



Trafficked By Sea:

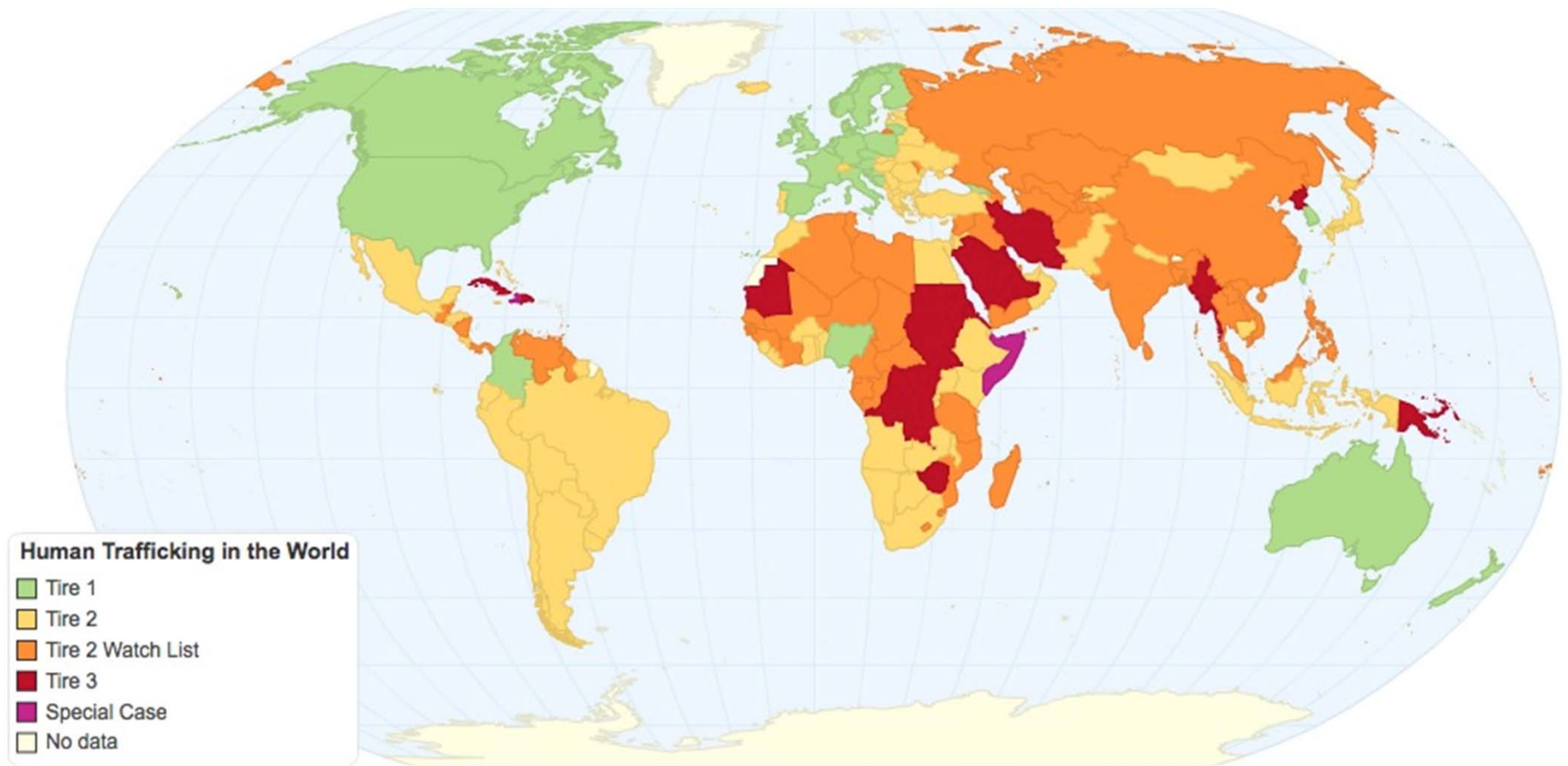
building a maritime network to evaluate
diffusion of global crises

