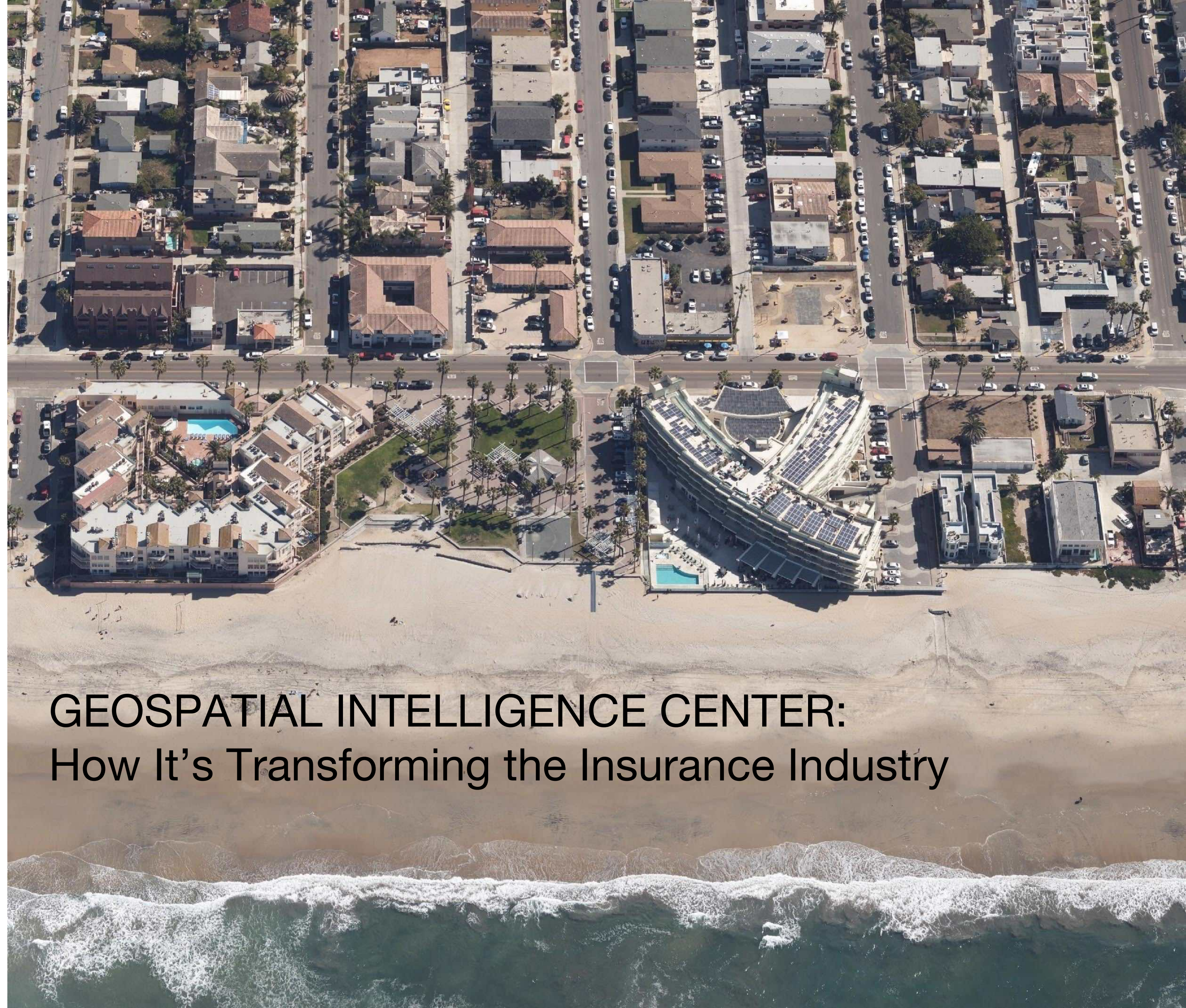




**GEOSPATIAL**  
— INTELLIGENCE CENTER —

FOR INSURERS. BY INSURERS

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**GEOSPATIAL INTELLIGENCE CENTER:  
How It's Transforming the Insurance Industry**

## GIC SUMMARY

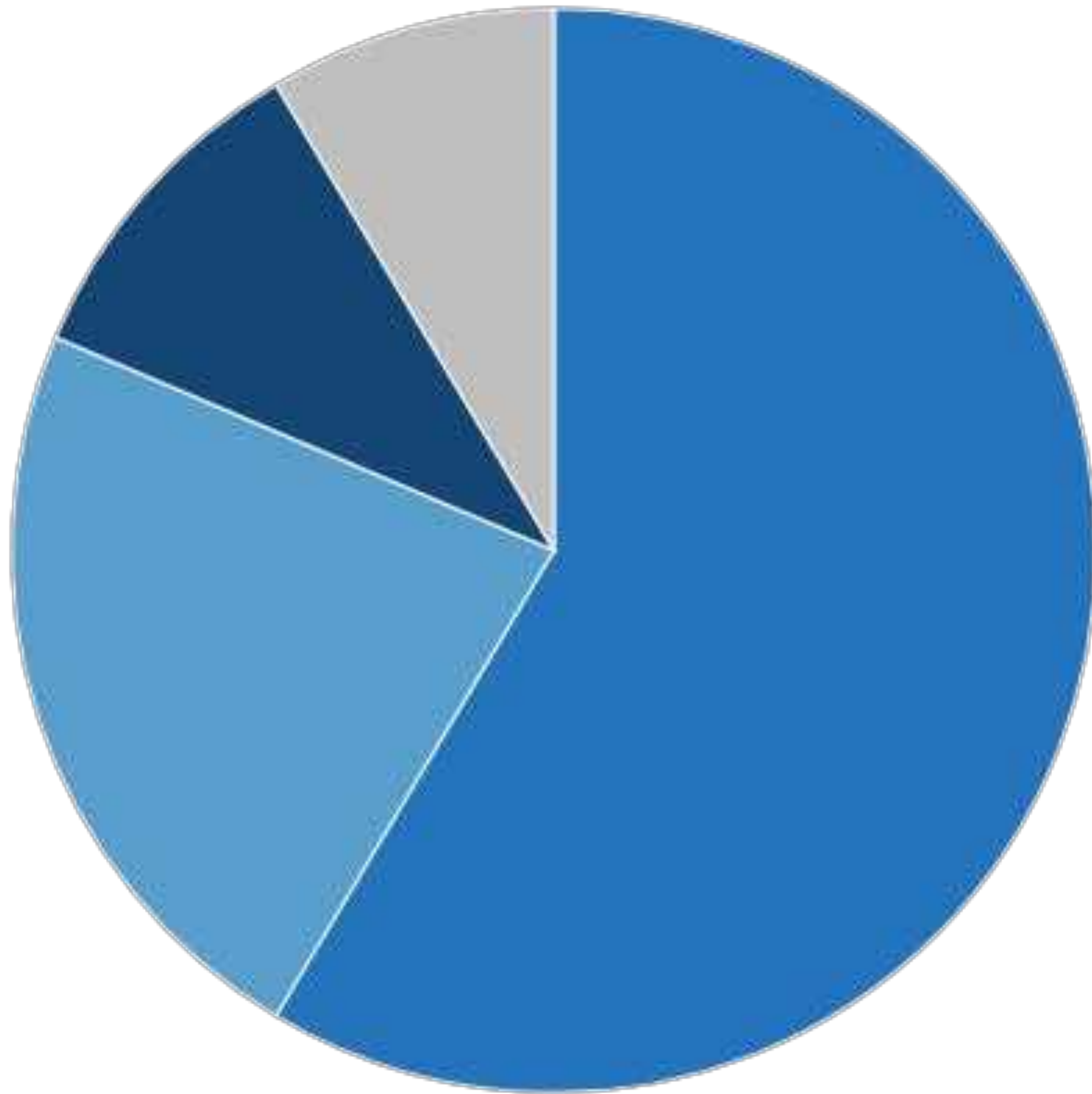
# For insurers. By Insurers.

- NICB initiative cost-effective, consistent geospatial information for insurers
- Not-for-profit and funded by member dues



# GIC CONSORTIUM COST SHARING MODEL

Every member contributes a fraction of the cost and gets ownership rights to the Property Database.



GIC: FOR INSURERS. BY INSURERS

# GIC ALLIANCE

- ArcGIS Enterprise and ArcGIS
- Insurance Specific Applications  
(Underwriting, Claims)



- Market leader in aerial sensors and large scale processing
- Manages Programs & Platform Cloud Services
- Collects and Processes Imagery & Data

- Strategic partner of the GIC
- Azure contributing cloud services to GIC
- Negotiated credits/discounts for members



# CURRENT MEMBERS

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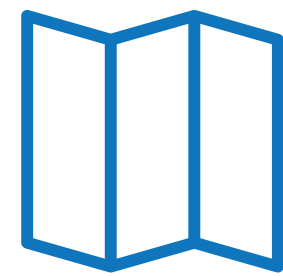


# GIC: FOR INSURERS. BY INSURERS



## EXPERIENCE

Optimized for insurer needs.



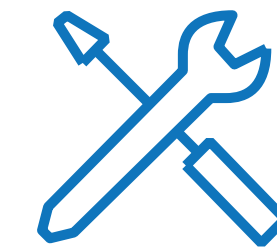
## NATIONAL IMAGERY

Annually refreshed  
high-resolution imagery for  
every address in the US.



## DISASTER RESPONSE

Rapid access to  
high-resolution data  
following disaster events.



## TOOLS & ANALYTICS

Tools and analytics for fast,  
accurate and cost-efficient  
decision making.



