



HURRICANE

IRMA

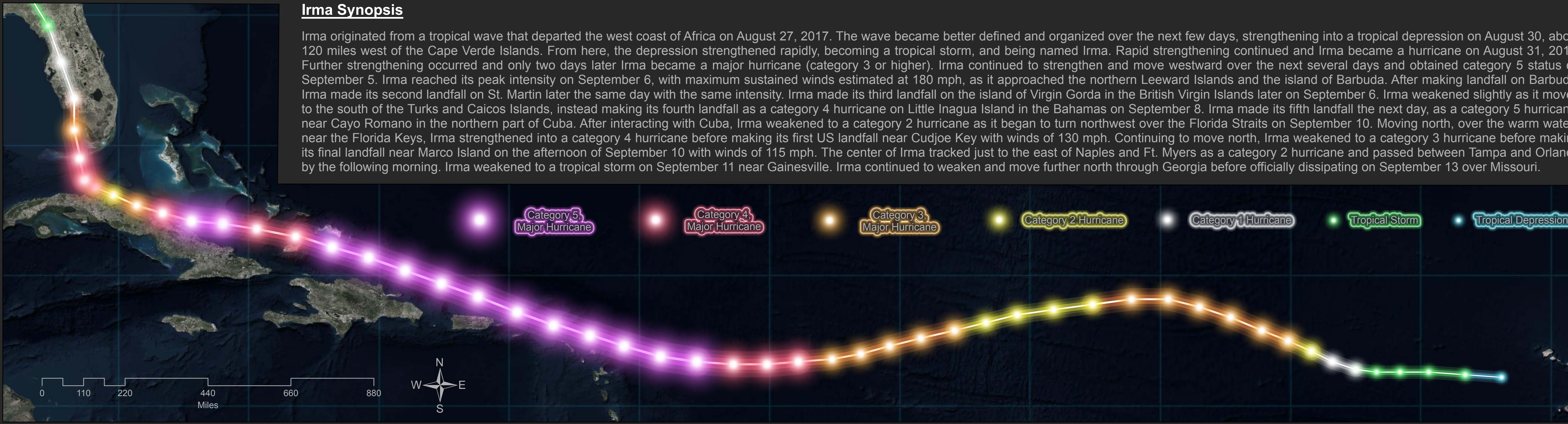
DEBRIS

MISSION



Irma Synopsis

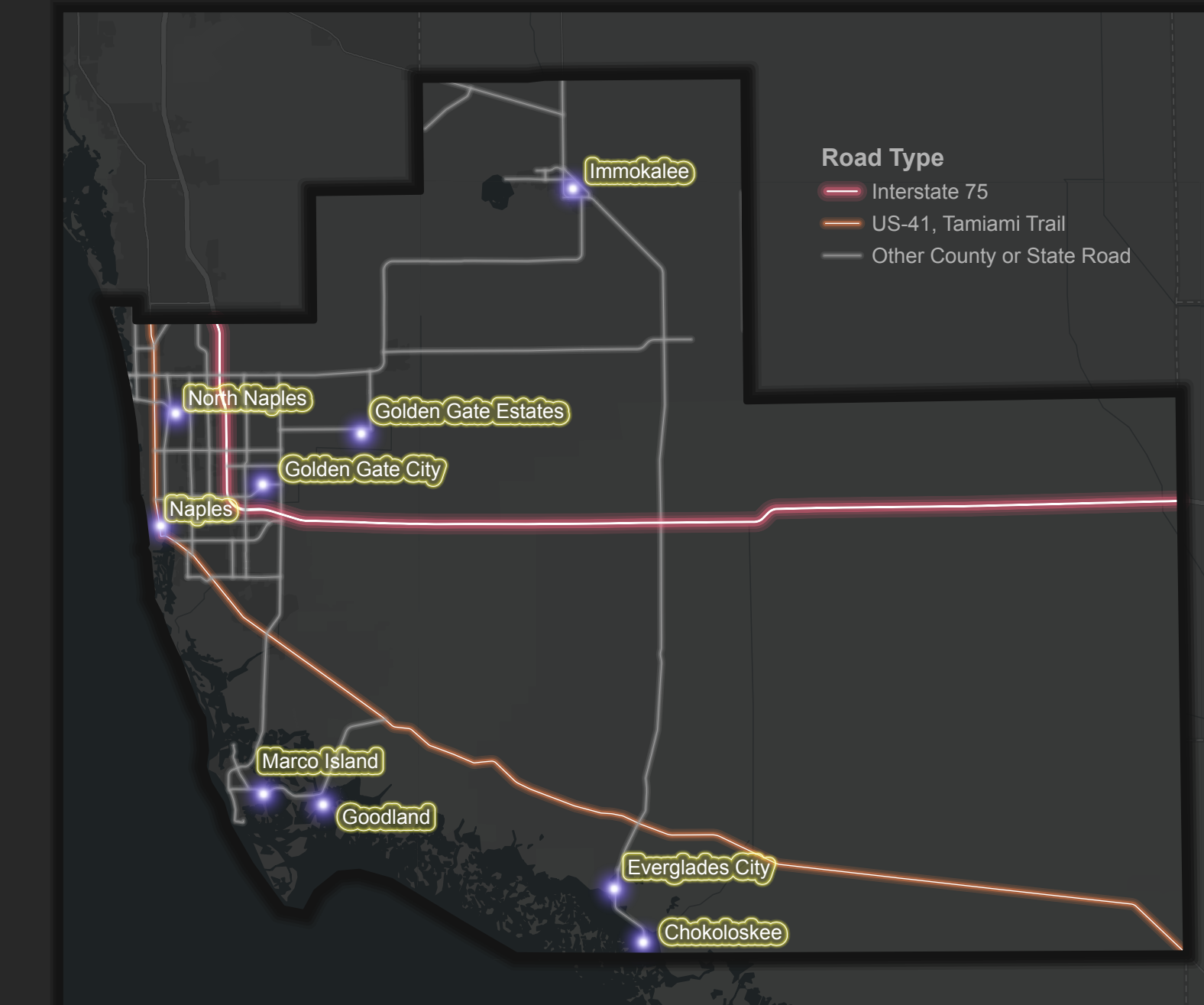
Irma originated from a tropical wave that departed the west coast of Africa on August 27, 2017. The wave became better defined and organized over the next few days, strengthening into a tropical depression on August 30, about 120 miles west of the Cape Verde Islands. From here, the depression strengthened rapidly, becoming a tropical storm, and being named Irma. Rapid strengthening continued and Irma became a hurricane on August 31, 2017. Further strengthening occurred and only two days later Irma became a major hurricane (category 3 or higher). Irma continued to strengthen and move westward over the next several days and obtained category 5 status on September 5. Irma reached its peak intensity on September 6, with maximum sustained winds estimated at 180 mph, as it approached the northern Leeward Islands and the island of Barbuda. After making landfall on Barbuda, Irma made its second landfall on St. Martin later the same day with the same intensity. Irma made its third landfall on the island of Virgin Gorda in the British Virgin Islands later on September 6. Irma weakened slightly as it moved to the south of the Turks and Caicos Islands, instead making its fourth landfall as a category 4 hurricane on Little Inagua Island in the Bahamas on September 8. Irma made its fifth landfall the next day, as a category 5 hurricane, near Cayo Romano in the northern part of Cuba. After interacting with Cuba, Irma weakened to a category 2 hurricane as it began to turn northwest over the Florida Straits on September 10. Moving north, over the warm waters near the Florida Keys, Irma strengthened into a category 4 hurricane before making its first US landfall near Cudjoe Key with winds of 130 mph. Continuing to move north, Irma weakened to a category 3 hurricane before making its final landfall near Marco Island on the afternoon of September 10 with winds of 115 mph. The center of Irma tracked just to the east of Naples and Ft. Myers as a category 2 hurricane and passed between Tampa and Orlando by the following morning. Irma weakened to a tropical storm on September 11 near Gainesville. Irma continued to weaken and move further north through Georgia before officially dissipating on September 13 over Missouri.



