


20 December 2021


TROPICAL CYCLONE RAI-21

PRELIMINARY SATELLITE-DERIVED STANDING WATERS AND BUILDING DAMAGE ANALYSIS

Dinagat Island, Siargao Island, and Southern Leyte province, Region XIII (Caraga): Philippines

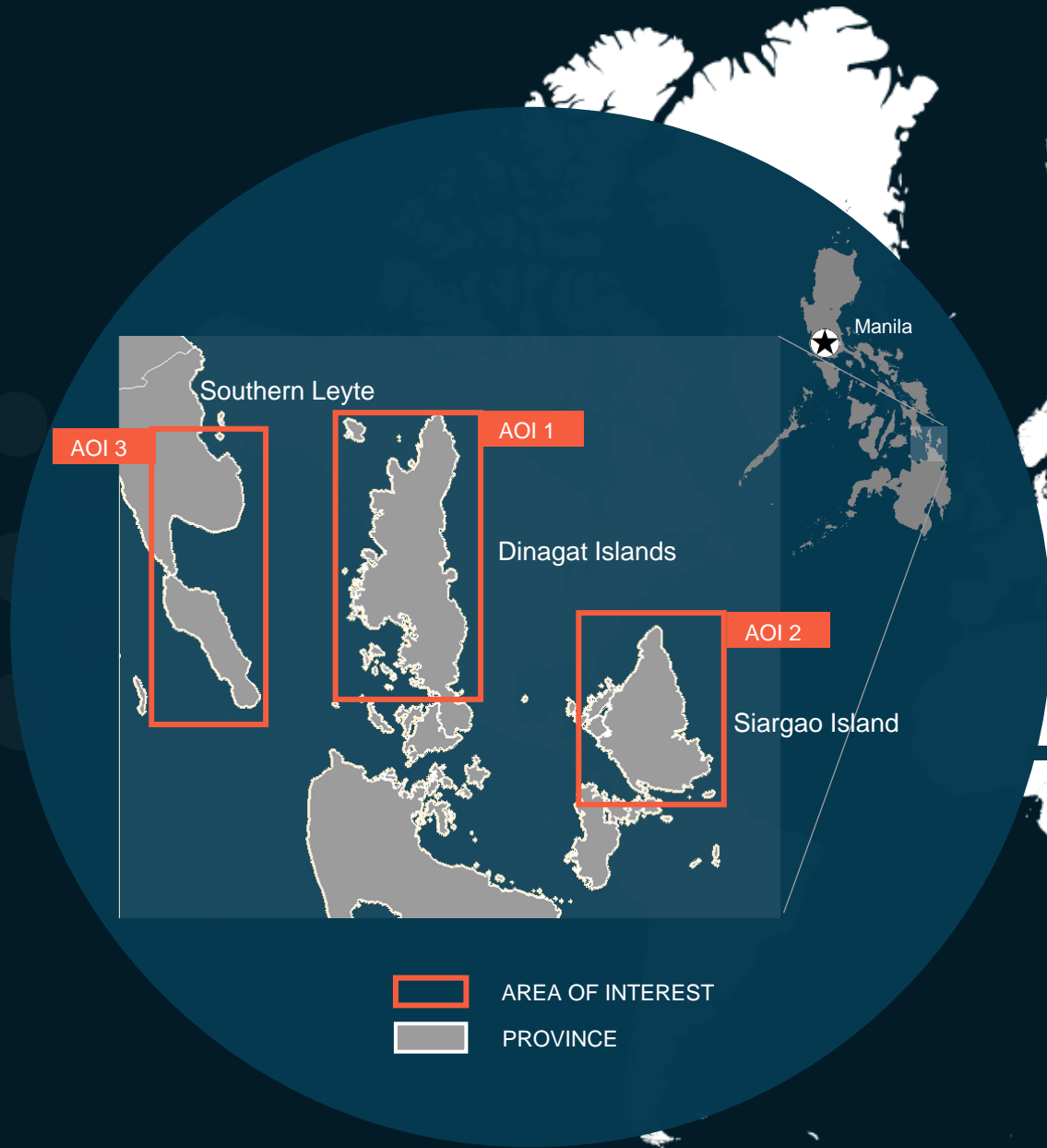


 Status: Water standing decrease and severally potentially damaged structures observed.

 Further action(s): Continue monitoring



PHILIPPINES



**AOI 1-1: CAGDIANAO VILLAGE, DINAGAT ISLAND,
REGION XIII (CARAGA)**

No visible damage

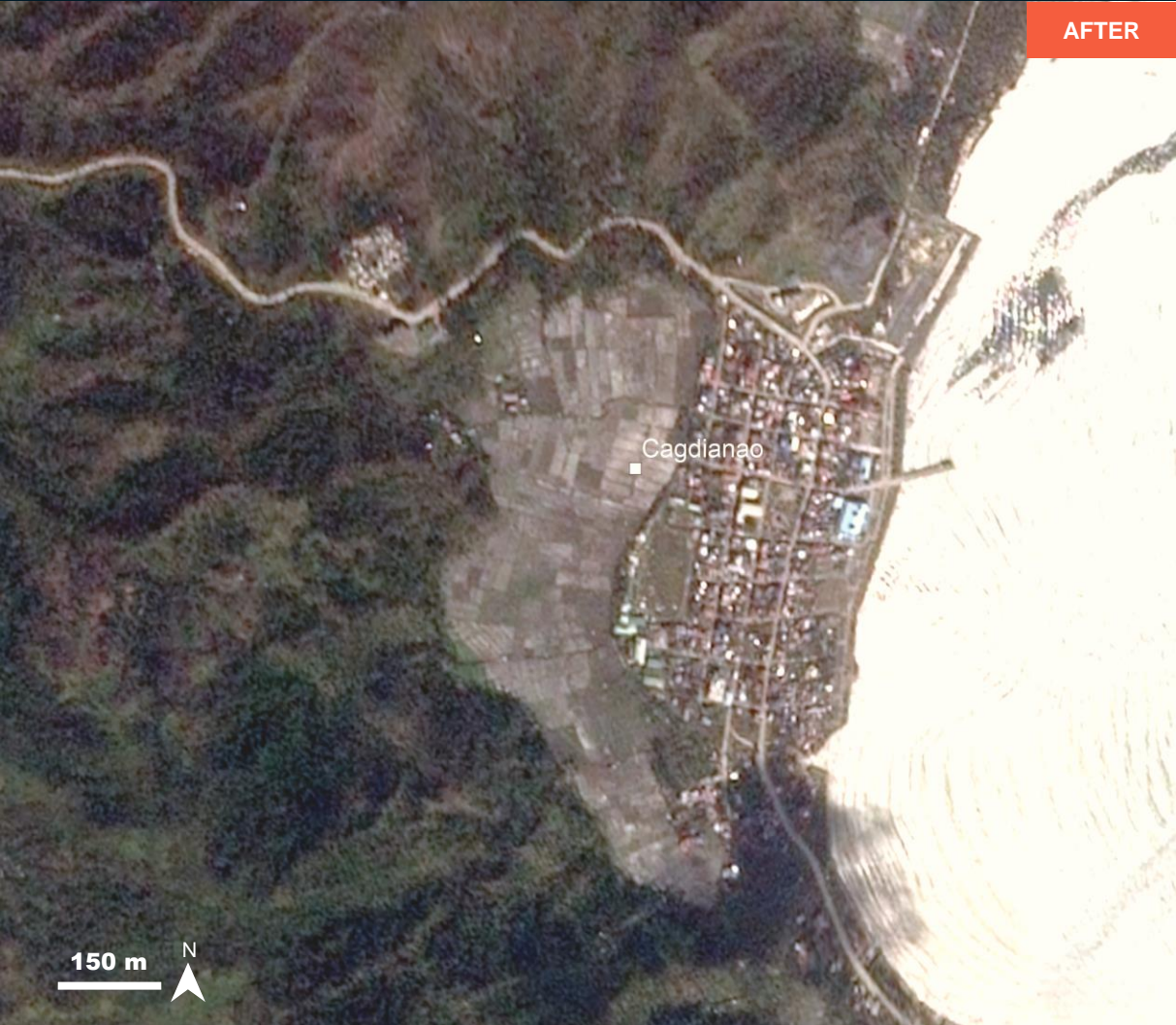
Image center:
125°40'10.198"E
9°55'25.518"N



