



# Corn Field Search and Rescue Tips and Techniques

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Champaign County Search & Rescue



# Remember...

- Corn fields are **private property** and you must have the owner's permission to search
- Avoid damaging the crop as you move through it
- Ask if crops have been sprayed



# Scenarios for Searching a Cornfield

- Child wanders into field
- Special needs individual wanders into field
- Car accident victim
- Field Worker
- Medical Issue
- Lost
- Decided to Leave



# Norwich, Ontario, Canada

*September 2014*

- Two-year old girl followed her dog into a corn field around 7:00 p.m.
- First officers on scene arrived just before dusk and Emergency Response Team was called (responsible for searches in Ontario)
- About 150 searchers, 2 canine teams, police helicopter
  - Searchers equipped with GPS which uploaded to a digital map in command center
  - Helicopter could not get any infrared images while flying for 90-120 minutes
- Overnight temperature dropped to ~52°F
- Toddler was found about 10:00 am the next morning by two neighbors riding along the back of a corn field who heard her crying

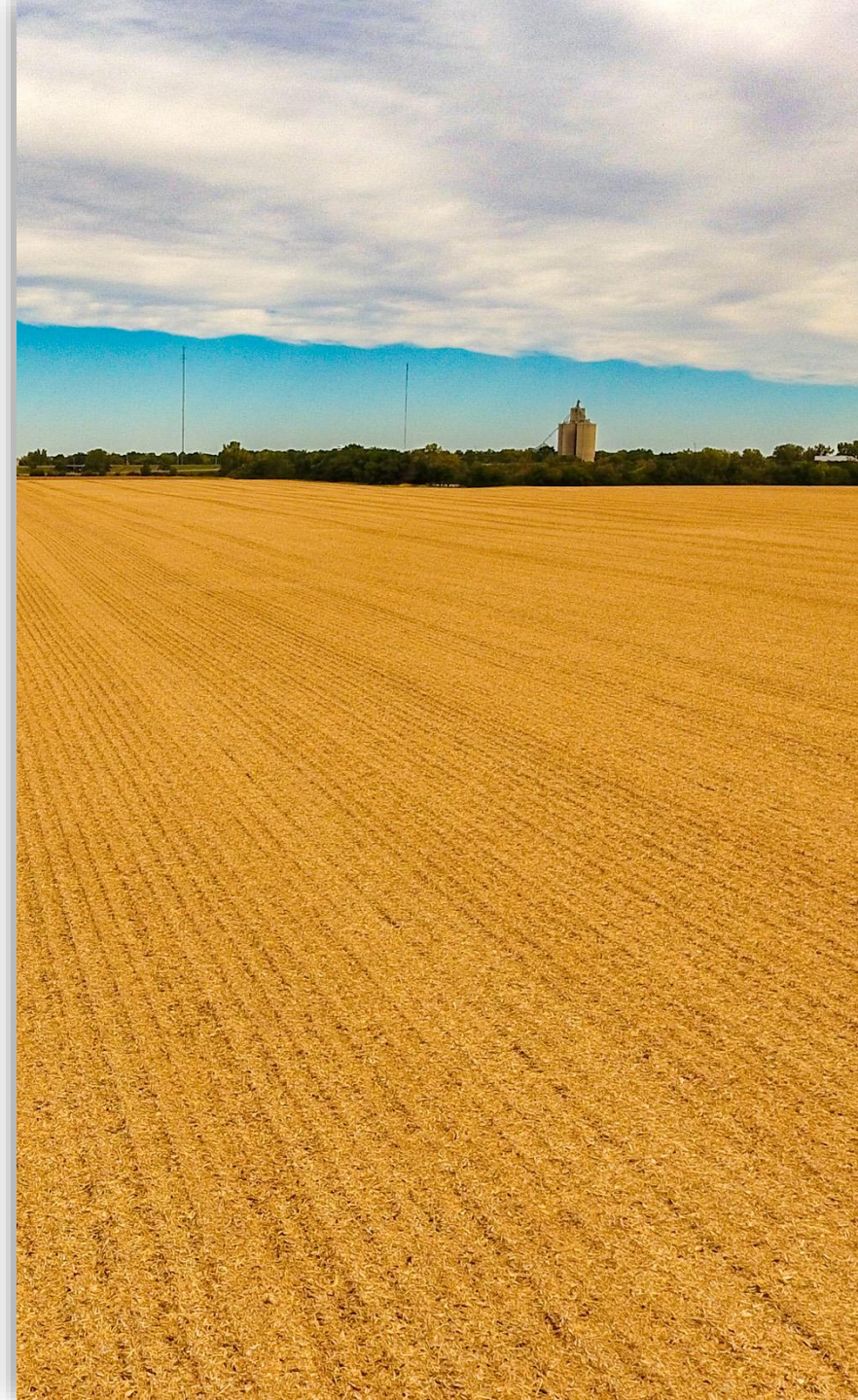
# Children Missing in Fields

- **Quad Cities, IL, August 2021**  
Found safe soon after search started
- **Ottawa County, MI, October 2020**  
4 yr old found safe after 3 hours, about 1 mile away
- **Windsor, Ontario, Canada, October 2020**  
2 yr old found safe after 90 minutes
- **Sherburne County, MN, October 2019**  
6 yr old found safe after 10 hours (by drone with infrared, at 2am)
- **Lenglade County, WI, October 2016**  
3 yr old found safe after 20 hours
- **Aurora County, SD, July 2011**  
2 yr old found safe after ~12 hours



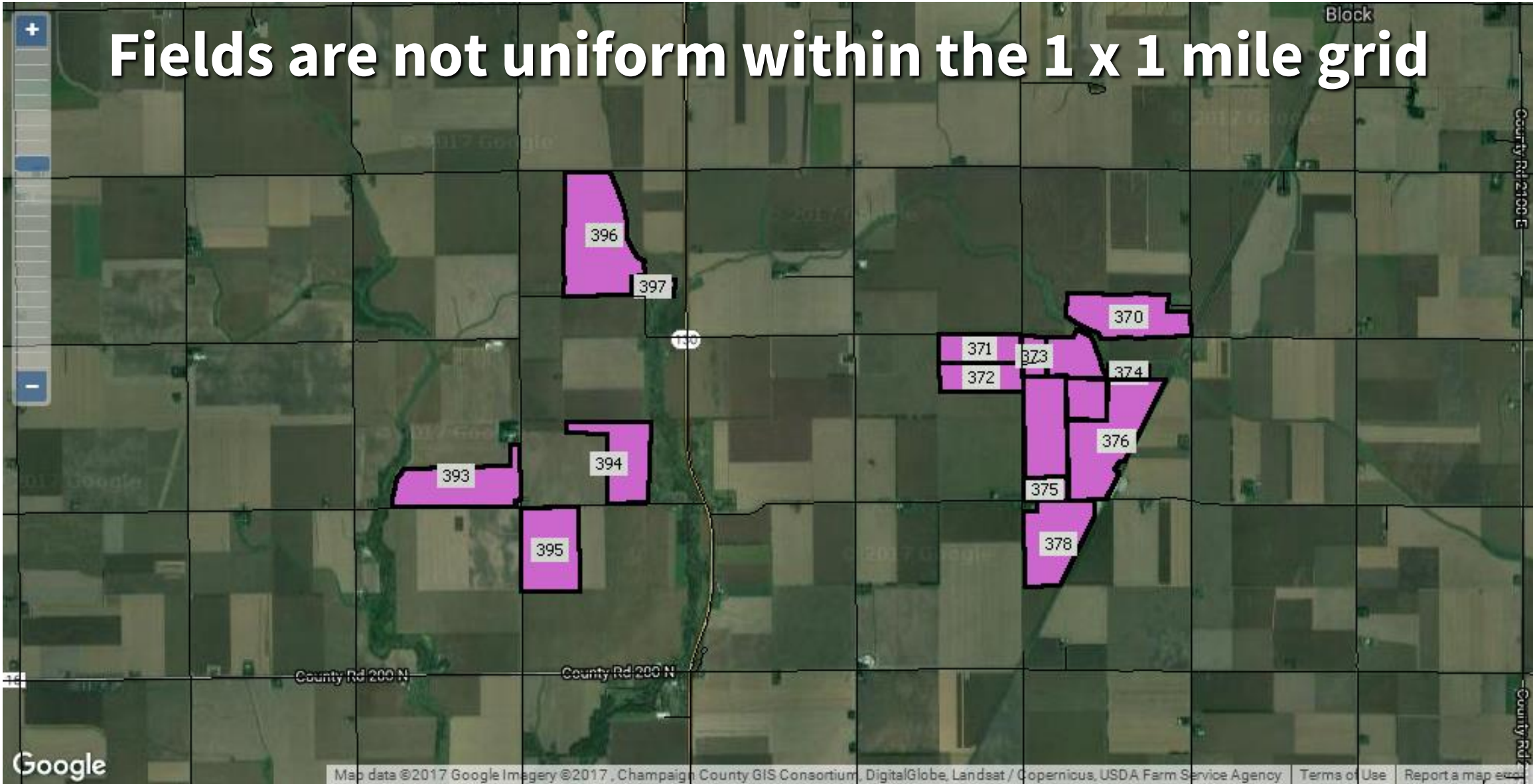
# Field Conditions Possible when Searching a Cornfield

