



2017 PROGRAM OVERVIEW

*Geospatial Intelligence
for Better Outcomes*



GEOSPATIAL
— INTELLIGENCE CENTER —

Key Program Areas

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



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1. CAT RESPONSE

Imagery Collection

Panoramic Street side

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

360 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

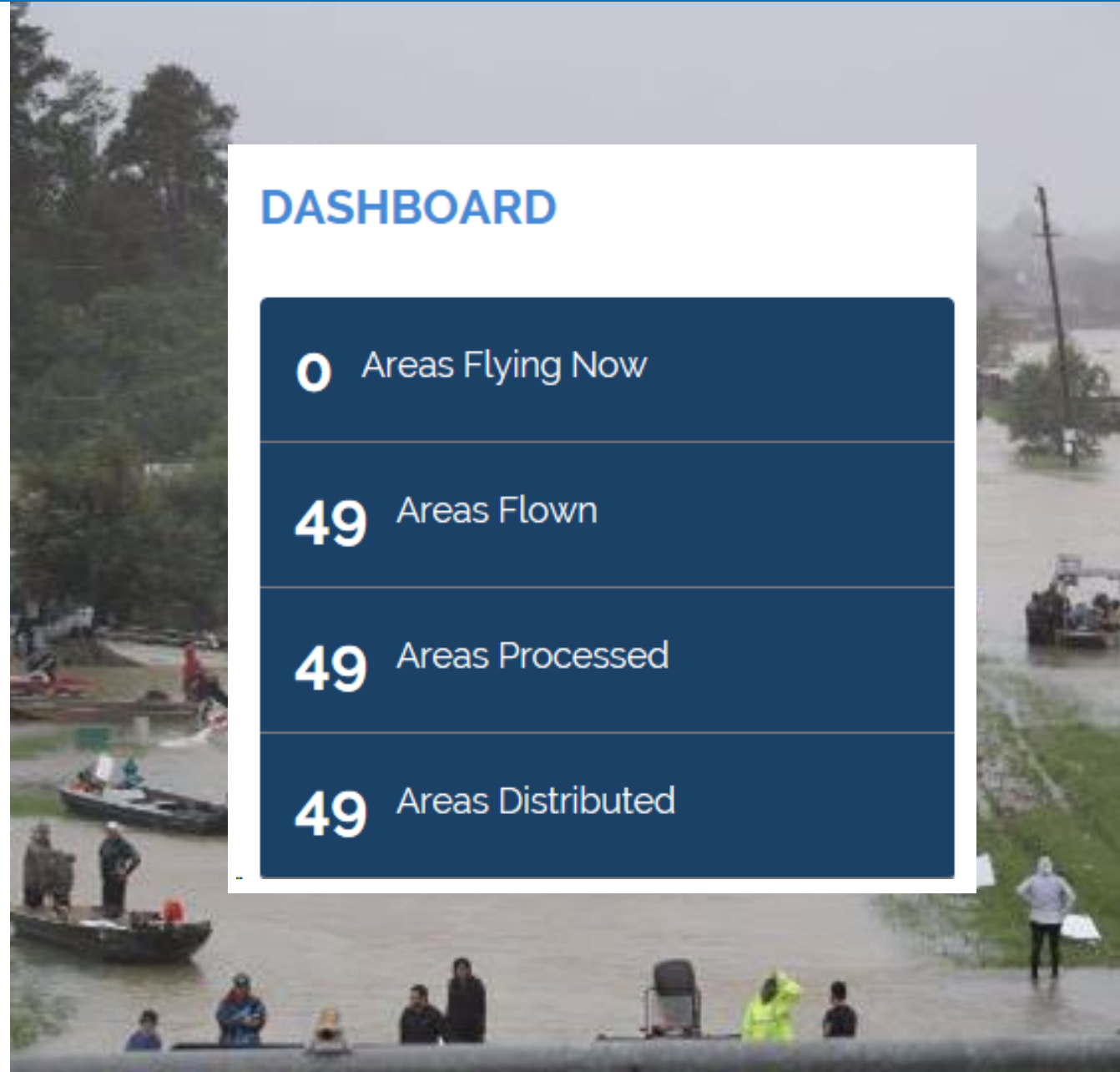


THE RESPONSE

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

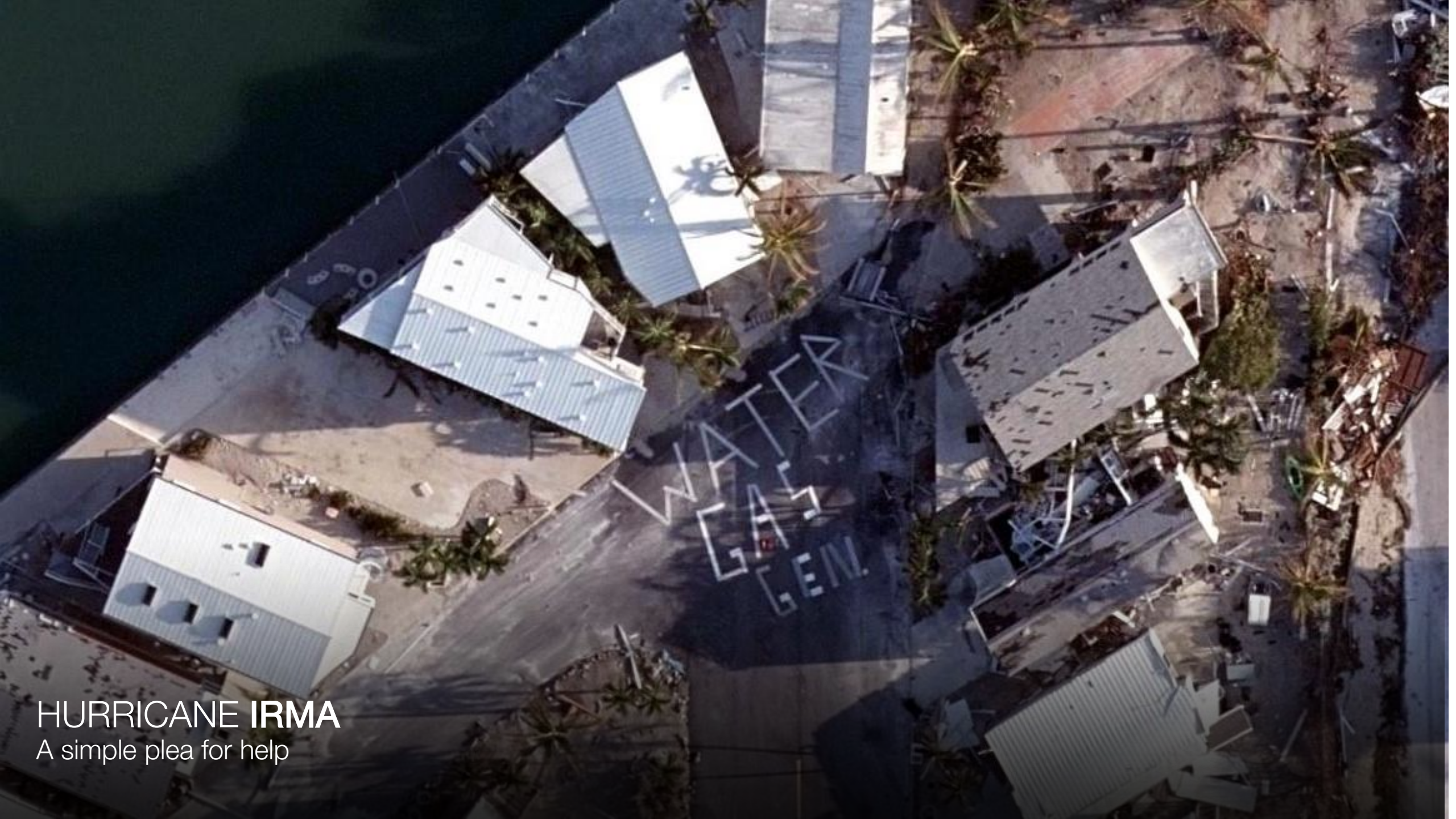




HURRICANE HARVEY
Neighborhood



HURRICANE HARVEY
Neighborhood detail



