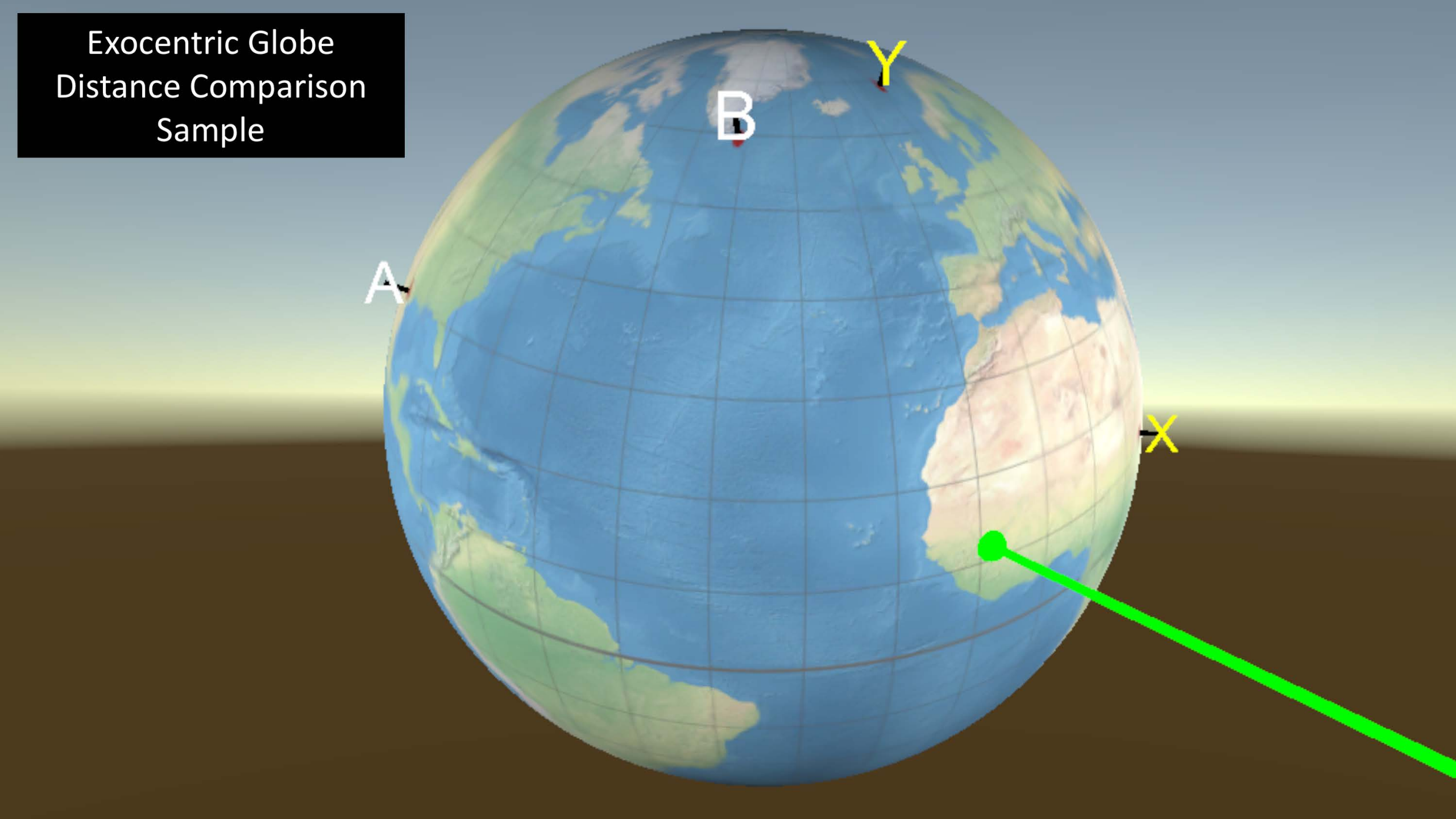
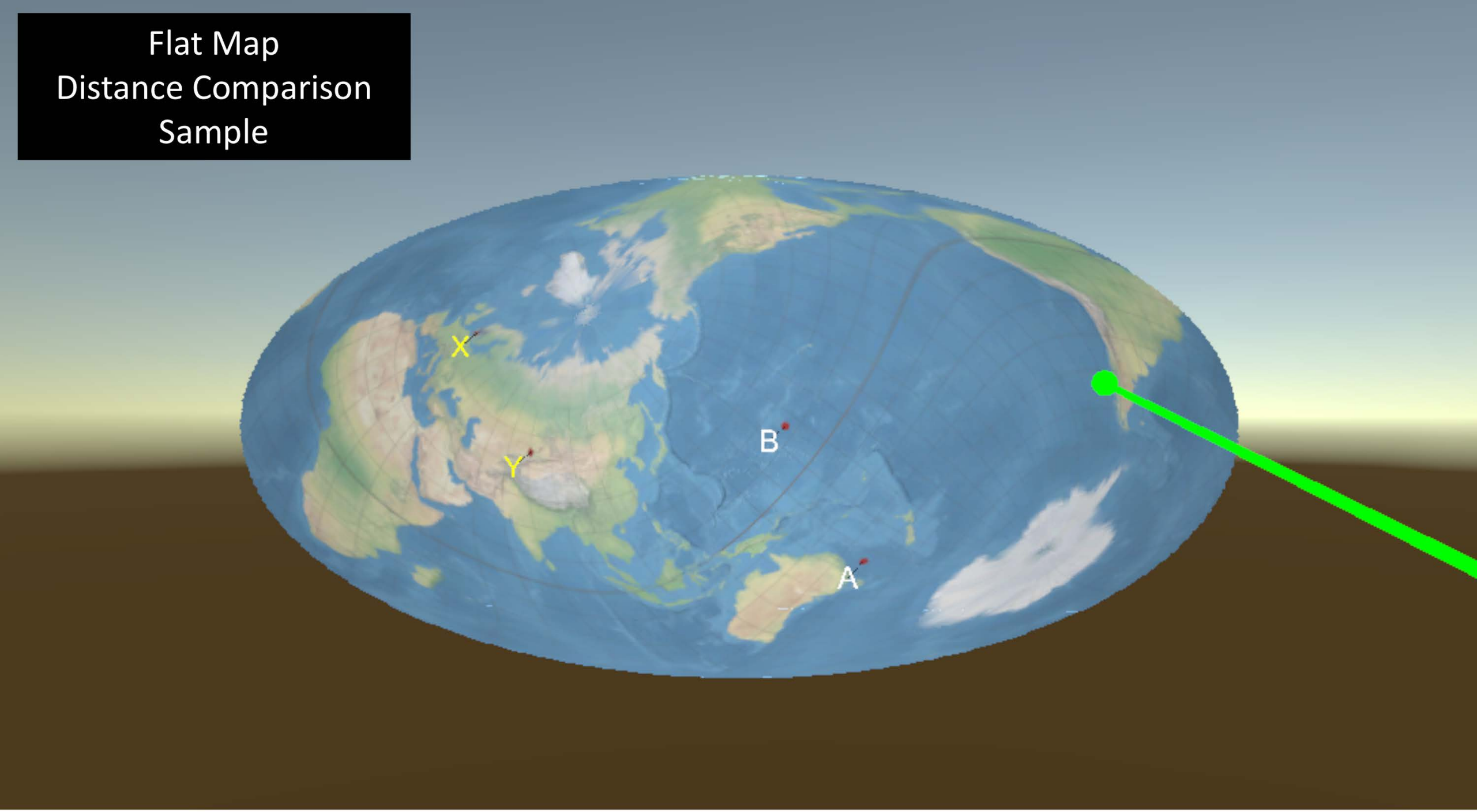
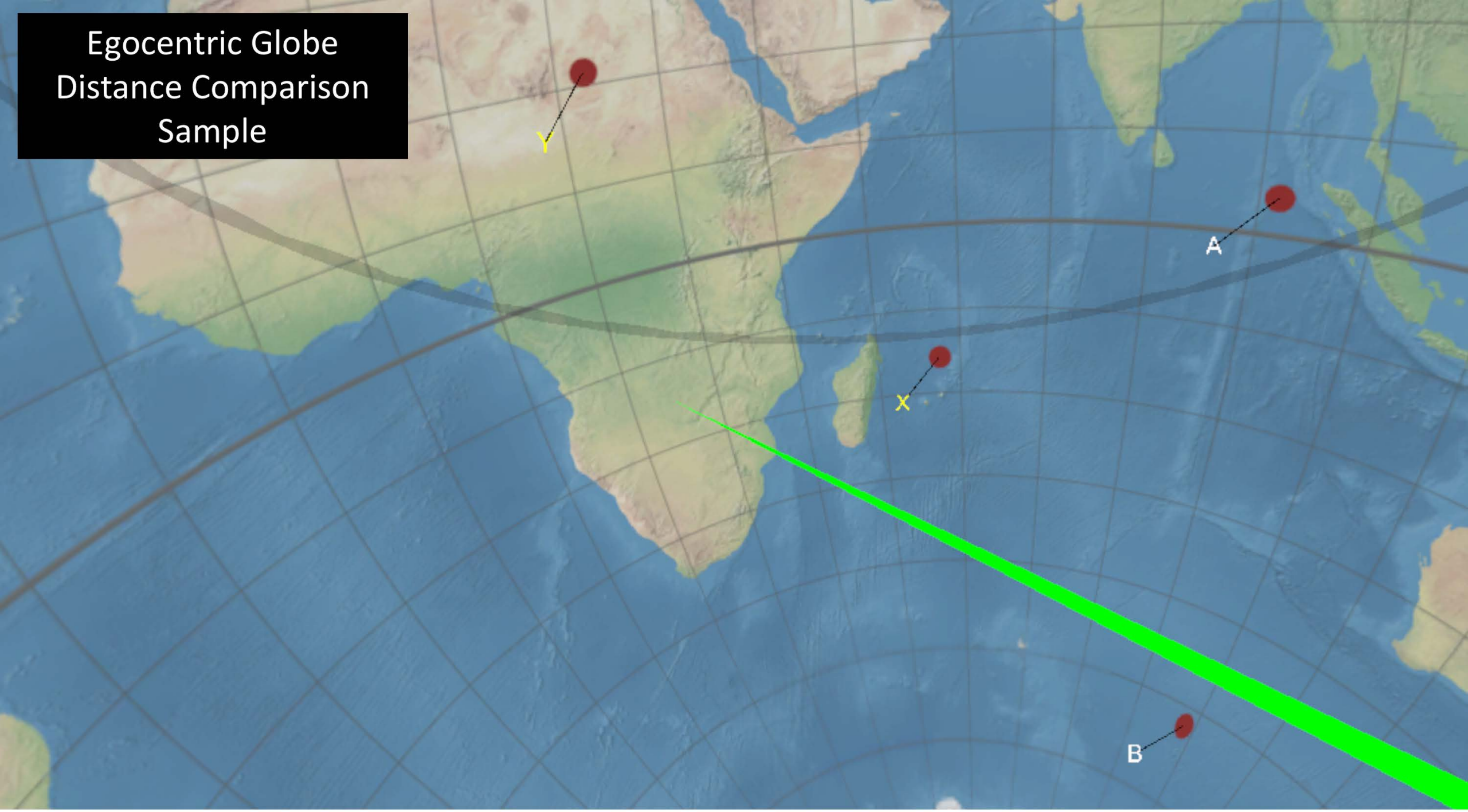
Sample tasks in different visualisations

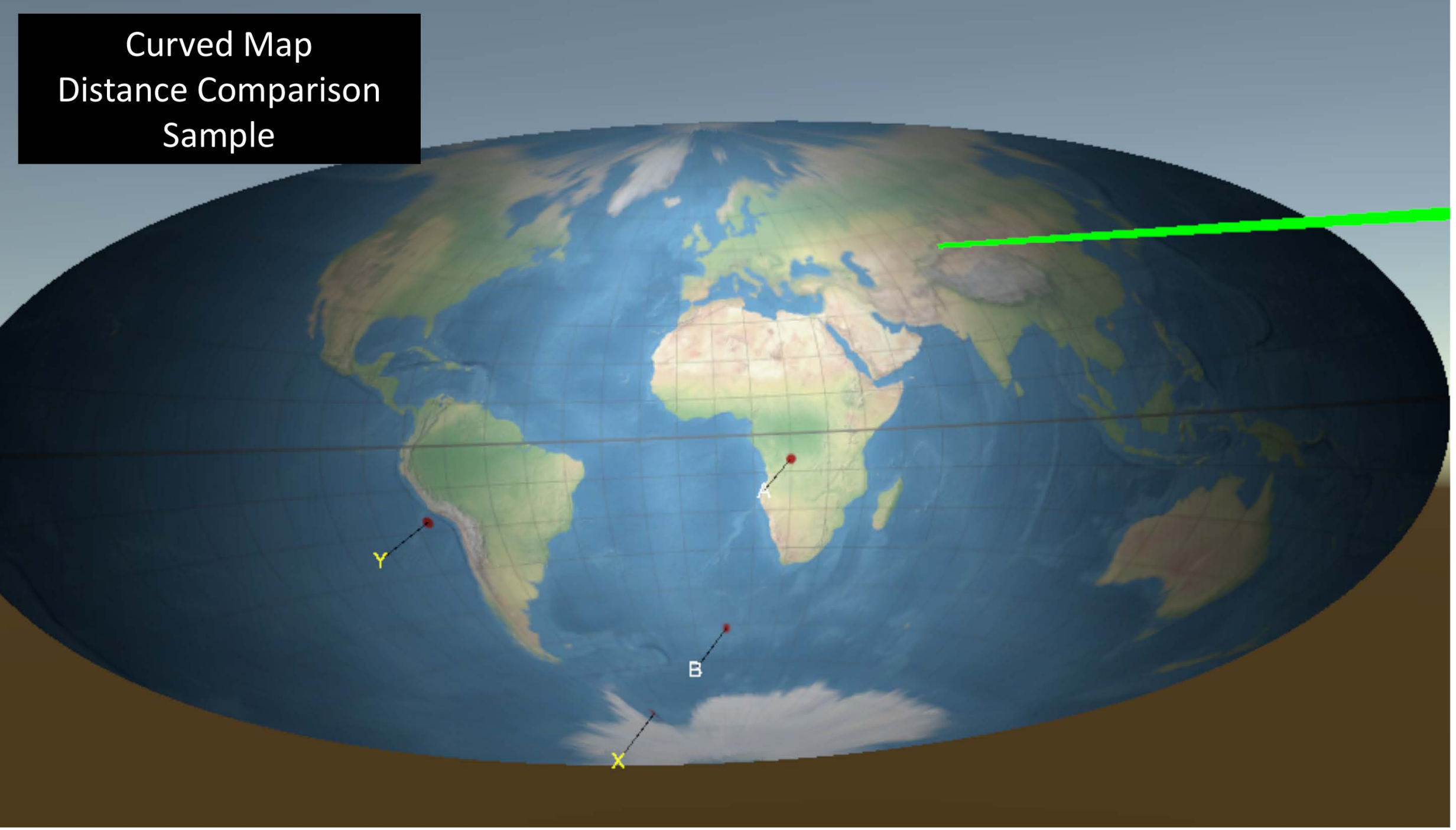
Exocentric Globe Distance Comparison Sample