- Before planting season
- Corn is less than 2 feet high
- Crop is 3-4 foot in height
- Fully developed fields (stalks 9 to 11 feet)
- After harvest



# Cornfields

Fields are not uniform within the 1 x 1 mile grid



**Soybeans**

**Soybeans**

**Adjacent fields can  
have different crops**

**Corn**



**Owner A**

**Owner B**

# Adjacent fields can have different crops and owners

**Owner C**

**Owner B**

# Row orientation is based on farming practices

**ROWS**



**Rows are typically 30 inches apart  
Individual plants are typically six inches apart**

# Potential Hazards

- Weather introduces multiple hazards
  - risk of dehydration, heat-related illness
    - Often hot and humid
    - Little air movement within the field
- Sharp and protruding leaves on plants
  - risk of eye and skin abrasions
- Pollen
- Mud

# Potential Hazards

- Insects and wildlife
- Weeds
- Has field been sprayed recently?
- Claustrophobia, disorientation
- Searchers/subjects with respiratory issues

# Protective Equipment

- Protective eyewear
- Hat, with mesh screen if available
- Long pants & long-sleeve shirt (High viz)
- Gloves
- Boots
- Dust mask (for pollen)
- Whistle
- Basic SAR pack and extra water



# Cornfield Search Planning Challenges

- How big is the area to be searched?
  - A one-quarter mile wide field contains 528 rows  
length could be a half-mile
  - Requires a team of six searchers plus team leader to make **44 transects** (out and back) to search all rows
- Searching a cornfield can be slow-going
  - Searching a ½ mile long field, it would probably take a team **30 to 40 minutes to make ONE pass** across the field, depending on conditions

