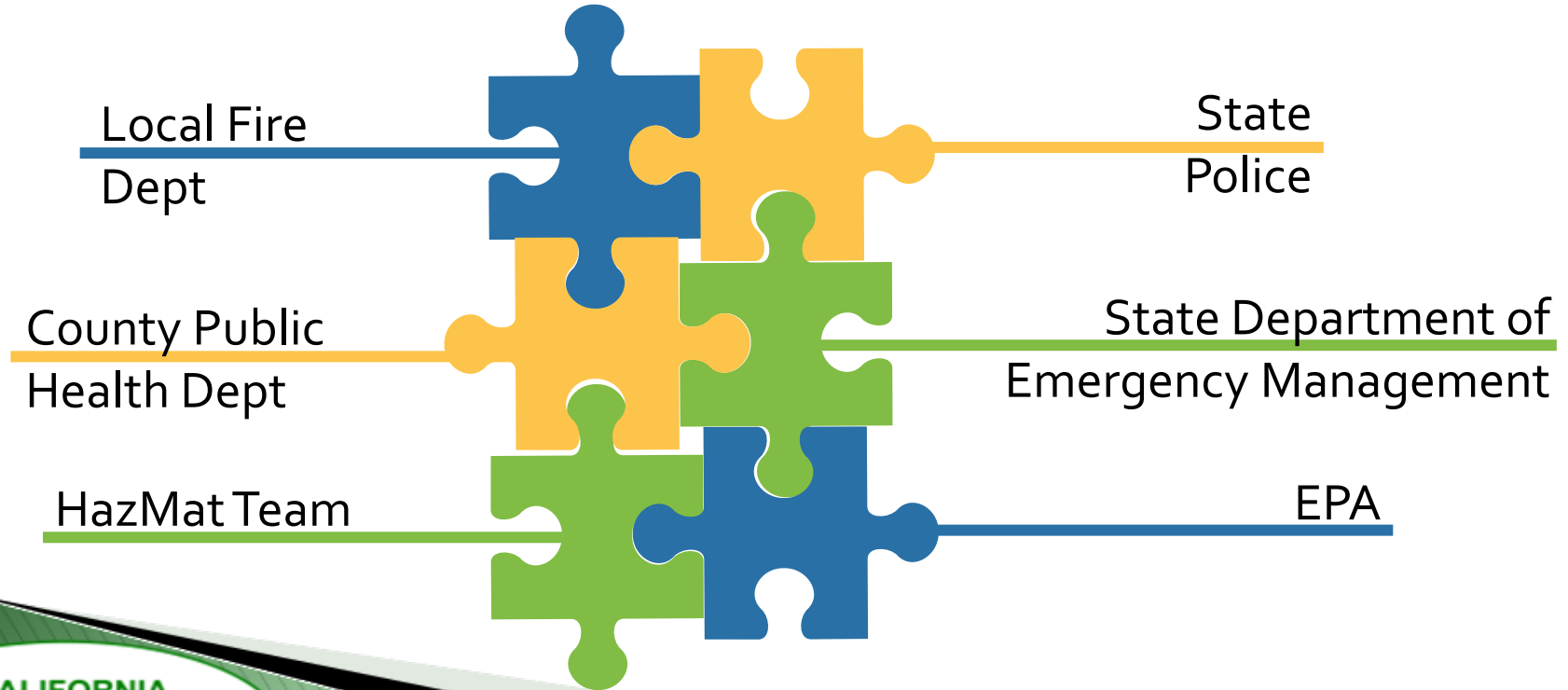
Assumptions:

- Assumes 20 kt detonation at 16.4 ft elevation.
- Areas shown are model predictions based on an estimated source term; but no measurements yet available.
- Radioactive cloud has passed contoured area, radiation from fallout remains a serious hazard.
- Model assumes that no protective actions or other mitigations have been taken to decrease exposure.

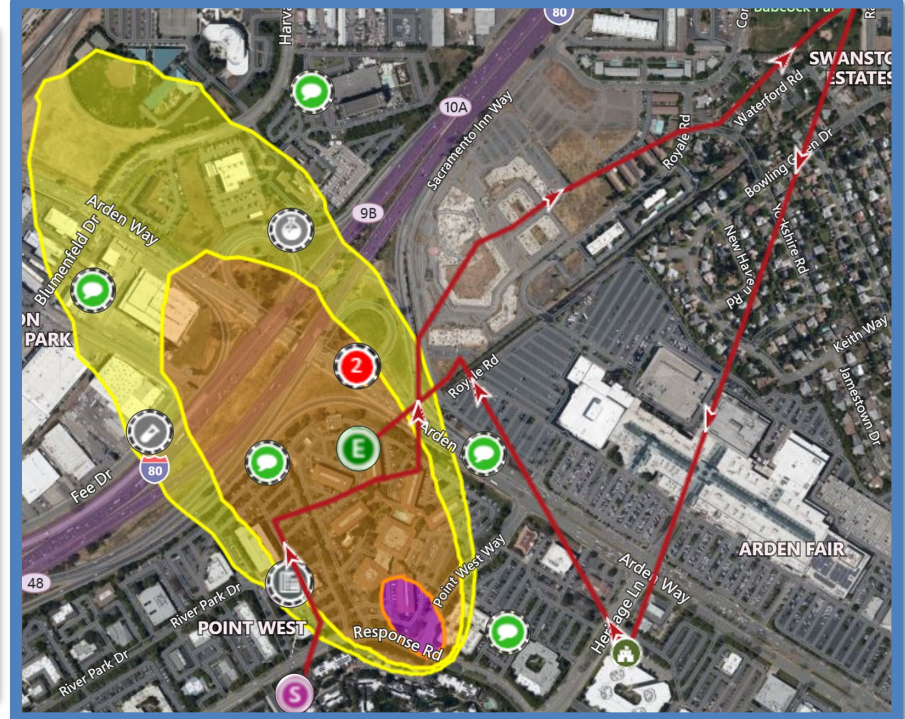
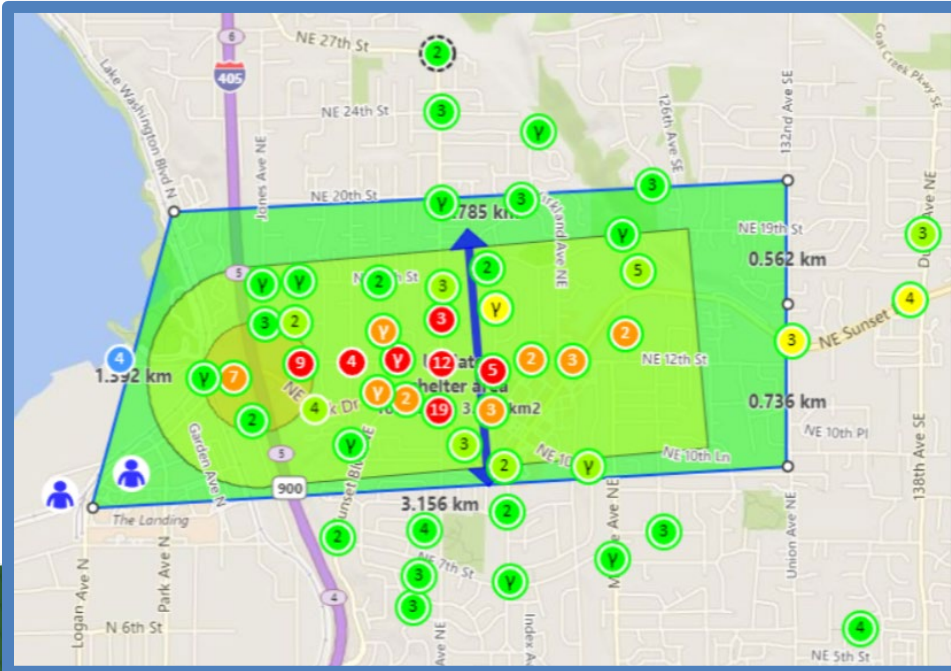
Establish Default Partnerships...



... To Share Data in Real-Time



... and Enable Decision-Making



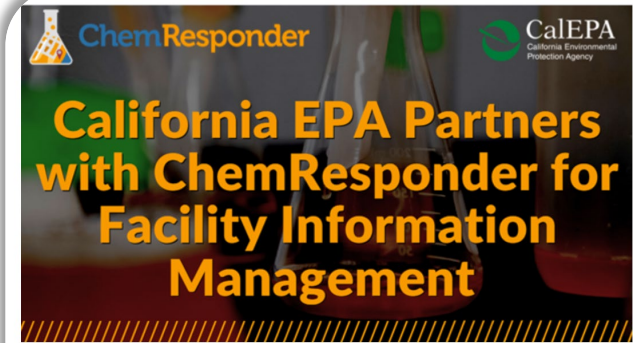


California EPA Pilot Project



California ESF-10 Local Working Group

- Ongoing project to explore ChemResponder's potential to serve as CA's Common Operating Tool
- **5 Certified Unified Program Agencies (CUPAs):**
 - Hazardous Incident Response Team **San Diego**
 - **Yuba County** Environmental Health/CUPA
 - **Contra Costa County, CA** Health Services
 - **Roseville** Fire Department
 - **Santa Fe Springs** Department of Fire Rescue

