

Field Survey of the 2018 Anak Krakatau Tsunami on the Islands in the Sunda Strait

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Volcanic Tsunamis: Krakatau 1883 and 2018



Fritz et al., 2020

Krakatau 1883
remnant Rakata

Anak Krakatau Before
(Photo: September 2018)



Anak Krakatau Before (Photos: September 2018)

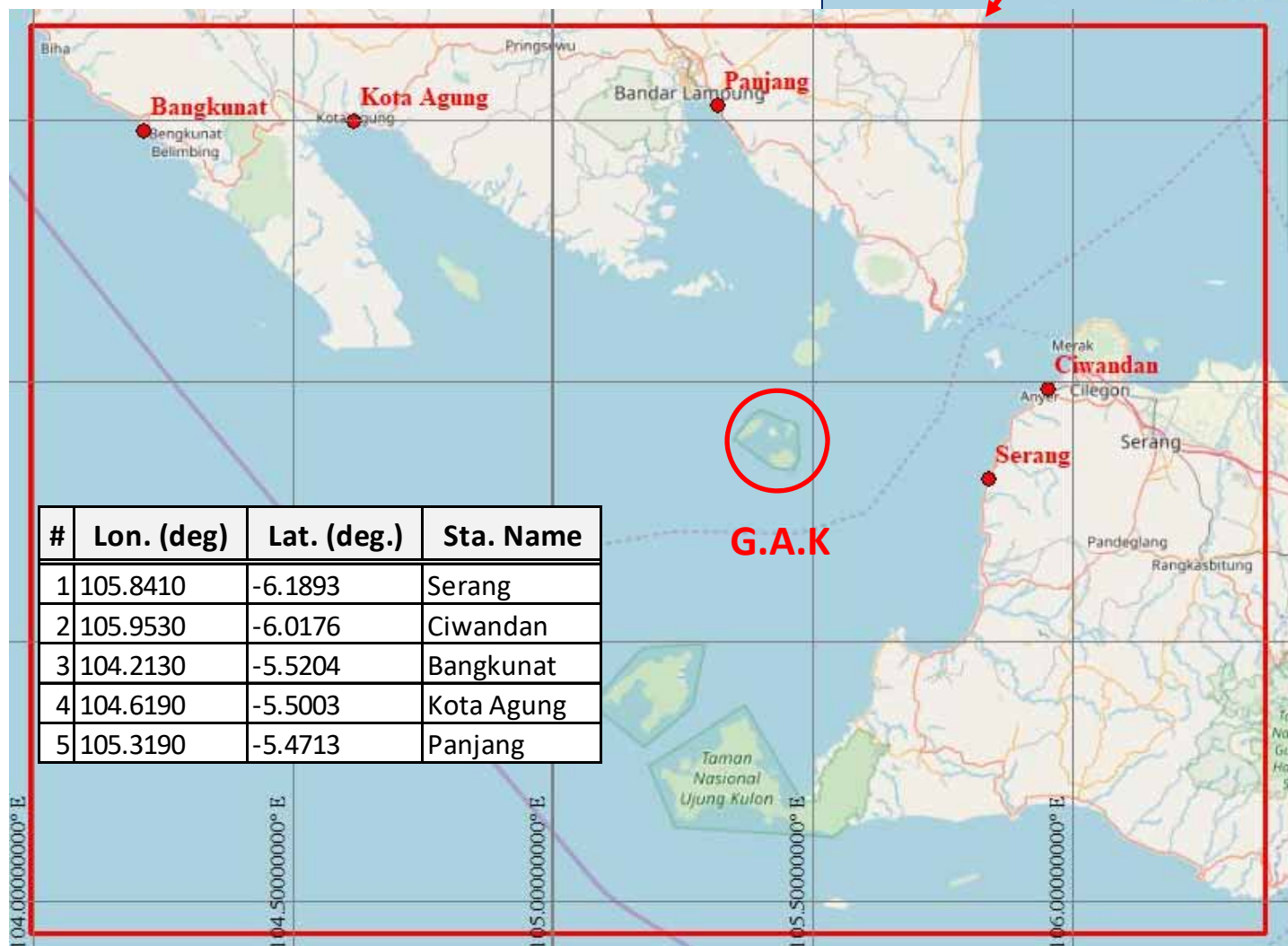


Fritz et al., 2020

Meeting at Marine Research Center (MRC): Ministry of Marine Affairs and Fisheries (MoMAF) and Coordinating Ministry of Maritime Affairs (CMoMA)



□ TIDE STATION POINTS



Slide:
Widjo Kongko



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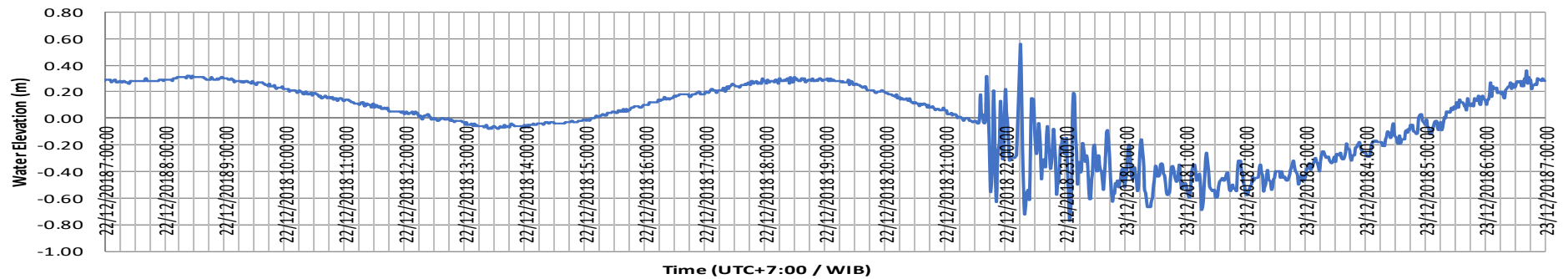
Fritz et al., 2020