# Cornfield Search Planning Challenges

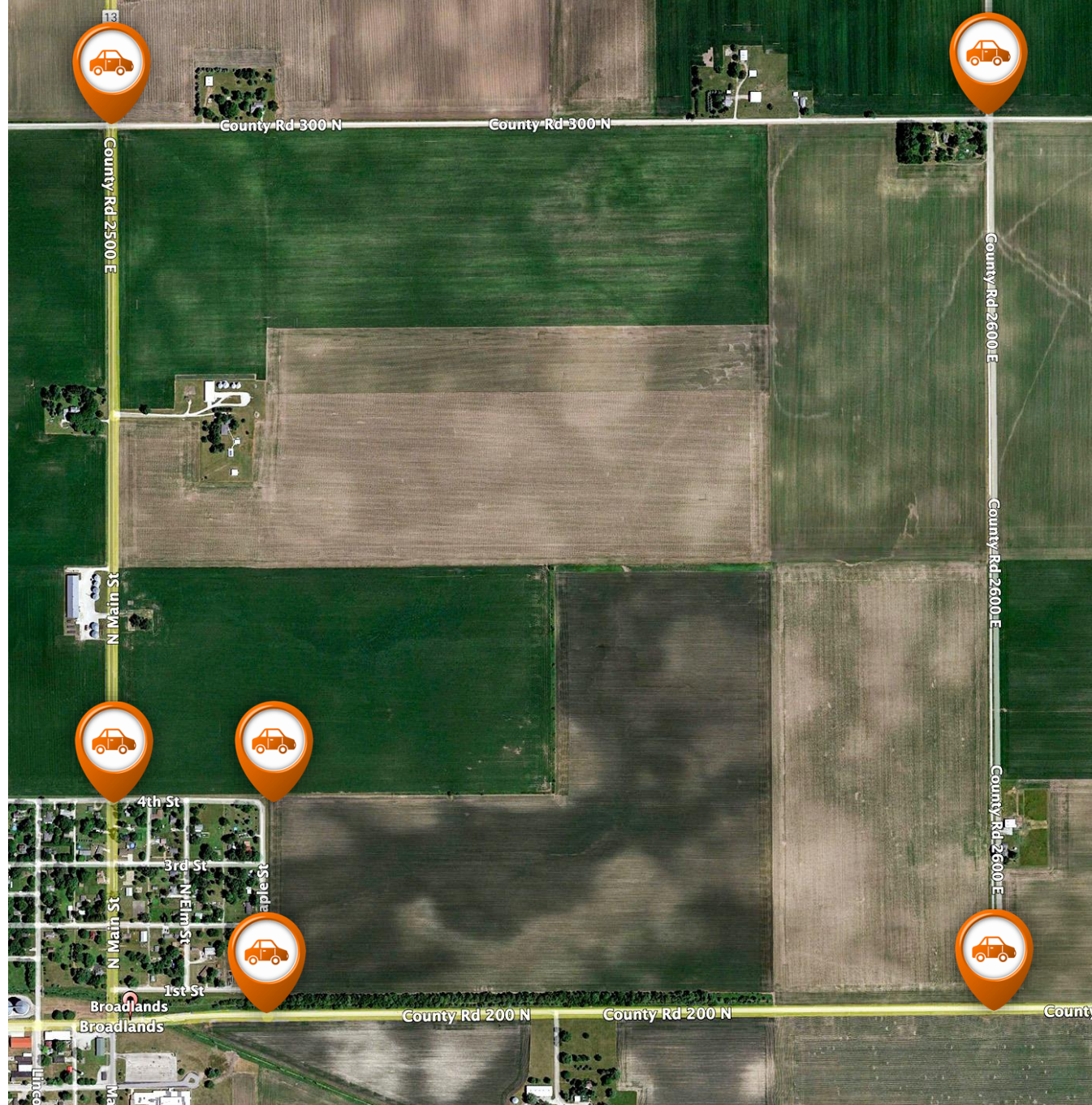
- In hot, humid weather search teams may need to be frequently rotated out for rest and rehab
- A significant number of search personnel may be required depending on the size of the area to be searched and weather



# Cornfield Search Techniques

Establish perimeter containment **as soon as possible**

- Law enforcement
- Fire personnel
- Spontaneous volunteers





# Search Team Composition

- Team Leader
- Radio/GPS operator  
Optional depending on personnel available
- Flankers (2)  
Flankers may need to utilize FRS radios to maintain communication with Team Leader depending on spacing
- Searchers (3-5)

# Team Organization



Flanker

Searcher

Searcher

Searcher

Flanker

Team  
Leader

Radio/  
GPS

# Cornfield Search Techniques

- **Visibility is very limited in a fully developed field**  
**No Average Maximum Detection Range (AMDR)**  
**or Range Detection (RD) is needed**
- **In a missing person search,**  
**spacing searchers every other row may be sufficient**
- **An evidence search probably requires**  
**a searcher in every row**

# Cornfield Search Techniques

- Team leader should determine the pace
- Use a whistle to signal advance and/or stop
- Search end rows first
- You may need to flag where you start and stop
- Flankers should note heading before starting

# Cornfield Search Techniques

- Stop at end rows,  
or at point designated by search manager
- Flanker moves over one row, followed by searchers
- Keep a straight line
- Keep searcher on either side in view
- A “hailing search” may be effective  
as teams move through field

# SARTopo

<https://sartopo.com>

- SARTopo can be very useful for keeping track of searchers in real time and showing what areas have been searched
- Only flankers and team leader should be running SARTopo to keep the map from getting too cluttered

