



## 2018 PROGRAM OVERVIEW

*Geospatial Intelligence  
for Better Outcomes*

# AGENDA

- GIC Overview
- 2017 – what we did
- 2018 – what we're delivering
- 2019 and beyond



## Program Benefits

- High-res imagery of **every address** in US on an annual basis
- Ultra high-res imagery, including **3D and 360-Streetview** imagery of top 150 greater metro areas
- **Geospatial analysis tools (platform)** and support to all members
- **Partner Network and Data Portal**
- **Annual cost shared among entire industry** rather than each company working on own, or relying on 3rd party licensing terms



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## Key Program Areas

1. CAT / **Disaster Response**
2. National **Imagery Collection Program**
3. Digital **Delivery Platform**
4. Advanced **Analytics**
5. **Partner Network**



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## 1. CAT RESPONSE

# Imagery Collection

### 360-Degree Street side

- “Street View” 360-degree imagery and LiDAR Capability has been **tested in numerous scenarios**

### Oblique Aerial

“Streetside by Air” for roof and full property / structure damage assessment

- Incredibly accurate 3D mesh for analytics
- Accurate digital elevation and measurement

### Wide-Area Aerial

- 38,000 pixels across the flight strip
- 9 kilometer swath width allows wide flight lines providing mass coverage in shorter time

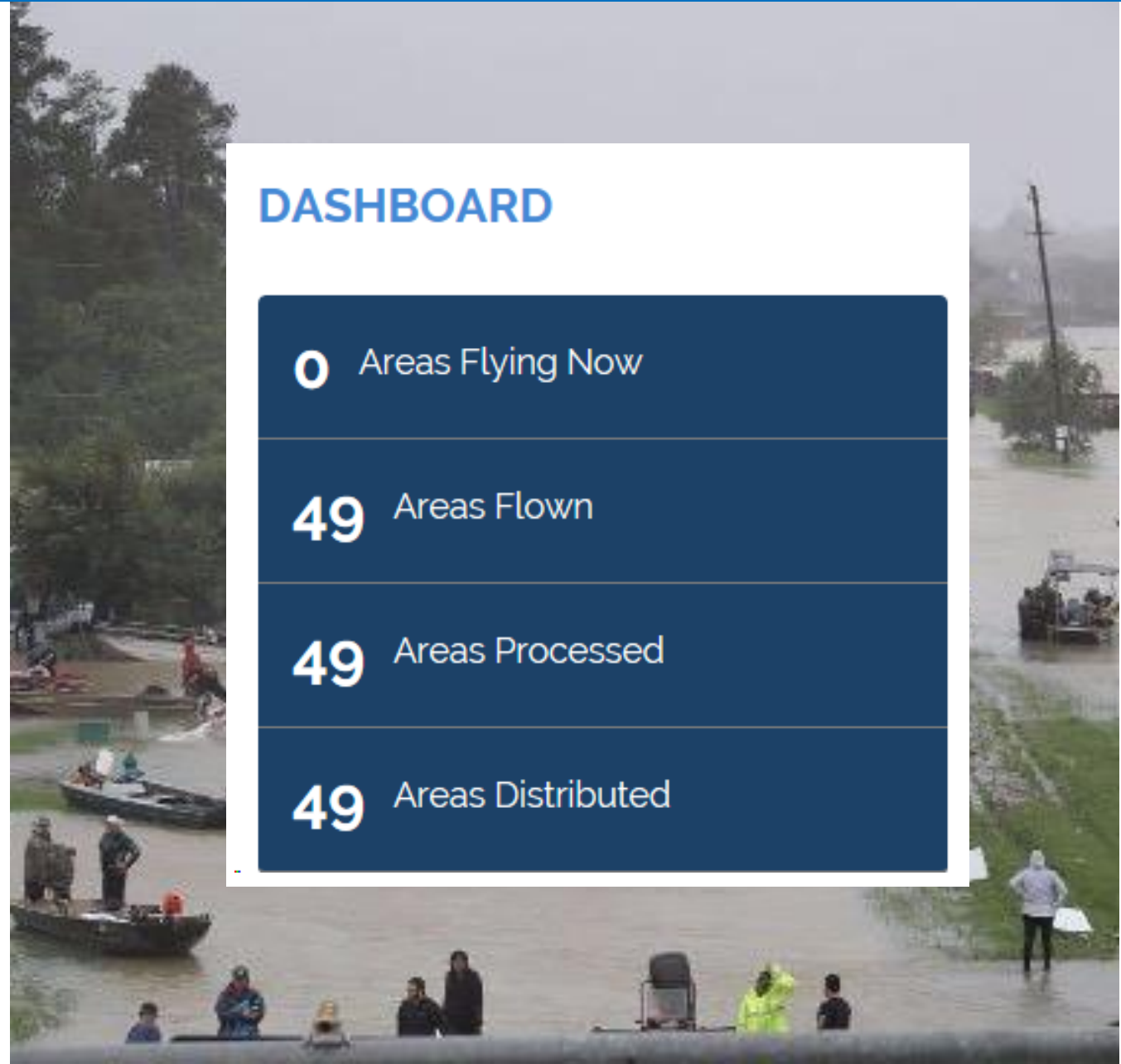


# THE RESPONSE

Harvey, Irma, Maria, and CA Wildfires

## Activities

- Handled all planning, collection, processing and hosting
- Uploaded imagery within 24 hours
- Distributed Imagery covering:
  - 65,800 square kilometers
  - 23.5 million population
  - 8.8 million homes



### DASHBOARD

0 Areas Flying Now

49 Areas Flown

49 Areas Processed

49 Areas Distributed

## GIC Web Portal

- Breaking news from the air and ground
- Updates of areas collected
- Information about the coalition
- Link to Harvey, Irma, and Maria web application
- Ability to get direct data access via APIs

**GEOSPATIAL INTELLIGENCE CENTER** HOME ABOUT CONTACT FAQ **URGENT**

GEOSPATIAL SUPPORT  
IN TIMES OF NEED  
LEARN MORE

HURRICANE IRMA HURRICANE HARVEY HURRICANE MARIA

### BREAKING NEWS

**Wheels Up in Puerto Rico**  
Aircraft has been launched to continue collection of nadir imagery over Puerto Rico. Reported by The Sanborn Map Company. >>

### NEWS AND UPDATES

Map of Florida showing collection areas.