HURRICANE IRMA

A simple plea for help



HURRICANE HARVEY
Wind damage



Napa Wildfires
Before

Show search results for Napa, Ca...



Napa Wildfires
After

2. NATIONAL IMAGERY COLLECTION

Full coverage: immersive imagery and geospatial data updated annually

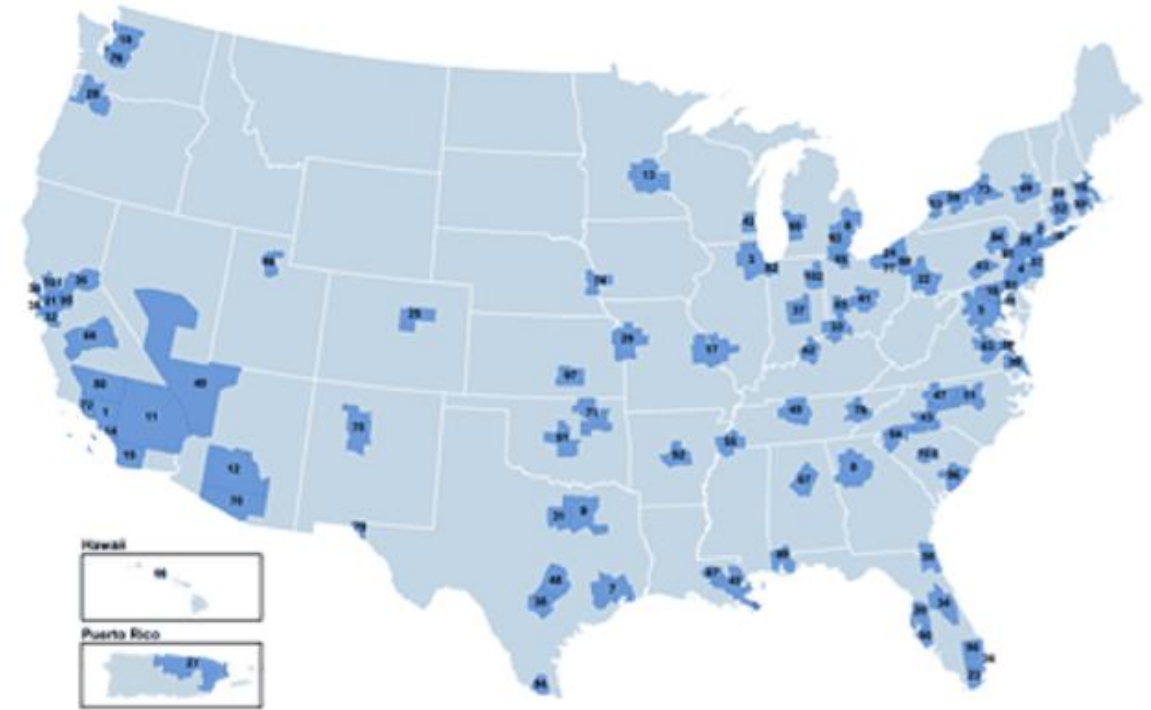
- **Entire U.S.** in high resolution imagery @ 15cm resolution with geospatial data
- Ultra high-res imagery and data of the **top 150 metro areas** @ 5cm resolution
 - 360 aerial oblique imagery: 45-degree from four angles
 - Ortho imagery: top down view
 - Panoramic street-view imagery and LiDAR
 - 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



