

THE CAT RESOURCE CENTER

Hurricane Idalia

Wednesday September 6, 2023

Hurricane Idalia marks the first major hurricane landfall of the 2023 season, 11 months since Hurricane Ian. The landfall in the Big Bend region of Florida brought damage to a relatively small number of properties because of the sparse population in this part of the state. Notably, this part of the coastline had only seen three category-3 or higher storms make landfall since 1900.

Hurricane Idalia Landfall Statistics

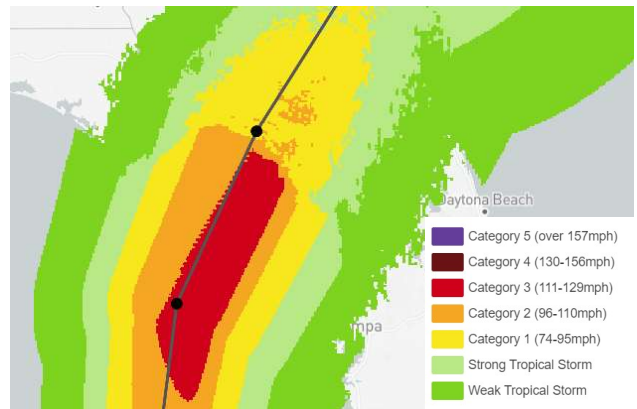
Landfall 7:45 AM EDT, August 30, 2023

- Landfall location: Keaton Beach, FL
- Extent of hurricane force winds: 25 miles
- Extent of TS force winds: 175 miles
- Max sustained: 125 mph
- Category: Strong 3
- Minimum central pressure: 949 mb
- Forward speed: NNE at 18 mph
- Peak storm surge: As high as 12-16 Feet
- Where: Florida Big Bend region

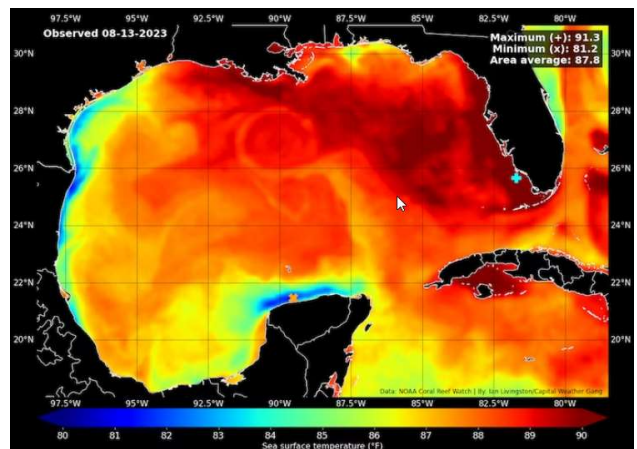
Another Rapidly Intensifying Gulf of Mexico Hurricane

Extreme Warmth in Gulf of Mexico Fueled Rapid Intensification: Once Idalia cleared the western tip of Cuba, the storm experienced sea surface temperatures that ranged from 2-5°F above the 1981-2010 average, and it encountered surface waters near 90°F. The National Hurricane Center reported intensity at 5 am EDT on August 29 and 30 of 75 mph and 130 mph, respectively, corresponds to a 55 mph increase in 24 hours. After touching category-4 strength briefly, an eyewall replacement cycle weakened Idalia, making landfall as a category-3 hurricane near Keaton Beach, Florida less than three hours later.

Rapid intensification before landfall is increasing at an accelerating rate in recent years. From 2002 to 2021, 25 storms achieved at least 35 mph of intensification within 24 hours of landfall. Only 11 storms met this criteria between 1982-2001. Hurricane Ian (2022) and Idalia both achieved this pre-landfall RI criteria. Of 56 tropical cyclones since 1980 to cause at least \$1B of insured loss, 73% of them underwent rapid intensification according to a study from Climate Central.



Source: GC AdvantagePoint



Source: NOAA Coral Reef Watch

Publicly Available Loss Estimates

Industry Loss Estimates: A range of insurance loss estimates have been provided for Hurricane Idalia in publicly sourced data below. The range of estimates is predominantly a factor of the timing of the assessment. Early indications of potential impacts to the Tampa metropolitan region resulted in materially higher estimates. When it became evident that Idalia would stay further west, the trend was for a decrease in insured loss estimates.