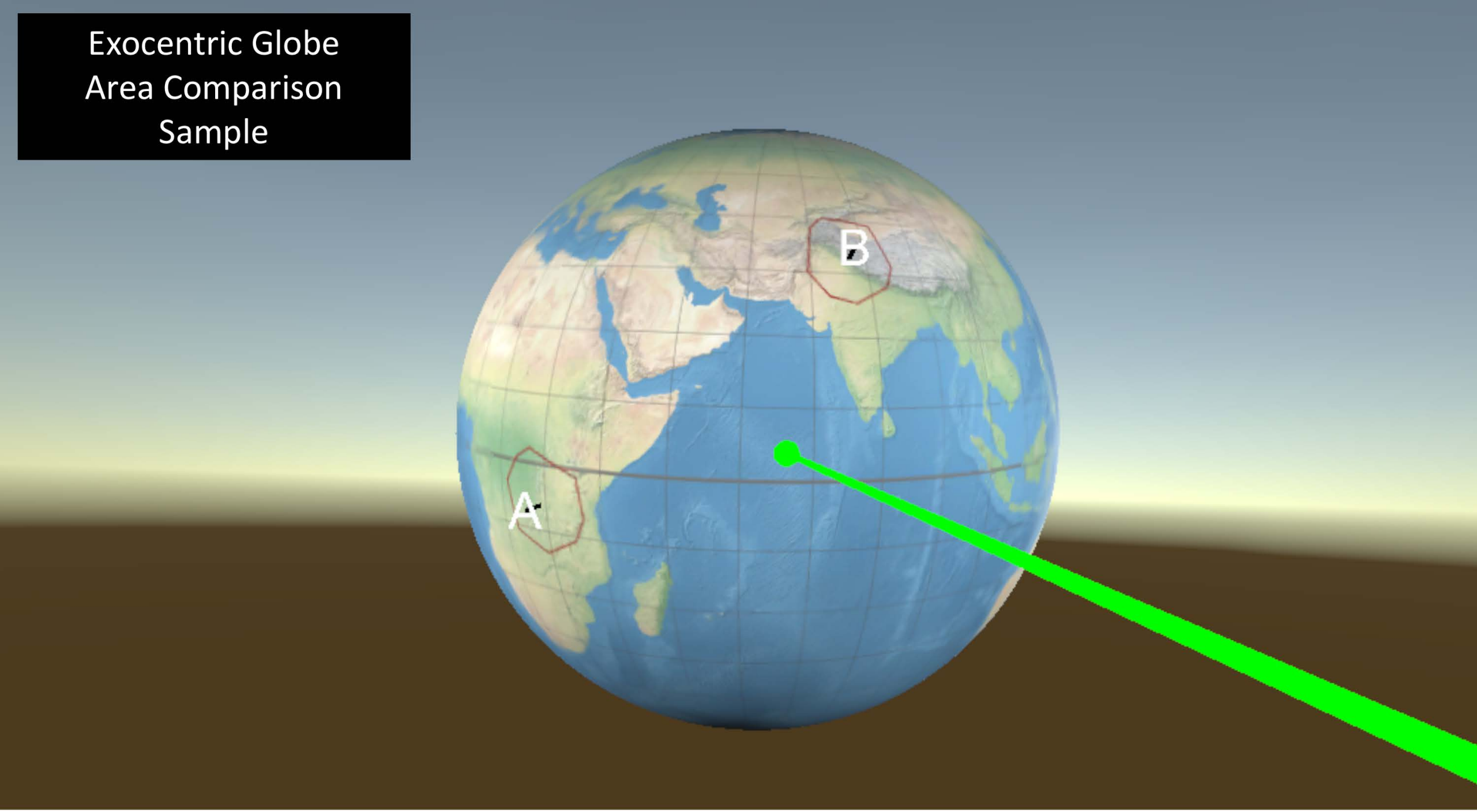
Flat Map
Distance Comparison
Sample

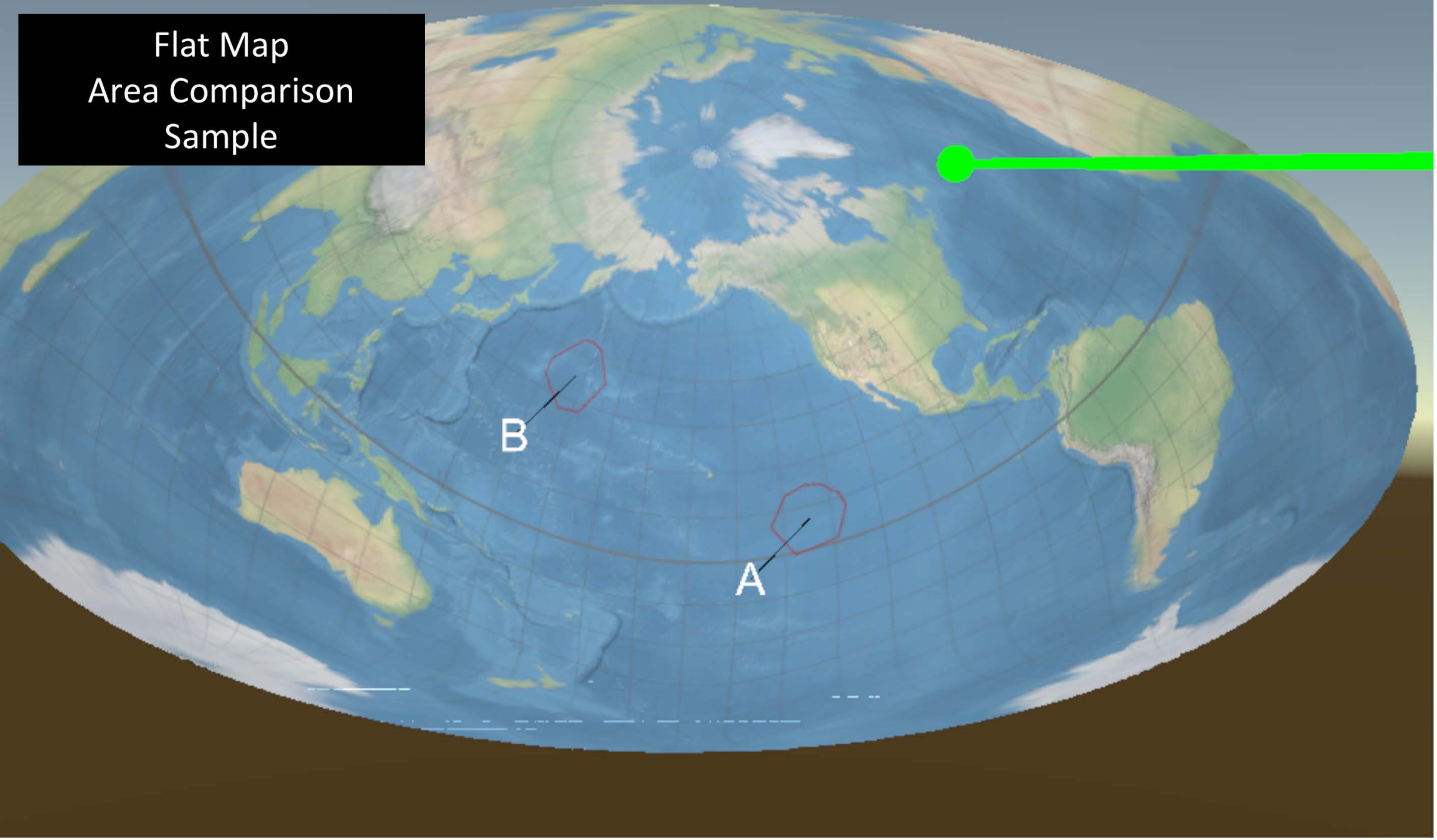


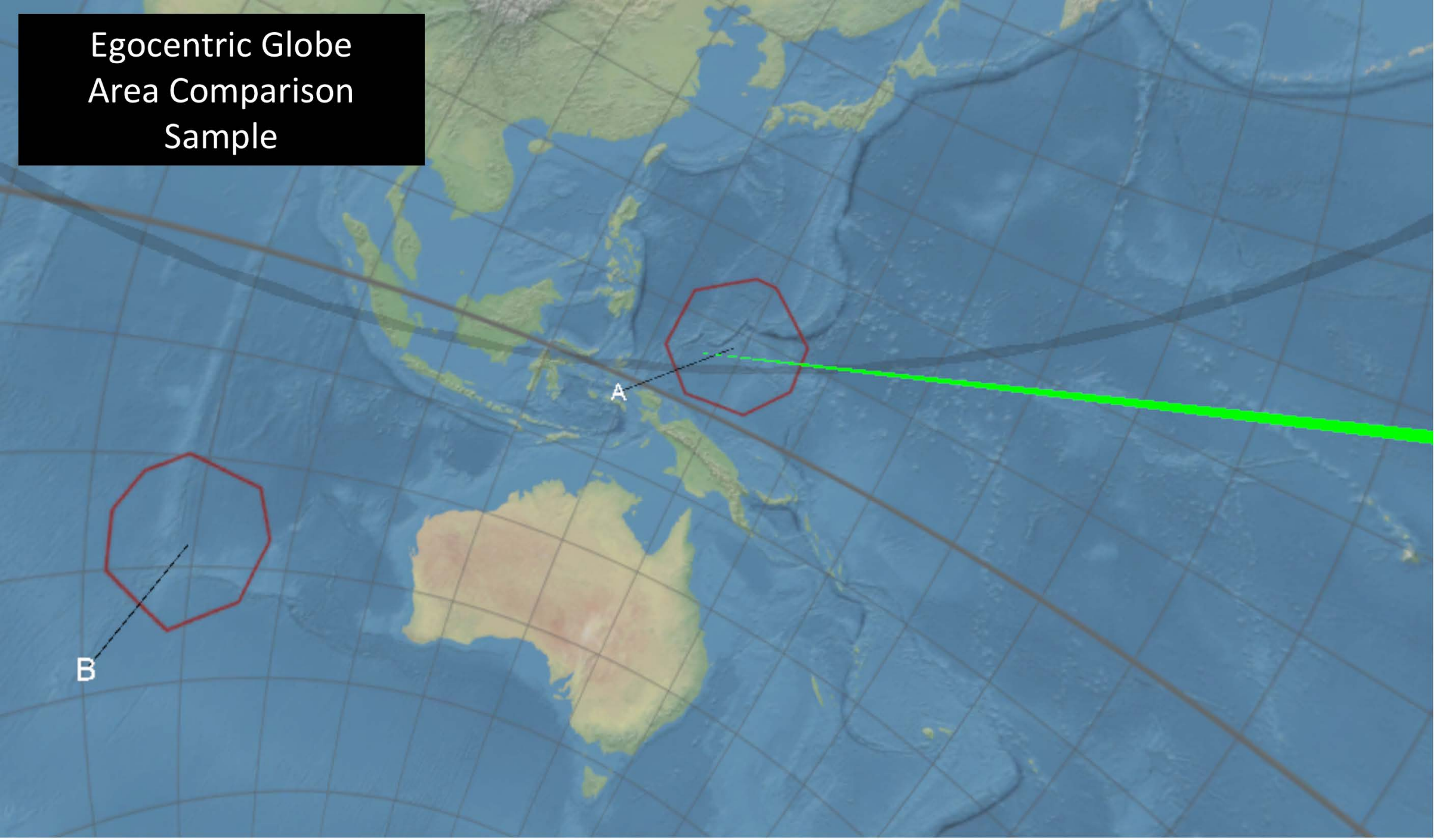

Egocentric Globe
Distance Comparison
Sample
Y
A
X
B

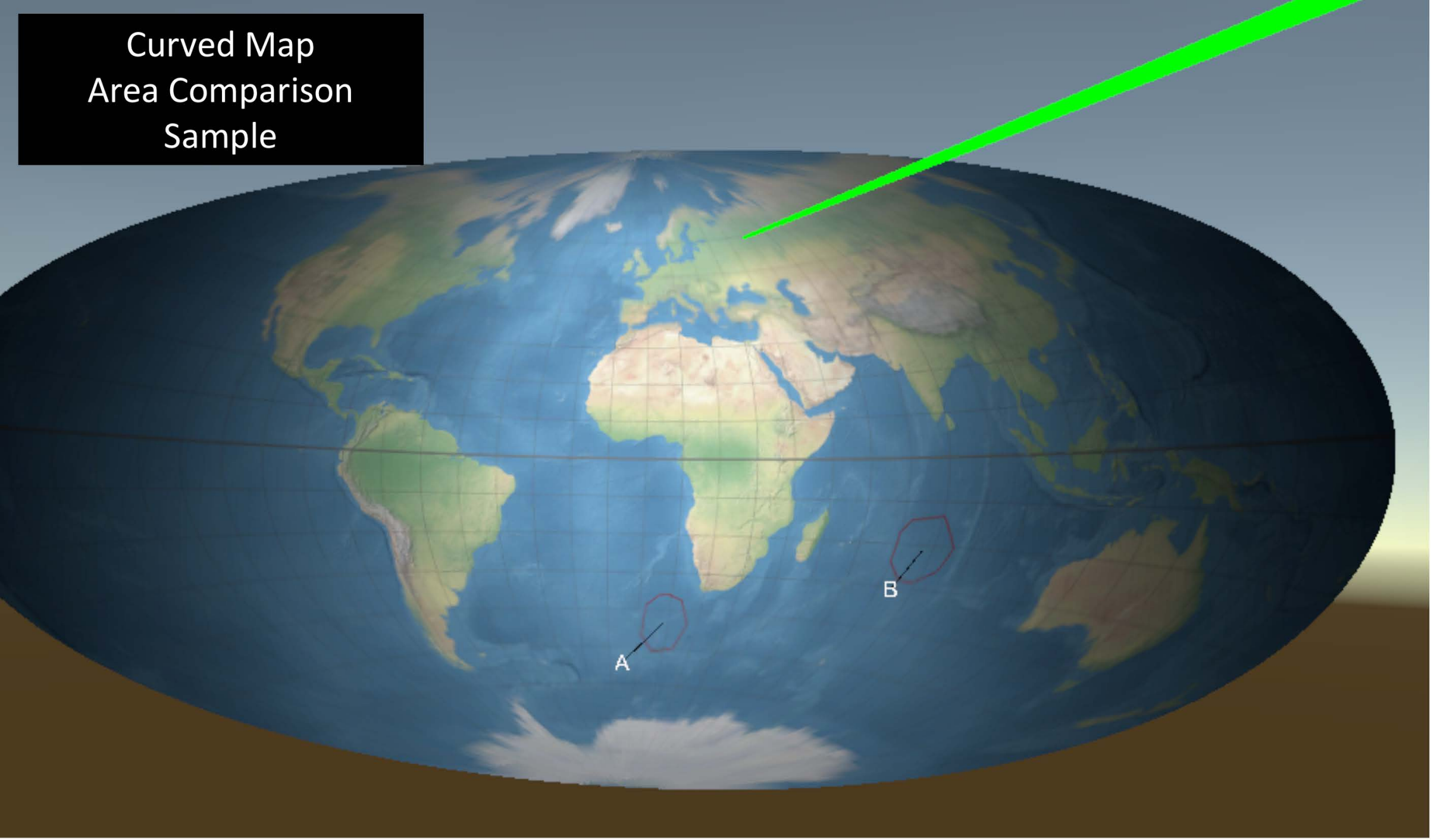

Curved Map
Distance Comparison
Sample
A
B
X
Y

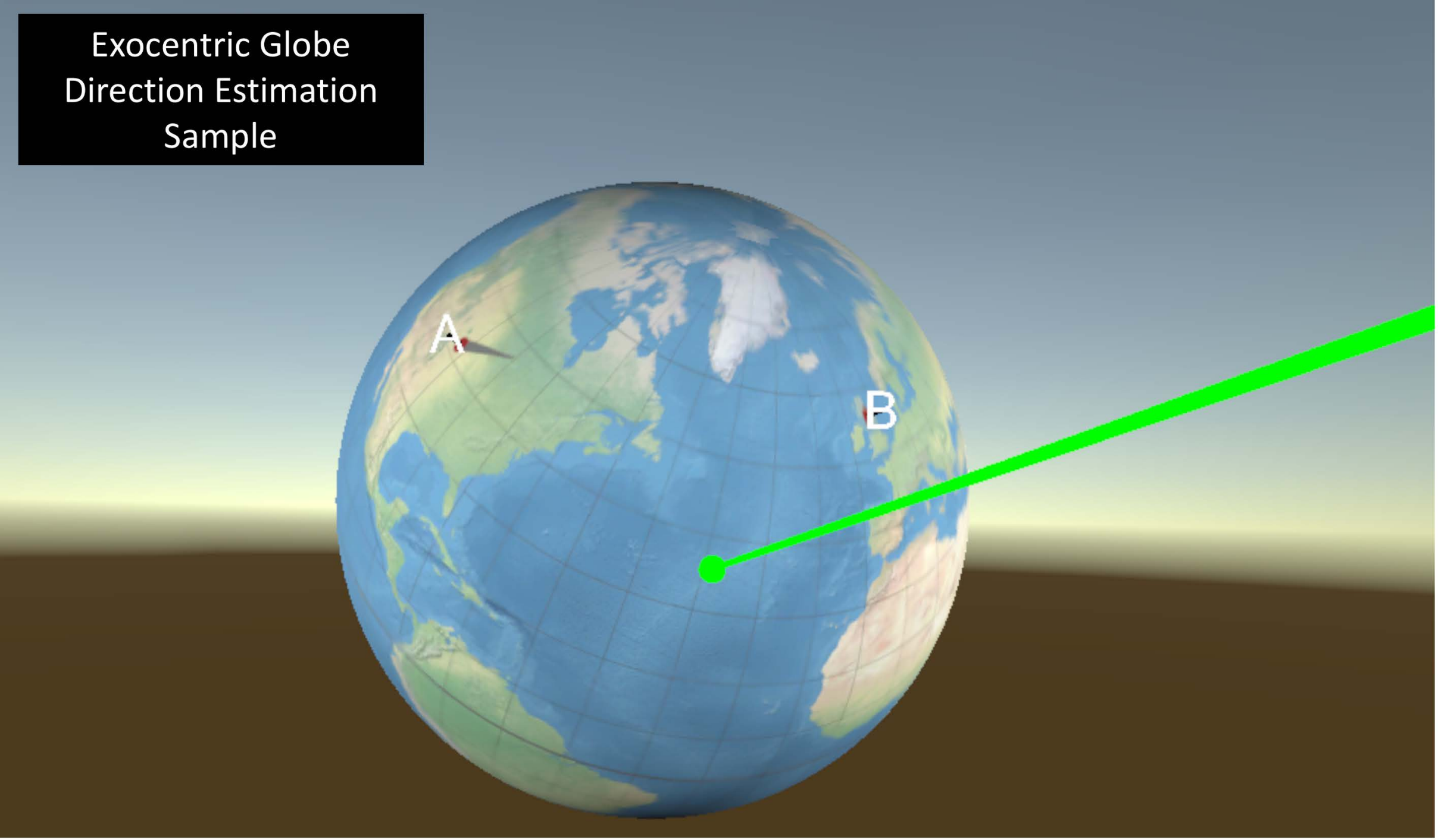
Exocentric Globe Area Comparison Sample

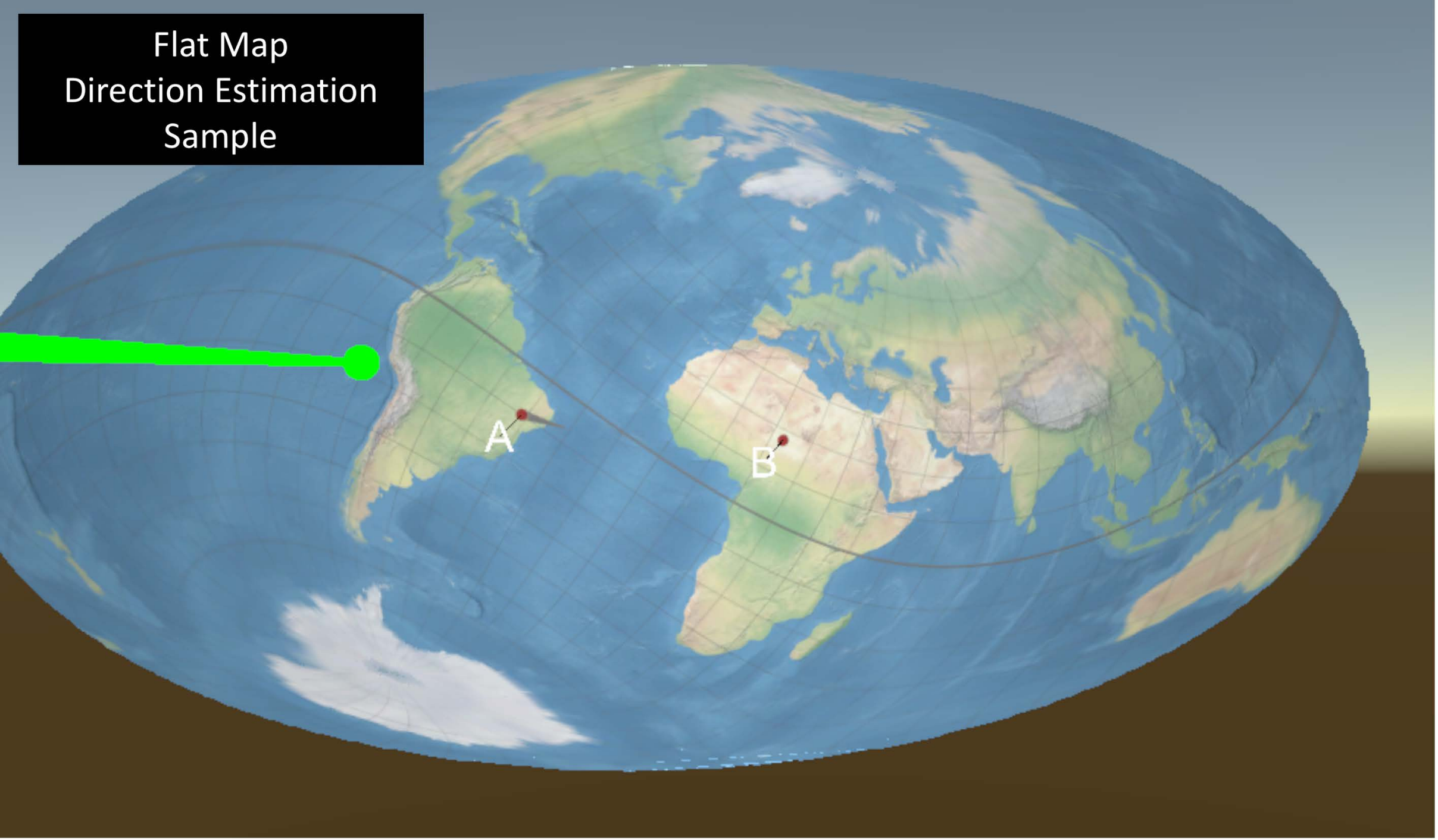


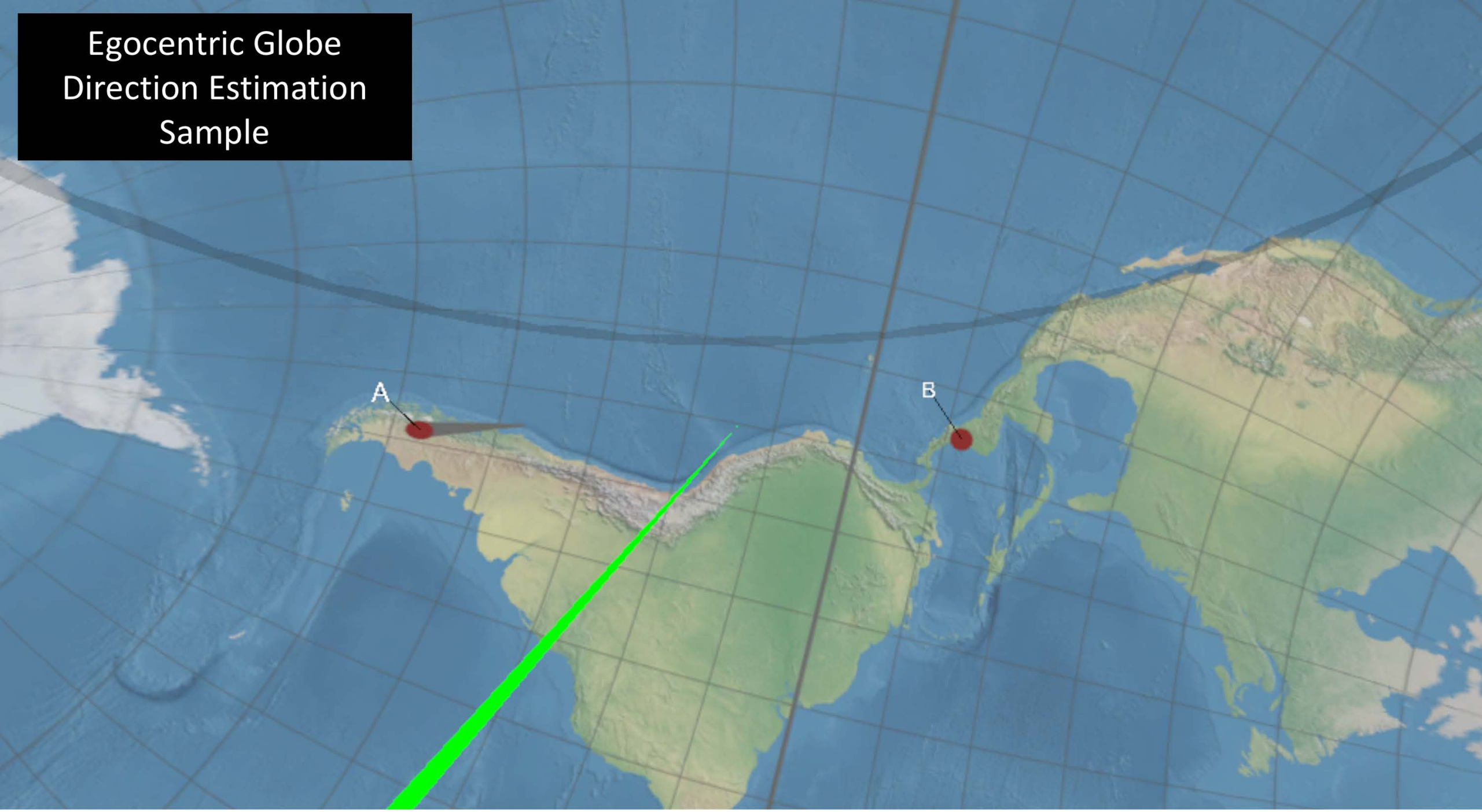

Flat Map
Area Comparison
Sample
B
A

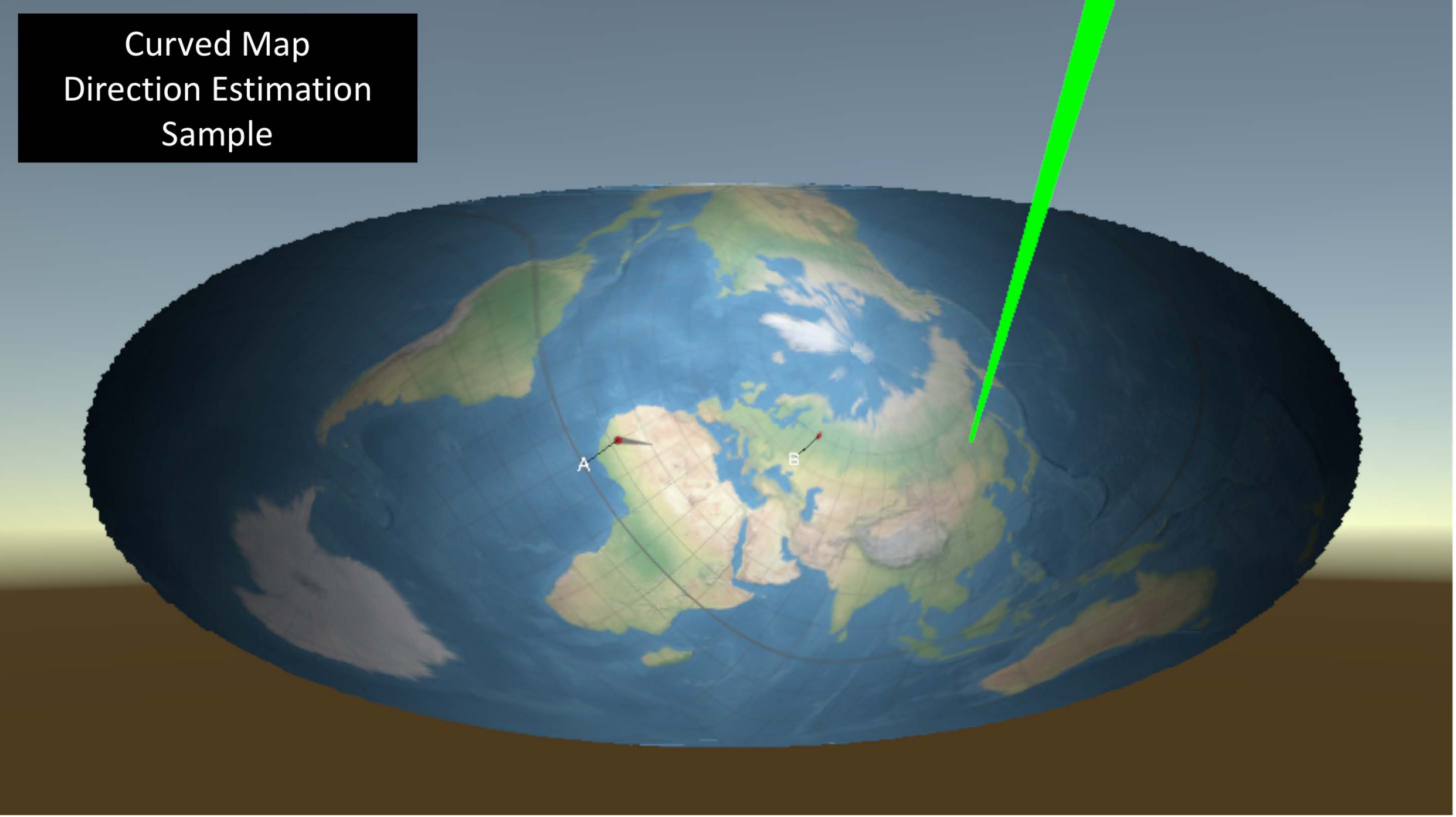

Egocentric Globe
Area Comparison
Sample
A
B


Curved Map
Area Comparison
Sample
A
B


Exocentric Globe
Direction Estimation
Sample
A
B


Flat Map
Direction Estimation
Sample
A
B


Egocentric Globe