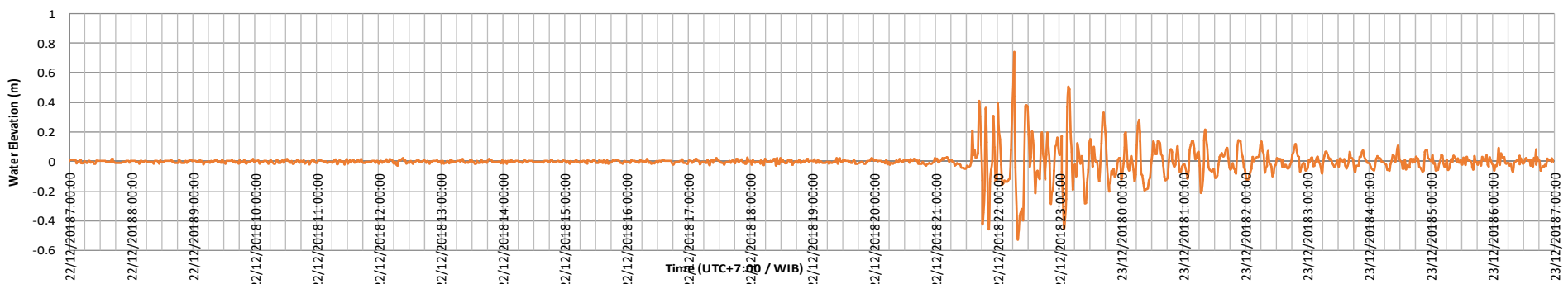
❑ MARIGRAM: Ciwandan

Slide:
Widjo Kongko

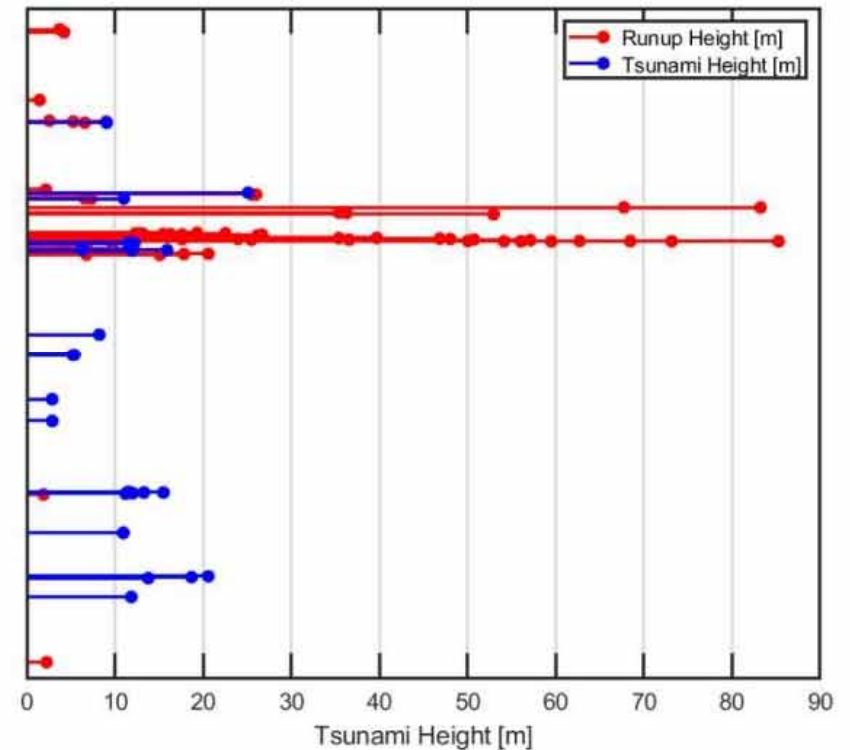
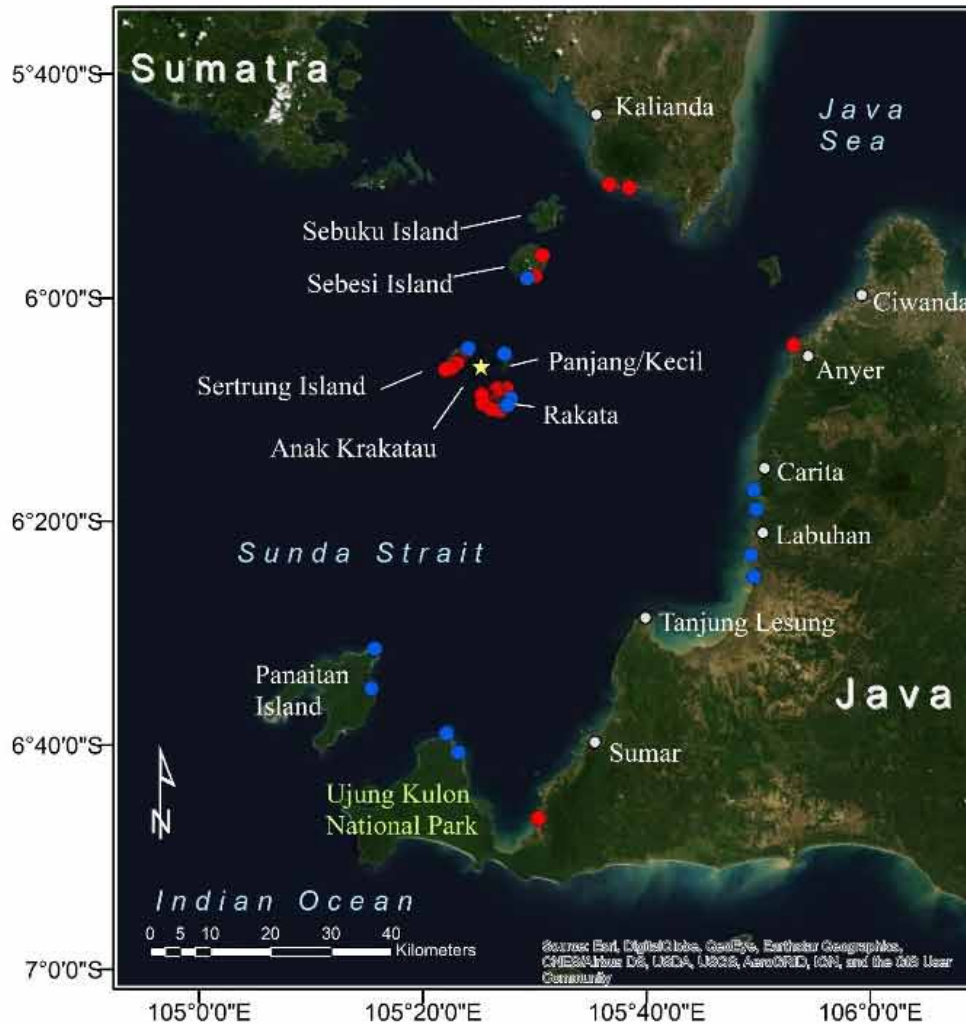
**Ciwandan
(105.953E, 6.0176S)**