Dinagat
Island



BEFORE



AFTER

AOI 1-2: CUARINTA VILLAGE, DINAGAT ISLAND, REGION XIII (CARAGA)

Potentially damaged structures

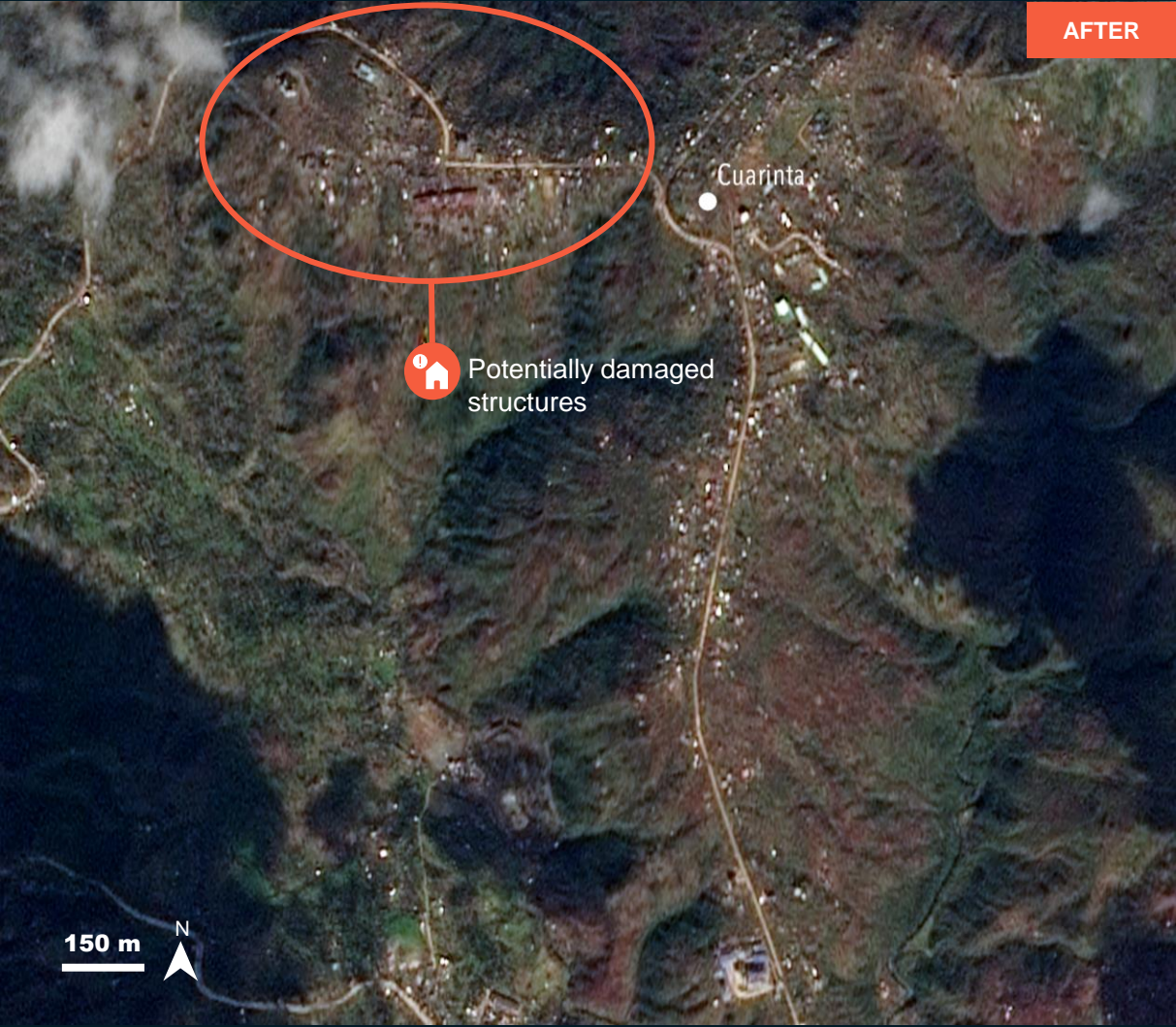
Image center:
125°36'10.447"E
10°0'56.217"N



Dinagat
Island



ESRI Basemap



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AOI 2-1: BURGOS TOWN, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Damaged structures and affected vegetation along the shoreline