### DASHBOARD

- 0 Areas Flying Now
- 25 Areas Flown
- 25 Areas Processed
- 25 Areas Distributed

area - 100sqm

### APP LINKS

- REQUEST HELP
- CONTACT US
- RESPONDER MAPS
- PUBLIC MAPS

### THE COALITION

The coalition that came together under the direction of Vexcel Imaging to provide response in the aftermath of Hurricane Harvey has mobilized to Florida to provide aerial imagery support there in the wake of Hurricane Irma. The coalition has grown, adding additional aircraft and all using UltraCam sensor systems for highest

Logos: NICE, VEXCEL, esri, quentum, sonborn, KEYSTONE

### EVENT SUMMARY





**HURRICANE HARVEY**  
Neighborhood



**HURRICANE HARVEY**  
Neighborhood detail



# HURRICANE IRMA

A simple plea for help



HURRICANE MARIA  
Urban devastation



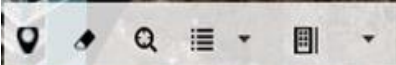
**HURRICANE HARVEY**  
Leak



**HURRICANE HARVEY**  
Wind damage



**HURRICANE IRMA**  
Wind damage and flooding



**HURRICANE IRMA**  
Wind damage







**Napa** Wildfires  
Before

Show search results for Napa, Ca...



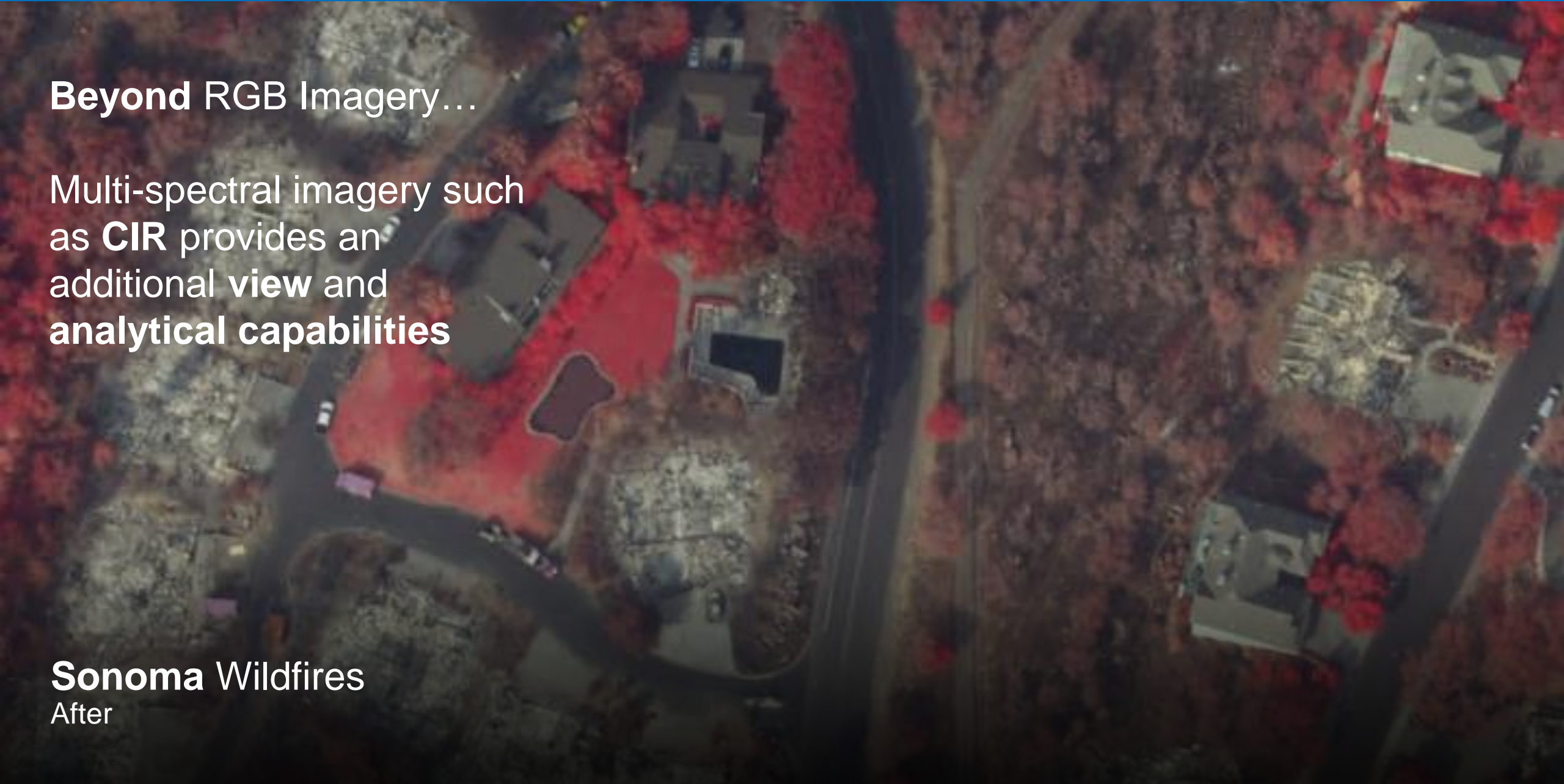
**Napa Wildfires**  
After

# THE RESPONSE

## Beyond RGB Imagery...

Multi-spectral imagery such as **CIR** provides an additional **view** and **analytical capabilities**