Presented by: Stacy Bogan
Center for Geographic Analysis

www.gis.harvard.edu

sbogan@cga.harvard.edu

Compliance with the Trafficking Victims Protection Act

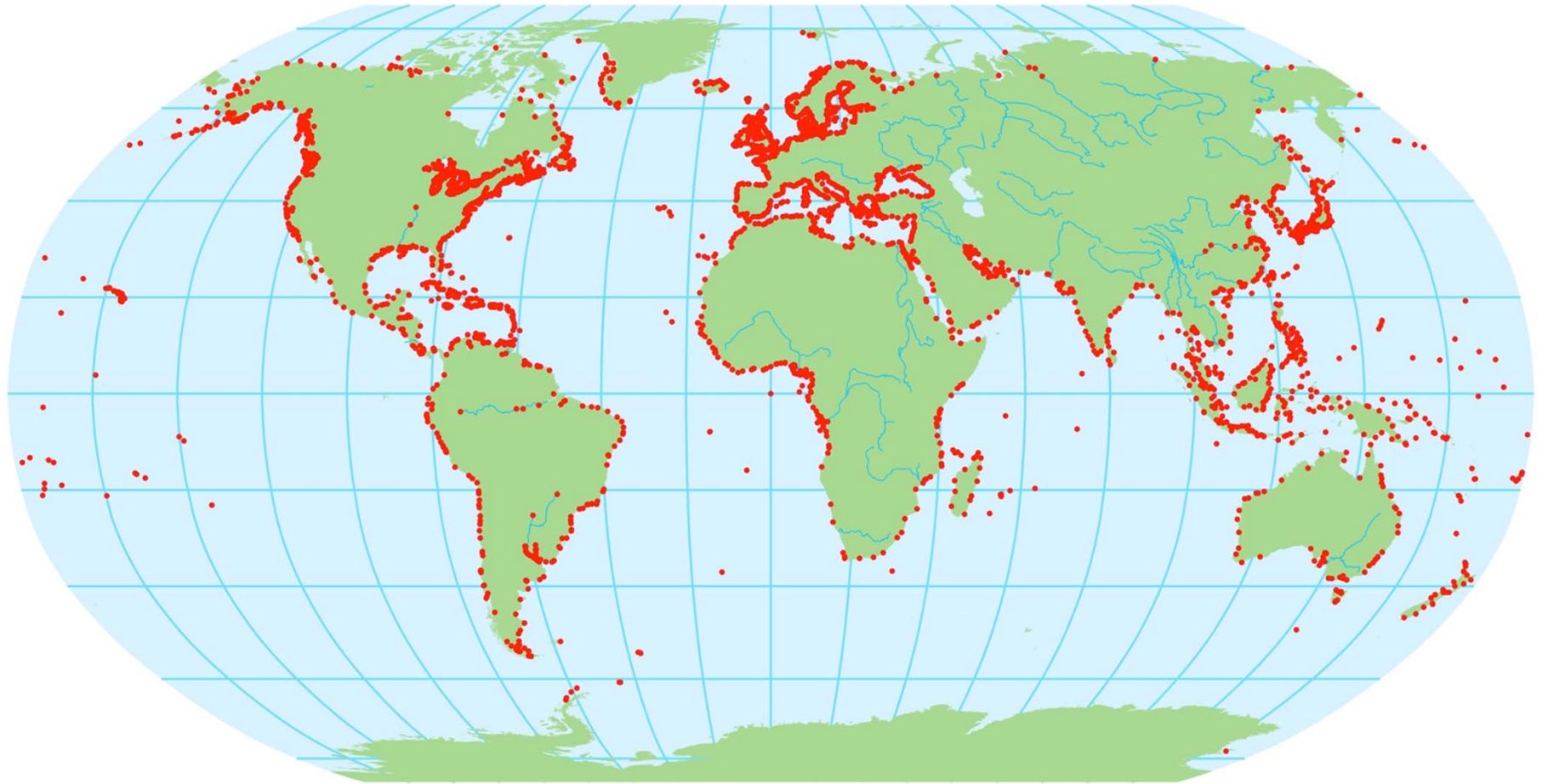


Source: US Dept. of State

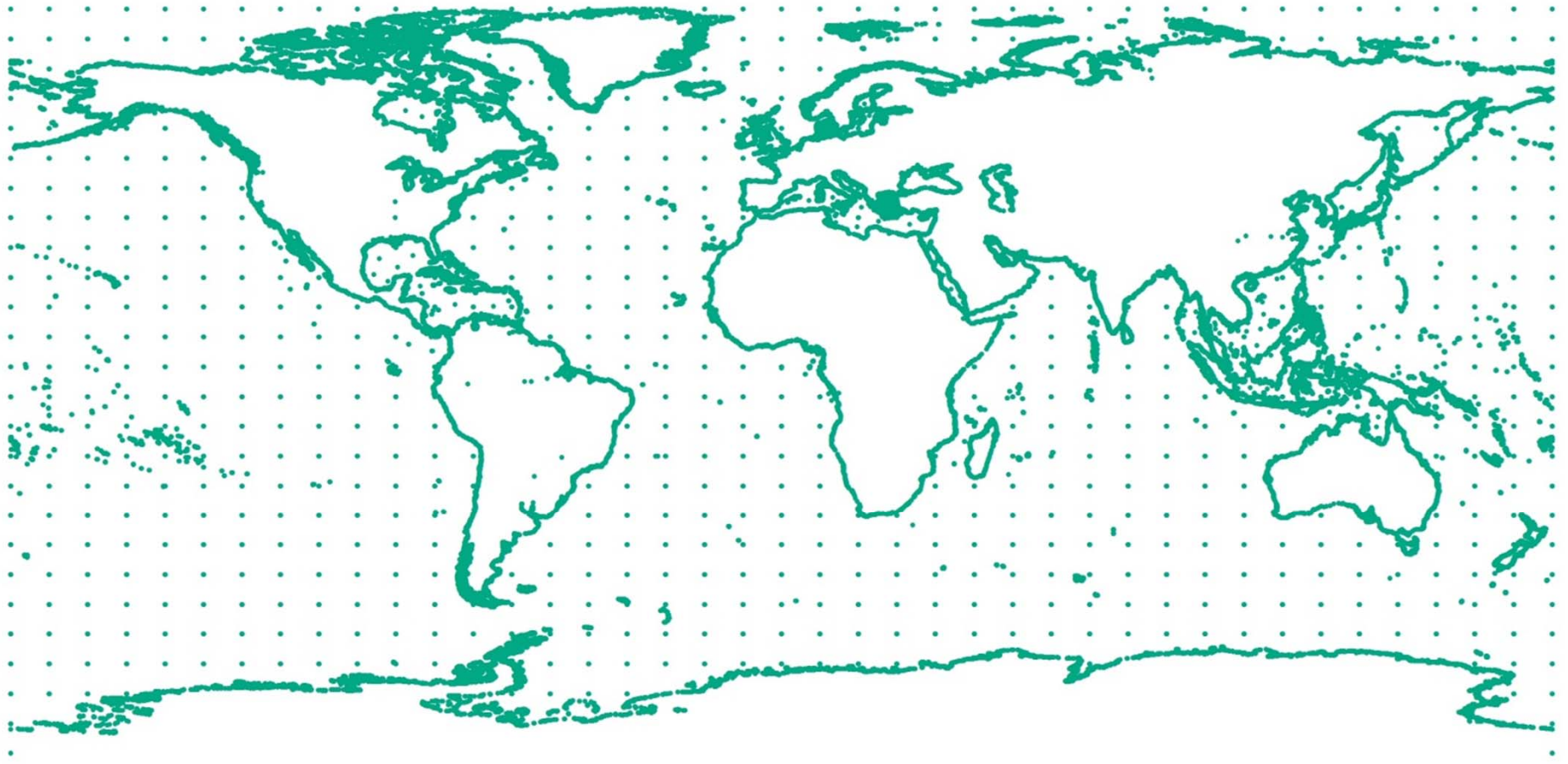
Estimating Distance Between Countries

- No freely available dataset offering a network over the oceans.
- Online calculators offer distances between two ports at a time.
- Programming a query of online calculators would have offered a matrix of known ports, but would not have been flexible for new ports.

