CoreLogic Solutions

Welcome to:
DOT Center for Climate Change and Environmental Forecasting
Climate Adaptation and Mitigation Workshop
February 25-26, 2015
Presented by: Lindene Patton

CoreLogic Snapshot

Revenue: **$1.4 billion**

Operating Income: **$170 million**

Adjusted EBITDA: **$390 million**

Market Cap: **$2.5 billion**

Employees: **5,000+**

Operations: **8 countries**

Principal Markets: **U.S. and Australia New Zealand**

Headquarters: **Irvine, California**

Who Is Spatial Solutions?

CoreLogic Spatial Solutions delivers value to clients through highly granular and unique data for location information and natural hazard risk. Whether a customer needs to pinpoint a property location or to assess the hurricane risk for a portfolio of properties, the solution starts with accurate data.

- **Next-generation geocoding with PxPoint fed by parcel data**
- **Advanced Hazard Data and Analytics**
- **EQECAT catastrophe modeling**
- **Forensic Weather tracking with Weather Fusion**

CoreLogic Government Solutions

CoreLogic Government Solutions works with many federal, state/local and government-related organizations providing data, analytics, modeling, technology and consulting products and services in the financial services, risk management, geo-spatial, real estate and insurance businesses:

These organizations include:

- Federal Agencies*
- State Agencies
- Municipal Agencies
- Trade Associations, Think Tanks, Non-Profit Agencies, and Universities
- GSEs

*A brief listing of federal clients includes: US Census Bureau, FEMA, HUD, Homeland Security, FDIC, Interior, Justice and more

Who We Serve

Federal Client Engagement Snapshot

CoreLogic provides real-time, accurate data and analytics to federal clients:

- National Digitized Flood Maps. This data is updated and appended as required by client.
- National property characteristics for all properties within a flood zone. Characteristics are appended using digitized flood layer combined with public record data. This data is used for Loss Estimate Studies.
- Provide real-time nationwide address correction capability to accurately locate residential and commercial properties that have been damaged in a federally declared disaster event.
- Processes over 35,000 flood determinations daily and over 11 million annually, with an average automated return rate in excess of 94 percent.

Federal / FFRMS Funding Rules

Federal Flood Risk Management Standard

The Federal Flood Risk Management Standard creates a national minimum flood risk management standard to ensure that Federal Actions that are located in or near the floodplain when there are no other practical alternatives last as long as intended by considering risks, changes in climate, and vulnerability.

Superior Data Assets

Property Database

- Tax Assessor Data
- 3,138 Counties
- Deed Recorder
- 2,799 Counites
- Covering 99%+ of US

Criminal Database

- Defendant, Alias, Offense and Disposition details on ~300M records

Property Tax, Flood and Geo-Spatial Database

- Tax payment history on 145 +mm parcels. Geo-coded parcel maps covering120mm+ parcels. National Flood coverage

Credit History

- 25 million credit reports provided per year to lenders, auto dealers and other clients
- Provider of "Tri-merge" credit report based on data obtained from credit bureaus

Delinquency and Prepay Data

- Servicing Data covering 85% of US Home Loans
- 50MM Active Loans; $6.8T in Balances

Asset & Mortgage Backed Securities Data

- Covering 98% of all Non –Agency MBS Deals
- 5.7MM Active Loan Records; $1.47Tln of Balances

Multiple Listing Service Data

- Realtor submitted home data on almost 3/4 of all residential transactions. 31M historical records 3.5 M Active
- Property detail, asking price and sales price data.

Replacement costs and hazard risk

- Industry-standard replacement cost database from Marshall Swift Boeck (MSB) acquisition
- Hazard risk data (predictive and historical)

Multi -Family/ Tenancy Checks

- Data from landlords and owners of multi-family properties
- Nation's largest provider of tenant background checks

CoreLogic®

Geocoding and GIS

- PxPoint
- ParcelPoint

Street & Boundary Layers

- County/Township Boundaries
- School District Boundaries
- NAVTEQ NAVStreets
- Elevation, Slope & Aspect

Tax Jurisdiction & Regulatory Layers

- Sales & Use Tax Layers
- Rating Territories
- Premium Tax
- Regulatory Compliance Boundaries