**Sonoma Wildfires**  
After



# SOLUTION

Digital Analysis & Delivery Platform  
NICB - Geospatial Center

*Turning Geospatial Data into Insights for Better Outcomes*

## 3. DIGITAL DELIVERY

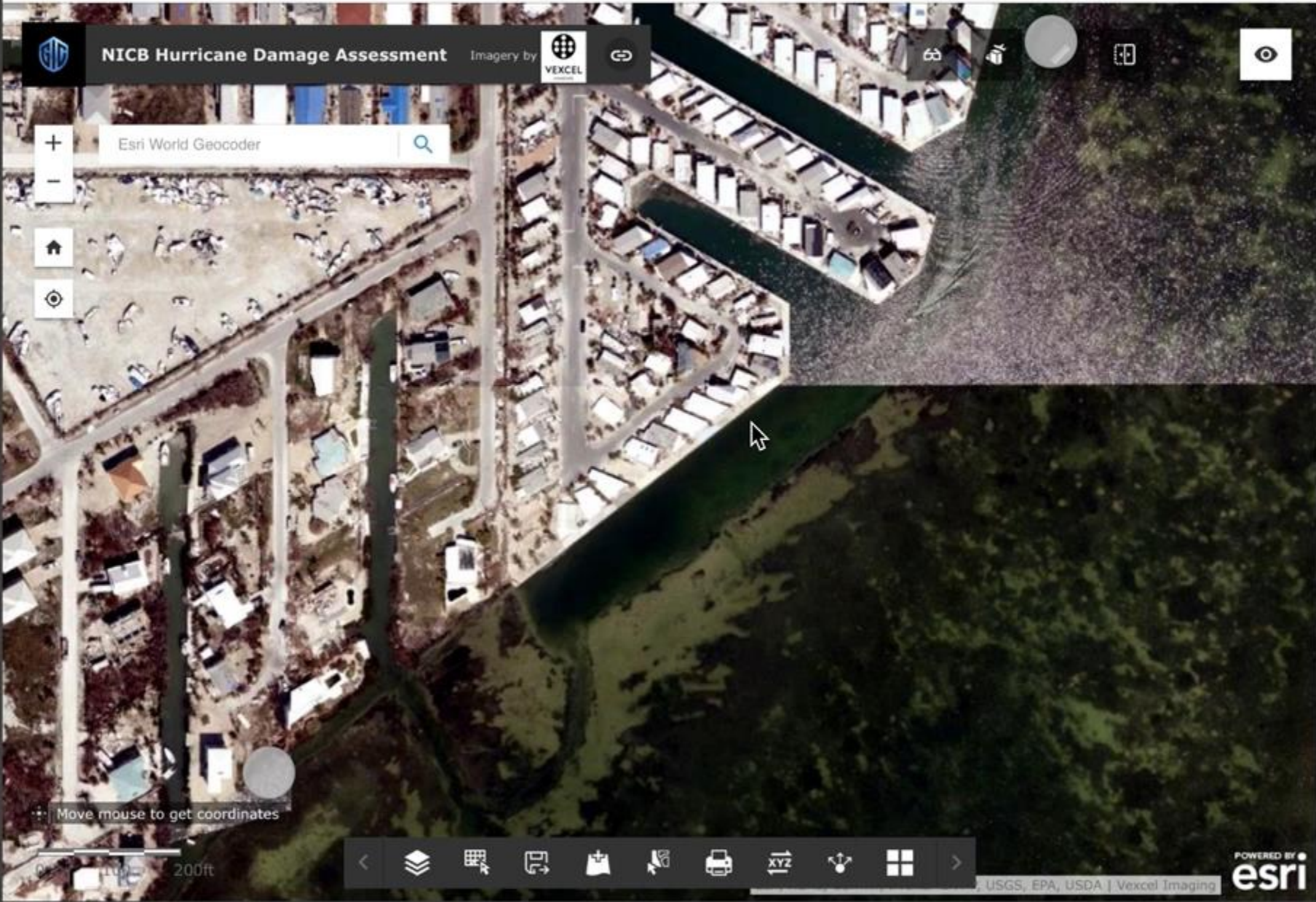
# Imagery Platform

- **Revolutionary platform that delivers** 360-degree immersive imagery as well as aerial photography to the most common devices.
- Can **process & deliver from CAT site**
- **Simple**, intuitive interface



