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U.S. AMBASSADORS FUND FOR CULTURAL PRESERVATION

Vast Archaeological Landscape Revealed by Airborne LiDAR at Nan Madol World Heritage Site

Implications for Sustainable Site Conservation and Outstanding Universal Value

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Area of LiDAR survey
One of the wettest places on Earth, with 4-7 meters of rain each year and dense vegetation.
100 humanly constructed islets with large basalt structures lie beneath
Google Earth
Image © 2019 DigitalGlobe

Lidar image of Temwen and Nan Madol

Provides data/information relevant to many issues:

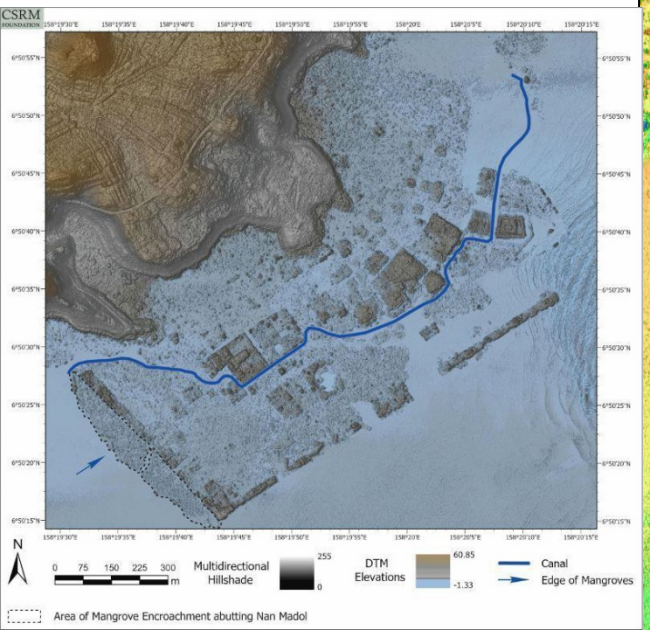
Assessing integrity and vulnerability of islets