Direction Estimation
Sample
A
B

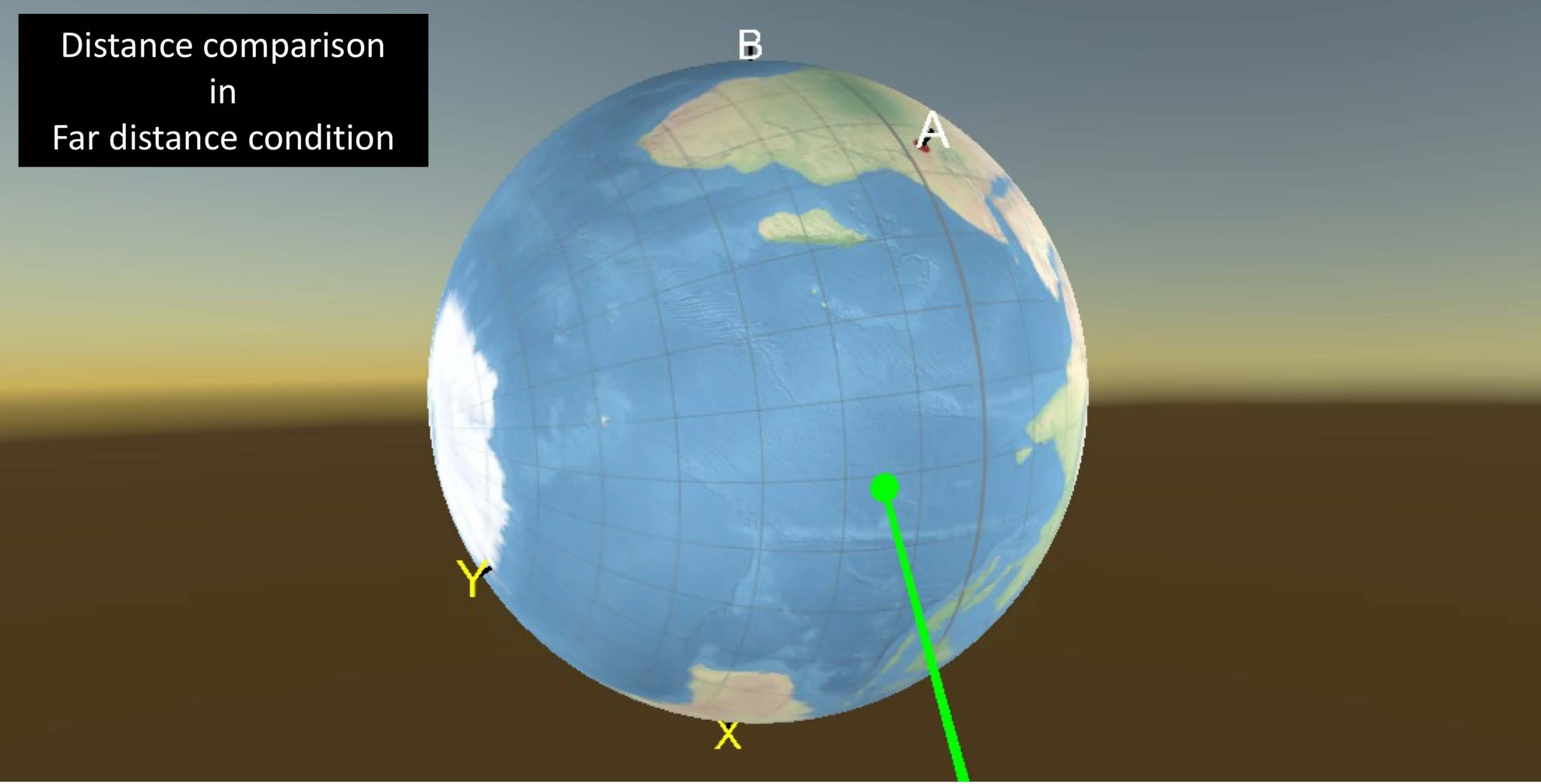

Curved Map
Direction Estimation
Sample
A
B

Far Distance condition in exocentric globe

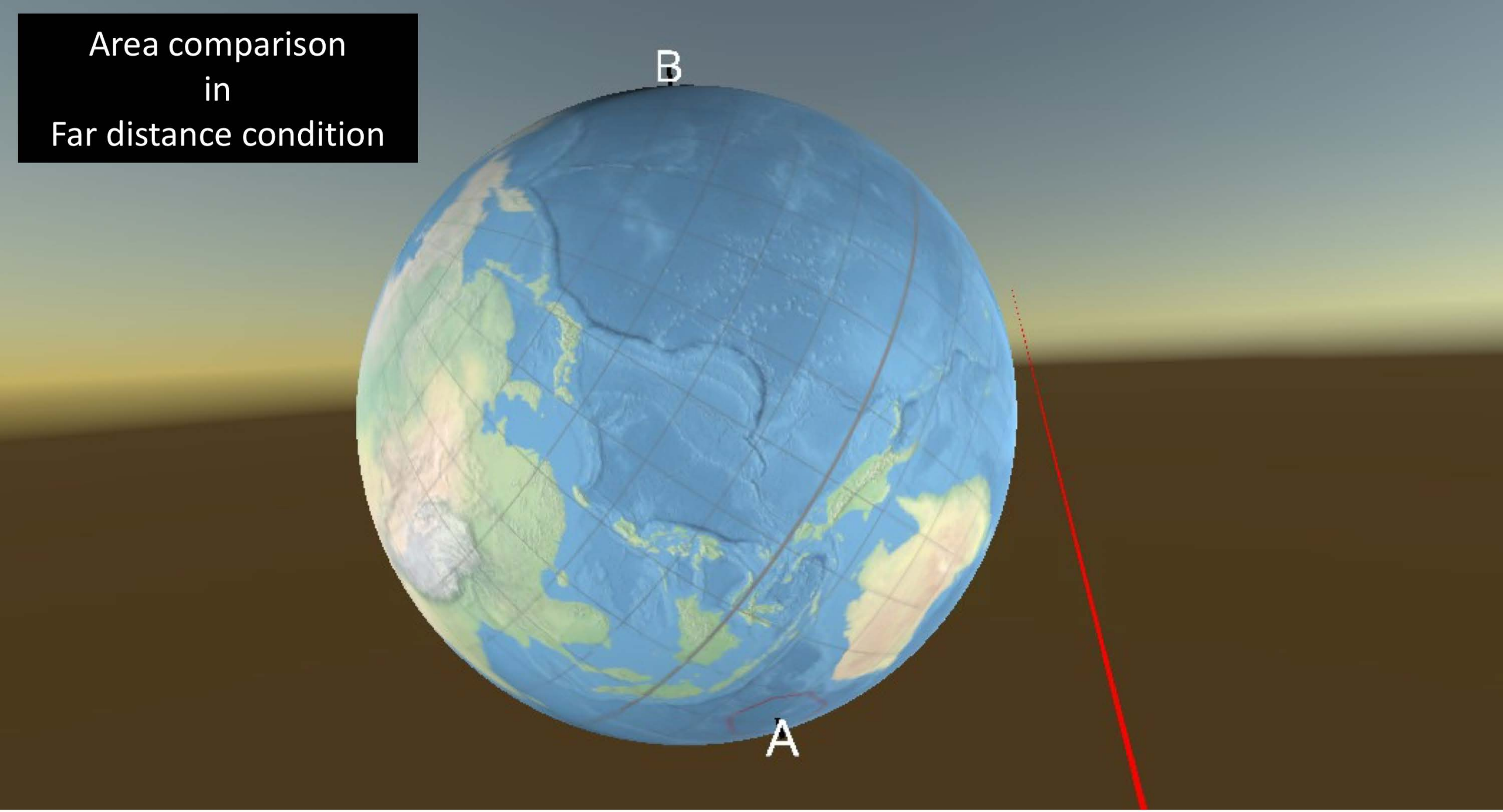
We used 120 degrees for the far distance condition, Note that even at 180 degrees separation (maximal separation), two points will still be visible at antipodes. However, perceptual distortion due to curvature of the globe was problematic for our participants in the far condition.

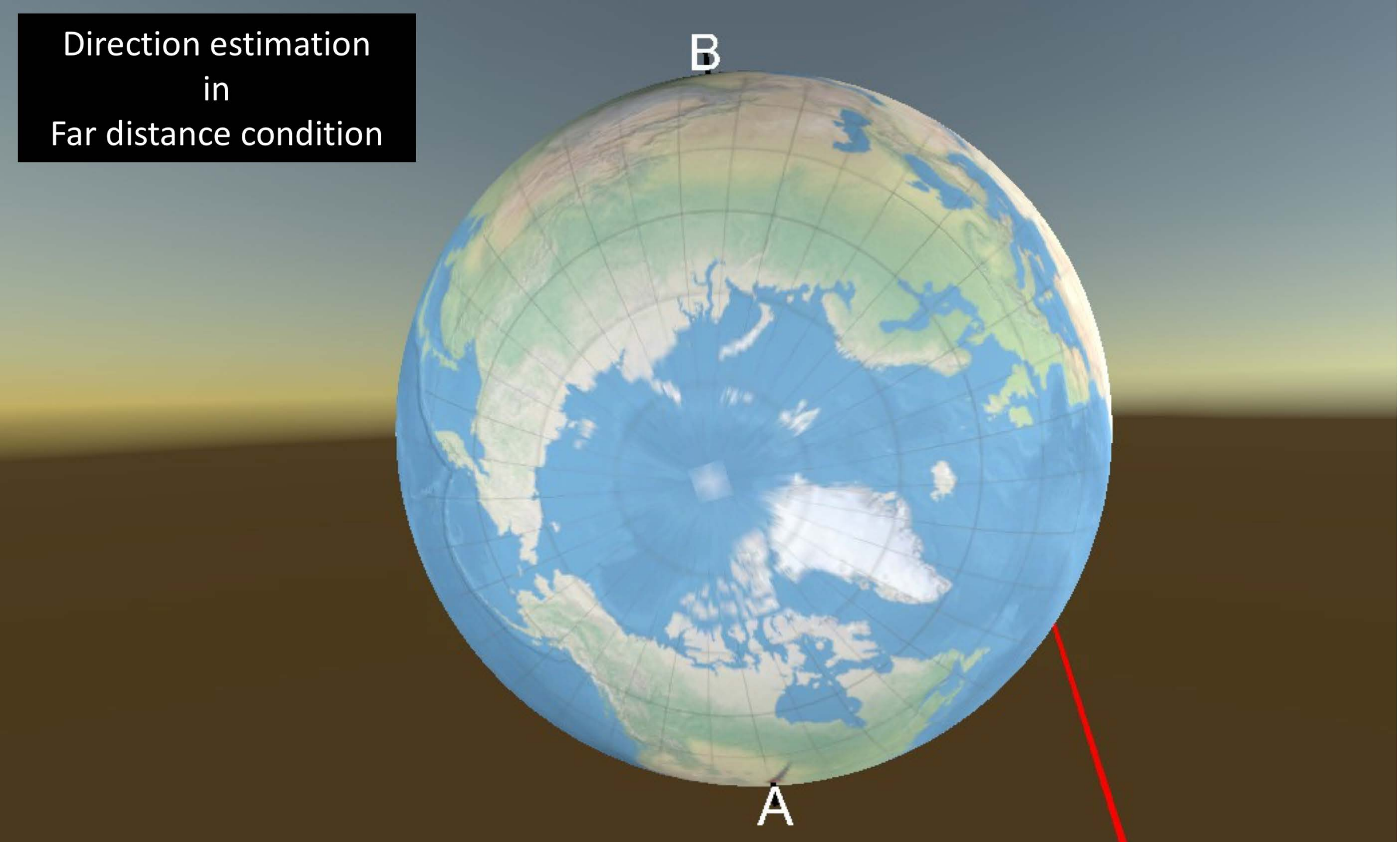
Here, we include images for the far distance condition to demonstrate the difficulties in those tasks.

Distance comparison
in
Far distance condition



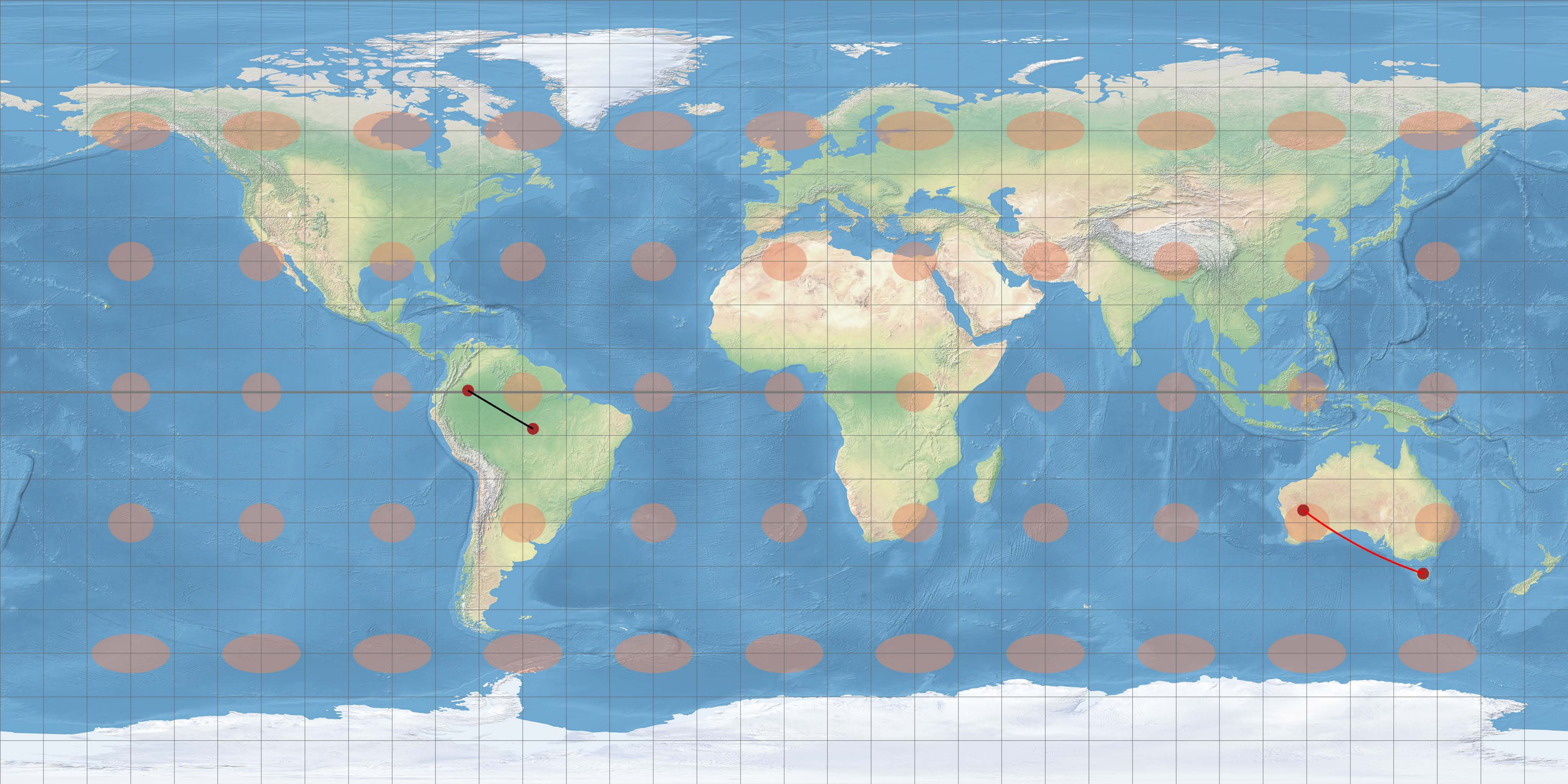
Area comparison
in
Far distance condition