**Ciwandan
(105.953E, 6.0176S)**

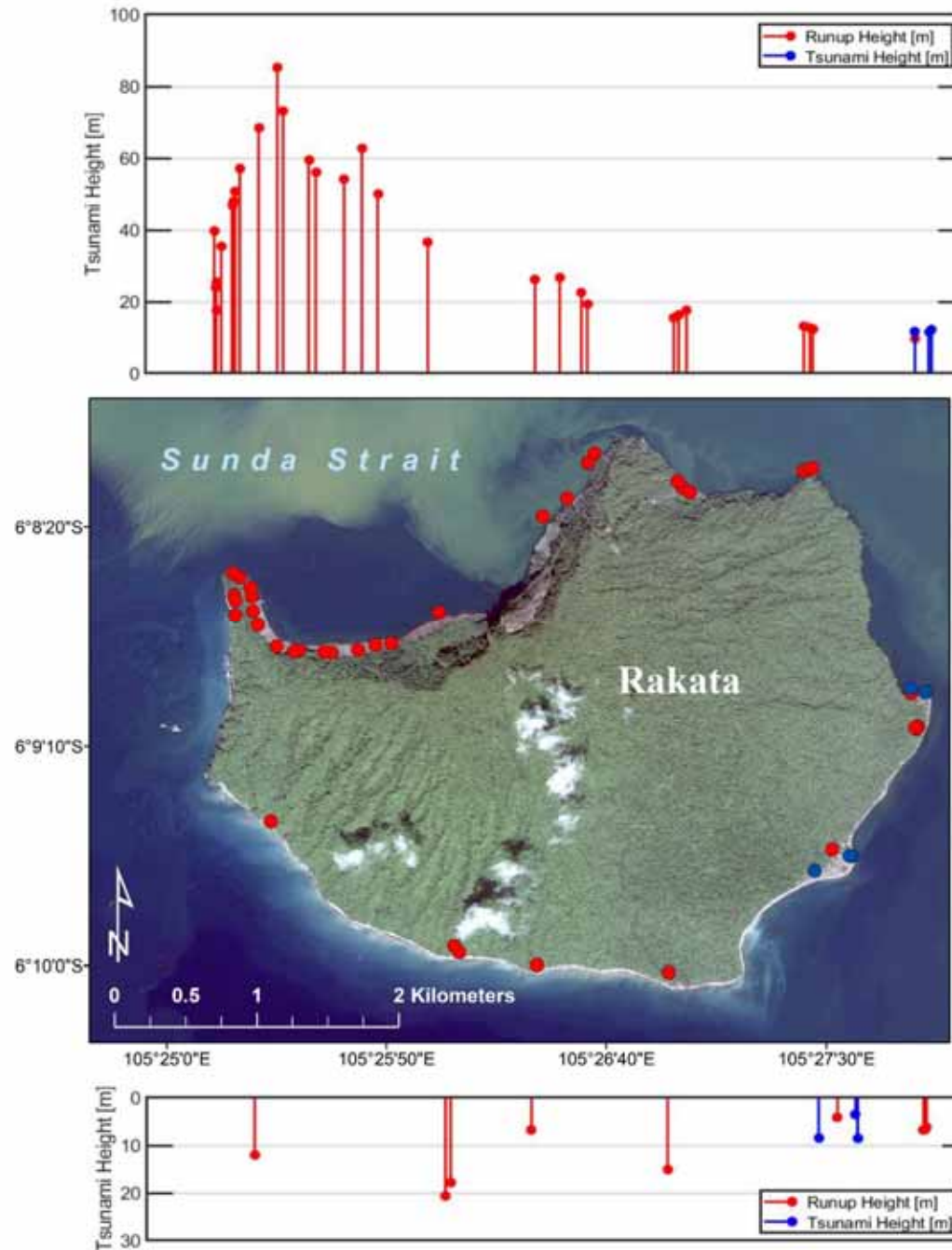


Sunda Strait Islands Tsunami Field Survey



Rakata Island

Maximum
85 m runup



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Rakata Island



Fritz et al., 2020



Rakata Island



Fritz et al., 2020



Rakata Island



Fritz et al., 2020



Rakata Island