NICB Hurricane Damage Assessment Imagery by VEXCEL

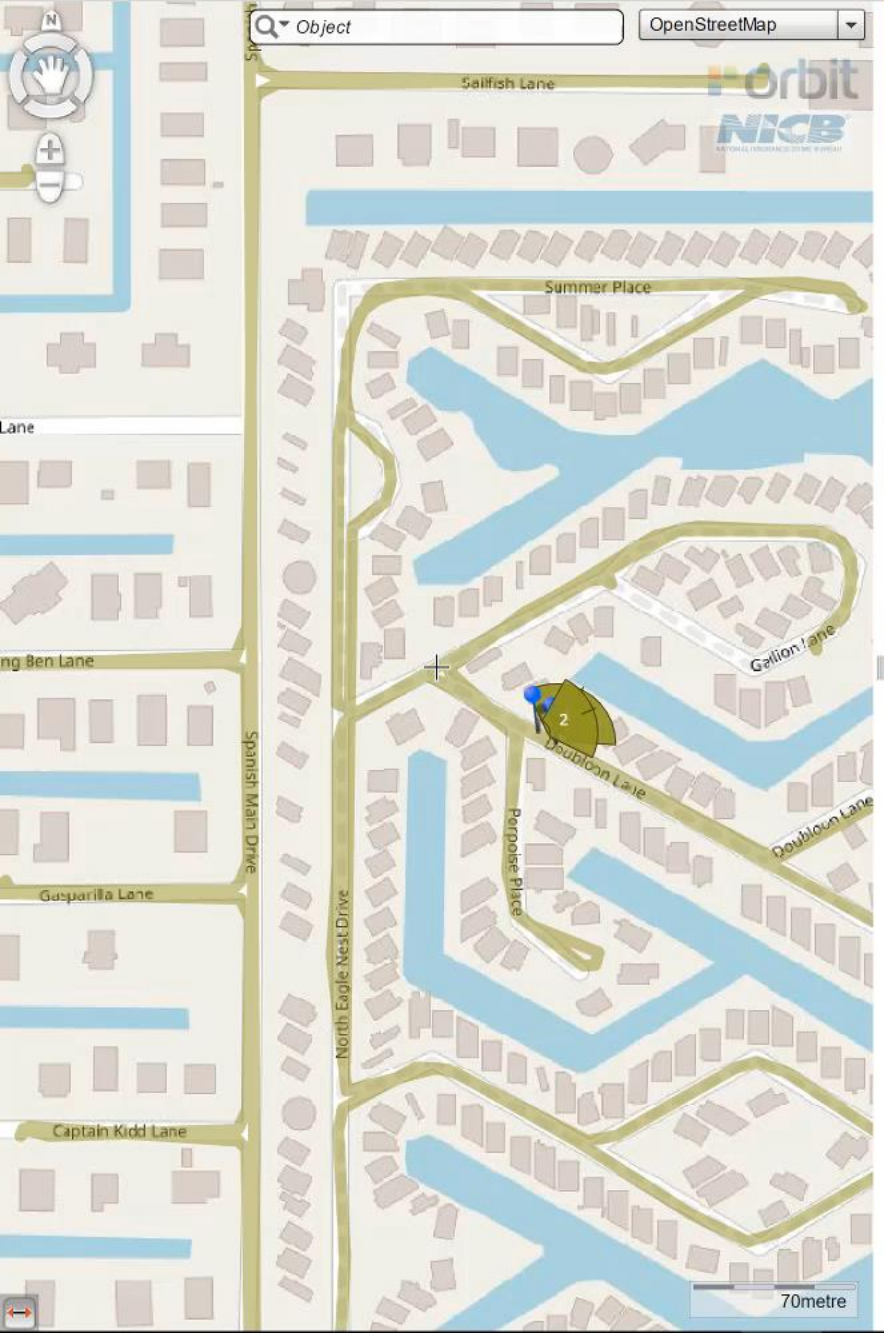
Esri World Geocoder



Move mouse to get coordinates

200ft scale bar

Map navigation toolbar: layers, grid, pan, zoom, print, XYZ, share, window



## 2. NATIONWIDE DATA COLLECTION

### Full coverage: immersive imagery and geospatial data updated annually

- **Entire U.S.** in high resolution imagery @ 15cm resolution with geospatial data
- Ultra high-res imagery and data of the **top 150 metro areas @ 5cm resolution**
  - Oblique imagery: 45-degree from four angles
  - Ortho imagery: top down view
  - 360 panoramic street-view
  - Complete 3D mesh with precise building geometry
  - Digital Terrain and Elevation models (DTM / DEM)
- Imagery and data meet the **highest geometric and radiometric standards** in the industry
- Approximately 60 petabytes of data per year

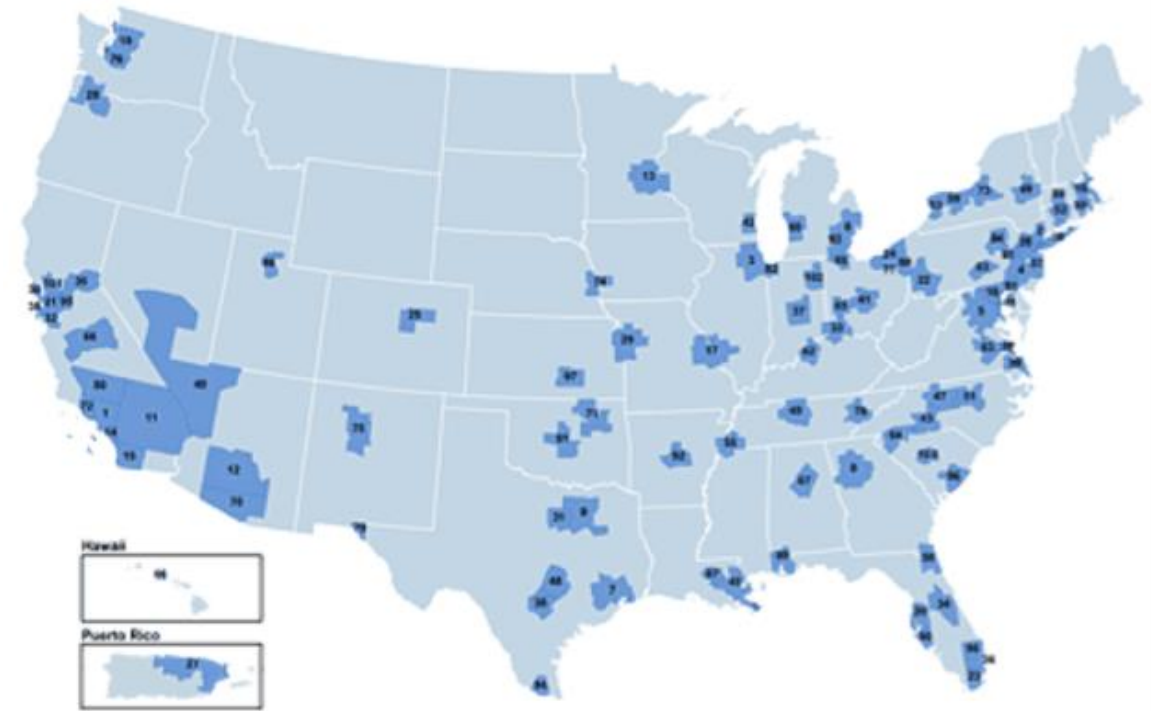




## 2. NATIONWIDE DATA COLLECTION

### Network effect: ability to collect nationally and respond quickly for CAT situations

- Collecting and processing imagery and data year-round based on consistent specifications
- Over **100 aircraft available today**, by far the largest fleet network in the U.S.
- Located across **25 hubs nationally**
  - Prepared to respond quickly when needed
- **Partnering with the top** U.S. aerial mapping companies and additional Vexcel-certified fliers in specific locations
  - Proven success from prior nationwide programs