# P&C Insurance Trends in 2019

- **Increased Competition**

- intensified price-based competition

- **Technology Advancements**

- enhance the operational efficiency while reduce risk exposures

- **Outdated Technology Infrastructure**

- streamline core operation processes

- **Rising Operations Costs**

- more resources to do the job due to outdated tech

- **Customer Engagement**

- demands ongoing customer focus, operational efficiency, process and people excellence

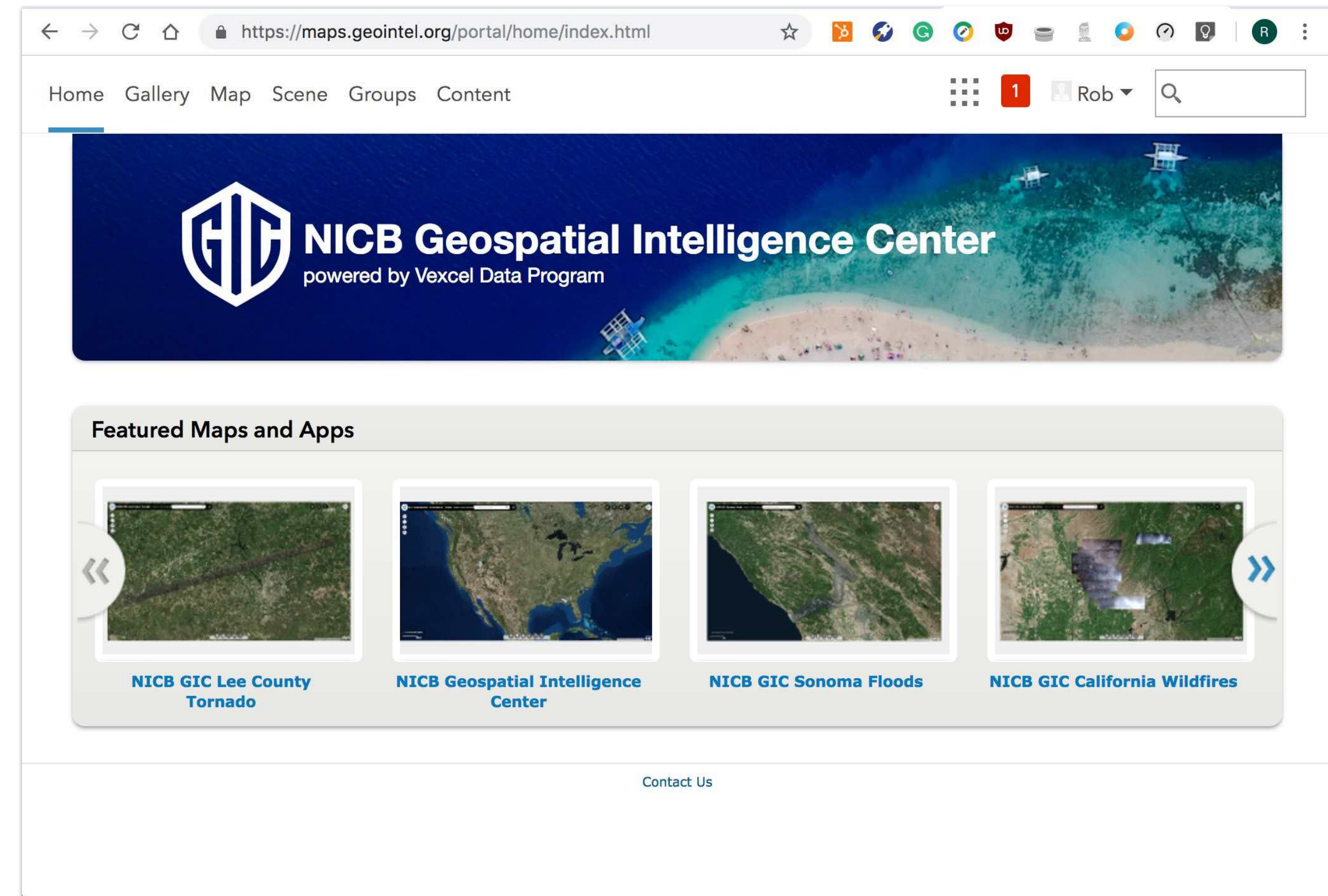
- **Business Intelligence**

- leverage data to make informed decisions and gain competitive advantage



# Geospatial Data Enablement

- View current, concise, detailed imagery for any location in the country from desktop or mobile app.
- Review, measure, and make better informed decisions quickly and easily
- Improve operational efficiency by reducing field visits
- Enhance Customer experience such as claims and post-disaster





