

Evaluating the Impacts of Hurricane Irma on Georgia Heirs Property Owners Using NASA Earth Observations



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ABSTRACT

In the American Southeast, heirs' property owners are especially vulnerable to natural and manmade disasters. This group of people have inherited property left with no clear title and thus have unclear group ownership with the other legal owners, which are all spouses, children, etc. After Hurricane Irma made landfall in Georgia in September of 2017, heirs' property owners were more likely to be denied access to federal relief due to the legal status of their property title. To observe how this group was impacted by Hurricane Irma, the NASA DEVELOP team partnered with the Georgia Heirs Property Law Center, a non-profit law firm that works with heirs properties owners. The team used computer assisted mass appraisal (CAMA) data to identify likely heirs' property owners. This map was cross referenced with a flood map produced with surface reflectance and backscatter imagery from Landsat 8 OLI, Sentinel-2 MSI, and Sentinel-1 C-SAR, sensors to identify communities in need for relief or assistance. The flood extent maps were validated against United States Geological Survey *in situ* data taken the same day Irma crossed into Georgia. The team's end products were handed off to the Georgia Heirs Property Law Center for use in outreach.

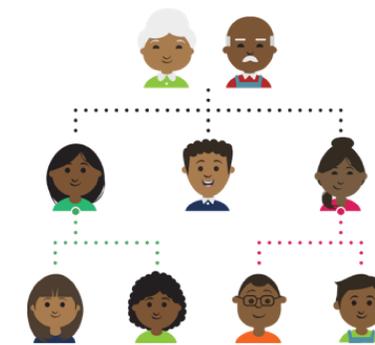
METHODS: COMPUTER ASSISTED MASS APPRAISAL (CAMA)

REALKEY	Sale Date(Not sold in 30 years)	Special Terms(Heirs of, etal, estate of)	Tax-Exempt Status	Out of County Mailing Address	Non-Natural Persons(LLC, Inc, Churches etc.)	Probable Heirs Property?
11111	Y	Y	N	N	N	Yes
22222	N	Y	N	Y	N	Yes
33333	Y	N	N	N	N	No
44444	N	N	Y	Y	N	No
55555	Y	N	Y	Y	N	No

BACKGROUND

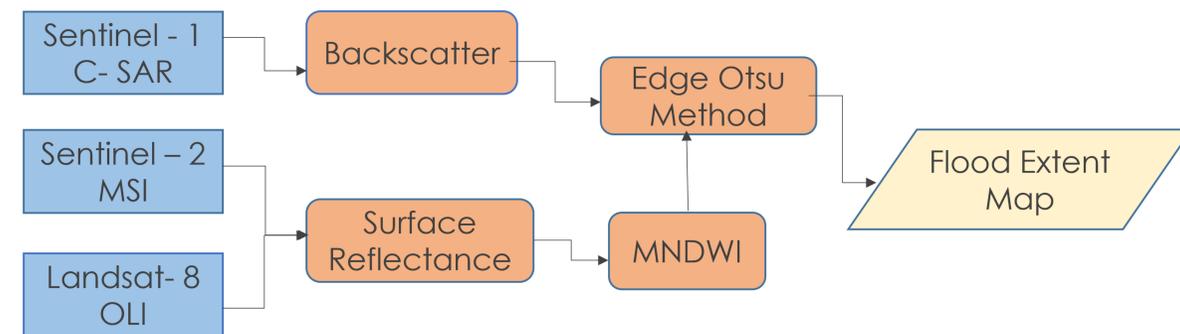
- Landfall in US as Cat. 4
- Storm surge: 3-5ft
- Max wind: 62 mph
- US: \$50.5 billion
- GA: \$670 million