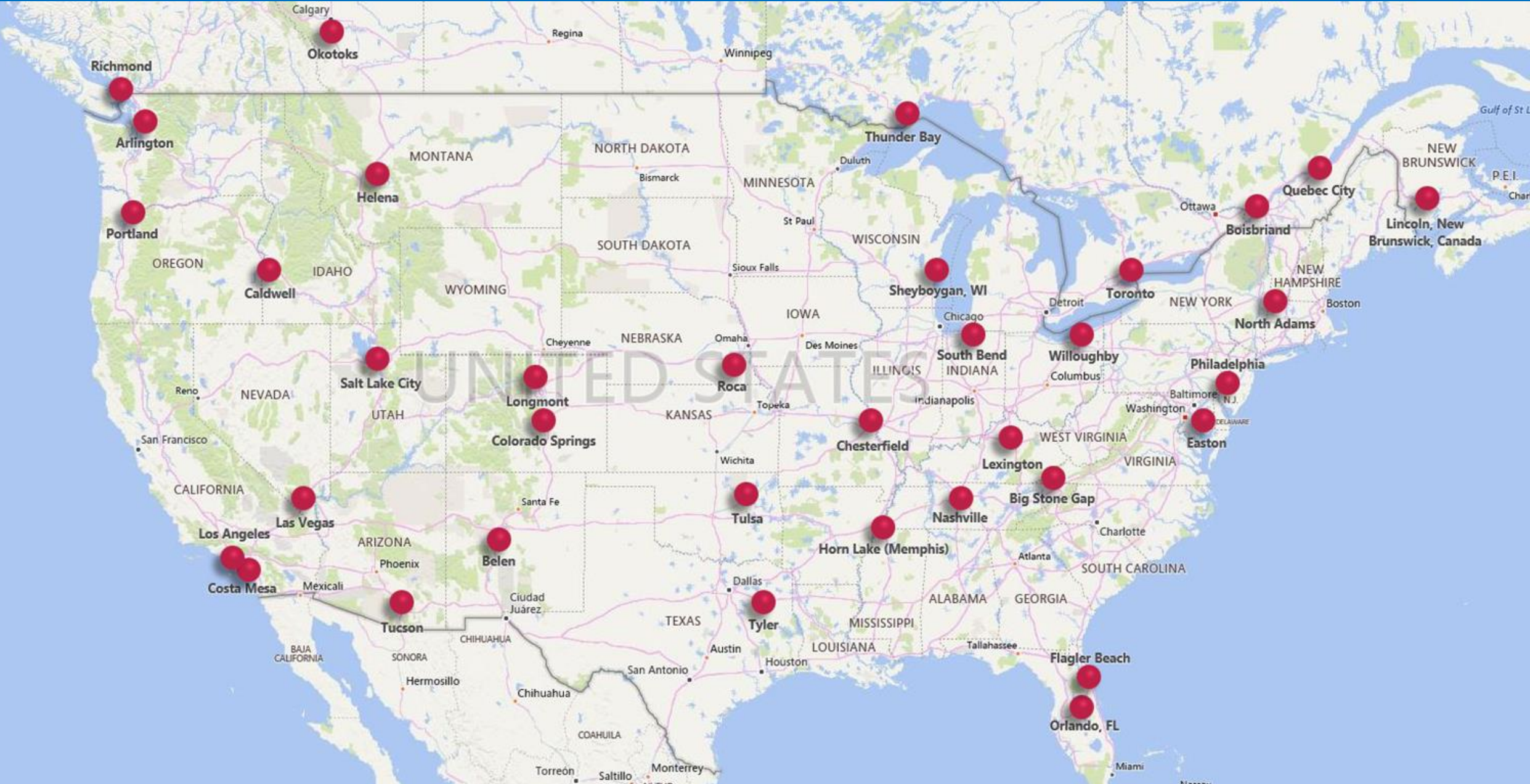
2. NATIONAL IMAGERY COLLECTION

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



NICB SOLUTION : OPERATOR BASES



3. DIGITAL DELIVERY

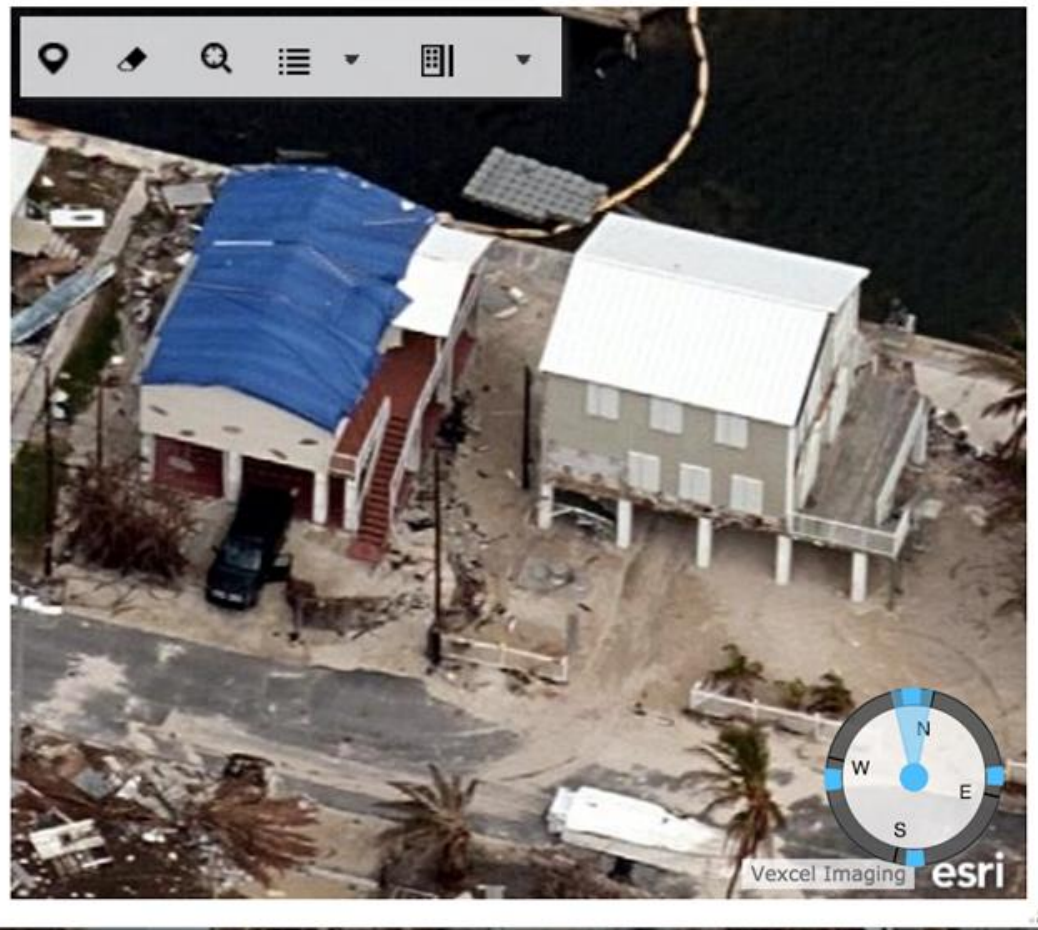
Imagery Platform

- **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 that provides disaster assessment per property, portfolio analysis, risk scoring for underwriting