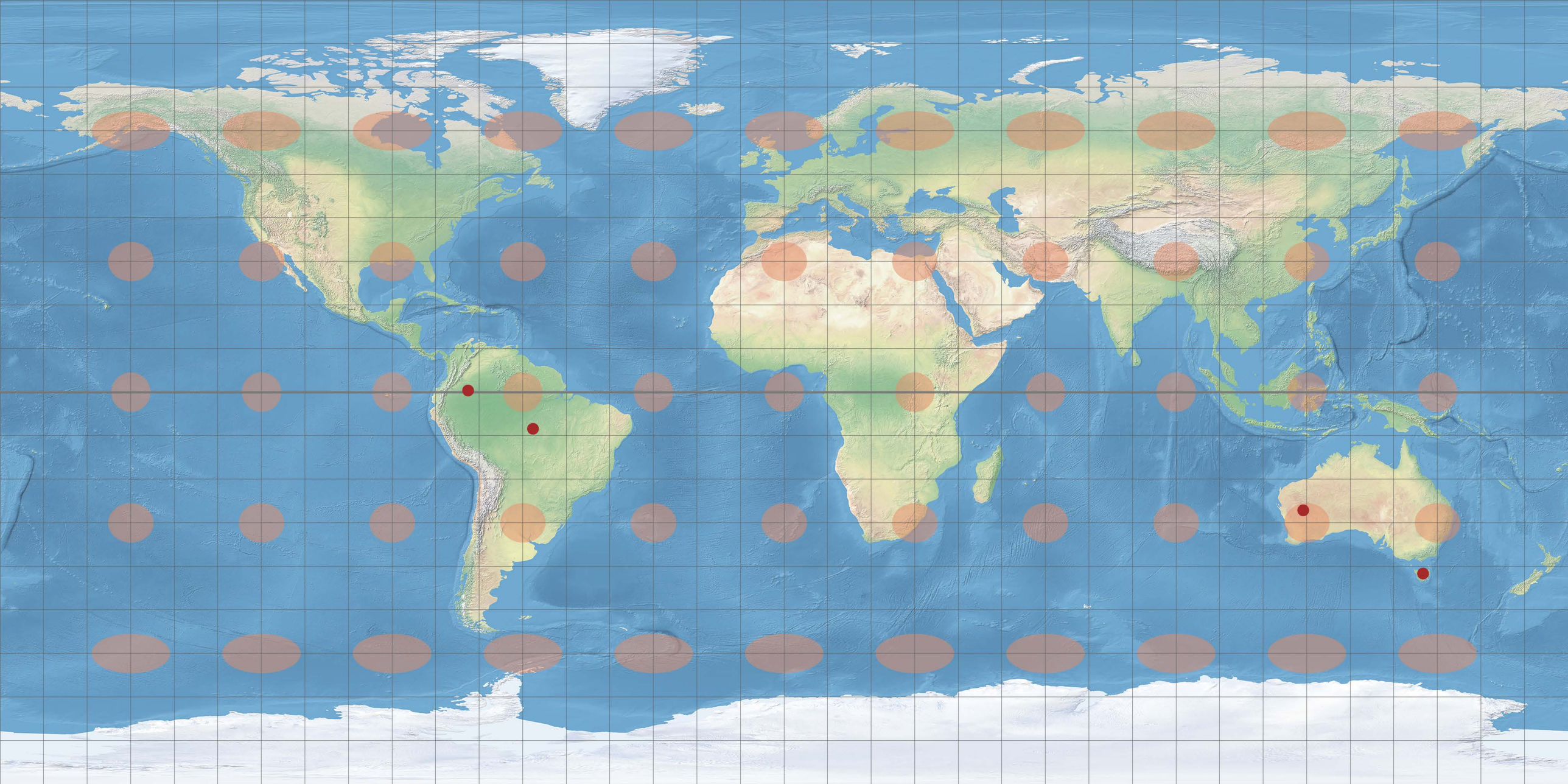


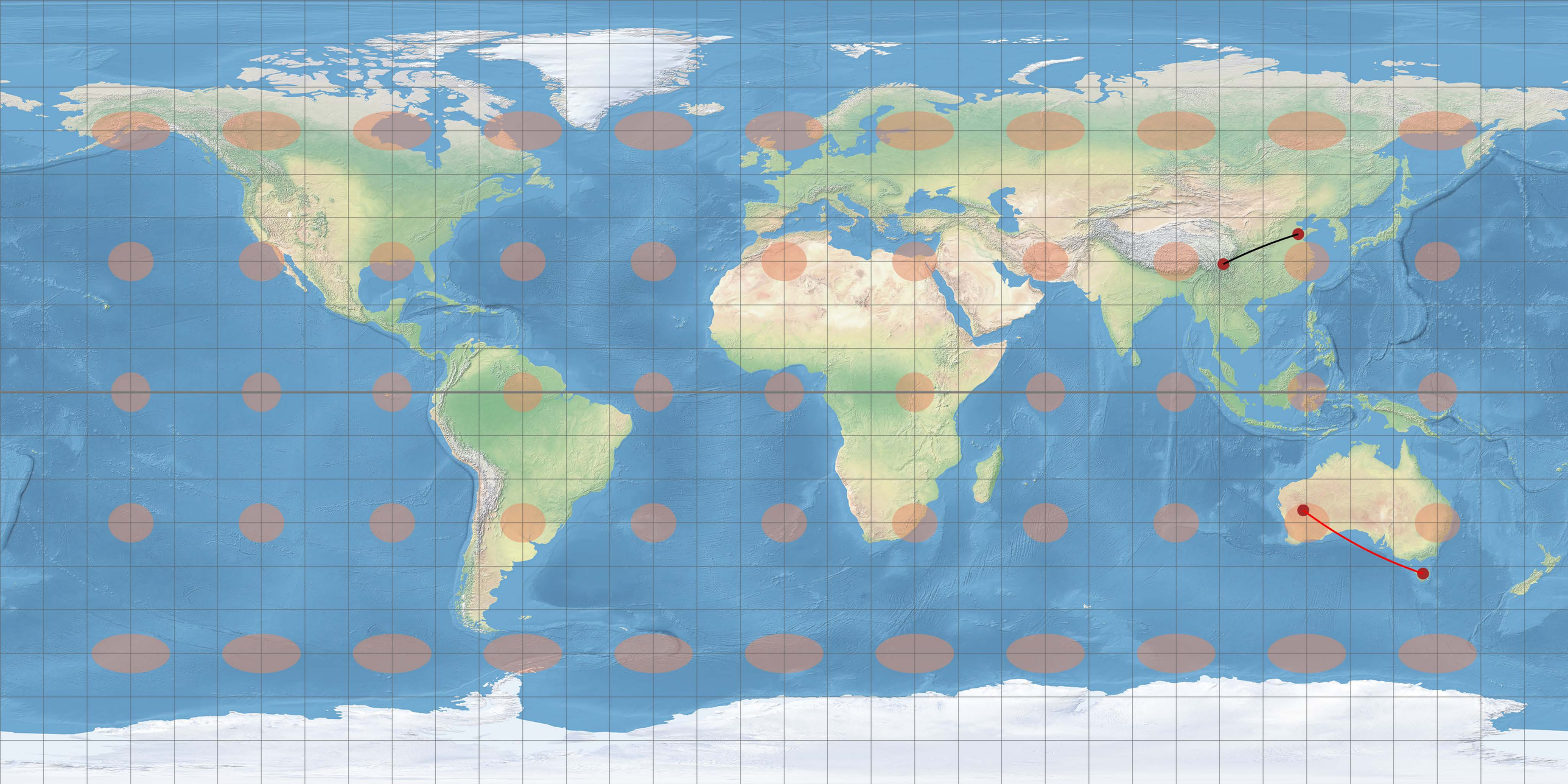

Direction estimation
in
Far distance condition
B
A

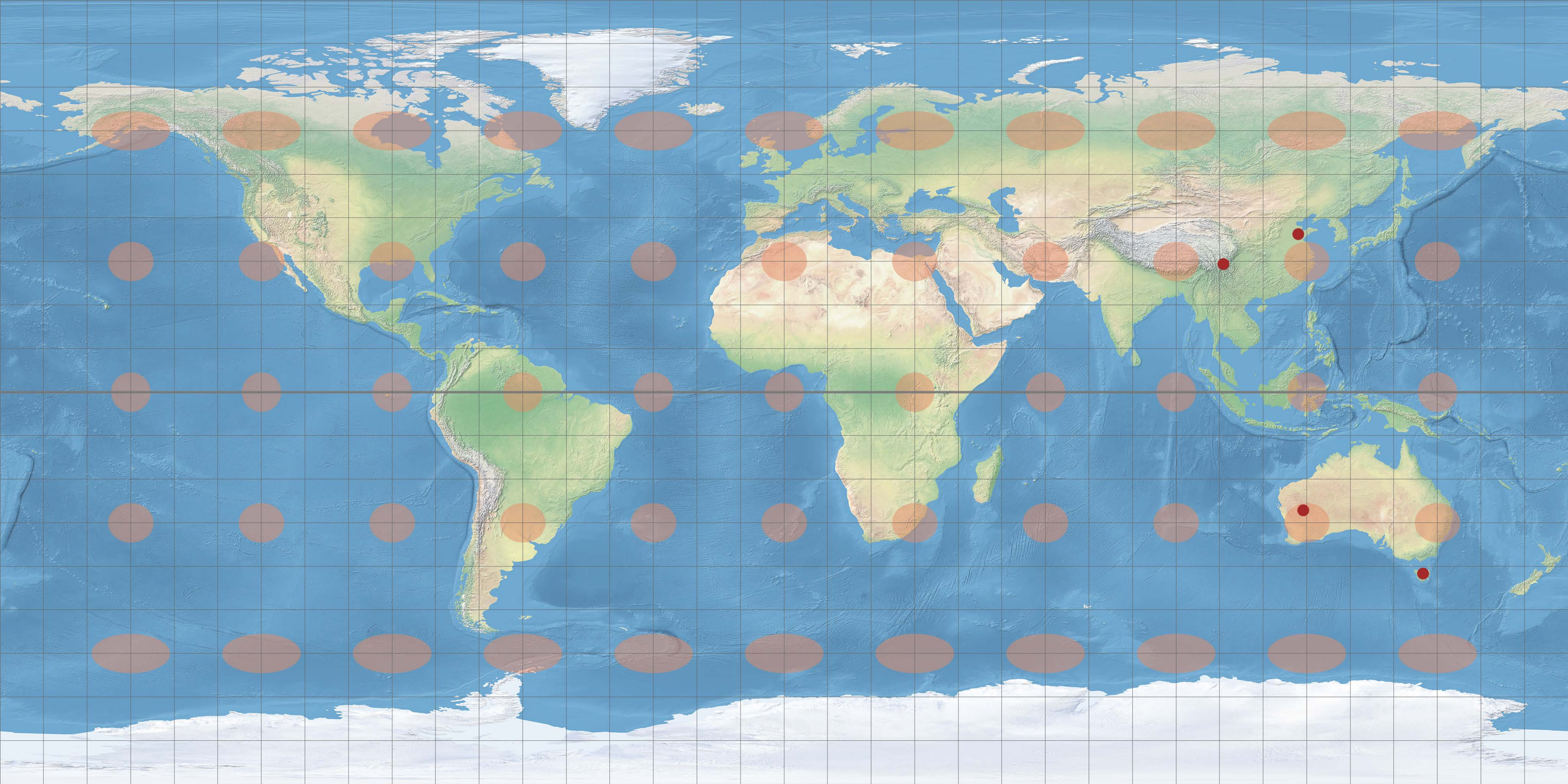
All texture images used in the study

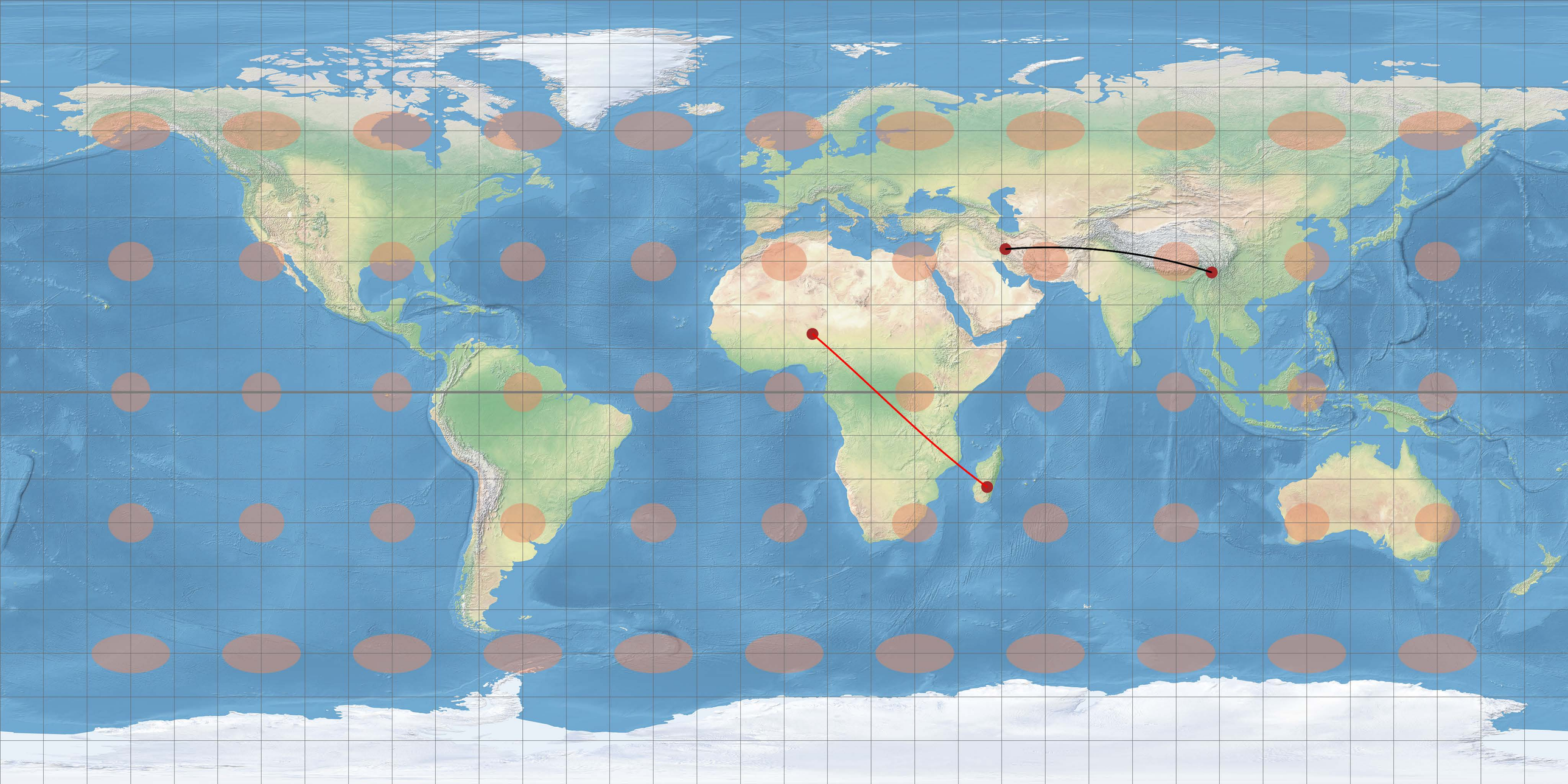
Distance comparison
Training (with correct answers shown to participants)