Fritz et al., 2020



Rakata Island



Fritz et al., 2020



Rakata Island



Fritz et al., 2020



Rakata Island



Fritz et al., 2020



Rakata Island



Fritz et al., 2020



Rakata Island



Fritz et al., 2020





Fritz et al., 2020

Rakata Island



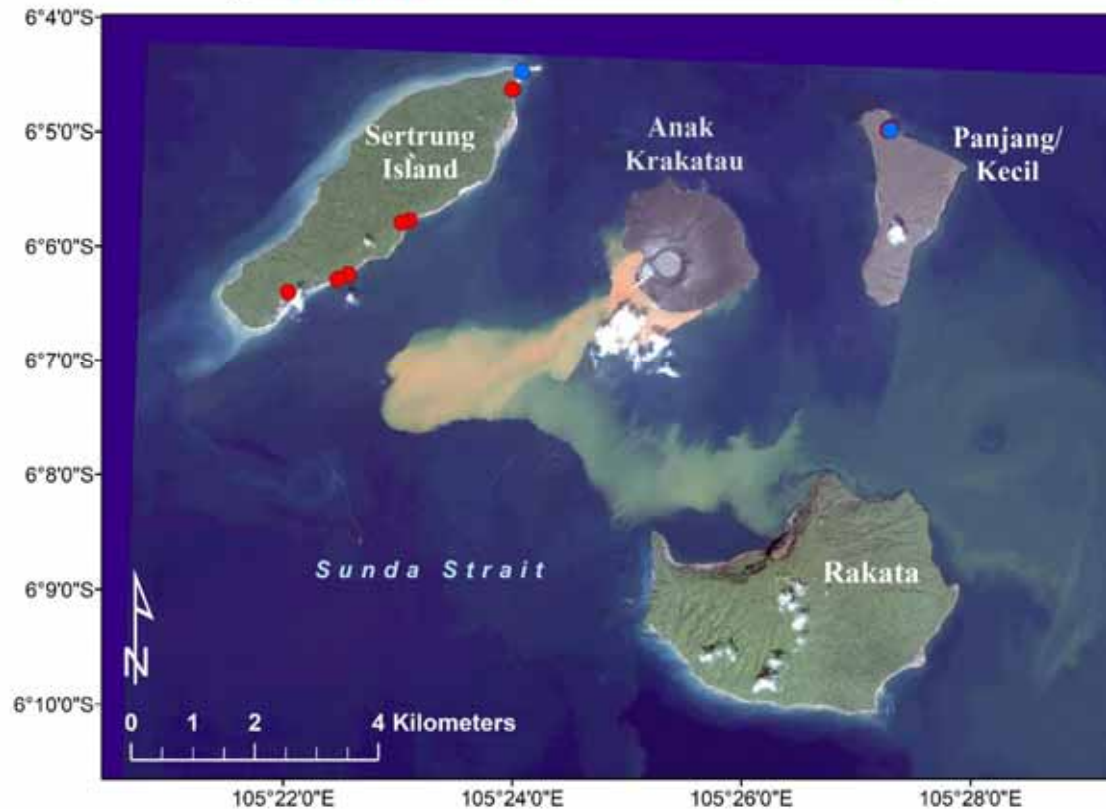
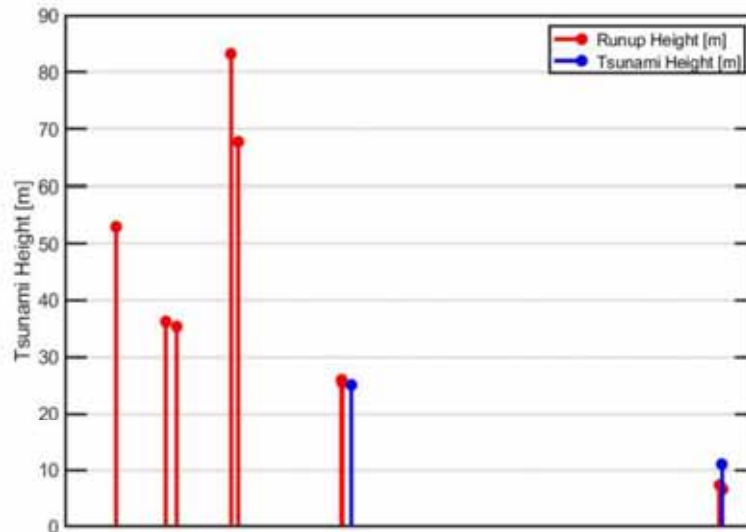
Rakata Island