Oblique Viewer

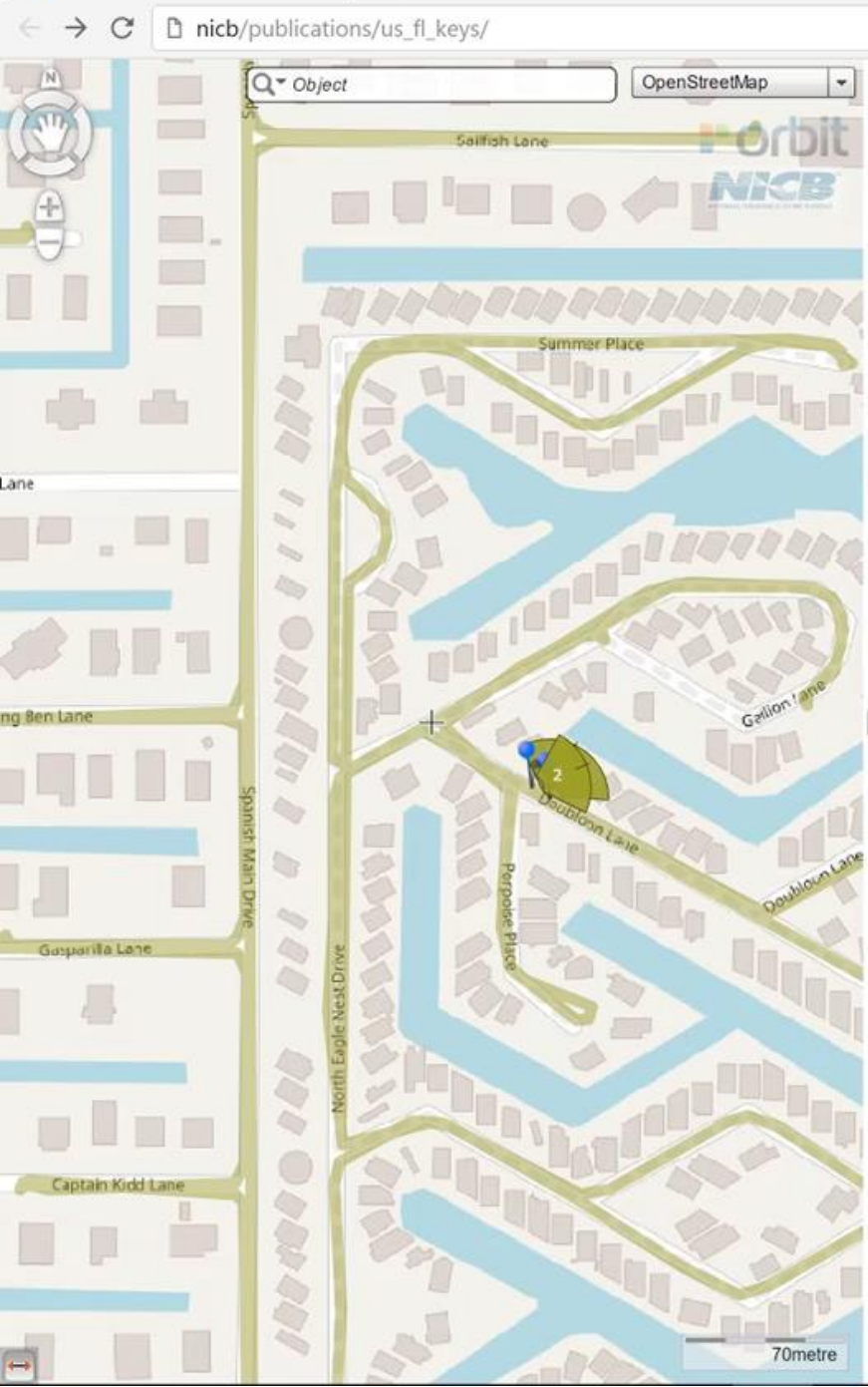


Vexcel Imaging esri



-81.339 24.671 Degrees





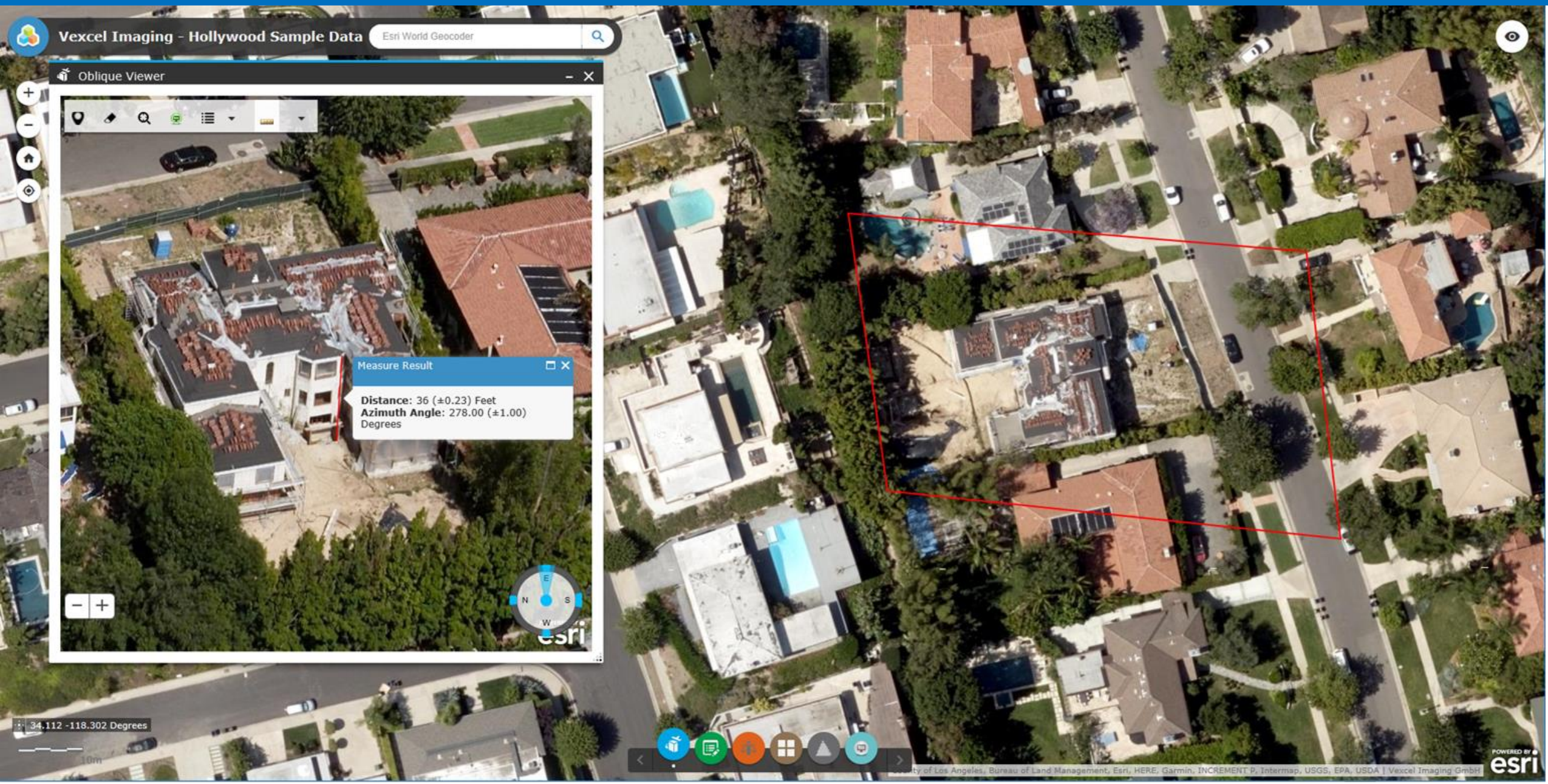