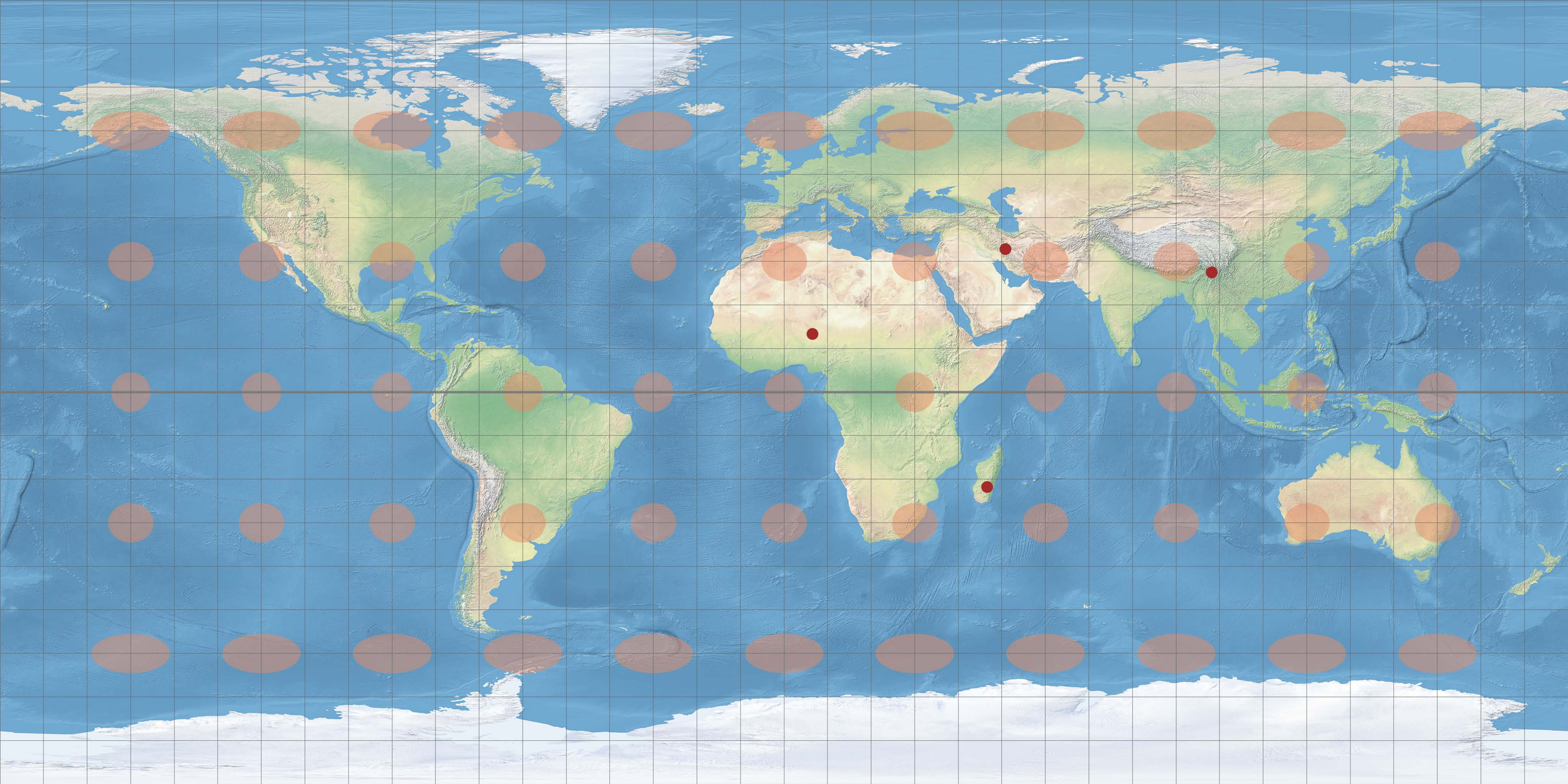


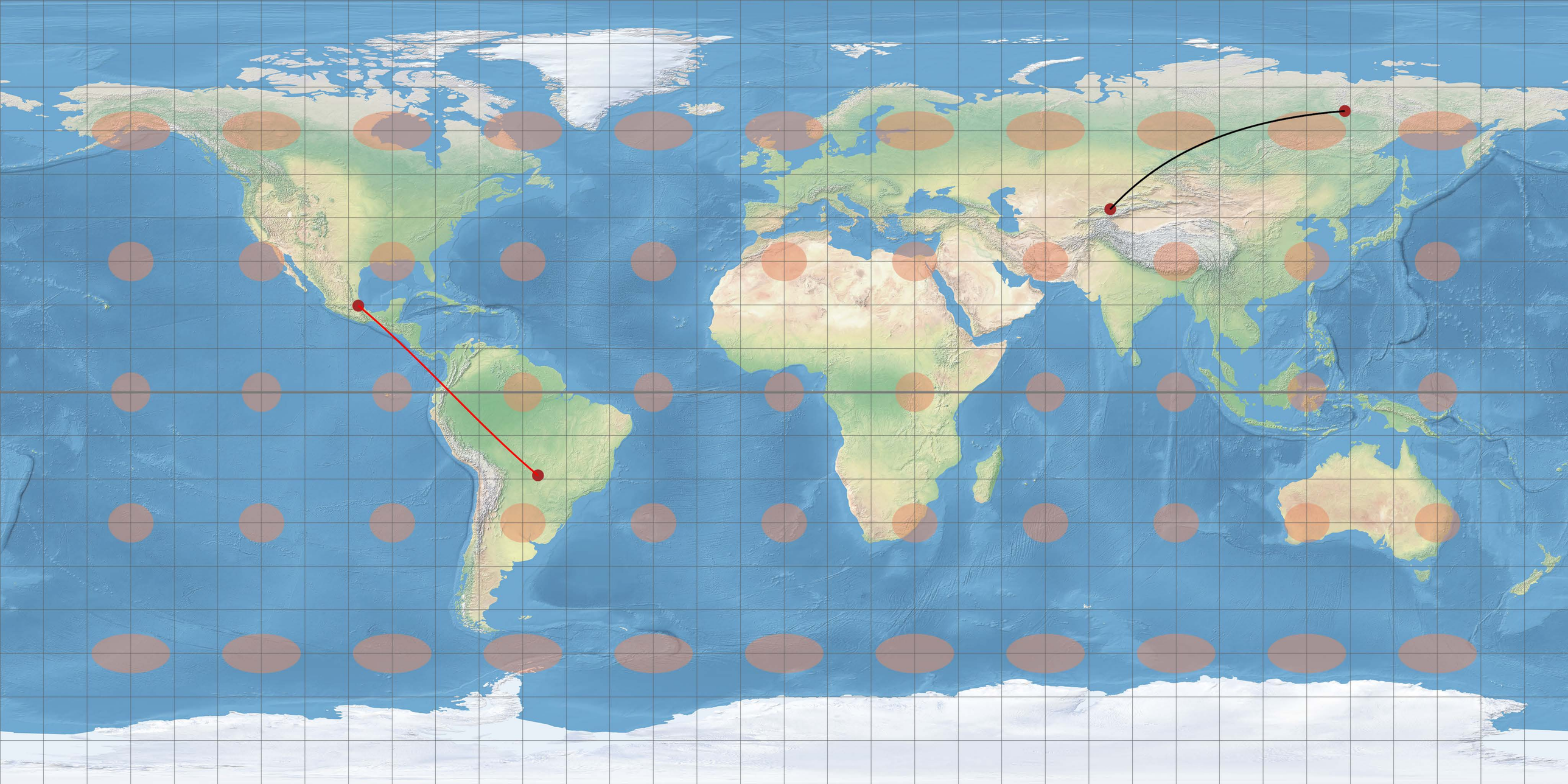


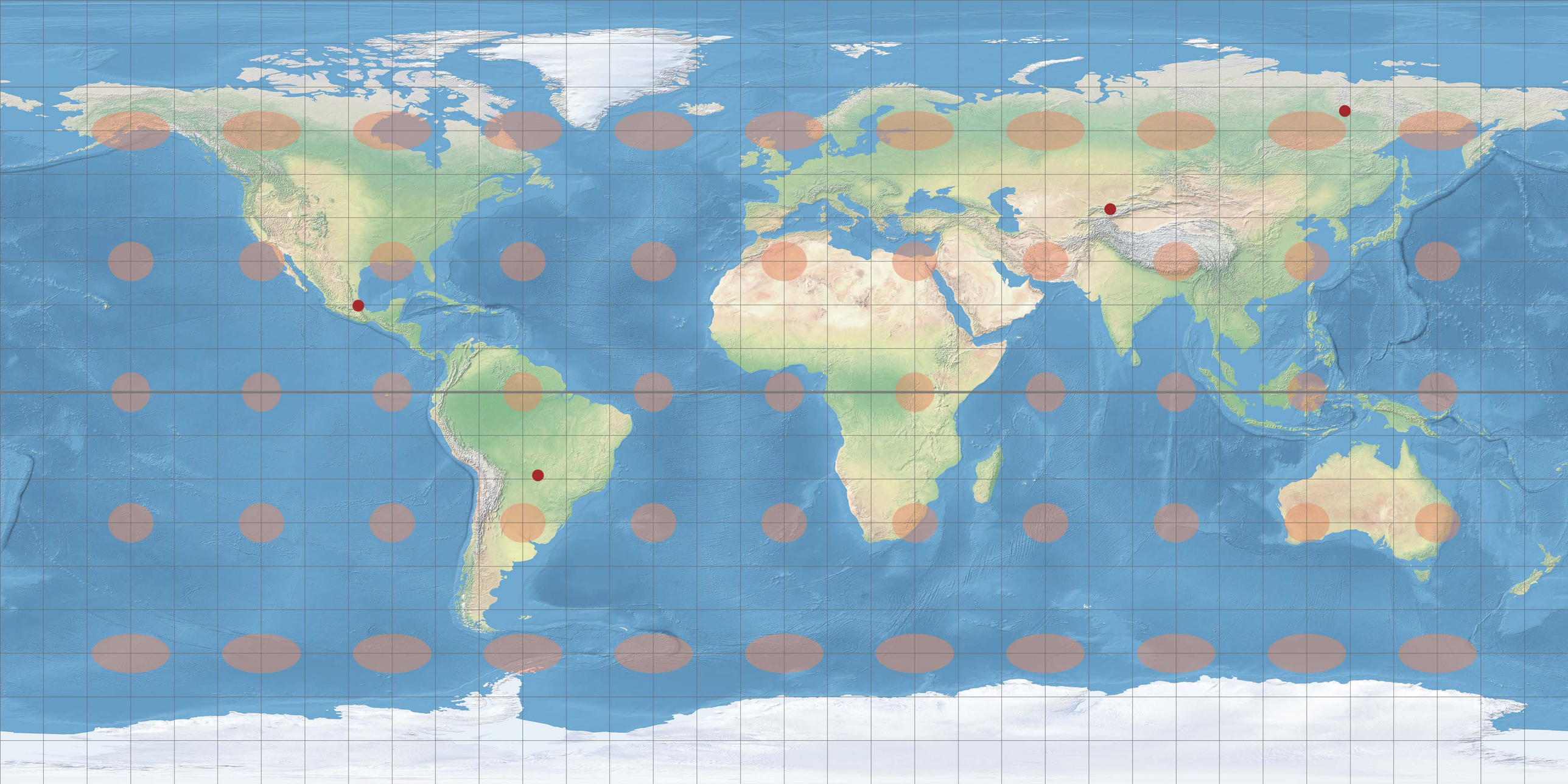


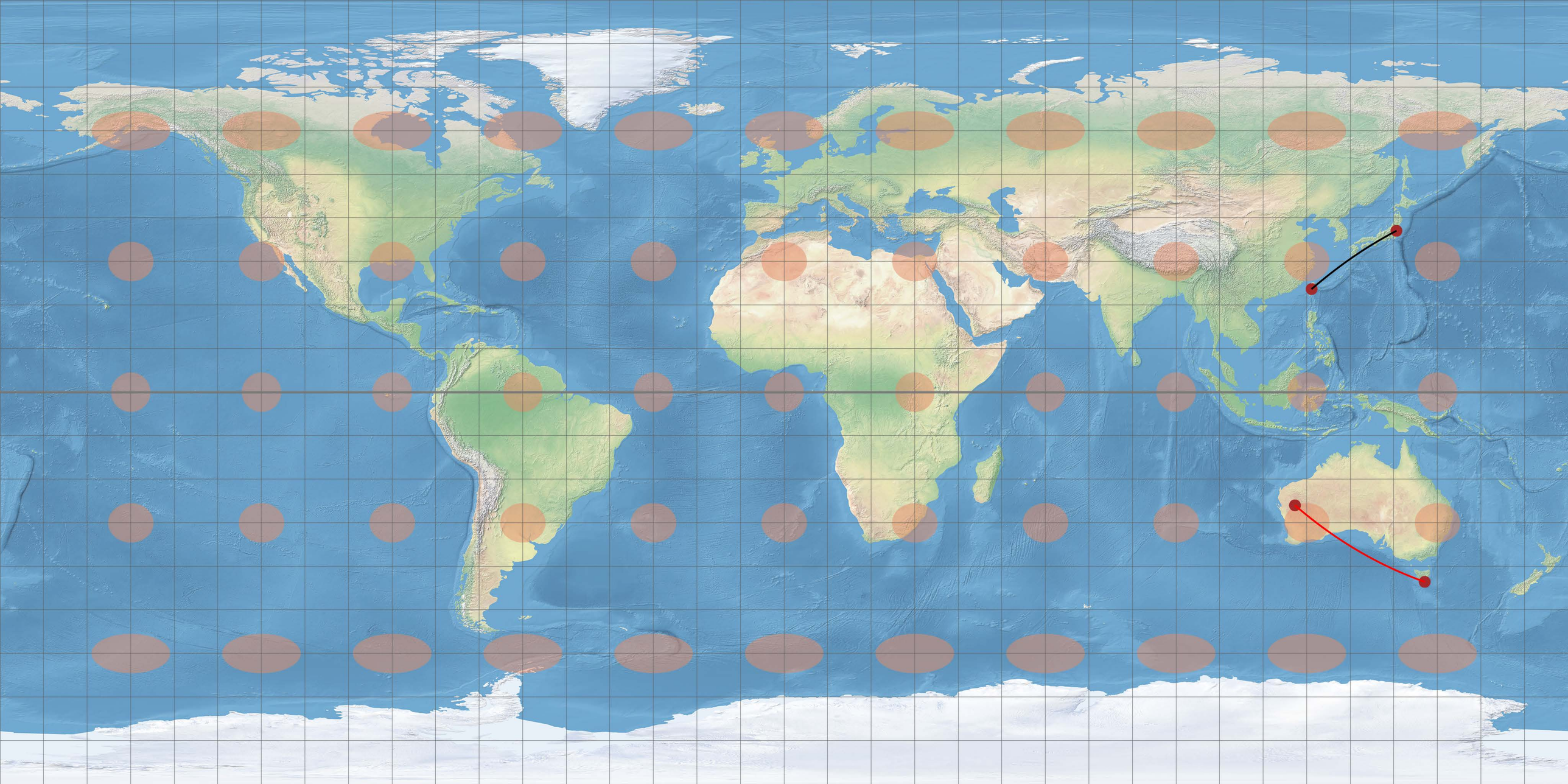


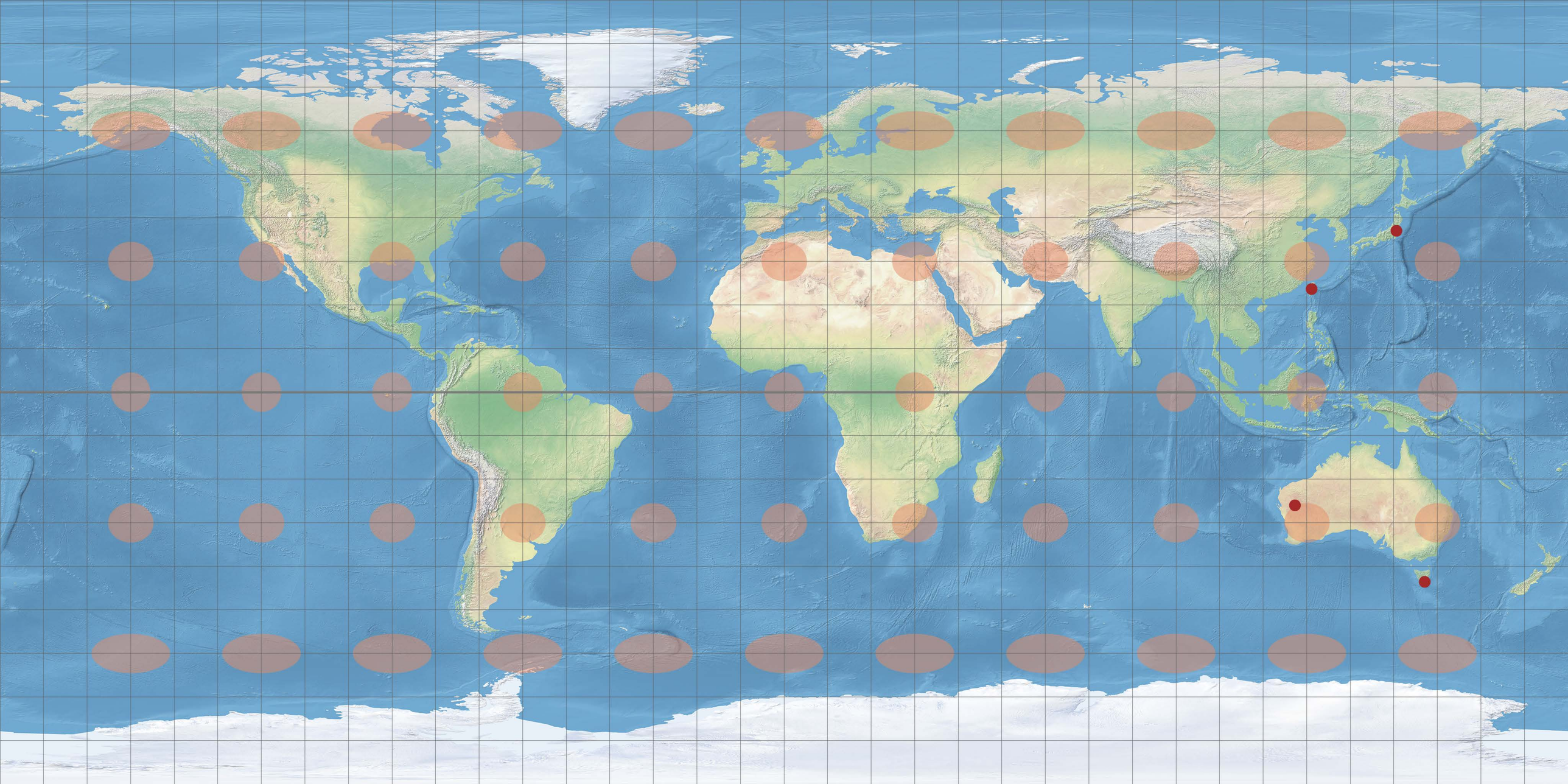


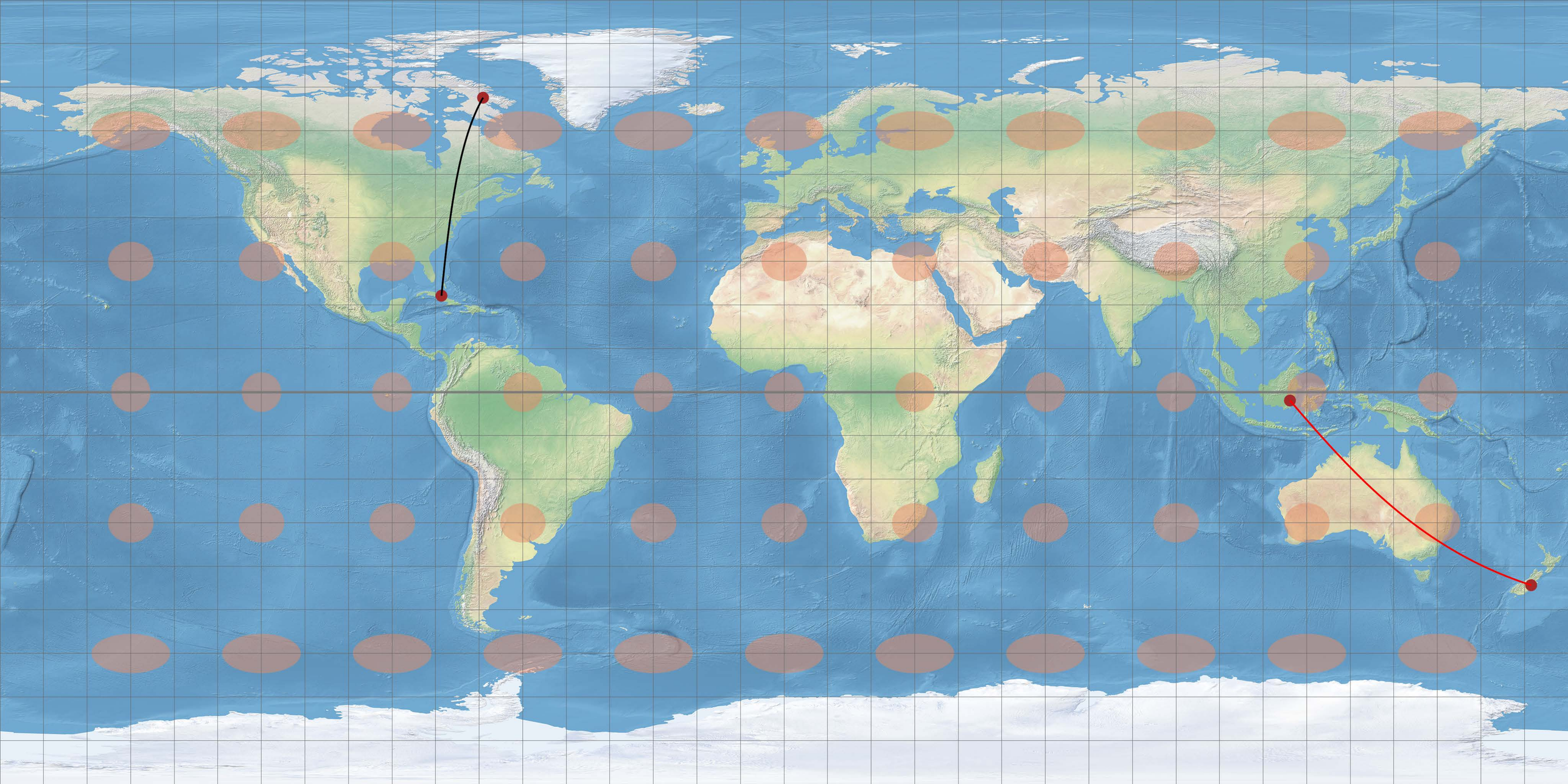


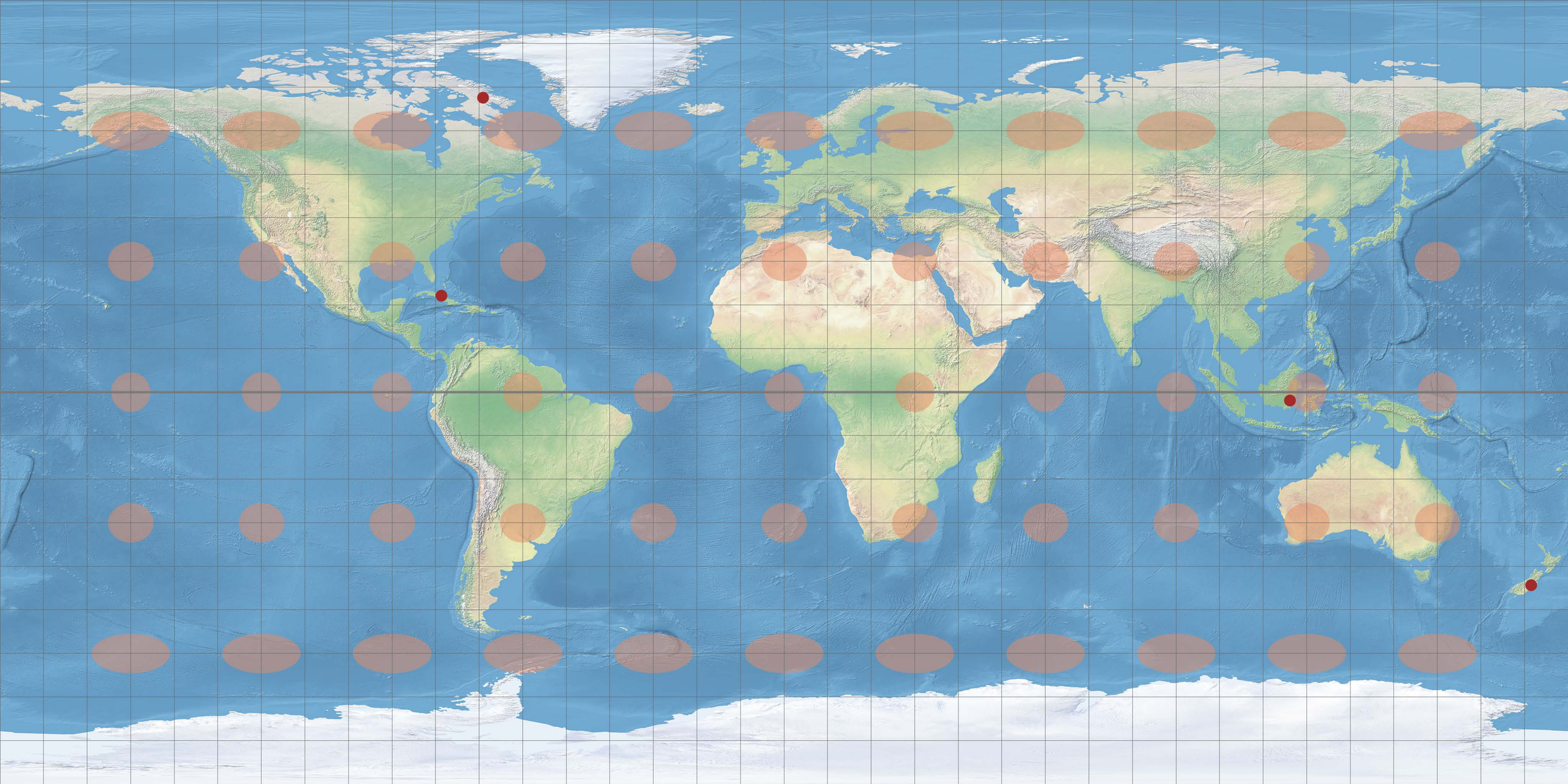