Image center:
126°4'15.505"E
10°1'15.248"N



BEFORE



AFTER

Affected vegetation
and potentially
damaged structures

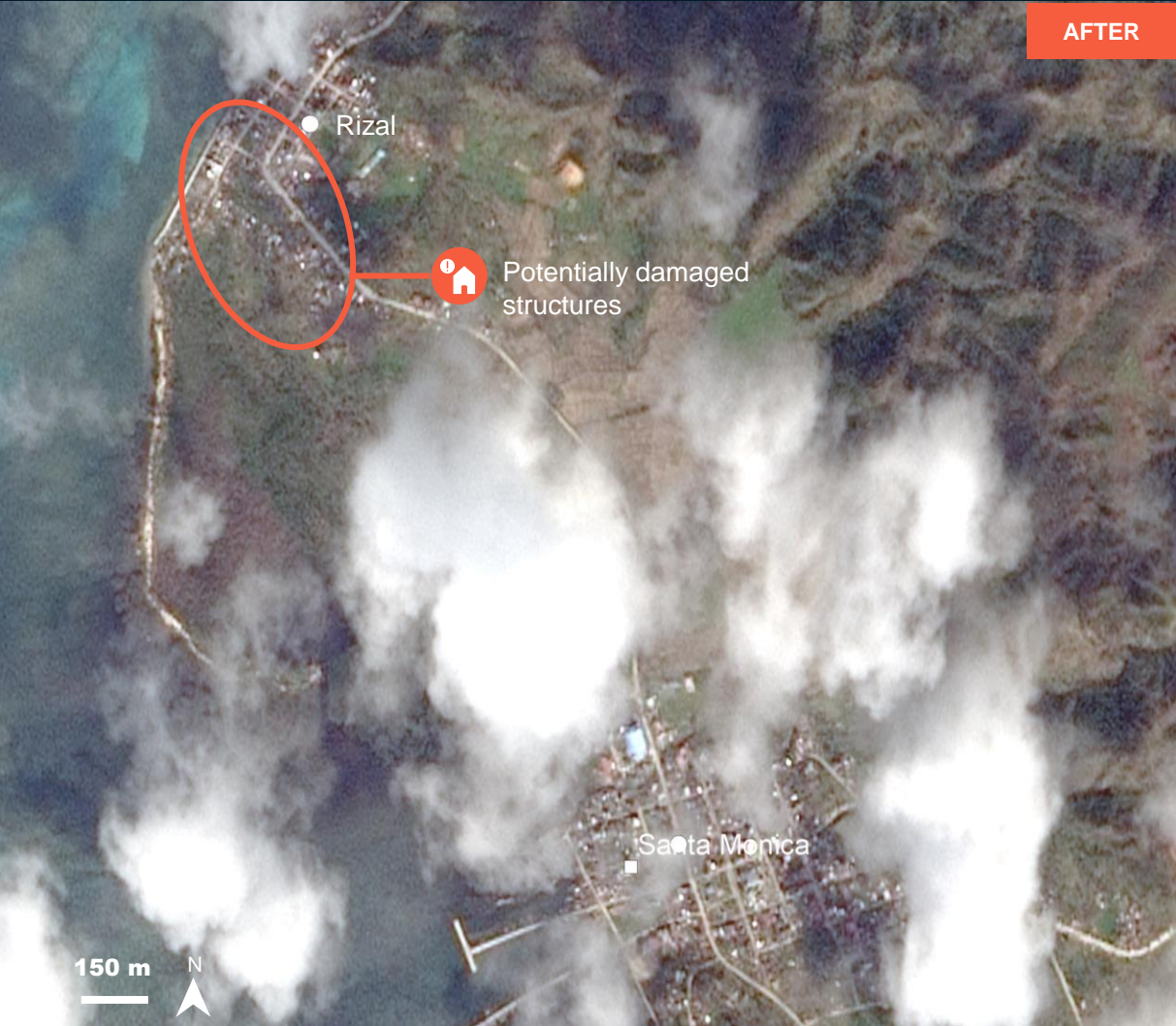
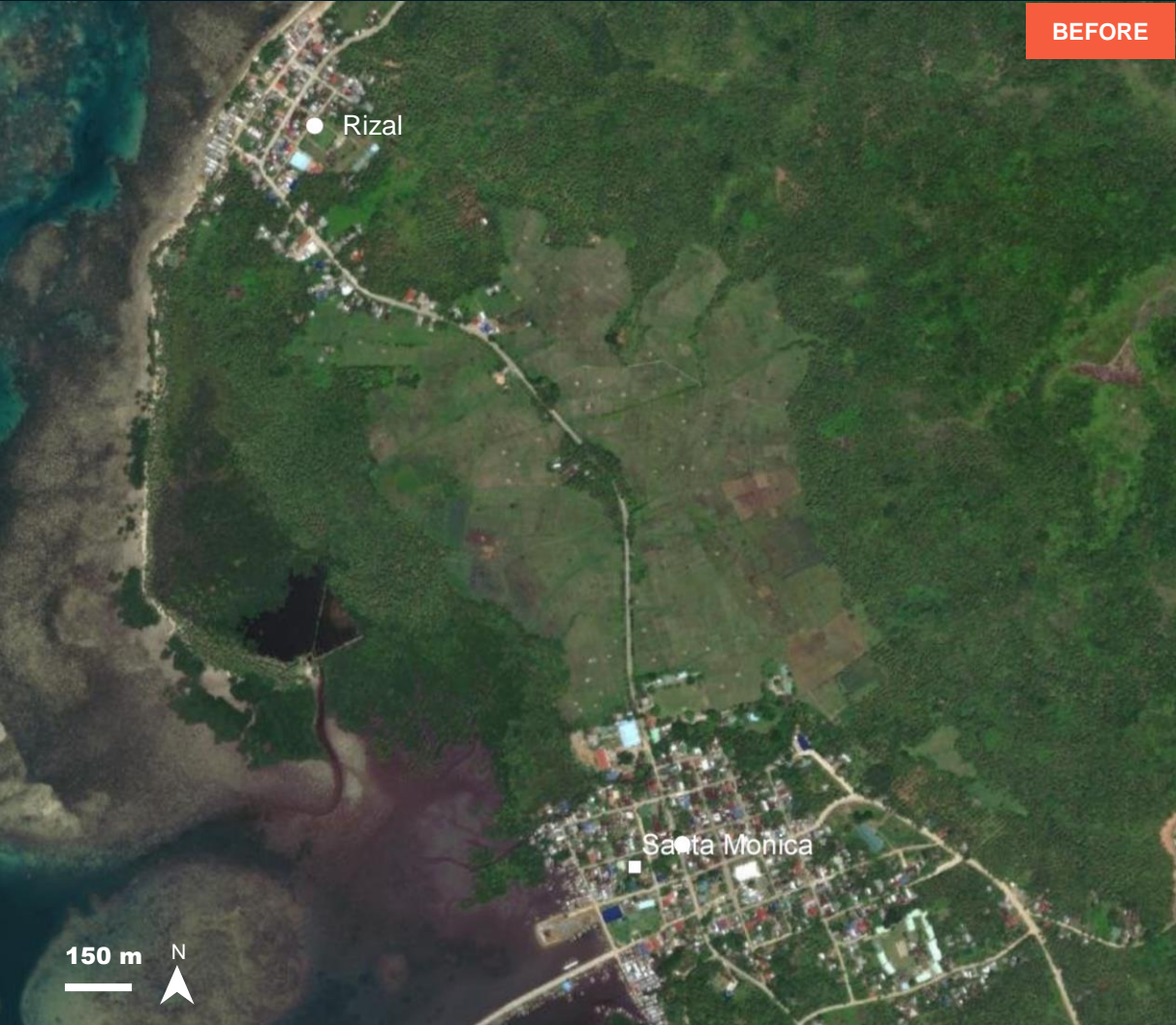
Damaged structures

Affected area along
the coastal

AOI 2-2: RIZAL VILLAGE AND SANTA MONICA TOWN, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Potentially damaged structures

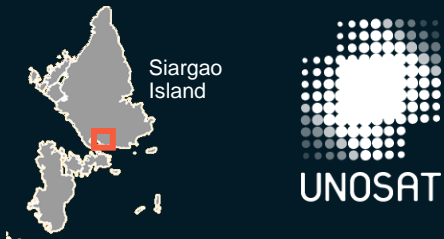
Image center:
126°2'9.547"E
10°1'28.198"N



AOI 2-3: DEL CARMEN TOWN, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Potentially damaged structures

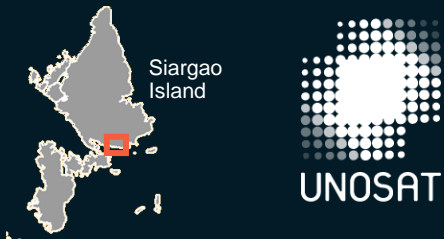
Image center:
125°58'29.552"E
9°52'18.872"N



AOI 2-4: DAPA TOWN, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Potentially damaged structures

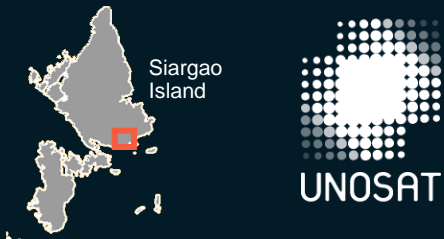
Image center:
126°3'15.989"E
9°45'37.431"N