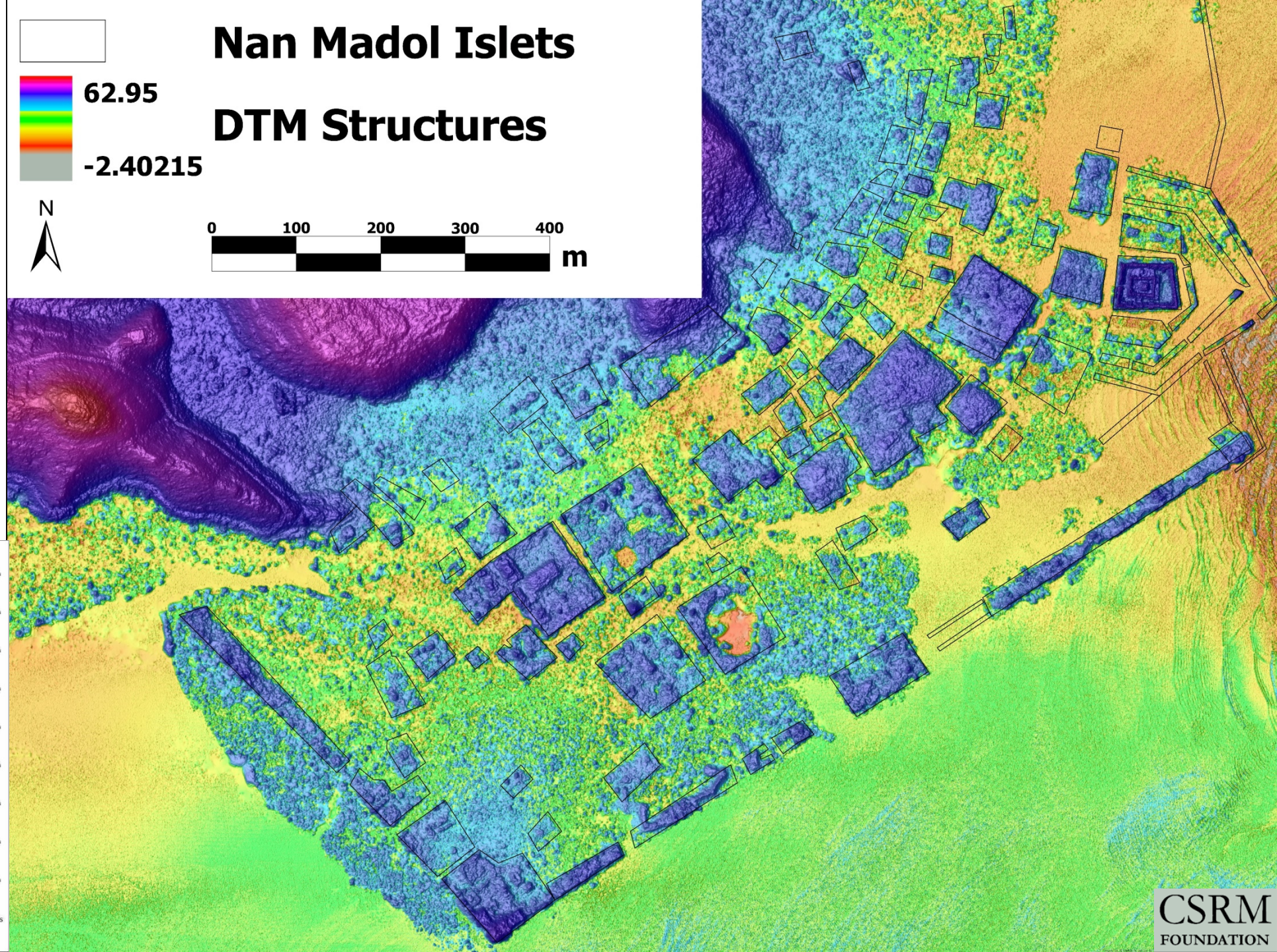
Temwen Island landscape features highly reminiscent of complex agricultural fields observed from sixteenth to eighteenth century in Melanesia