CALTOPO Start Mapping

BACKCOUNTRY  
**MAPPING**  
EVOLVED  
FOR INDIVIDUALS

**TEAMS**  
COLLABORATIVE GIS MAPPING

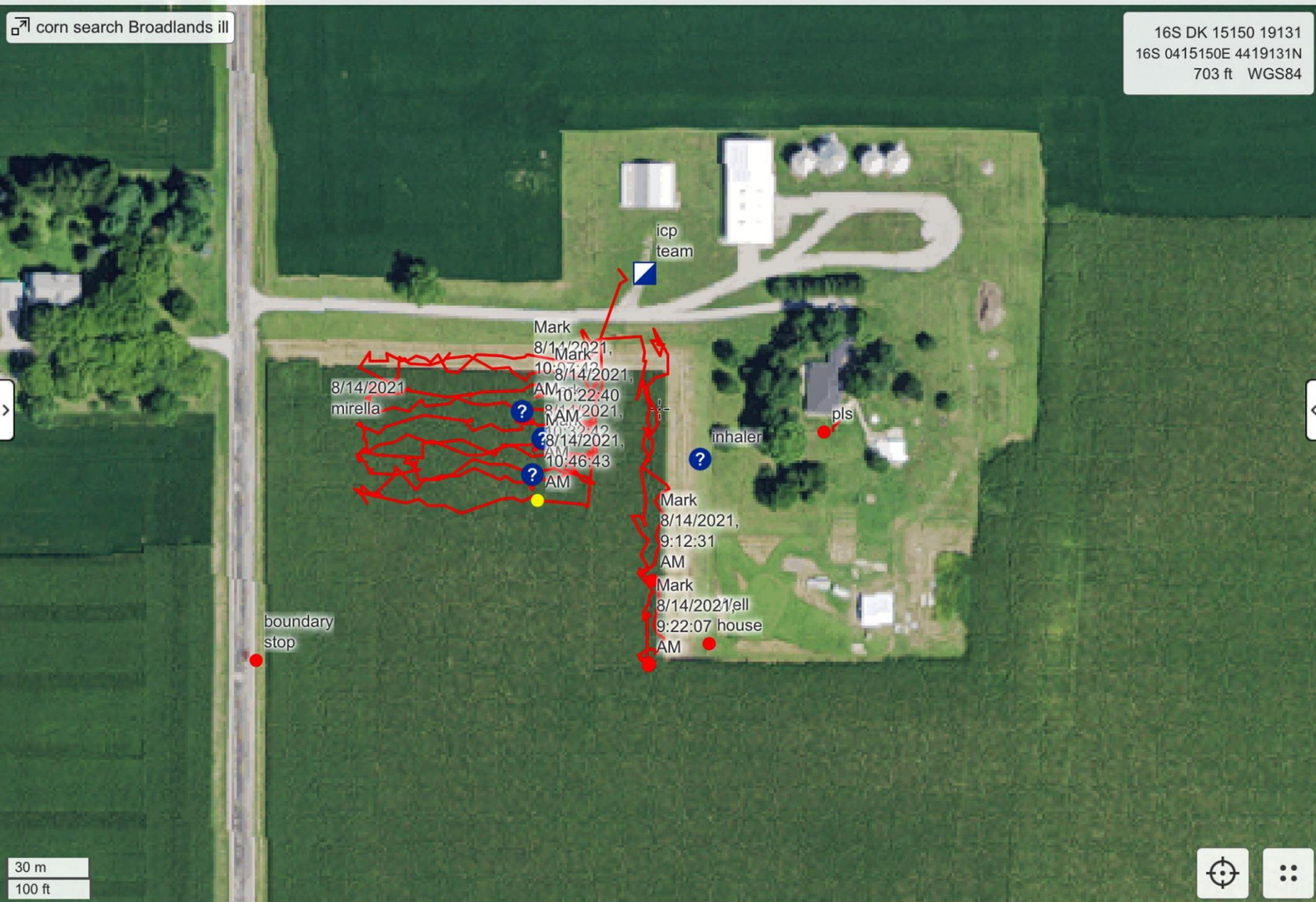
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**PLAN YOUR NEXT ADVENTURE**  
From collaborative map building to Location Sharing and offline adventuring, CalTopo is the one app that does it all.



corn search Broadlands ill

16S DK 15150 19131  
16S 0415150E 4419131N  
703 ft WGS84



icp team

Mark  
8/14/2021,  
10:37:43 AM

Mark  
8/14/2021,  
10:22:40 AM

8/14/2021  
mirella

8/14/2021,  
10:39:42 AM

8/14/2021,  
10:46:43 AM

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?

Mark  
8/14/2021,  
9:12:31 AM

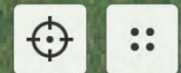
Mark  
8/14/2021,ell  
9:22:07 house  
AM

boundary stop

inhaler

pls

30 m  
100 ft



# What About Using a UAV (Drone)?

An aerial photograph of a vast, green agricultural field, likely corn, stretching towards a horizon under a clear blue sky. A small, white drone is visible in the middle ground, flying over the field. The field is divided into sections by thin lines, possibly roads or field boundaries. In the background, there are some trees and a few buildings, suggesting a rural farm setting.

