

27 December 2021


TROPICAL CYCLONE RAI-21

PRELIMINARY SATELLITE-DERIVED INDUSTRIAL SITES IMPACT ANALYSIS IN CEBU & NAGA

Eastern coastal

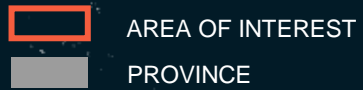
Cebu Province of Region VII (Central Visayas)

 Status: Widespread damaged industrial facilities observed.

 Further action(s): Continue monitoring



PHILIPPINES



AOI 1-1 : PROTECT MARINE TRAINING CENTER, CARCAR CITY, CEBU, REGION VII (CENTRAL VISAYAS)

Potentially damaged roof

Image center:
123°38'13.789"E
10°4'4.254"N



Google Earth / Nov 2021



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AOI 1-2 : STEEL ASIA, CARCAR CITY, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Potentially damaged roof

Image center:
123°40'18.31"E
10°6'32.278"N



Google Earth / Nov 2021



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AOI 1-3 : MULTIFARM EMPLOYEES COOP, SAN FERNANDO, CEBU PROVINCE, REGION VII

Widespread damaged structure

Image center:
123°41'27.925"E
10°8'24.759"N



Google Earth / Nov 2021

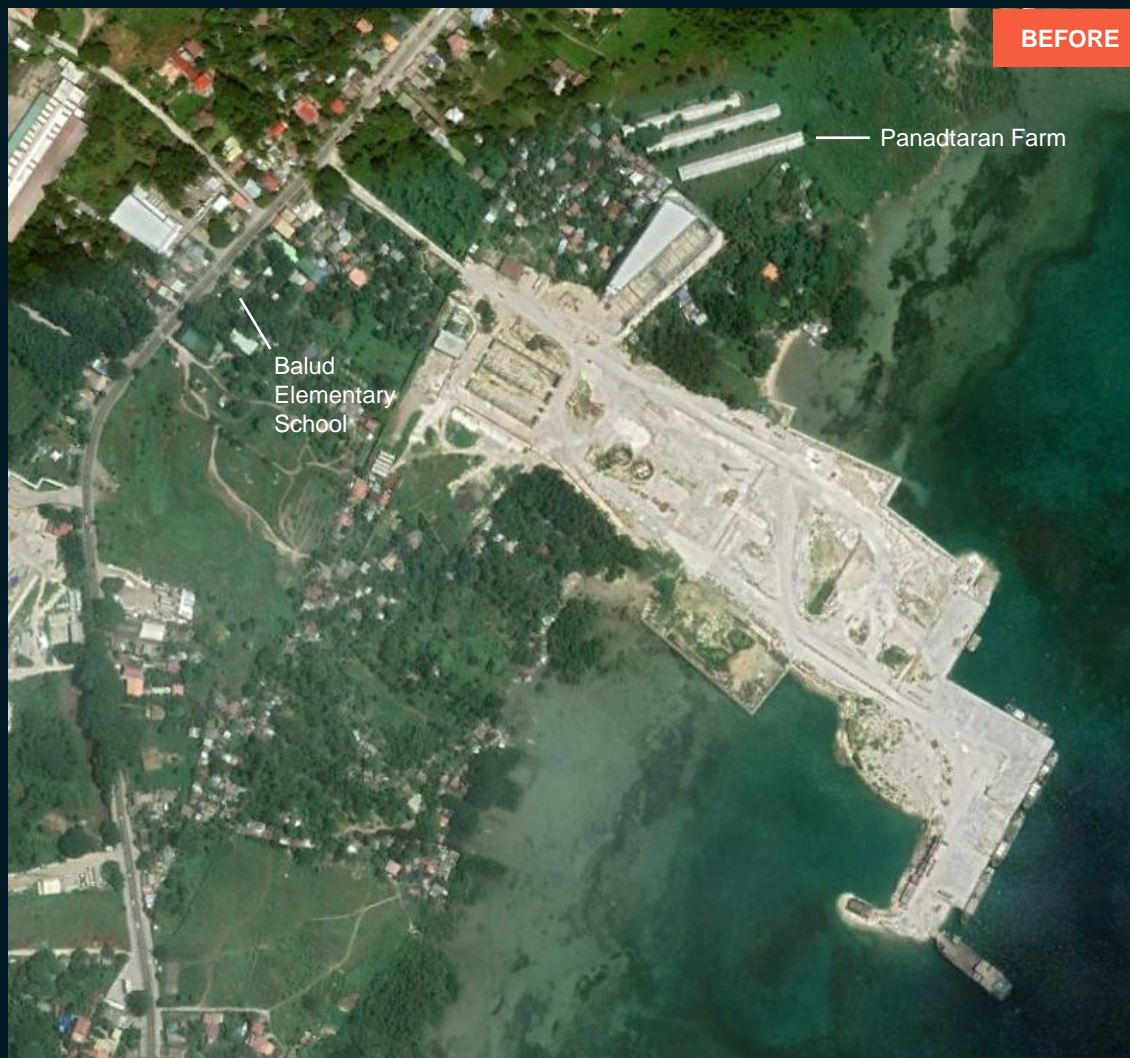


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AOI 1-4: PANADTARAN FARM, SAN FERNANDO, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged structures

Image center:
123°41'57.439"E
10°8'49.822"N



Google Earth / Nov 2021

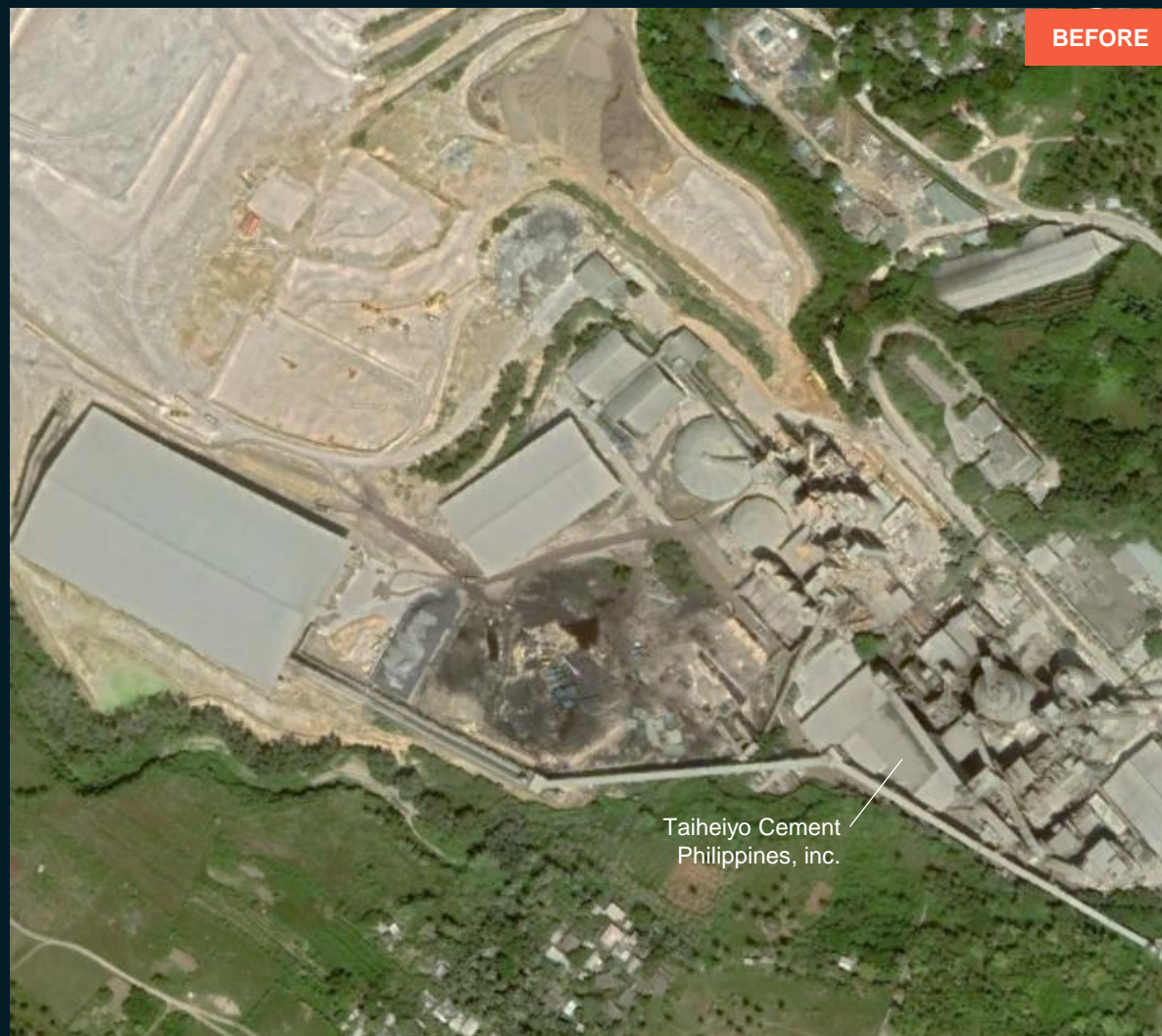


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AOI 1-5 : TAIHEIYO CEMENT PHILIPPINES, INC. SAN FERNANDO, CEBU PROVINCE, REGION VII

Damaged structures and roof in the industrial factory

Image center:
123°41'56.017"E
10°9'44.439"N



Google Earth / Nov 2021

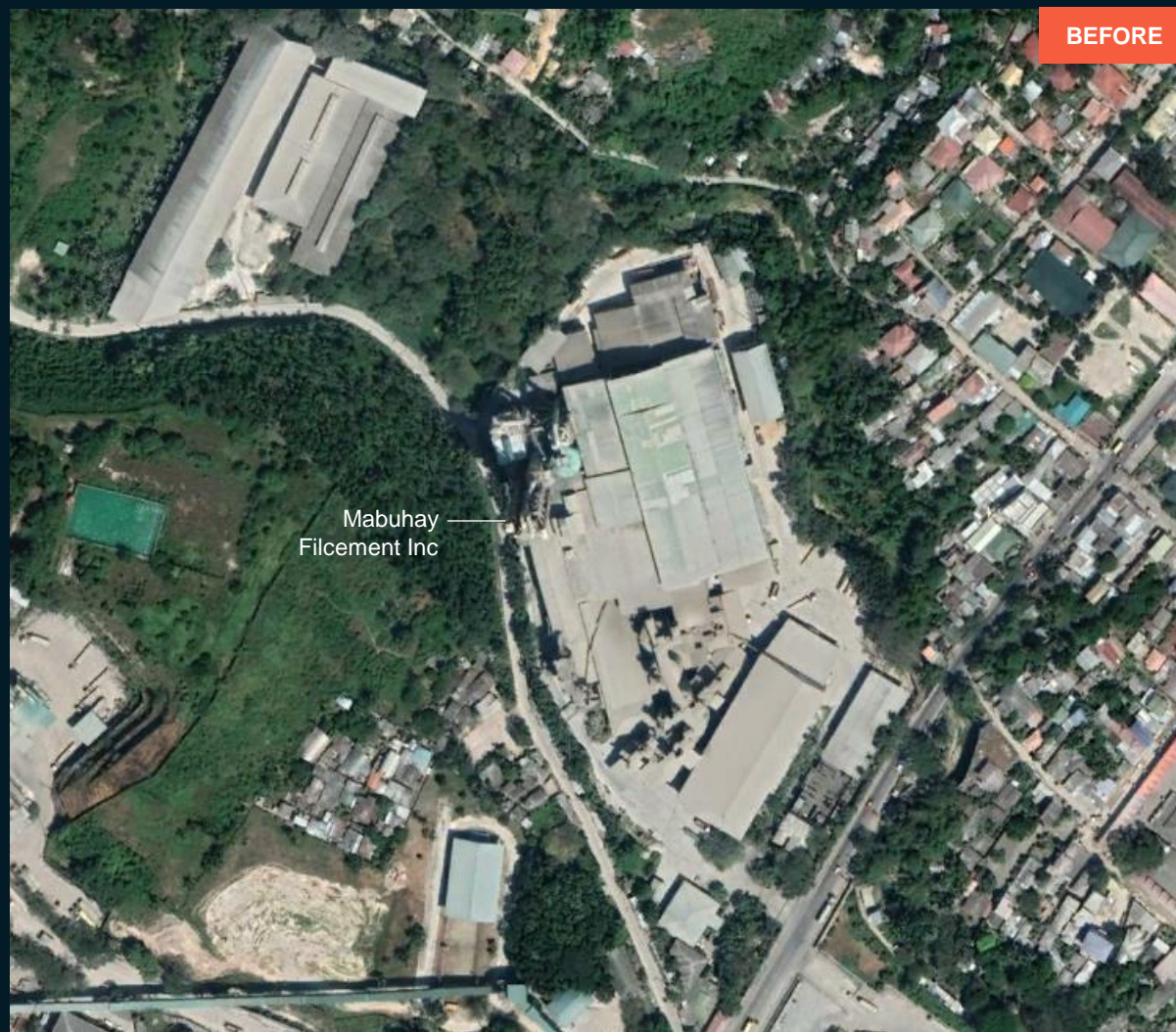


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AOI 1-6: MABUHAY FILCEMENT INC SAN FERNANDO, CEBU, REGION VII (CENTRAL VISAYAS)