Source	Date	Insured Loss Estimate (USD Billions)
UBS	8/30	9.3
Twelve Capital	8/31	High single to low double-digit billions
Stonybrook Capital	8/31	~ 5
Bloomberg	8/31	Low single-digit billions
Karen Clark & Co	9/1	2.2 (220M storm surge, 2B wind)
Verisk	9/4	2.5 to 4
RMS	9/4	3 to 5 (best estimate 3.5)

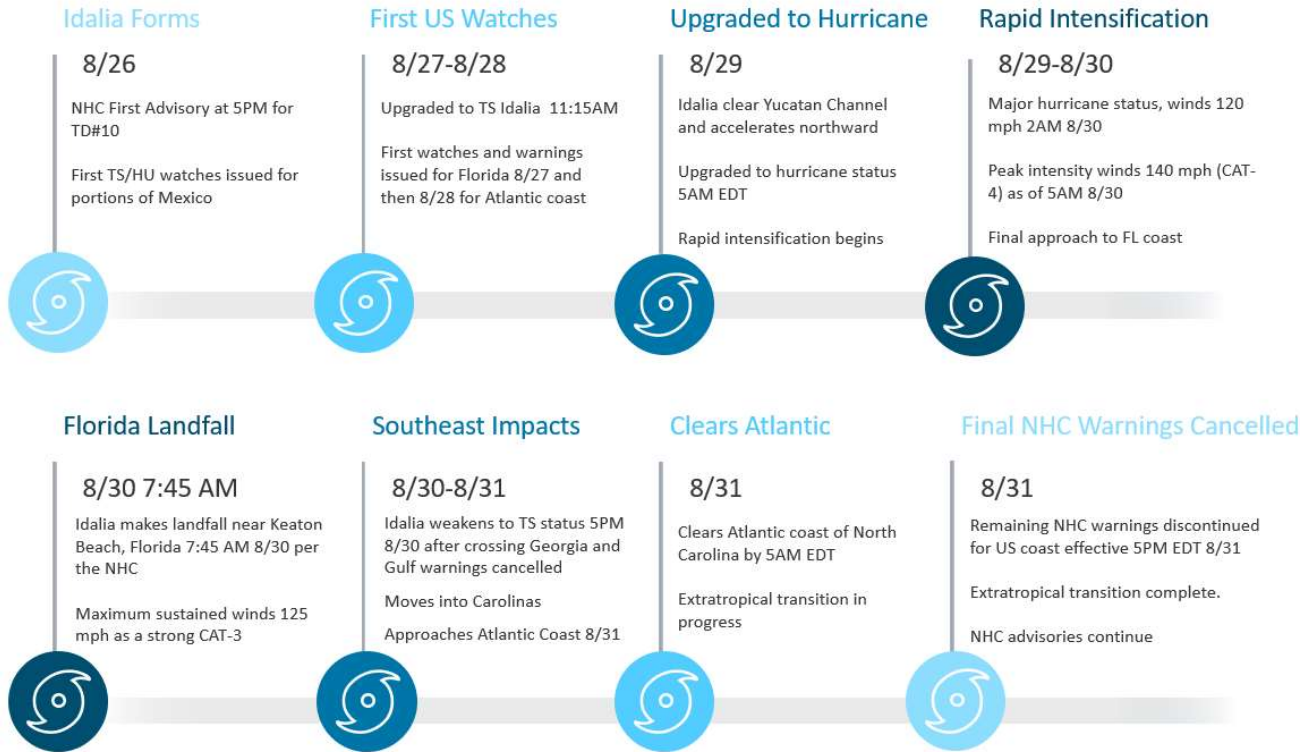
Sources: The Insurer, Artemis, Corporate Press Releases

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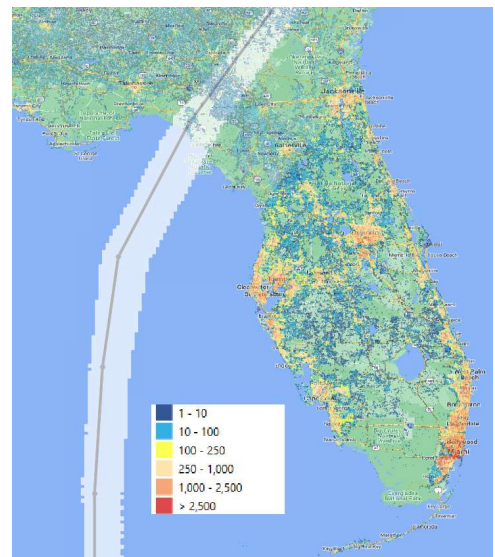
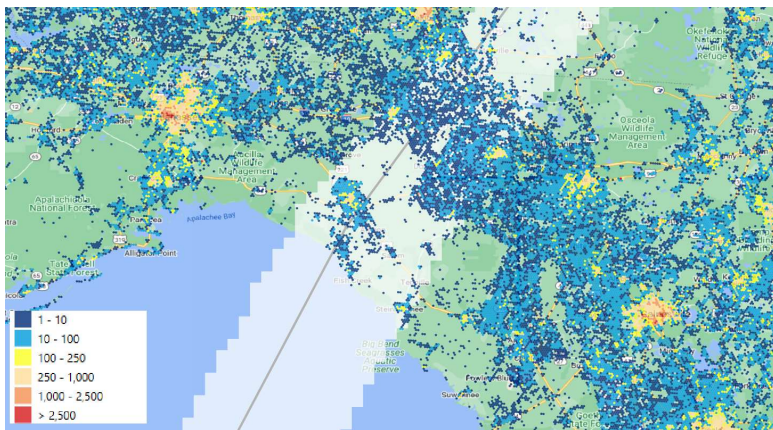
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The Timeline of Hurricane Idalia