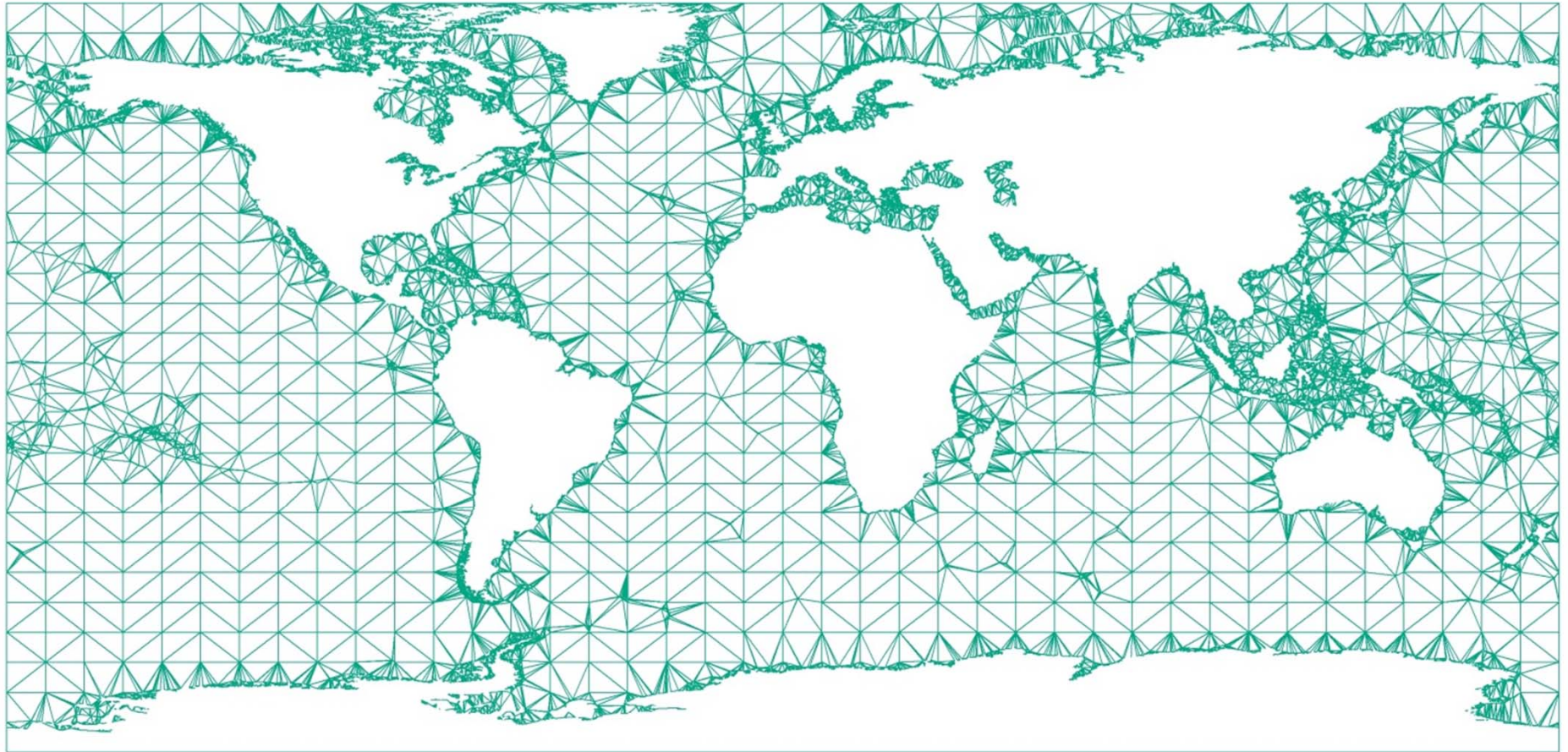
Global Datasets



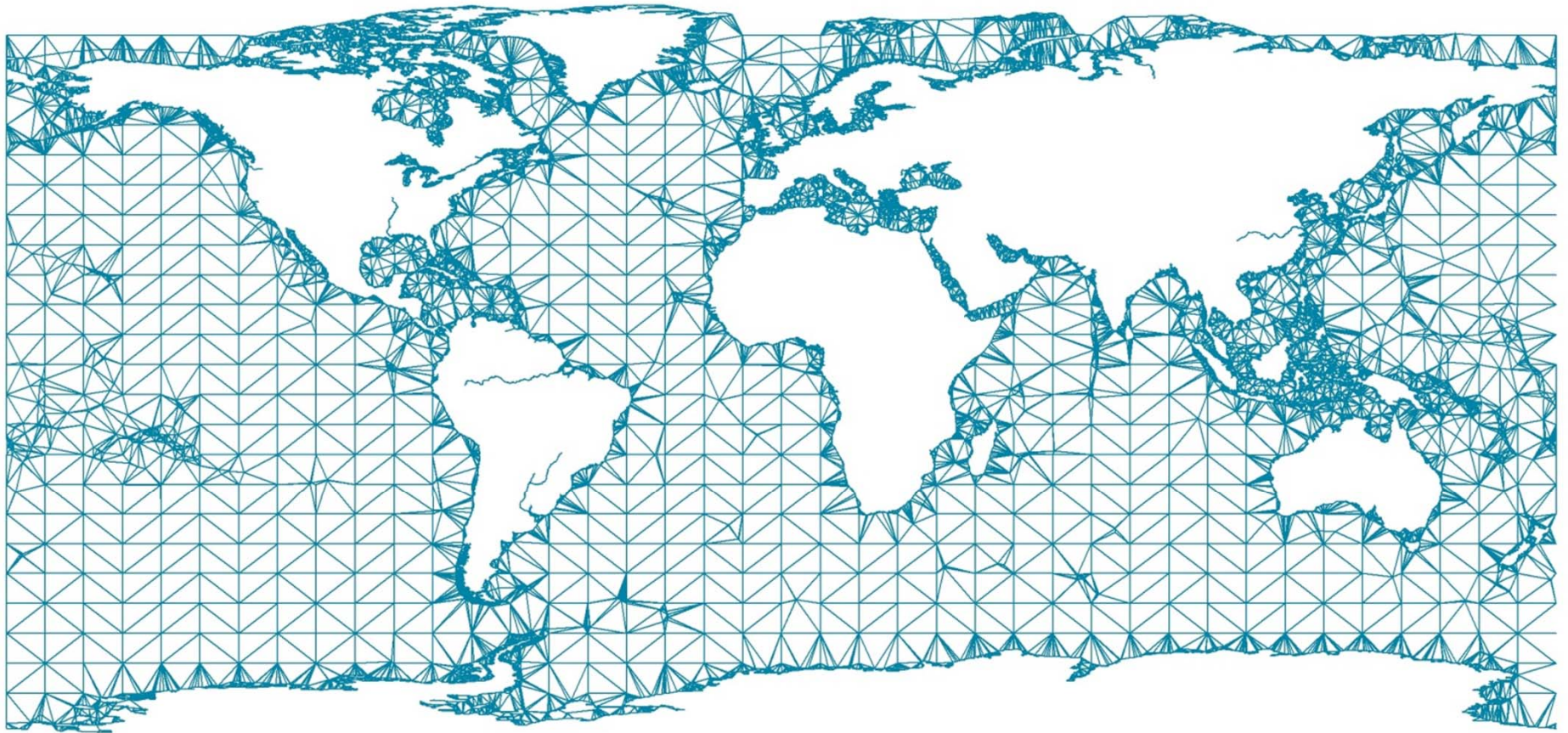
Land Buffer + Ocean “Fishnet”