4. ADVANCED ANALYTICS

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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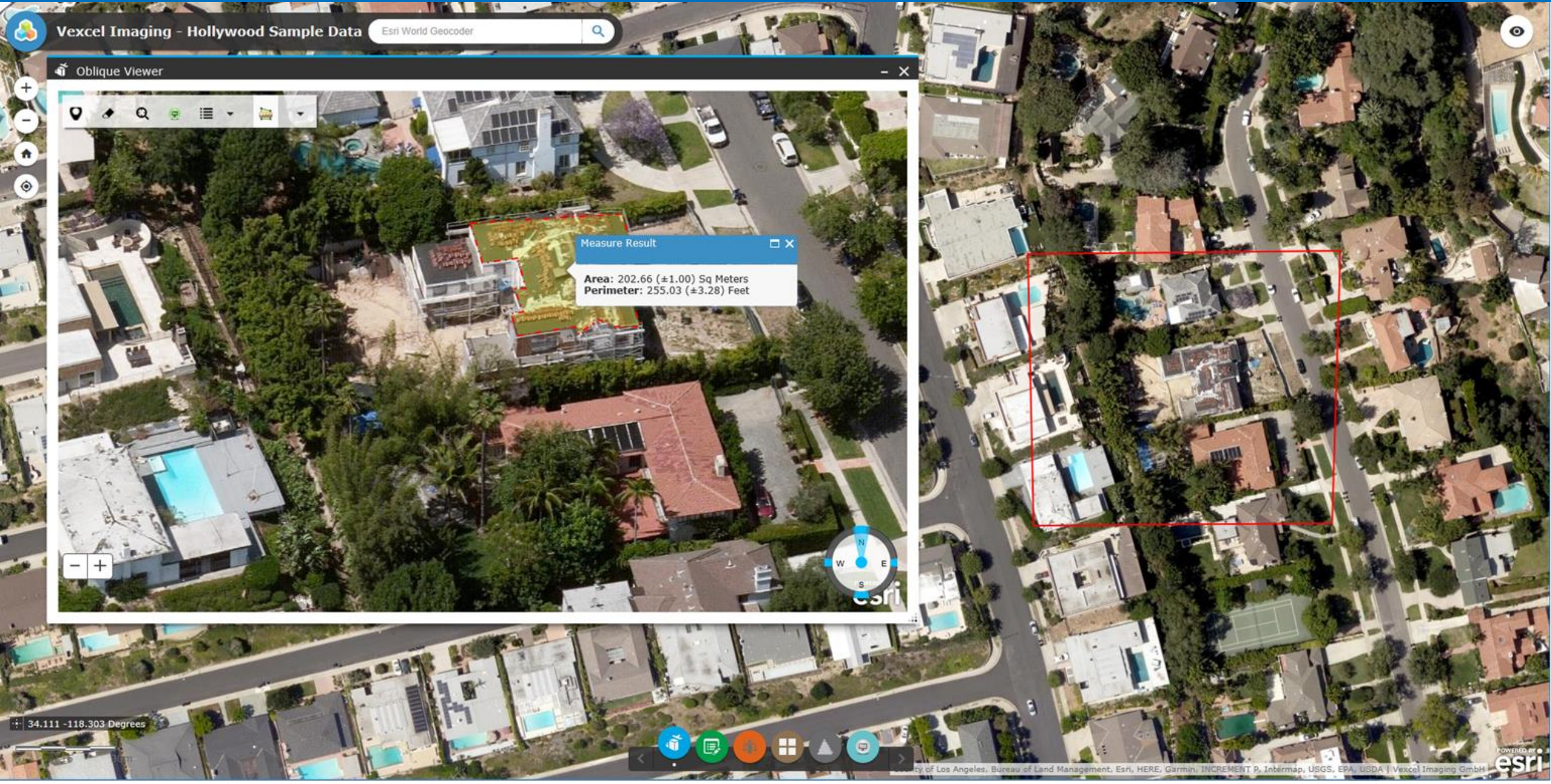