Damaged structures and roof in the industrial factory

Image center:
123°42'17.08"E
010°9'44.151"N



Google Earth / Mar 2021

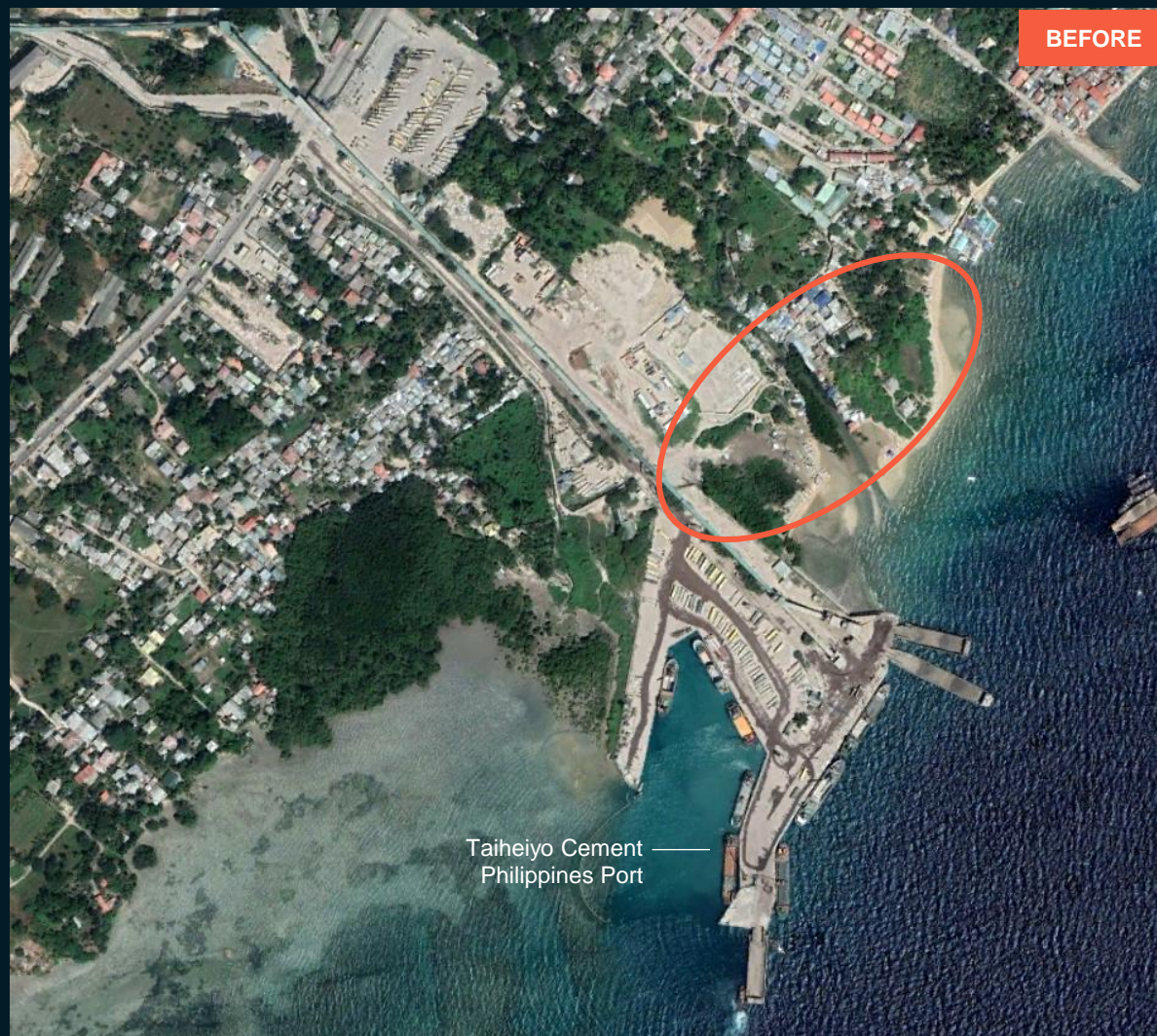


Pléiades / 21 December 2021

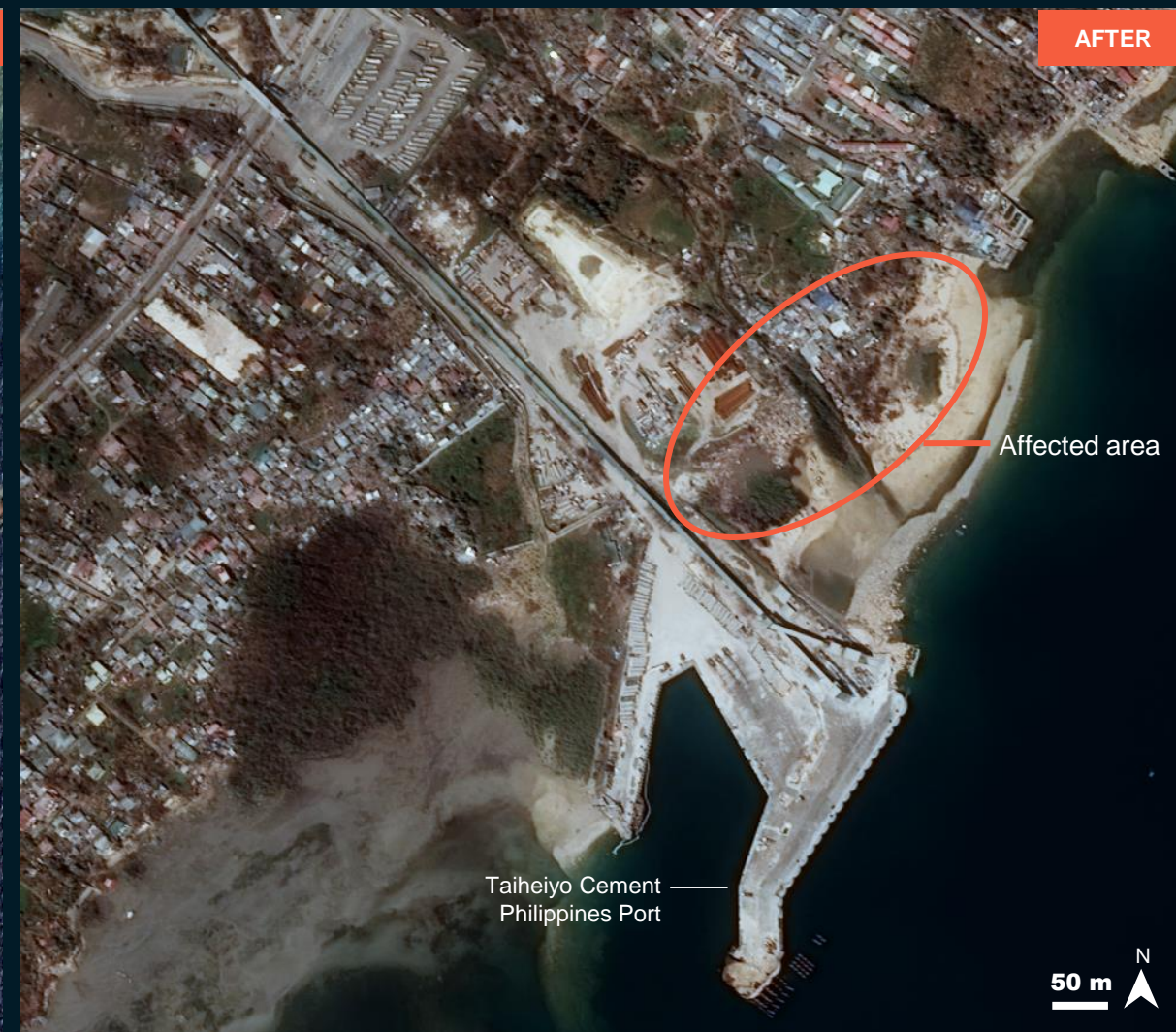
AOI 1-7: TAIHEIYO CEMENT PHILIPPINES PORT SAN FERNANDO, CEBU, REGION VII (CENTRAL VISAYAS)

Affected area along the shoreline

Image center:
123°42'25.363"E
10°9'24.434"N



Google Earth / May 2021

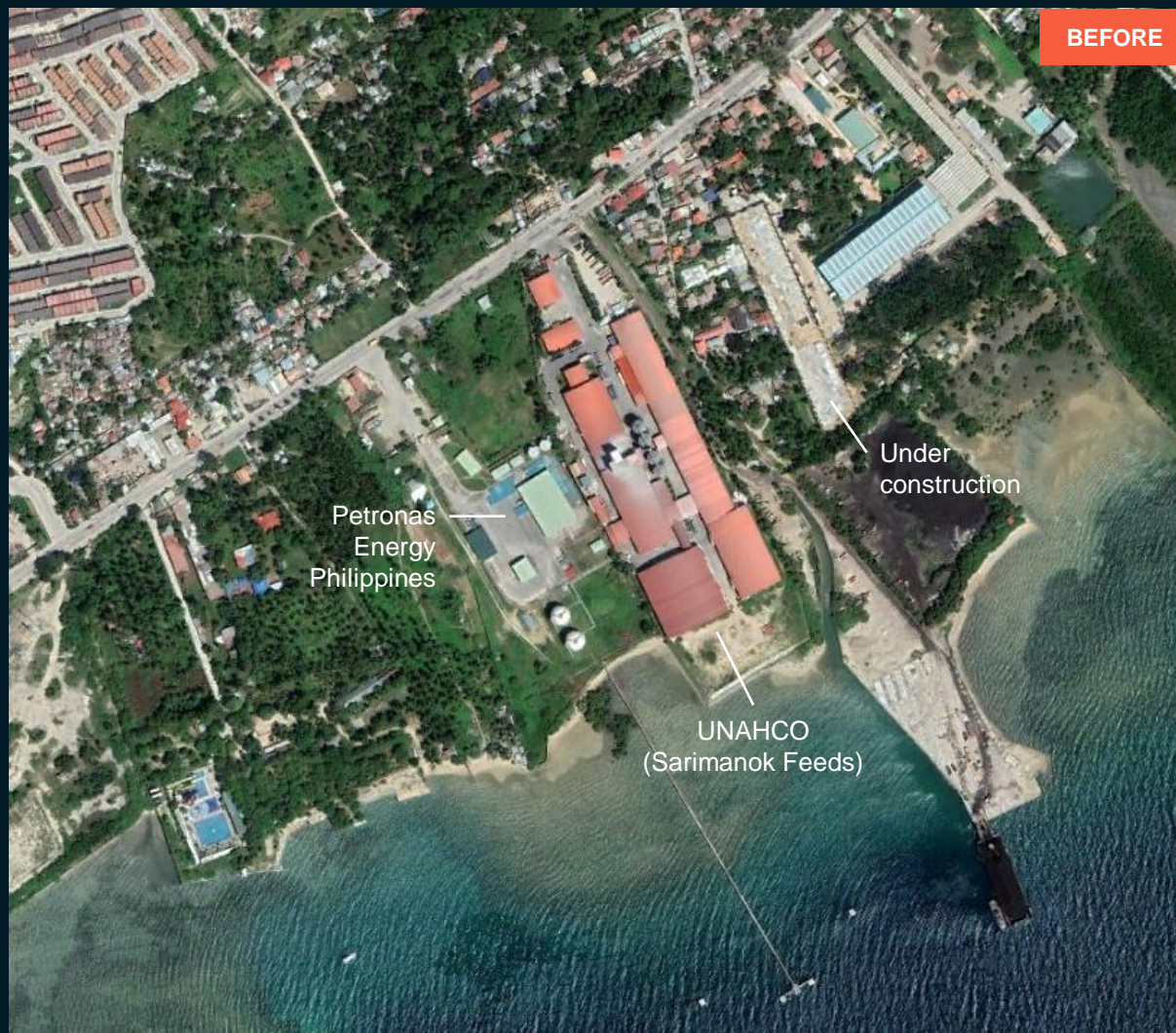


Pléiades / 21 December 2021

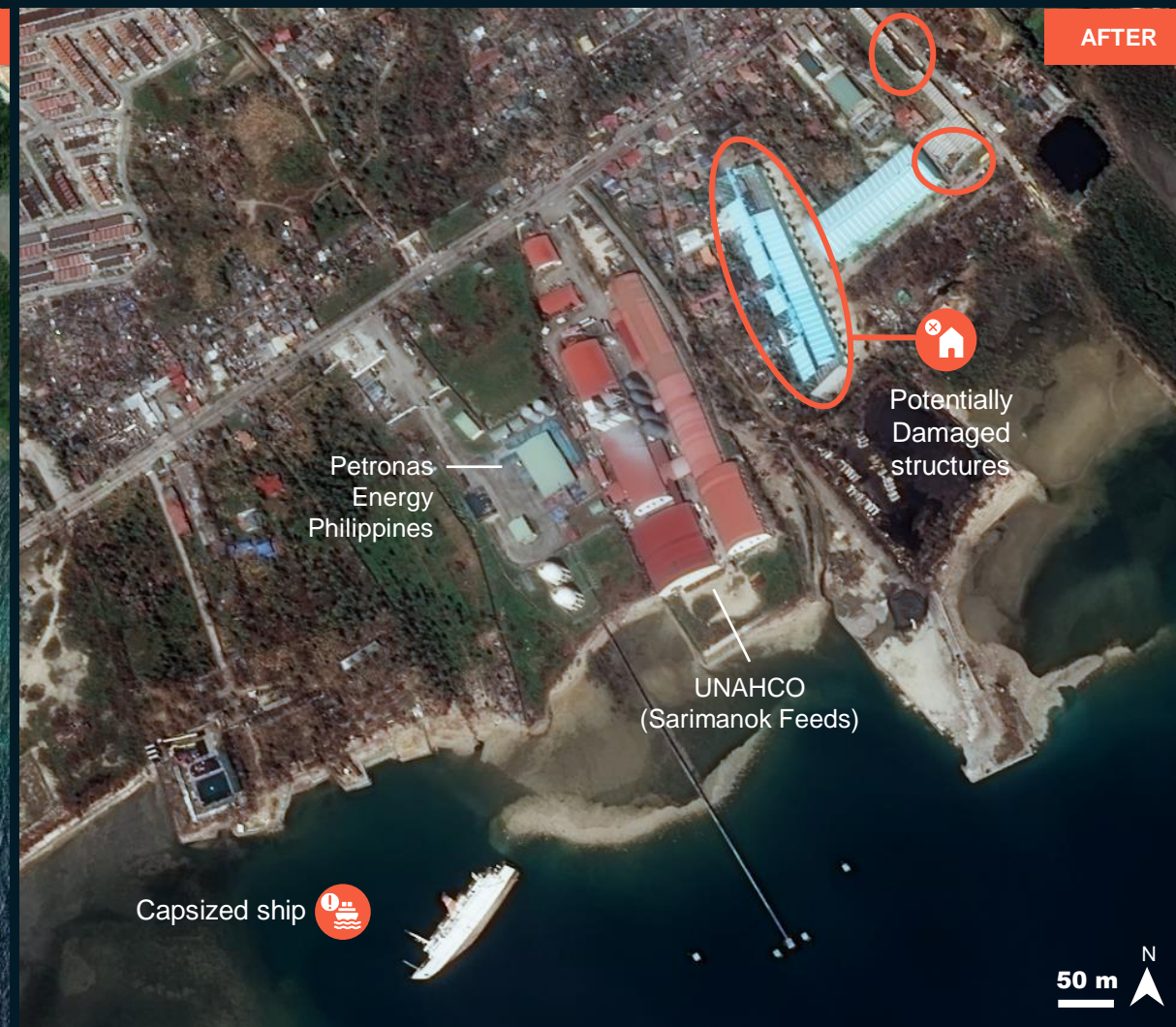
AOI 1-8: UNAHCO (SARIMANOK FEEDS), GUANZON BEACH SAN FERNANDO, CEBU, REGION VII (CENTRAL VISAYAS)

Damaged structures and capsized ship

Image center:
123°43'57.058"E
10°10'48.455"N



Google Earth / May 2021

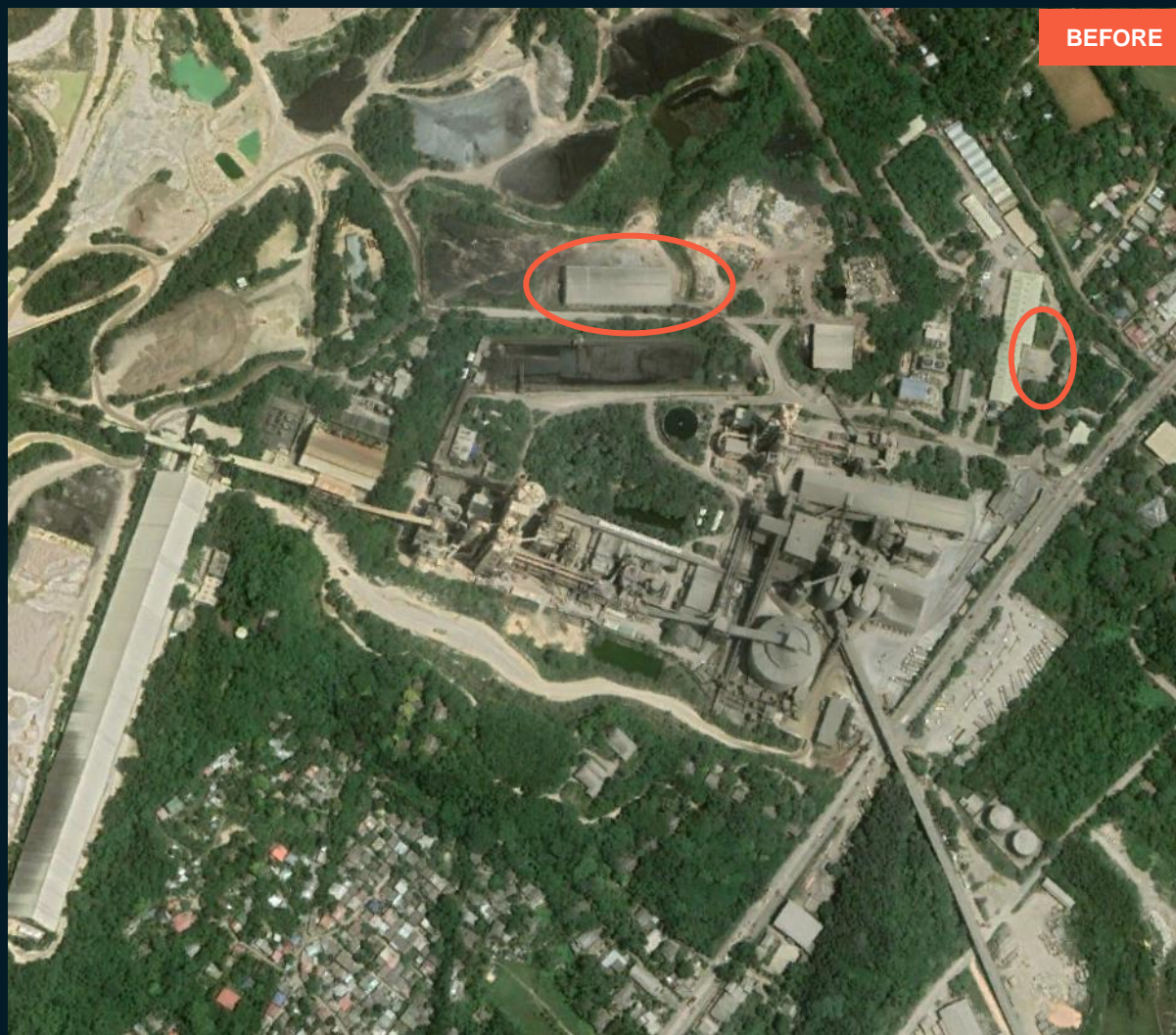


Pléiades / 21 December 2021

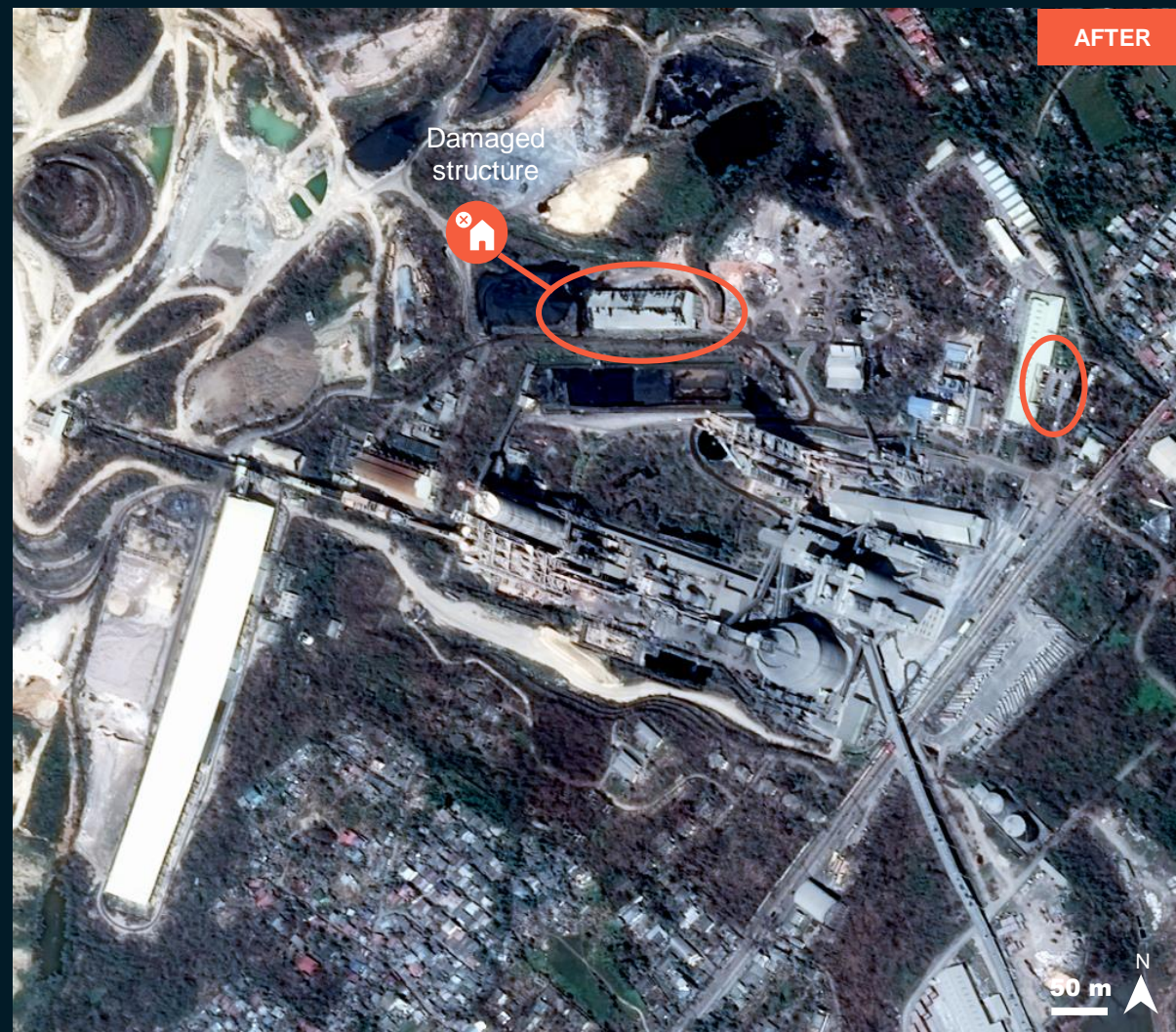
AOI 1-9: CITY OF NAGA, CEBU, REGION VII (CENTRAL VISAYAS)