# Use Case: Underwriting

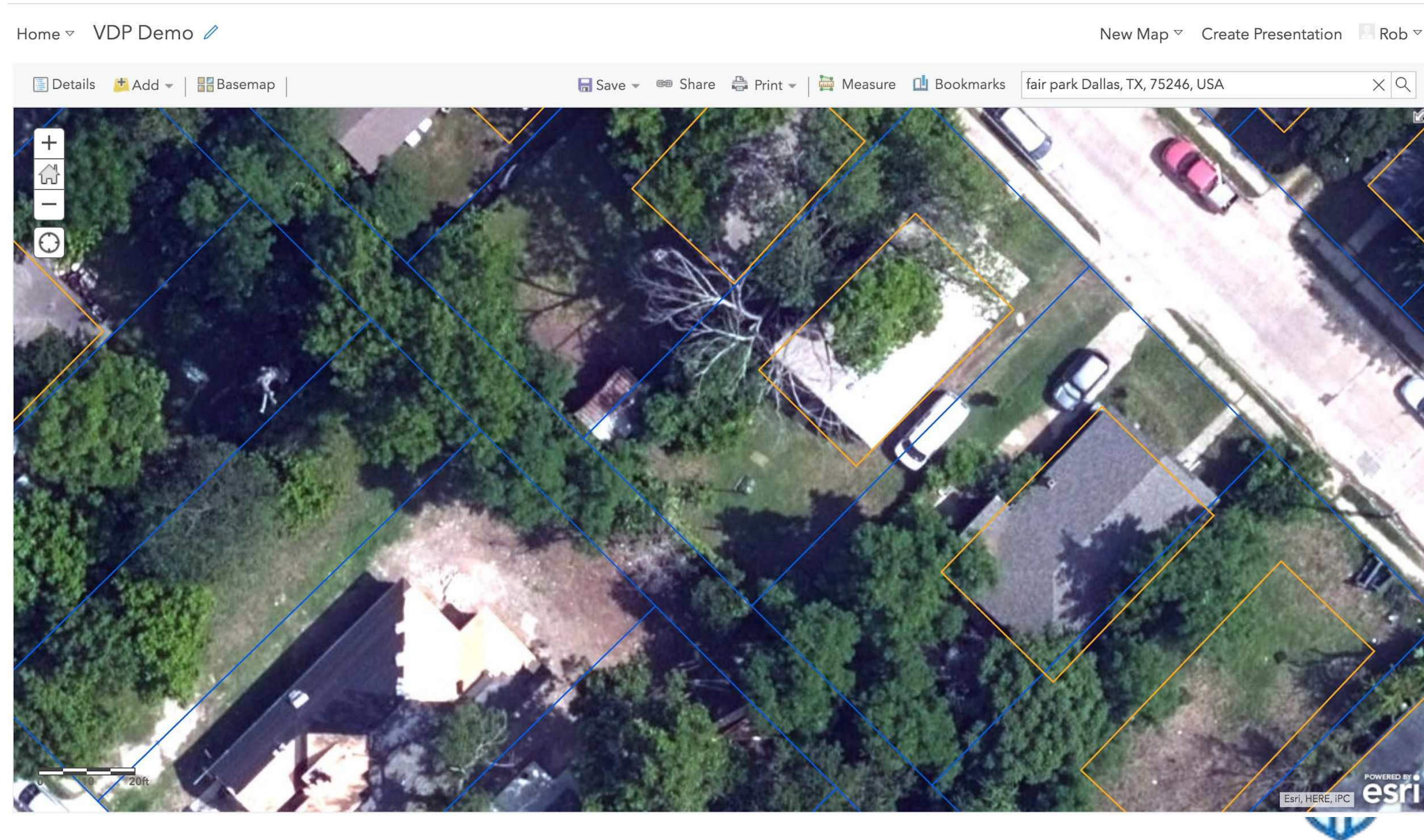
## Authoritative Information Source

- Condition/Materials
- Upkeep
- Size/Roofline
- Nuisances



# Use Case: Underwriting Vegetation Overhang

Understand extent of roof coverage and tree size/health



# Use Cases: Roof Condition

- Visible damage/repairs
- Damp/mildew
- Missing shingles



# Use Cases: Roof Condition



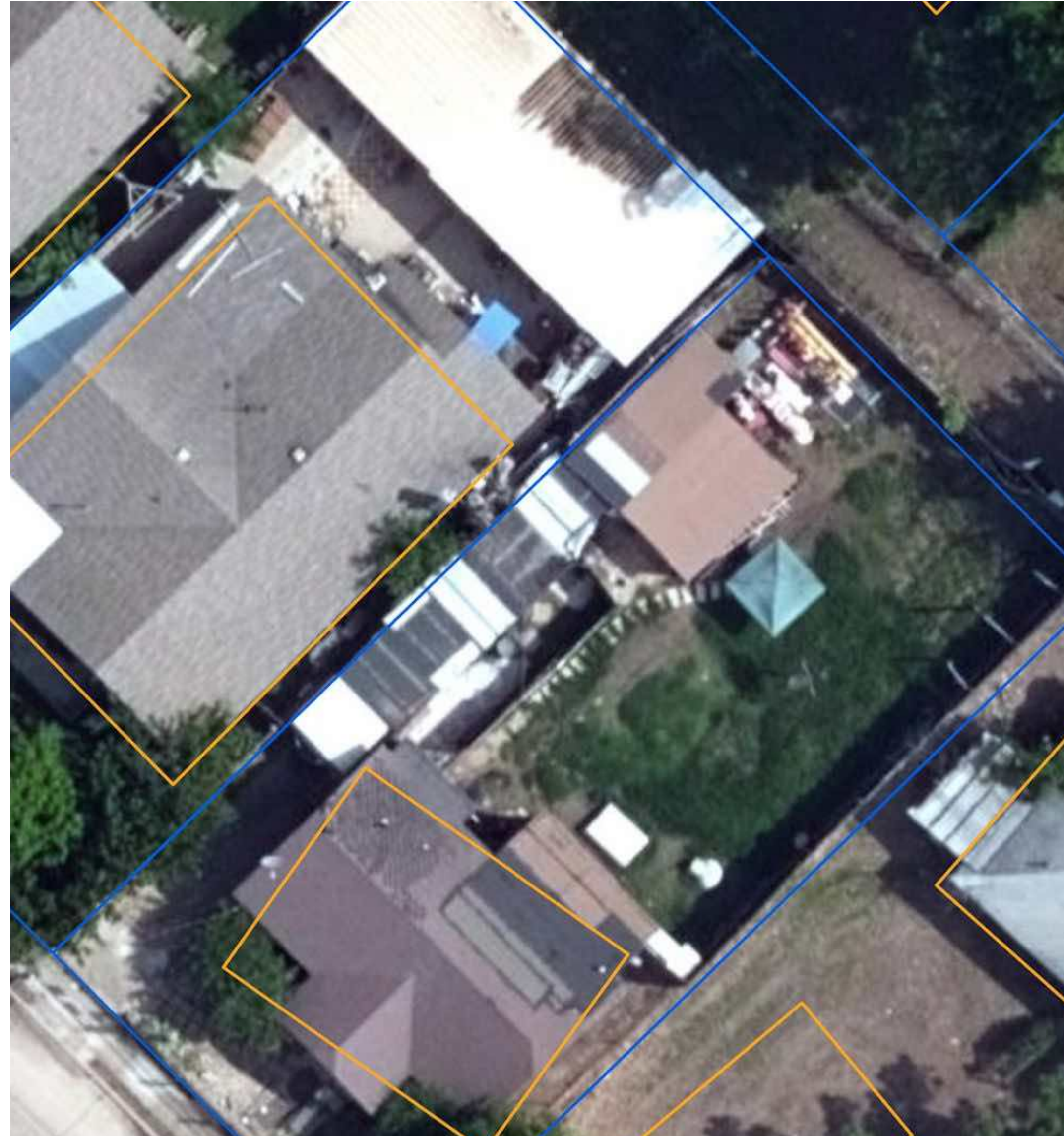
# Use Cases: Yard Conditions

- Pool / Hot tub
- Green pool
- Yard upkeep
- Pride of Ownership



# Use Cases: Yard Conditions

- Kennels
- Yard Debris



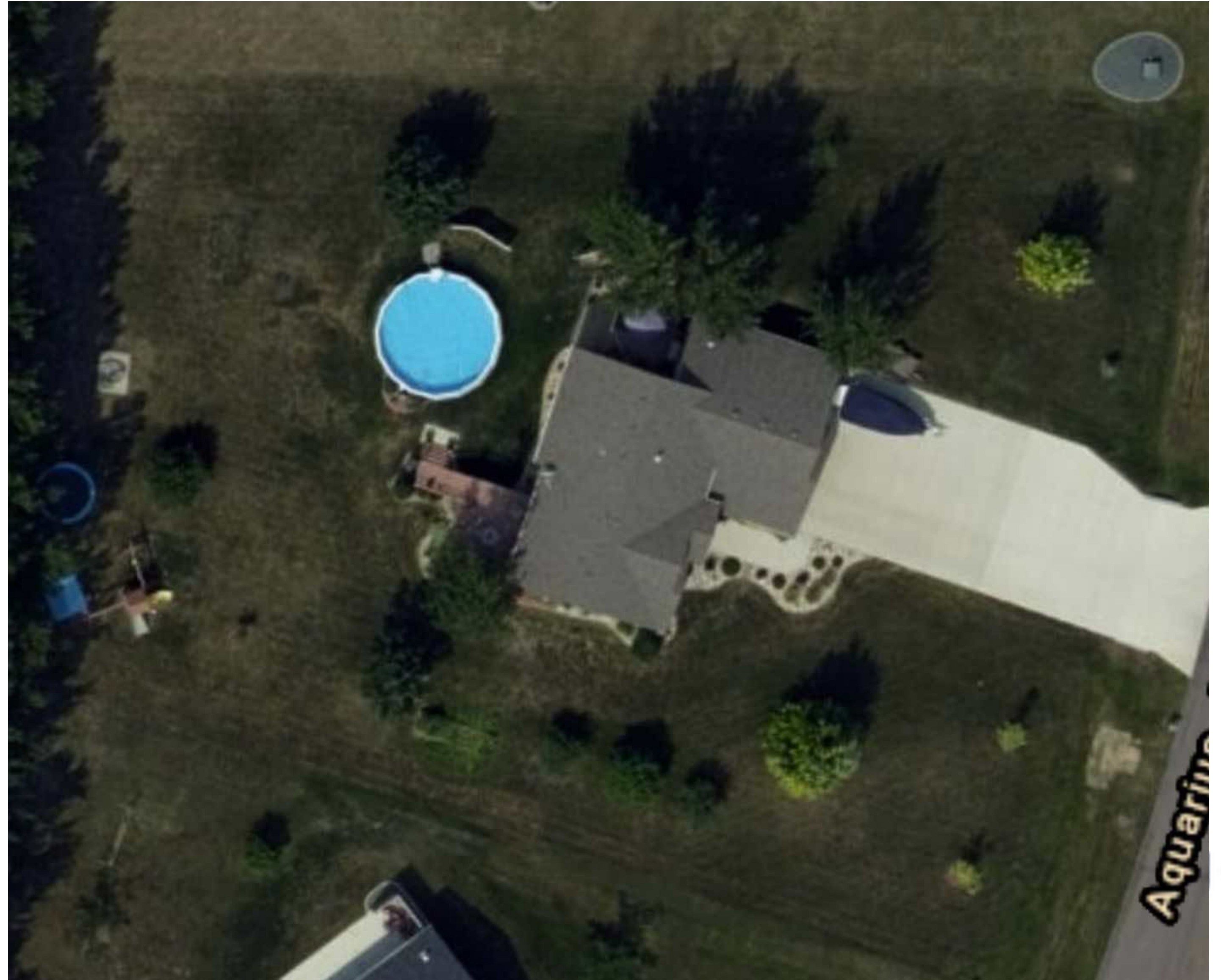
# Use Cases: Fire Risk

- Brush proximity
- Access
- Terrain



# Use Cases: Nuisances

- Pool without fence
- Trampoline
- Play Equipment
- Fence





# Use Cases: Commercial Property

- Flat roof:
  - Wind damage
  - Limbs and tires on roof
  - Ponding water
  - Membrane blistering, patches
  - Flashing damage
  - Vent and skylight, HVAC equipment
- Customer injury
  - Sidewalk conditions
  - Parking lot markings
- Burglary
  - Equipment and products in open
  - Fence and security barriers

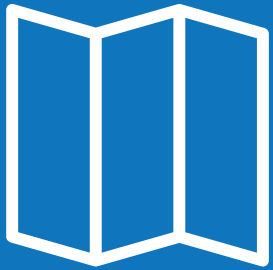


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# BLUE SKY

## Annual Imagery

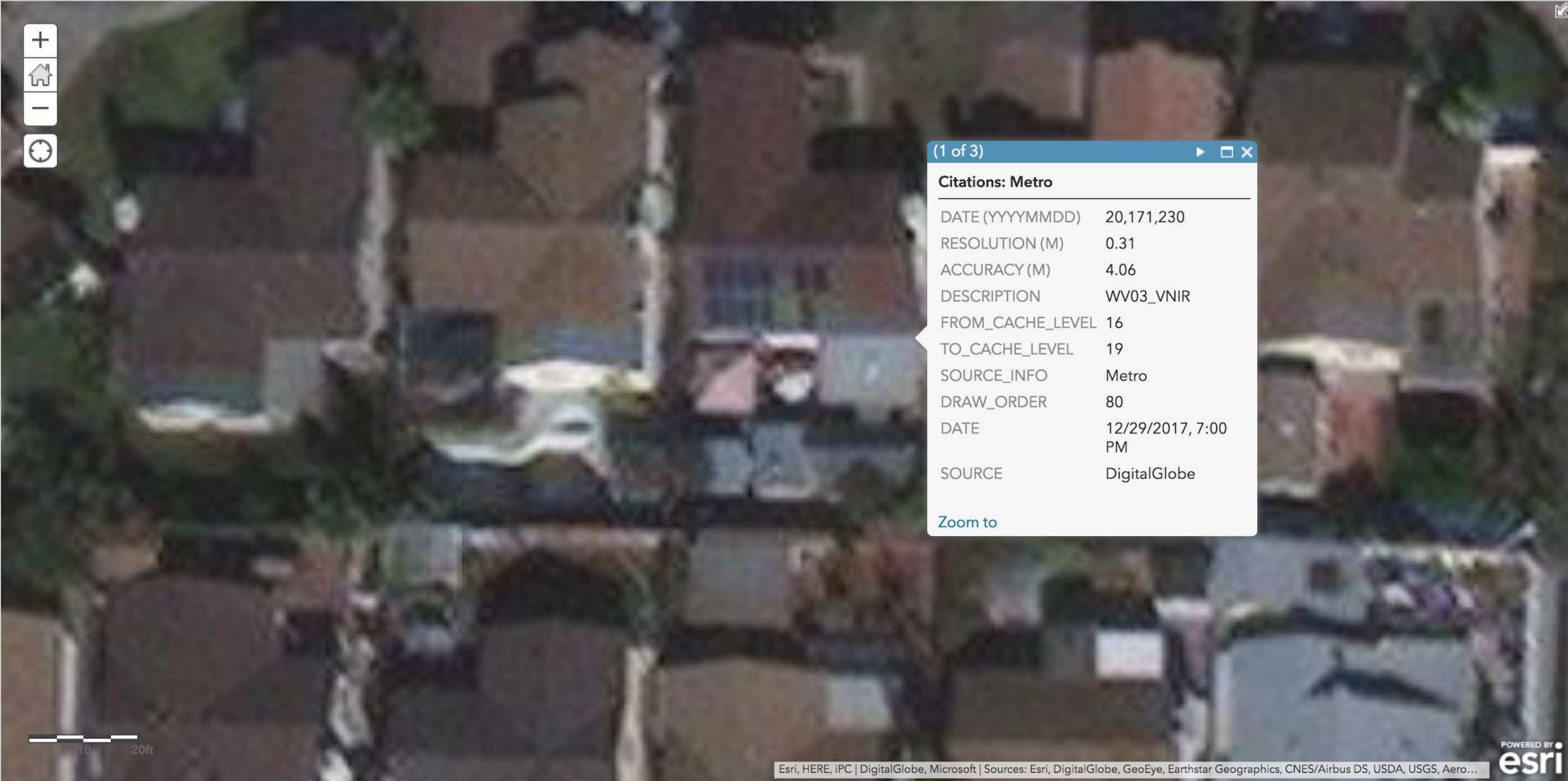
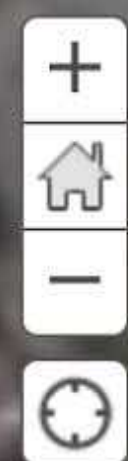
- Entire U.S. in high-resolution (20cm) imagery collected every other year
- Metro Mapping: ultra-high-resolution (7.5cm) imagery and data of top 150 Metro areas
  - 360 degree aerial imagery  
*5 views of a property*
- Digital Terrain and Elevation models  
*DTM / DEM*