Triangulation



Final Network

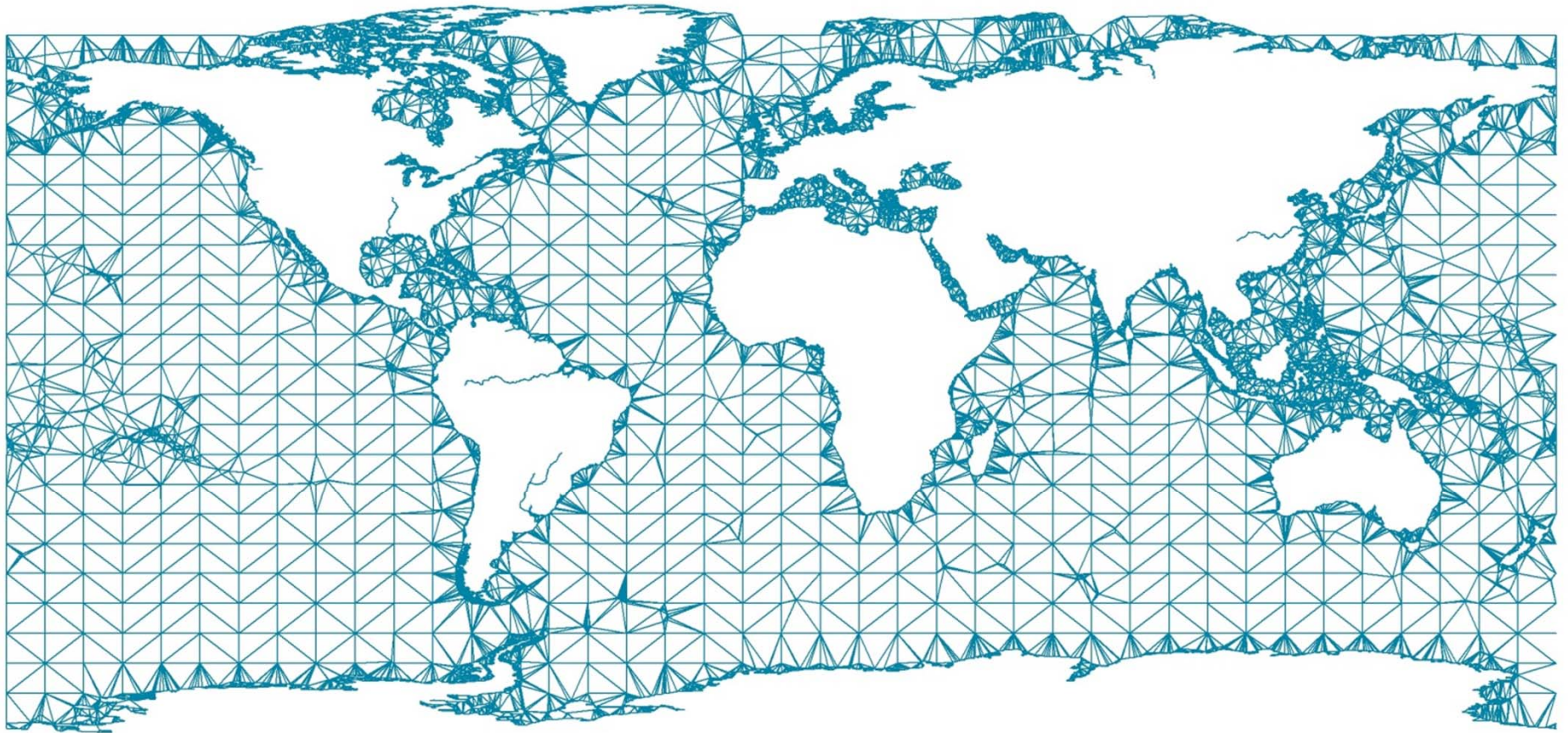


Calculating Length

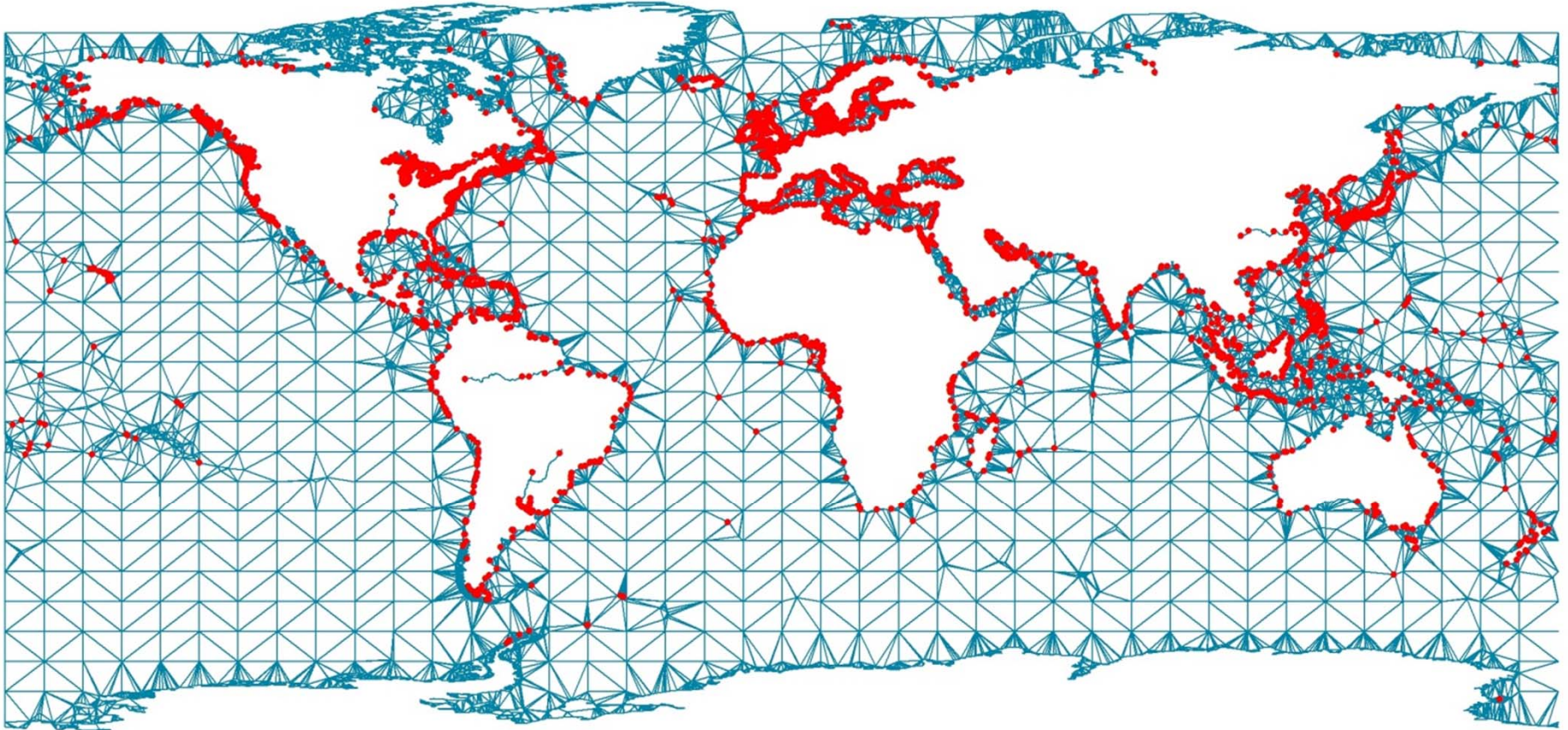
- Great Circle (GC) Distance: the shortest distance between two points on a sphere.
- GC Calculator



Final Network

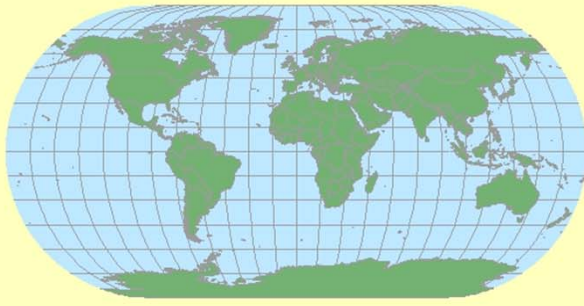


Final Network with Ports

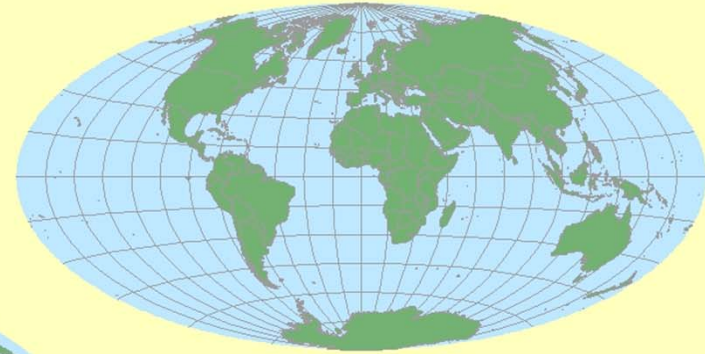


Five World Map Projections

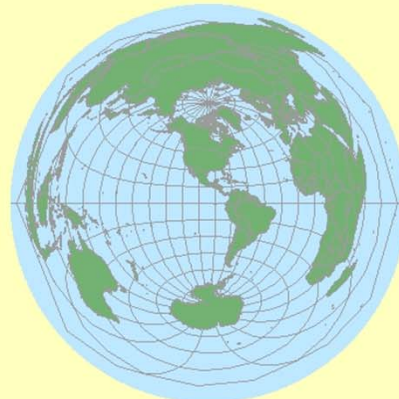
2011



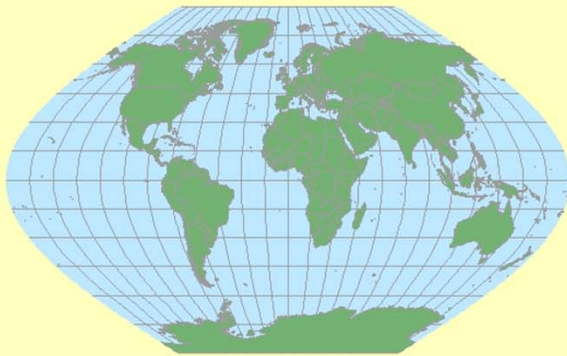
Eckert III



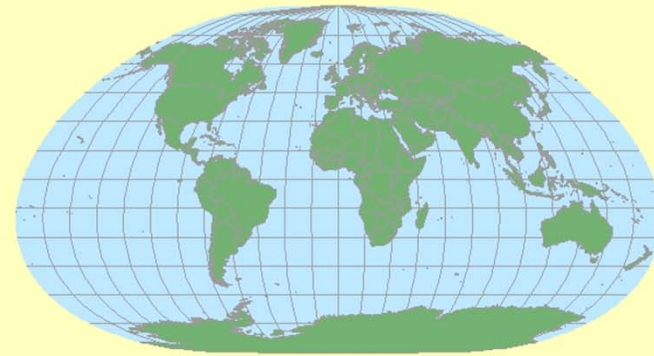
Aitoff



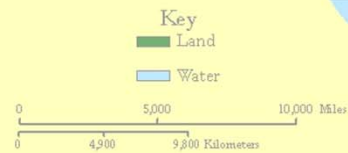
Azimuthal Equidistant
Scale: 1:650,000,000