Measure Result



Distance: 36 (± 0.23) Feet
Azimuth Angle: 278.00 (± 1.00)
Degrees

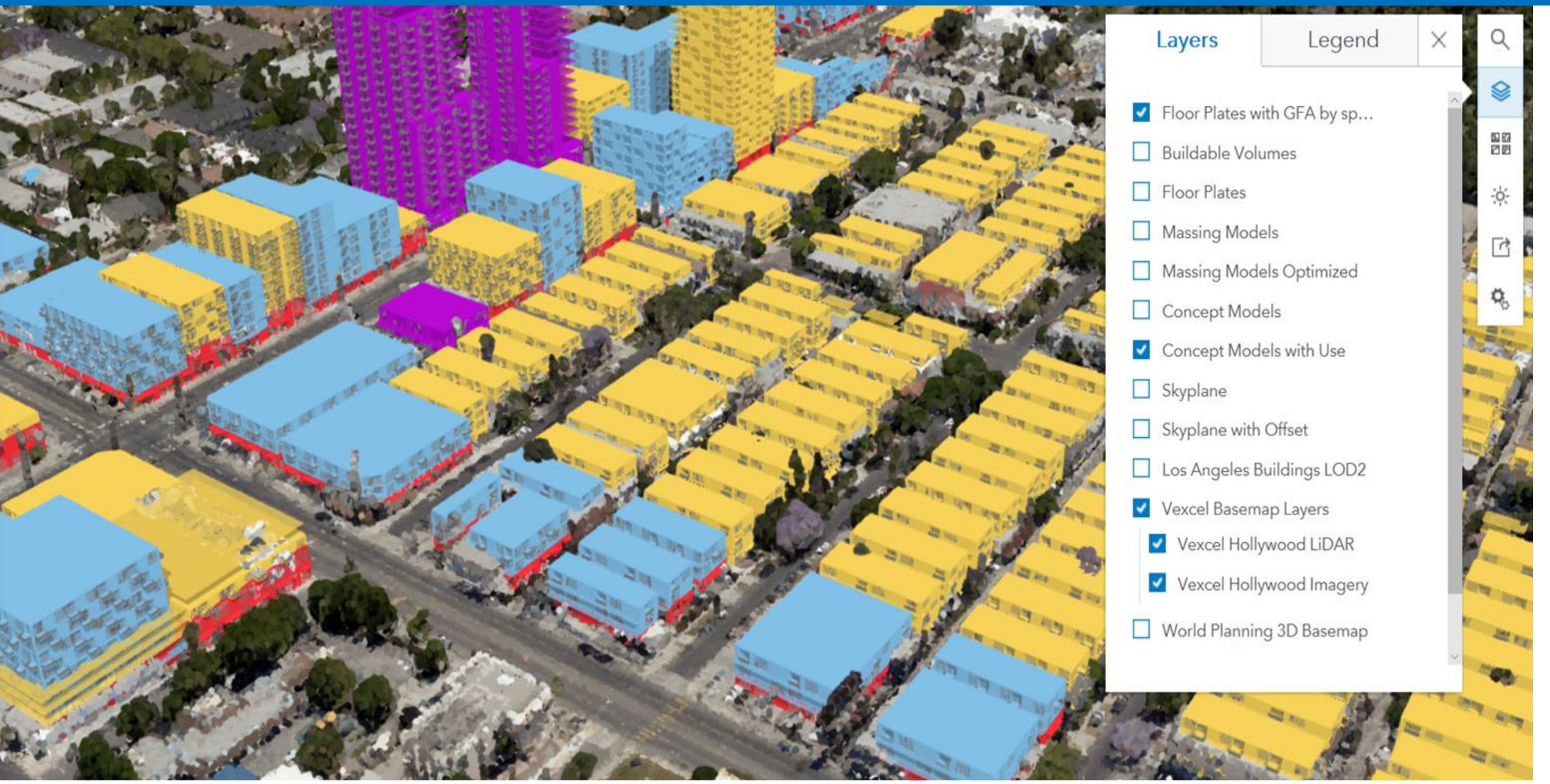
DIFFERENCE : MEASURING HEIGHT OF THE HOME FROM THE EAST