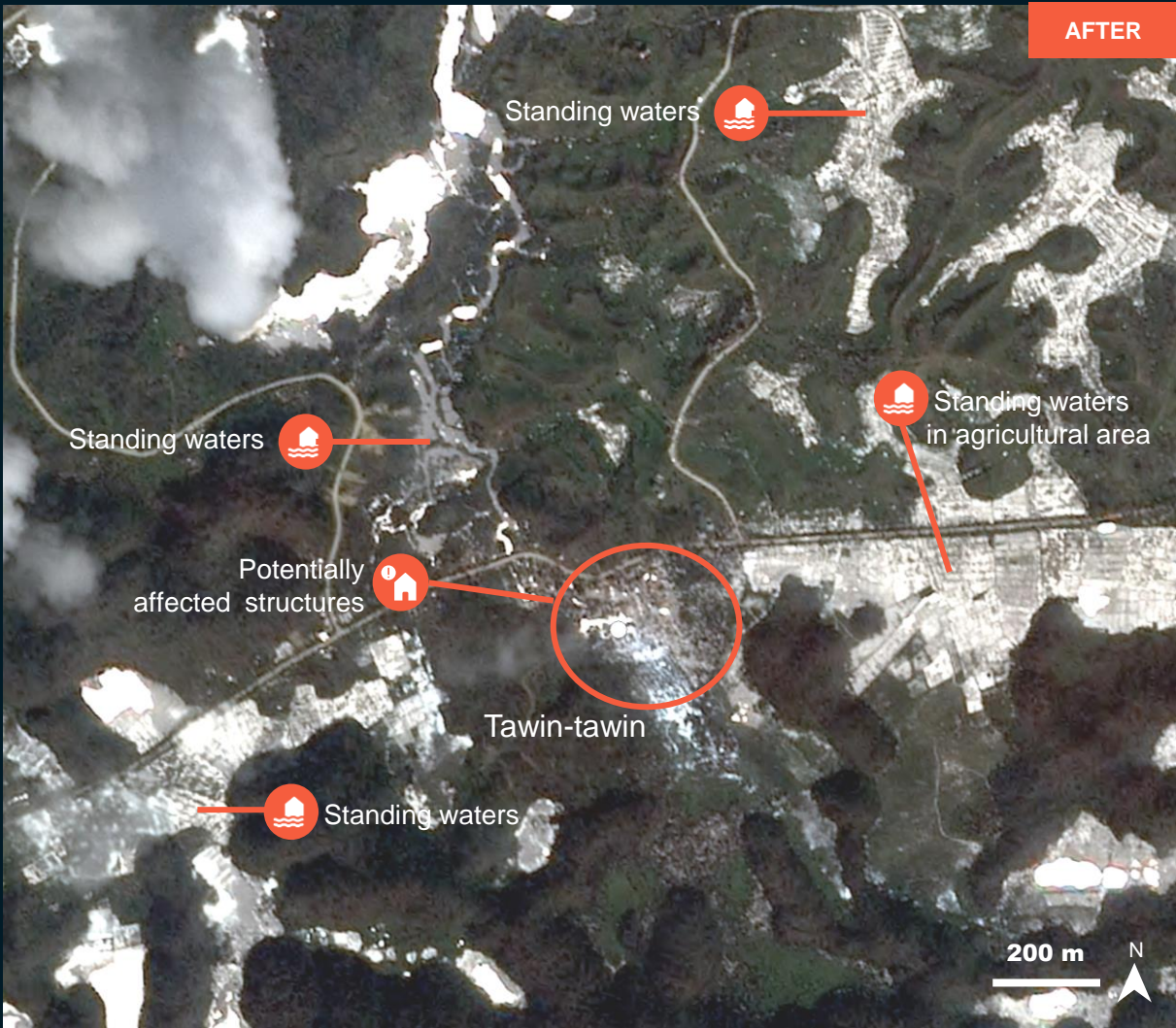
AOI 2-4: TAWIN-TAWIN VILLAGE, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Inundated areas and potentially affected structures

Image center:
126°8'14.456"E
9°47'27.403"N



ESRI Basemap

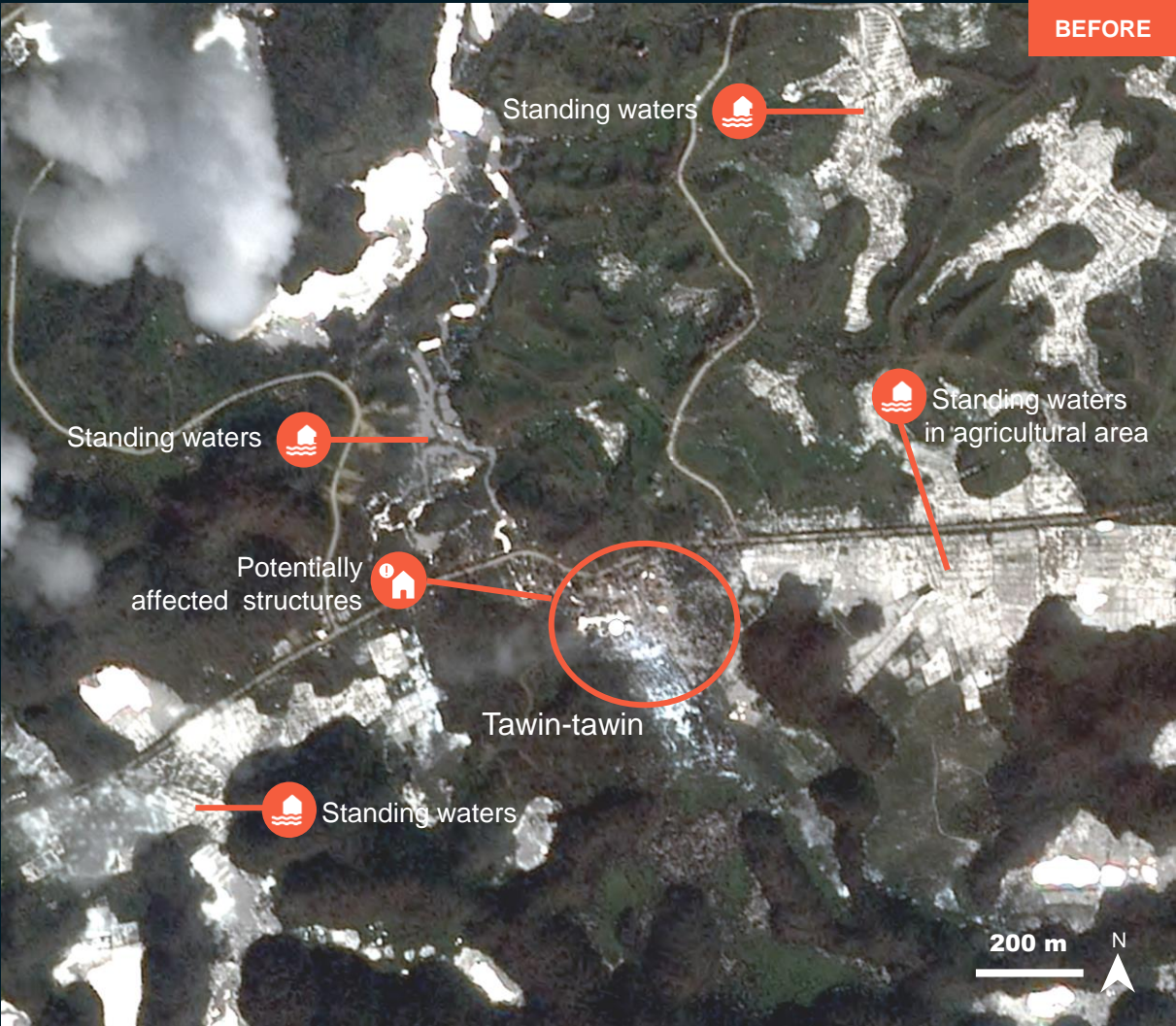
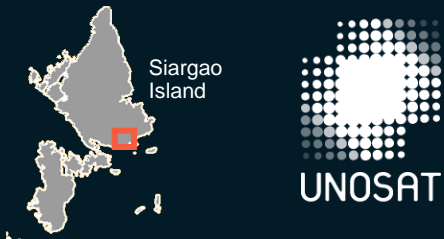


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AOI 2-4: TAWIN-TAWIN VILLAGE, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Standing waters decrease

Image center:
126°8'14.456"E
9°47'27.403"N



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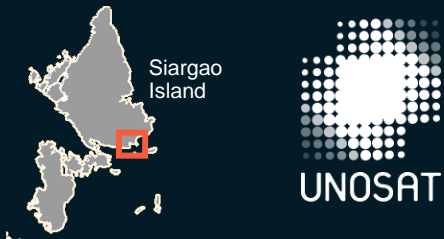


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AOI 2-5: GENERAL LUNA TOWN, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