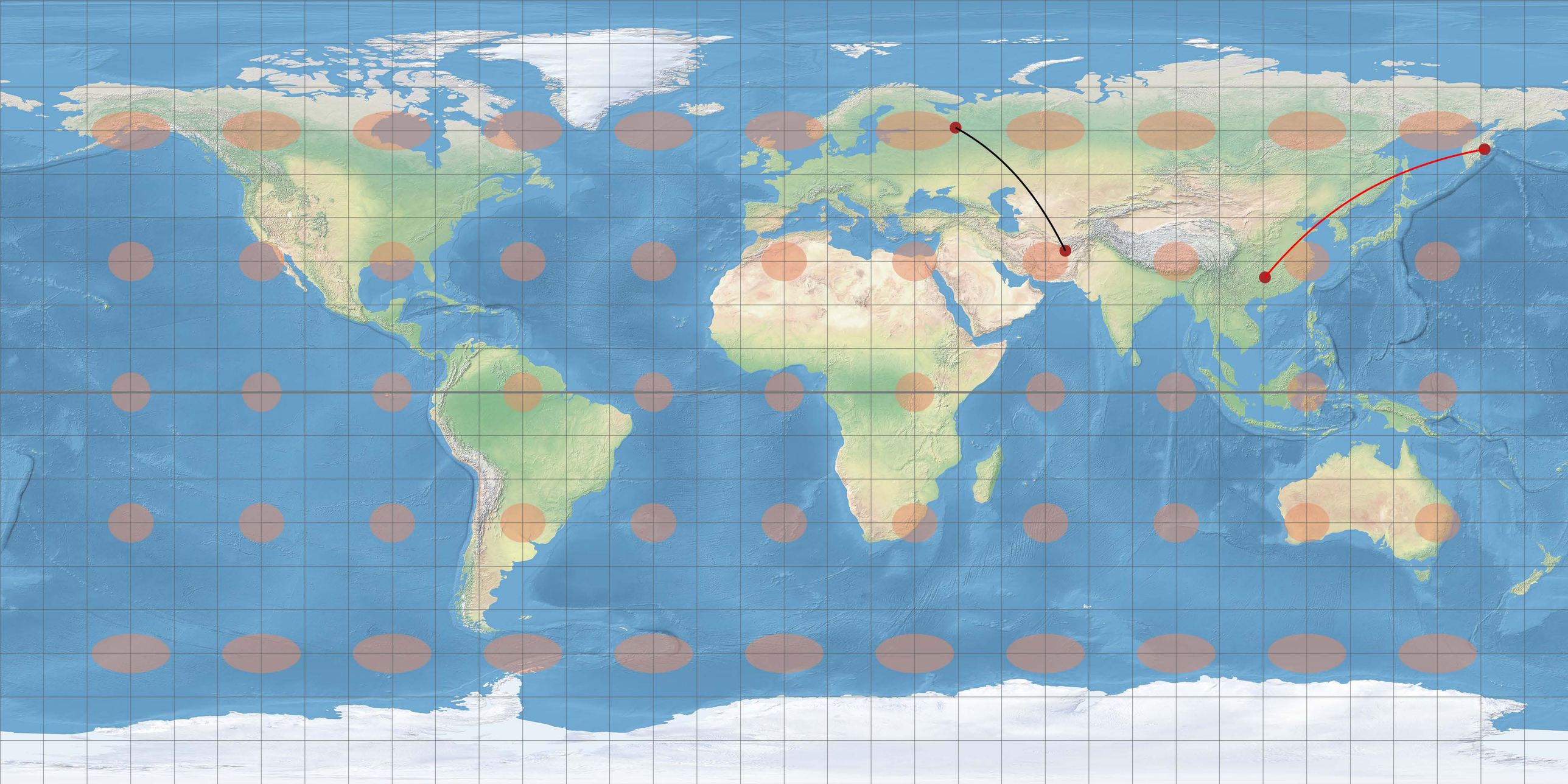


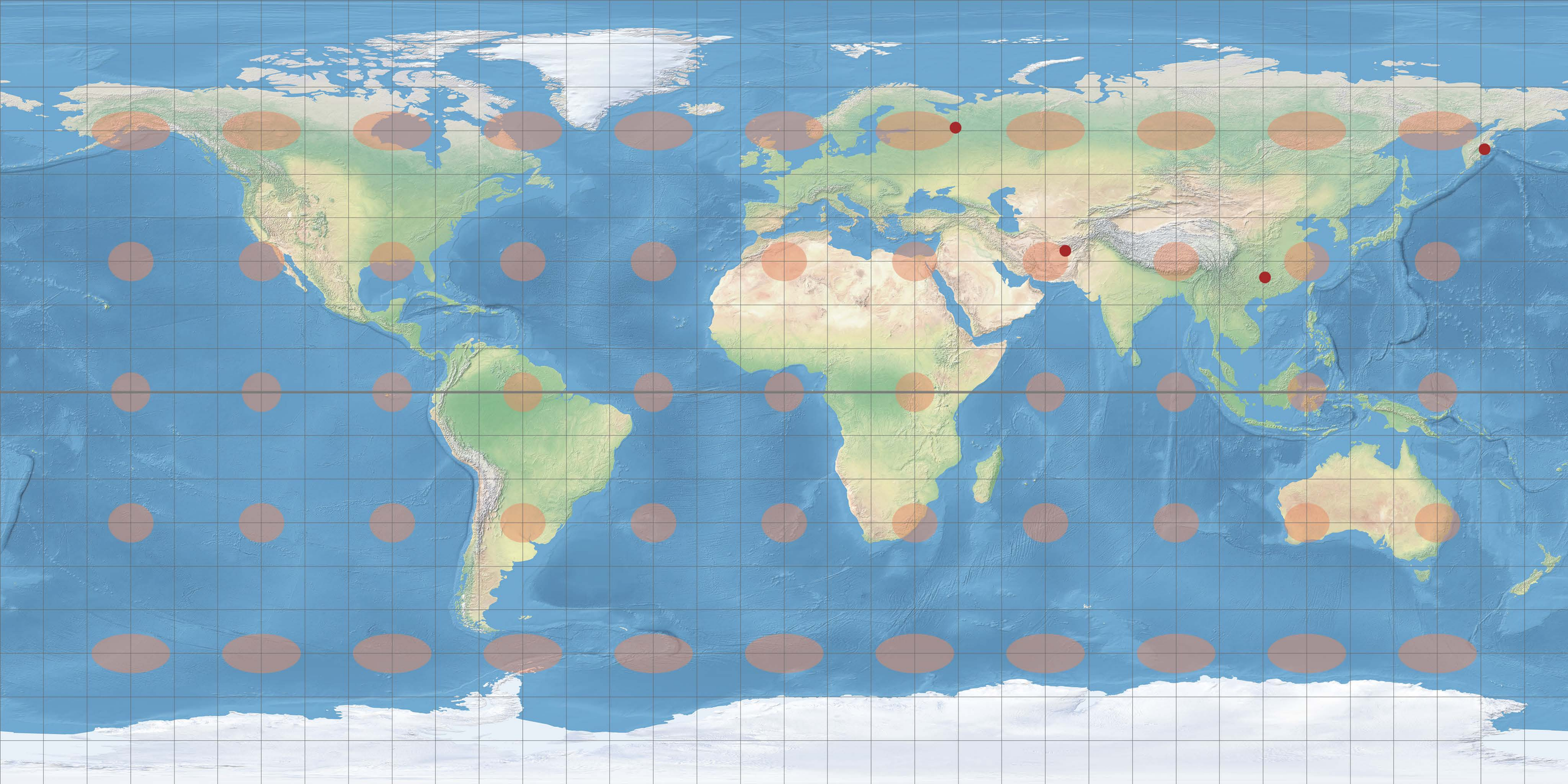


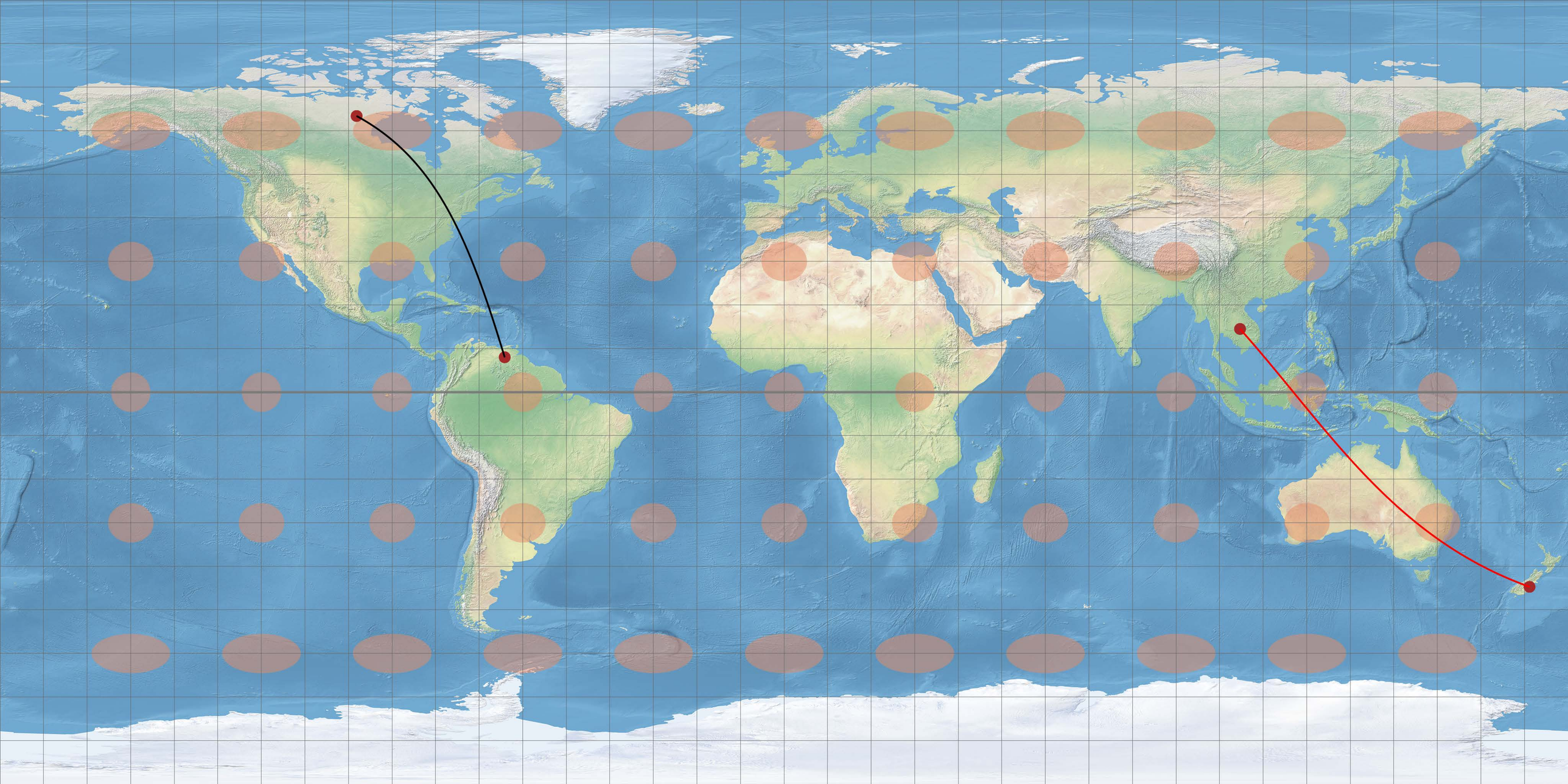


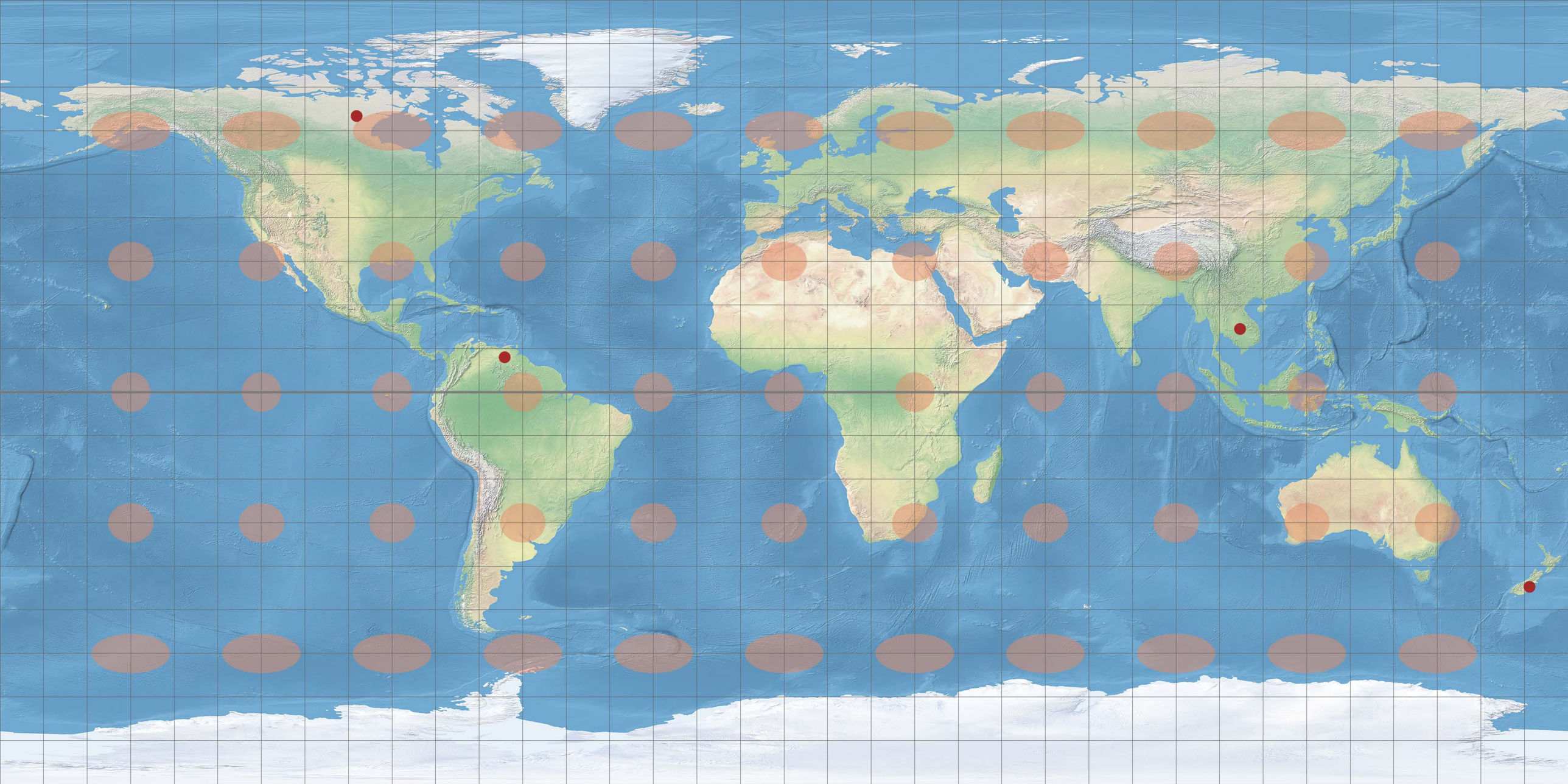




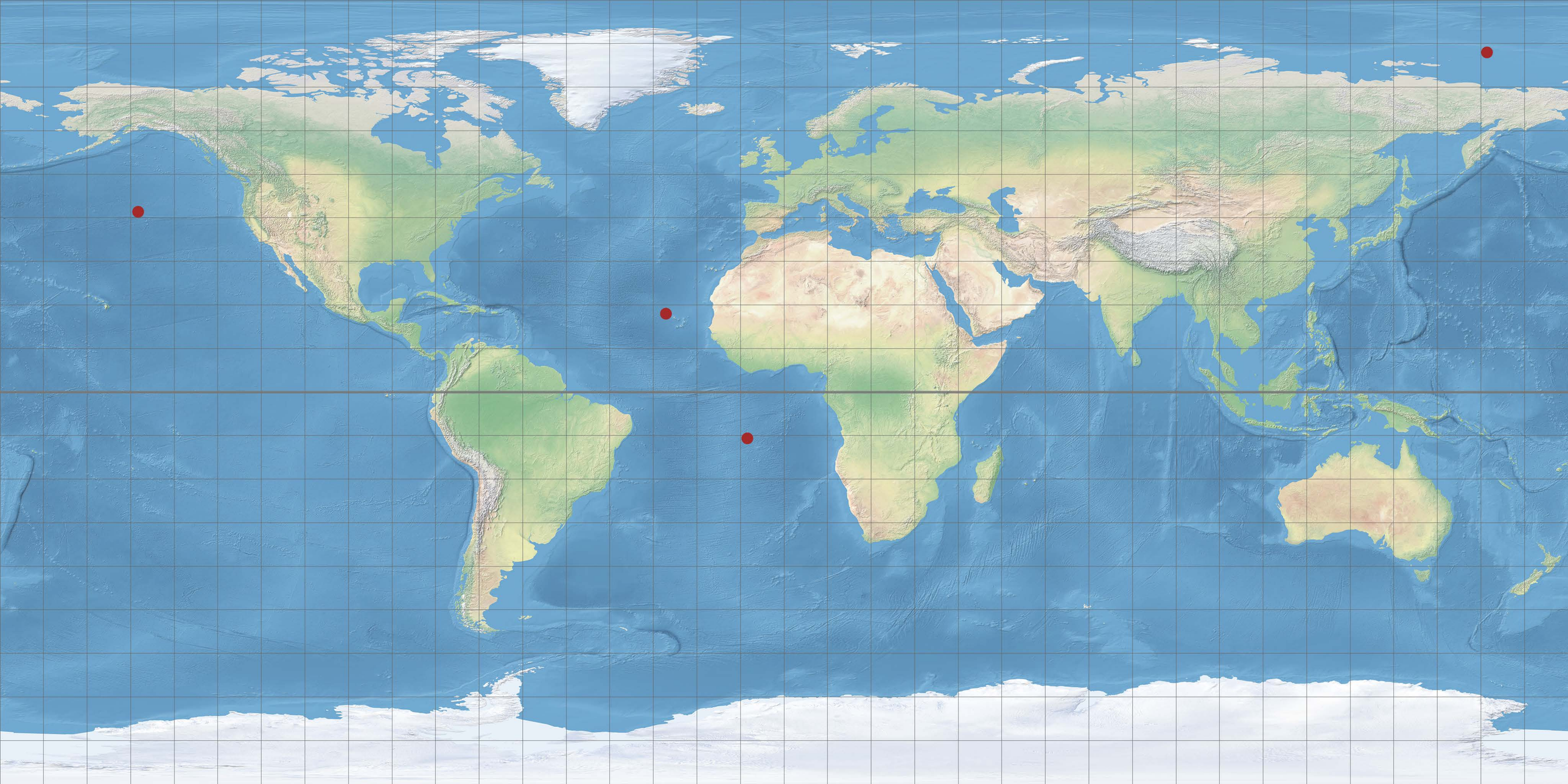


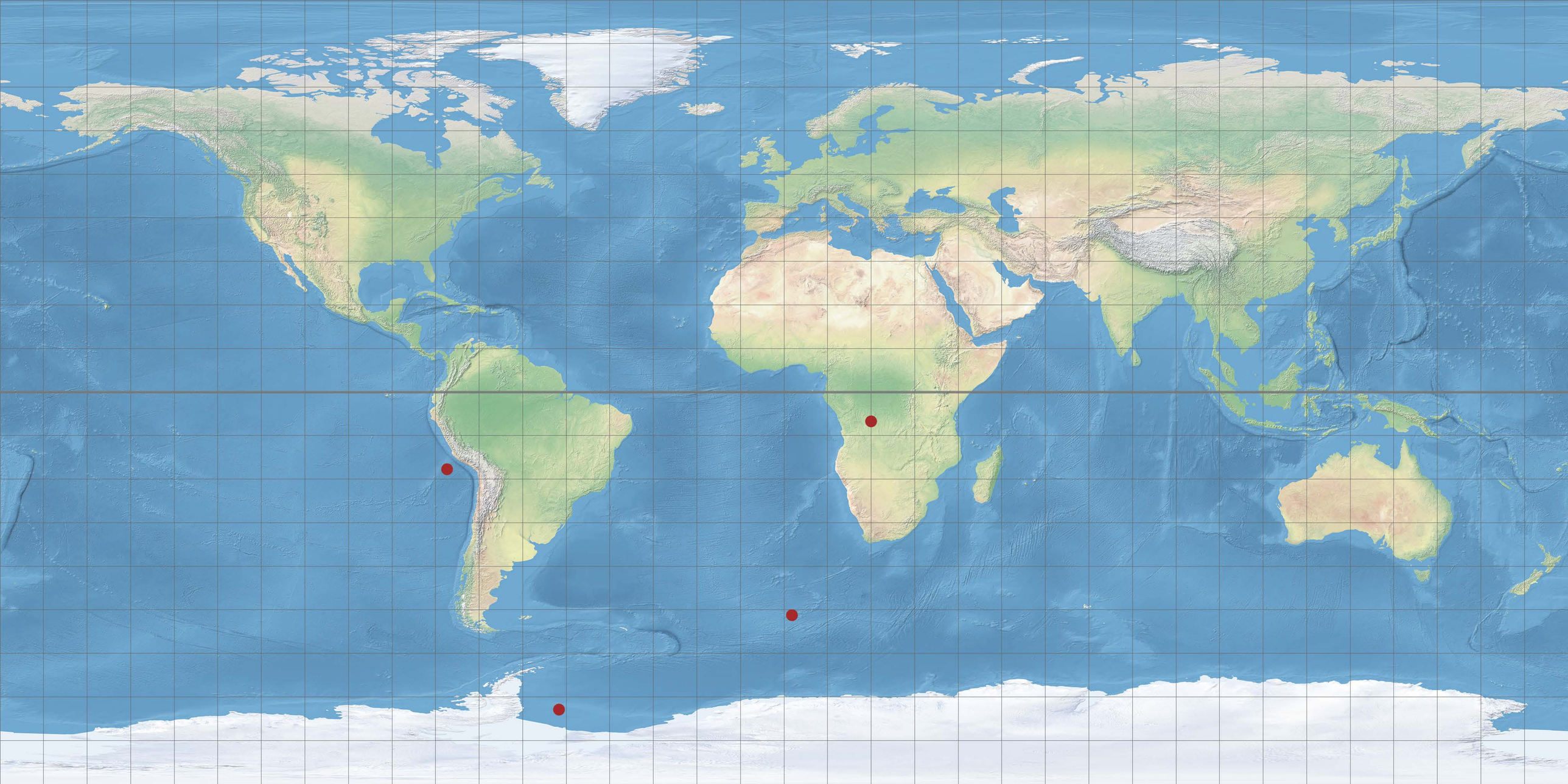


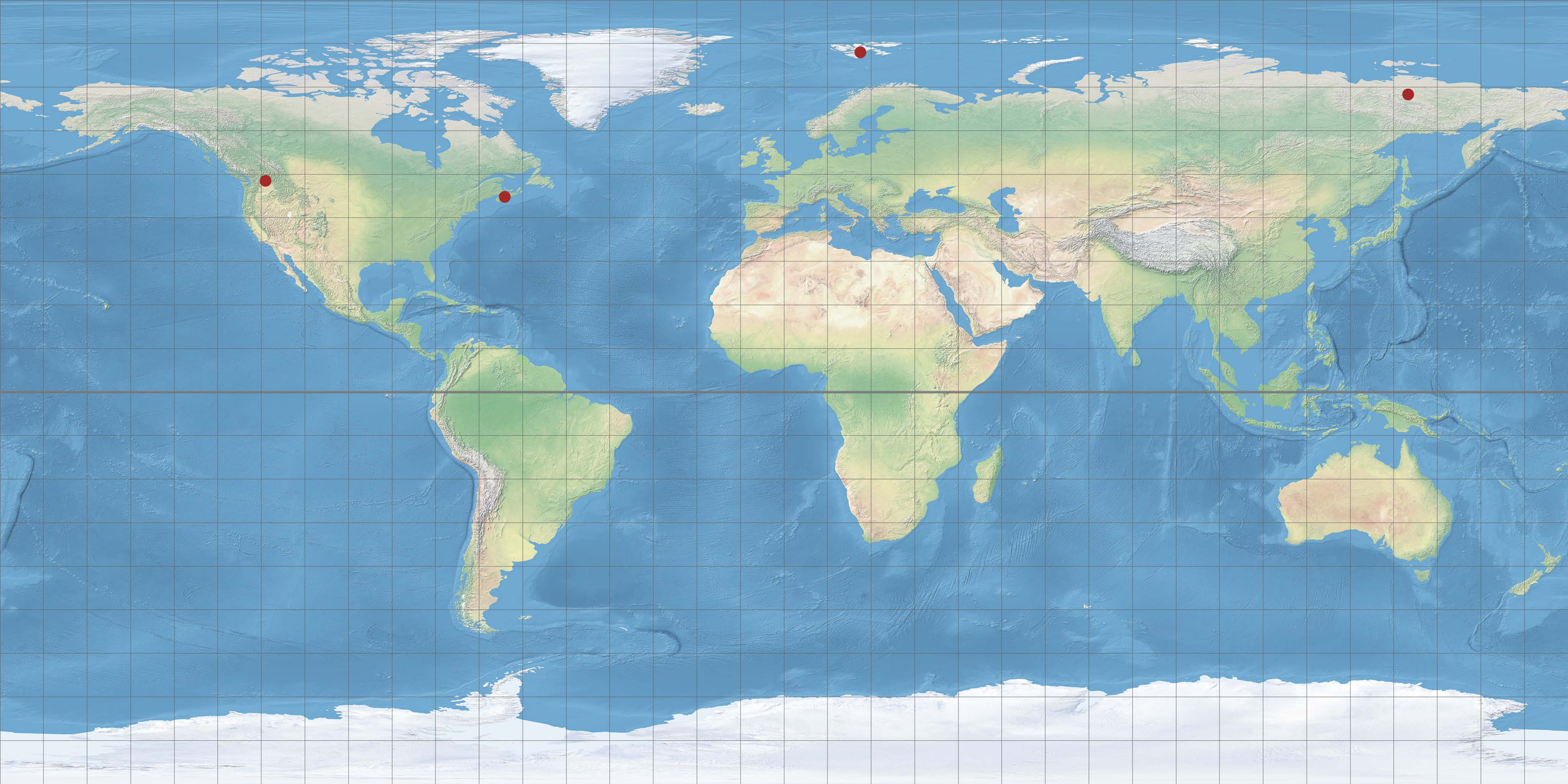


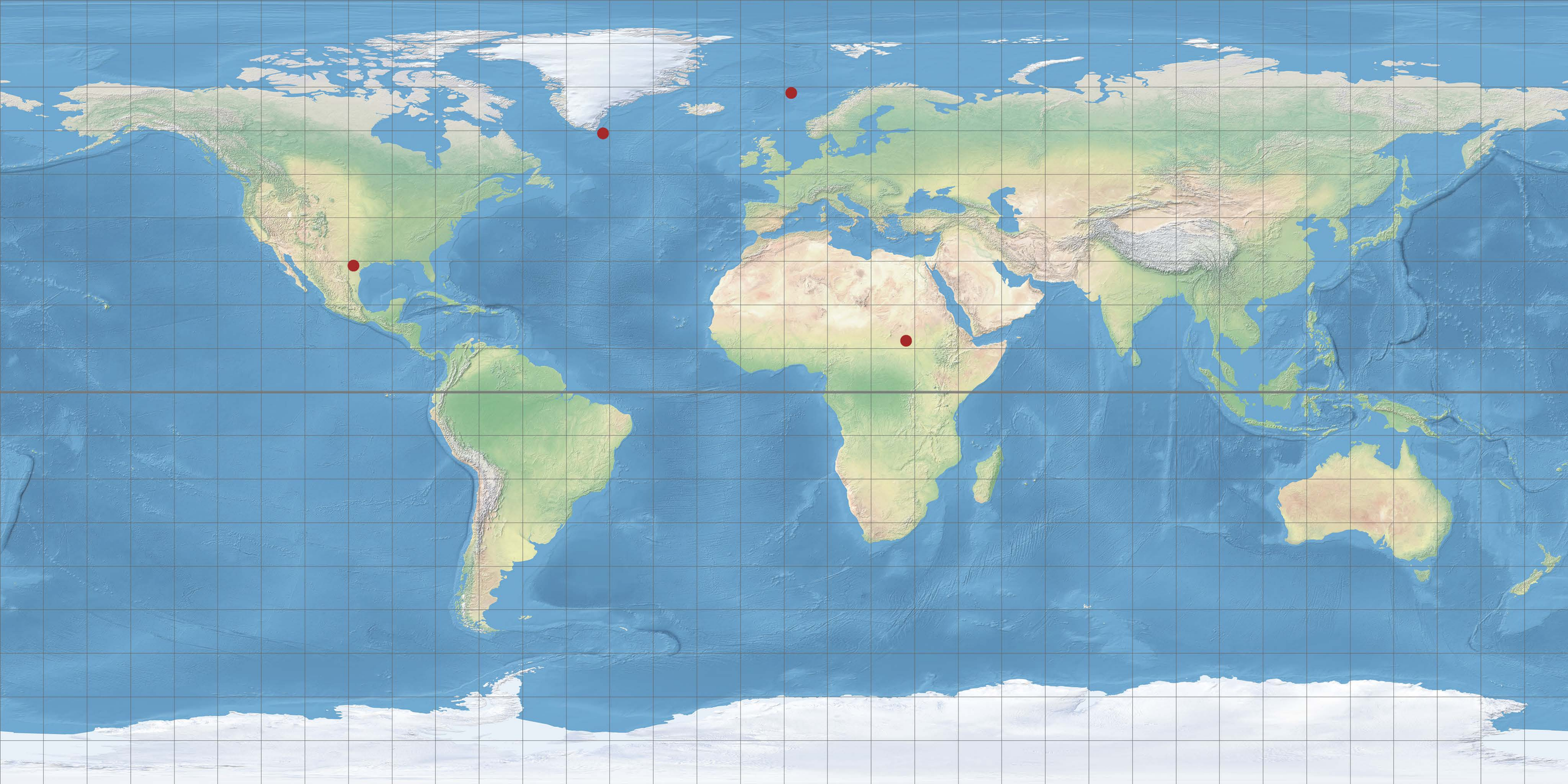