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Krakatau Volcanic Complex



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Panjang Island



Fritz et al., 2020



Panjang Island



Fritz et al., 2020



Panjang Island



Fritz et al., 2020



Anak Krakatau Volcano



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Anak Krakatau Volcano



Fritz et al., 2020



Sertung Island



Fritz et al., 2020



Sertung Island



Fritz et al., 2020



Sertung Island



Fritz et al., 2020



Sertung Island



Fritz et al., 2020

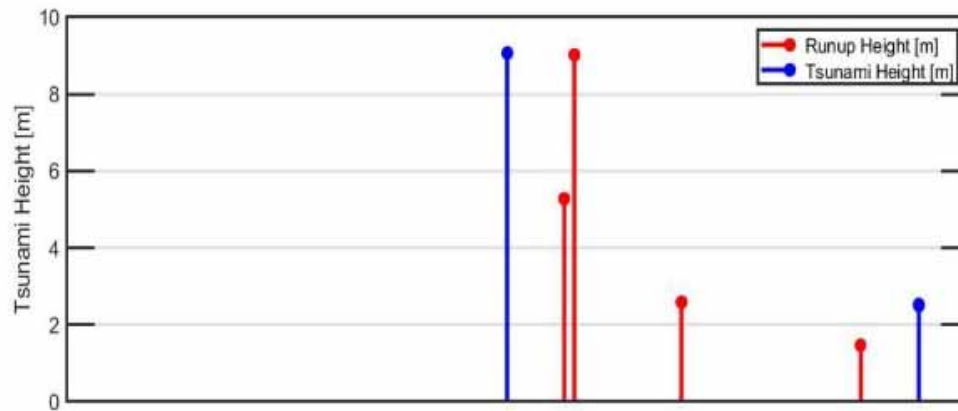


Sertung Island



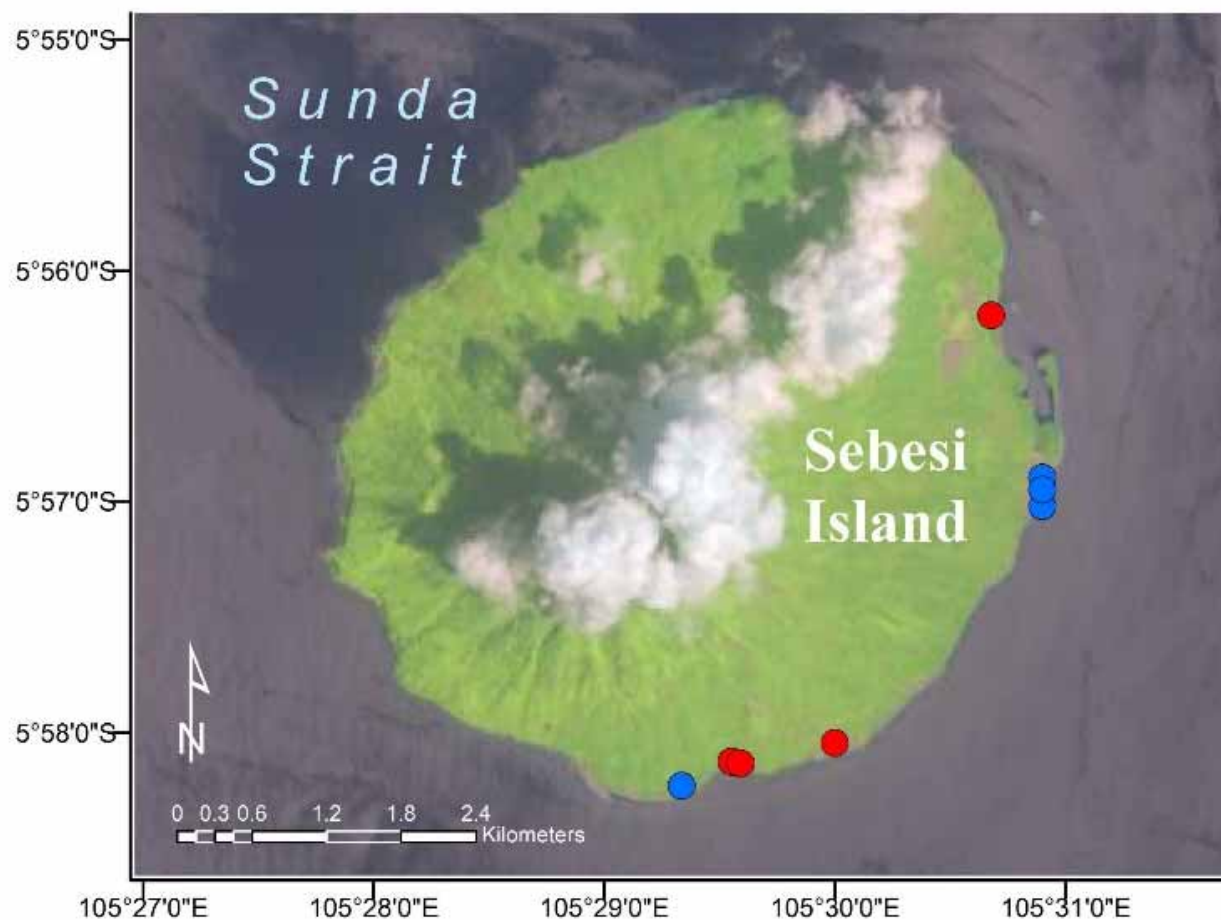
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Sebesi