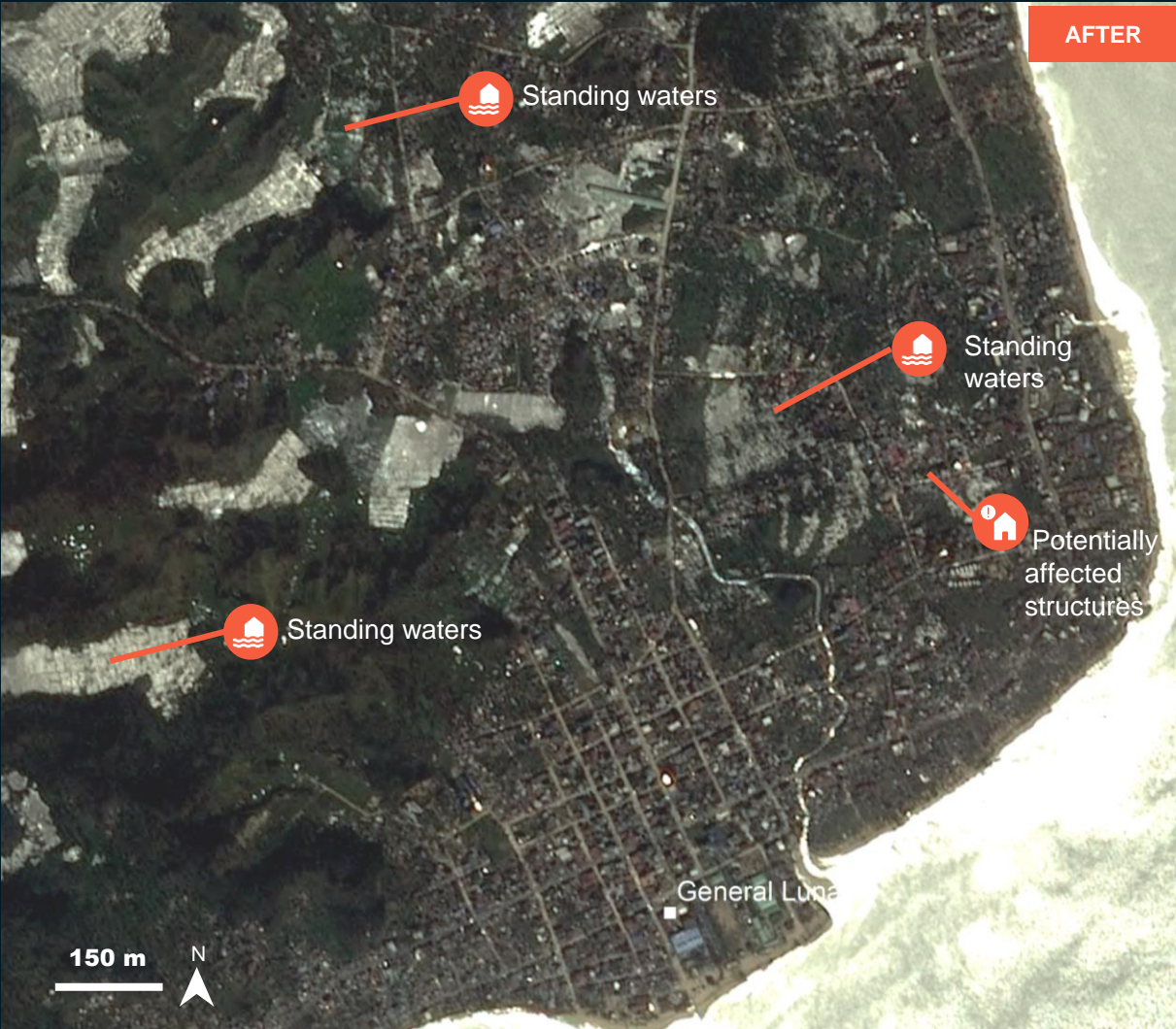
Inundated areas and potentially affected structures

Image center:
126°9'20.314"E
9°47'15.317"N



BEFORE

ESRI Basemap



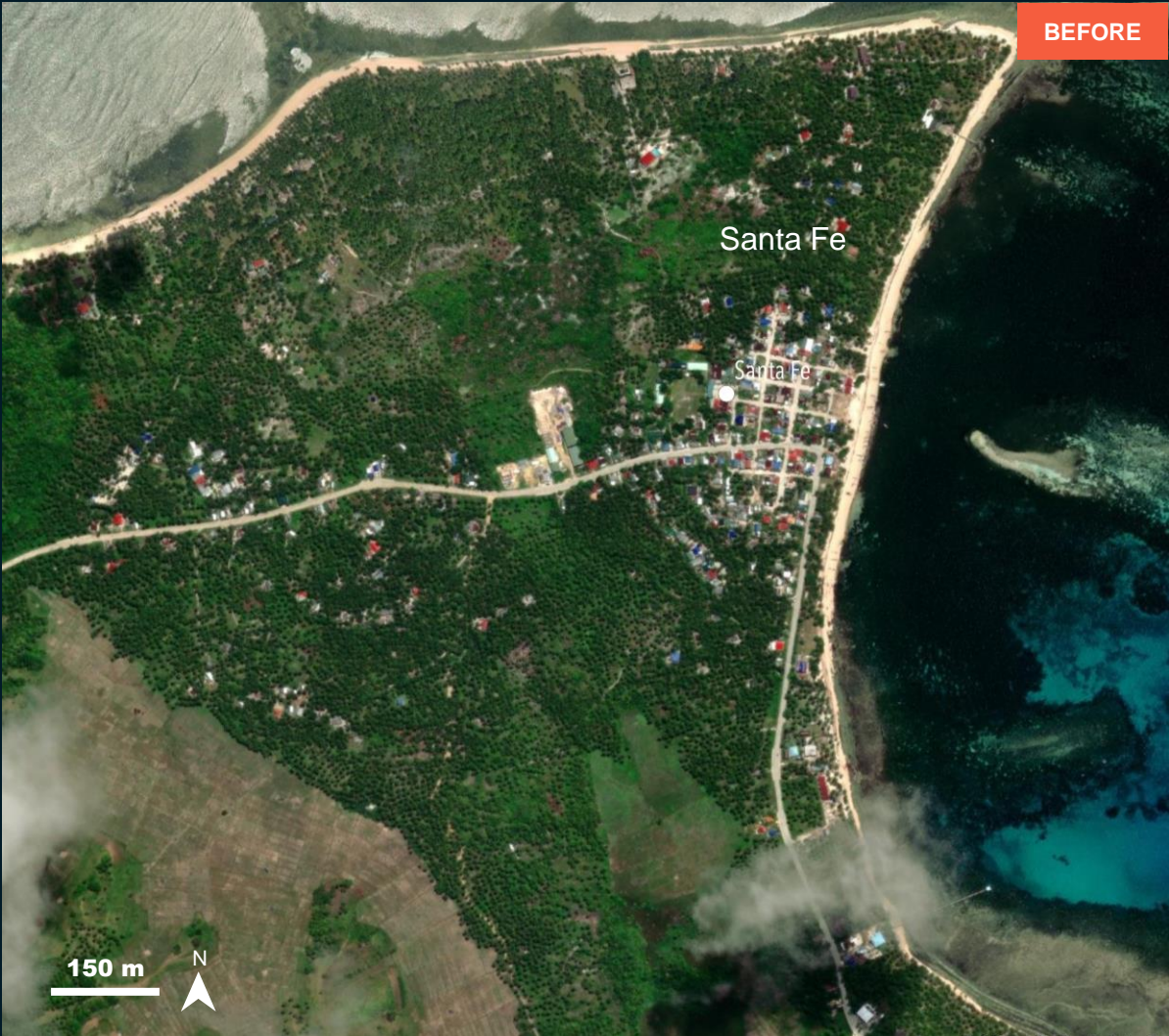
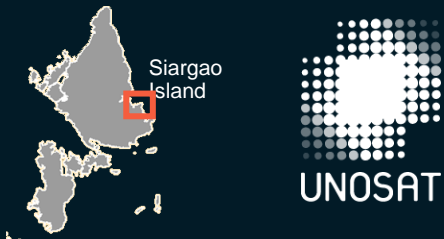
AFTER