 Details  Add ▾ |  Basemap |

 Save ▾  Share  Print ▾ |  Measure  Bookmarks

san diego, ca  



(1 of 3) 

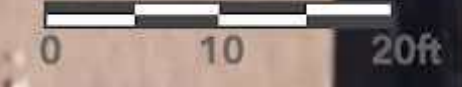
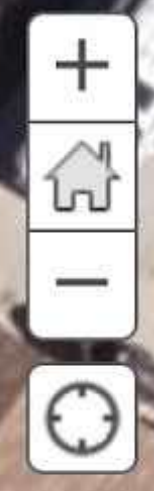
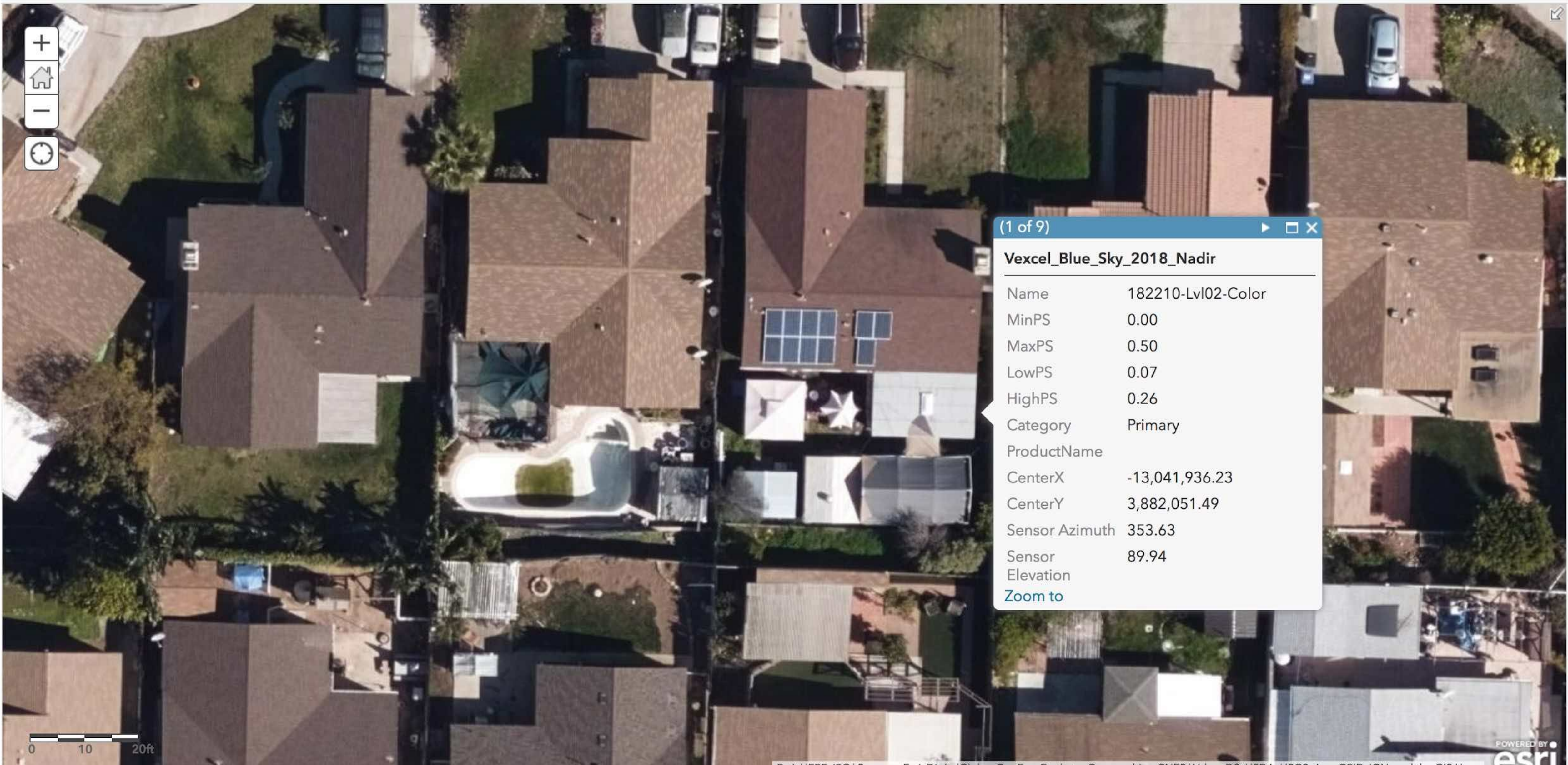
**Citations: Metro**

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DATE (YYYYMMDD)	20,171,230
RESOLUTION (M)	0.31
ACCURACY (M)	4.06
DESCRIPTION	WV03_VNIR
FROM_CACHE_LEVEL	16
TO_CACHE_LEVEL	19
SOURCE_INFO	Metro
DRAW_ORDER	80
DATE	12/29/2017, 7:00 PM
SOURCE	DigitalGlobe

[Zoom to](#)