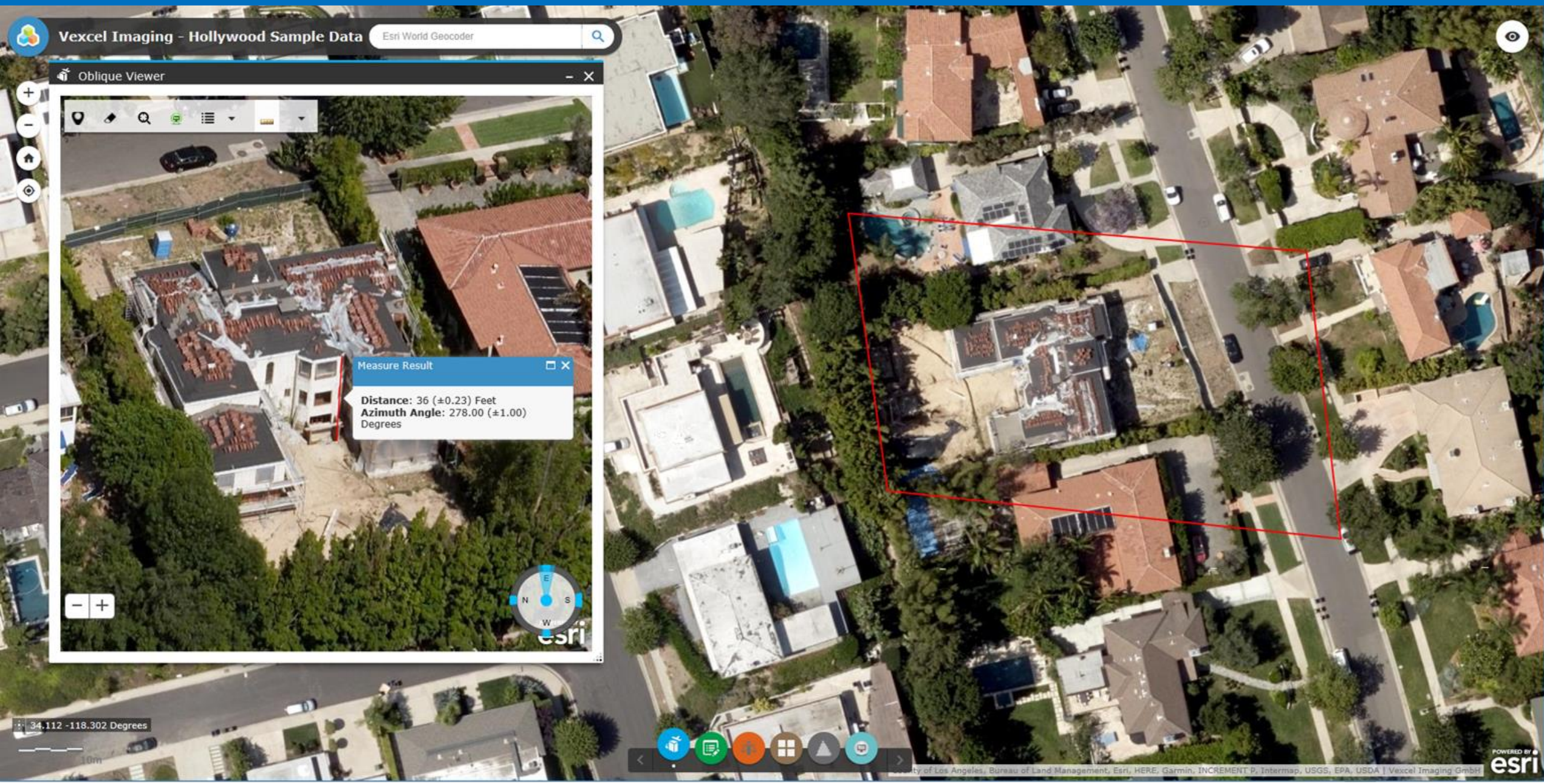
## 4. ADVANCED ANALYTICS

### Data to Insights

- **Processing** - automation software produces highest quality finished modules
- **Analysis** - apply AI, Computer Vision algorithms
- **Insights** – damage assessments remotely



# DIFFERENCE : MEASURING HEIGHT OF THE HOME FROM THE EAST



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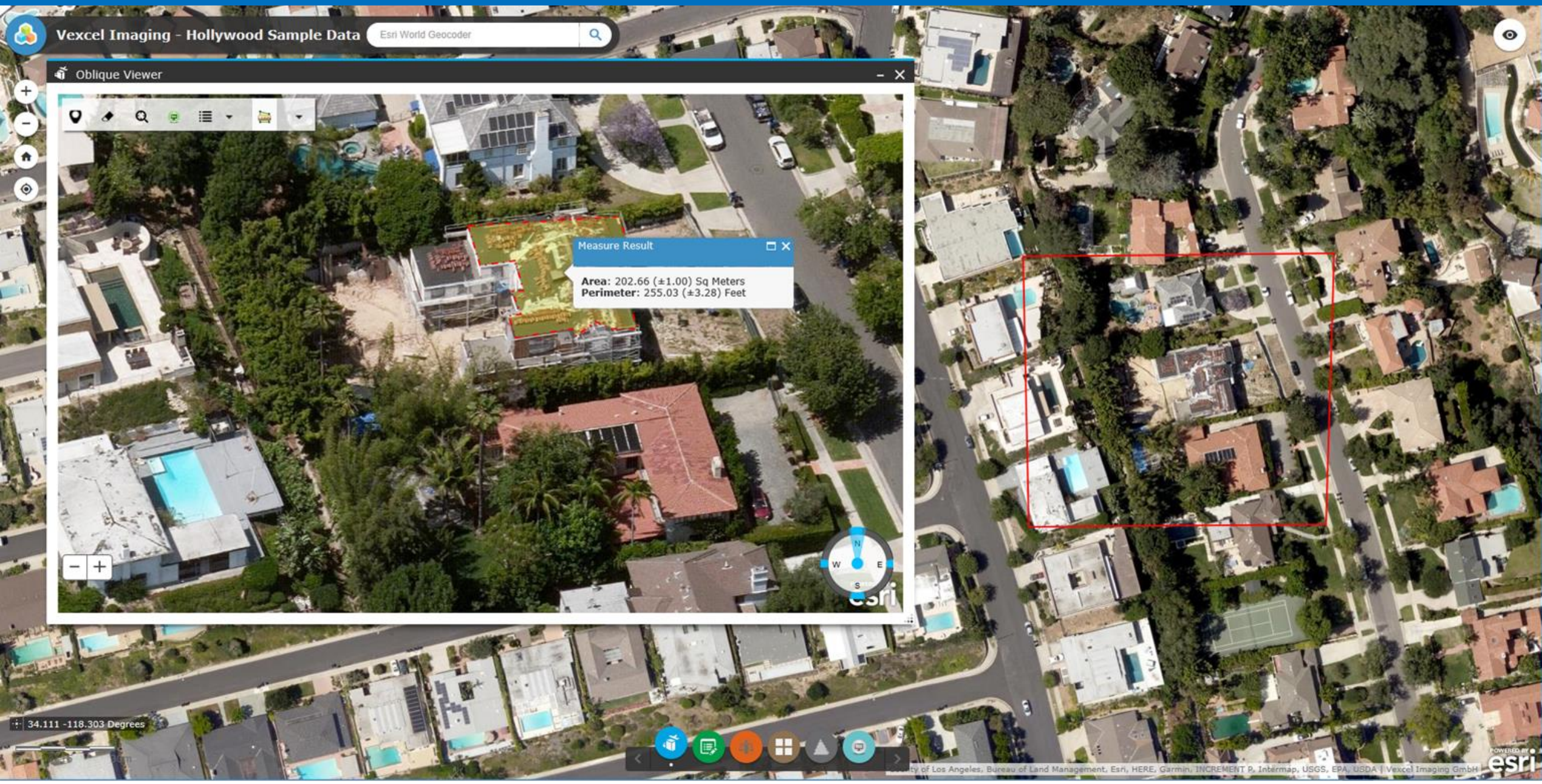