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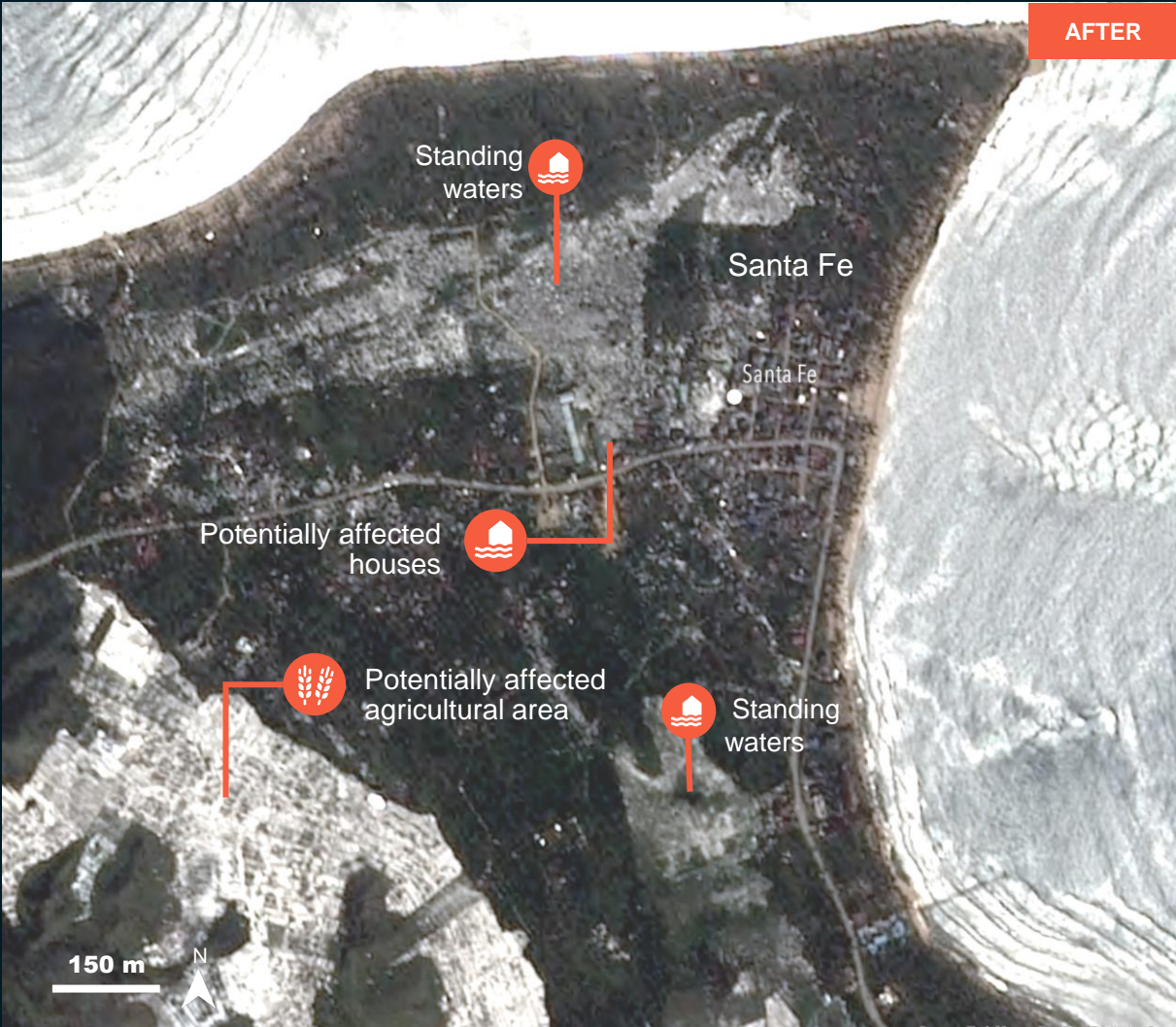
AOI 2-6: SANTA FE VILLAGE, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Inundated areas

Image center:
126°8'13.147"E
9°50'23.536"N



ESRI Basemap

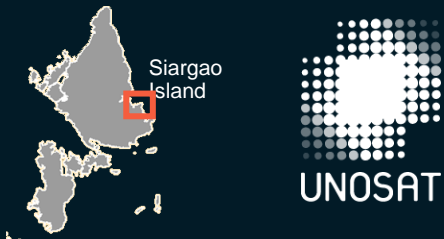


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AOI 2-6: SANTAFE VILLAGE, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Standing waters decrease

Image center:
126°8'13.147"E
9°50'23.536"N



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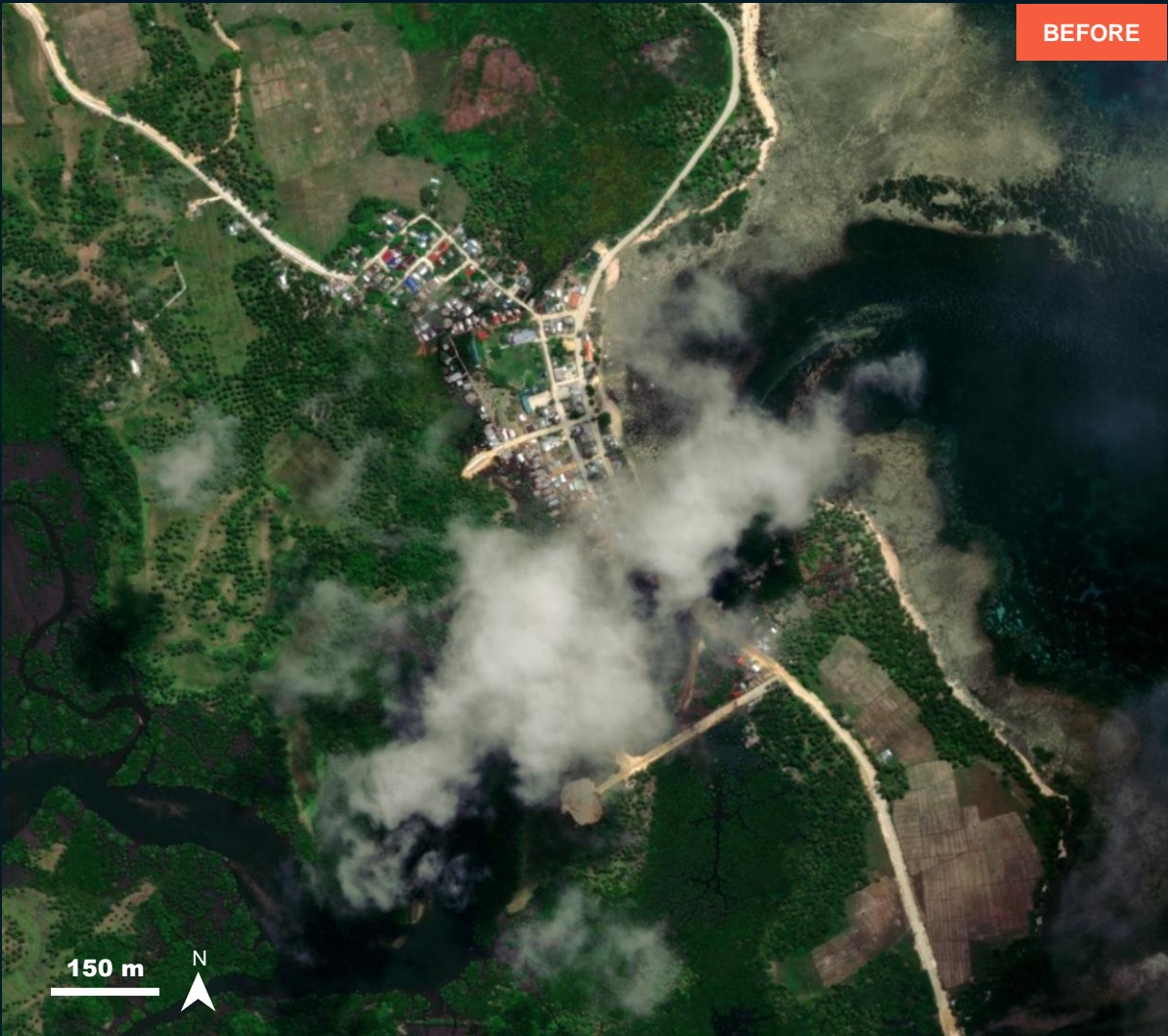
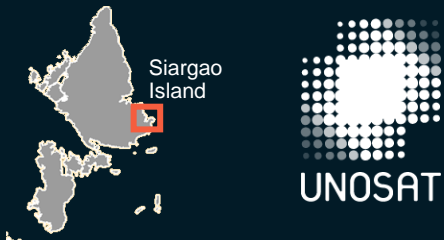