Damaged structures in the industrial factory

Image center:
123°44'42.285"E
10°11'54.064"N



Google Earth / Nov 2021

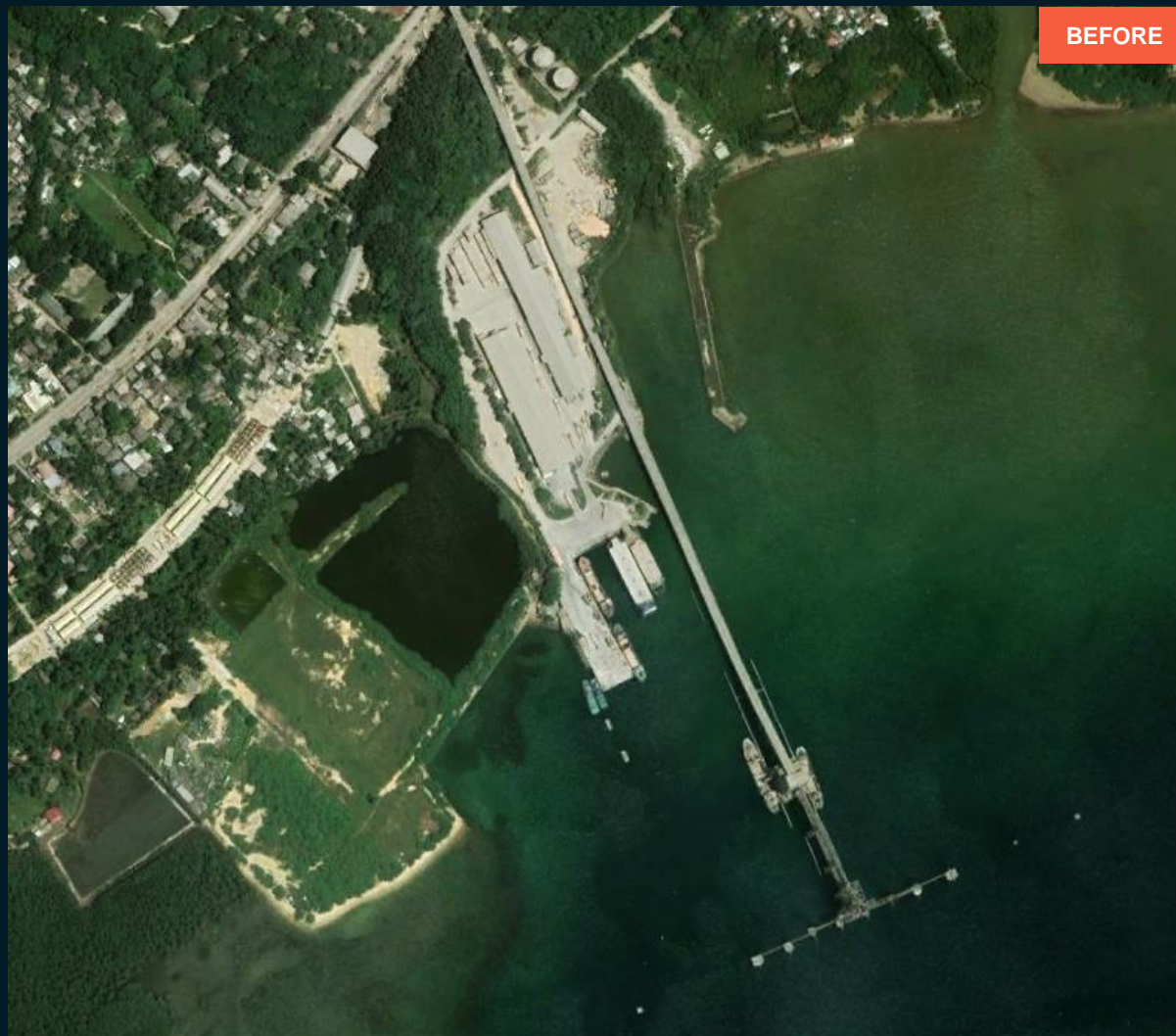


Pléiades / 21 December 2021

AOI 1-10: CITY OF NAGA, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Potentially damaged structures in the port

Image center:
123°44'55.034"E
10°11'32.189"N



Google Earth / Nov 2021

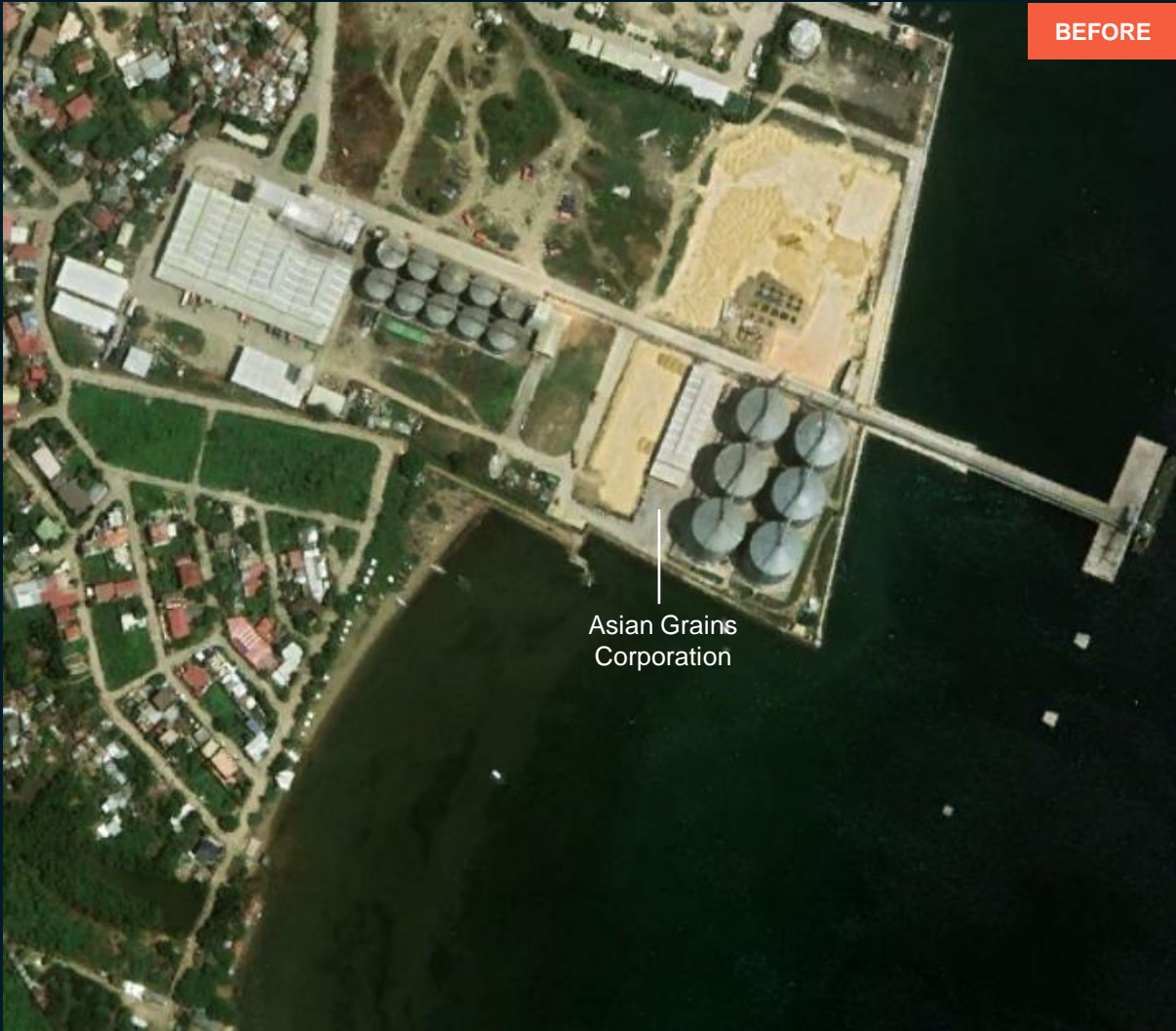


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AOI 1-11: ASIAN GRAINS CORPORATION, CITY OF NAGA, CEBU PROVINCE, REGION VII

Damaged industrial infrastructures

Image center:
123°45'32.419"E
010°12'6.779"N



Google Earth / Nov 2021

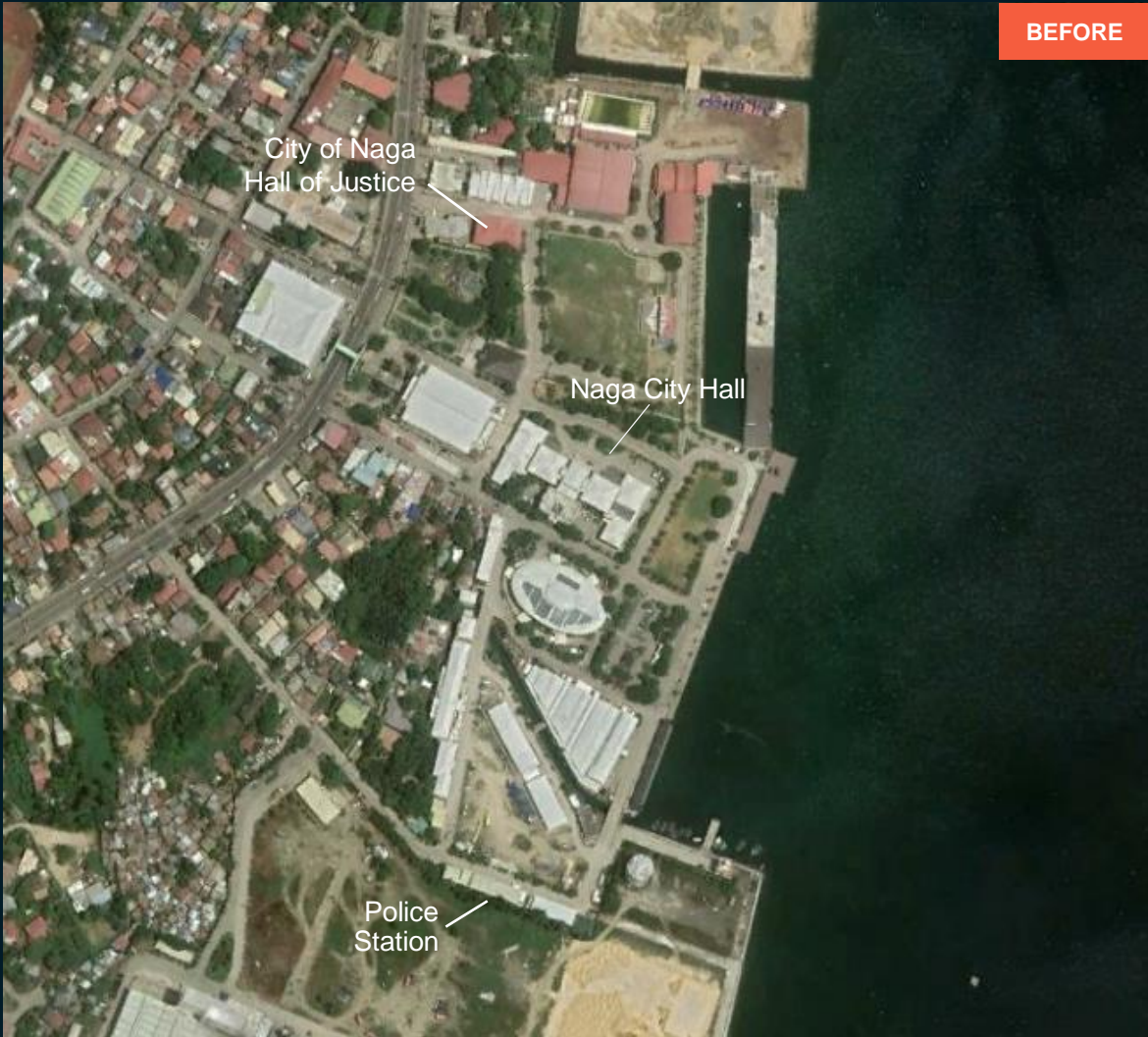


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AOI 1-12: CITY OF NAGA, CEBU, REGION VII (CENTRAL VISAYAS)

Damaged structures

Image center:
123°45'33.436"E
10°12'25.492"N



Google Earth / Nov 2021



Pléiades / 21 December 2021

AOI 1-13: NAGA THERMAL POWER COMPLEXCITY OF NAGA, CEBU, REGION VII (CENTRAL VISAYAS)

Damaged structures and vegetation in the power plant site

Image center:
123°45'37.474"E
10°13'1.882"N



Google Earth / Nov 2021



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**AOI 1-14: CITY OF NAGA, CEBU,
REGION VII (CENTRAL VISAYAS)**

No damage

Image center:
123°45'35.164"E
10°13'22.459"N



Google Earth / Nov 2021



Pléiades / 21 December 2021

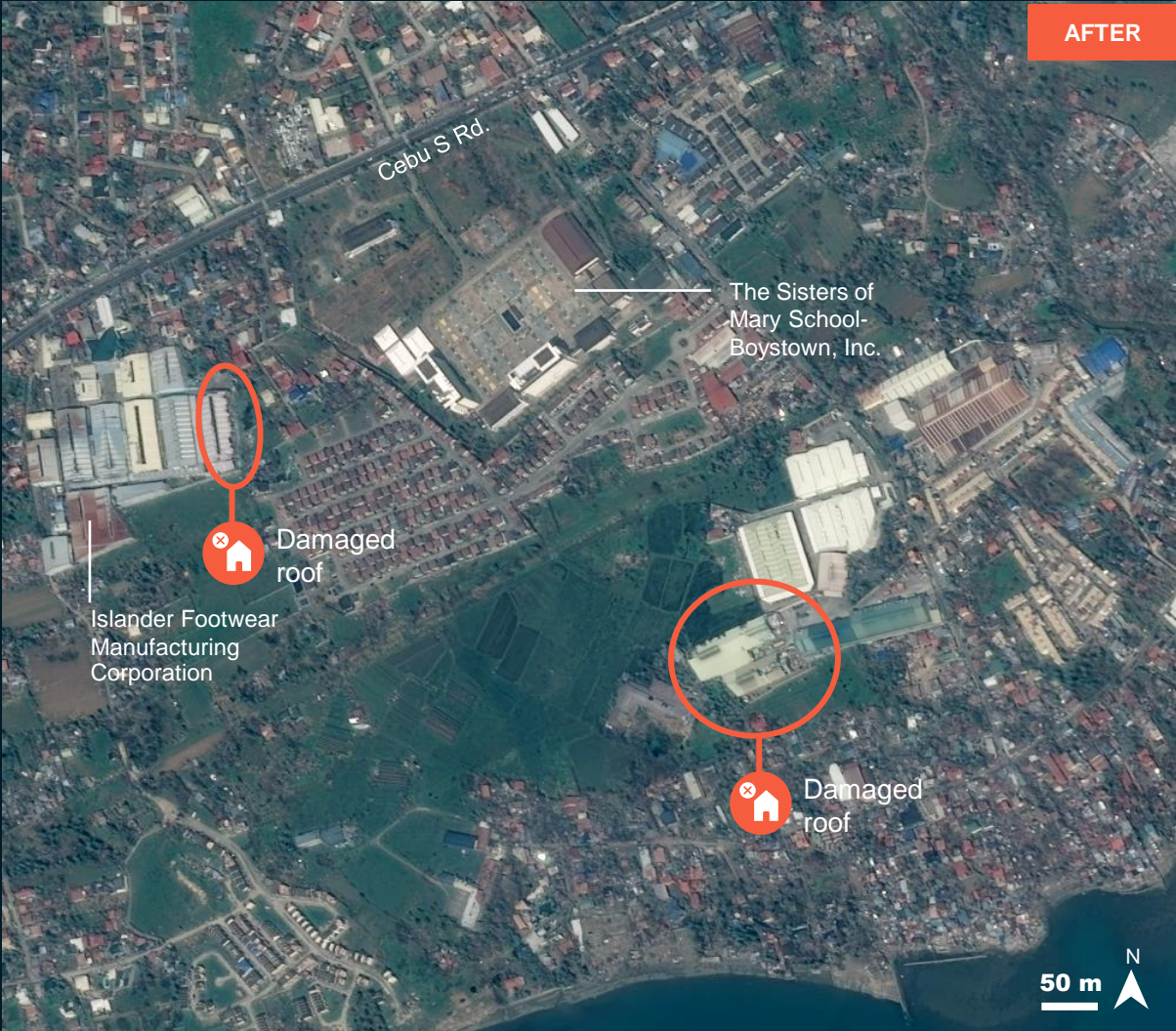
AOI 1-15: TUYAN, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged roof