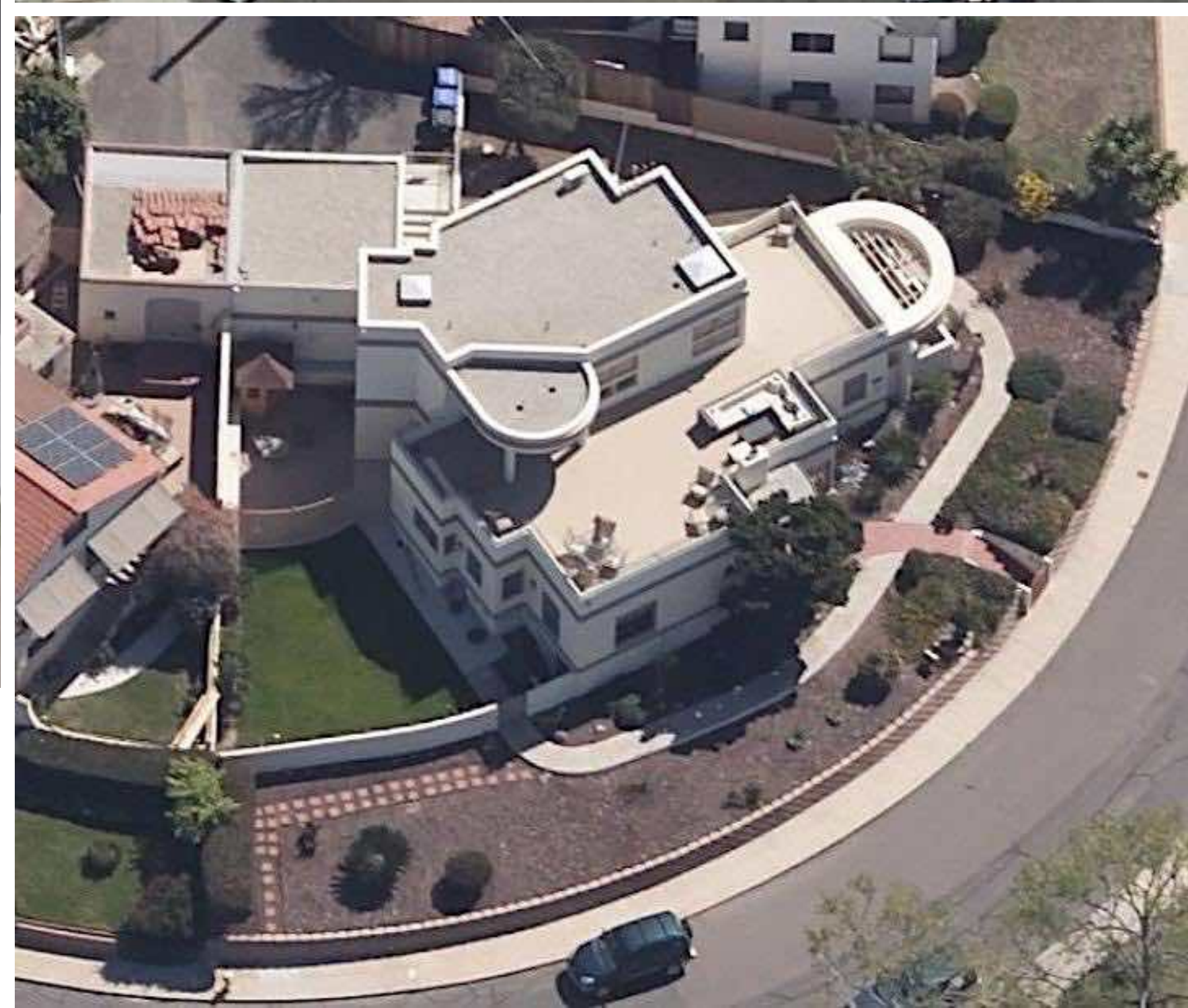
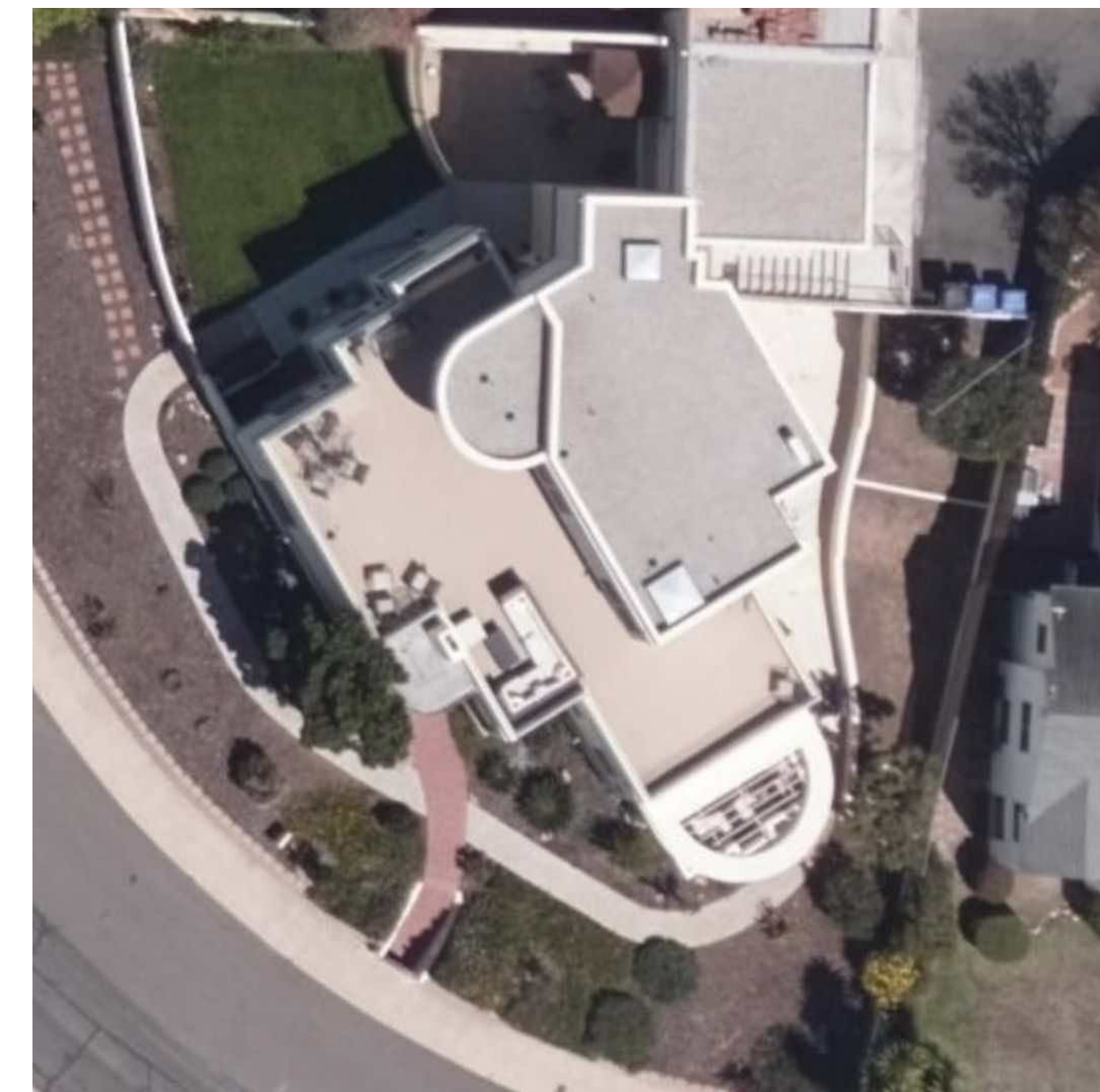


(1 of 9) ▶ □ X

**Vexcel\_Blue\_Sky\_2018\_Nadir**

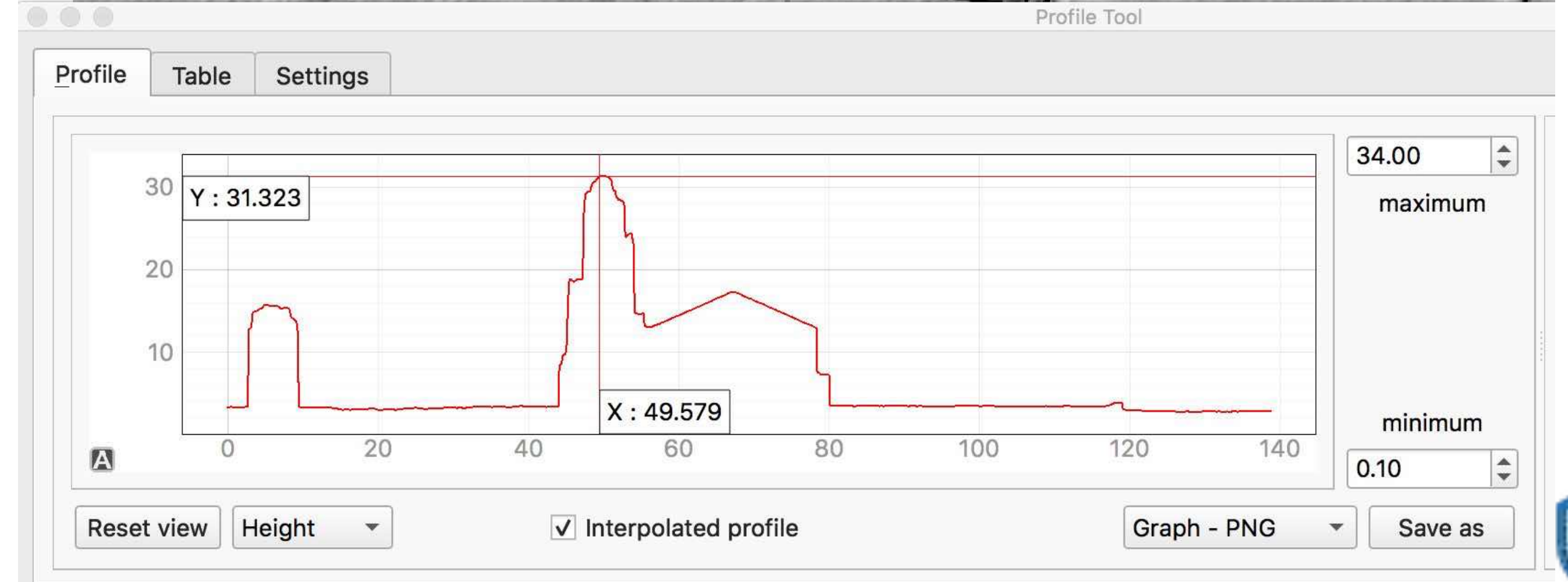
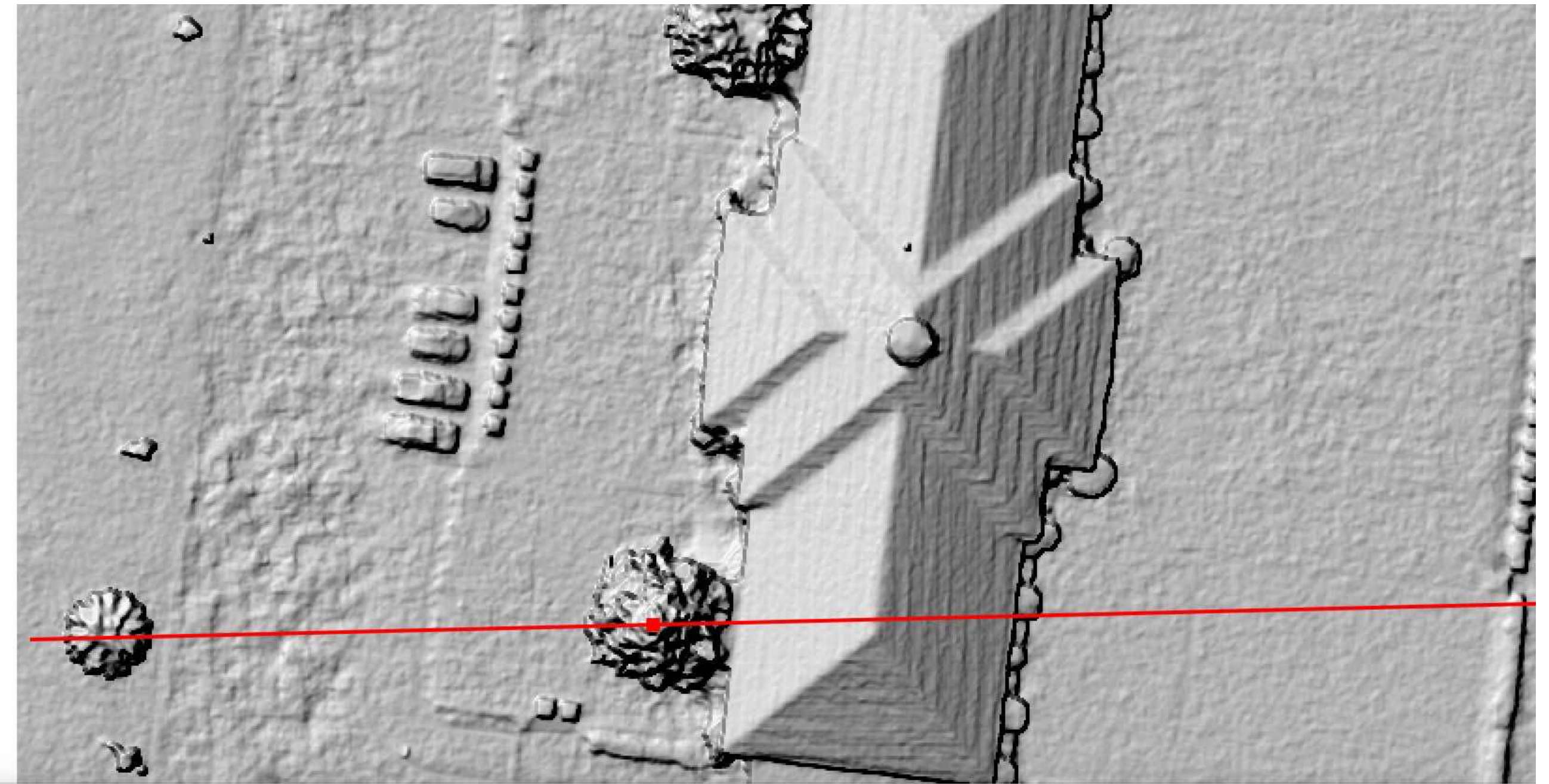
Name	182210-Lvl02-Color
MinPS	0.00
MaxPS	0.50
LowPS	0.07
HighPS	0.26
Category	Primary
ProductName	
CenterX	-13,041,936.23
CenterY	3,882,051.49
Sensor Azimuth	353.63
Sensor Elevation	89.94
<a href="#">Zoom to</a>	