Nearest
Inhabited
Island



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Sebesi Island



Fritz et al., 2020



Sebesi Island



Fritz et al., 2020



Sebesi Island



Fritz et al., 2020



Sebesi Island



Fritz et al., 2020



Waymuli, Sumatra



Fritz et al., 2020



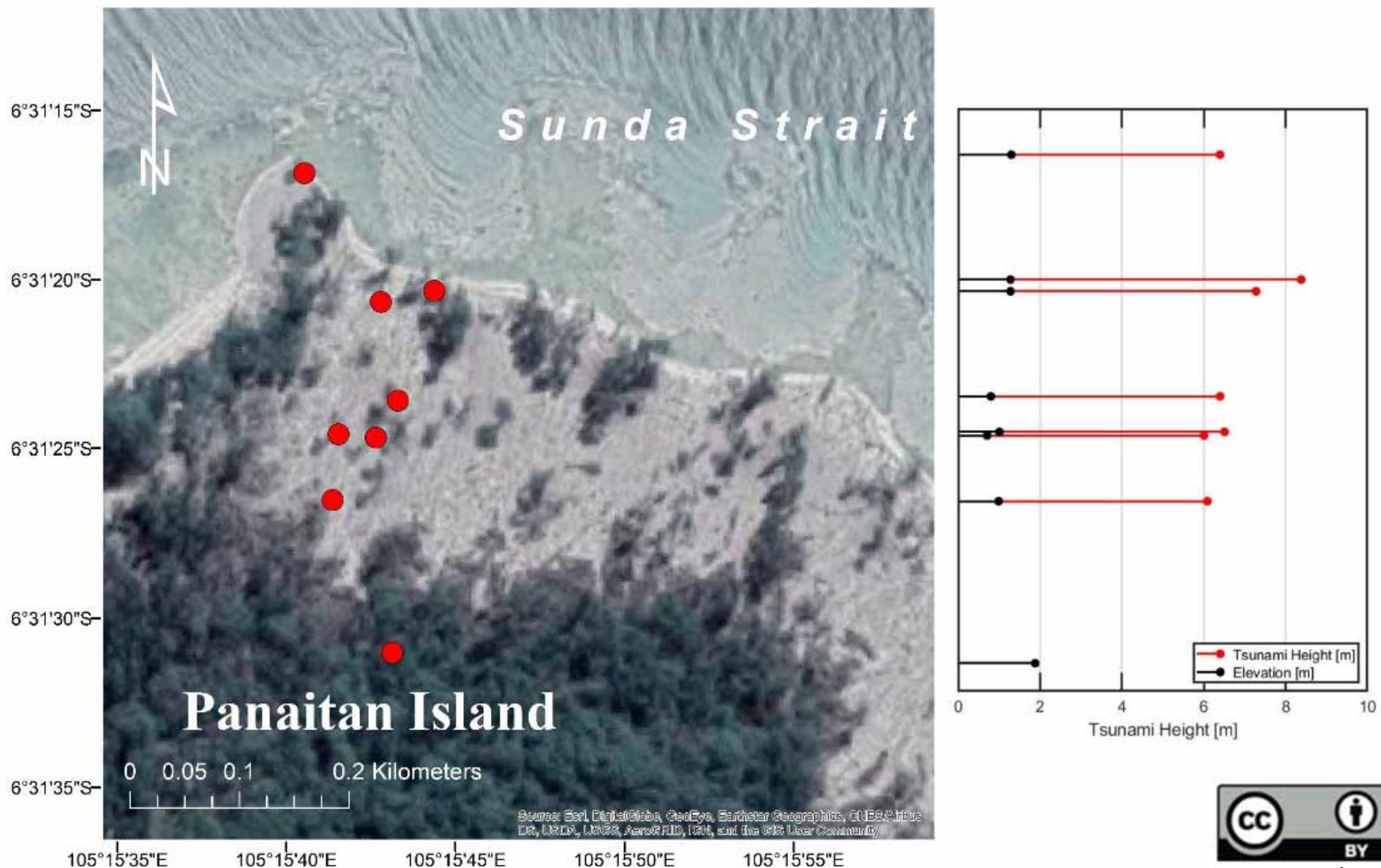


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Waymuli, Sumatra



Panaitan Island, Ujung Kulon National Park



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Panaitan Island, Ujung Kulon National Park