Image center:
123°46'51.665"E
10°14'5.906"N



Google Earth / Nov 2021



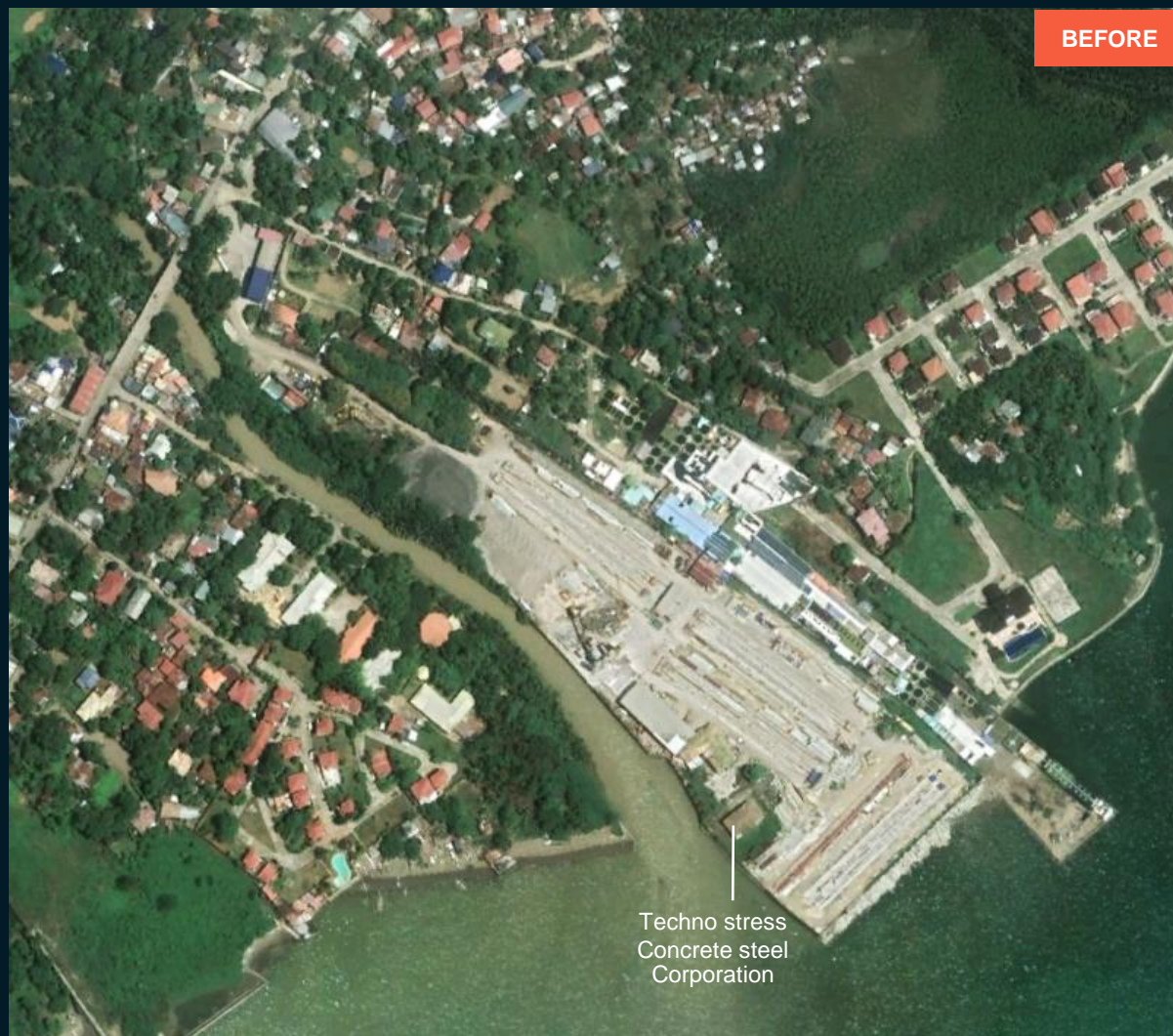
Pléiades / 21 December 2021

AOI 1-16: TECHNO STRESS CONCRETE STEEL CORPORATION CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

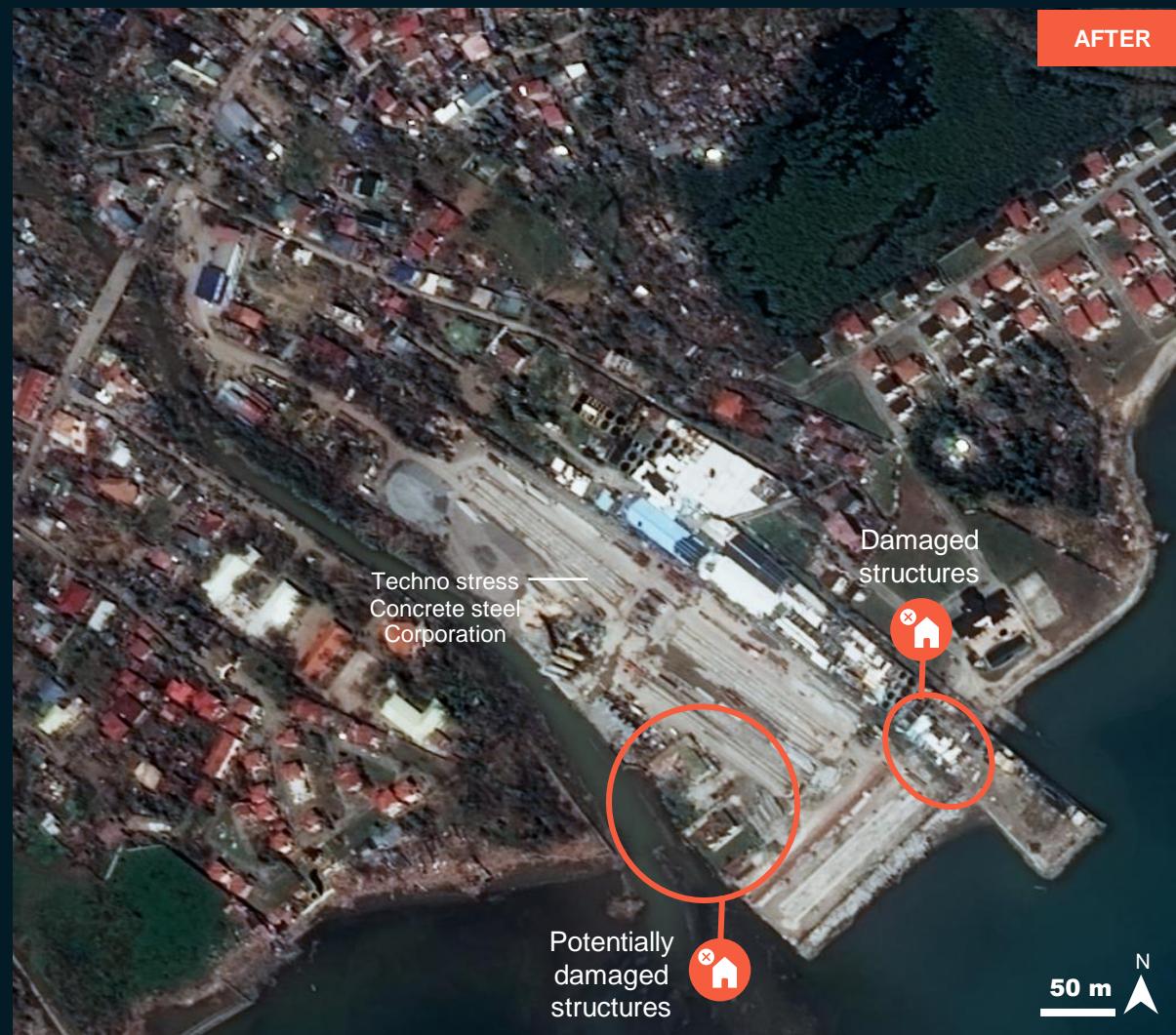
Image center:
123°47'26.427"E
10°14'6.516"N



Damaged structures in the port



Google Earth / Nov 2021



Pléiades / 21 December 2021

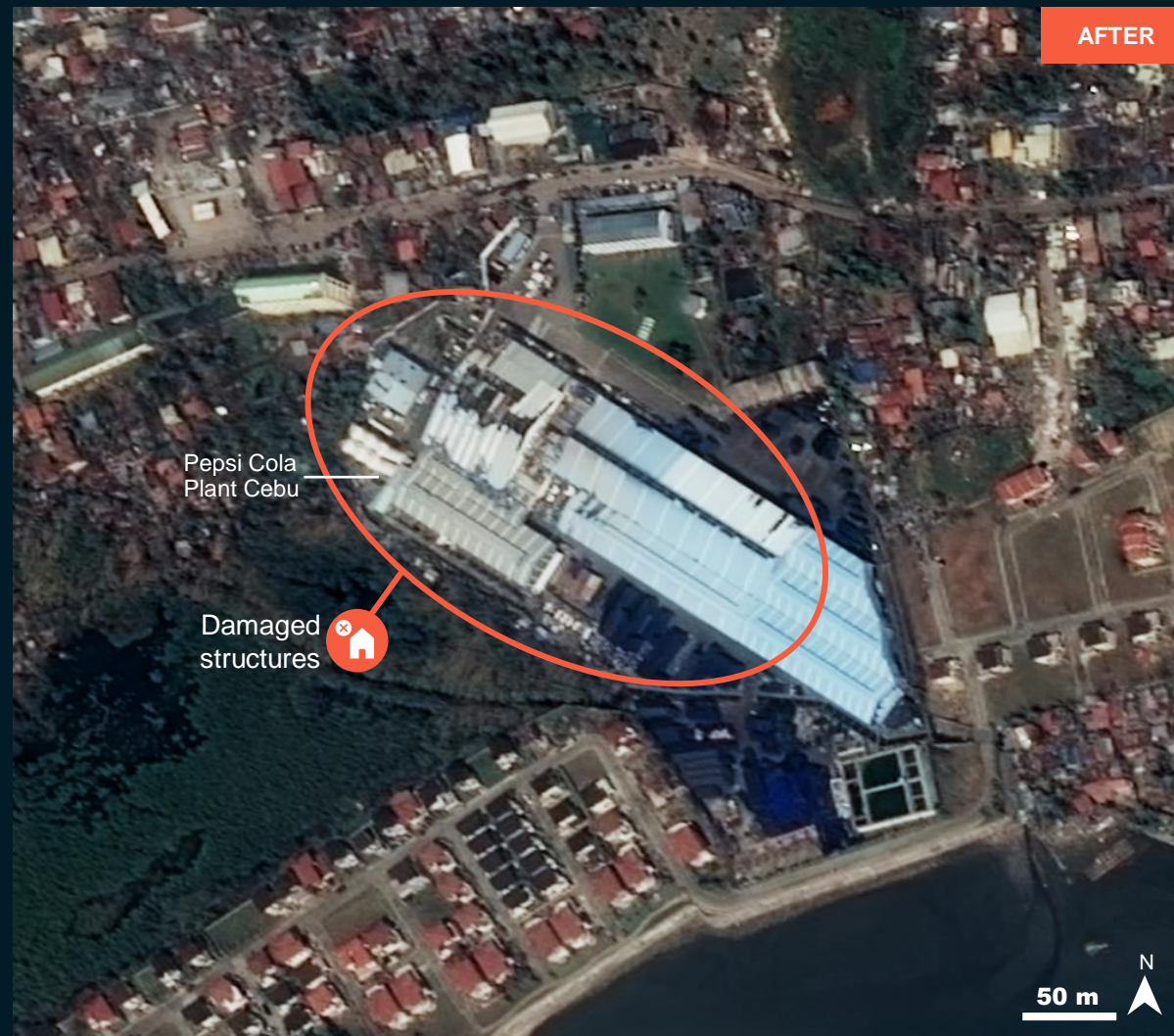
AOI 1-17: PEPSI COLA PLANT CEBU CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged roof

Image center:
123°47'39.603"E
10°14'17.312"N



Google Earth / Nov 2021

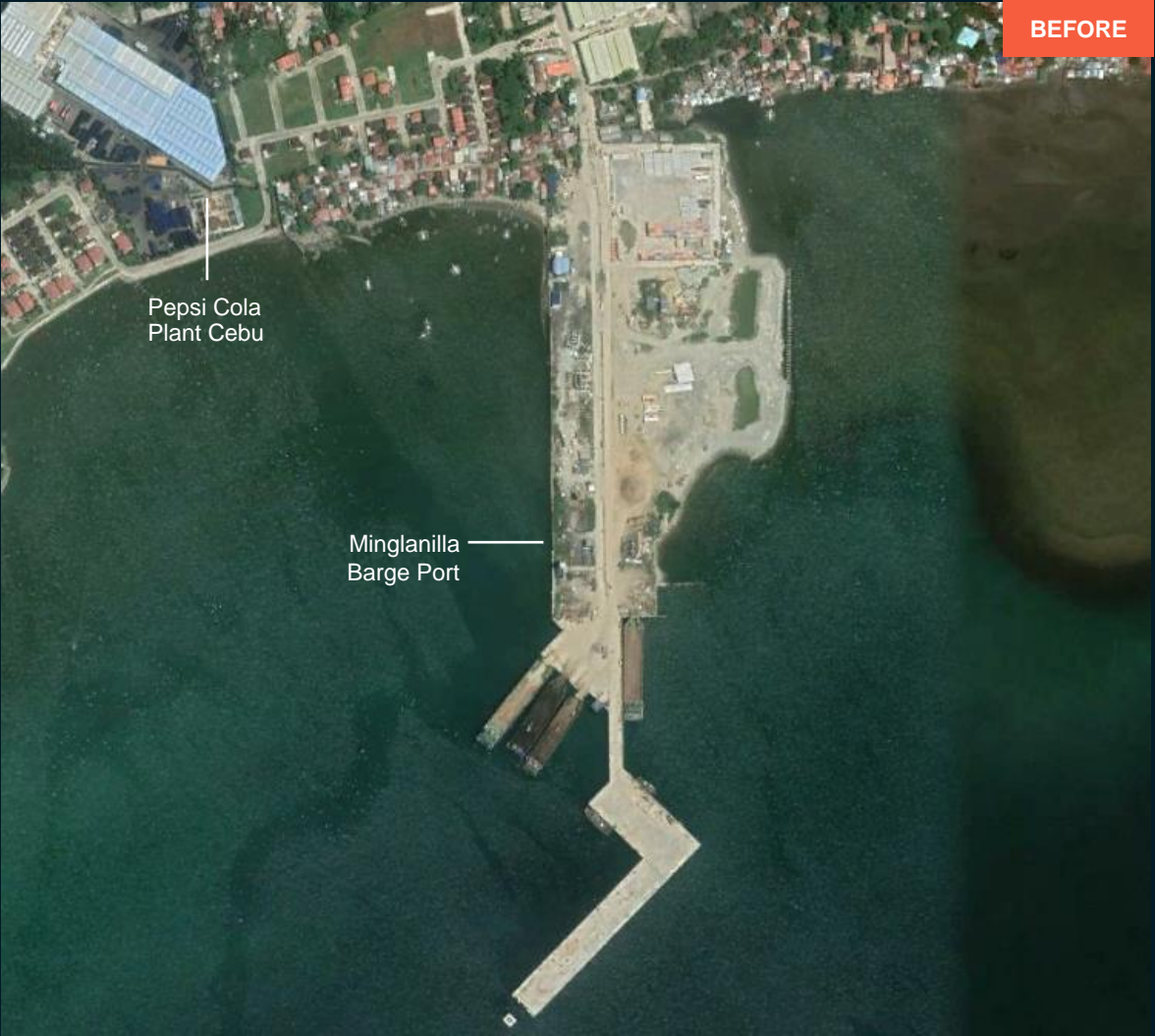


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AOI 1-18: MINGLANILLA BARGE PORT CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

No damage observed in the port zone

Image center:
123°47'55.239"E
10°14'6.611"N



Google Earth / Nov 2021



Pléiades / 21 December 2021

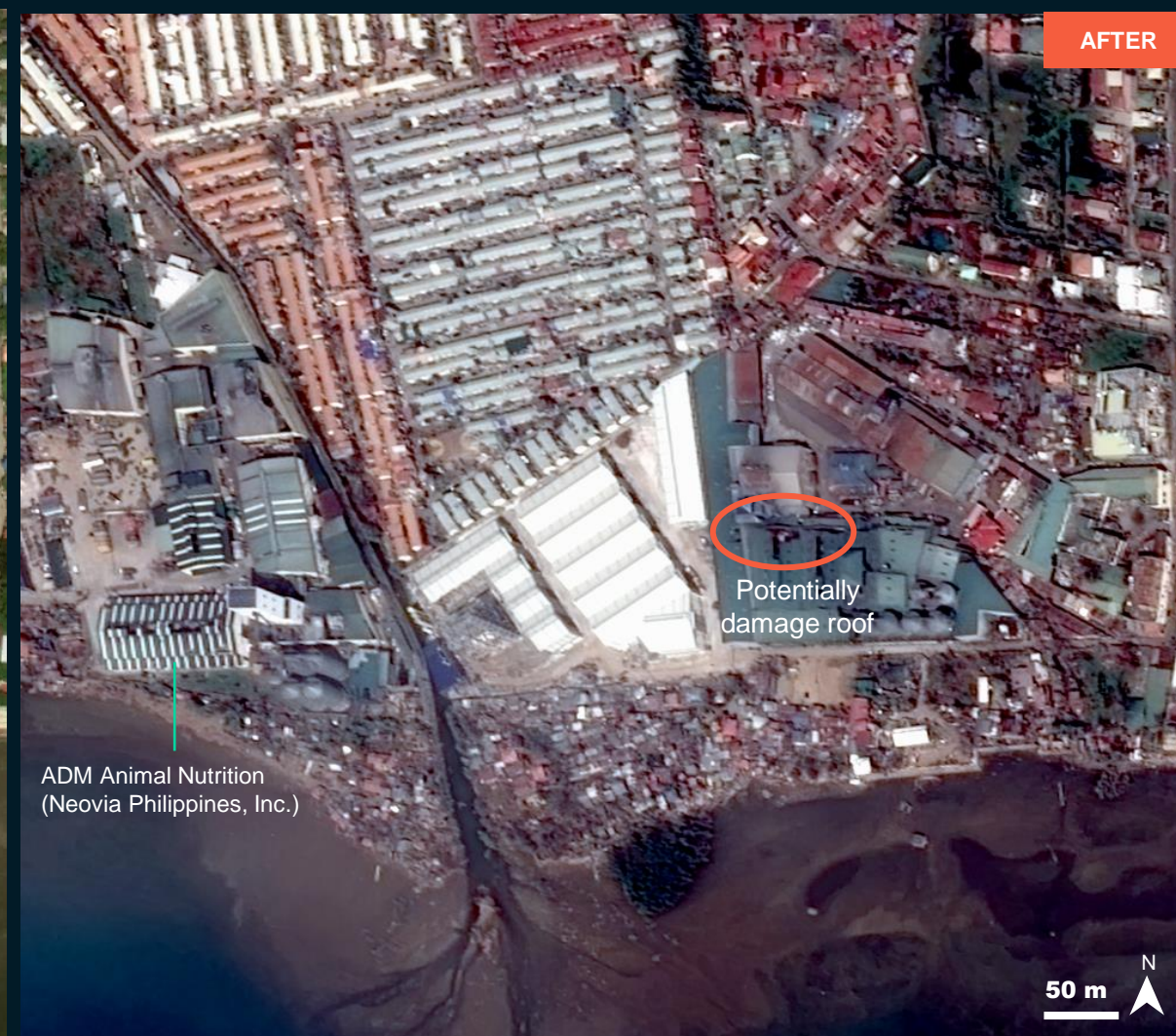
AOI 1-19: ADM ANIMAL NUTRITION (NEOVIA PHILIPPINES, INC.) CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Potentially damage roof