Following advisories of the National Hurricane Center (NHC), all times EDT.

Near Ideal Track to Minimize Population Impact



Source: Guy Carpenter Event Reconnaissance, Kontur population data

Leveraging high resolution Kontur population data along with the swath of hurricane force winds, the placement of Idalia's landfall was in one of the least populated areas of the Florida coastline. Tracking across a heavily forested area of inland Florida, extensive tree damage was seen resulting in 288,000 customers without power on Wednesday August 30.

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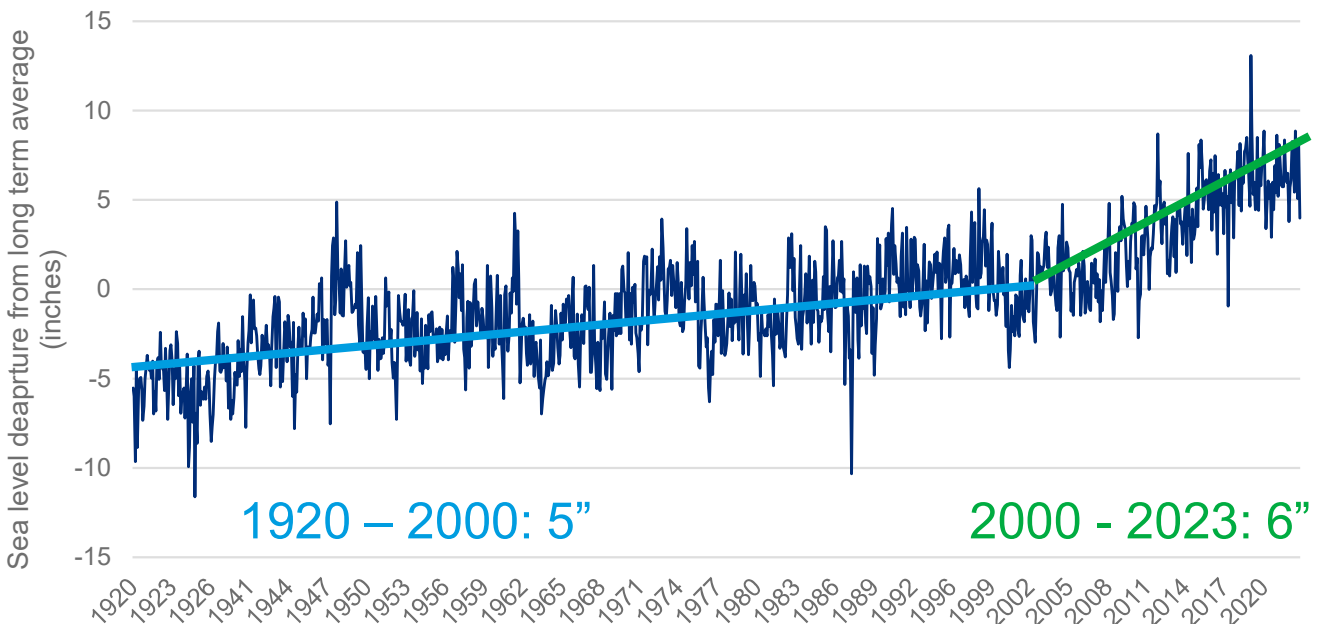
Storm Surge Worsening with Sea Level Rise

Along the Gulf of Mexico, coastal northwest Florida is a low-lying region with largely undeveloped tidal marsh and hardwood forest, which is adversely impacted by sea level rise due to global warming in recent years. According to NOAA's global and regional sea level rise scenarios for the US (2022), sea level rise in the Big Bend region is projected to be 22-25 percent higher than the global average by year 2060. This is above the 5 inches of sea level rise from 1920 to 2000 and an additional 6 inches seen in the last 20 years. Record storm surge occurred along the west coast of Florida at the Alafia River.