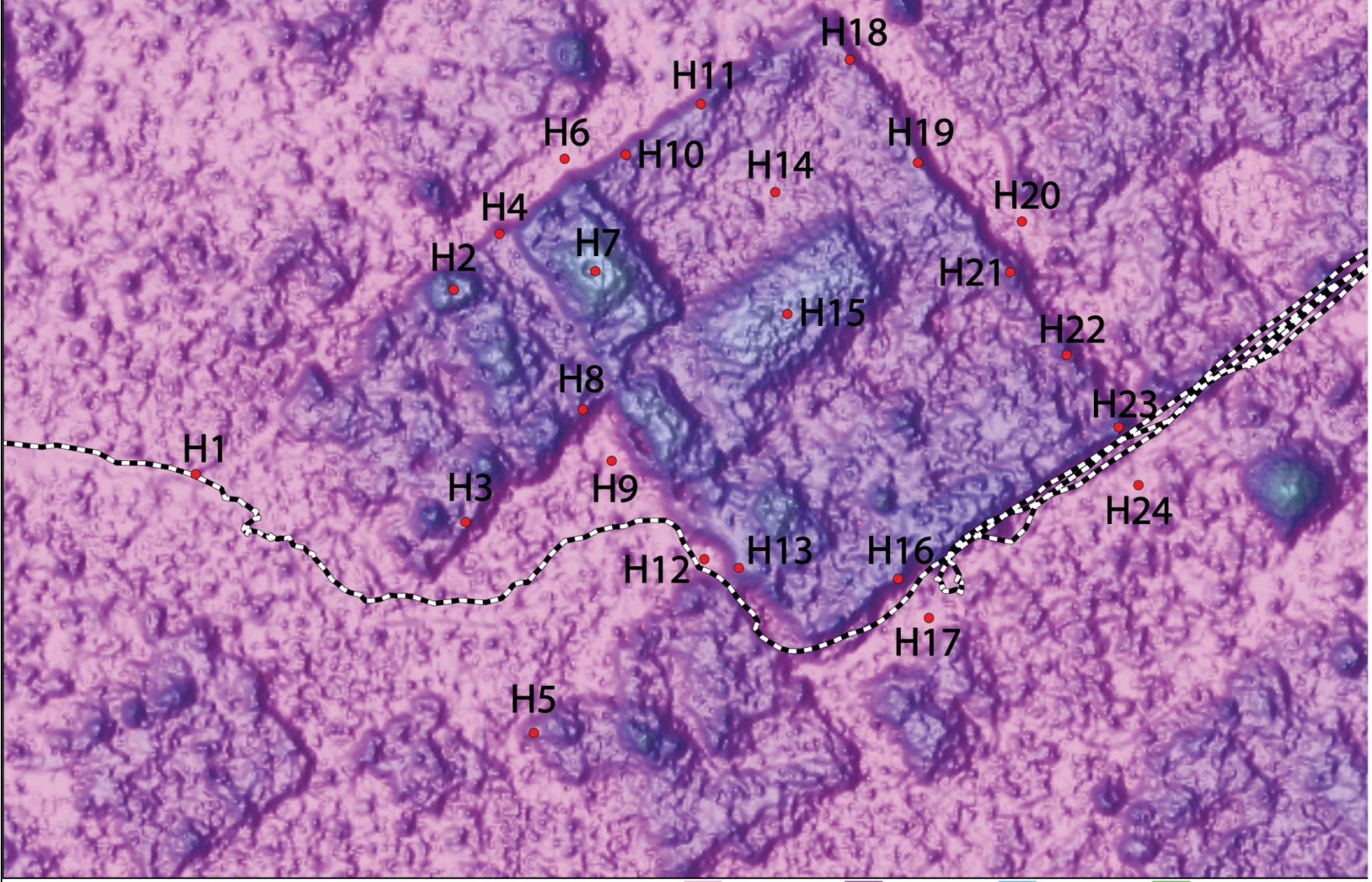
Can be used to

- Develop conservation treatments
- Enrich interpretation
- In many other ways

This is a Colorized Multi-directional Hillshade LiDAR Digital Terrain Model with islets outlines.







H1 = - 0.56
H2 = 1.09
H3 = 0.20
H4 = 0.14
H5 = - 0.12
H6 = - 0.58
H7 = 1.87
H8 = 0.47
H9 = - 0.67
H10 = 0.58
H11 = 0.34
H12 = - 0.74
H13 = 0.68
H14 = - 0.16
H15 = 1.23
H16 = 0.70
H17 = - 0.60
H18 = 0.04
H19 = 0.39
H20 = - 0.66
H21 = 0.63
H22 = 0.51
H23 = 1.19
H24 = - 0.64