Image center:
123°48'38.44"E
10°14'20.717"N



Google Earth / Nov 2021



Pléiades / 21 December 2021

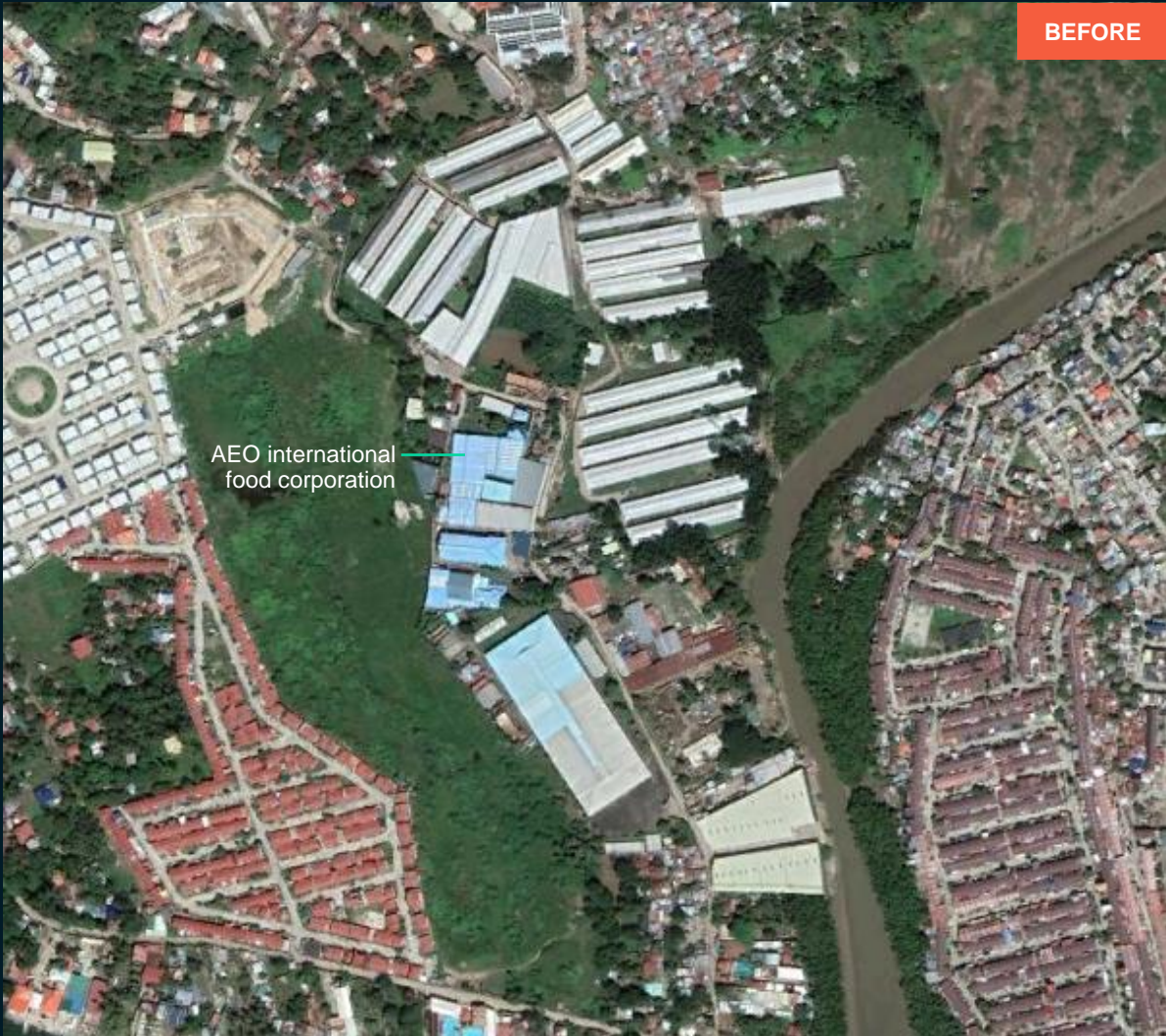
AOI 1-20: AEO INTERNATIONAL FOOD CORPORATION CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged roof and structures

Image center:
123°50'0.021"E
10°14'21.939"N



Cebu Island



Google Earth / March 2021

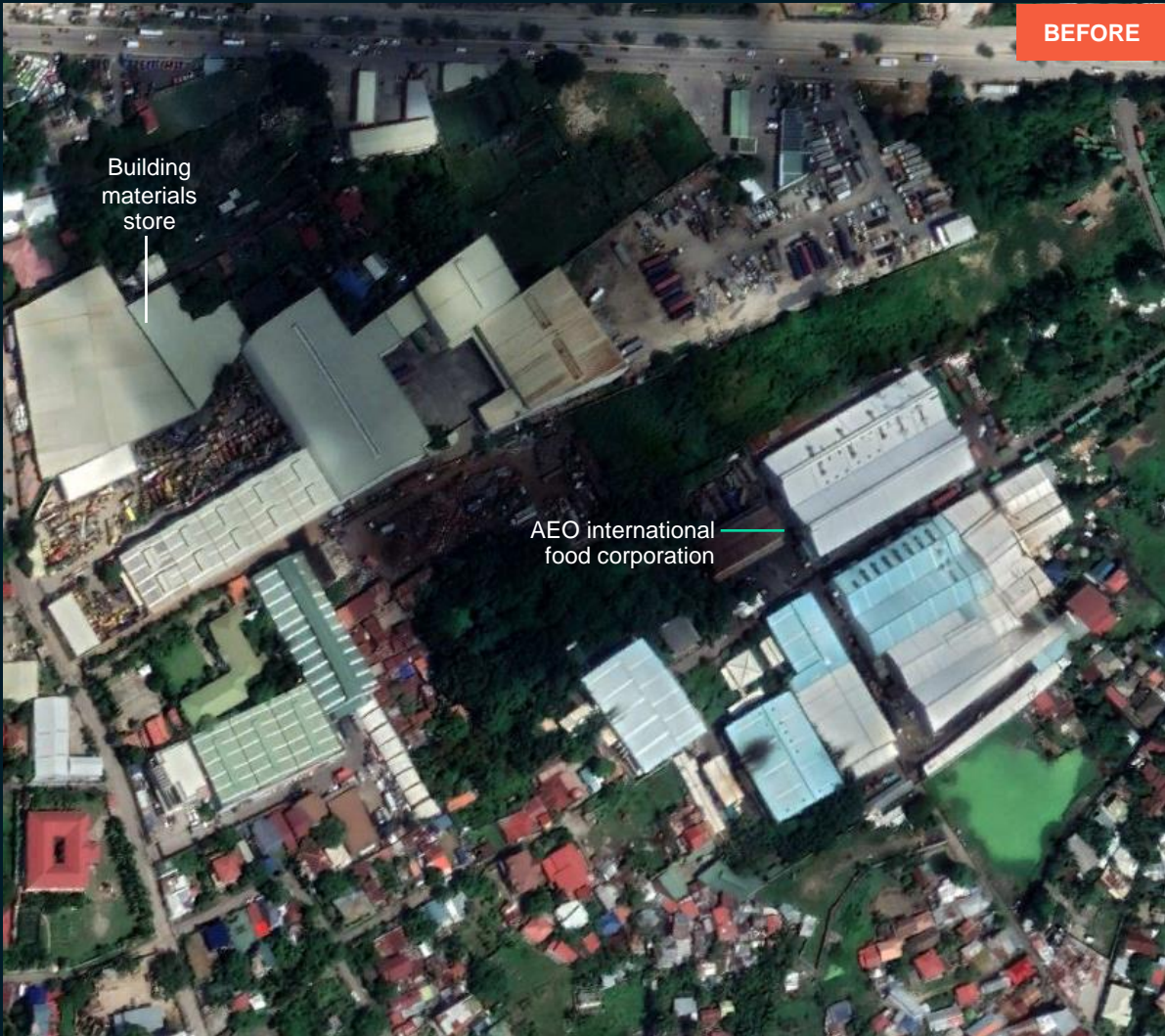


Pléiades / 21 December 2021

AOI 1-21: TALISAY BIHONAN FACTORY CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged structures

Image center:
123°50'56.469"E
10°14'58.198"N



Google Earth / March 2021

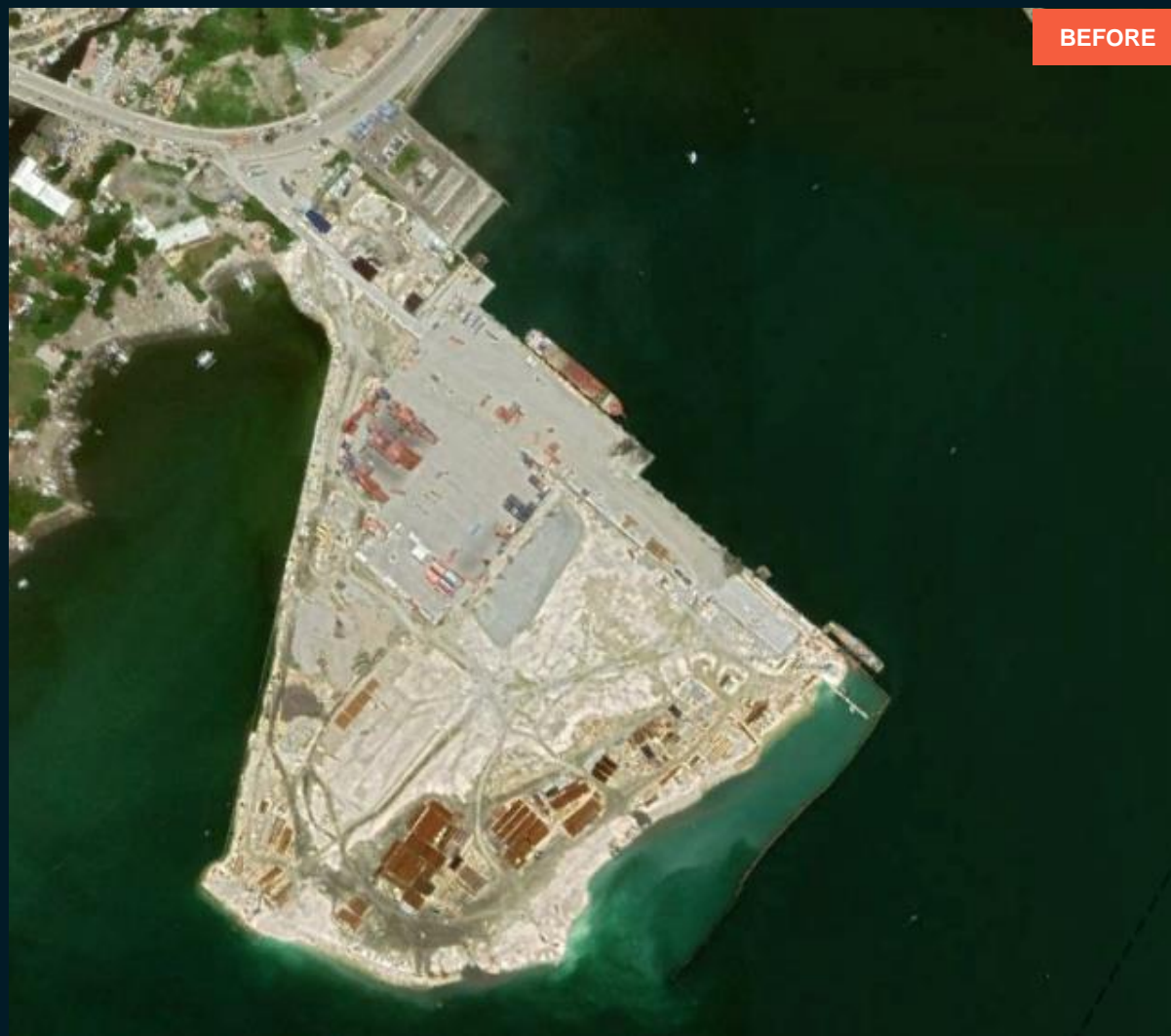


Pléiades / 21 December 2021

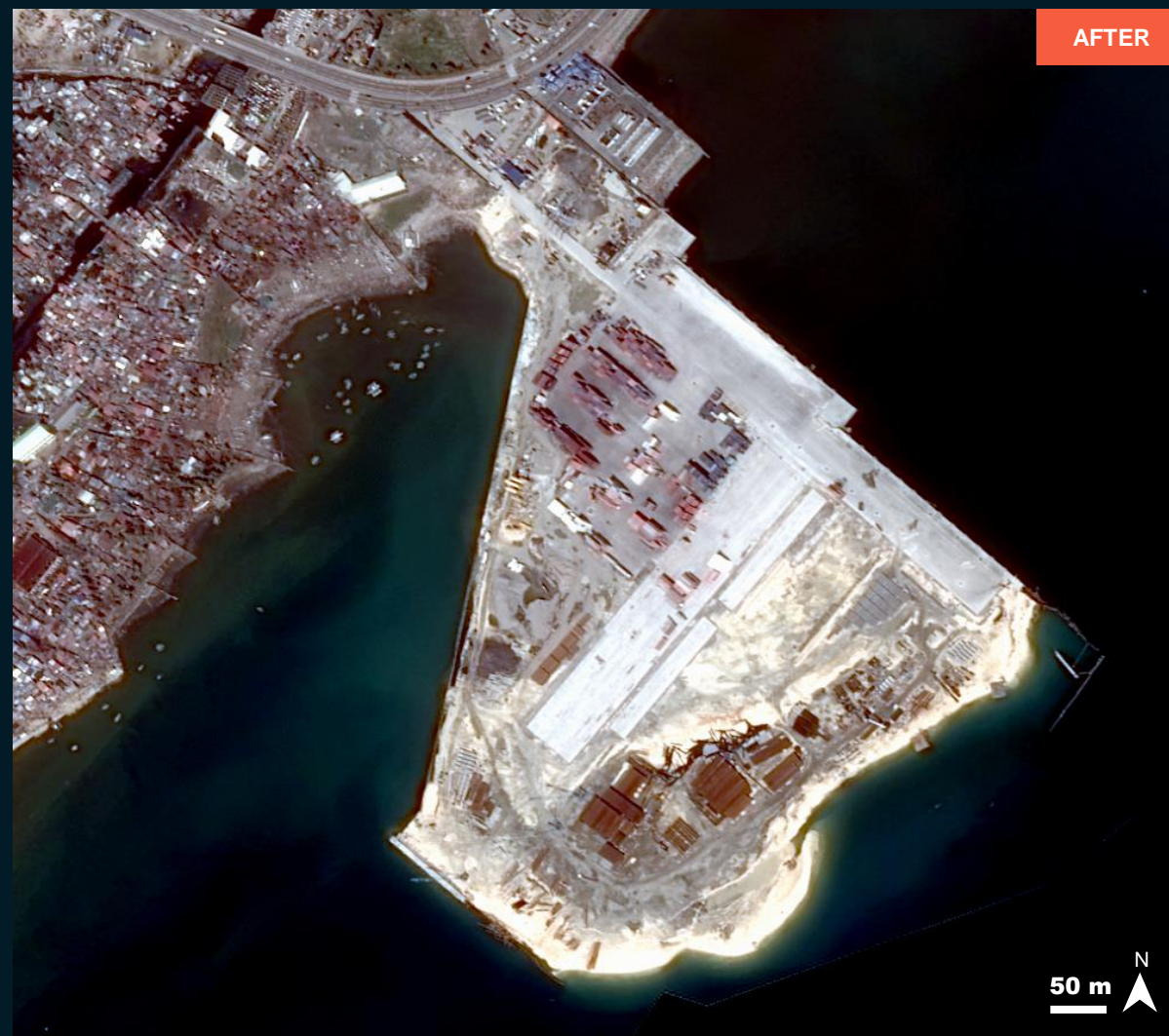
AOI 1-22: CEBU SOUTH HARBOR CONTAINER TERMINAL CORPORATION, CEBU PROVINCE, REGION VII