Spatial Solutions Products

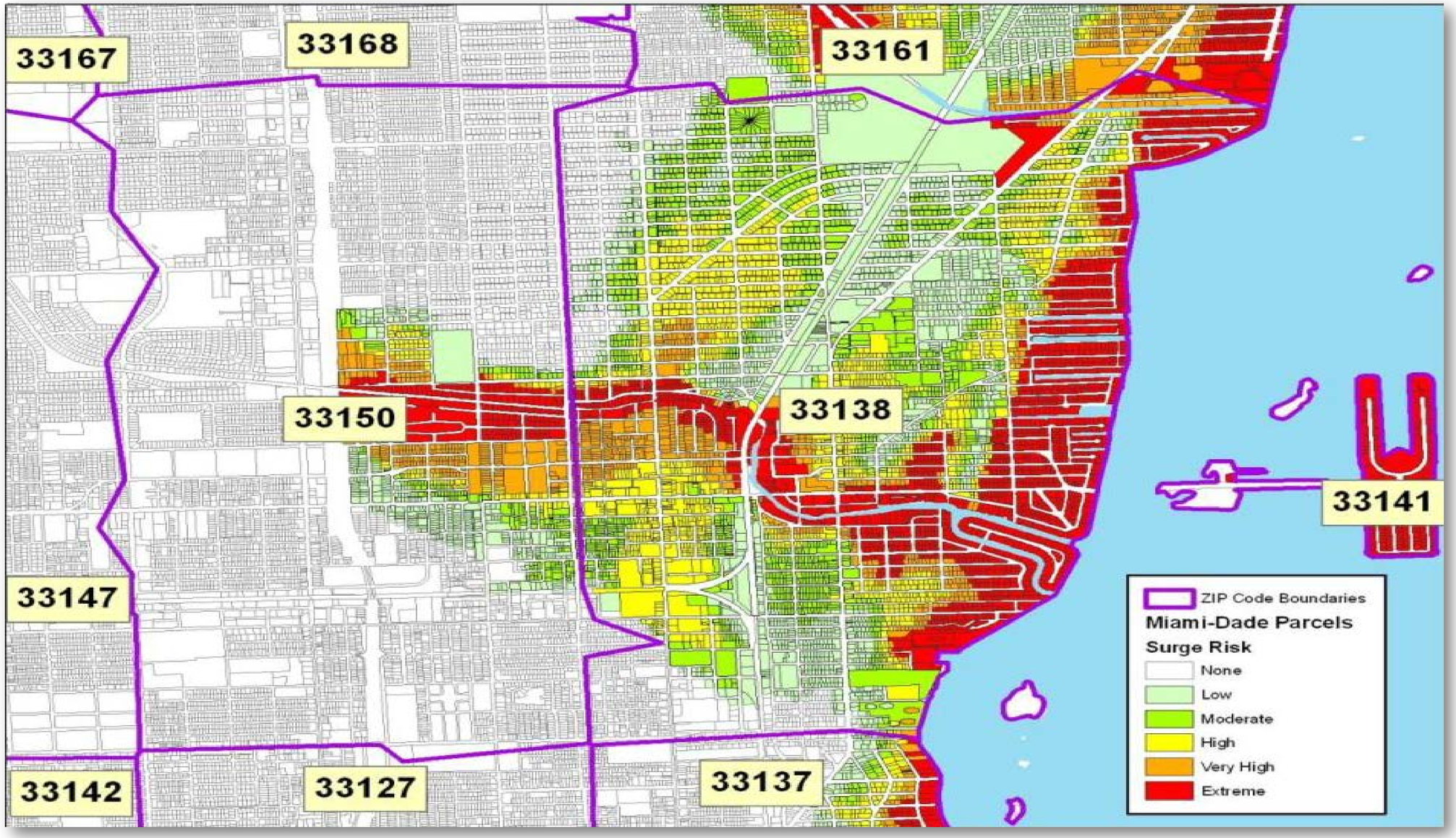
CoreLogic®

2015 Storm Surge Model Enhancements:
Moving from 30 Meter to 10 Meter Resolution