Source: NOAA / AHPS

Cedar Key, FL Sea Level Rise



Source: NOAA / Guy Carpenter

Due to its relatively low ground elevation and a higher-than-global-average rate of sea level rise, the Big Bend region is currently experiencing tidal marshland migrating landward to encroach and replace coastal forests at unprecedented rates, thereby creating "ghost forests". As a result of vegetation decline and higher tide level, coastal communities are more vulnerable to climate disruption through sea level rise and subsequent saltwater intrusion, as well as the wind and storm surge damage as hurricane events can push more water onshore.

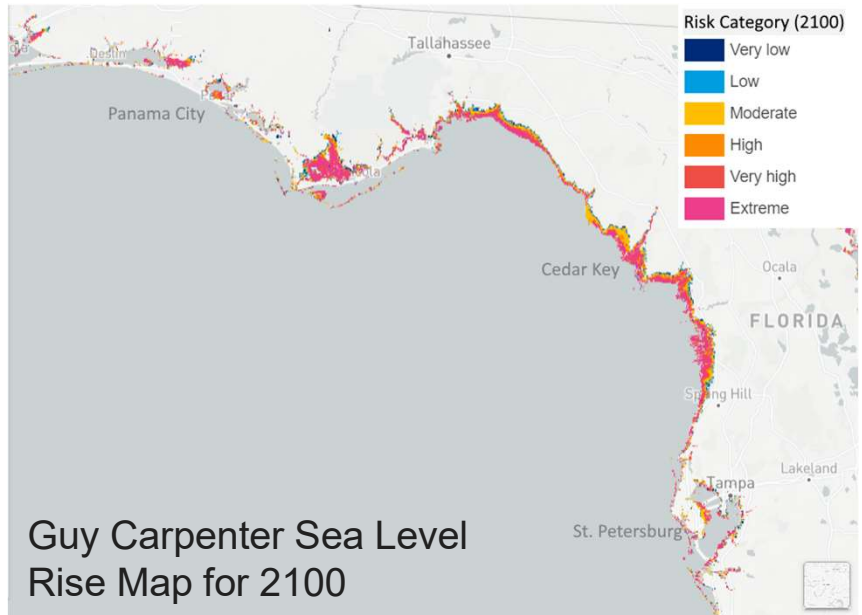
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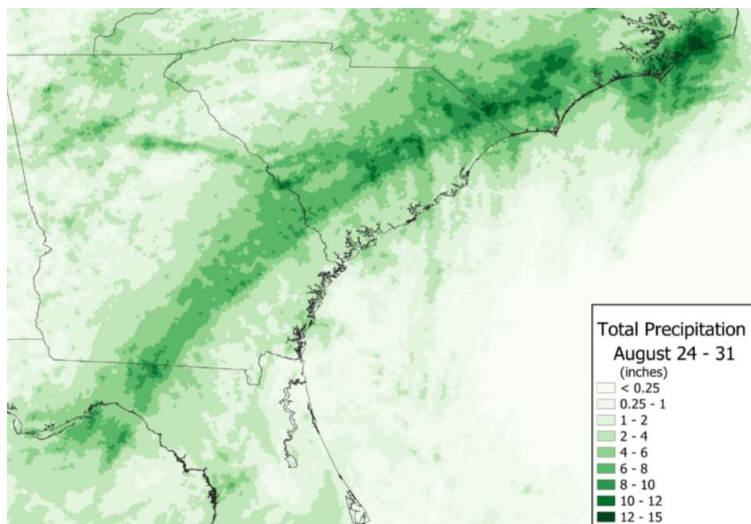
Areas of Confidence Relative to a Changing Climate

To enhance the advisory capabilities in quantifying climate change, GC developed US/Caribbean Sea Level Rise inundation maps and risk score maps (2020-2100) for use in portfolio physical climate risk assessment. With high confidence of continued sea level rise accelerating through the century, this product evaluates heightened areas of concern on the US and Caribbean coastline. Ultimately, the product assesses the sustainability of the long-term business growth strategies in coastal regions such as the Big Bend of Florida.



Guy Carpenter Sea Level Rise Map for 2100

Source: Guy Carpenter



Source: NWS / Guy Carpenter

In addition to damaging storm surge, excessive inland precipitation transpired well inland from the Big Bend Region of Florida. As Idalia evolved into a post tropical storm, rainfall amounts in excess of 10 inches were recorded across the Carolinas and Georgia. 13.55 inches in Holly Hill, SC was the highest total recorded. Increasing precipitation potential in landfalling tropical cyclones is one of the stronger signals seen for impacts in a warming climate as the atmosphere can hold higher levels of moisture.

About Guy Carpenter

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