# OBLIQUE VIEW

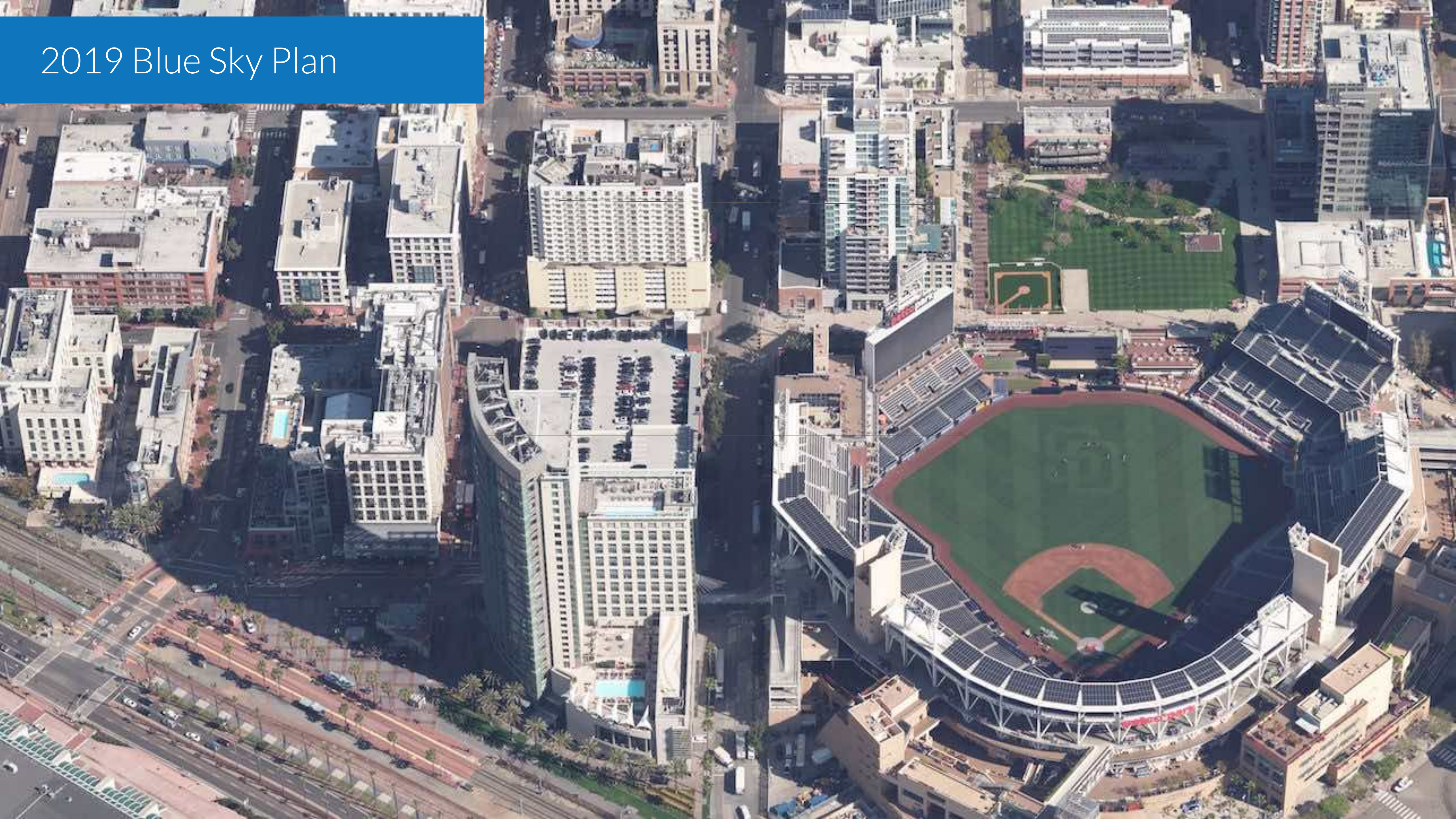


# Digital Surface Model

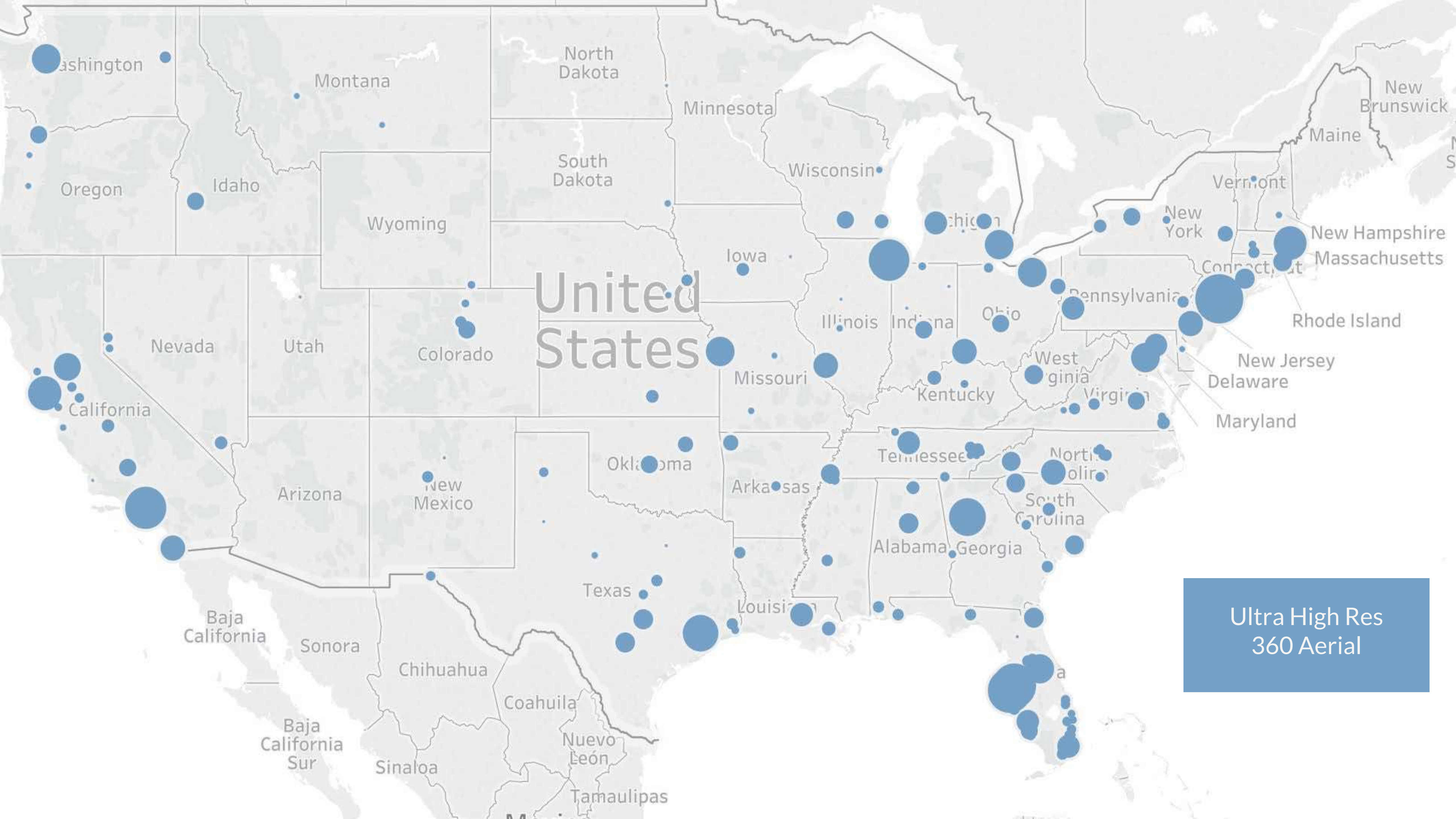
- Created from dense point triangulation, creating an x,y,z value
- Useful to very accurately measure roof pitch, tree heights, and ground
- High detail provides feature texture context (tree, building, pickup truck)