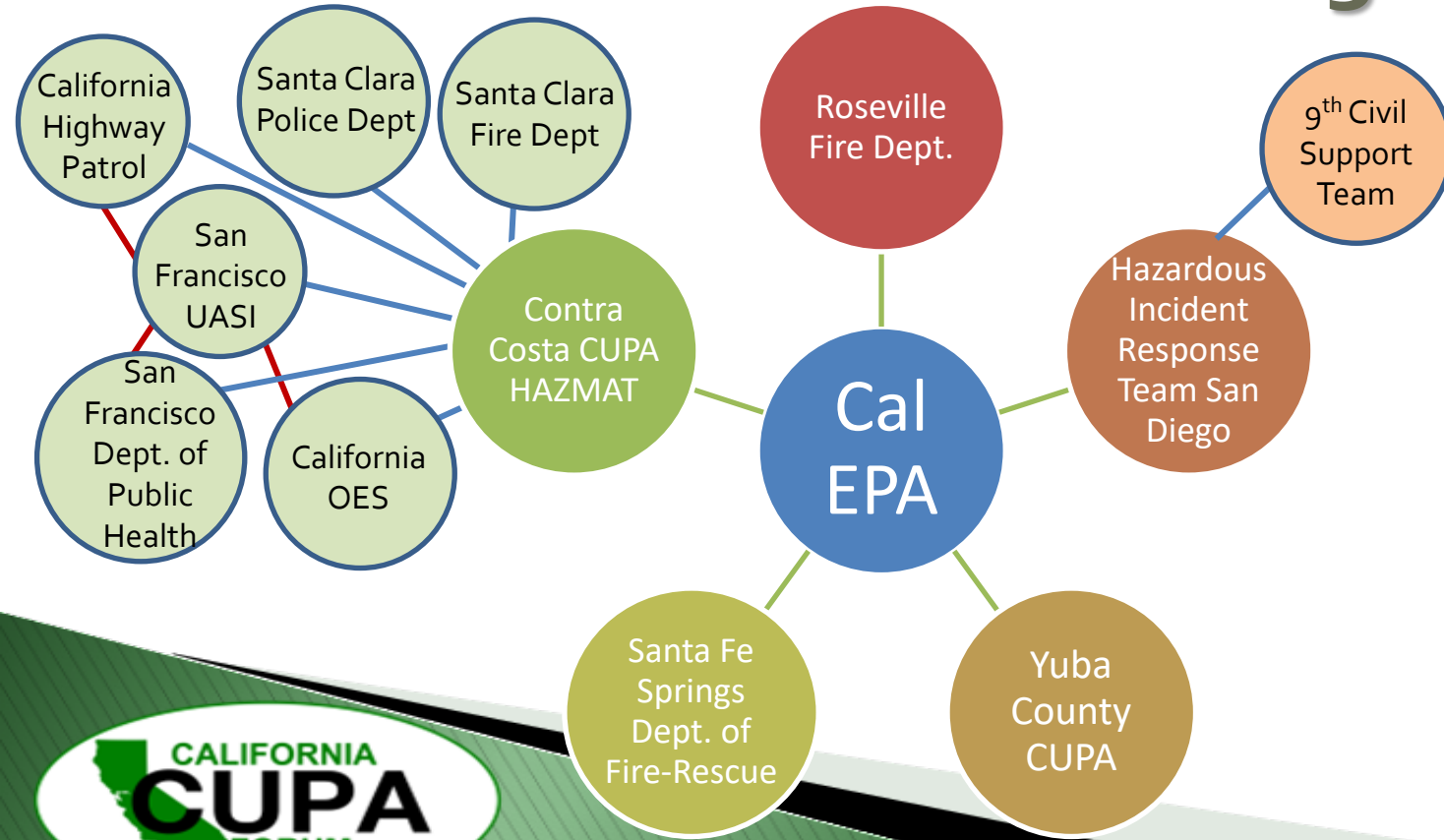


The California Environmental Protection Agency (CalEPA) is exploring how ChemResponder can help close the information gap between the state's chemical facility information collection system and first responders at the ground level. The agency has initiated a pilot program to investigate whether ChemResponder can add to the arsenal of data tools the state's emergency responders can rely on when responding to chemical facility incidents and support statewide planning efforts.

[Read More](#)



California ESF-10 Local Working Group



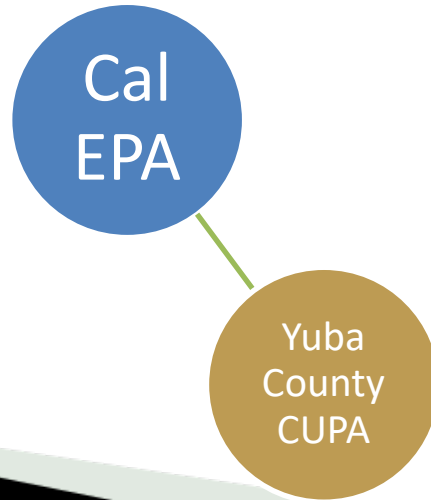
California ESF-10 Local Working Group

Information **Cal EPA** is sharing with **Yuba County**:

- Events
 - Testing/Training - Full Participant
 - Emergency Response - Full Participant
 - Exercise/Drill - Full Participant
 - Special Event - Full Participant
- Lessons Learned
 - Testing/Training
 - Emergency Response
 - Exercise/Drill
 - Special Event

Information **Yuba County** is sharing with **Cal EPA**:

- Events
 - Testing/Training - Full Participant
 - Emergency Response - Full Participant
 - Exercise/Drill - Full Participant
 - Special Event - Full Participant
- Facilities
- Equipment
- Chemical SITREPs
 - Testing/Training
 - Routine Monitoring
 - Emergency Response
 - Exercise/Drill
 - Special Event
 - Non-Emergency Operation
- Lessons Learned
 - Testing/Training
 - Routine Monitoring
 - Emergency Response
 - Exercise/Drill
 - Special Event
 - Non-Emergency Operation



California ESF-10 Local Working Group

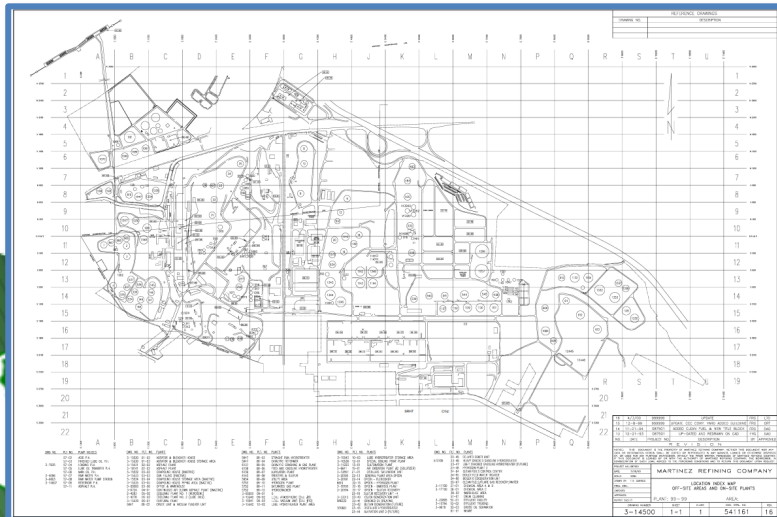
Outcomes from the Working Group:

- Extracted site maps from endpoints in “CERS” (California’s chemical facility management software) and uploading them into ChemResponder

Chemicals

Quick Search Partial Exact ? Choose Visible Columns

Name	CAS #	Locations
Furfural (98-01-1)	98-01-1	LHT-1
PROPOXYLATED BUTANOL (9003-13-8)	9003-13-8	ETP 2 & 3
PROPOXYLATED BUTANOL (9003-13-8)	9003-13-8	ETP 2 & 3
1,1,1,2-tetrafluoroethane (811-97-2)	811-97-2	SGP
1,1,1,2-tetrafluoroethane (811-97-2)	811-97-2	FLEXICOKER
1,1,1,2-tetrafluoroethane (811-97-2)	811-97-2	GAS PLANT
1,1,1,2-tetrafluoroethane (811-97-2)	811-97-2	CCU/CGP



Documents


Quick Search Partial Exact ?

Name	Type	Description
2600 Annotated Site Map 2021.pdf	--	Annotated Site Map (Official Use Only)
Annotated Site Map (Official Use Only) - Updated 7-20-2021.pdf	--	Annotated Site Map (Official Use Only)
Annotated Site Map (Official Use Only) Rev201802.pdf	--	Annotated Site Map (Official Use Only)

California ESF-10 Local Working Group

Outcomes from the Working Group:

- Ability to only include facilities within a range

Limit facilities added by default to be within a defined range? 