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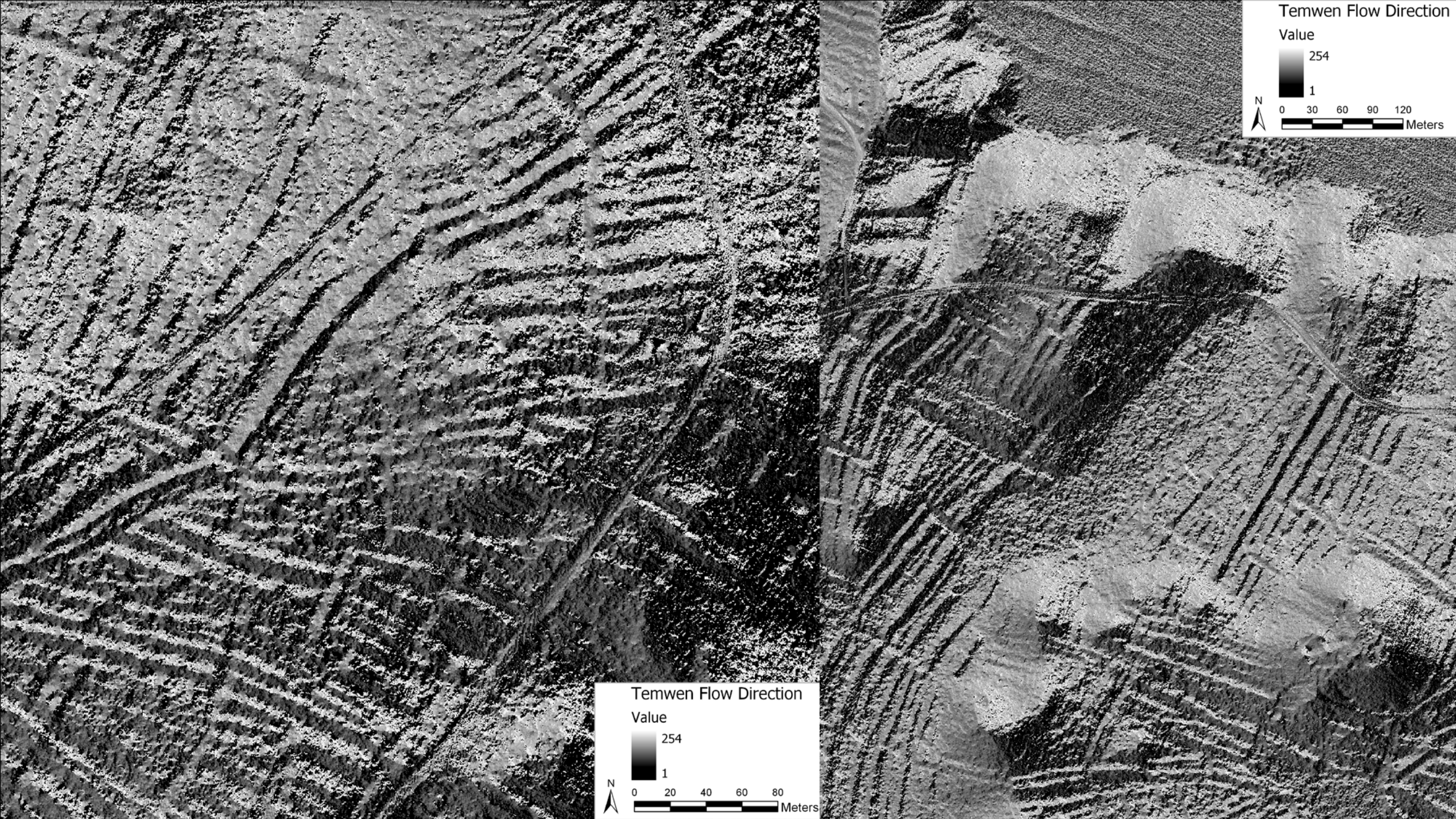