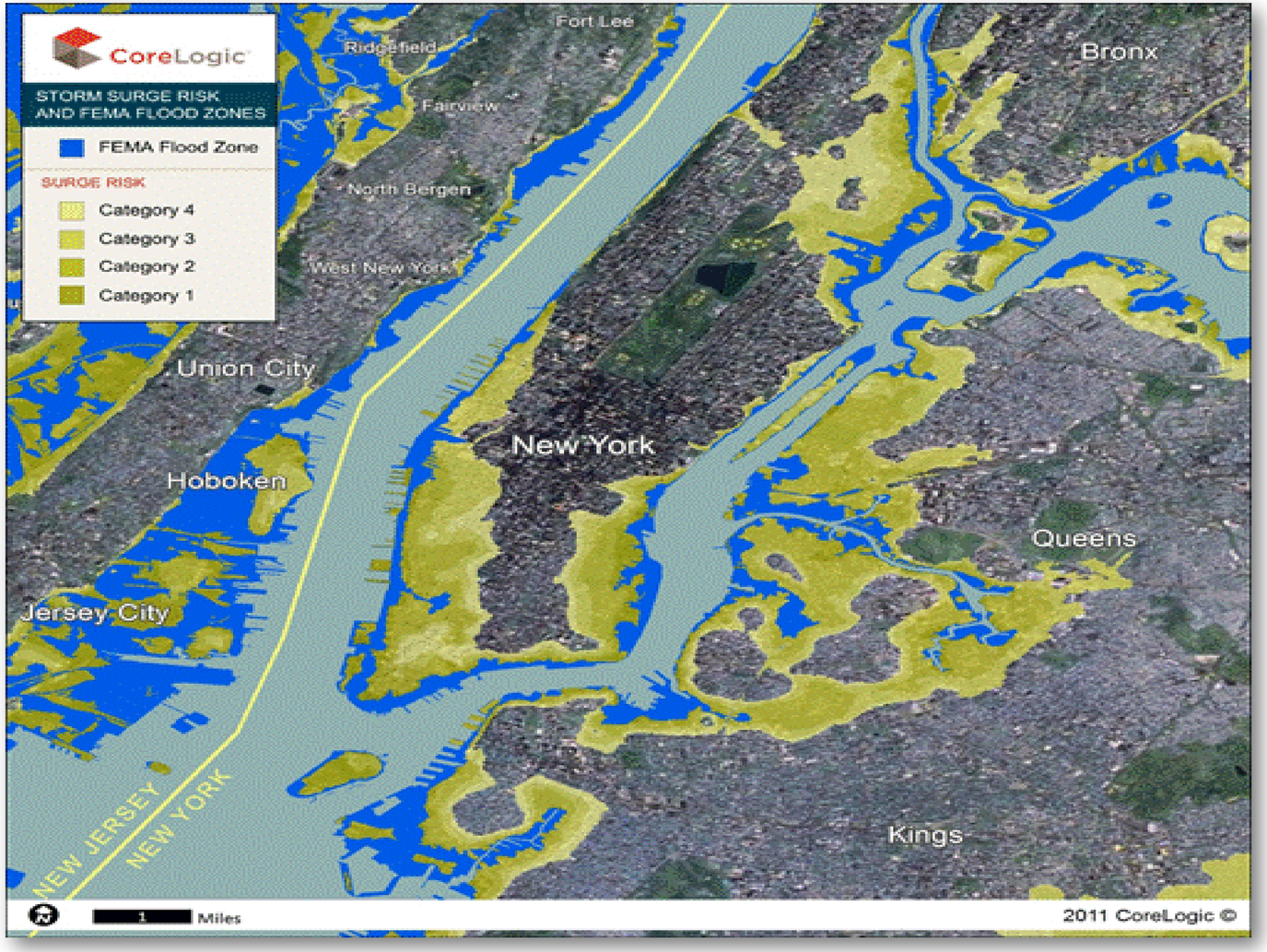
Virginia Beach, VA – **30m S**

Virginia Beach, VA – **10m Surge**

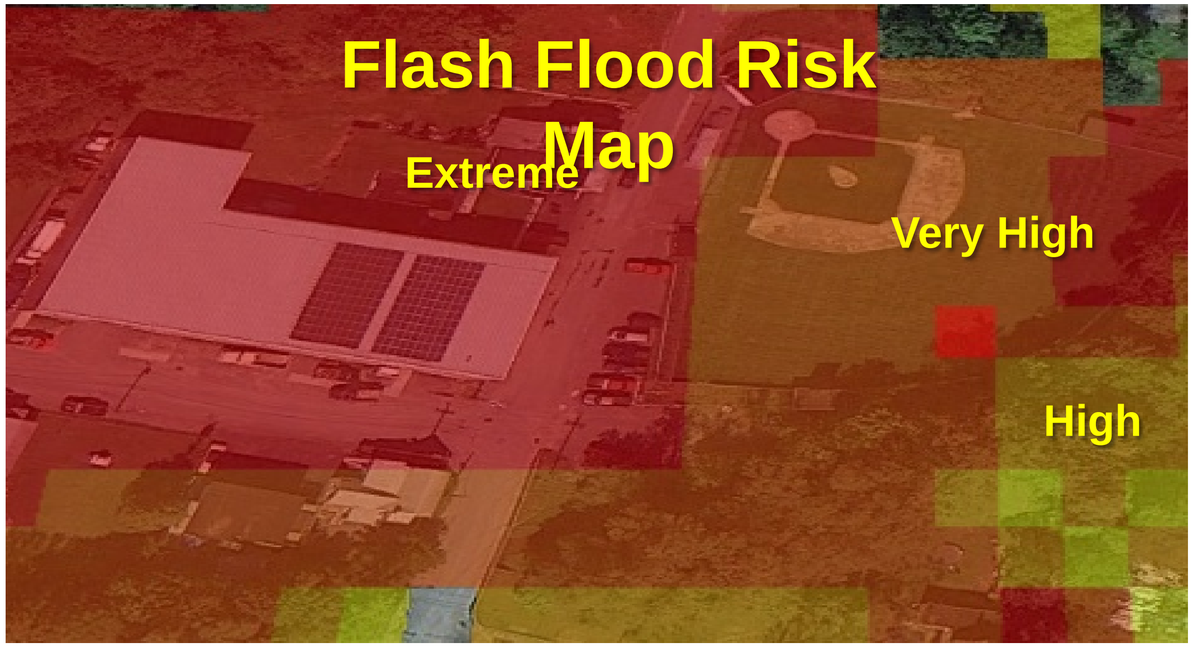
Level

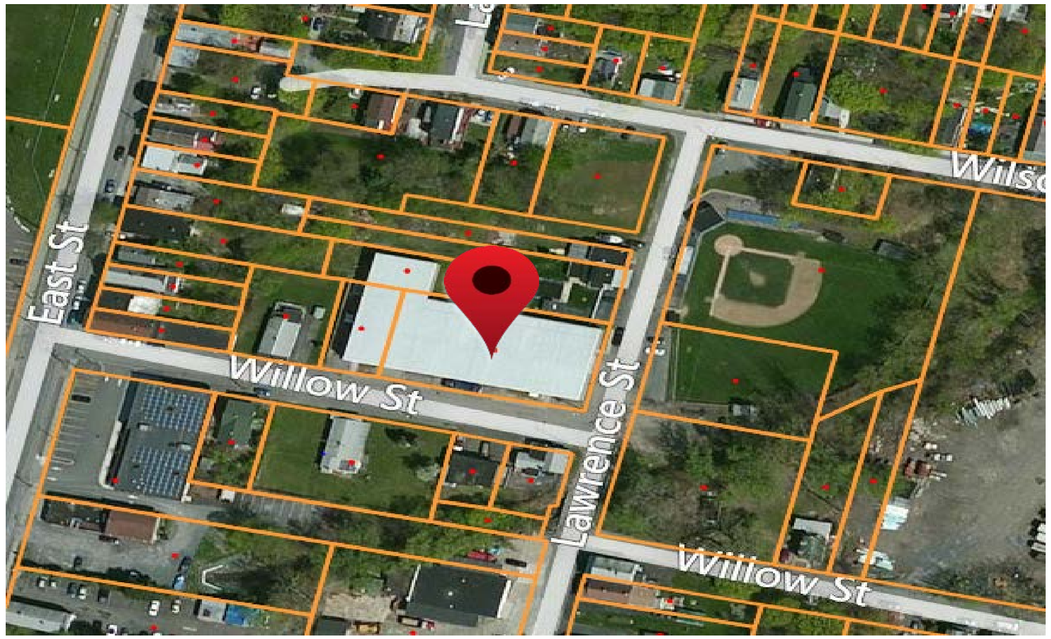

33167
33168
33161
33150
33138
33141
33147
33142
33127
33137
ZIP Code Boundaries
Miami-Dade Parcels
Surge Risk
None
Low
Moderate
High
Very High
Extreme