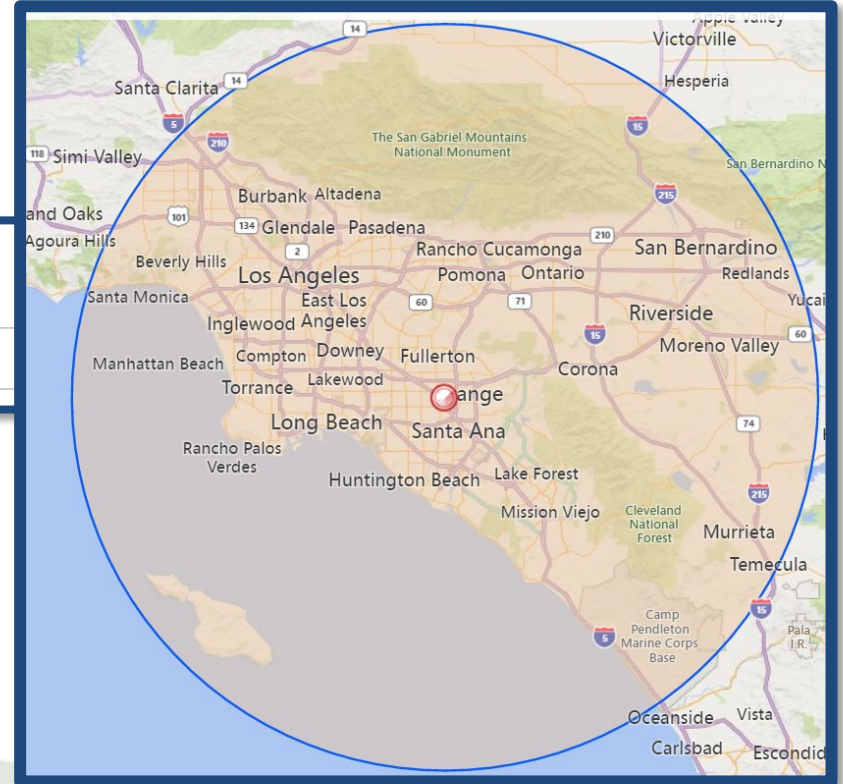


Facility Range

mile

More Info

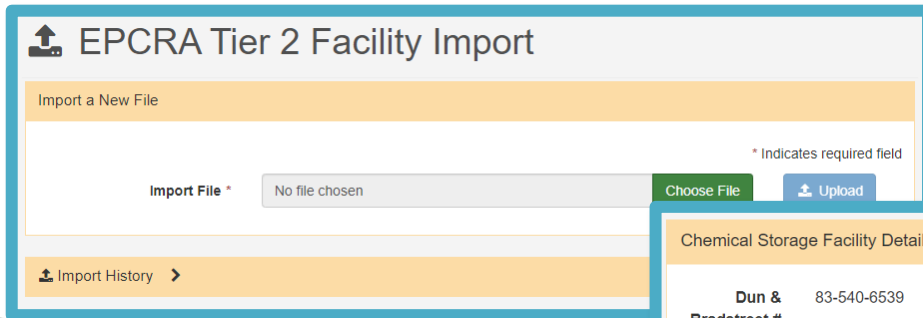
When checked, only facilities owned by the sponsor and full-participant sponsors that are configured to be added to events automatically and are within the defined range will be added.



California ESF-10 Local Working Group

Outcomes from the Working Group:

- Tier II Import
 - Customizable fields based on state reporting requirements

Screenshot of the EPCRA Tier 2 Facility Import interface. The page title is "EPCRA Tier 2 Facility Import". Below the title is a section "Import a New File" with a text input field labeled "Import File" containing "No file chosen". To the right of the input field are two buttons: "Choose File" and "Upload". A note "* Indicates required field" is visible. At the bottom left, there is a link "Import History".

- [Facilities >](#)
- [Facility Chemicals >](#)
- [Mixture Chemical Components >](#)
- [Facility Additional Fields >](#)
- [Contacts >](#)
- [Contact Phones >](#)

Chemical Storage Facility Details

Dun & Bradstreet #	83-540-6539	NAICS Code	454310	Subject to Emergency Planning? under Section 302 of EPCRA (40 CFR part 355)	No	Does your facility have a written emergency response plan?	Yes
TRI Facility ID	--	Maximum # of Occupants	0	Subject to Chemical Accident Prevention? under Section 112(r) of CAA (40 CFR part 68, Risk Management Program)	No	Does your facility have a hazardous materials response team?	Yes
RMP Facility ID	--	Is Manned?	No				



California ESF-10 Local Working Group

Outcomes from the Working Group:

- Recording Unknown and Other Chemicals

Chemical *

Select a chemical...

! The chemical is not listed OR ? The chemical is unknown

Add Identified Other Chemical

This identified other chemical will be added as a new chemical for use on this event. Please ensure that this chemical is not already available in the chemical dropdown.

Name *

Enter the name of the chemical

CAS Number *

Enter the CAS number for the chemical

Description *

Enter a description of the chemical

Add Unknown Chemical

This unknown chemical will be automatically assigned a name that will include a reference number generated by the system once the data point is saved. This chemical name will be shown on the record details page and will be available in the chemical dropdown for other records on this event.

Name

Unknown-#####

Description *

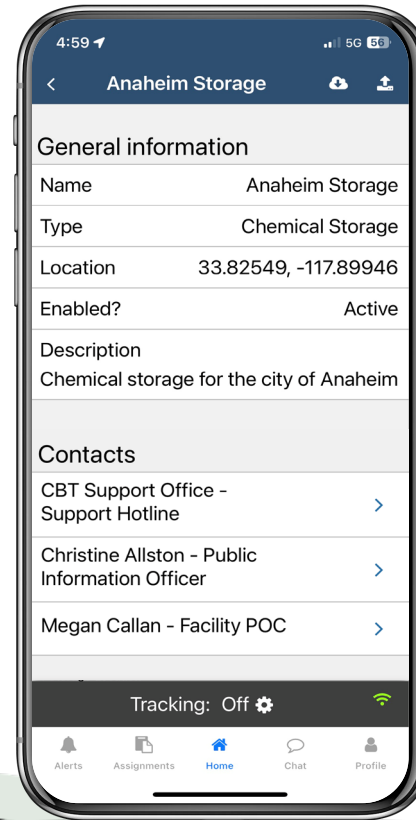
Enter a description of the chemical



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Chemical Facility Management

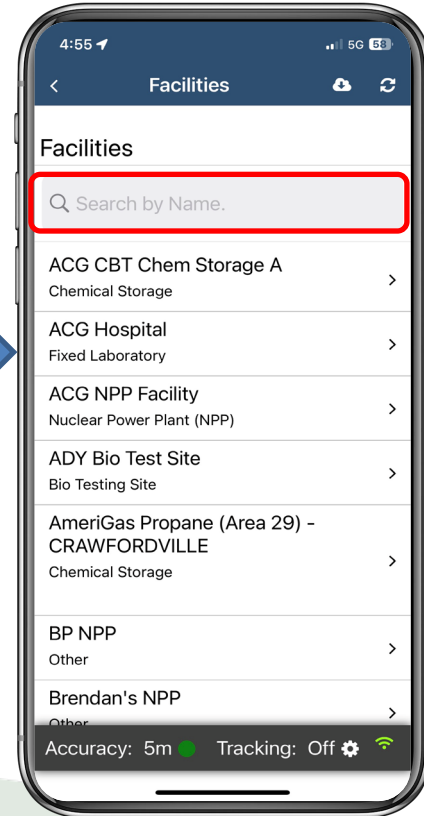
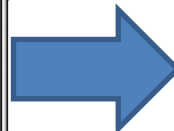
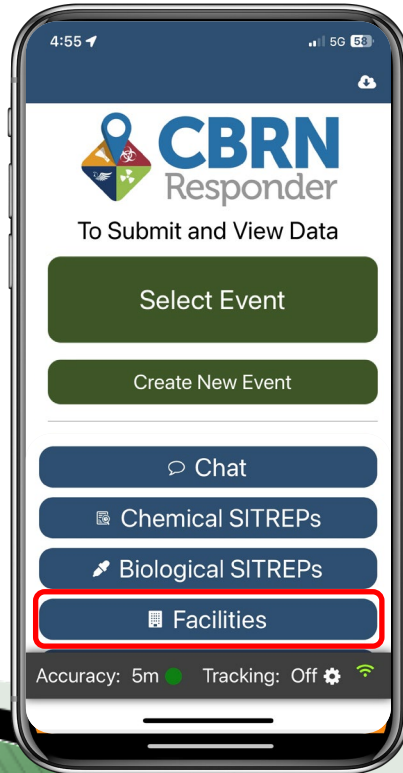
- From the mobile app you can access:
 - Facility Contacts
 - Chemical Storage Locations and Details
 - Chemical Inventory
 - Health and Physical Hazards
 - Other critical data



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If you are not in an event...

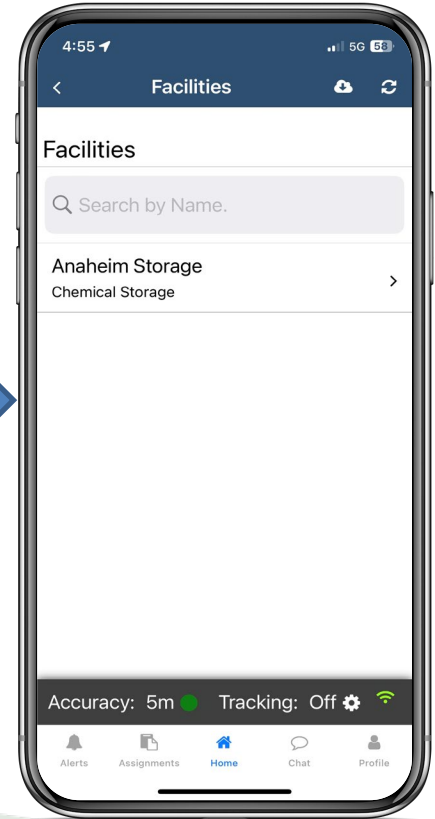
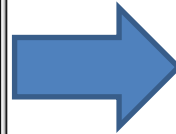
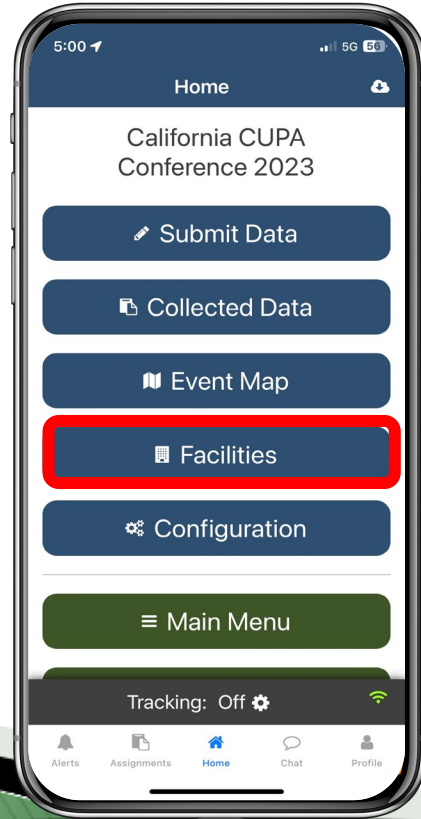
To view all facilities your organization and your partners own, open the "**Facilities**" button and search for the facility you are looking to view:



California ESF-10 Local Working Group

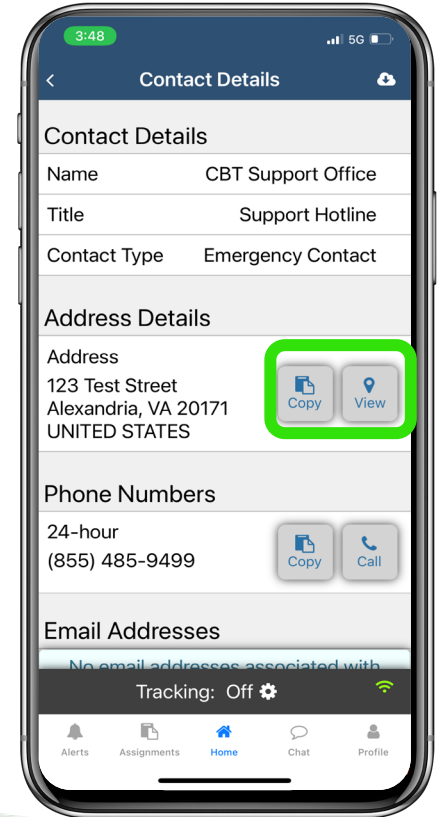
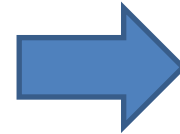
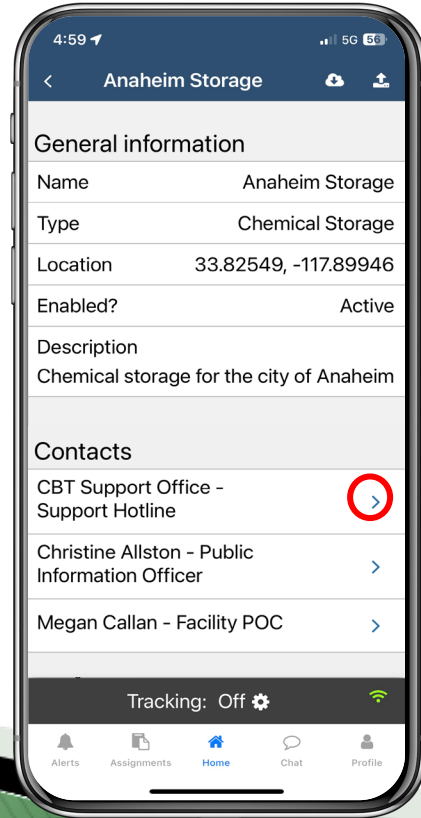
If you are on a specific event...

To view all facilities that are on a specific event open the "**Facilities**" button and search for the facility you are looking to view:



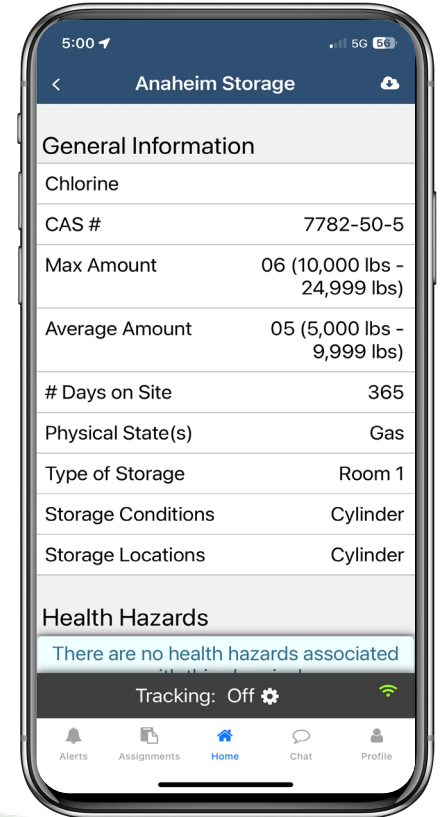
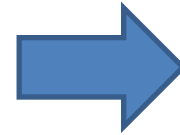
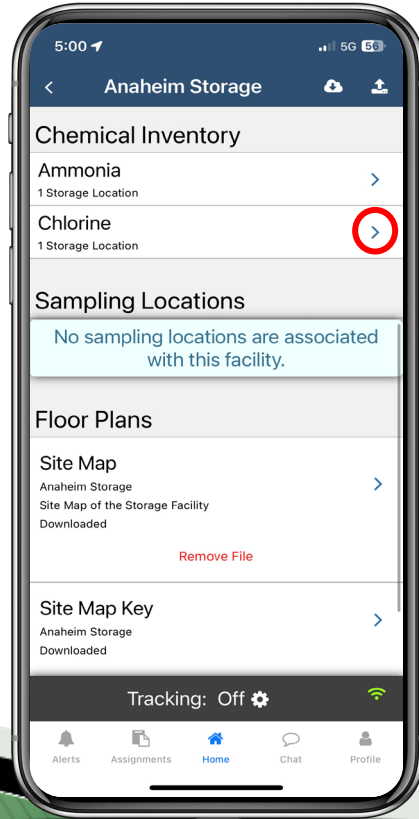
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View general information about the facility and use the quick links for any of the contact information:



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View specific chemicals and their storage information:



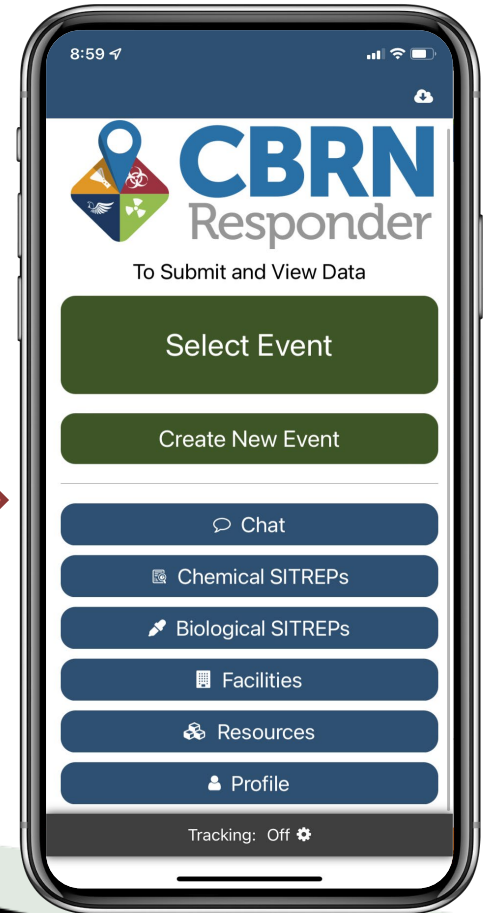
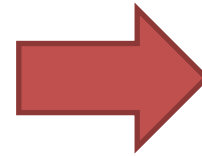


ChemResponder Data Activity



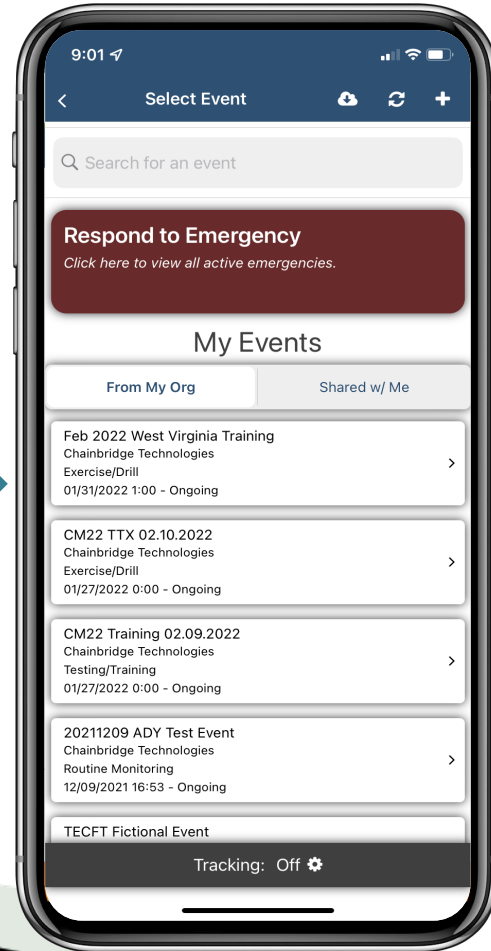
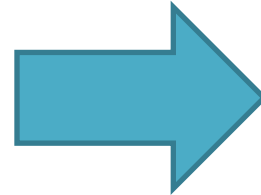
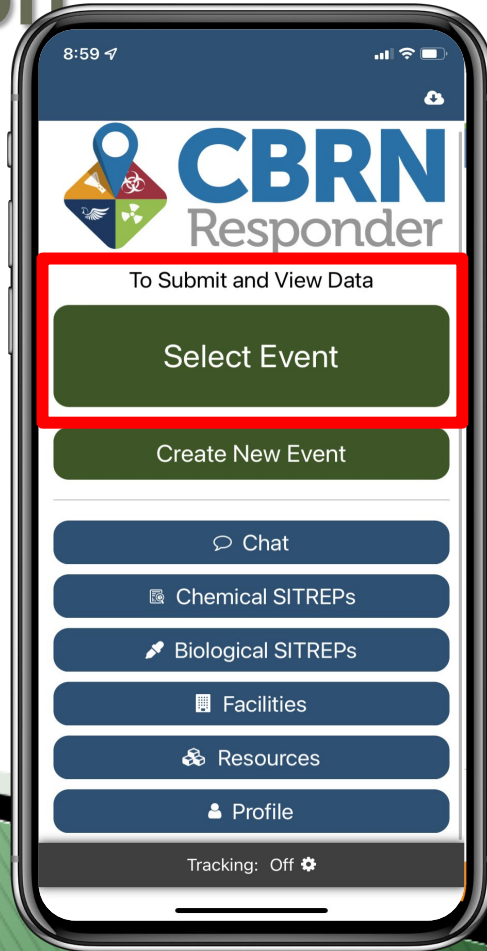
Data Collection