NICB SOLUTION : COLLECTION, ANALYSIS & DELIVERY PLATFORM



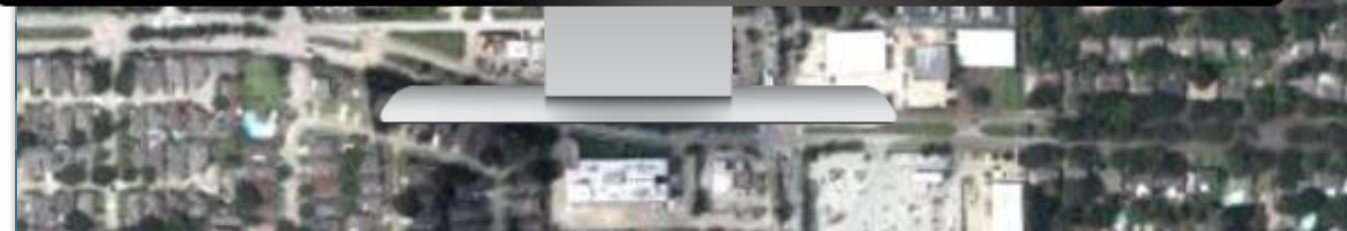
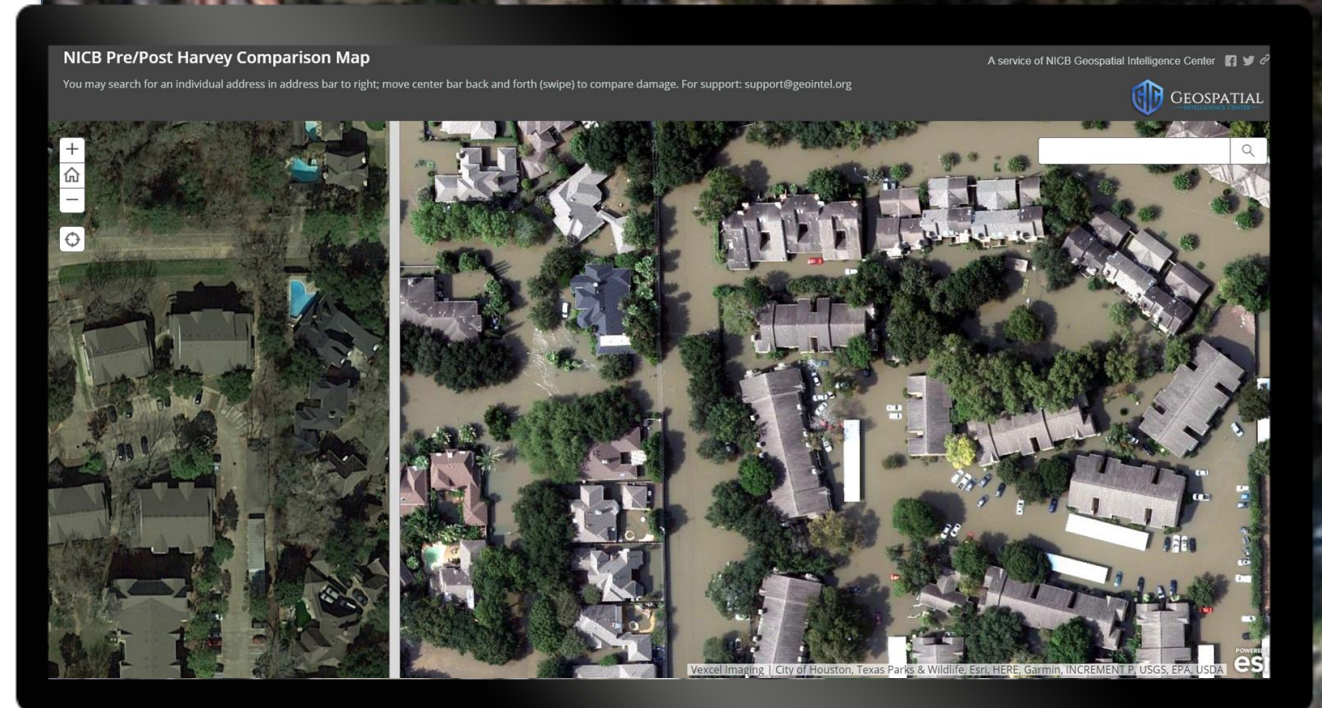
NICB SOLUTION : COLLECTION, ANALYSIS & DELIVERY PLATFORM



Data to Insights

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

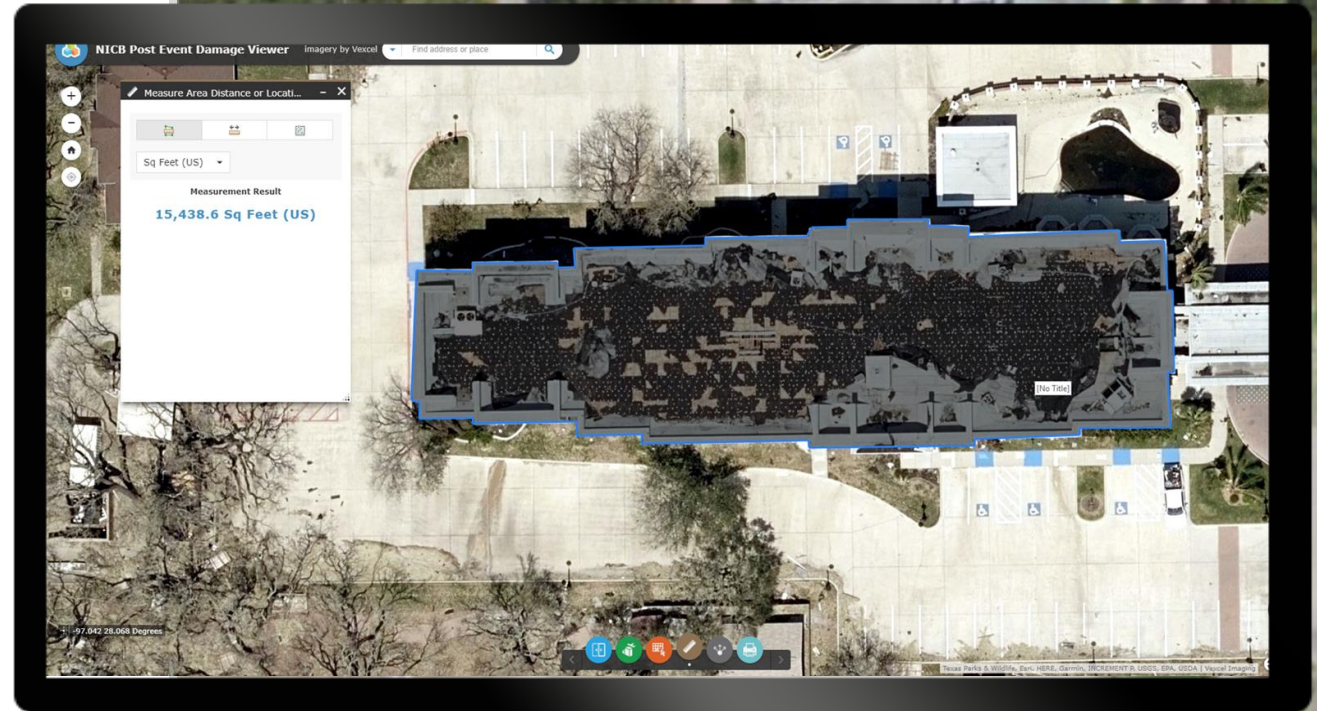
Leading Insurer: “What used to take **weeks** has been **compressed** to a matter of **days**”