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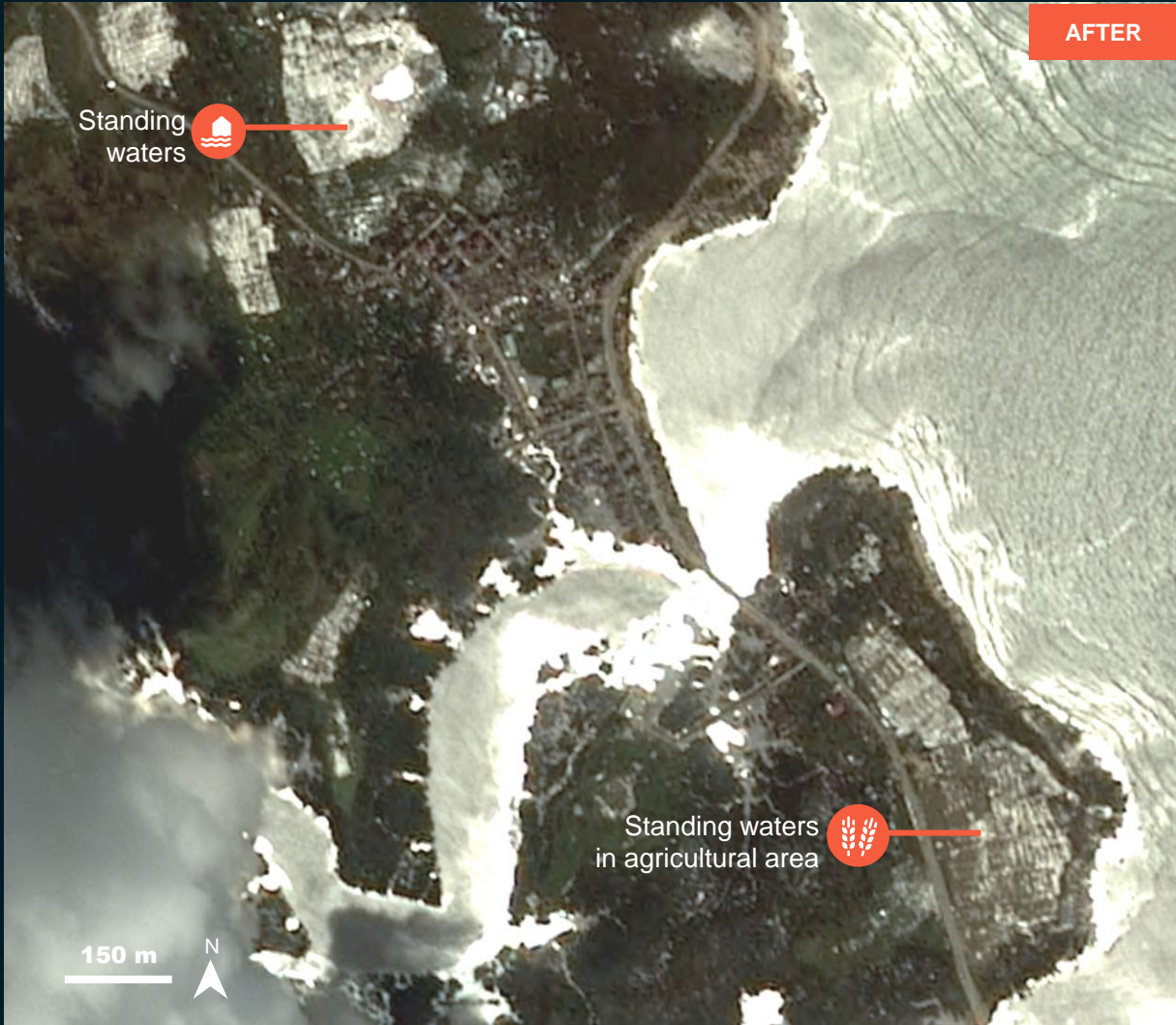
AOI 2-7: LIBERTAD VILLAGE, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Inundated areas

Image center:
126°8'29.259"E
9°49'32.078"N



ESRI Basemap

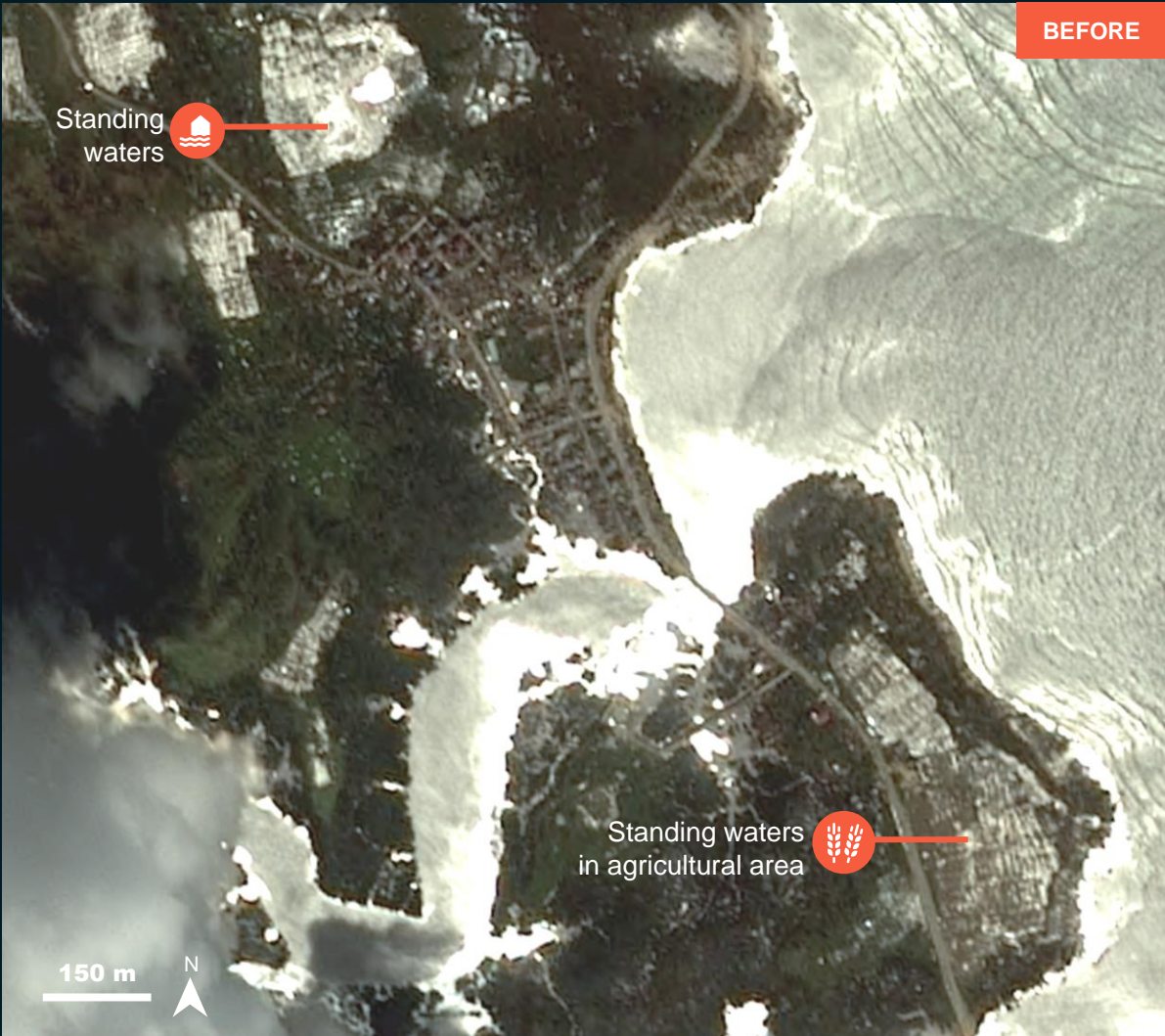


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AOI 2-7: LIBERTAD VILLAGE, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Standing water decrease