Log-in to be brought to the homepage



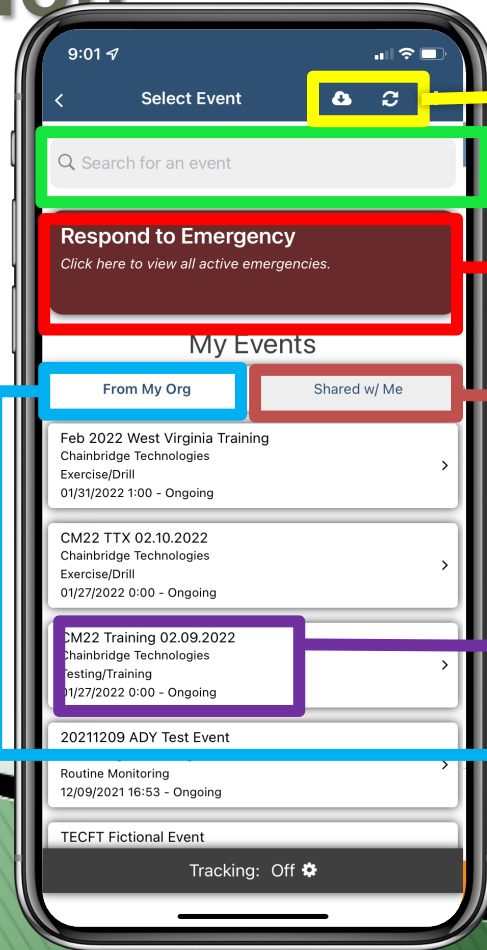
Data Collection

If you have not yet selected an event in CBRNResponder, you will just see the **"Select Event"** option to take you to the events list:



Data Collection

From the Select Event screen, you will see:



Resync and refresh event icons

Event search bar

Network-wide and other emergency response events

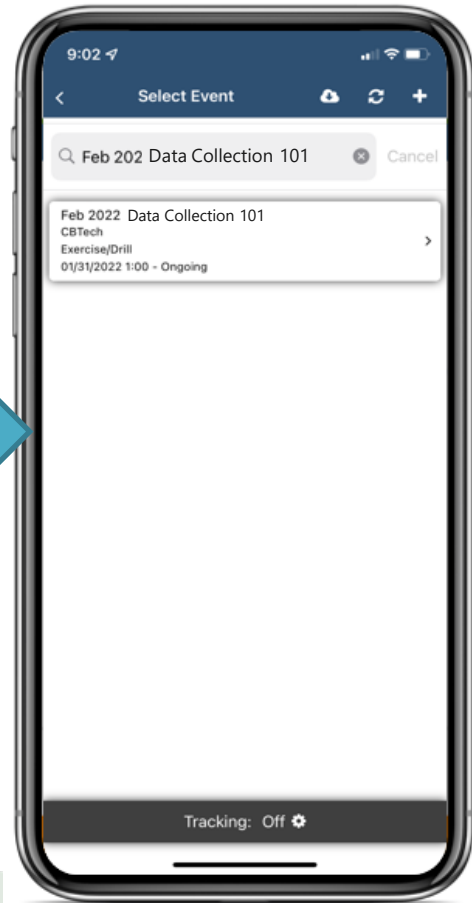
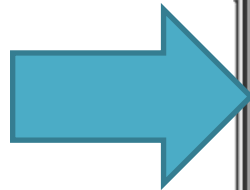
Events your org is partnered on or you've been added as an individual responder

Individual event. Select to open the event's homepage

Events sponsored/created by your org

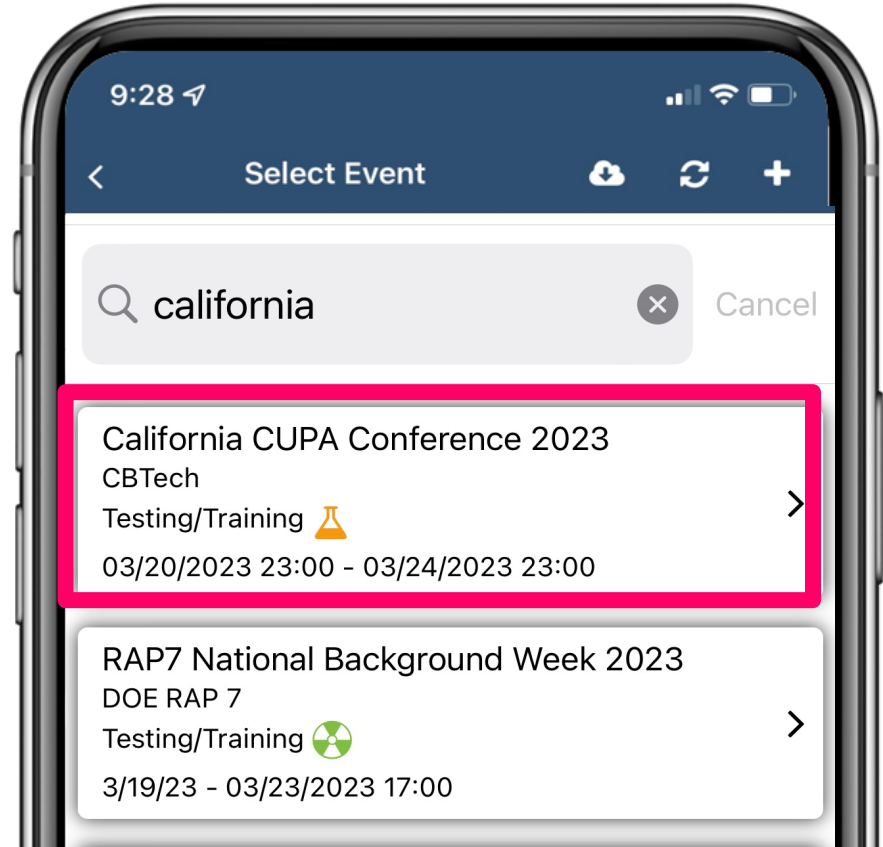
Data Collection

If you do not see the event you need to submit data into on either of your lists, you can use the **search bar** to search for all open events:



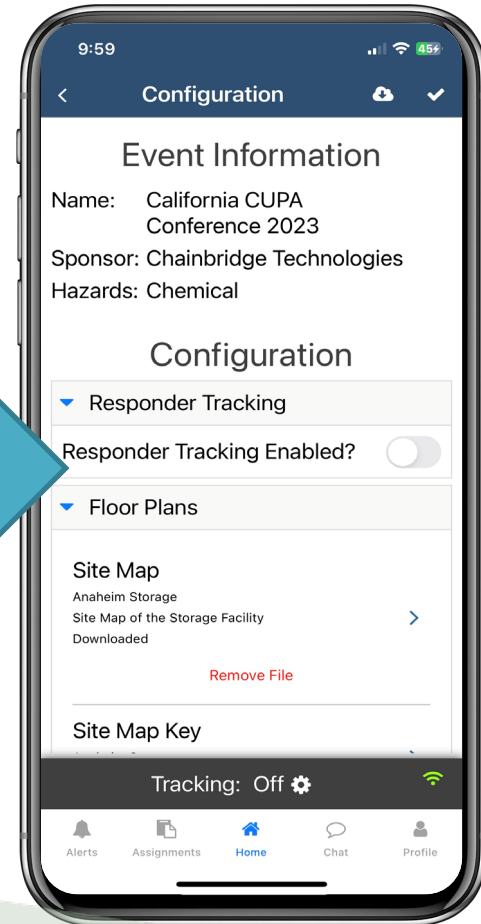
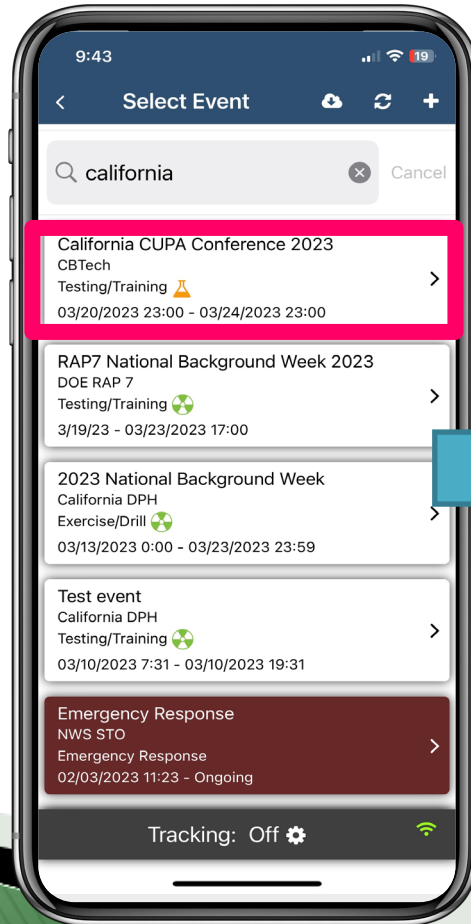
Data Collection