- UAVs can be useful to assess the big picture
- UAV may be helpful to establish some containment before personnel on station



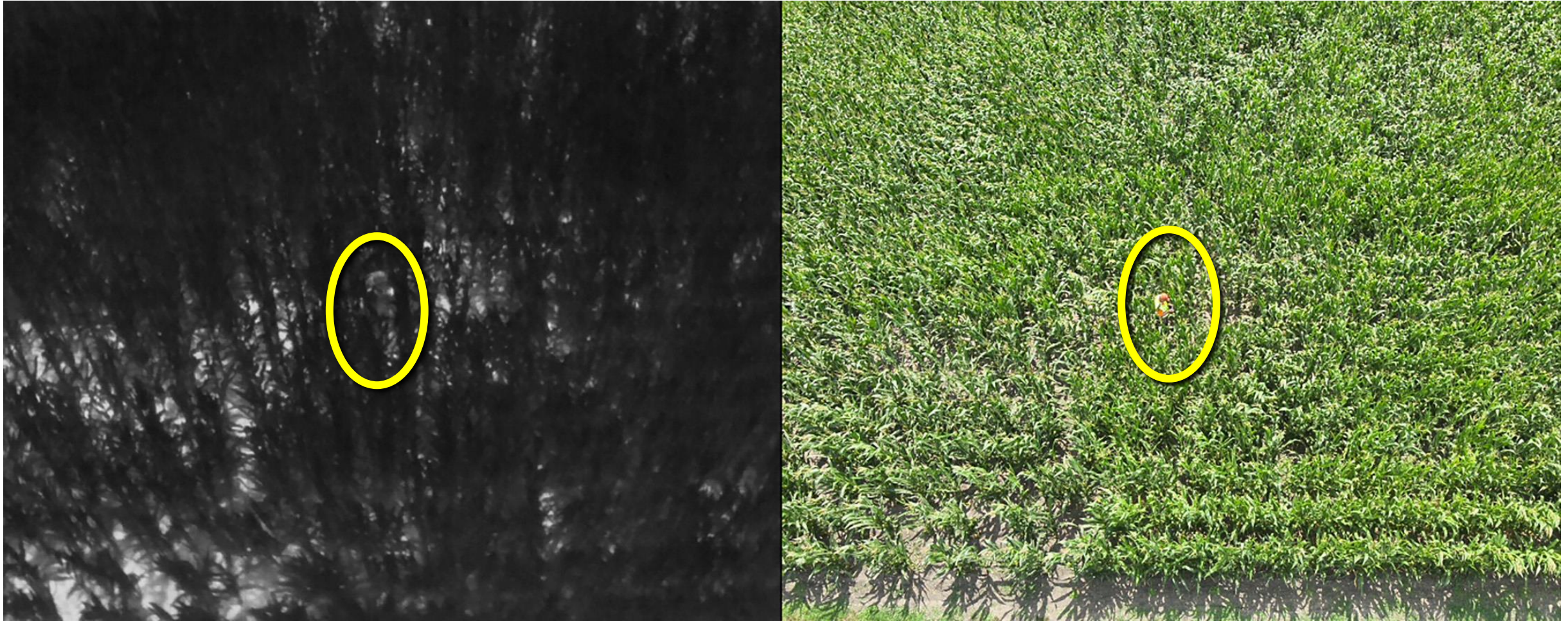
# What About Using a Thermal UAV?

Must have a temperature difference



Taken 2023-07-25  
Temperature 88° F

# What About Using a Thermal UAV?



Taken 2023-07-25  
Temperature 88° F

Height = 50 feet

# What About Using a UAV (Drone)?

They are not likely to be useful in finding a lost subject nor in tracking searchers visually!



# Other Air Assets

- Helicopters and aircraft will have the same visibility problems
- Infrared detection and imaging will likely be ineffective in tall, dense green vegetation even at night
  - Infrared may be effective in fields that are drying down (brown)

Image taken at height of 300 feet

# Searching a Cornfield - Summary

- **Rapid containment of the search area is important!**
- **Even in “ideal” conditions searching will be a long, slow process**
- **Many searchers may be needed to rapidly search a field where a missing person may be in distress**
- **Searchers should be prepared for difficult conditions and hope for better**
- **UAV, helicopters, and airplanes will be of limited use**
- **The well-being of a missing person may rely on your ability to efficiently and effectively search**

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