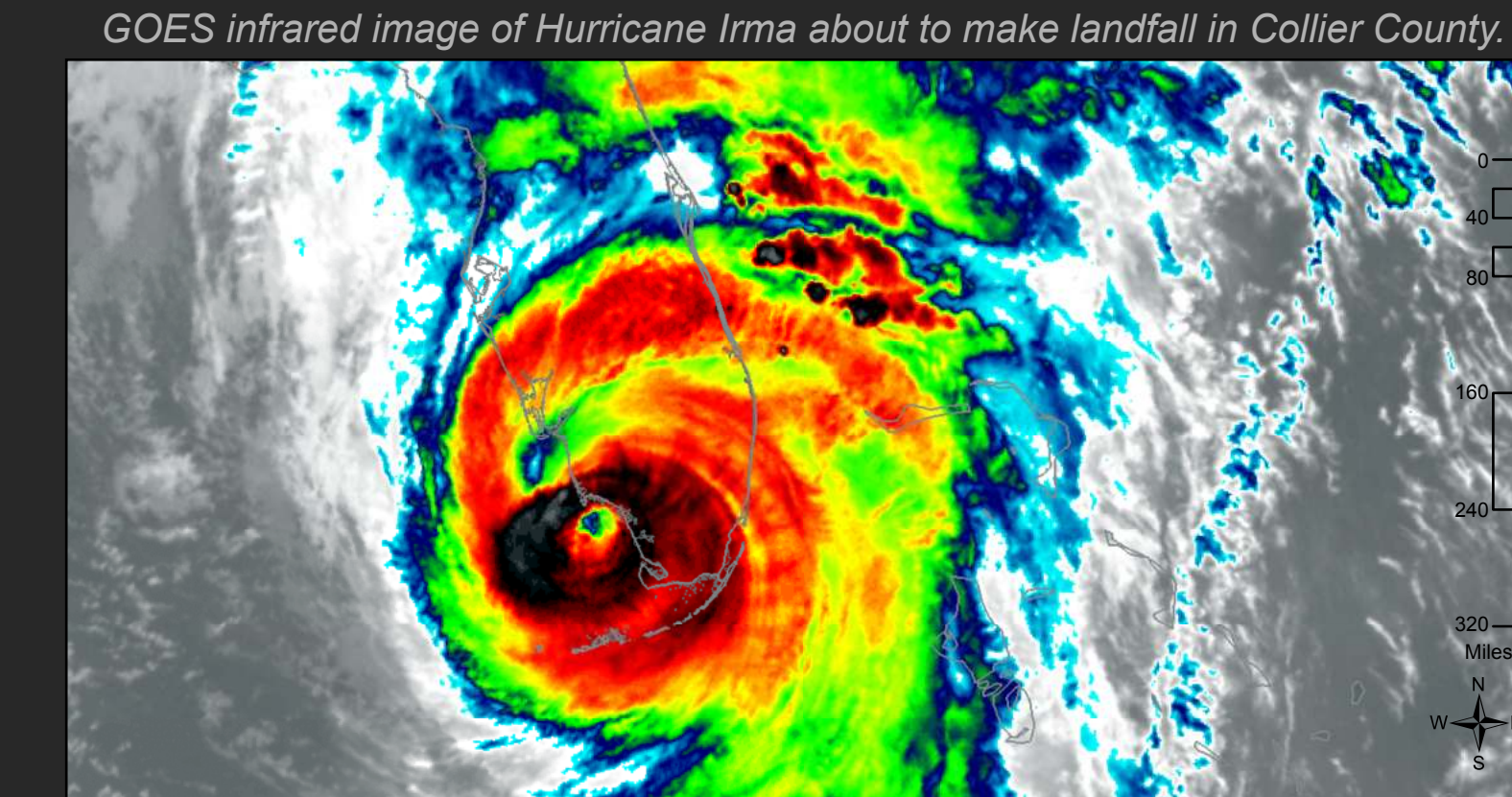
Sources: NOAA, NWS, NHC

Impacts on Collier County

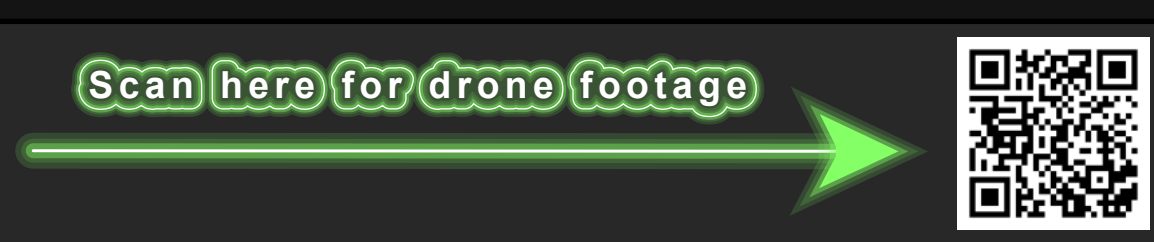
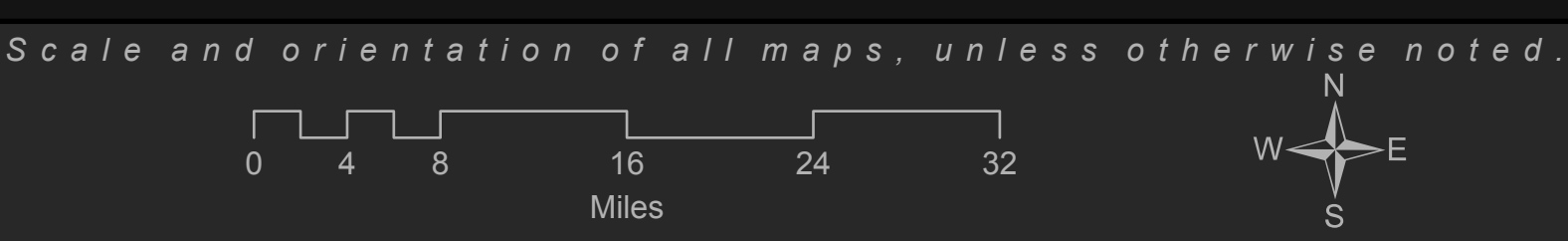
Irma was the first hurricane to strike Collier County since Wilma in 2005. The strongest reported sustained wind speed was 112 mph on Marco Island, while the highest observed wind gust was 142 mph in Naples. Remote communities along the coast, in the southern part of the county, such as Goodland, Everglades City and Chokoloskee experienced the worst storm surge which peaked between 6 to 8 ft, inundating most homes there. Approximately 200,000 customers, roughly 95% of electrical customers, were without power in Collier County. Irma caused 3.6 million cubic yards of debris in Collier County, enough to fill 240,000 dump trucks. Property damages in the County were estimated at \$320 million.



GOES satellite image of Hurricane Irma approaching Collier County.