Supporting Desk Adjusting

- Measure Impacts
- Inform Replacement Estimates
- Claim Level Detail

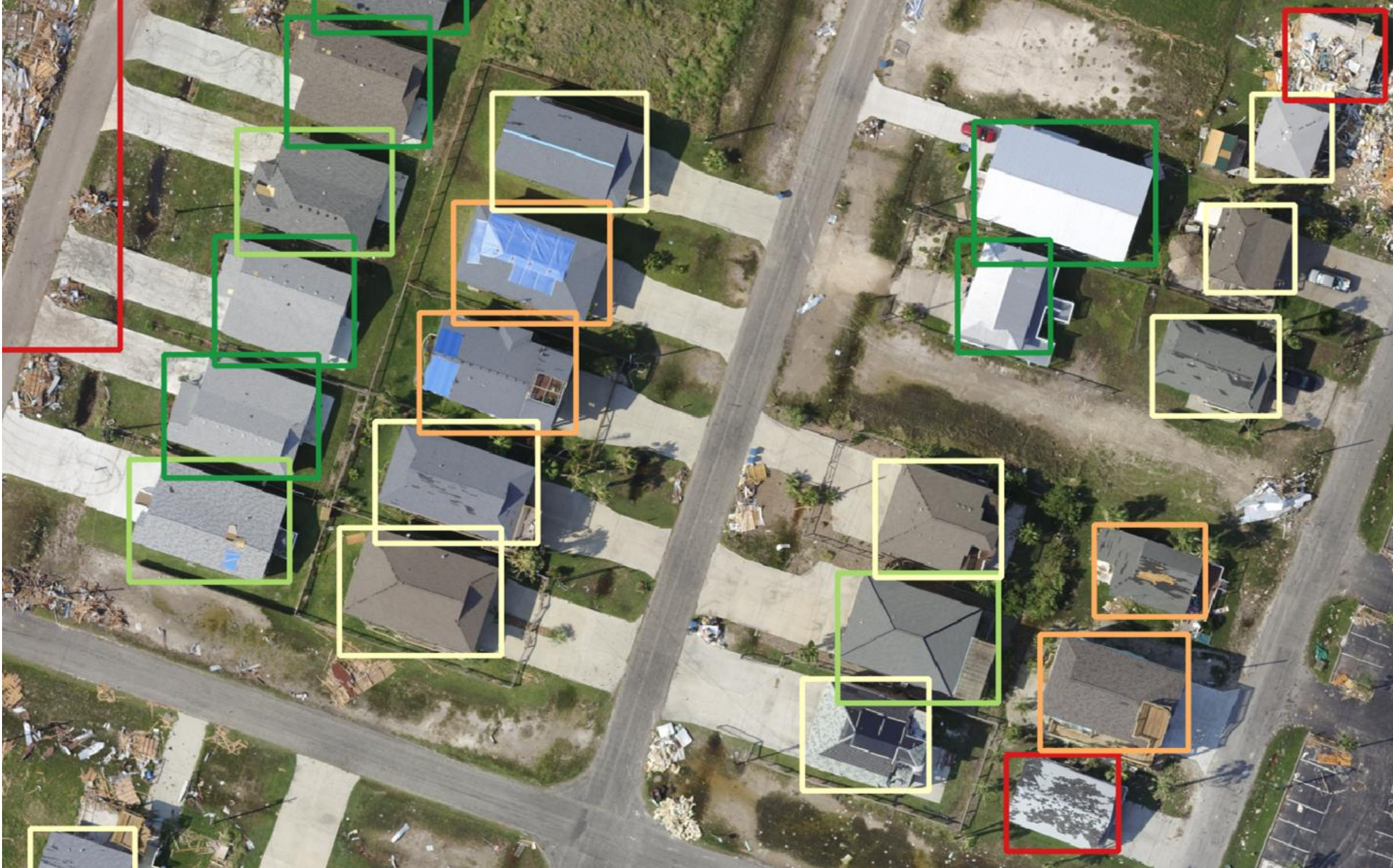
“The imagery is very **detailed** and allows us to **quickly** and accurately measure buildings ”



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Analytic Foundation

- Digital Surface Model (DSM)
- Digital Elevation Model/ Digital Terrain Model (DEM/DTM)
- Point Cloud
- 3D Textured Mesh



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Thank you.

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