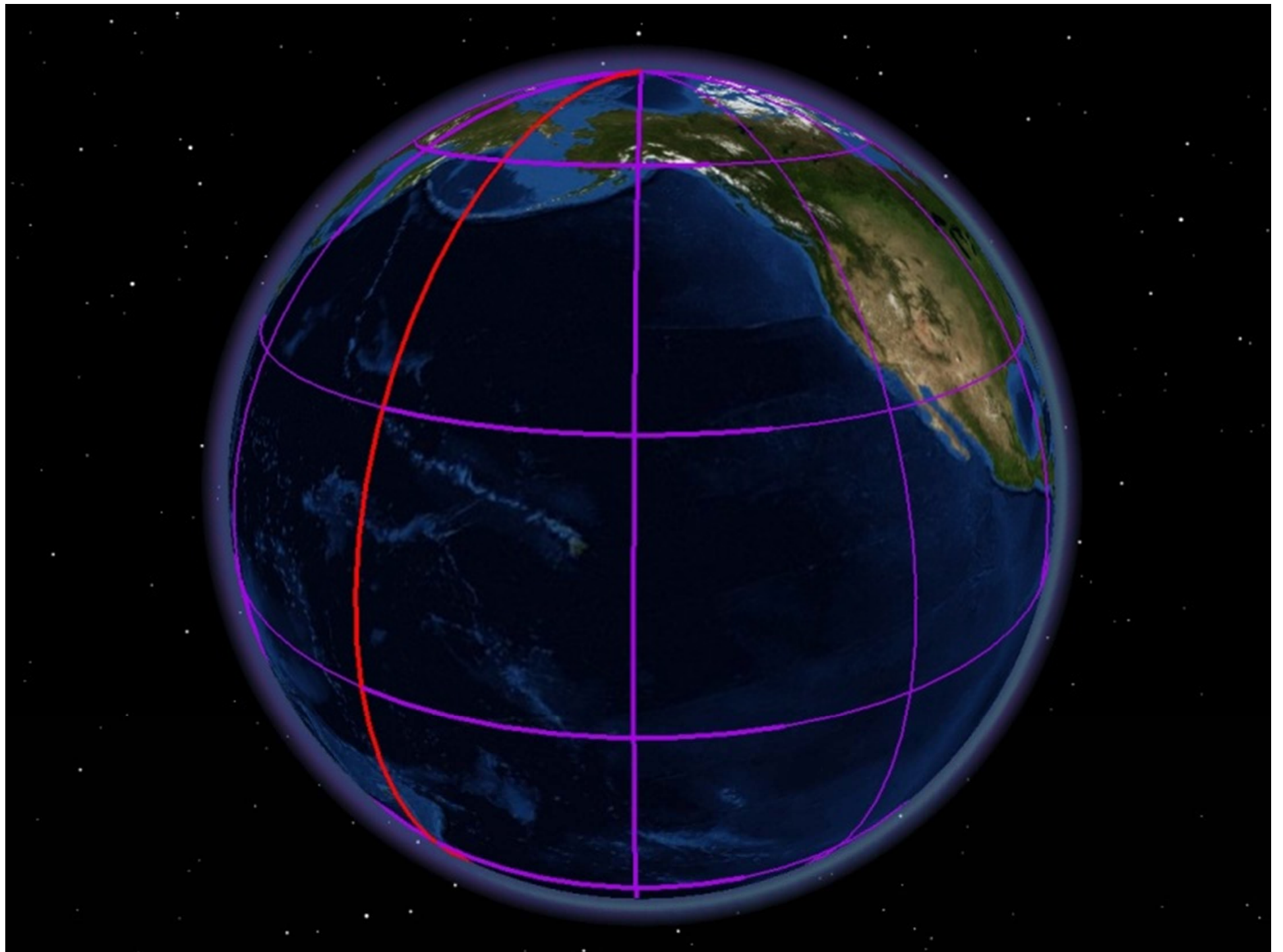


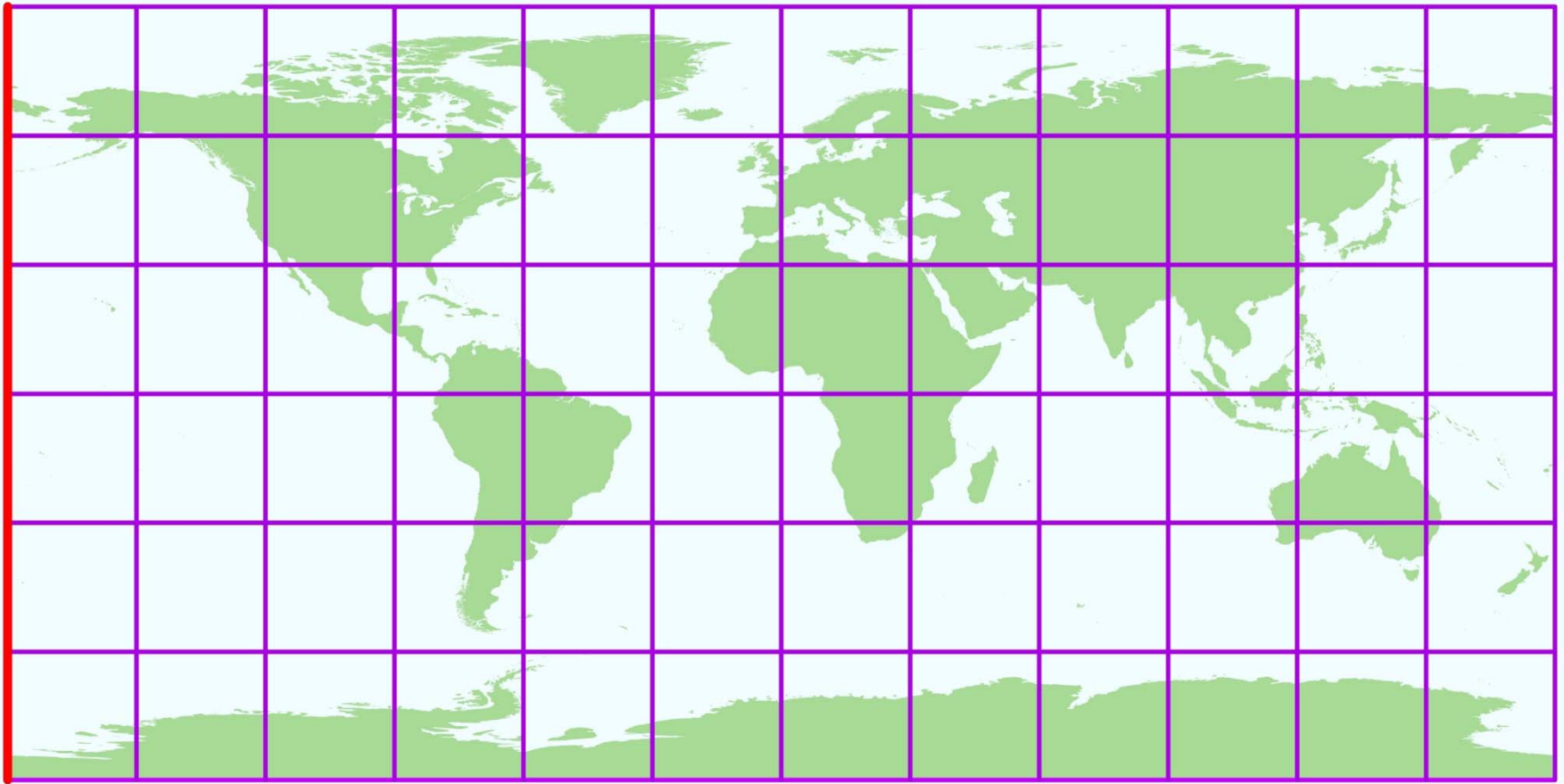
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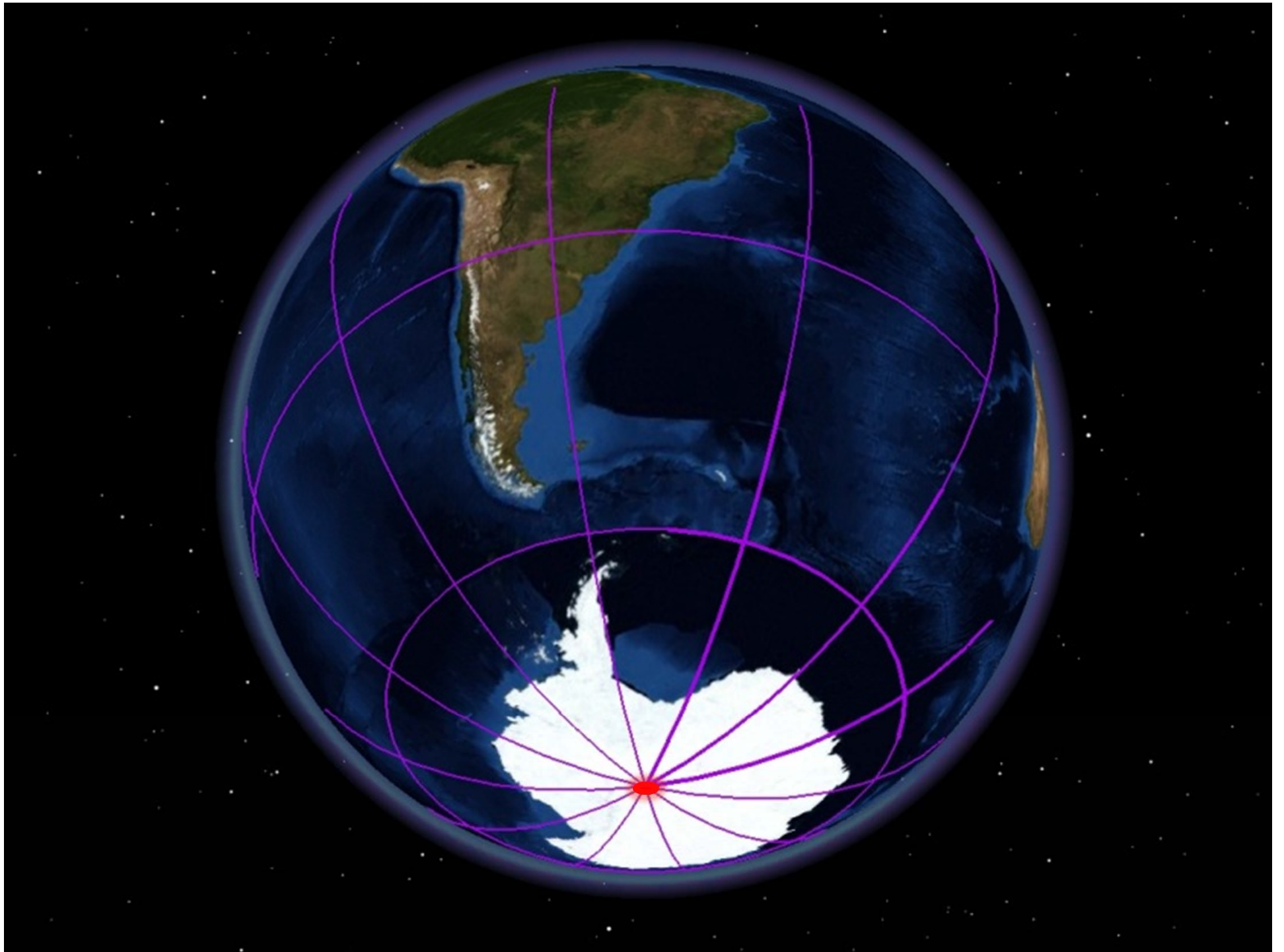