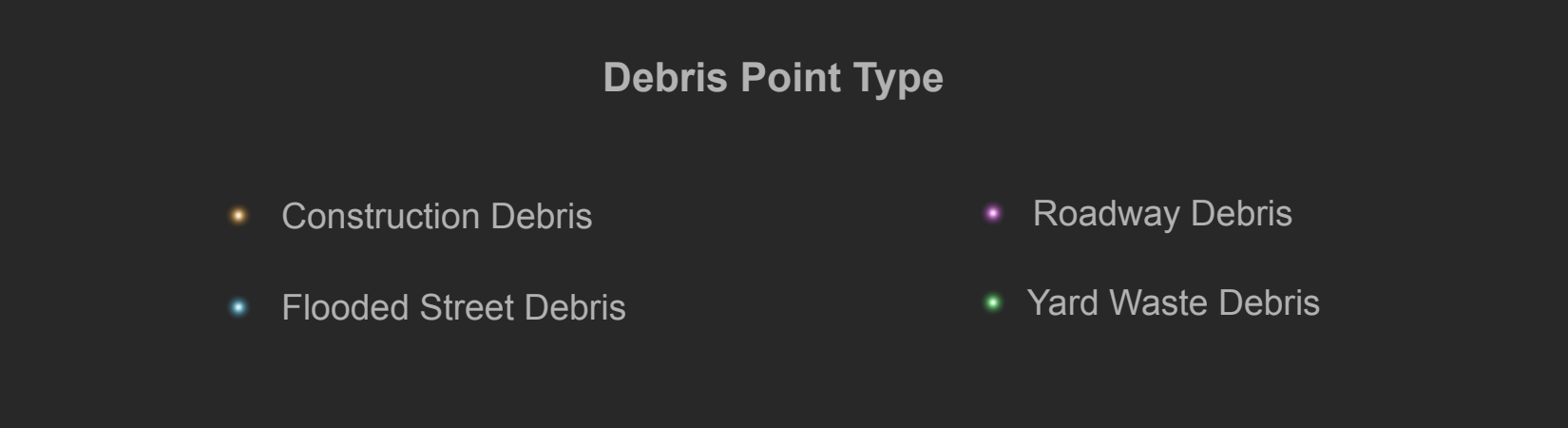
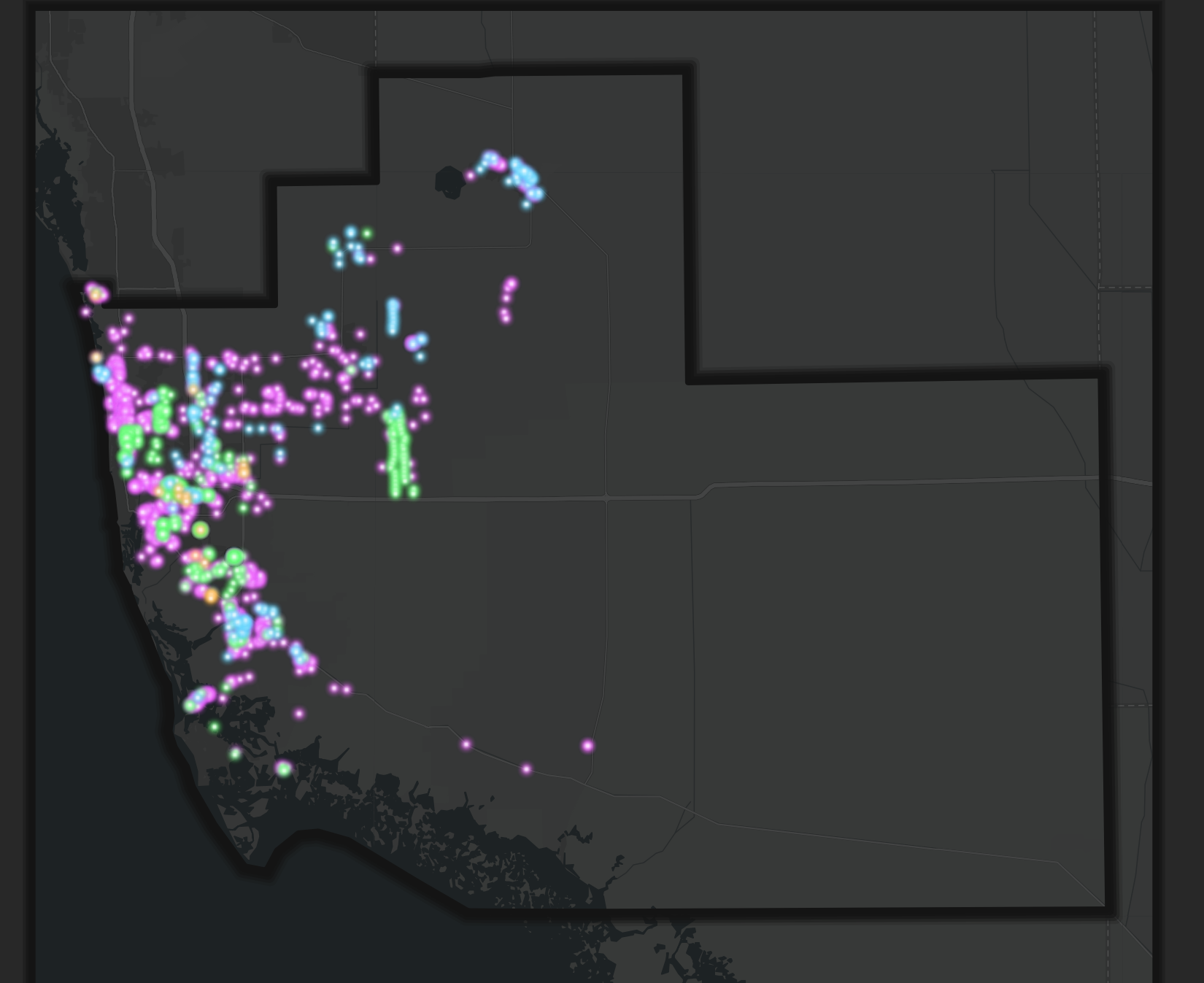