Search for and open the event: California CUPA Conference 2023



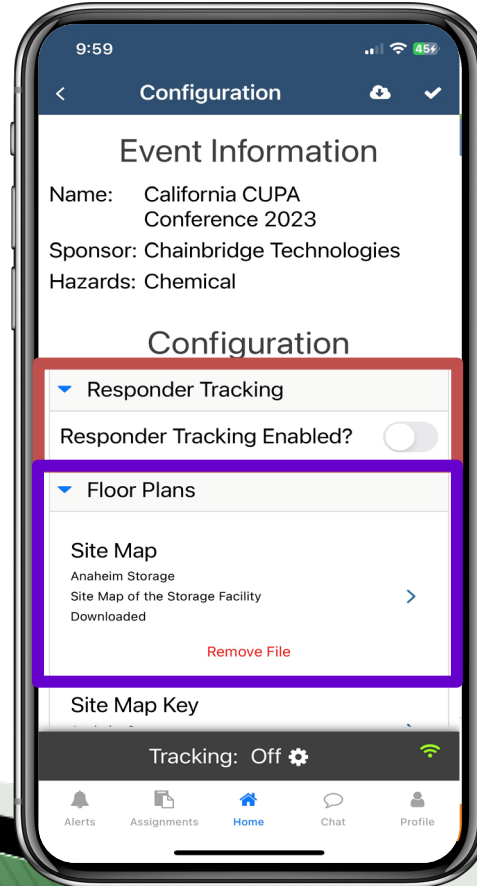
Data Collection

Open the event that you need to submit data into to be brought to the event configuration page:




Data Collection

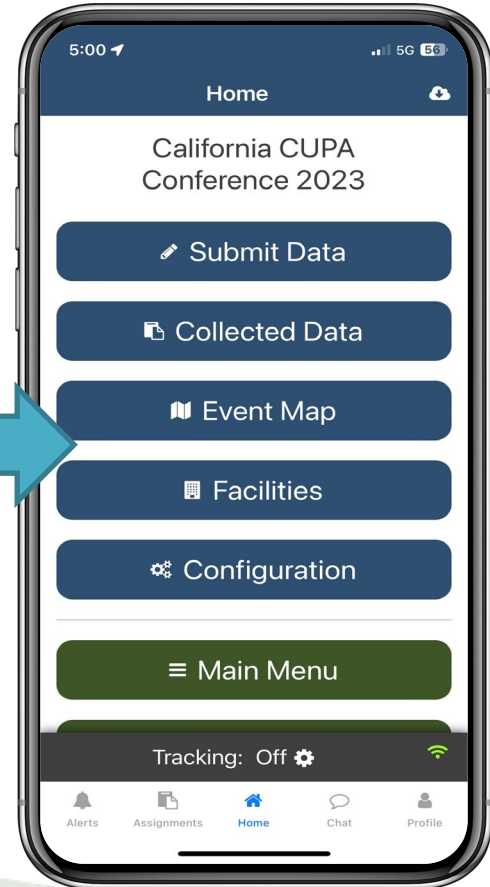
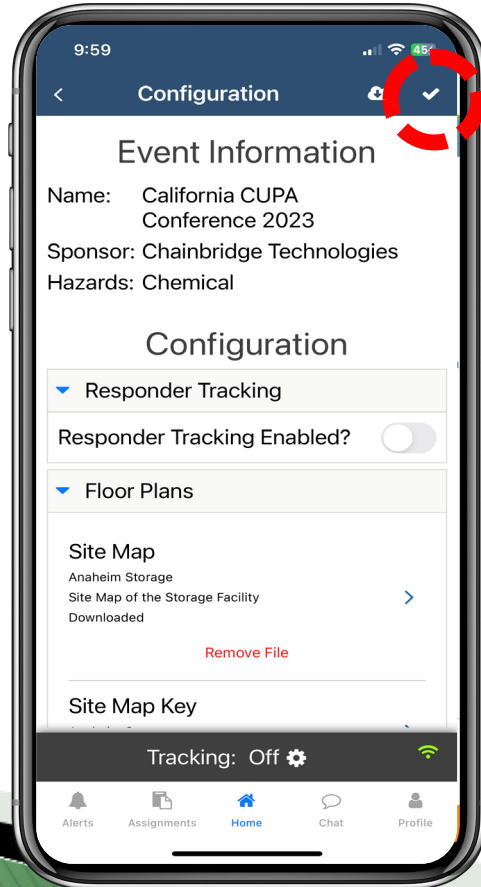
The event configuration page is where you can set your **responder tracking preferences** and **download (or upload) floor plans**:



Data Collection

Once your initial preferences have been selected, press the  to be brought to the event home screen

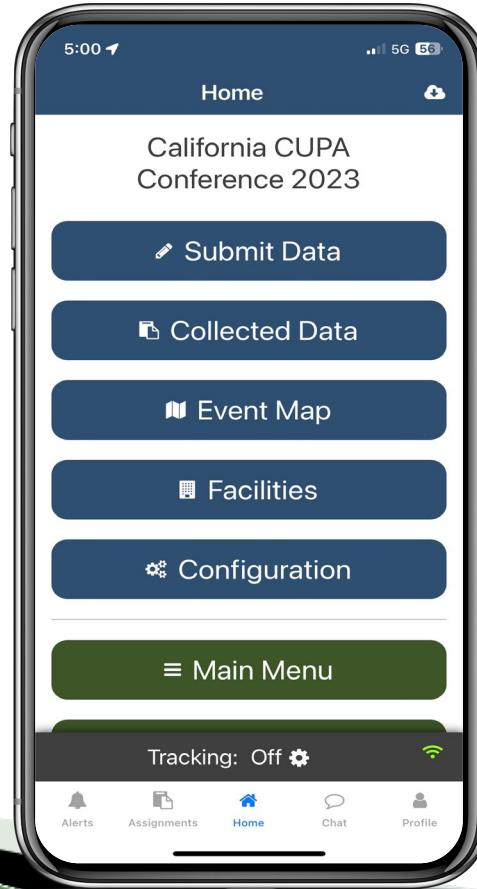
You can always go back to this page to make changes at any point



Data Collection

There are four main sections of the event home screen:

1. **Data Collection and Event Parameters**
2. **CBRNResponder App Navigation**
3. **Responder Tracking**
4. **Event Notifications, Chat, and Profile**



Collect data, view data, manage event parameters

Return to the CBRN app main menu

Location accuracy and manage tracking settings

Alerts and assignments, chat, and profile settings



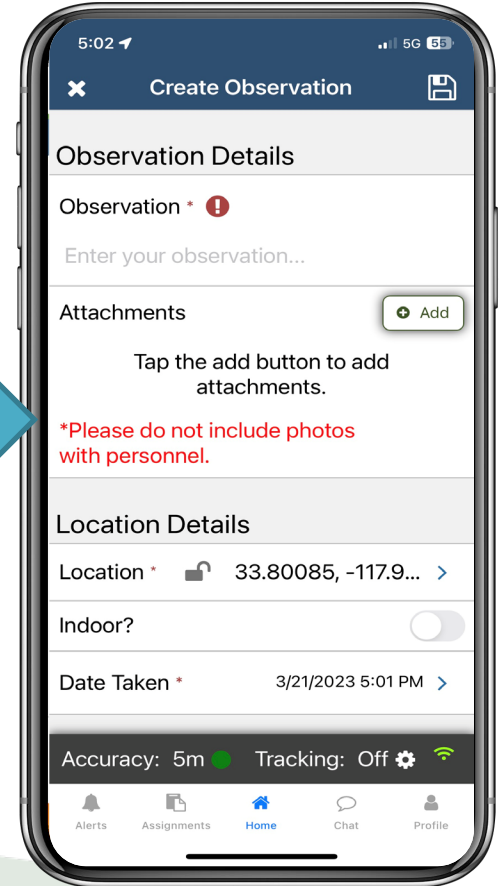
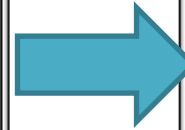
Data Collection

To submit data into the event, select the **“Submit Data”** button to be brought to the Choose a Data Type page:



Data Collection

Select the data type you wish to enter to be brought to the data collection entry form:



Data Collection

Fill out all required fields, indicated by a red asterisk *

5:02 5G

Create Observation

Observation Details

Observation * !
Enter your observation...

Attachments Add
Tap the add button to add attachments.
*Please do not include photos with personnel.

Location Details

Location * 33.80085, -117.9... >

Indoor?