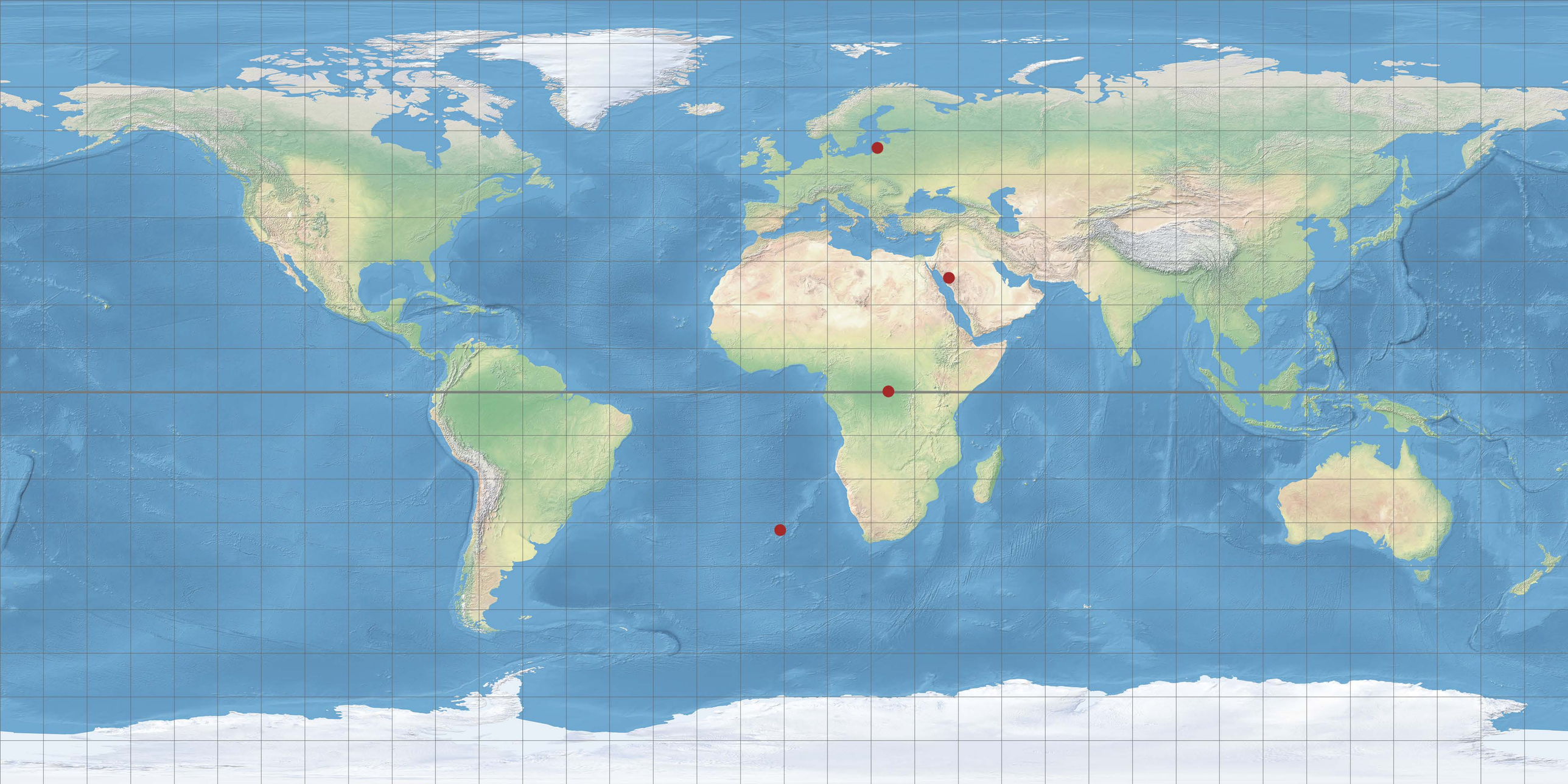
Distance comparison
Easy condition

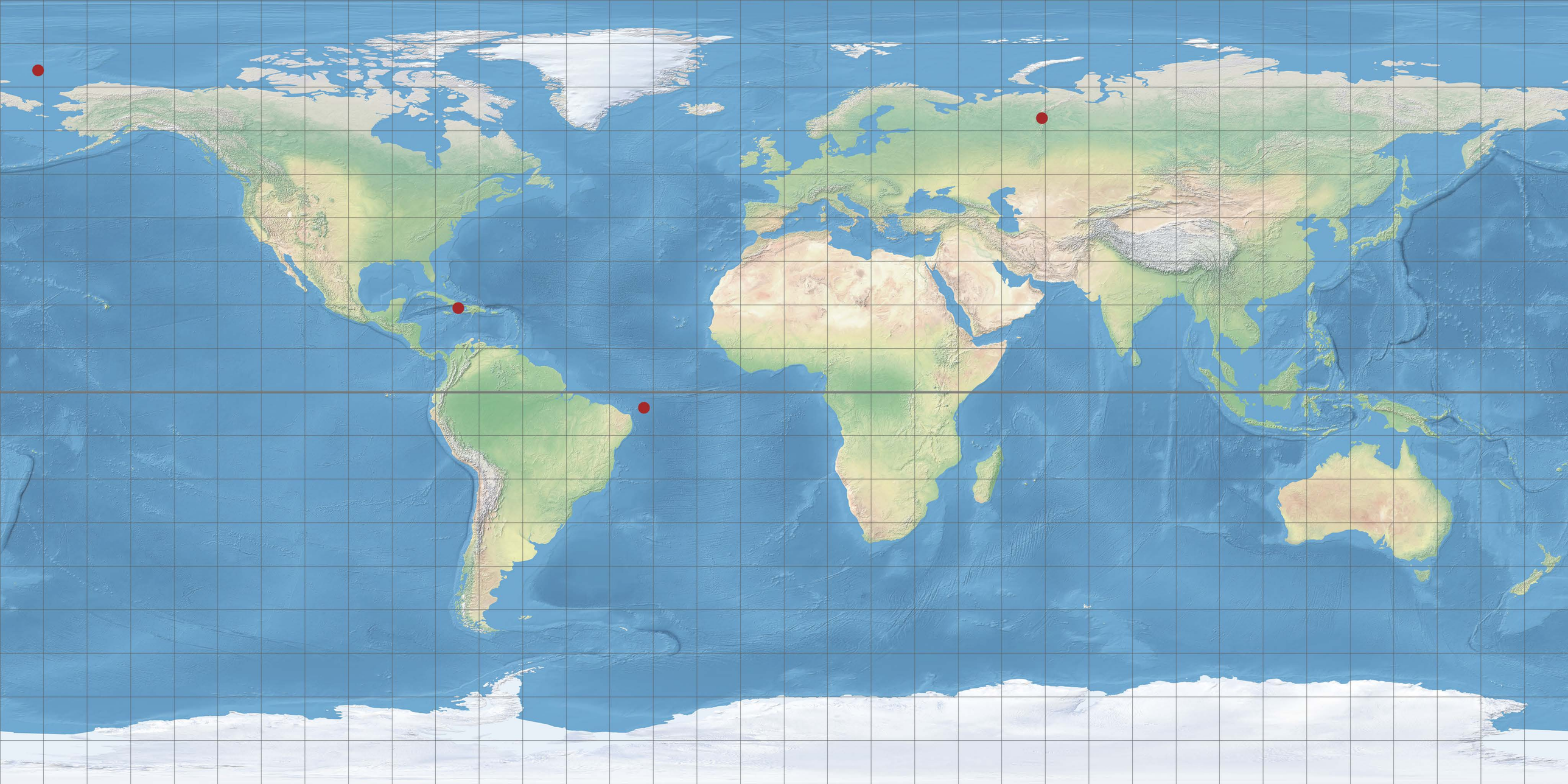


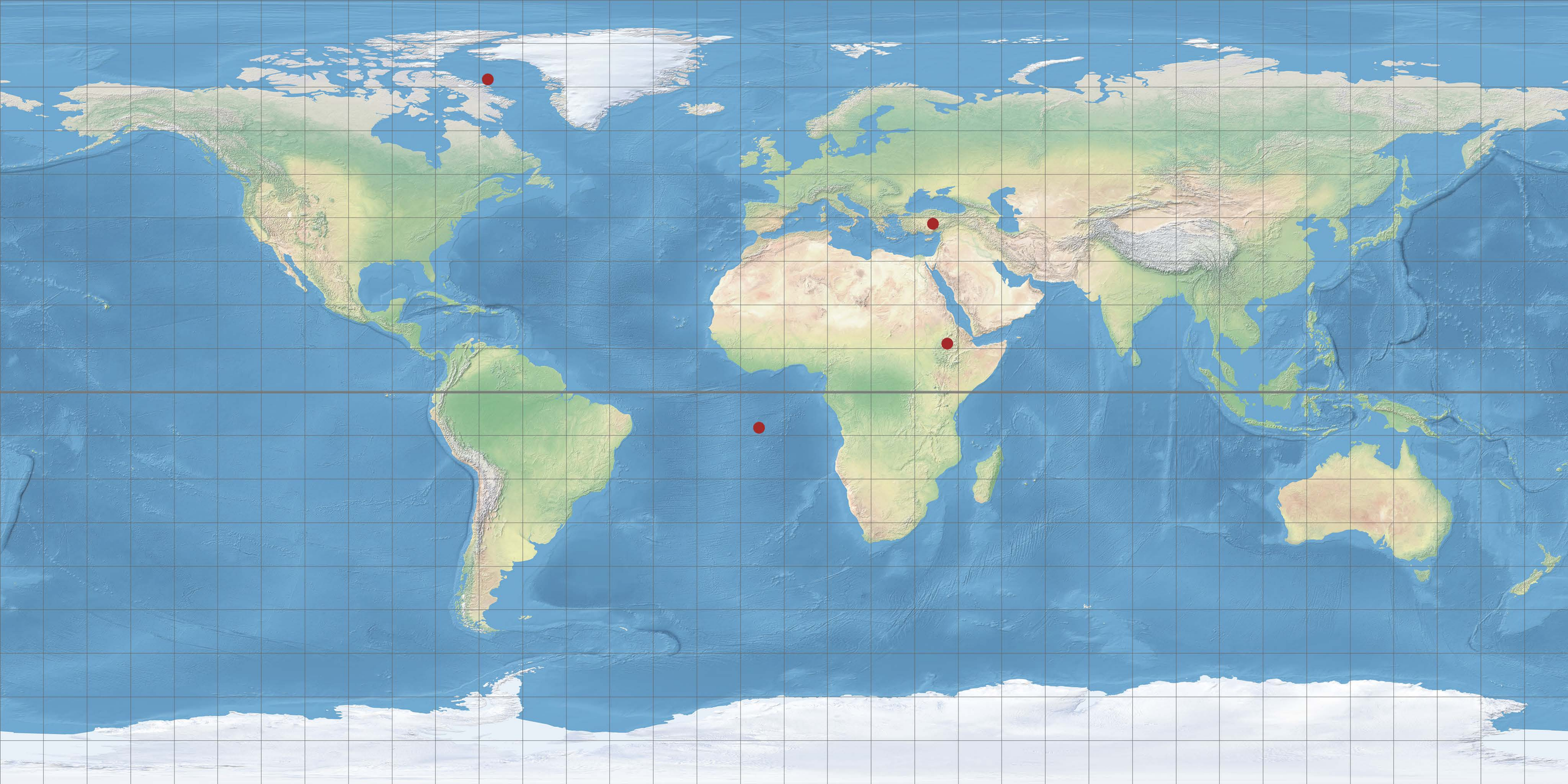


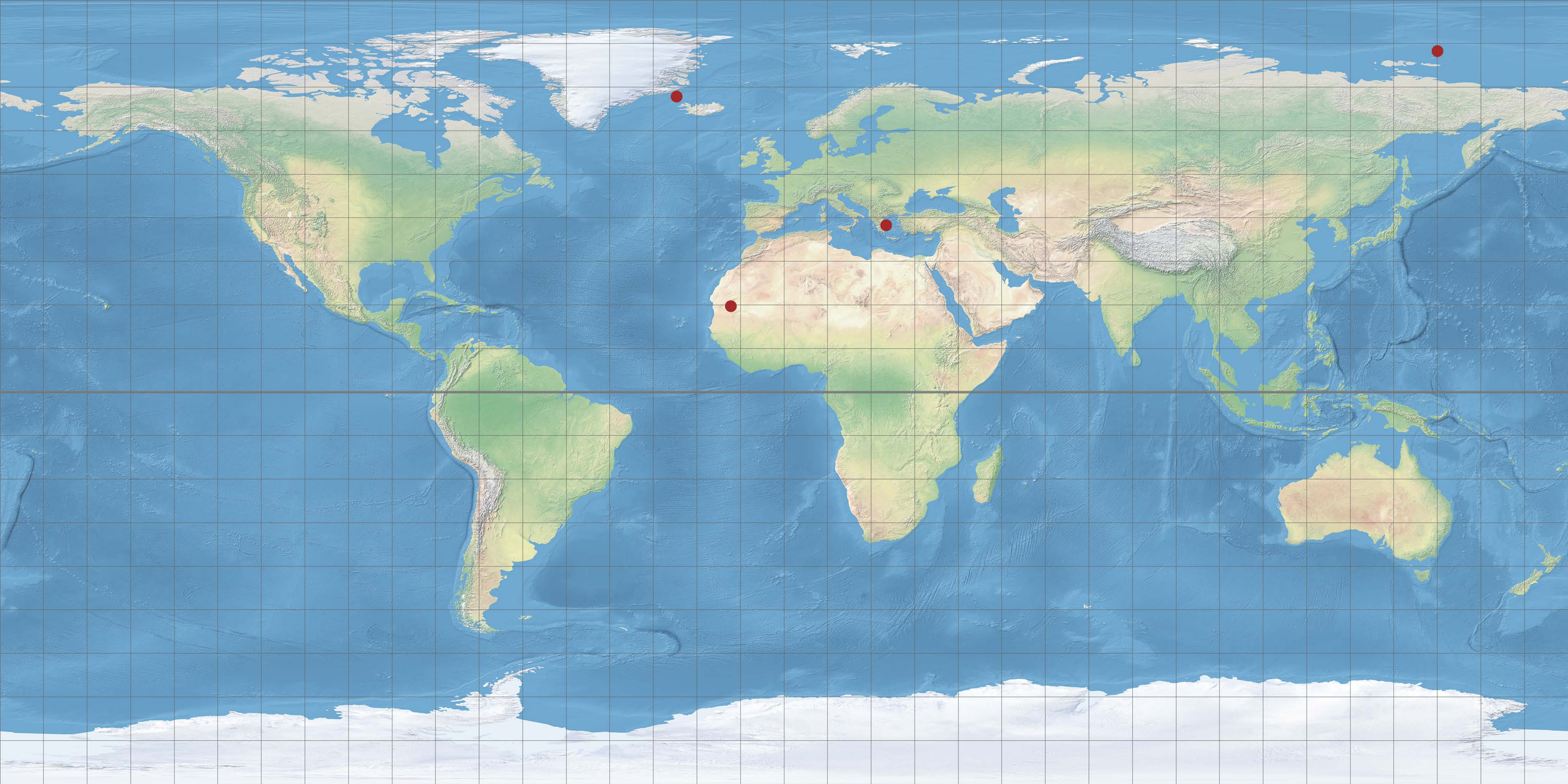


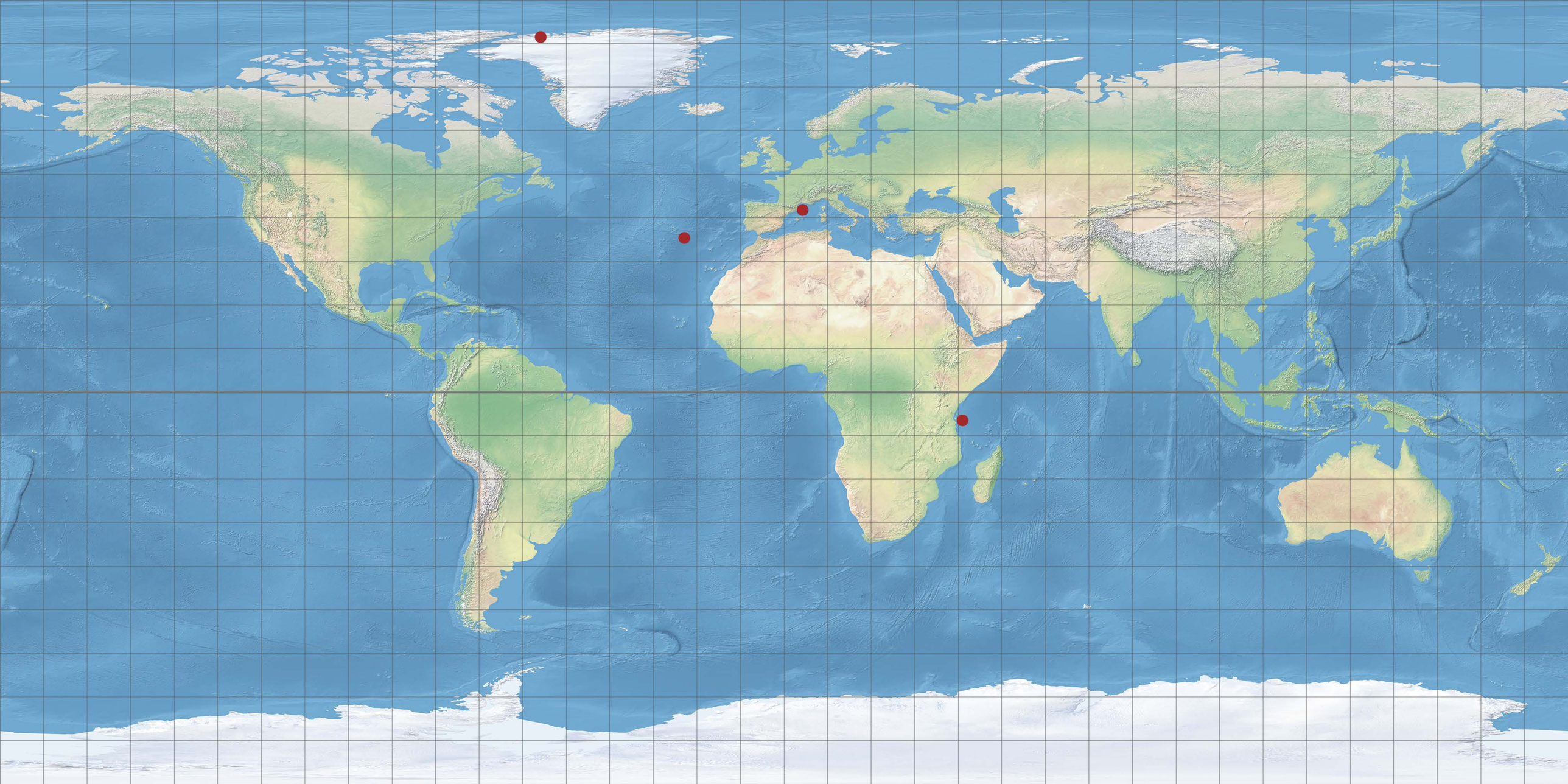


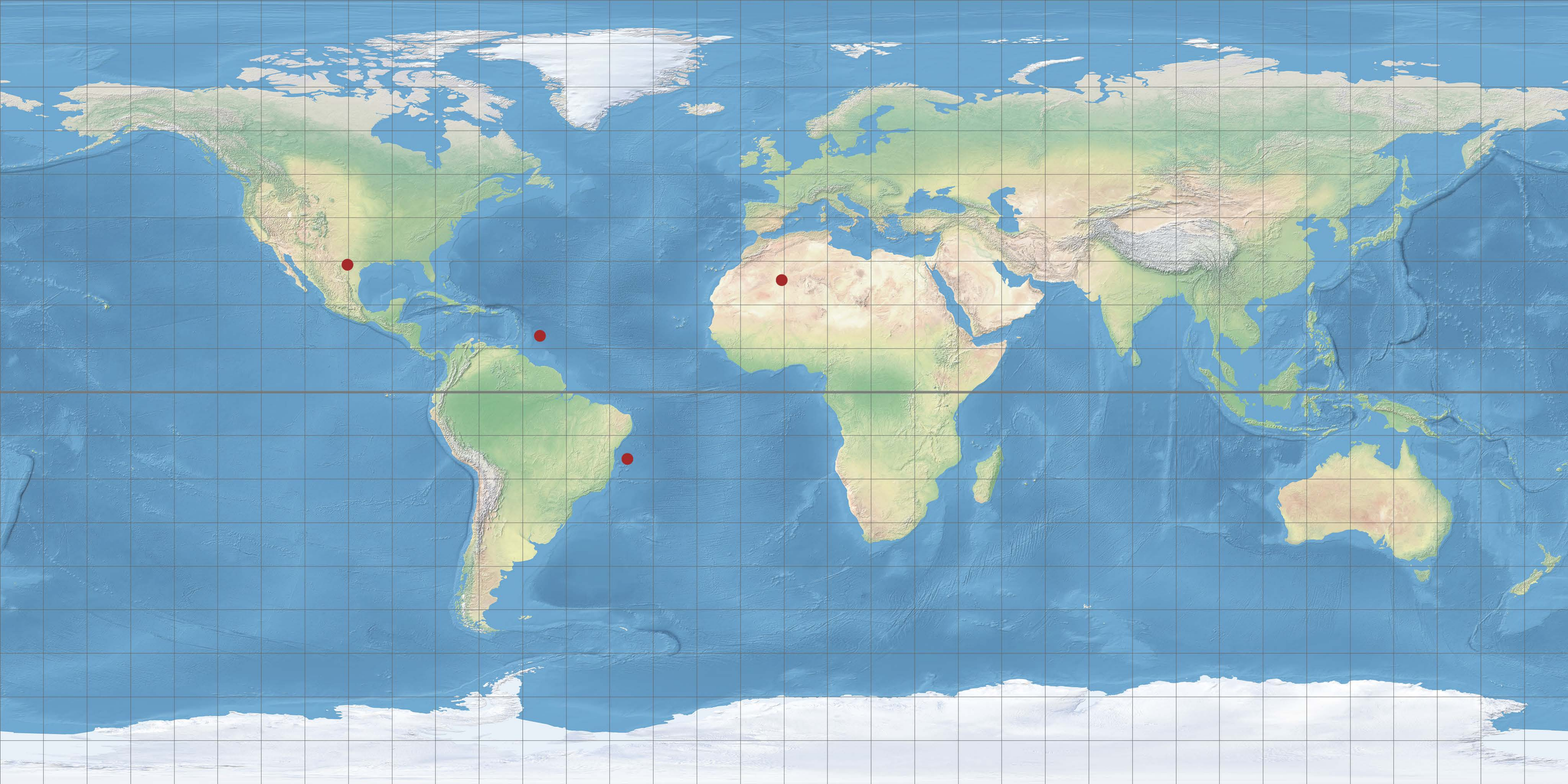


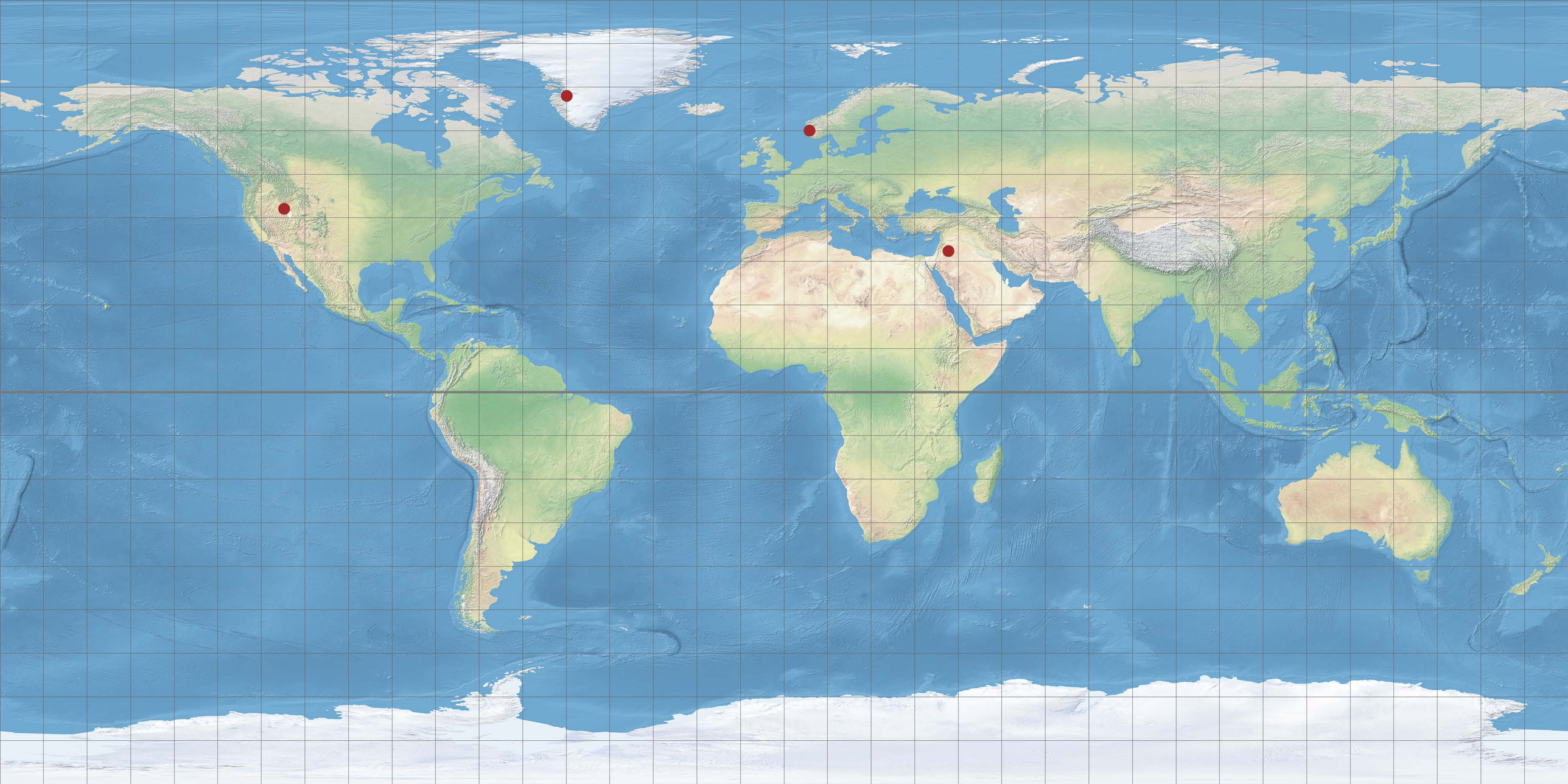