Image center:
126°8'29.259"E
9°49'32.078"N



SPOT7 / 18 December 2021

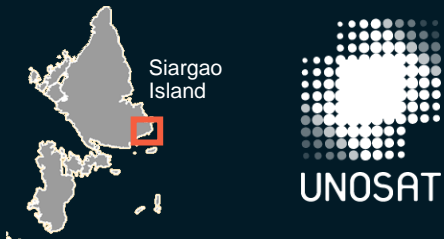


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AOI 2-8: SANTA LNES AND CATANGNAN VILLAGES, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Inundated areas and potentially affected structures

Image center:
126°9'38.165"E
9°48'26.932"N



ESRI Basemap

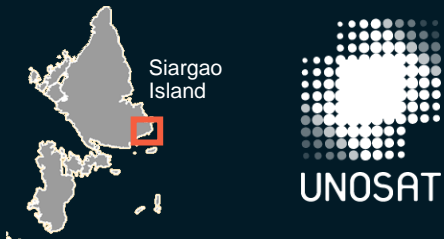


SPOT7 / 18 December 2021

AOI 2-8: SANTA LNES AND CATANGNAN VILLAGES, SURIGAO DEL NORTE PROVINCE, REGION XIII (CARAGA)

Standing waters decrease and potentially affected structures

Image center:
126°9'38.165"E
9°48'26.932"N



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SPOT7 / 19 December 2021

AOI 3-1: LILOAN TOWN, SOUTHERN LEYTE PROVINCE, REGION VIII (EASTERN VISAYAS)

Potentially damaged structures and affected area

Image center:
125°7'16.823"E
10°9'20.584"N



Southern leyte



ESRI Basemap

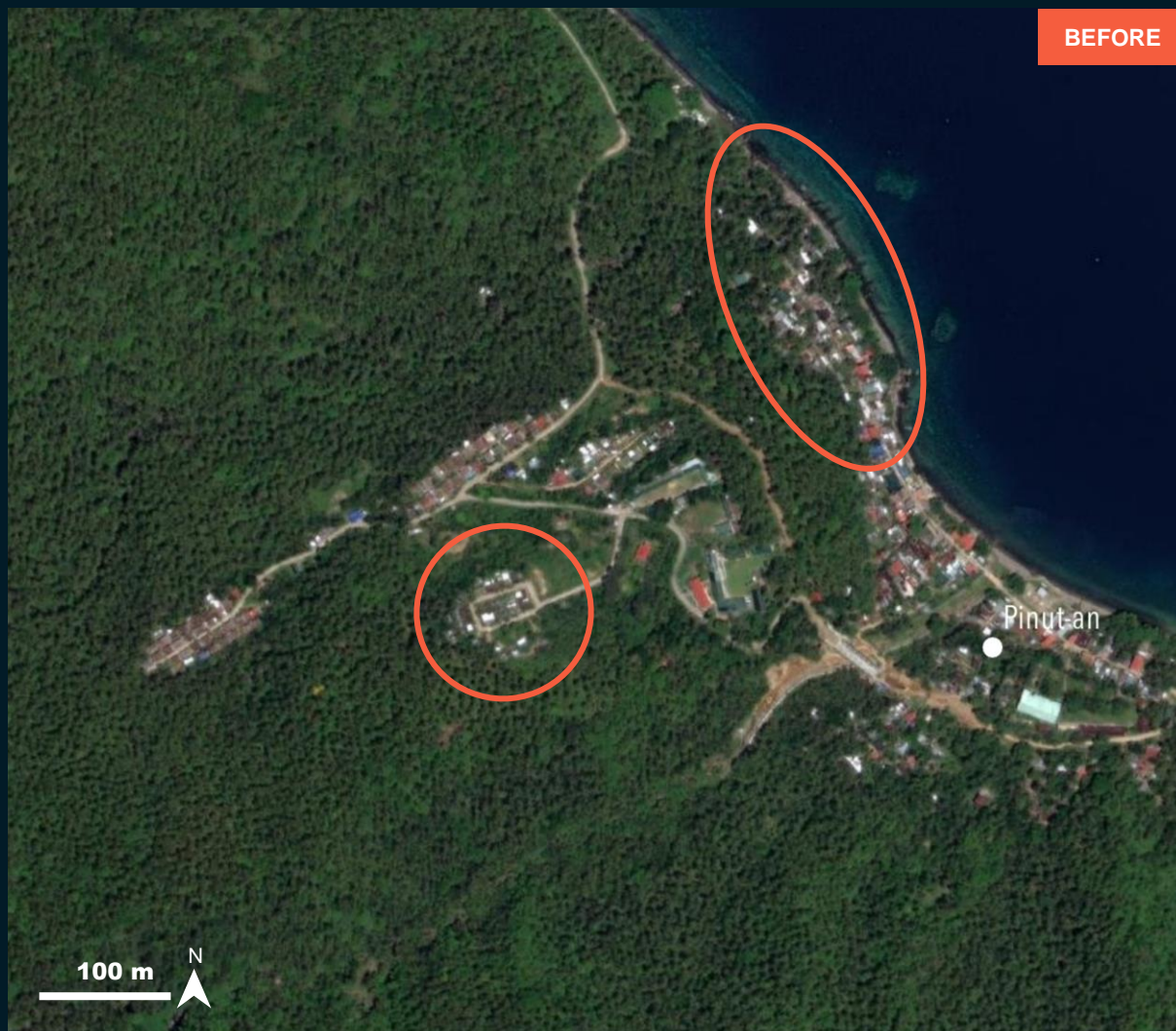


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AOI 3-2: PINUT-AN VILLAGE, SOUTHERN LEYTE PROVINCE, REGION VIII (EASTERN VISAYAS)

Potentially damaged structures and affected area along the shoreline

Image center:
125°16'6.883"E
10°0'3.679"N



BEFORE



AFTER

Affected area

Potentially damaged structures

Potentially damaged structures

SUMMARY OF FINDINGS

- Potentially damaged structures in Cuarinta Village, Dinagat Island, Region XIII (Caraga) as of 18 Dec 2021.
- No visible damage in Cagdianao village, Dinagat Island, Region XIII (Caraga) as of 19 Dec 2021.
- Severally damaged structures and affected areas along the coastal areas of Surigao Del Norte Province, Region XIII (Caraga) observed as of 18 and 19 December 2021.
- Decreasing waters observed in several areas in Siargao Island, Region XIII (Caraga) observed as of 19 and 20 December 2021.
- Damaged structures in Burgos town, Surigao Del Norte Province, Region XIII (Caraga) observed as of 20 Dec 2021.
- Potentially damaged structures in Rizal village and Del Carmen town Surigao Del Norte Province, Region XIII (Caraga) observed as of 19 Dec 2021.
- Potentially damaged structures in Dapa town, Siargao Island, Region XIII (Caraga) observed as of 18 December 2021.
- Affected structures by standing waters in Twin-twin, Santa Fe, Libertad, Santa Lnes, and Catangnan villages and Genaral Luna town, Siargao Island, Region XIII (Caraga) observed as of 18 December 2021.
- Potentially damaged structures and affected area al in Pinut-an Village and Liloan town, Southern Leyte province, Region XIII (Caraga) as of 18 Dec 2021.

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Data sources:

(1) Satellite Image (Post-event)

SPOT 6: 19 Dec 2021
SPOT 7: 18 & 20 Dec 2021
Resolution: 1.5 m
Copyright: © Airbus DS 2021
Source: Airbus DS

(2) Satellite Image (Pre-event)

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(3) Ancillary data

Administrative boundaries: National Mapping and Resource Information Authority (NAMRIA), Philippines Statistics Authority (PSA)
Populate place: OpenStreetMap

Analysis: United Nations Satellite Centre (UNOSAT)
Production: United Nations Satellite Centre (UNOSAT)



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