No damage

Image center:
123°52'15.064"E
10°15'11.804"N



Google Earth / Nov 2021

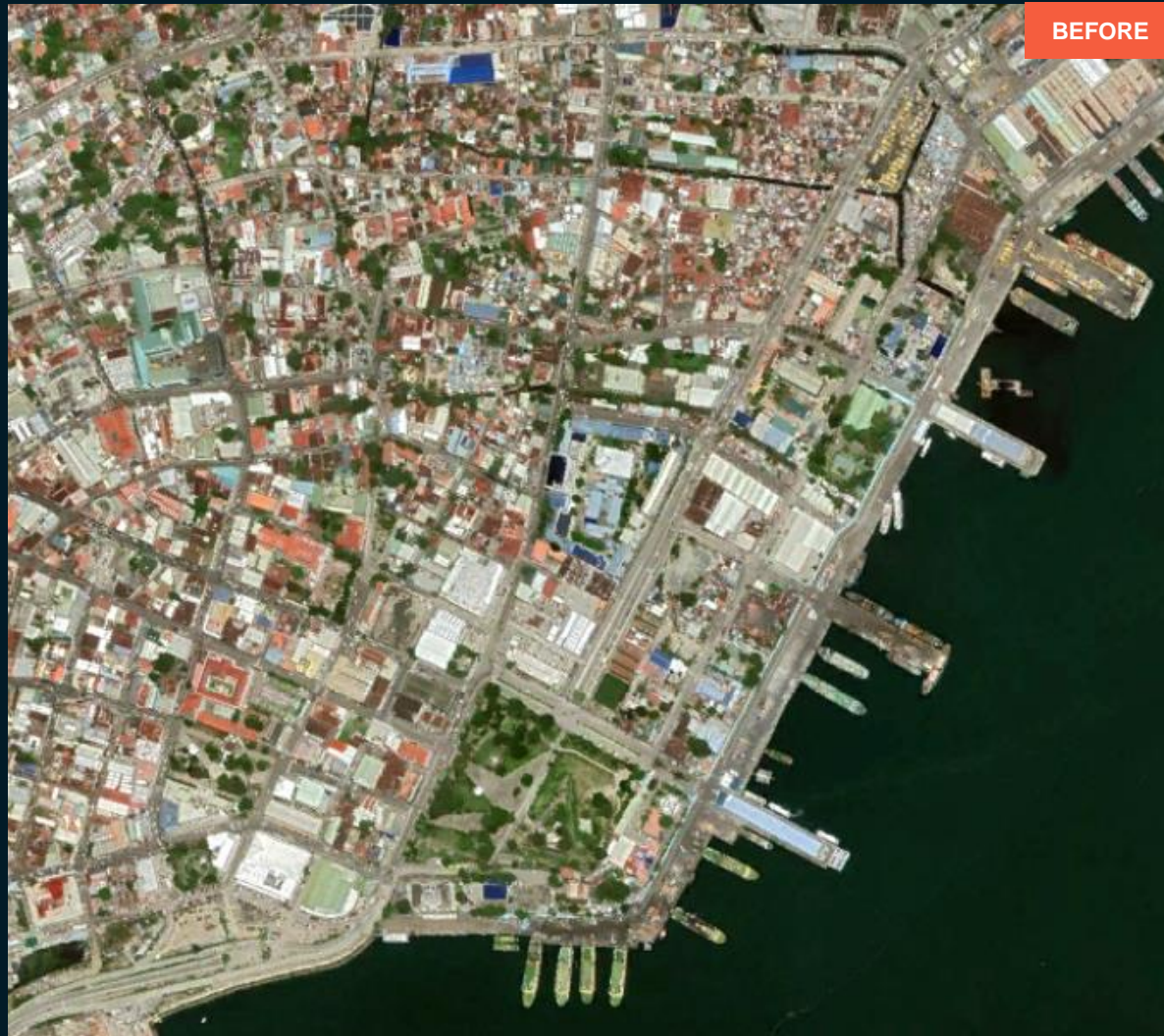


Pléiades / 21 December 2021

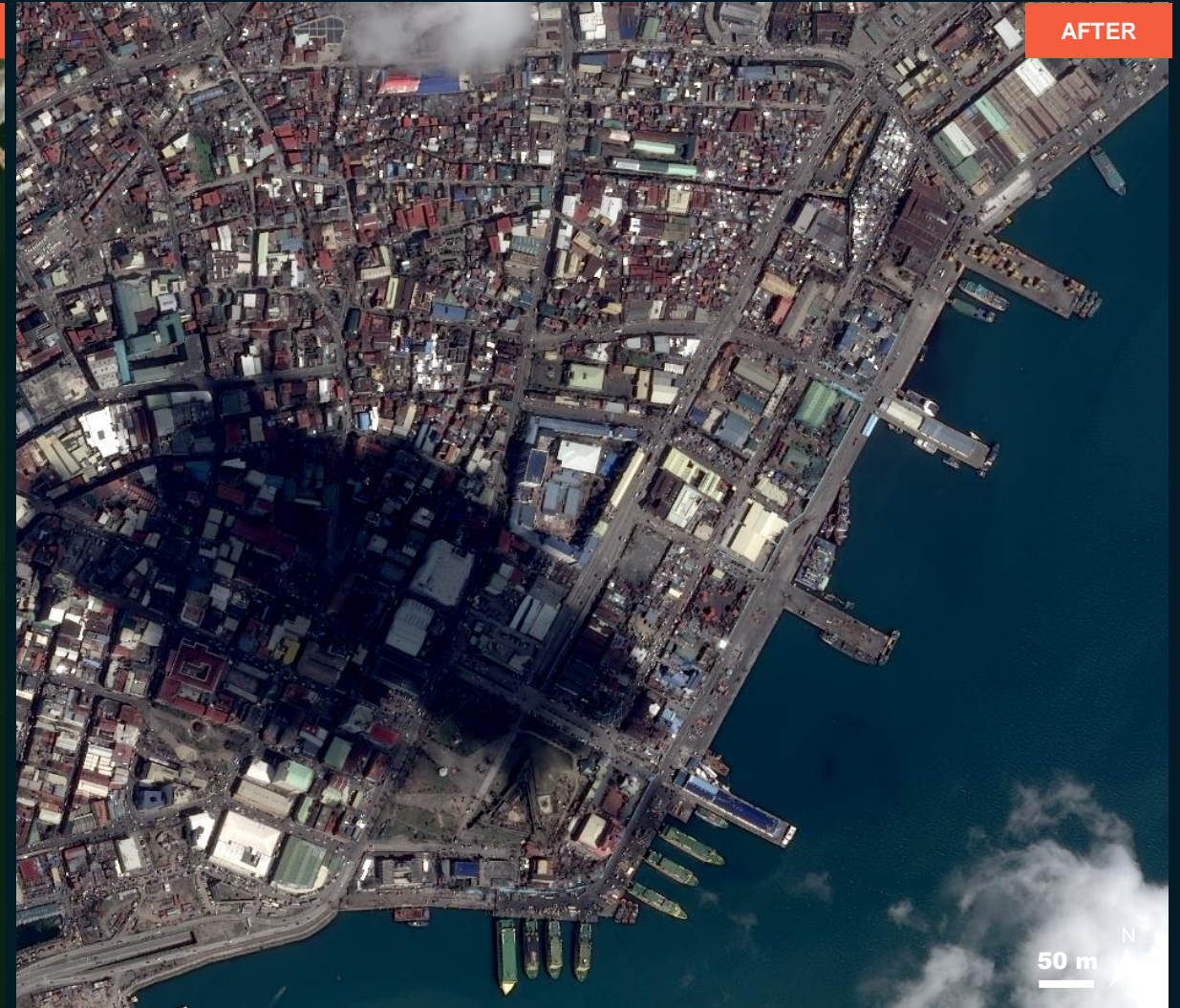
AOI 1-23: CEBU PIER, CEBU CITY, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

No damage

Image center:
123°54'26.392"E
10°17'49.538"N



Google Earth / Nov 2021

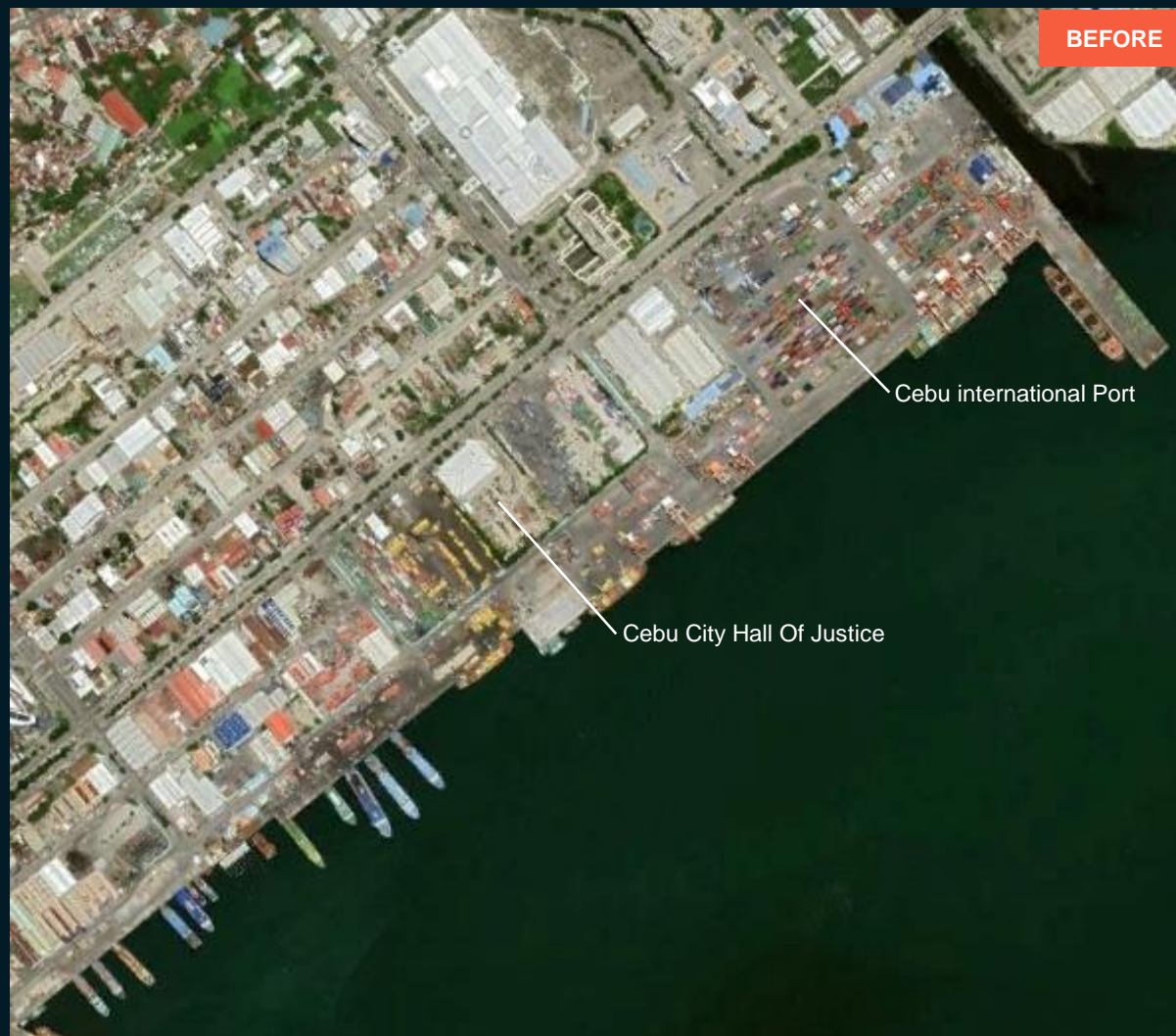


Pléiades / 23 December 2021

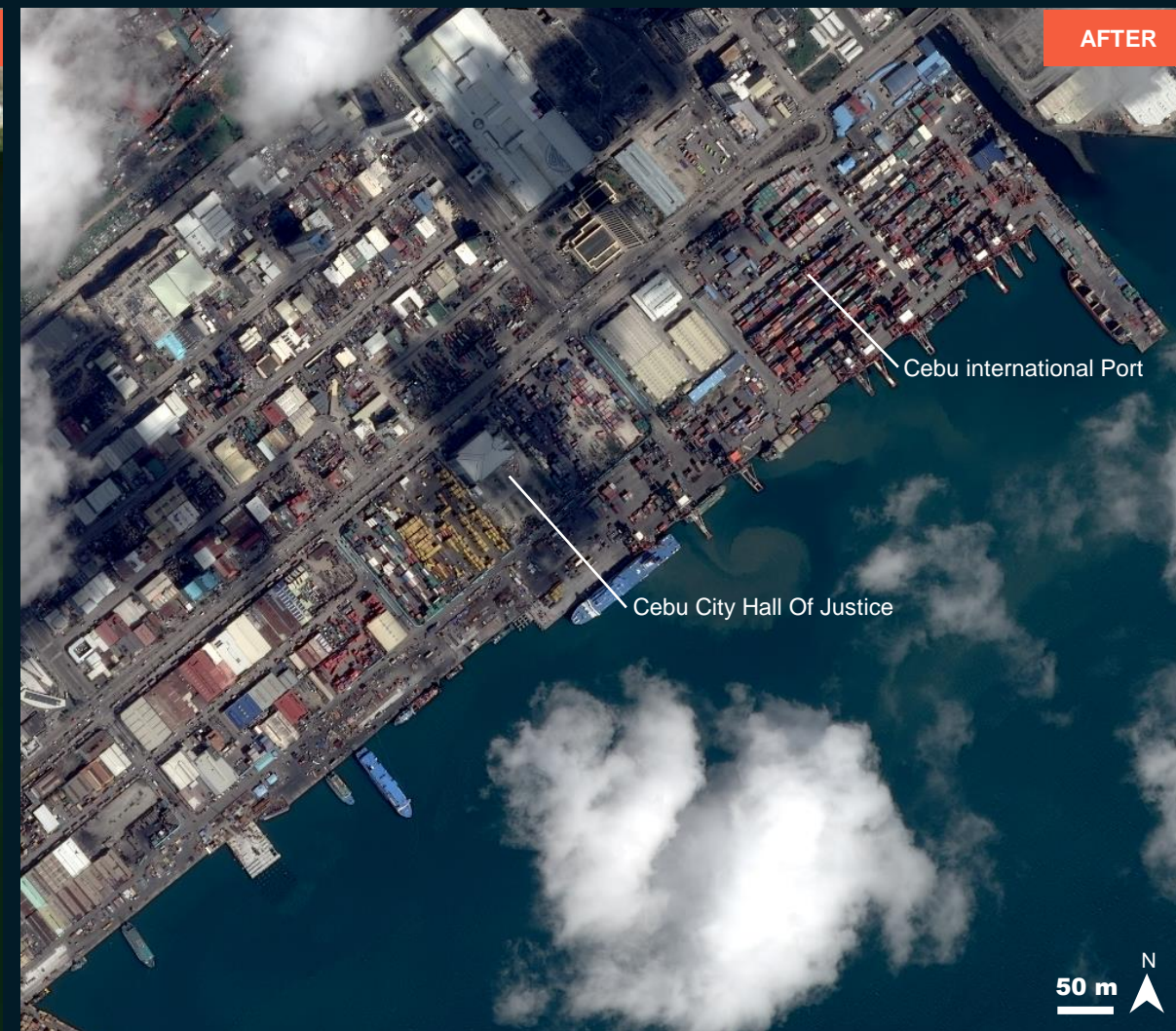
AOI 1-24: CEBU INTERNATIONAL PORT, CEBU CITY, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

No damage

Image center:
123°55'8.795"E
10°18'23.91"N



Google Earth / Nov 2021

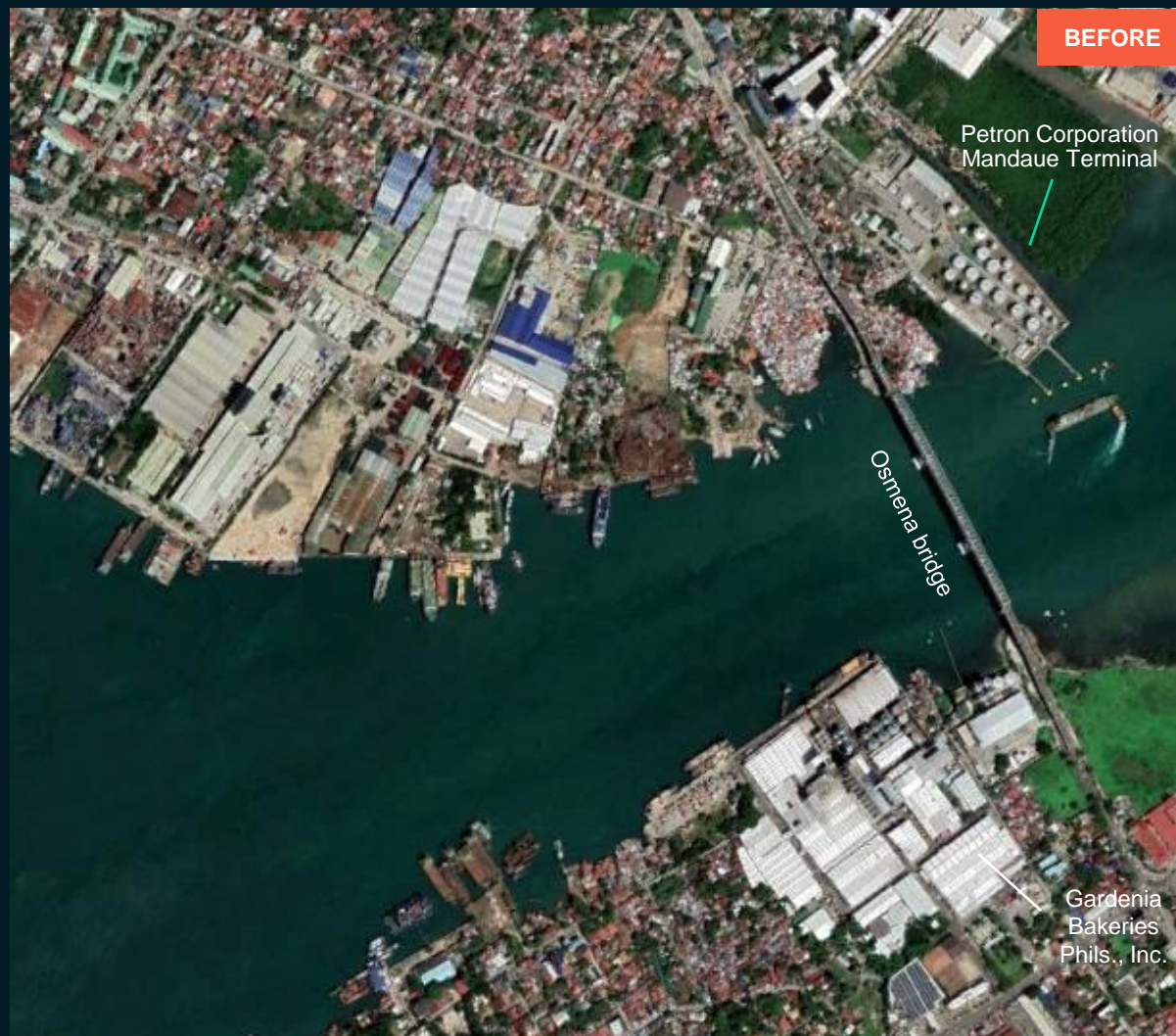


Pléiades / 23 December 2021

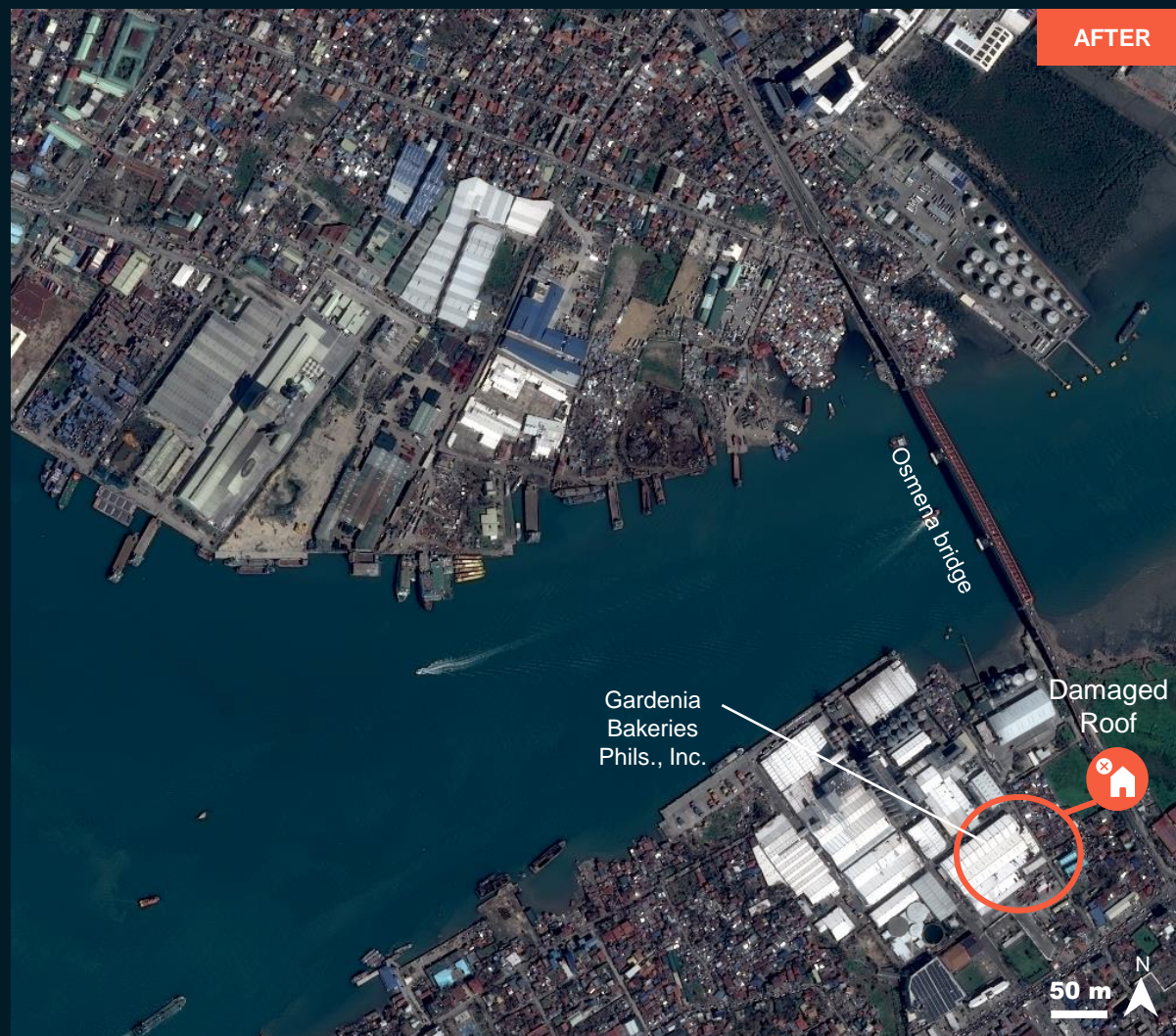
AOI 1-25: OSMENA BRIDGE CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged roof