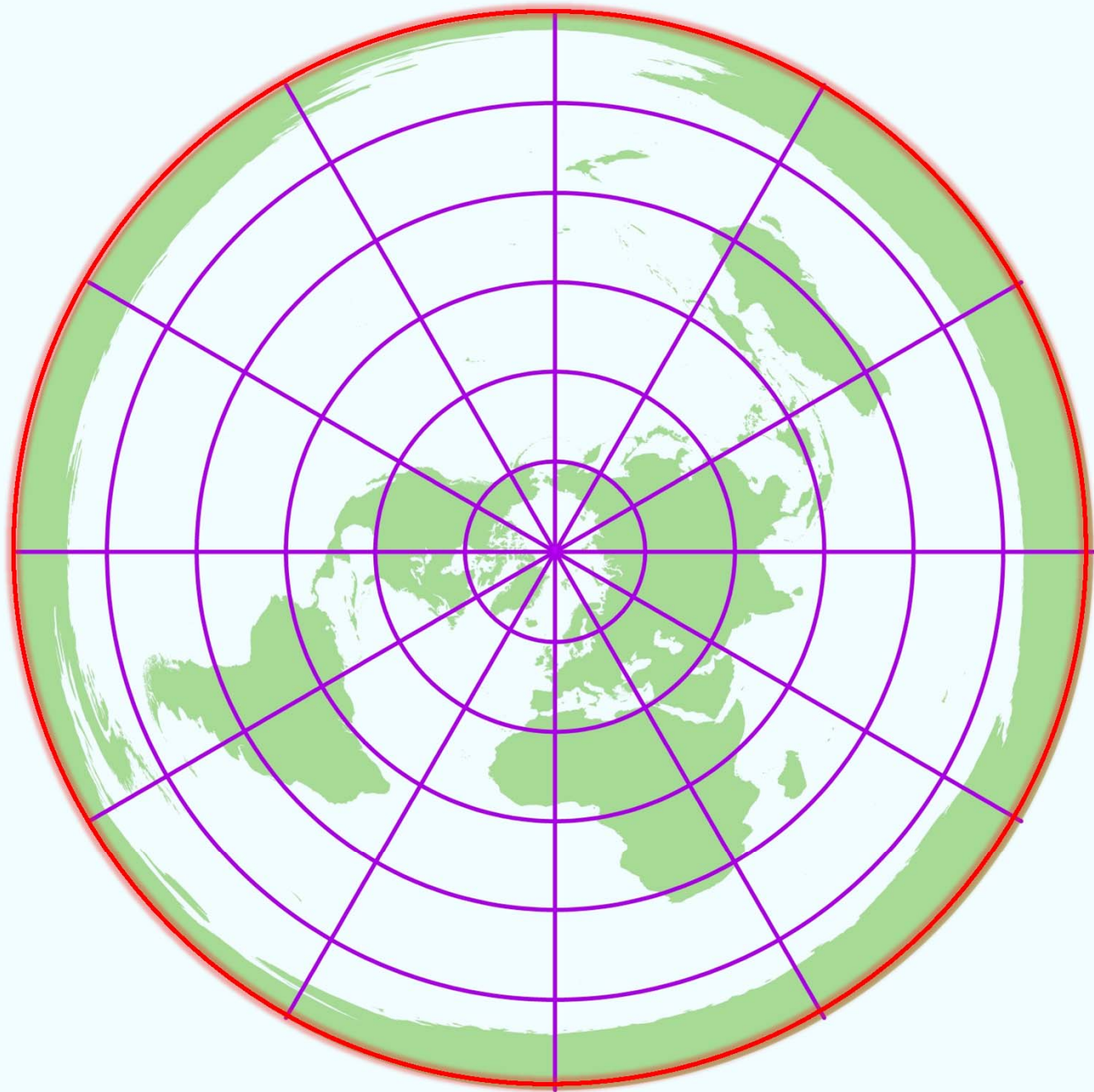
Loximuthal

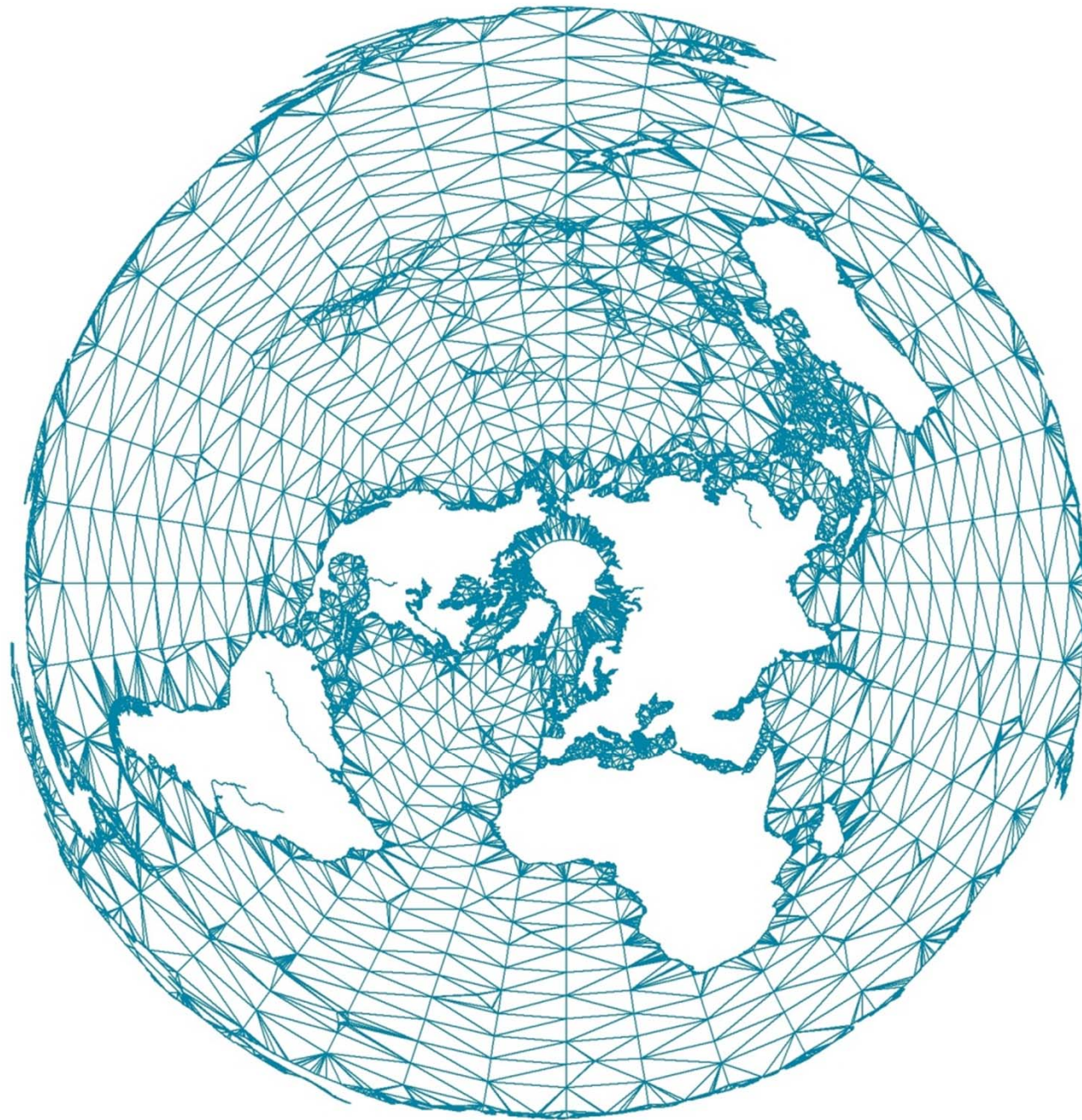


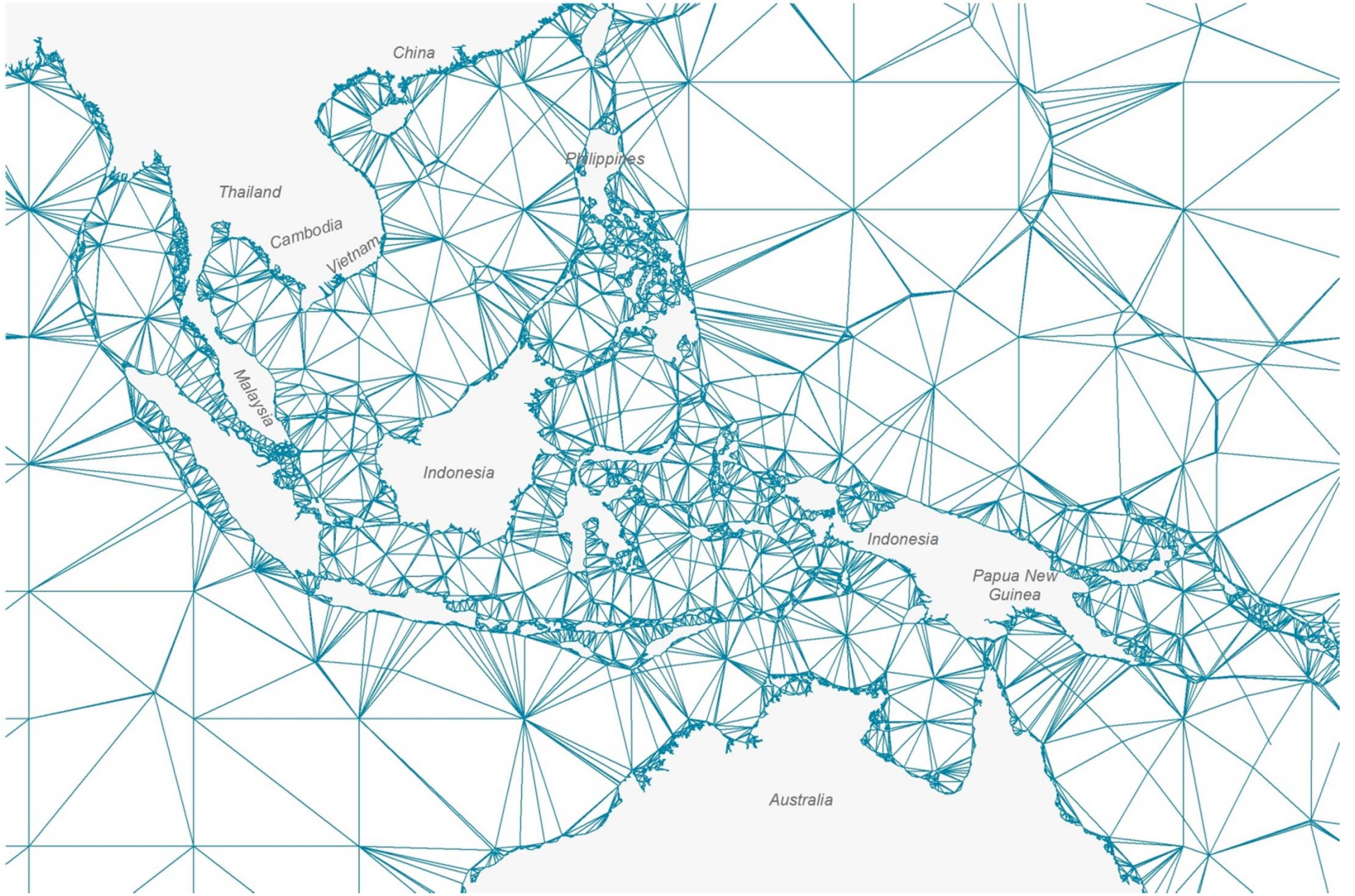




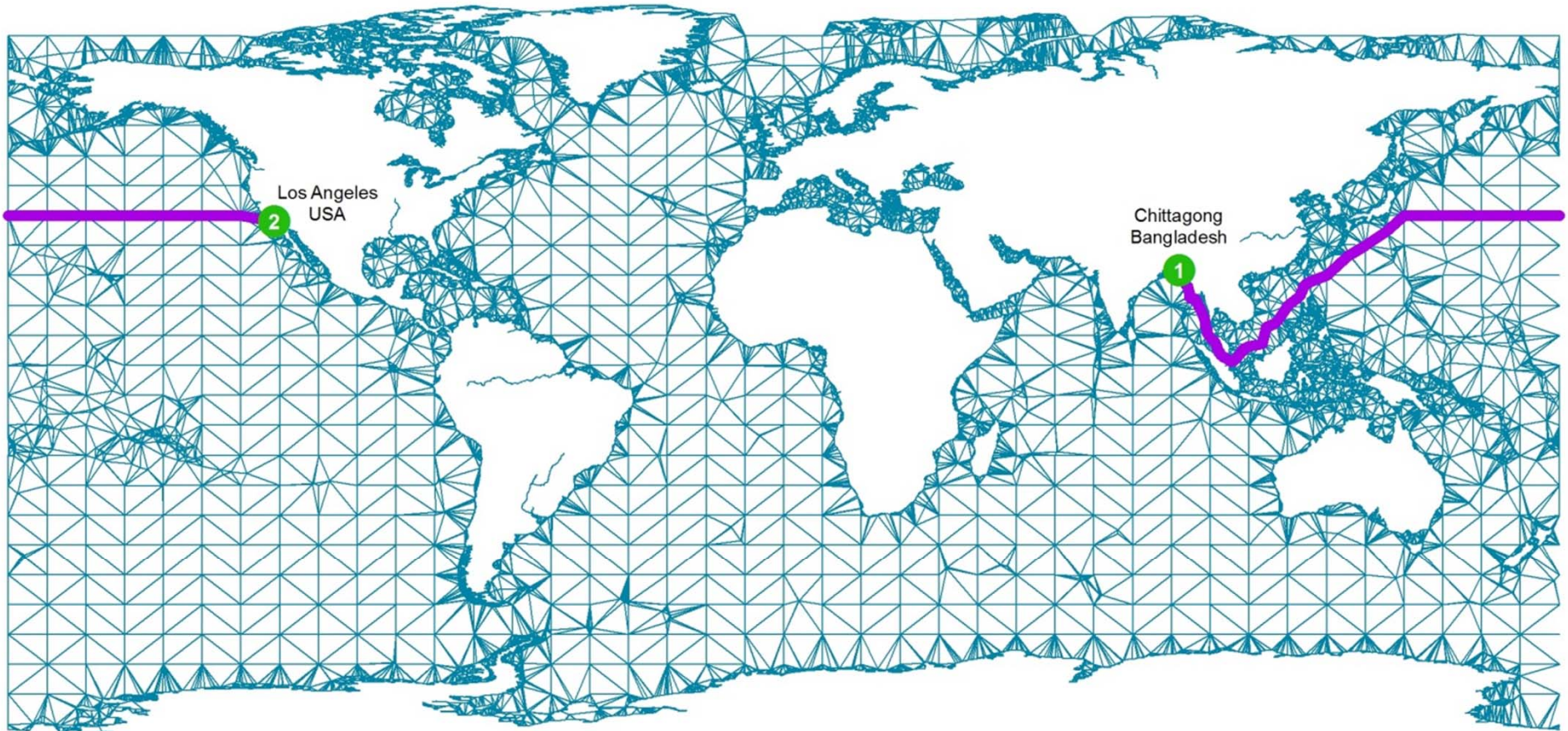