Storm Surge Inundation



Flash Flood Risk Score In Action



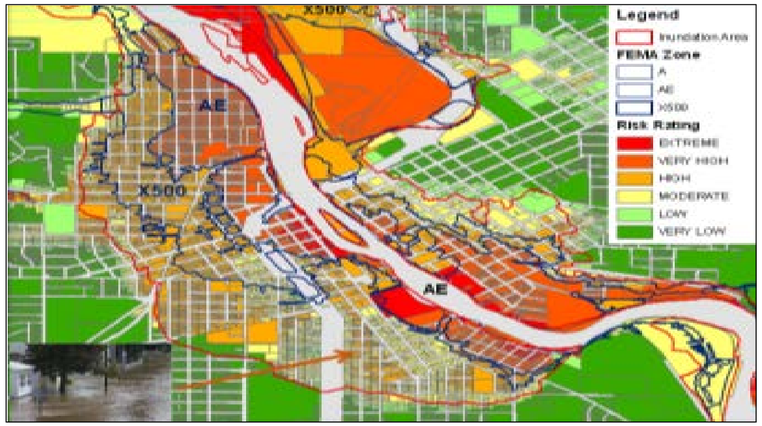


Albany, New York- Lawrence Street next to the City Public Works Dept. and Little League field.

Source: http://albany.twcnews.com/content/news/121825/rensselaer-county-under-state-of-emergency/

Flood Risk & Flash Flood Scores

FLOOD RISK



Modeled variables including:

- Elevation variance
- Sub-watershed
- Threatening dams
- Levees
- 100-year flood plain
- 500-year flood plain
- Catchment areas

FLASH FLOOD RISK

Modeled variables including:

- Elevation variance
- Sub-watershed
- Vegetation
- Soil
- Sewer Capacity
- Intense Rainfall History
- Catchment areas

Storm Surge Model

Multiple simulations and variables for each category of storm to derive a range of storm surge heights including:

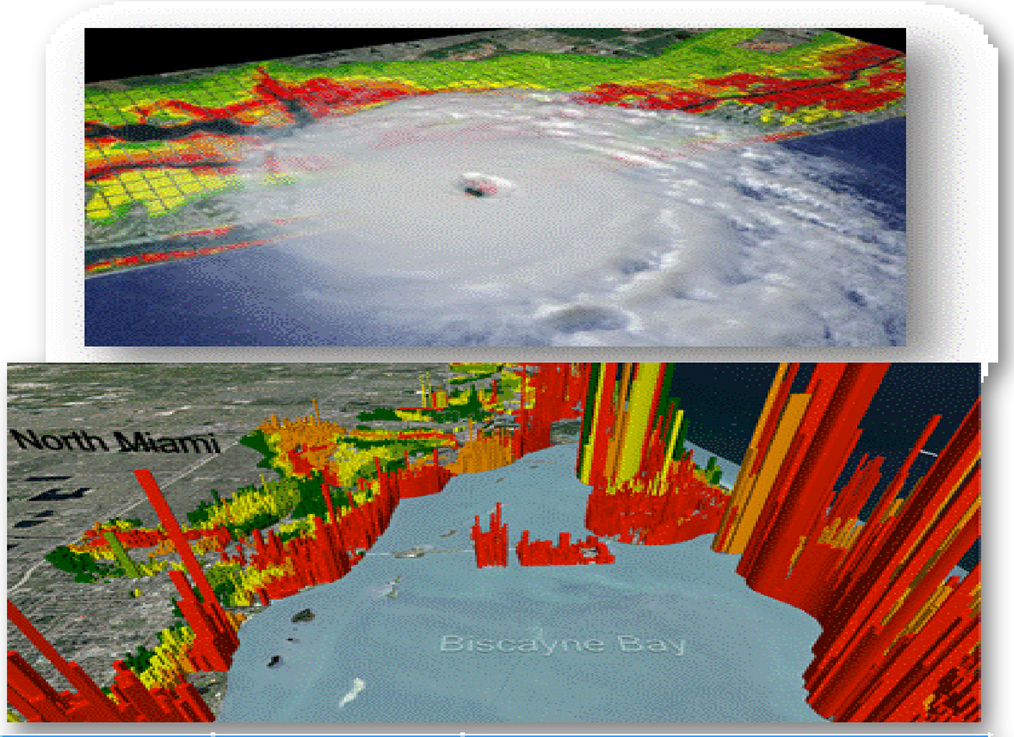
- Wind speed
- Hurricane speed
- Direction (track)
- Barometric pressure
- Tide
- Bathymetry (water depth)

Results

- Surge height range aggregated for each category and then superimposed on elevation data.
- Barriers (impediment to flow) identified and used to truncate surge polygons.