GOES infrared image of Hurricane Irma about to make landfall in Collier County.



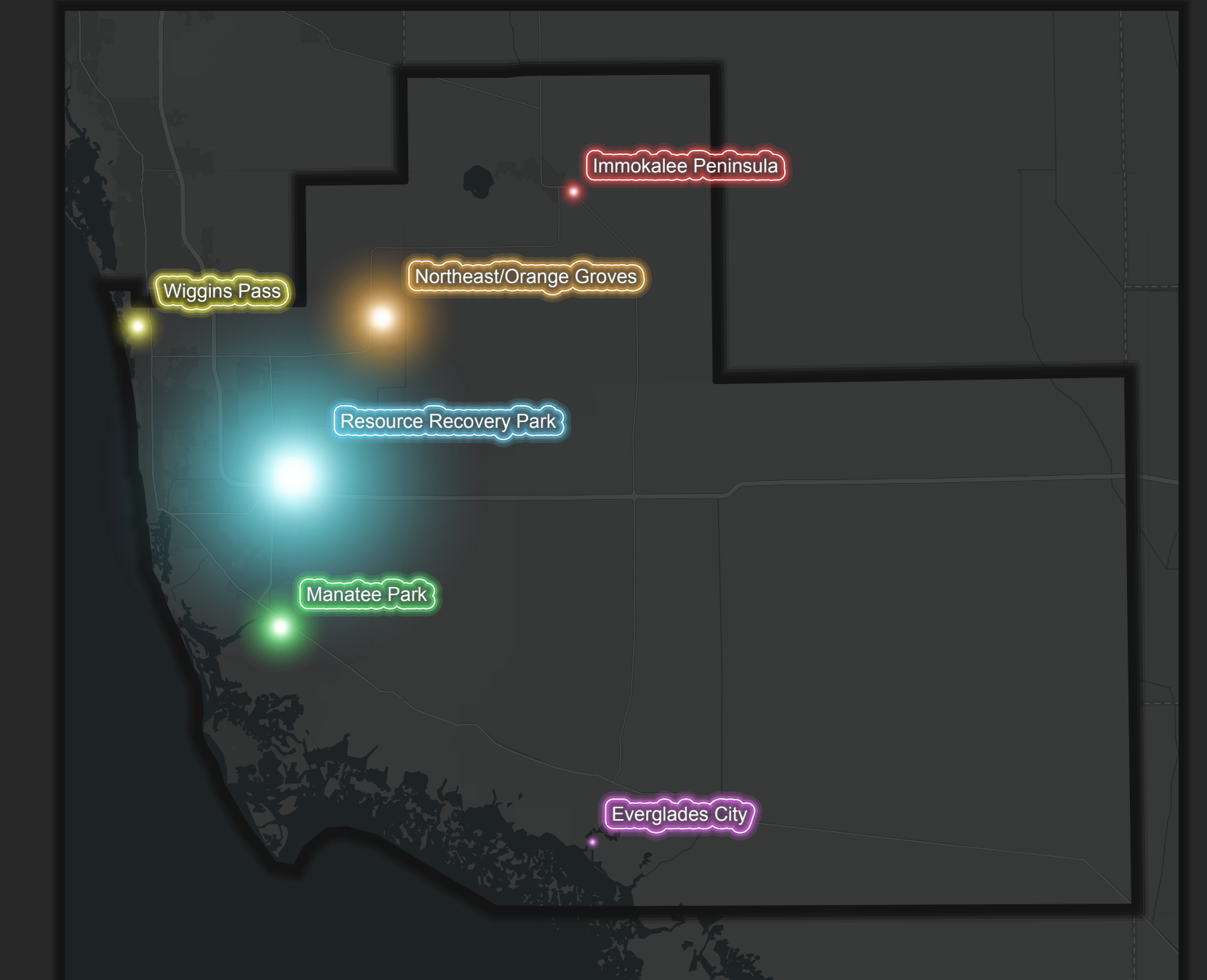
Debris Points Utilizing Collector for ArcGIS