Fritz et al., 2020

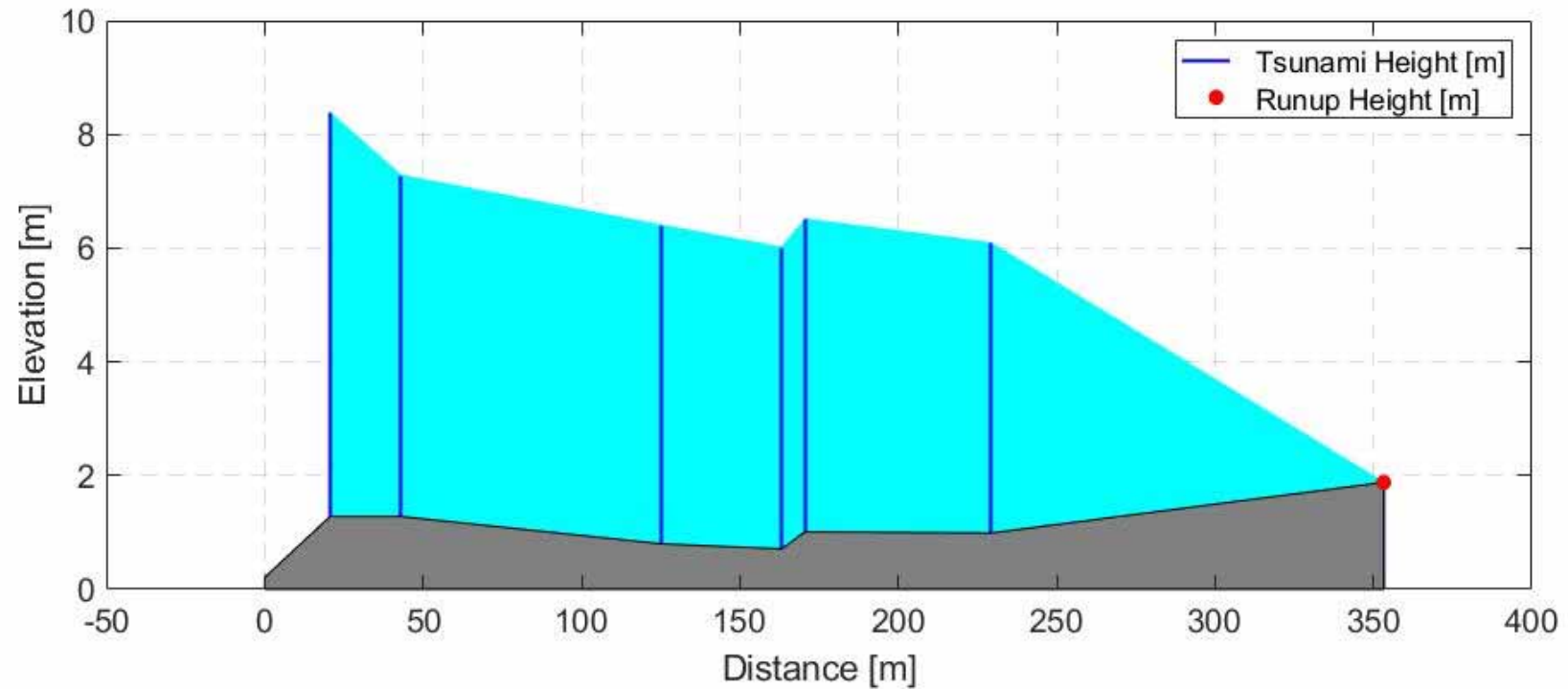


Panaitan Island, Ujung Kulon National Park



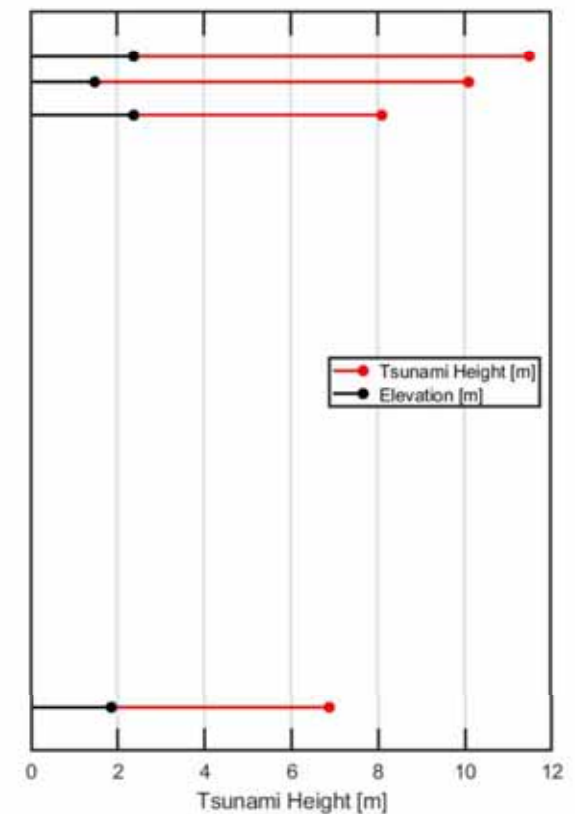
Fritz et al., 2020

Panaitan Island, Ujung Kulon National Park



Fritz et al., 2020

Ujung Kulon National Park

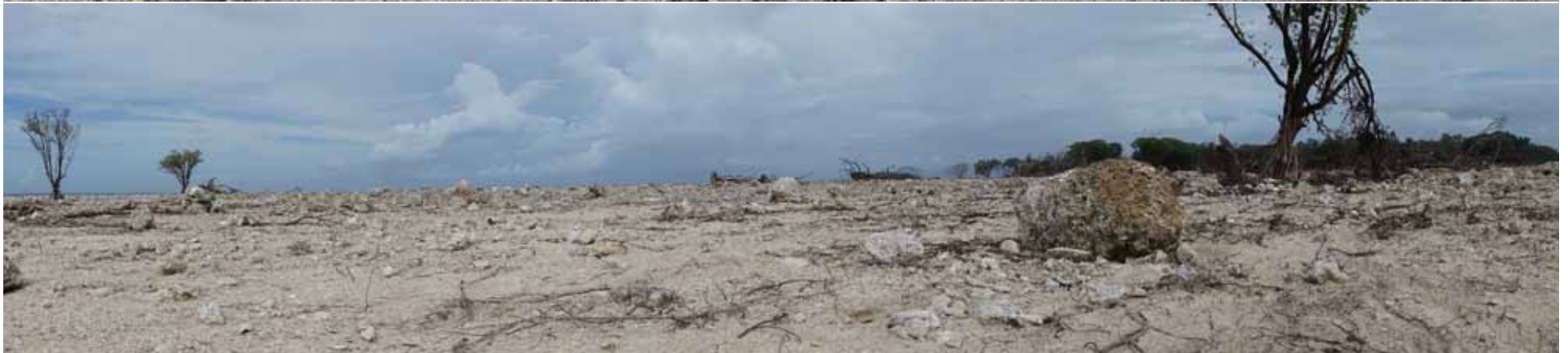


Fritz et al., 2020

Ujung Kulon National Park



Fritz et al., 2020



Ujung Kulon National Park



Fritz et al., 2020



Ujung Kulon National Park



Fritz et al., 2020



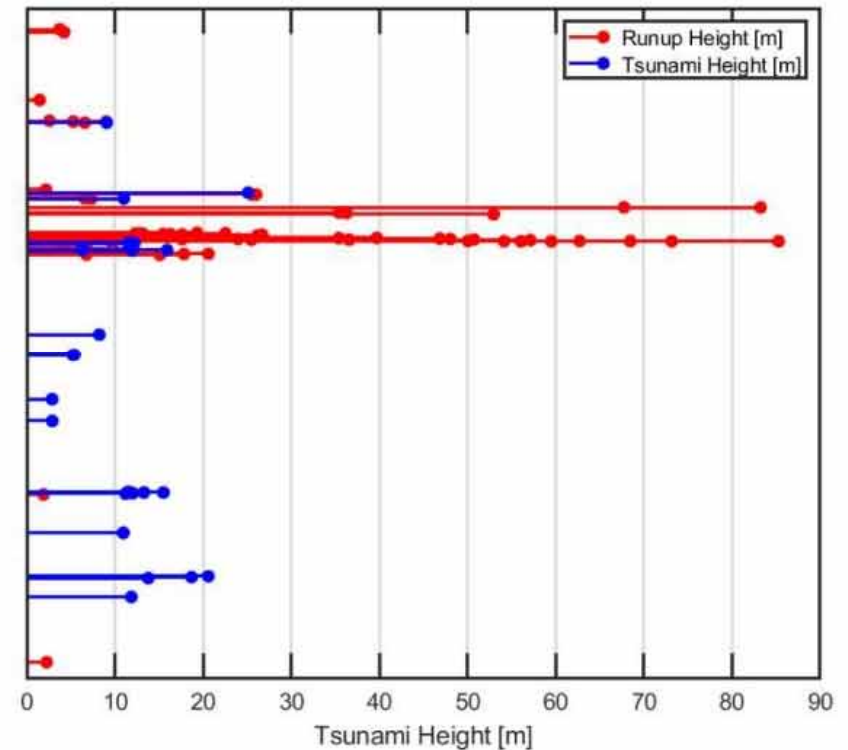
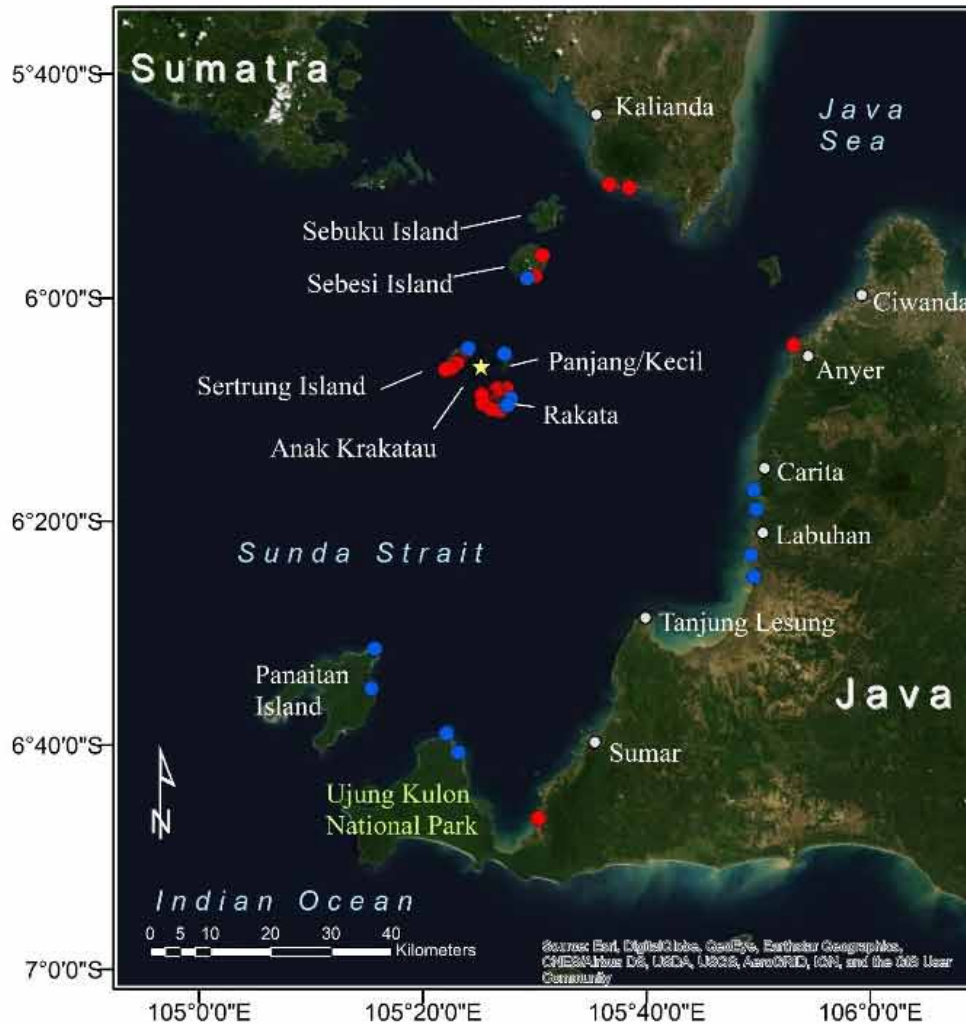
Eyewitness Interview



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Sunda Strait Islands Tsunami Field Survey



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2018 Sunda Strait tsunami CONCLUSIONS



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- ITST collected 87 tsunami heights February 4-9, 2019
- Maximum 85 m runup on Rakata and an 83 m runup on Sertung.
- Flow depth reached more than 11 m above ground on Sertung.
- On Sebesi Island located 15 km northeast of the source tsunami runup heights remained below 10 m.
- Tsunami heights exceeding 10 m were observed in the Ujung Kulon National Park located 50 km southwest.
- The runup distributions on the islands encircling Anak Krakatau highlight the directivity of the collapse towards the southwest.
- Inundation and damage were mostly limited to within 400 m of the shoreline given the relatively short wavelengths of volcanic tsunamis.
- The team interviewed numerous eyewitnesses based on established protocol and educated residents about tsunami hazards.
- Community-based education and awareness programs are essential to save lives in locales at risk from locally generated tsunamis.
- Regrowth of Anak Krakatau will determine the future tsunami hazard
- PAGEOPH Borrero et al., 2020 tentatively accepted for publication

Acknowledgments

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- Any opinions, findings, and conclusions or recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the National Science Foundation



National Science Foundation
WHERE DISCOVERIES BEGIN

Terima Kasih - Questions



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