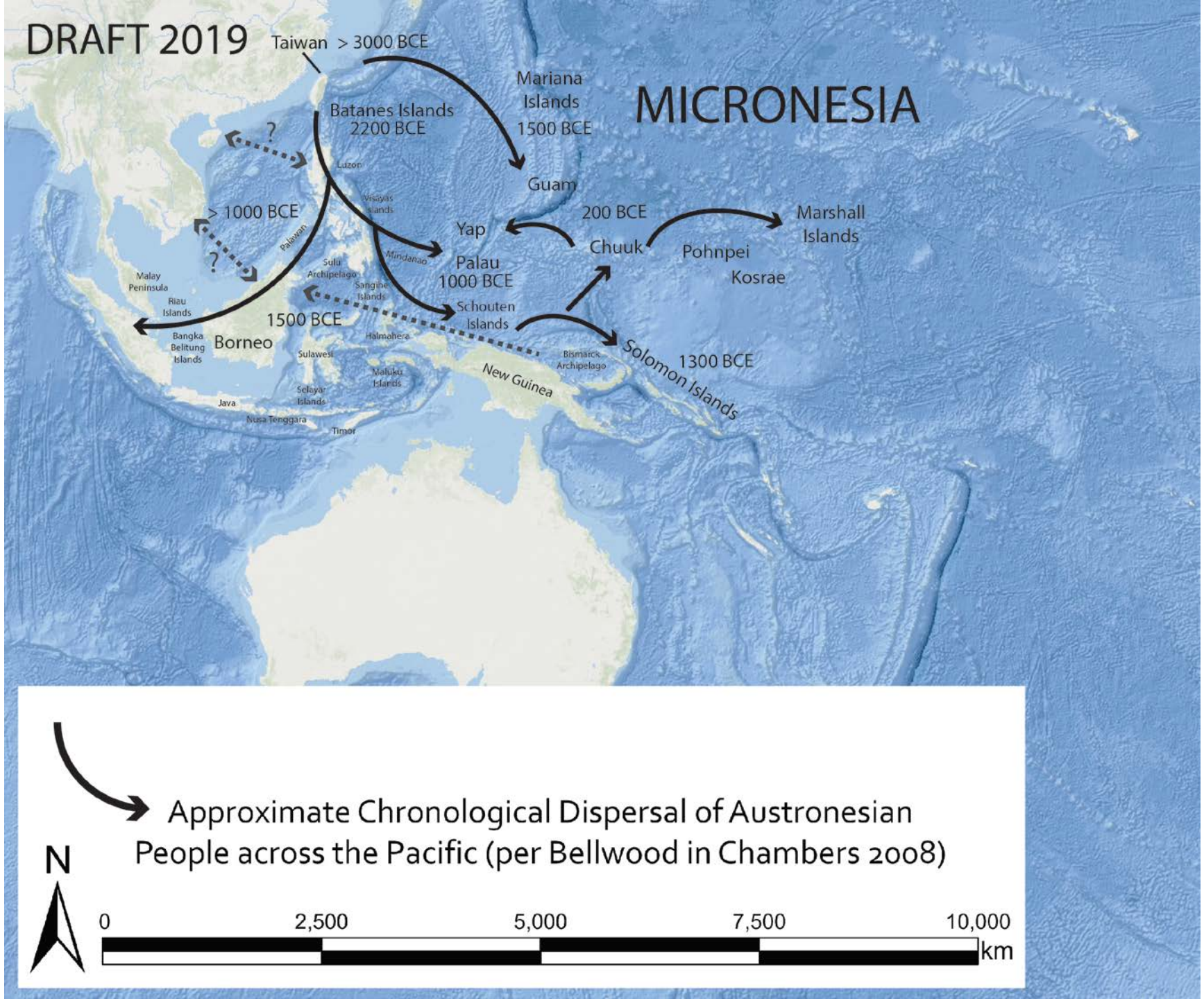
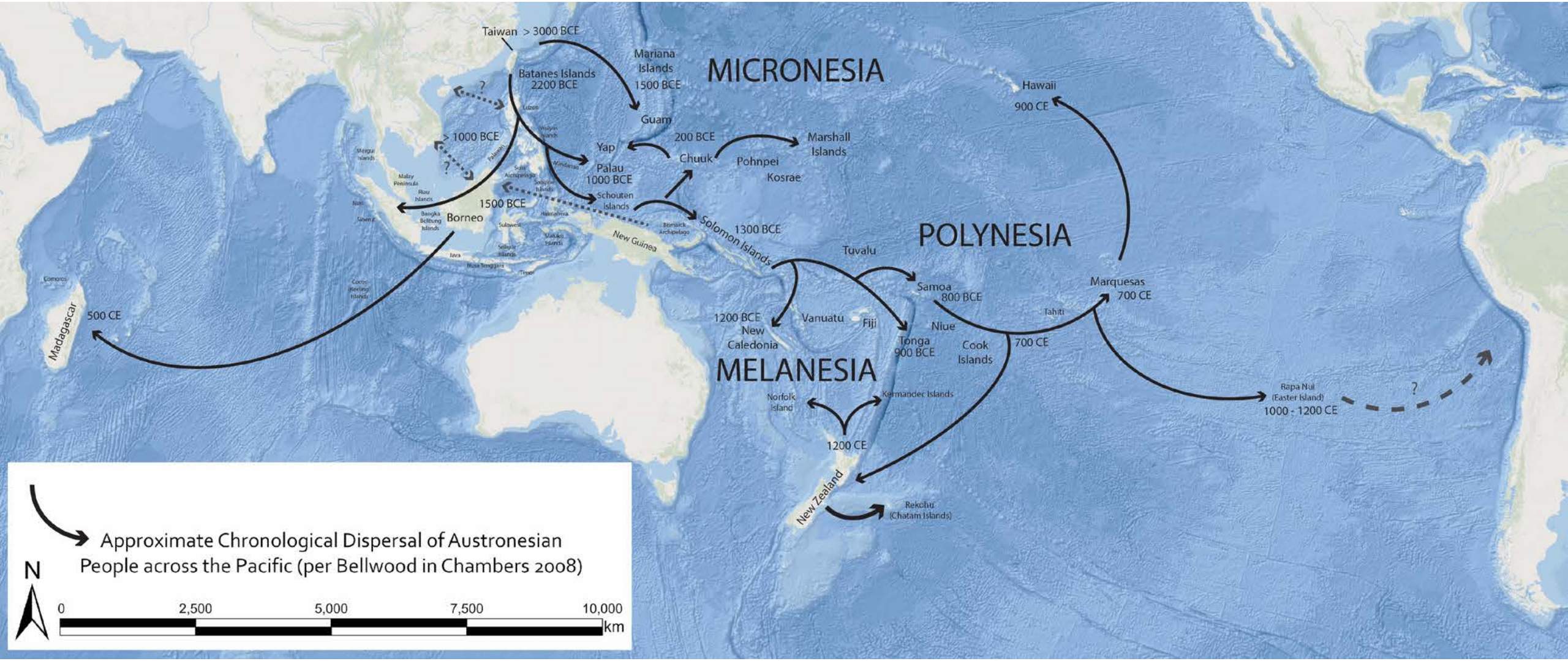
Pan Kedira