Using Collector for ArcGIS, in-house staff were able to document locations of debris points throughout the County, while also taking important photos that were used to help prioritize which areas needed to be cleared first. These locations were in addition to the over 250,000 points debris removal vendors documented at each area that was cleared.



Debris Sites

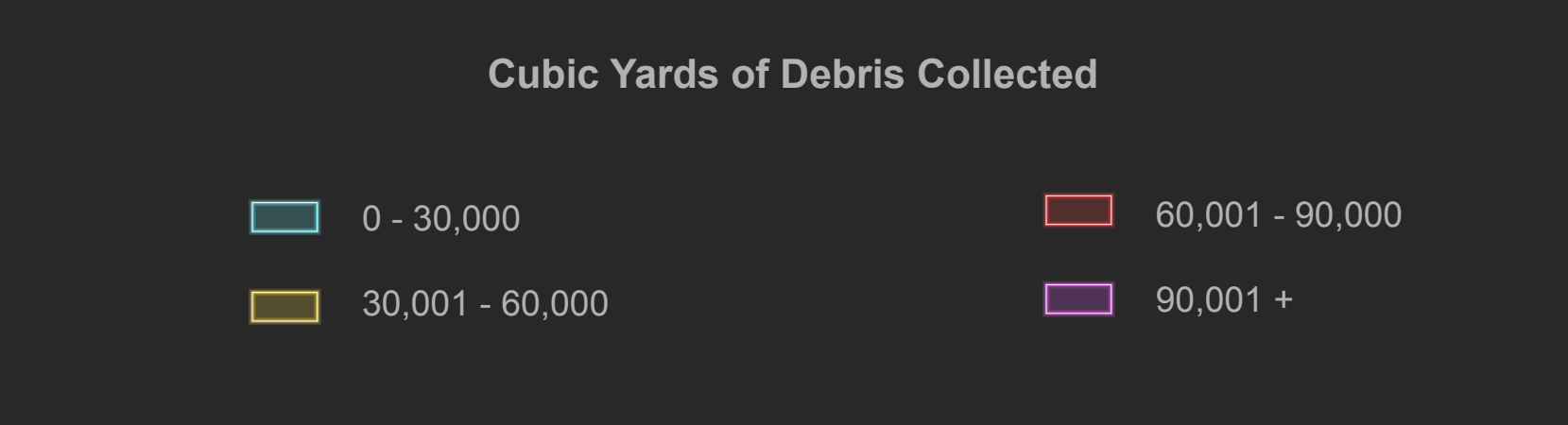
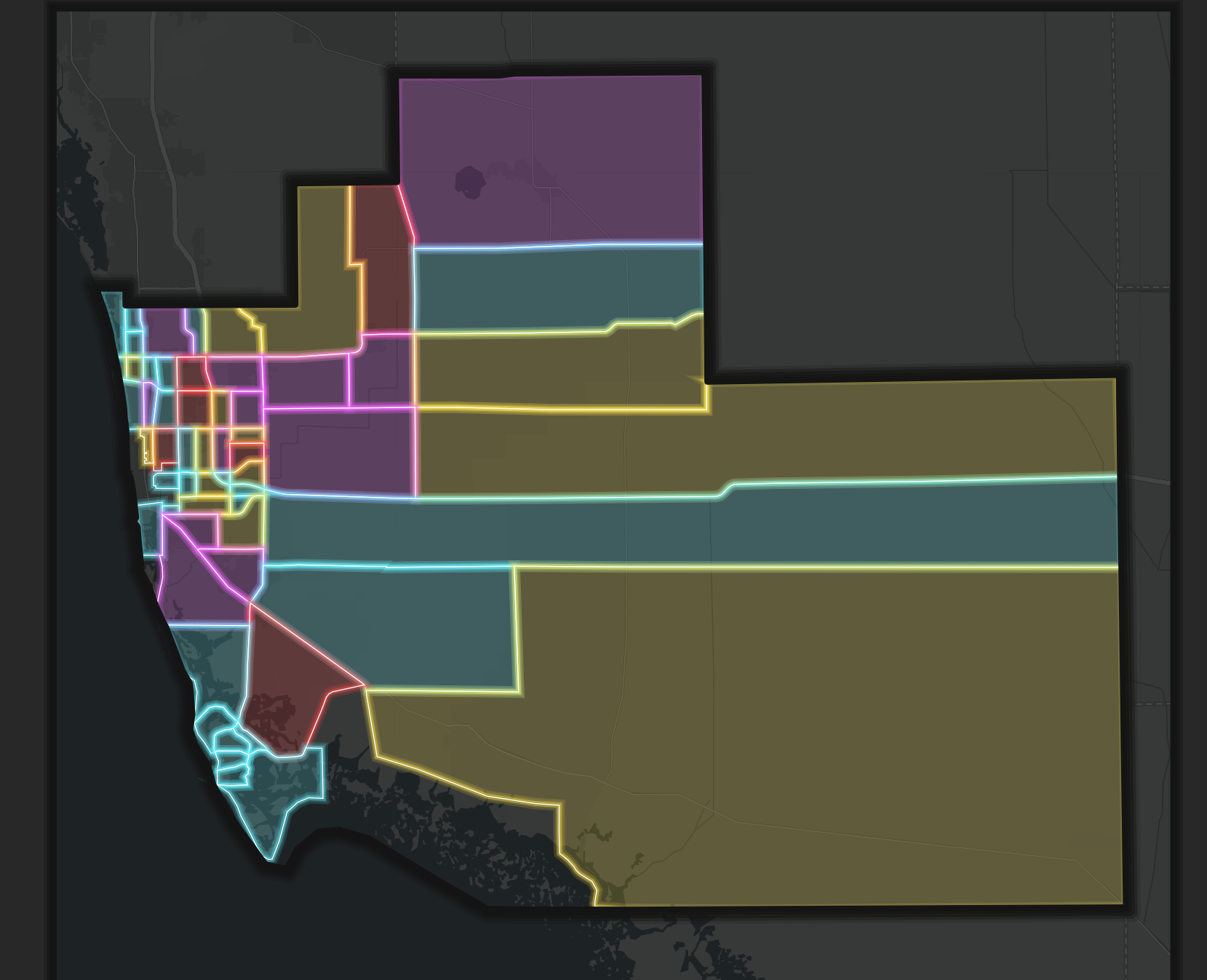
Several non-public debris sites, where most of the debris from Irma was taken, were setup throughout the County. The map below shows the locations of those sites, with each site symbolized proportionally by the amount of debris (in cubic yards) that was collected. In total, 3.6 million cubic yards of debris were collected county-wide.



Site Name	Debris Collected	% of Total
Resource Recovery Park	1,853,980	51.55
Northeast/Orange Groves	813,033	22.60
Manatee Park	482,718	13.42
Wiggins Pass	297,437	8.27
Immokalee Peninsula	116,176	3.23
Everglades City	33,444	0.93

Debris Zones

The County is broken up into 59 debris zones according to population. Parts of the County that are more highly populated, along the coast, have more zones that are smaller in area. Less populated sections, further inland, have fewer zones but are much larger in area. Road clearing crews were on-site in each of these zones removing debris.



Road Clearing

Road clearing crews were on scene shortly after Irma passed through the area. At the height of the debris clearing, nearly 300 crews were working throughout the County to clear roads and get them passable again. The maps below give a visual depiction of the road status at different stages of the debris clearing mission.

Road Clearing Status — Not Started — In Progress — Completed