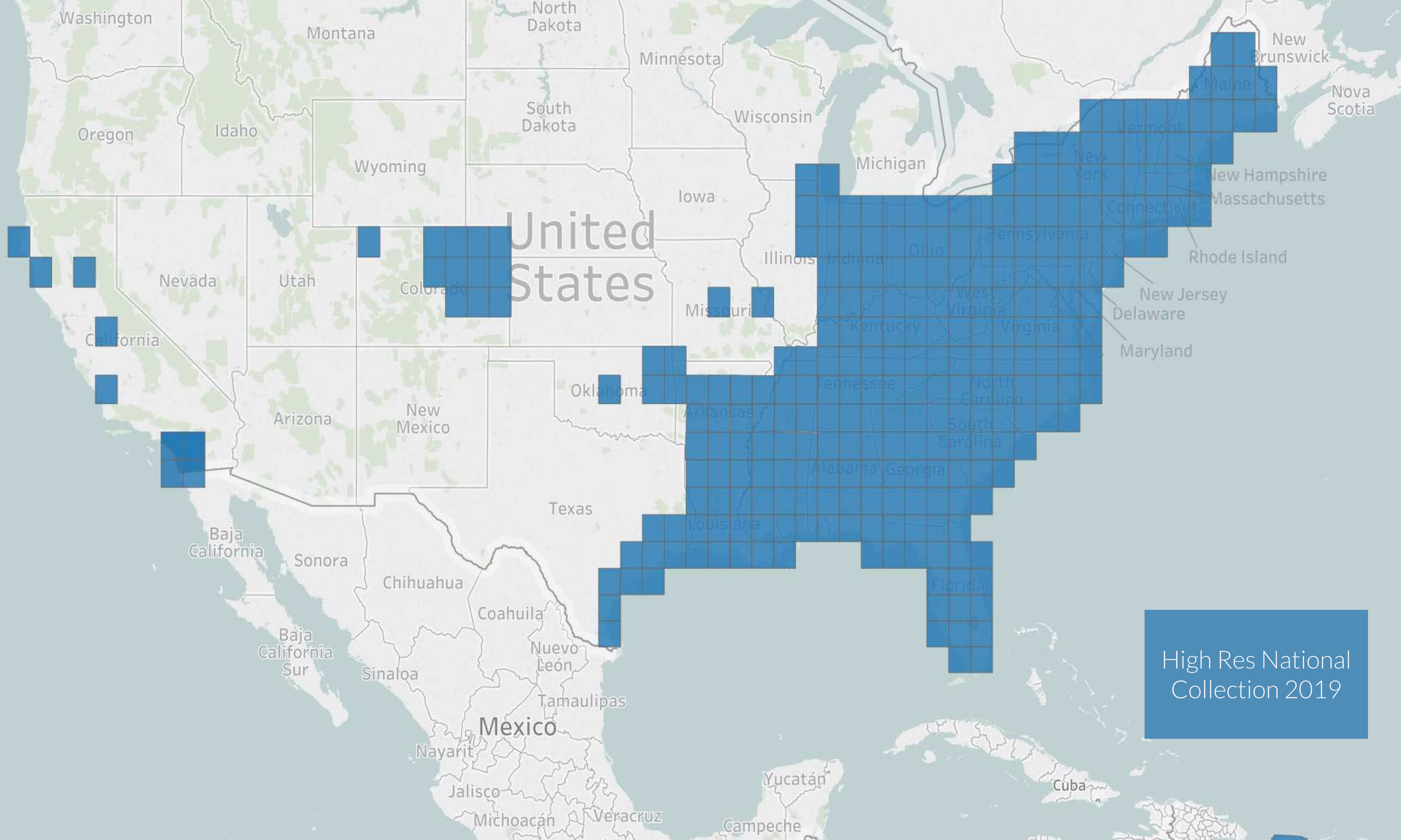
# 2019 Blue Sky Plan







Ultra High Res  
360 Aerial



United States

Mexico

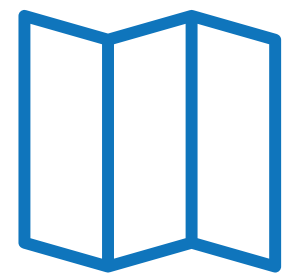
High Res National Collection 2019

# GIC: FOR INSURERS. BY INSURERS



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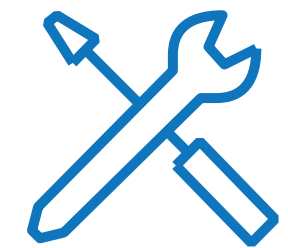
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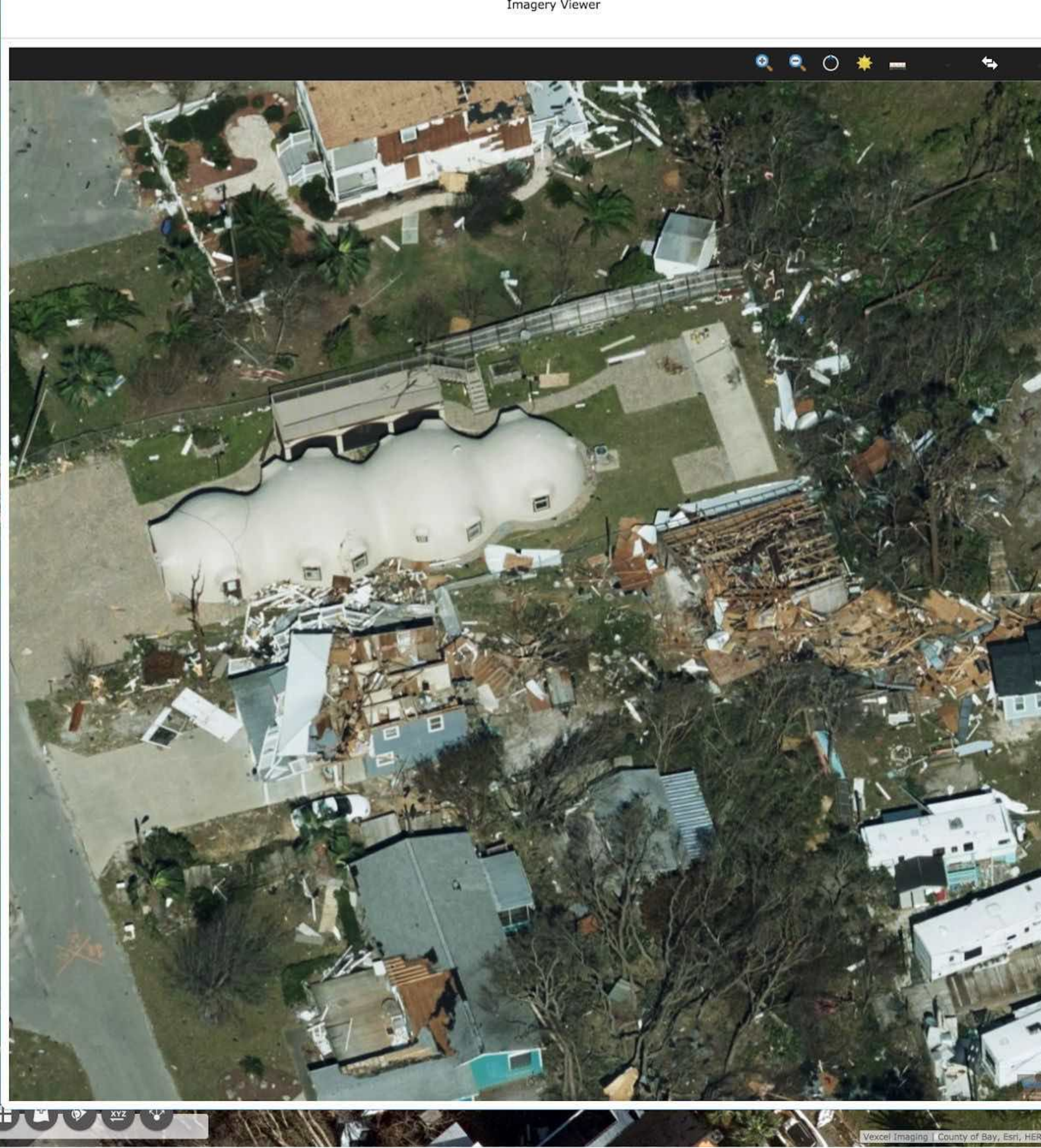
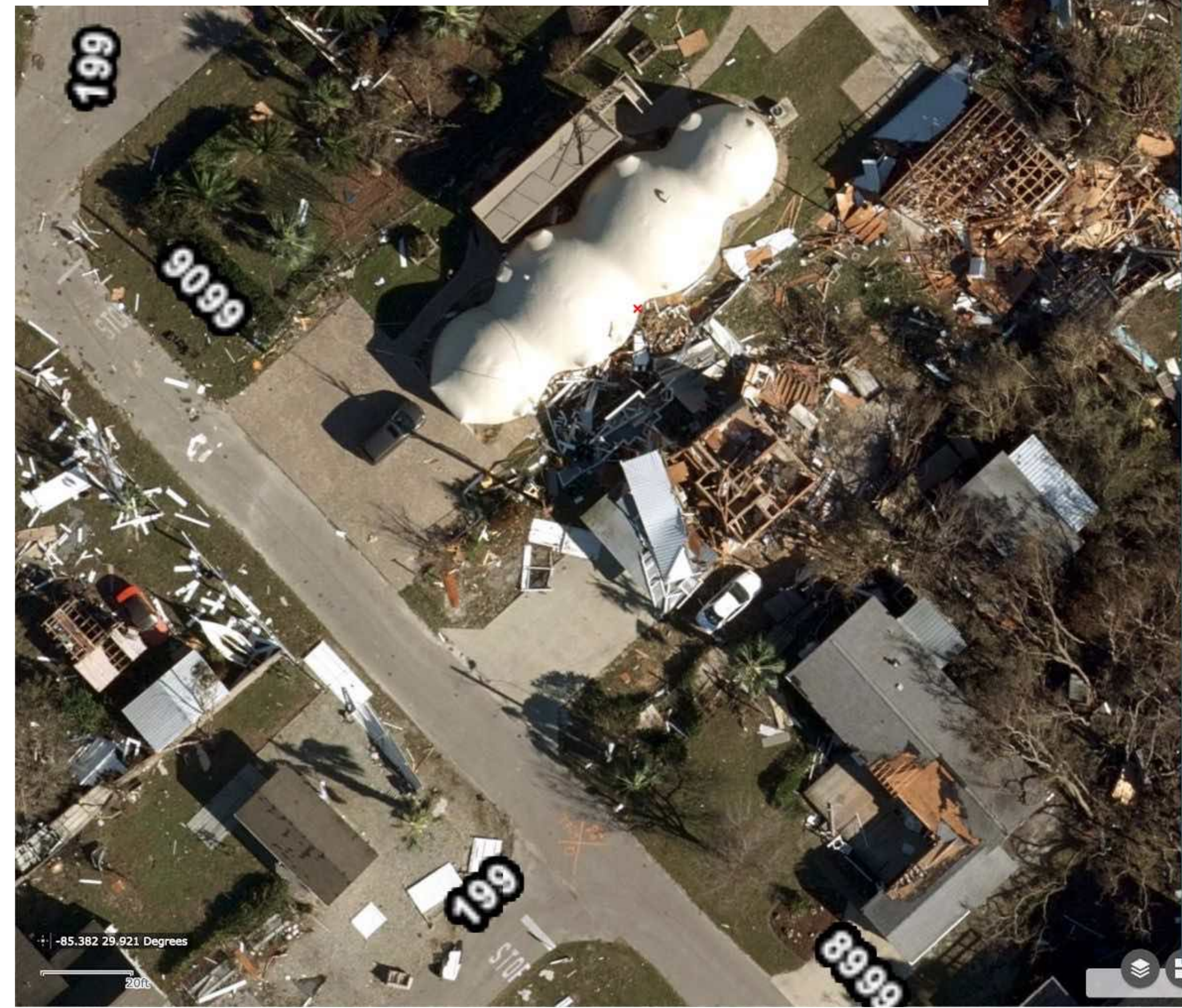