Measure Result ☐ ×

**Distance:** 36 ( $\pm 0.23$ ) Feet

**Azimuth Angle:** 278.00 ( $\pm 1.00$ )  
Degrees

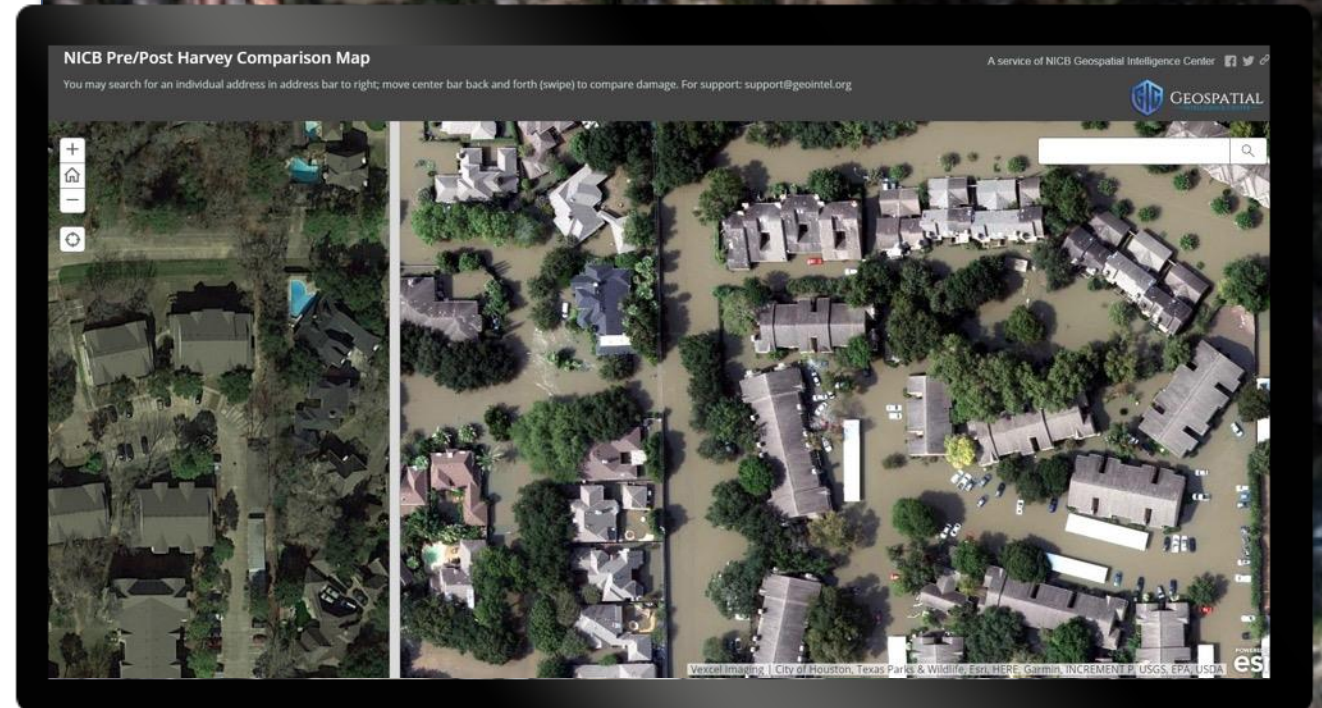
# DIFFERENCE : MEASURING HEIGHT OF THE HOME FROM THE EAST



## Data to Insights

- **Imagery captured** - immediately after the event
- **Nadir & Oblique**
- **Insights** – Pre and post views of property

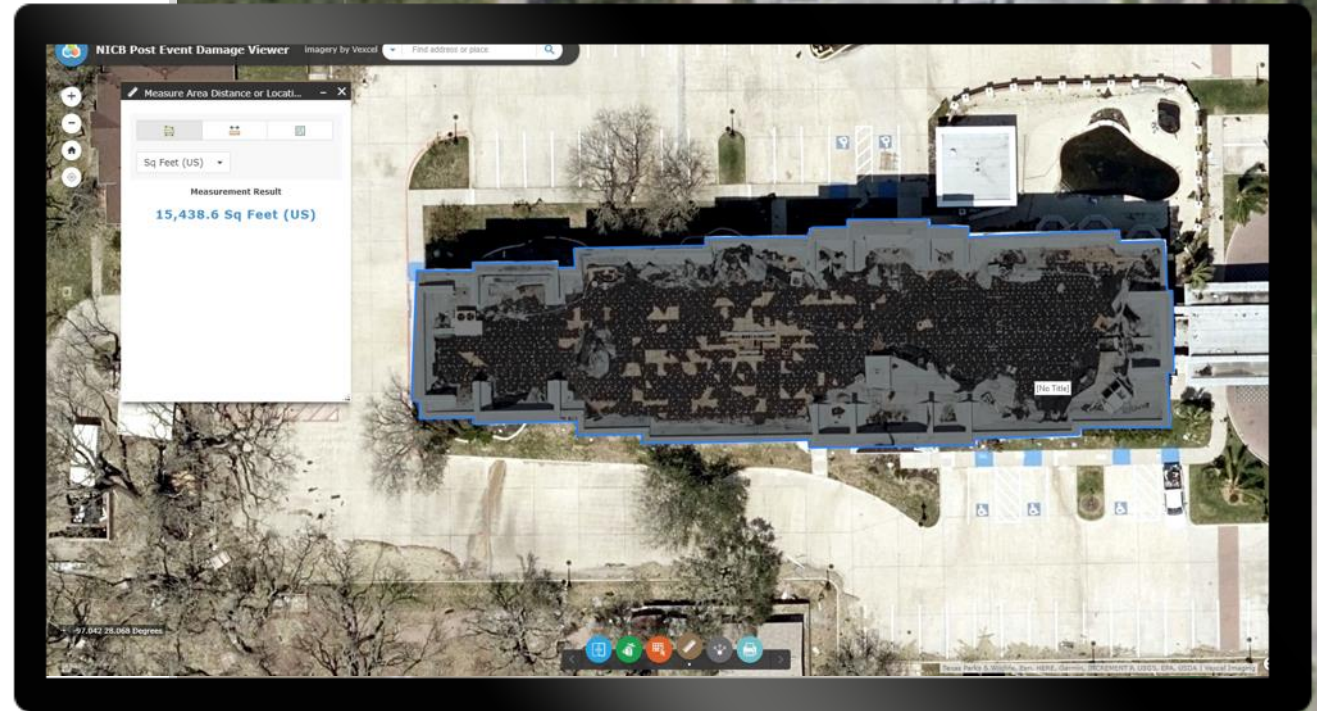
Leading Insurer: “What used to take **weeks** has been **compressed** to a matter of **days**”