Temwen Flow Direction
Value
254
1
N
0 30 60 90 120
Meters
Temwen Flow Direction
Value
254
1
N
0 20 40 60 80
Meters


DRAFT 2019
Taiwan > 3000 BCE
Batanes Islands
2200 BCE
Mariana
Islands
1500 BCE
MICRONESIA
Guam
200 BCE
Marshall
Islands
Yap
Chuuk
Pohnpei
Kosrae
Palau
1000 BCE
> 1000 BCE
1500 BCE
Schouten
Islands
Borneo
Solomon Islands
1300 BCE
New Guinea
Approximate Chronological Dispersal of Austronesian
People across the Pacific (per Bellwood in Chambers 2008)
N
0
2,500
5,000
7,500
10,000
km


Taiwan > 3000 BCE
Batanes Islands 2200 BCE
Mariana Islands 1500 BCE
MICRONESIA
Guam
Yap
200 BCE
Chuuk
Marshall Islands
Pohnpei
Kosrae
Palau 1000 BCE
Schouten Islands
1500 BCE
> 1000 BCE
Borneo
Solomon Islands
1300 BCE
New Guinea
POLYNESIA
Tuvalu
Samoa
800 BCE
Hawaii
900 CE
Marquesas
700 CE
Tahiti
700 CE
Niue
Cook Islands
Tonga
900 BCE
1200 BCE
New Caledonia
Vanuatu
Fiji
MELANESIA
Norfolk Island
Kermandec Islands
1200 CE
New Zealand
Rekohu (Chatam Islands)
Rapa Nui (Easter Island)
1000 - 1200 CE
?
500 CE
Madagascar
Comoros
Approximate Chronological Dispersal of Austronesian People across the Pacific (per Bellwood in Chambers 2008)
N
0
2,500
5,000
7,500
10,000
km