## TOOLS & ANALYTICS

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# GRAY SKY PROGRAM



# GRAY SKY

## Disaster Response

- GIC Responds to every major catastrophe in the United States
- Imagery is available to members within 24 hours of collection
- Free access for 1<sup>st</sup> Responders
- Best possible resolution



# Campfire and Woolsey

November 2018

- Over 2,500 sq. km. of imagery
- Flown during active flight restrictions
- Additional imagery each day
- Under 24-hour turnaround
- USAF, National Guard, and FEMA priority imagery



# Hurricane Michael

October 2018

- 85,000 sq. km. collected, processed and delivered in 3 days
- Implemented daily member briefing
- Coordinated with FEMA and NOAA



# Hurricane Florence

September 2018

- 65,000 sq. km. collected
- Active partnership with FEMA and NOAA
- First deployment of Condor wide-area sensor





JAN

FEB

MAR

APR



Flood - Louisville, KY



Flood - Xenia, OH



Tinder Wildfires

MAY

JUNE

JULY

AUG



Tornado - Connecticut



Tornado - Pella, IA  
Tornado - Marshalltown, IA



Carr Wildfire

SEPT

OCT

NOV

DEC



Hurricane Florence



Hurricane Michael



Woosley Fire  
Camp Fire

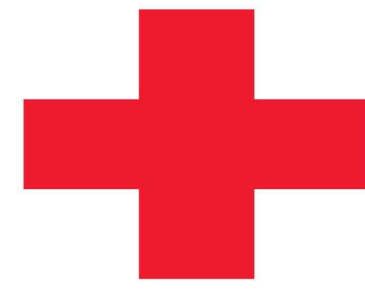
2017 - 2018



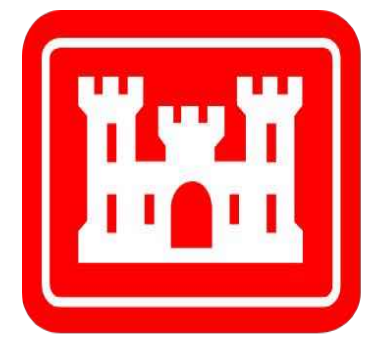
Total Hurricane Imagery Collection



FEMA



American Red Cross



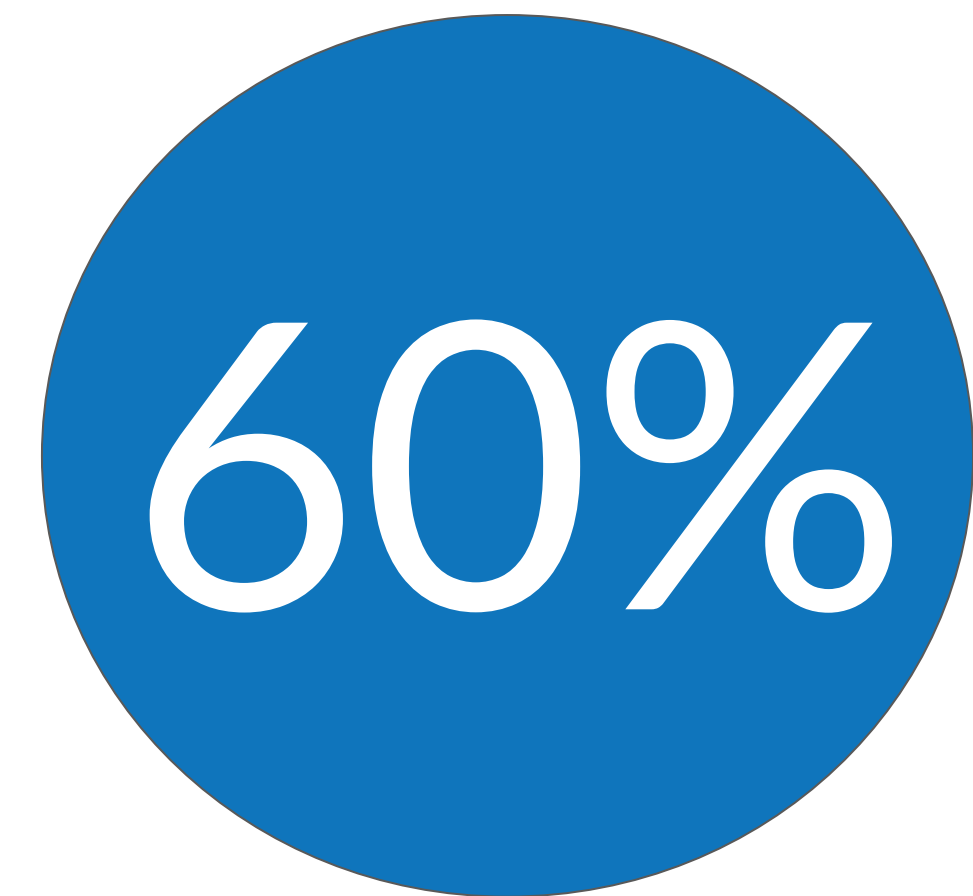
US Army Corps of Engineers®



An important mission of the GIC is to have the insurance industry lead the way in improving response and relief efforts following disasters, and reducing FRAUD after major events.

The GIC is doing this by transforming how critical information and imagery is collected and disseminated, driving a coordinated effort across local, state and federal agencies and responders.

The GIC also aims to increase public awareness of these important initiatives, and in doing so improve the perception of the insurance industry's positive impact when it matters most



Currently for the CA wildfires, FEMA and the National Guard calculate that the GIC Imagery has been the definitive source in 60% of the overall damage assessment and response.

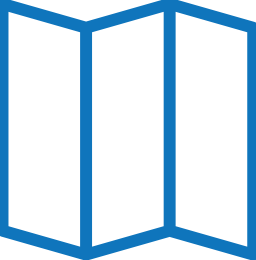


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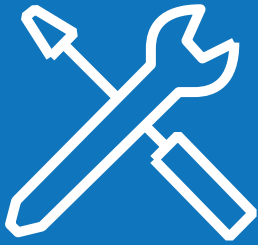
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Imagery is more than just pixels. Imagery is data.



Quality of geometry and redundancy matters for analytics.

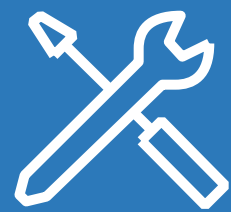


Built with Machine Learning in mind.



GIC supplies pre-built analytics.

Unlimited innovation by members on the survey grade data.



Base set of tools, and analytics provided.

Each individual insurer is a proprietor of data .



Competitive advantage is gained by optimizing the imagery internally

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# CATASTROPHE ANALYTICS

- Partnered with The Lab at Munich Re
- Automated damage classification following major CAT events
- Heavy usage following Hurricane Michael
- Better analytics for Fraud Detection





# WORKFLOW INTEGRATIONS

Data rights allows GIC members to  
BYOD with any 3rd party provider.



GIC: FOR INSURERS. BY INSURERS

THANK YOU