## Supporting Desk Adjusting

- Measure Impacts
- Inform Replacement Estimates
- Claim Level Detail

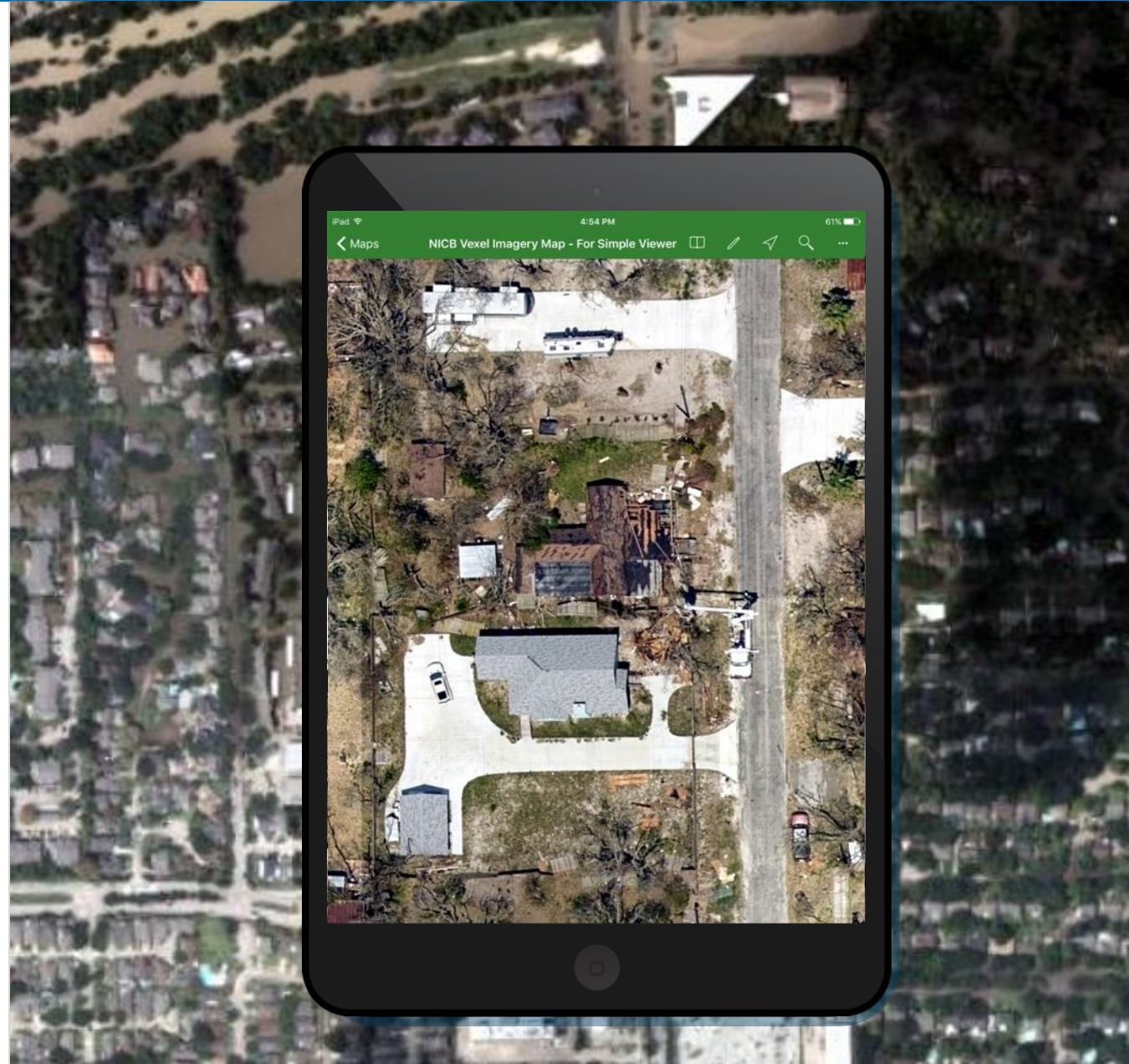
“The imagery is very **detailed** and allows us to **quickly** and accurately measure buildings ”



## Mobile Access

- **Access From Any Device**
- **Deploy in hours... not months**
- **View, measure, annotate, report**

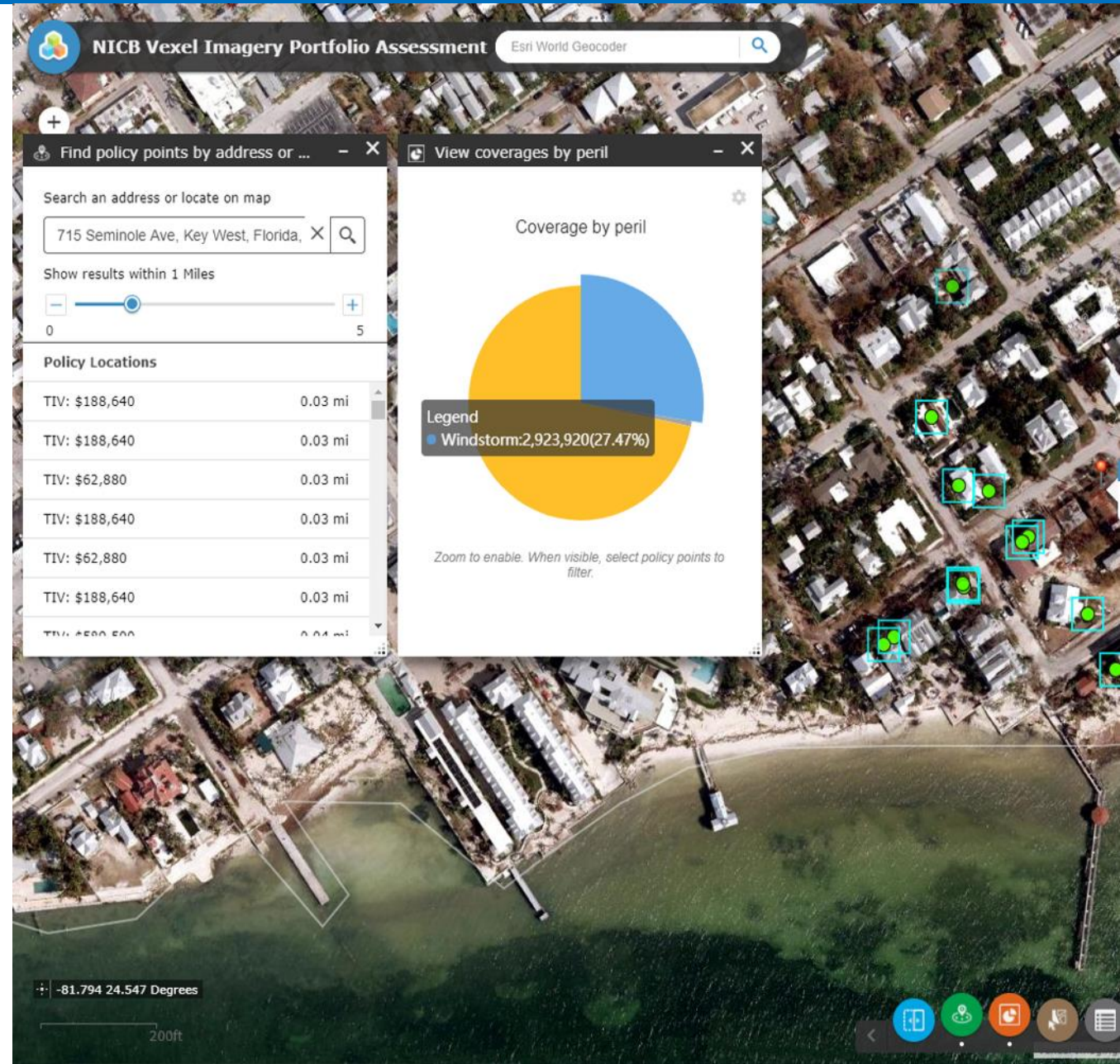
A leading insurer provided to 400 claims agents on the ground within 8 hours