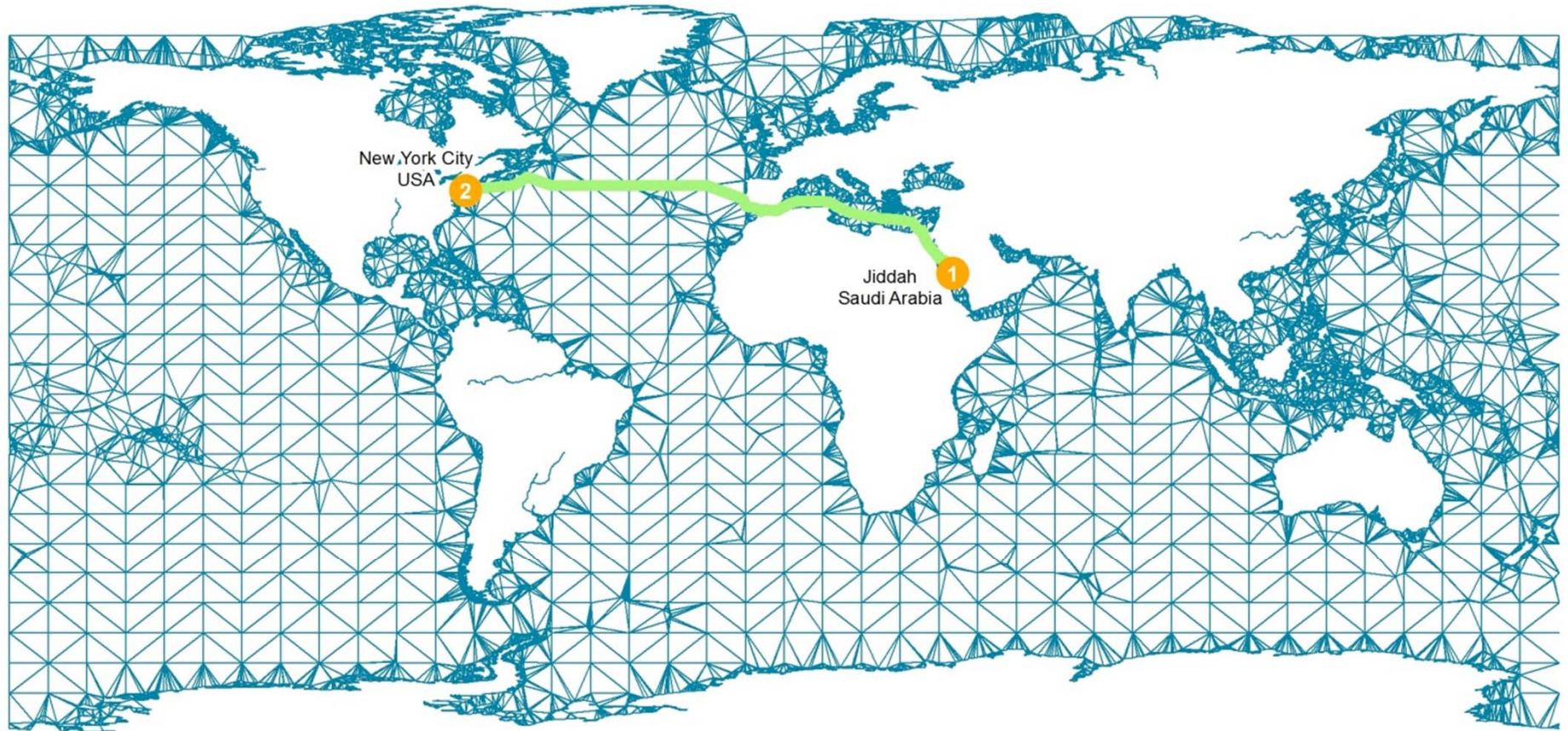


Bangladesh to Los Angeles



Distance: 17,730 Kilometers
9,573 Nautical Miles

Saudi Arabia to New York City



Distance: 11,268 Kilometers
6,084 Nautical Miles

Global Maritime Network

- Allows the calculation of distance between any two ports in the world.
- Each line in the network is informed of its great circle length.
- Allows travel anywhere in the oceans.