Image center:
123°46'51.665"E
10°14'5.906"N



Google Earth / March 2021

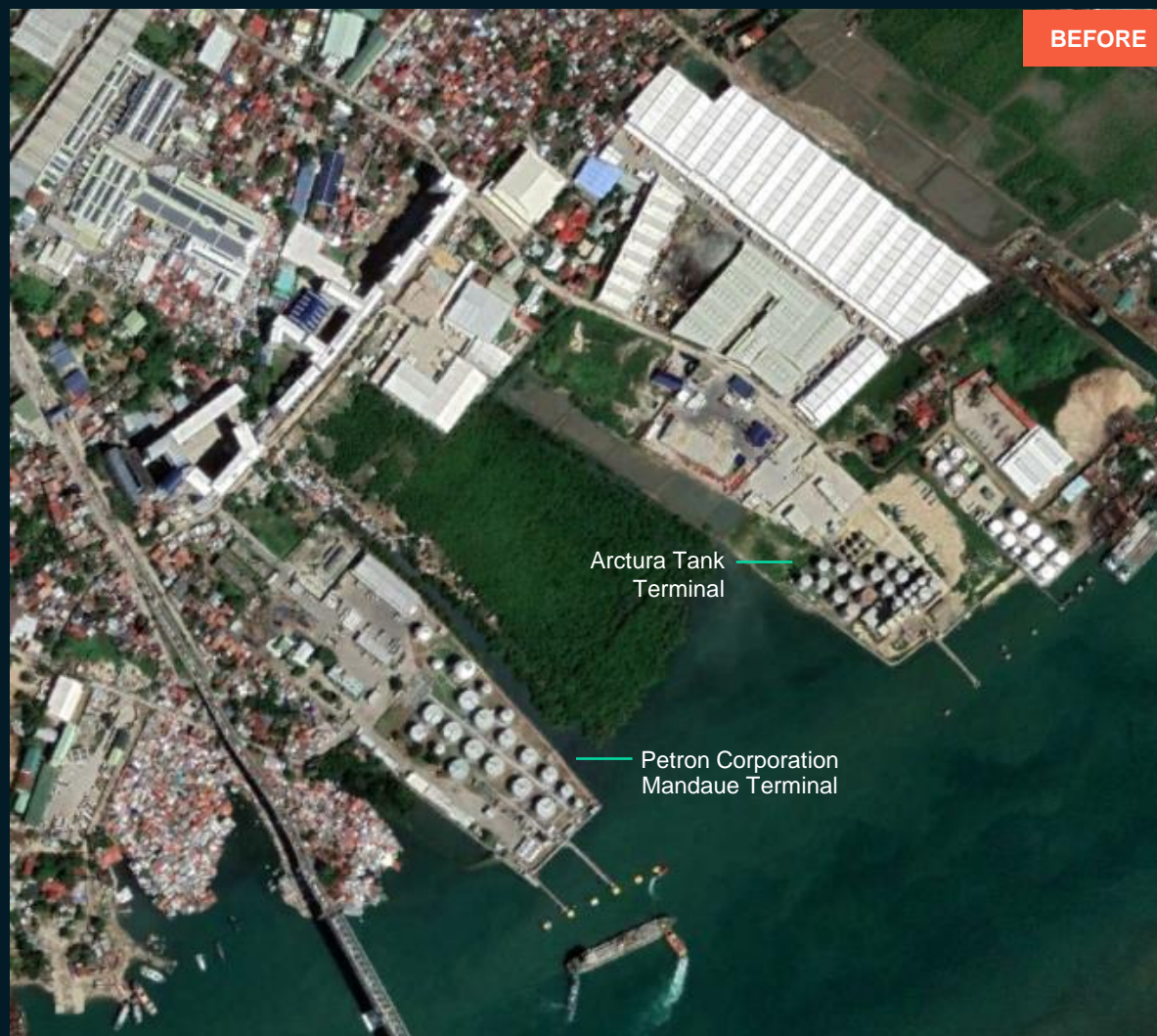


Pléiades / 23 December 2021

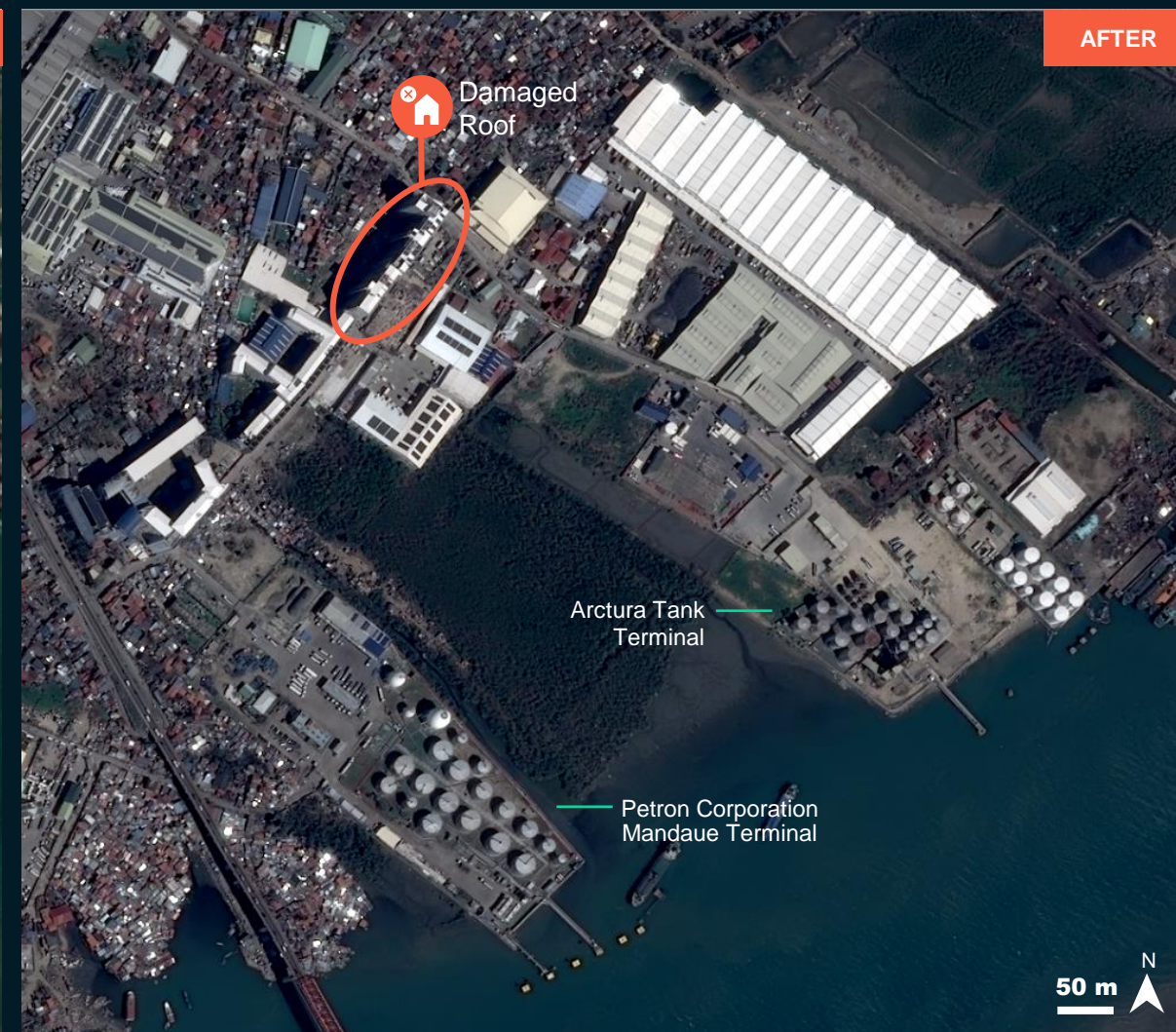
AOI 1-26: ARCTURA TANK TERMINAL CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged roof

Image center:
123°57'30.499"E
10°19'29.246"N



Google Earth / March 2021



Pléiades / 23 December 2021

AOI 1-27: MCPI CORPORATION, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged structures

Image center:
123°57'36.51"E
10°21'42.518"N



Google Earth / March 2021

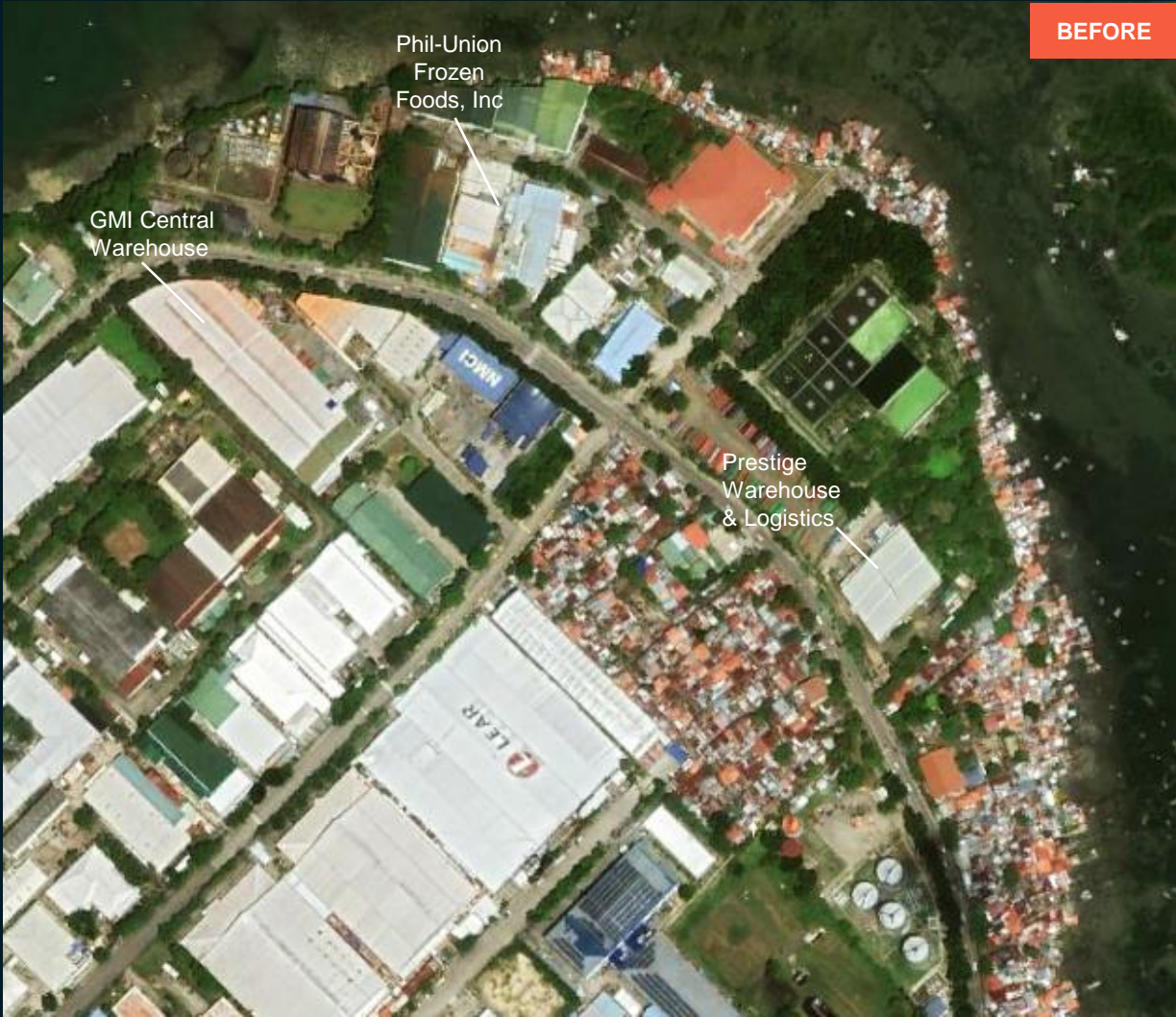


Pléiades / 23 December 2021

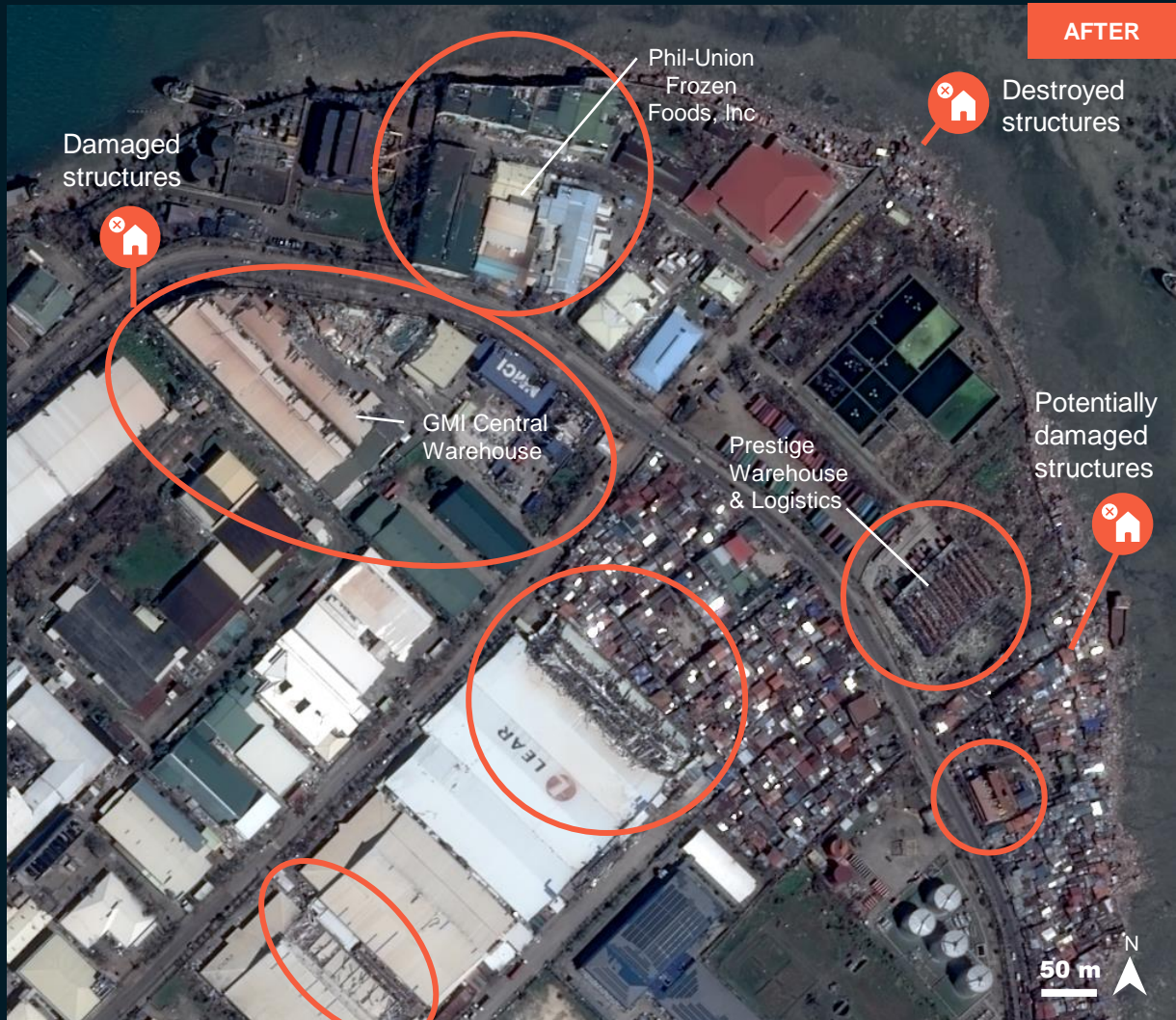
AOI 1-28: IBO INDUSTRIAL ZONE, LAPU-LAPU CITY, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Severely damaged structures in the industrial zone and along the shoreline