## Portfolio Analysis

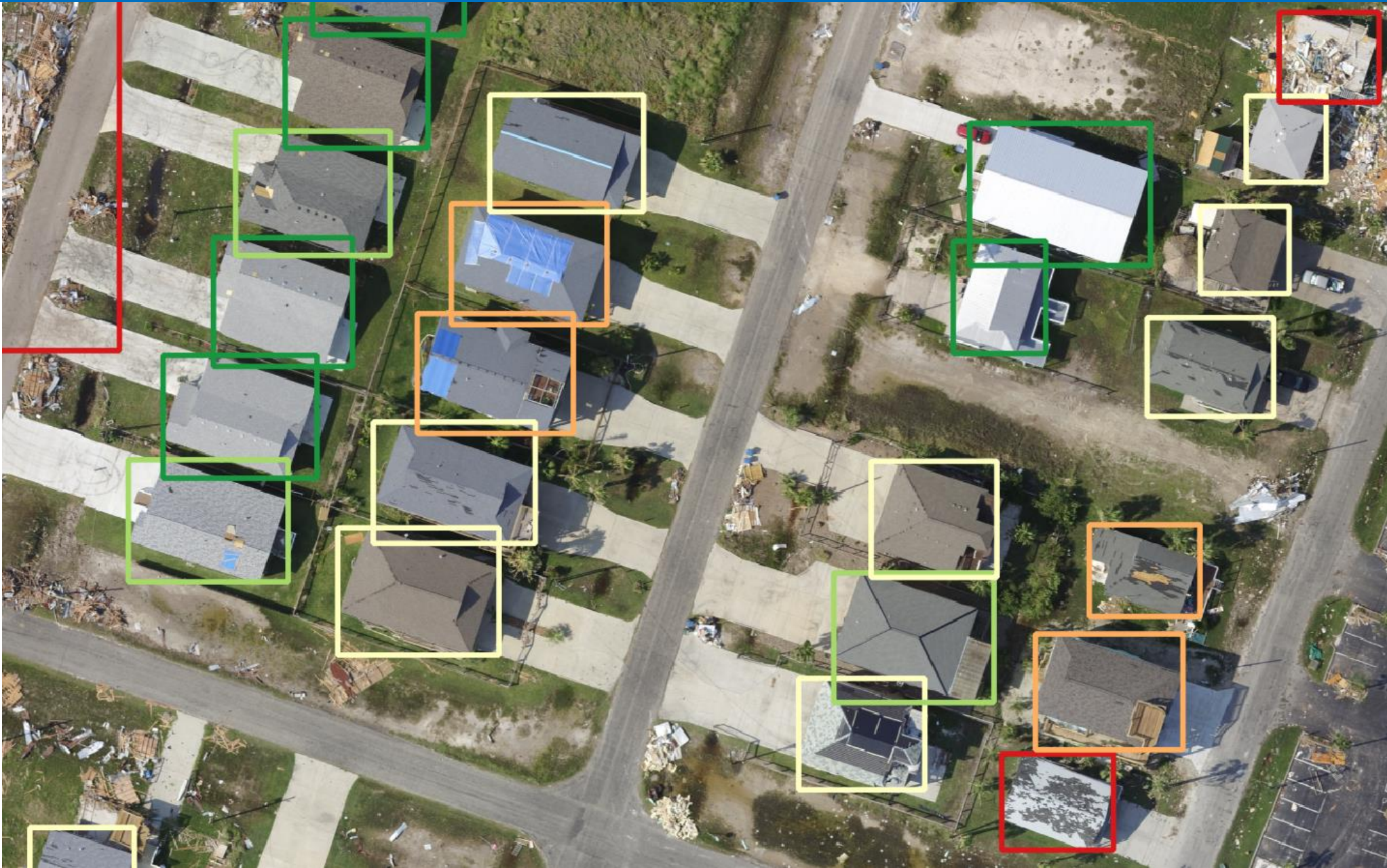
- Rapidly Understand Exposure
- Analyze reported claims vs. portfolio
- Reduce claims processing time



# NICB SOLUTION : COLLECTION, ANALYSIS & DELIVERY PLATFORM



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## NICB Difference

1. NICB provides a **complete geospatial platform**, benefitting everyone in the industry:
  - consistent geospatial data / imagery
  - analytical tools and insights
  - easy access and delivery
  - highest **quality** and **fresh data**
2. Ability to integrate **with other GIS datasets** and create custom applications. Members get full data rights with no restrictions, can use internally and/or via cloud.



# Benefits to Insurance Members

- **Access to the GIC online** platform will yield multiple benefits:
- **Cost savings** by spreading expenses over the consortium
- **Geospatial support** to propagate GIS use and best practices
- **Annually refreshed** imagery
- **Basic tools across device types**
- **Partnerships** with leading geospatial companies
- **Additional deliverables** such as 3D models, weather models, change detection and other classifiers





# Insurance Users of Aerial imagery

- **Corporate Office**
- **Underwriting**
- **Claims**
- **CAT Teams**
- **Adjusters**
- **Contractors**
- **Re-insurers**





## 2017 PROGRAM OVERVIEW

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## 2017 PROGRAM OVERVIEW

Thank you.

*Geospatial Intelligence  
for Better Outcomes*