COMMUNITY

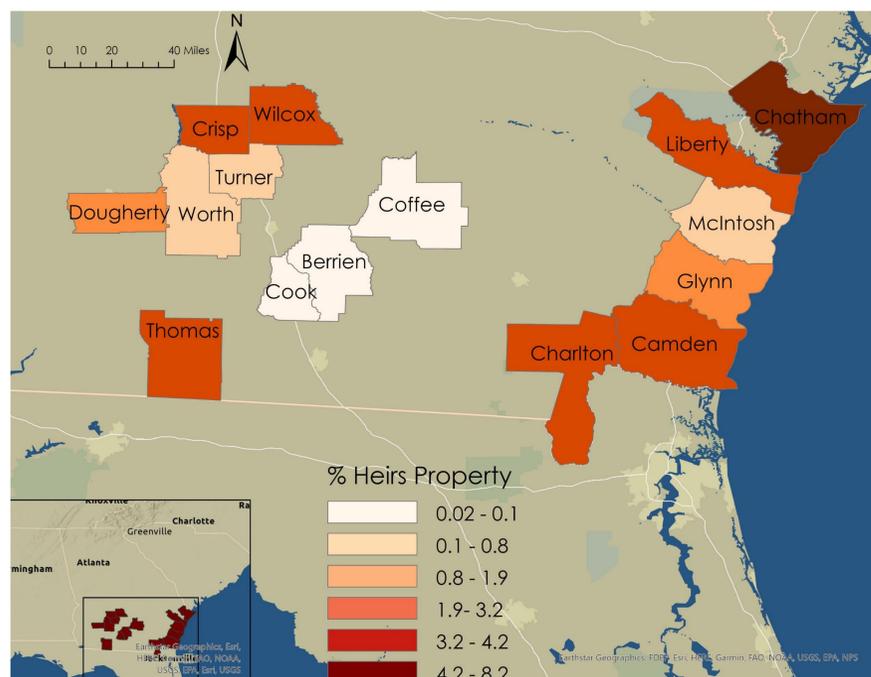


Heirs' Property: Created when a property owner dies without a will, or when a will is not executed properly by the courts. When an owner dies in this way, the property is passed down to all of the legal heirs, which can include the owner's spouse, children, and grandchildren. All of these new owners have equal rights to the property, thus resulting in a "tangled title", a legal limbo which makes the property ineligible for a variety of local, state, and federal programs, including disaster relief programs.

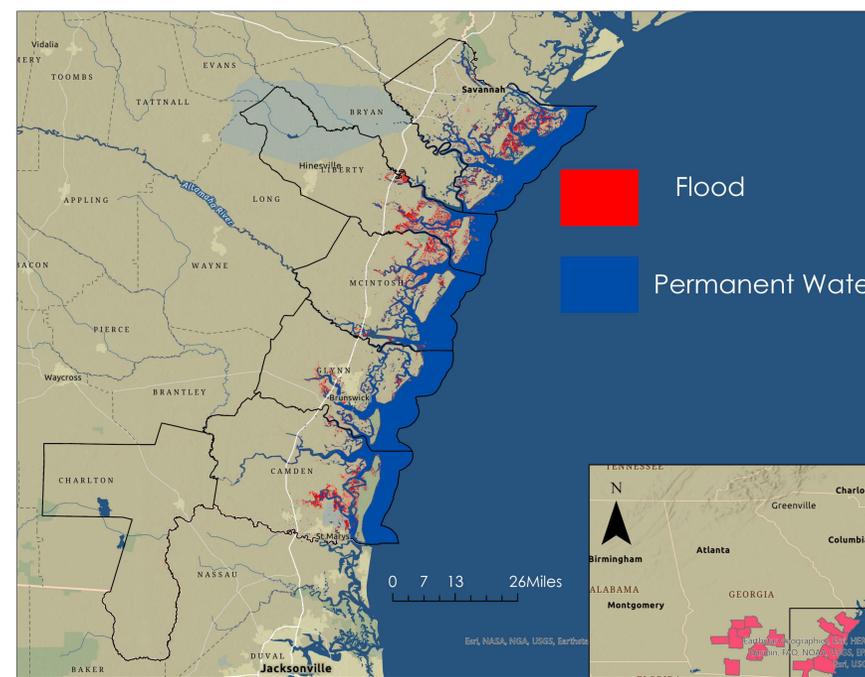
METHODS: FLOOD



RESULTS: CAMA



RESULTS: FLOODING



CONCLUSIONS

- Flooding is concentrated in coastal areas.
- Chatham, Liberty, and Camden counties are most vulnerable to heirs' property destruction from flooding.
- Analysis yielded 27,000+ heirs' properties and 16.45 km² of flooding throughout the study area.

GEORGIA DISASTERS

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