Risk Model Returns

- Risk Score
- Event Probability
- Water Depth
- Expected Loss



Category	Properties Affected	Residential Structure Value
Extreme	52,047	$42,535,623,065
Very High	26,961	$11,082,548,764
High	77,916	$20,909,148,284
Moderate	48,304	$11,626,346,481
Low	239,910	$13,978,466,882

Components of Flash Flood Risk Model

Water Shed Hydrology

Surface Flow Dynamics

Land Use

Soil Infiltration

Vegetation Coverage

Vegetation Changes

Rainfall Intensity

Land Characteristics

Depression Areas

Wildfire Burns

Flood Damage Estimation

Primary driver of damage

- Water depth

Flood modeling experience

- HAZUS Flood model compiled by ABS Consulting and EQECAT
- Published vulnerability curves from FIA,
USACE, IWR



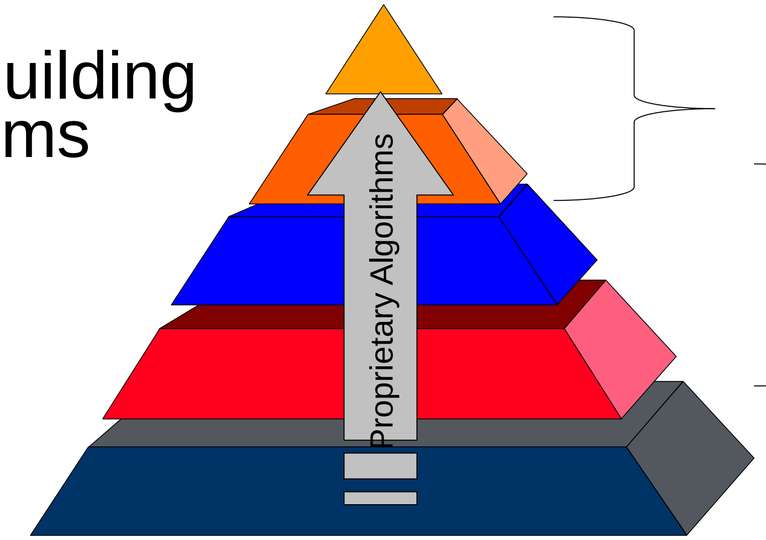


Total Component Estimating

Entire Building Systems

Assemblies

Labor, Material, Equipment, Soft Costs



Total Structure Loss (Underwriting)

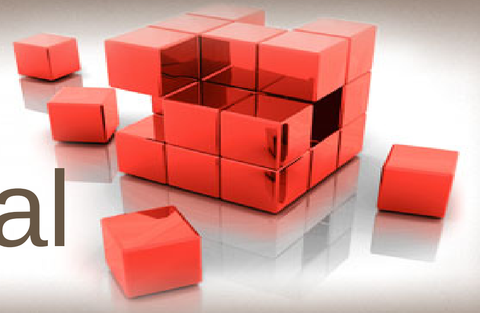
Repair, Remodel and Restore

Partial Loss (Claims)

Combination of these Data Elements create the Building Cost Database > 100,000 line items of construction.

Total Component Estimating methodology is used for all building types: Residential (single family home, multi-family, condo, townhouse, mobile/manufactured) **plus Commercial & Agricultural.**

Insurance Applications - Commercial



Business Record

Industry

- Primary SIC/NAICS
- Secondary SIC/NAICS
- 6-8 Digit Codes

Financial

- Gross Sales of Company
- Sales by Location
- Predictive Financial Models

Microeconomics

- Predictive models by microeconomies
- Industry Analysis

Firmographics

- Number of Employees
- Address/Locations
- Web Address