Image center:
123°59'14.521"E
10°19'51.528"N



Google Earth / Nov 2021



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AOI 1-29: IBO INDUSTRIAL ZONE, LAPU-LAPU CITY, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Widespread damaged structures in the industrial zone and along the shoreline

Image center:
123°59'19.767"E
10°19'34.974"N



Google Earth / March 2021



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AOI 1-30: MACTAN-CEBU INTERNATIONAL AIRPORT, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Widespread damaged structures and roof

Image center:
123°58'40.249"E
10°19'1.355"N



Google Earth / March 2021

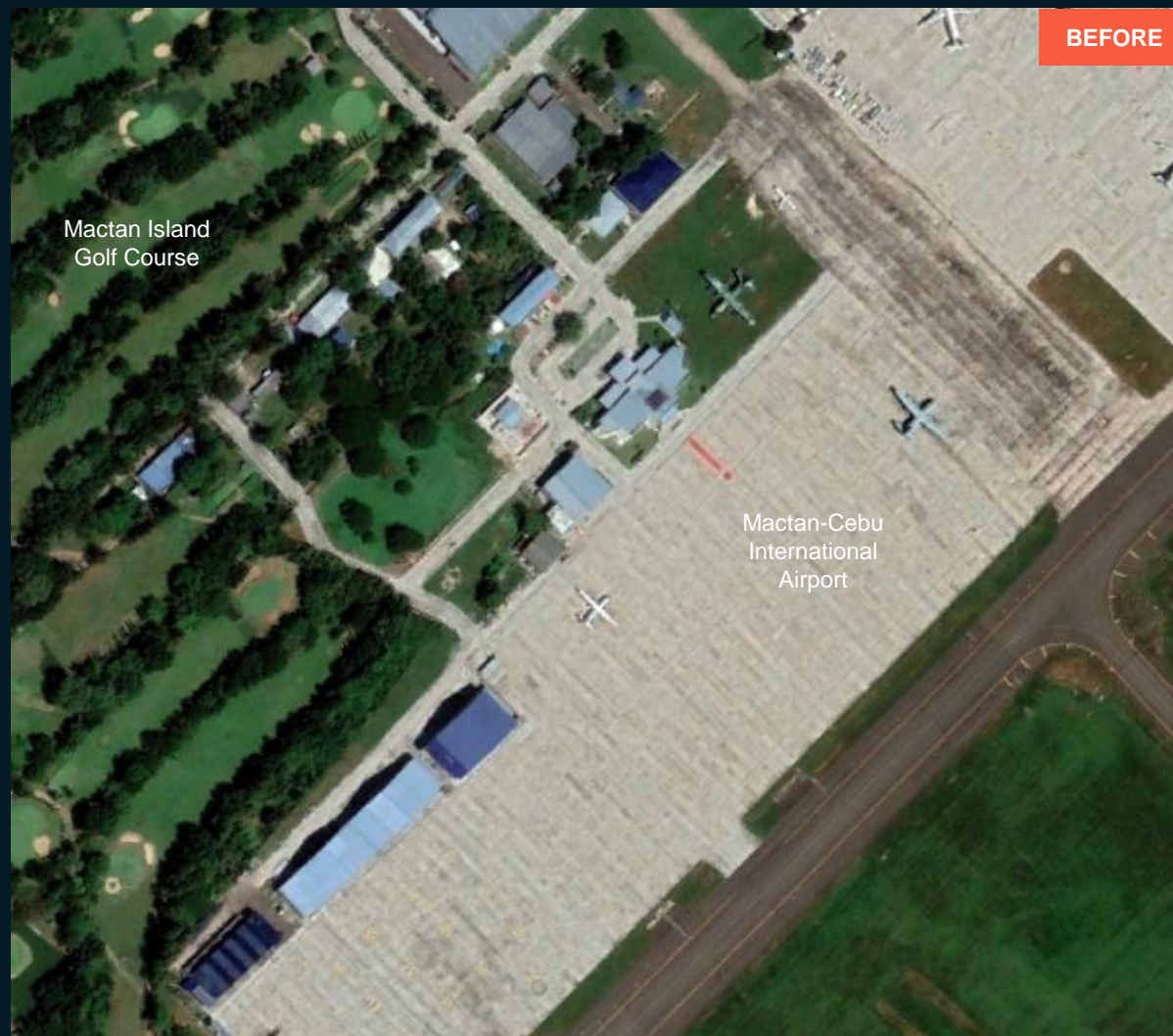


Pléiades / 23 December 2021

AOI 1-31: MACTAN-CEBU INTERNATIONAL AIRPORT, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Widespread damaged structures and roof

Image center:
123°58'27.787"E
10°18'32.942"N



Google Earth / March 2021

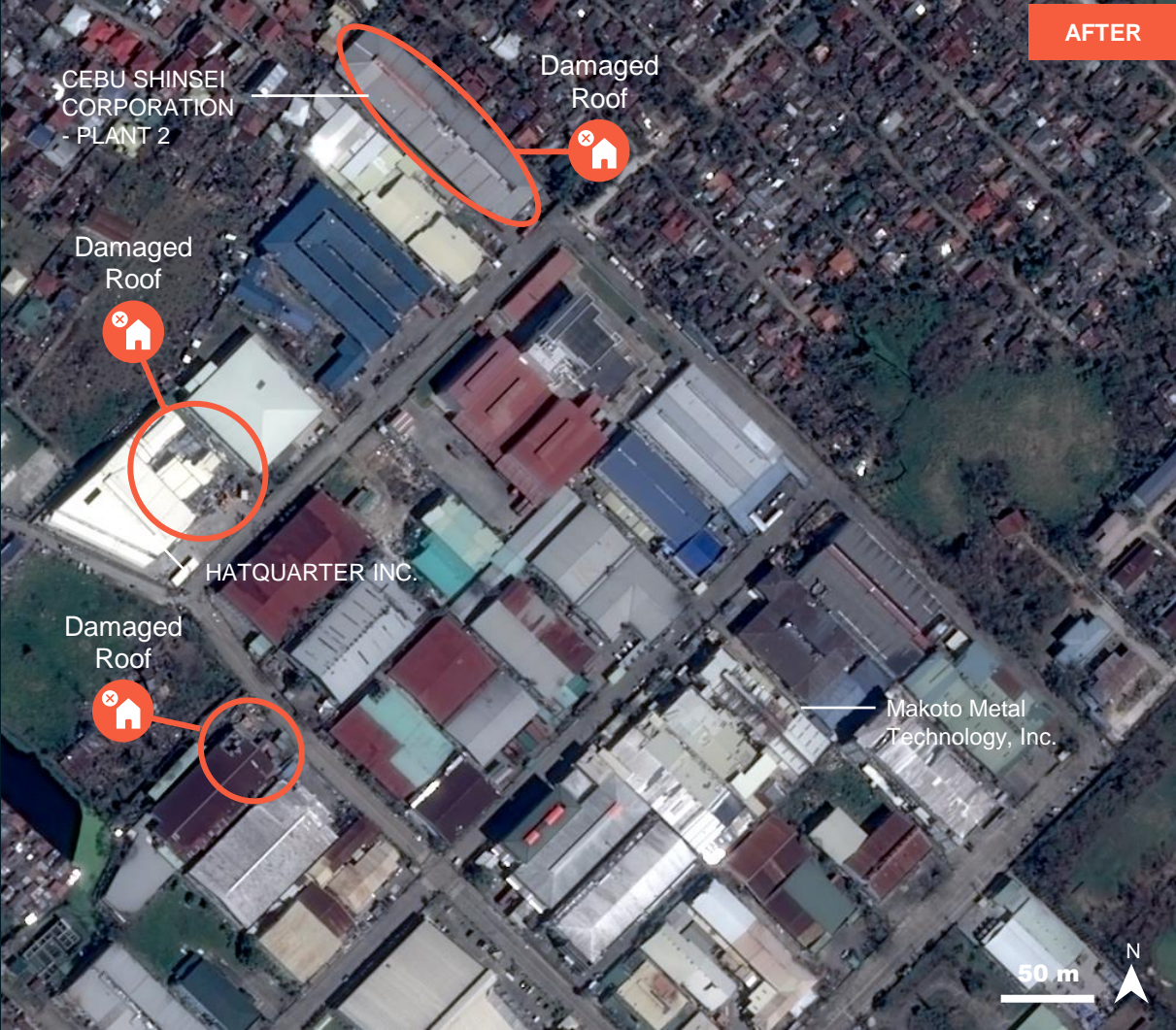
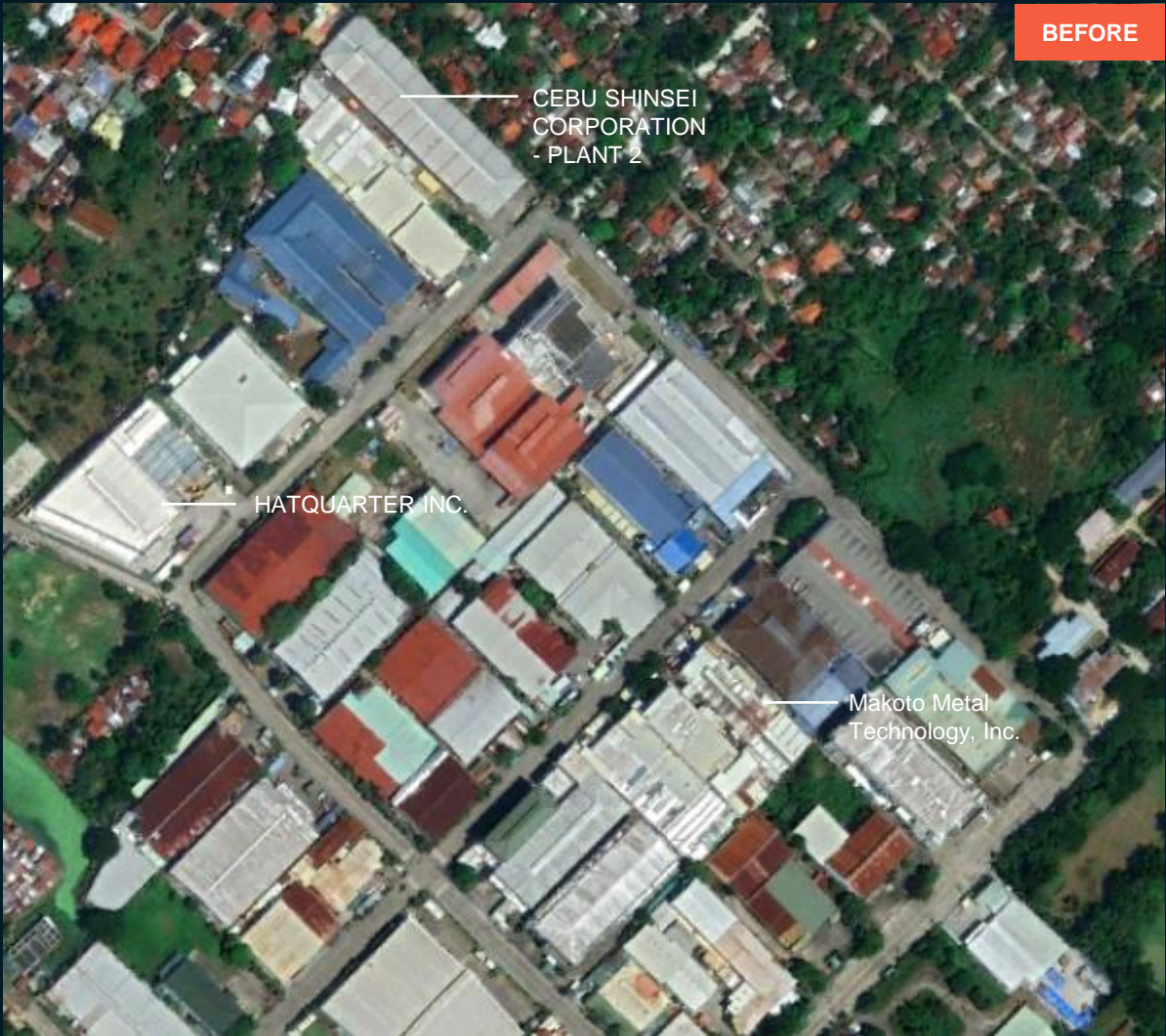


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AOI 1-32: MEPZ 2 INDUSTRIAL ZONE, LAPU-LAPU CITY, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged roof

Image center:
123°57'54.473"E
10°18'22.887"N



AOI 1-33: MEPZ 2 INDUSTRIAL ZONE, LAPU-LAPU CITY, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged roof

Image center:
123°57'53.843"E
10°18'4.49"N



Google Earth / Nov 2021



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AOI 1-34: BASAK INDUSTRIAL ZONE, LAPU-LAPU CITY, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged roof and structure

Image center:
123°57'42.614"E
10°17'24.53"N



Google Earth / Nov 2021

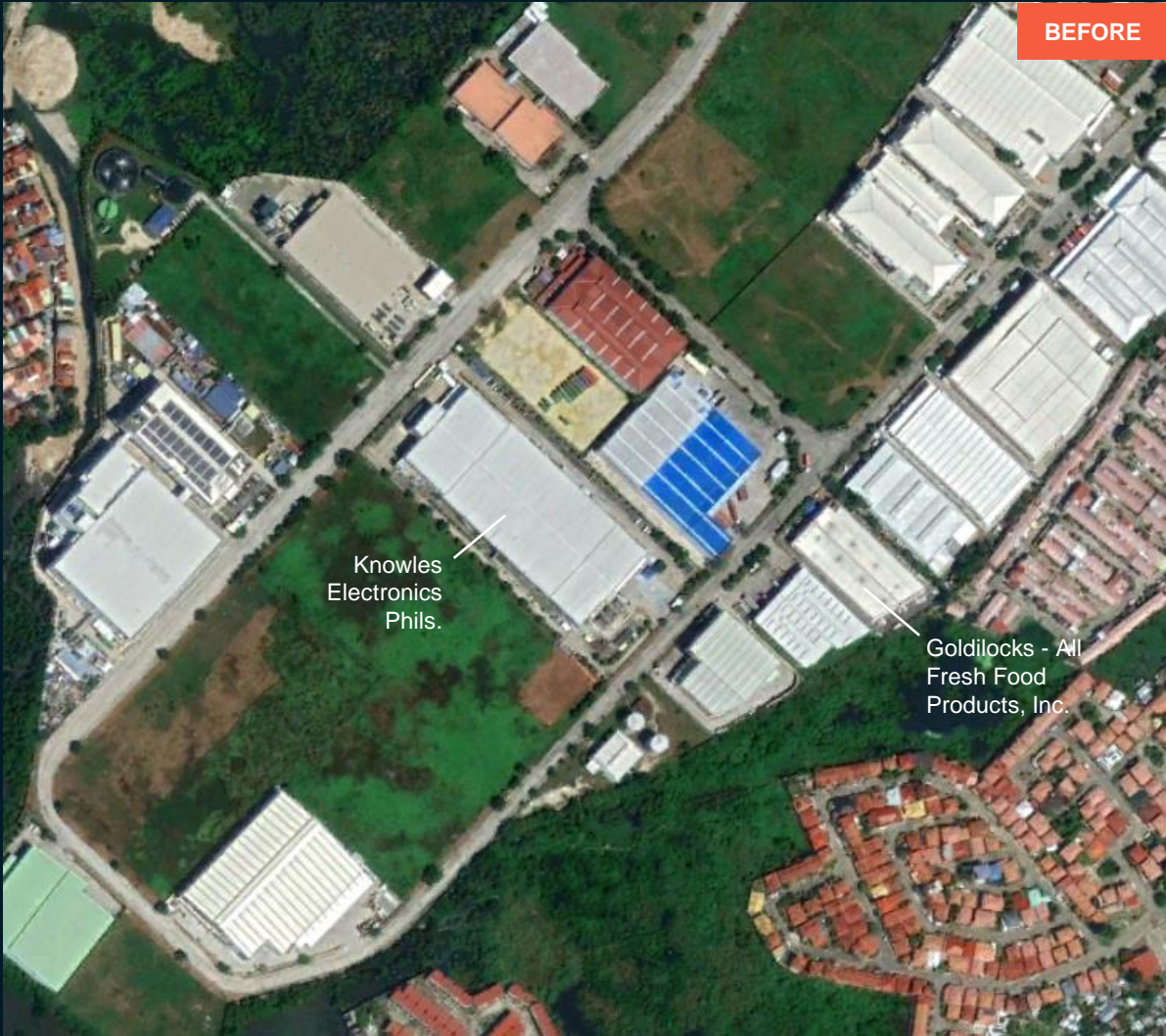


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AOI 1-35: BASAK INDUSTRIAL ZONE, LAPU-LAPU CITY, CEBU PROVINCE, REGION VII (CENTRAL VISAYAS)

Damaged roof and structure

Image center:
123°57'30.17"E
10°17'7.873"N



Google Earth / Nov 2021



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SUMMARY OF FINDINGS

- Widespread damage in industrial zones observed along the east coast of Cebu Islands, Region VII (Central Visayas) as of 23 Dec 2021.
- Capsized ship observed next to Guanzon beach, San Fernando, Cebu Province as of 21 Dec 2021.
- Damaged port and industrial facilities observed in the City of Naga, Cebu Province as of 21 Dec 2021.
- No visible damage in the Cebu International Port, Cebu City, Cebu Province as of 23 Dec 2021
- Severely damaged structures observed in the IBO industrial zone, Lapu-Lapu City Cebu Province as of 23 Dec 2021
- Widespread damaged buildings observed in Mactan-Cebu International Airport, Lapu-Lapu City Cebu Province as of 23 Dec 2021
- Widespread damage observed in MEPZ 2 industrial zone, Lapu-Lapu City Cebu Province as of 23 Dec 2021
- Several damaged buildings observed in BASAK industrial zone, Lapu-Lapu City Cebu Province as of 23 Dec 2021

COPYRIGHTS AND SOURCES

Data sources:

(1) Satellite Image (Post-event)

Pléiades: 21 and 23 December 2021

Resolution: 50 cm

Copyright : CNES (2021), distribution Airbus D&S

Source : Airbus Defense and Space

(2) Satellite Image (Pre-event)

Google Earth

(3) Ancillary data

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

Populate place: OpenStreetMap

Location name: Google Maps

Analysis: United Nations Satellite Centre (UNOSAT)

Production: United Nations Satellite Centre (UNOSAT)



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