Date Taken * 3/21/2023 5:01 PM >

Accuracy: 5m Tracking: Off

Alerts Assignments Home Chat Profile

Location Details

Location * 33.80085, -117.9... >

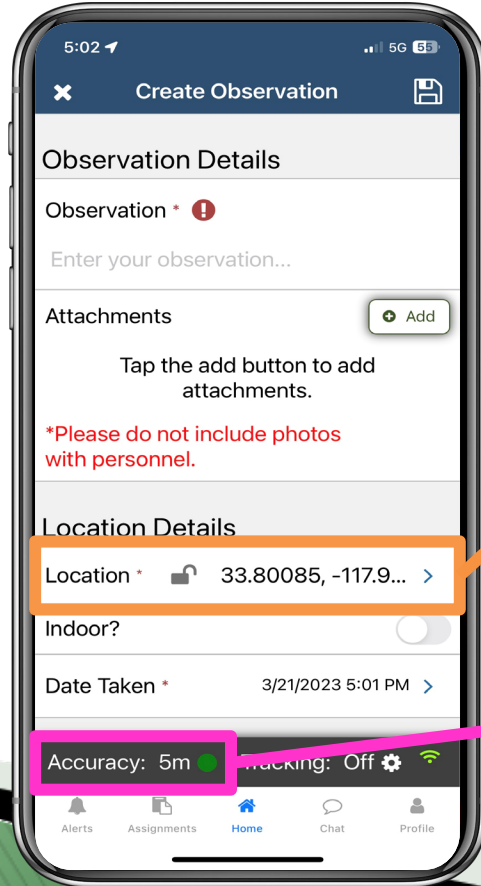
Indoor?

Date Taken * 3/21/2023 5:01 PM >



Data Collection

By default, your location is reported as your **current location** (based on your device's GPS). You can look at your **location accuracy** to see if this margin of error is acceptable for your reading's reported location:



Your reported location determined by your device

Your location accuracy

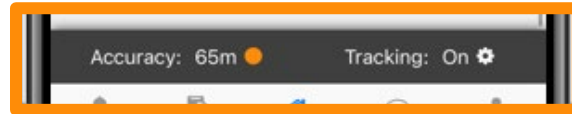


Data Collection

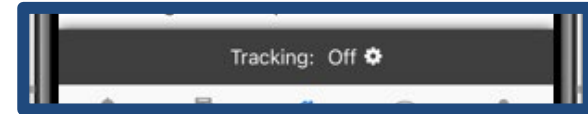
Next to your location accuracy, you will see a colored circle based on your accuracy range:



Green: Accuracy is 30 meters or less



Orange: Accuracy is greater than 30 meters



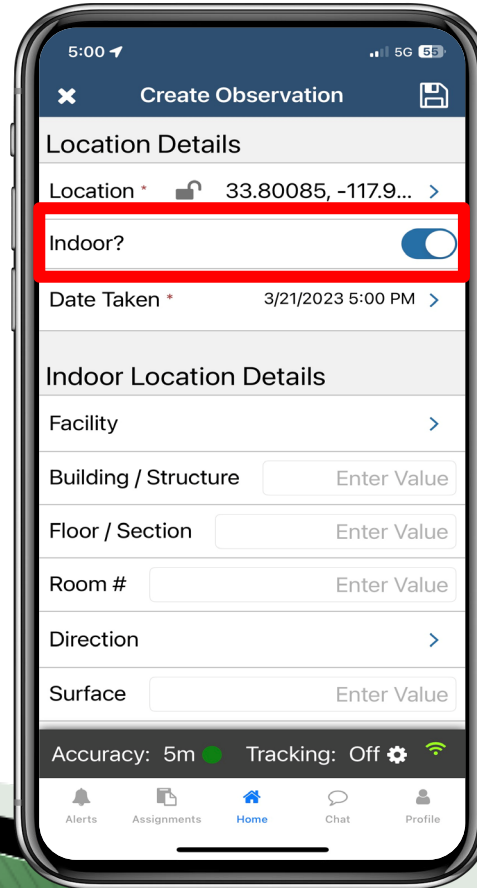
None: Location services have been turned off



Data Collection

If you are collecting indoor data, toggle on the “**Indoor?**” field in the Location Details.

You should see additional fields appear:



Indoor Monitoring

Indoor Monitoring came about from lessons learned during the 2019 Harborview incident in Seattle, WA. Users can now place **data points** on a **floor plan** for higher location fidelity:

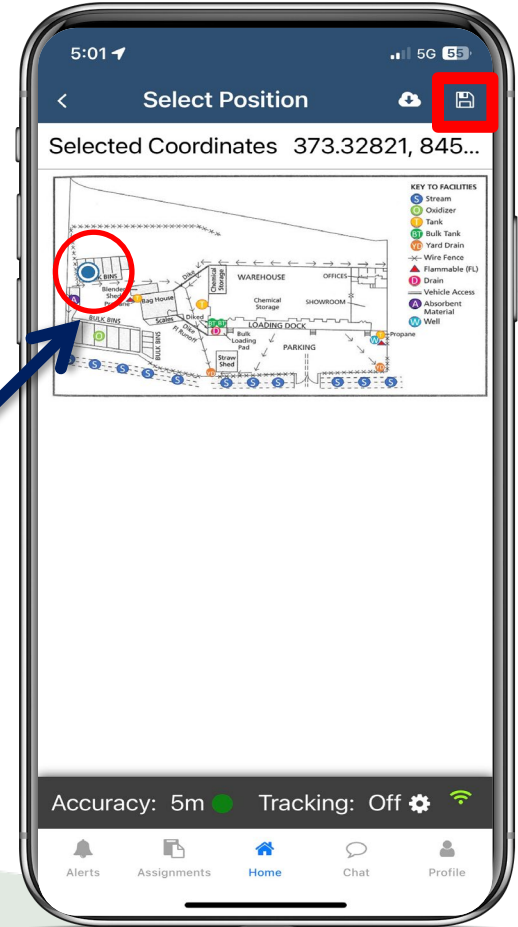
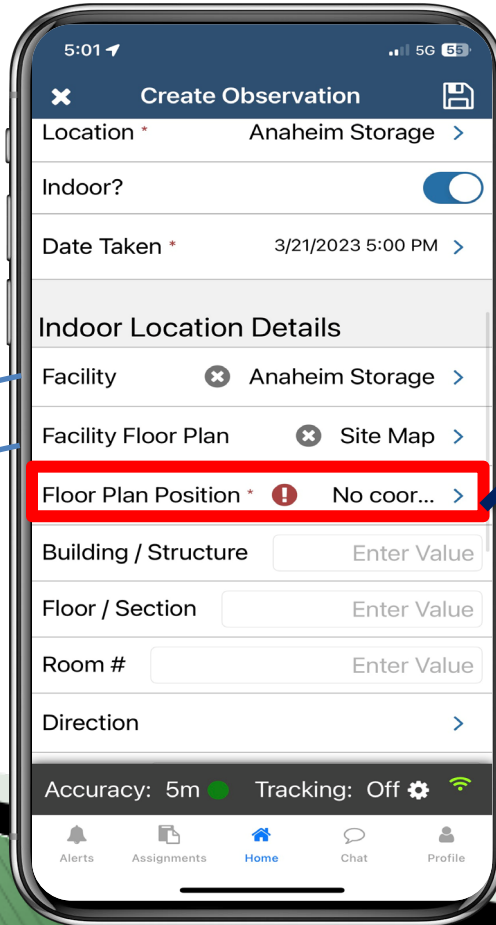


A "**floor plan**" can be any image file (.jpg, .jpeg, .png, .gif) or PDF file:



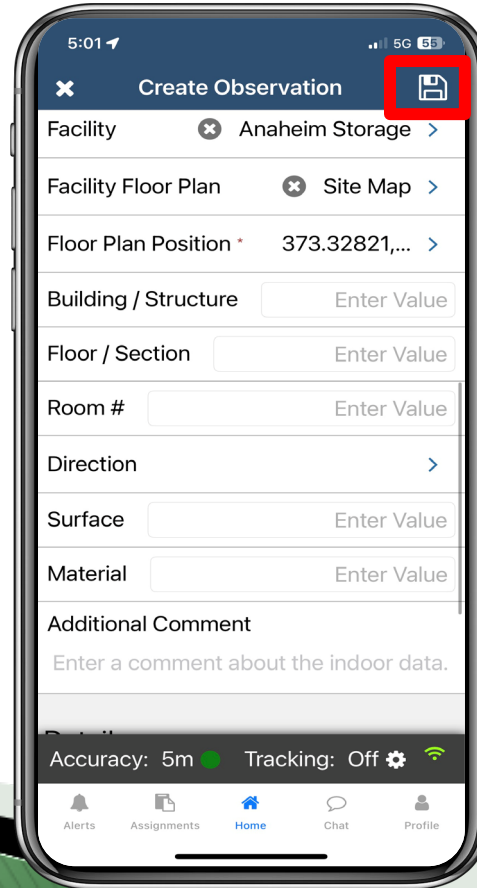
Data Collection

Select a facility and an associated floor plan:




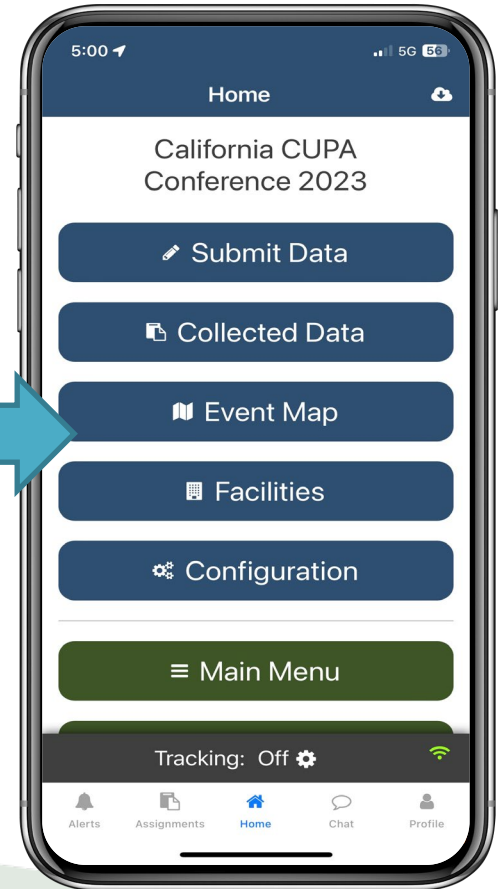
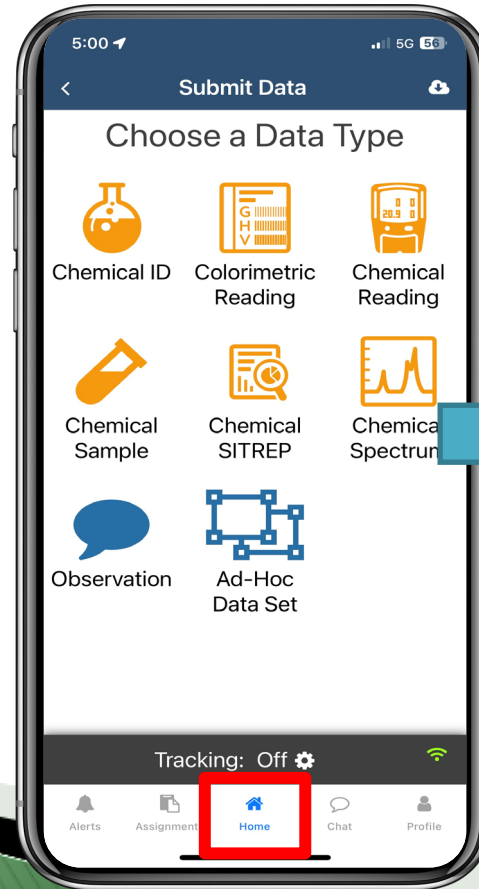
Data Collection

Save the record once you have entered all the required, and any optional fields you would like:



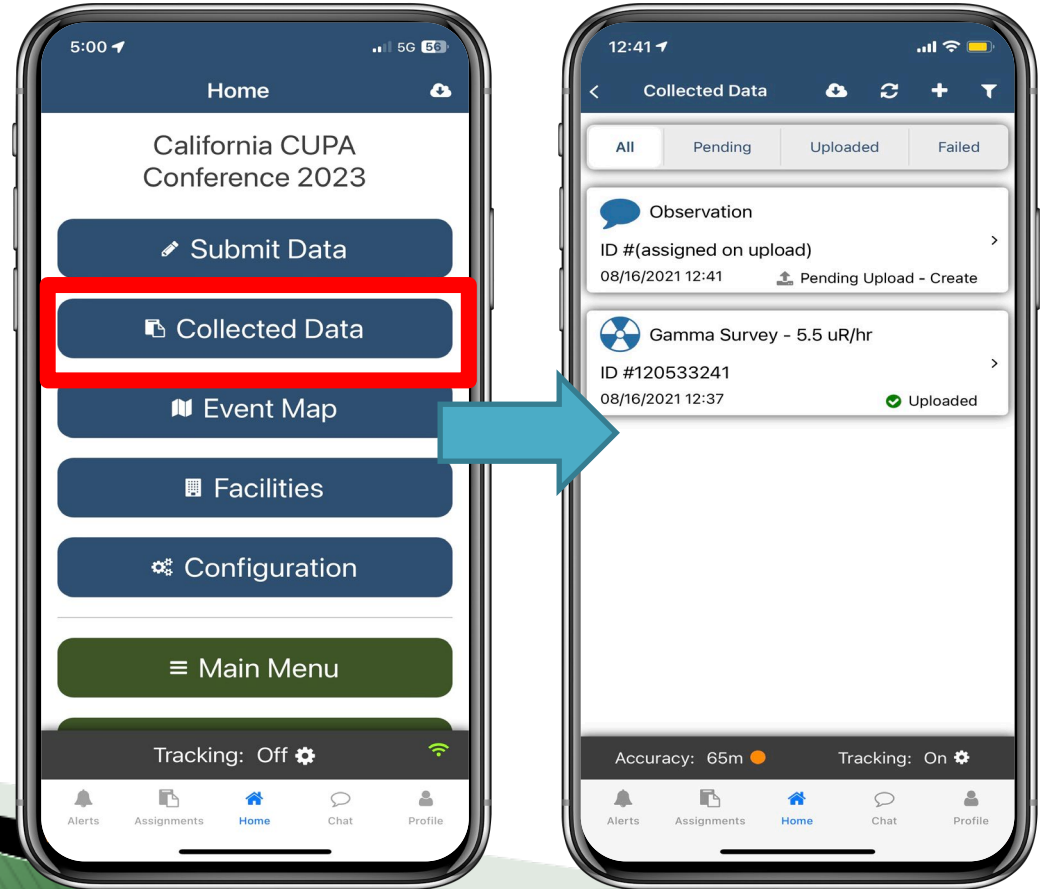
Data Collection

After you have submitted your data, select the bottom home button  to be brought back to the event home screen:



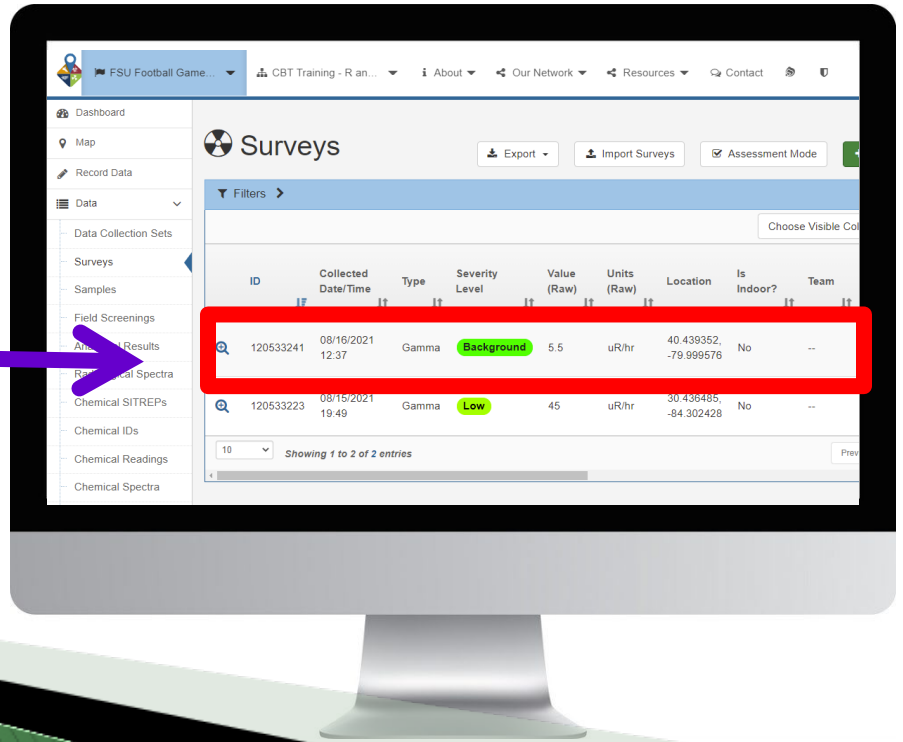
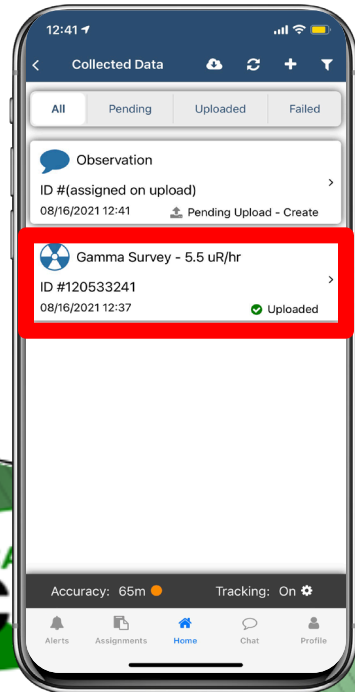
Data Collection

To view your collected data, select **"Collected Data"** from the event home screen:



Data Collection

Once the data has been uploaded, it is available for all event responders to see it on the website:





Activity



You have 5 minutes to walk around the area and complete your respective task(s):

Jan. – Jun. Birthdays



Collect 2 Observations

For the first observation:

1. Toggle on “Indoor?” and set the facility to “Anaheim Storage” and the floor plan to “Site Map”
2. Enter a fictional observation

For the second observation:

1. Take a photo of your surroundings as an attachment
2. Toggle “Indoor?” off and use your current location as the location mode

Jul. – Dec. Birthdays



Collect 1 Chemical ID

1. Search for the Chemical “Ammonia”
2. Enter a fictional concentration value and unit
3. Add a comment

Training Accounts:

If you **DO NOT** have a ChemResponder Account, you can use one of these temporary accounts:

Username: SimulatedAccount1-20

Password: SimulatedAccount1-20

Example:

Username: SimulatedAccount7

Password: SimulatedAccount7



**Participation is optional*

Event Map Live View





Any Questions?