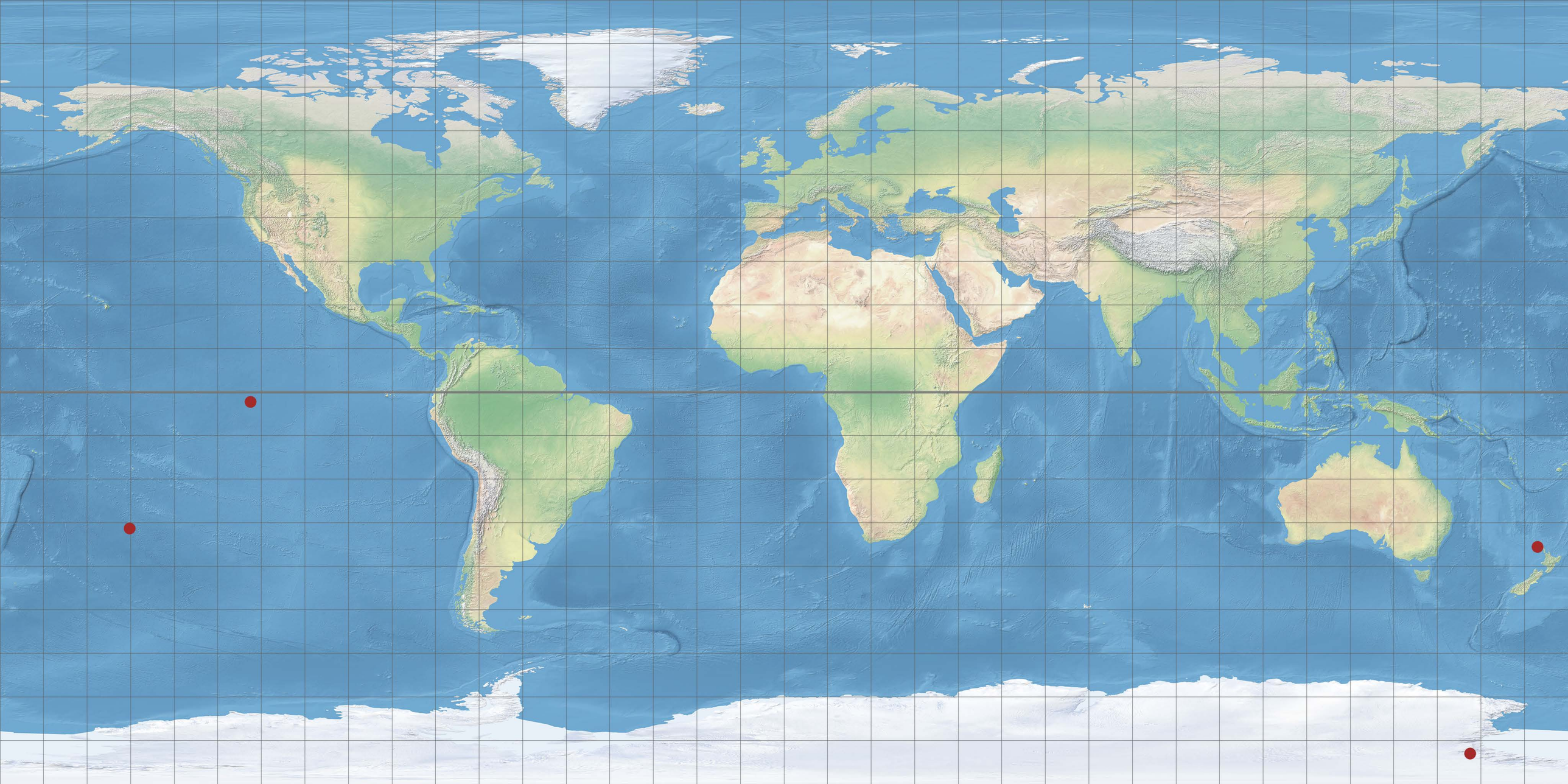




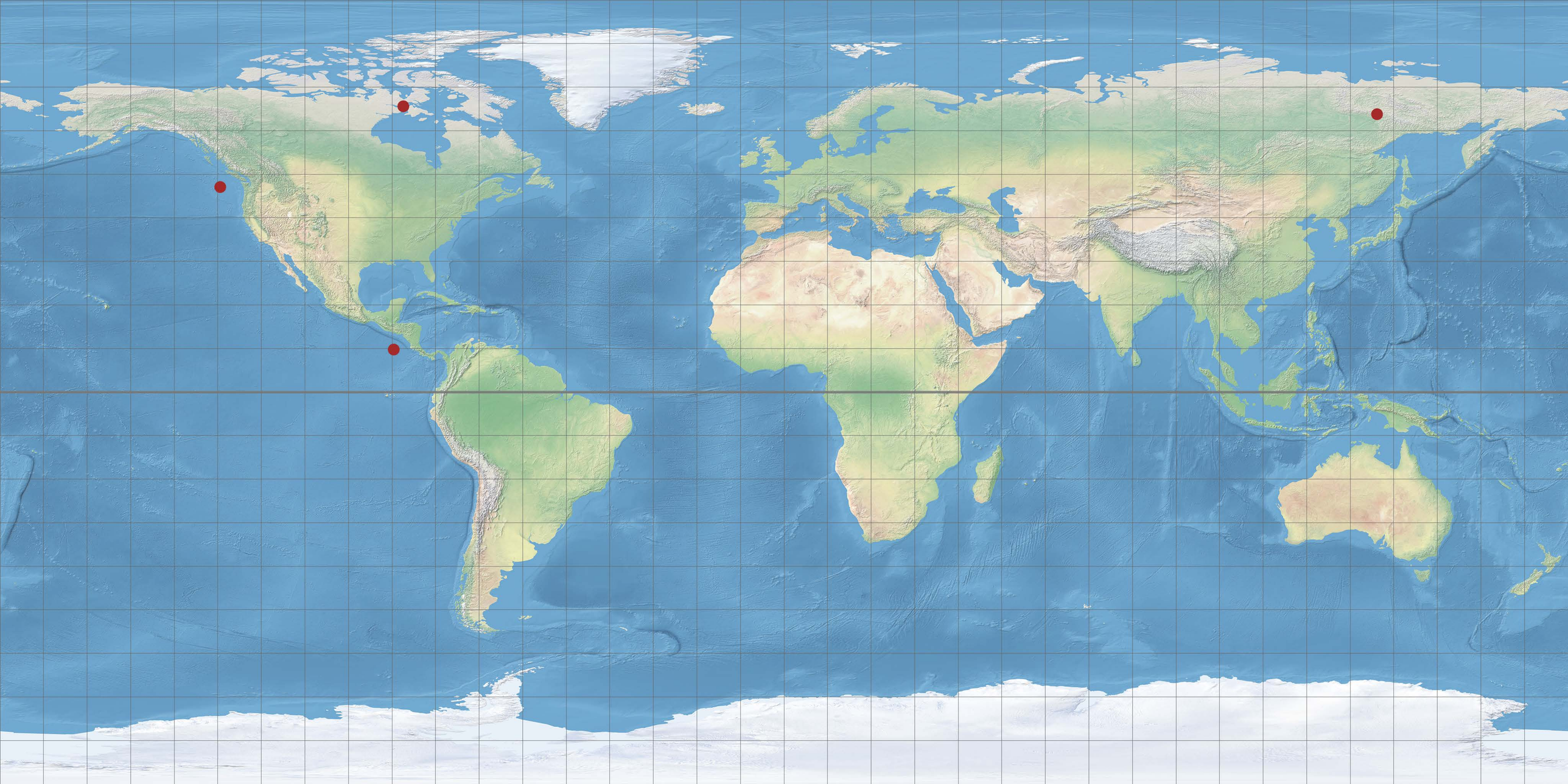


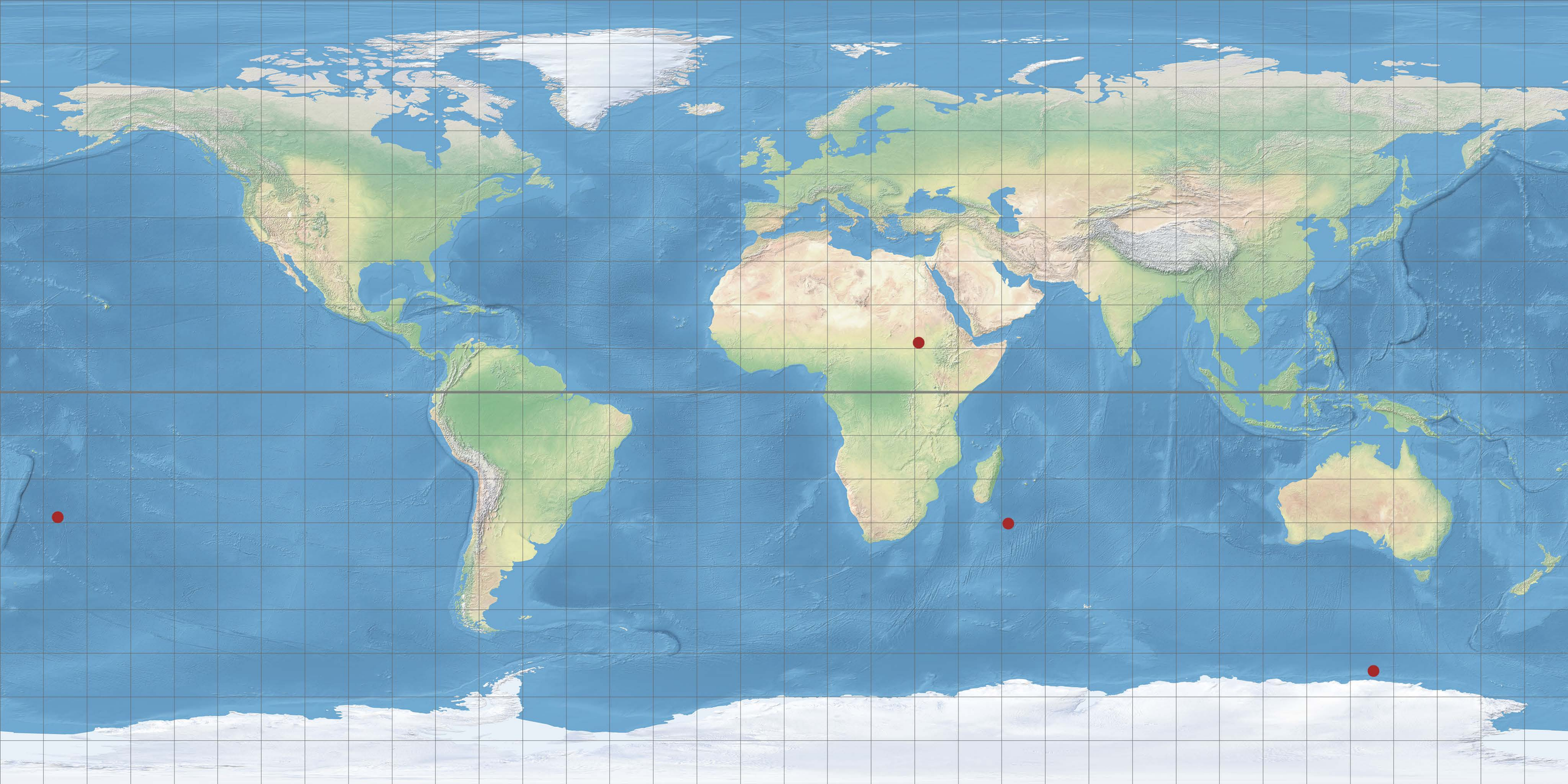


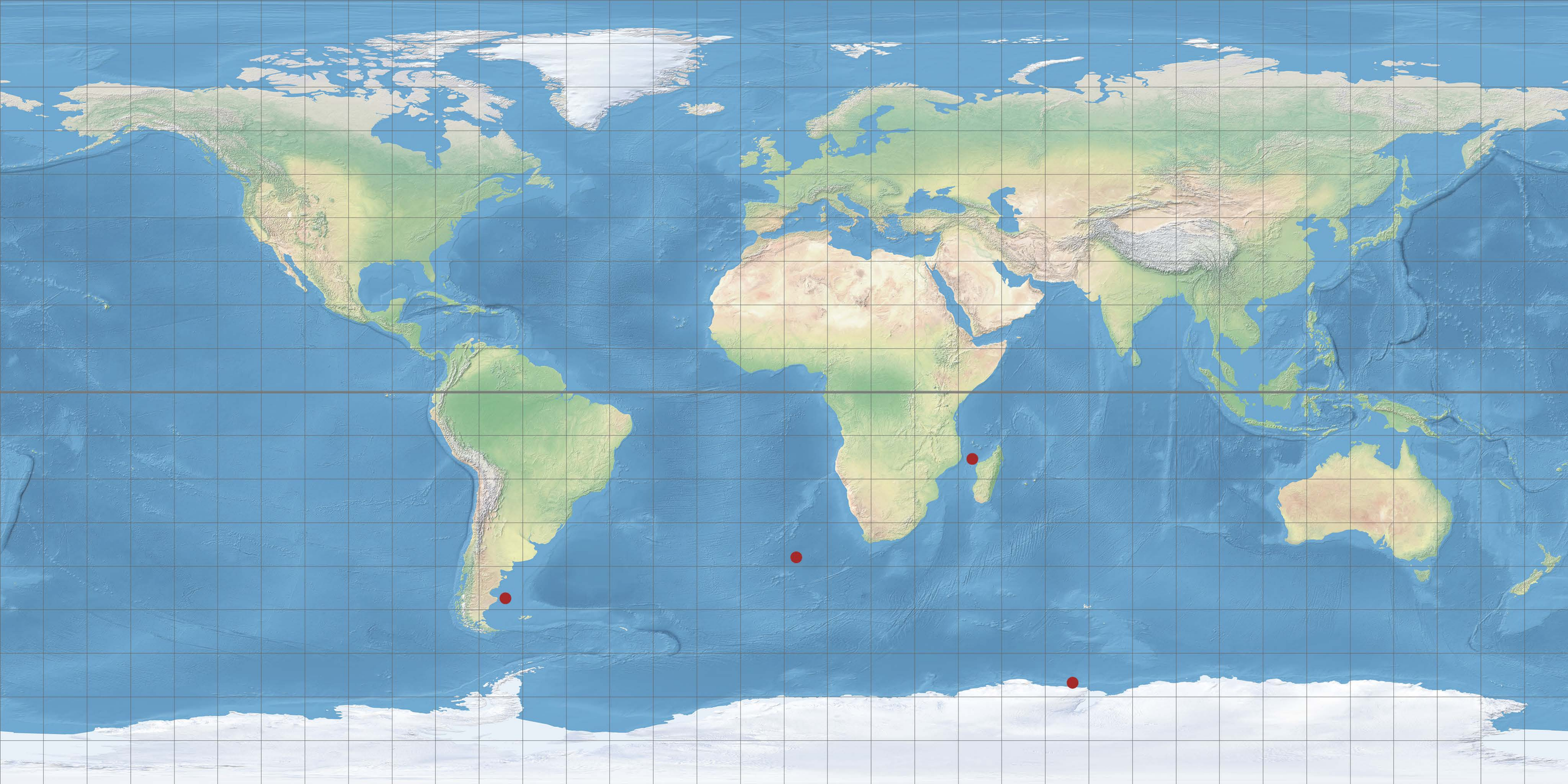


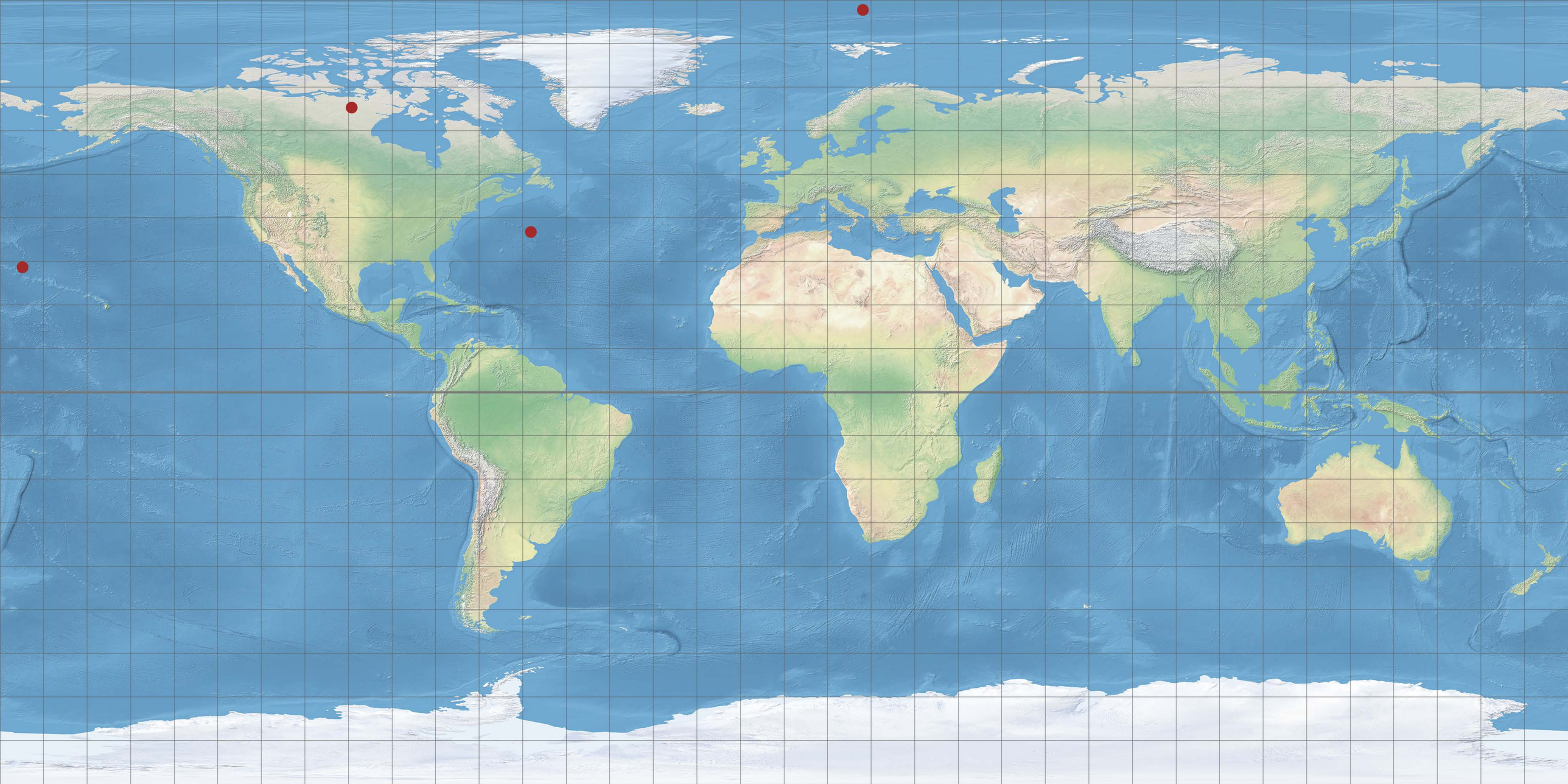


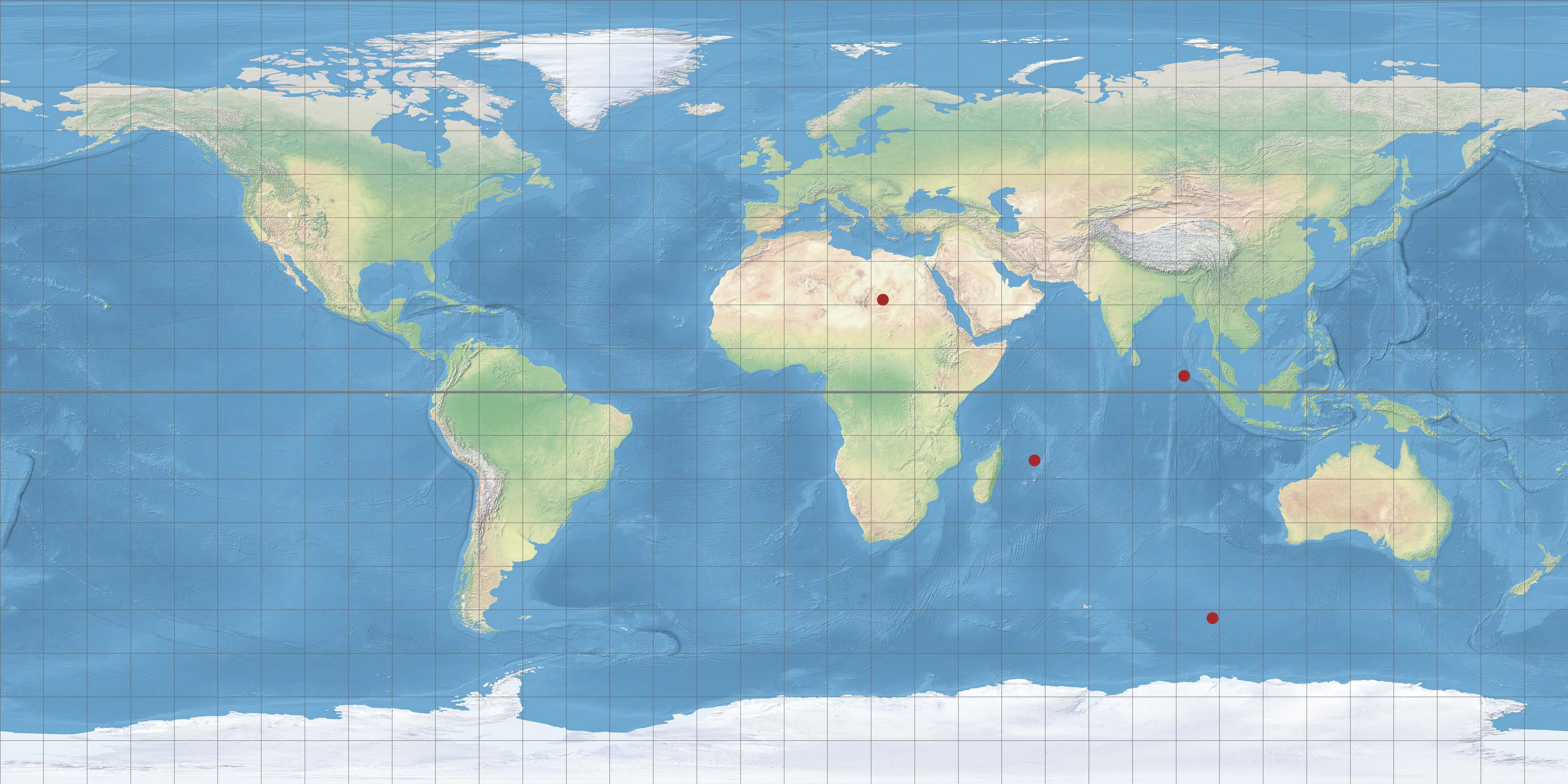
Distance comparison
Small variation condition

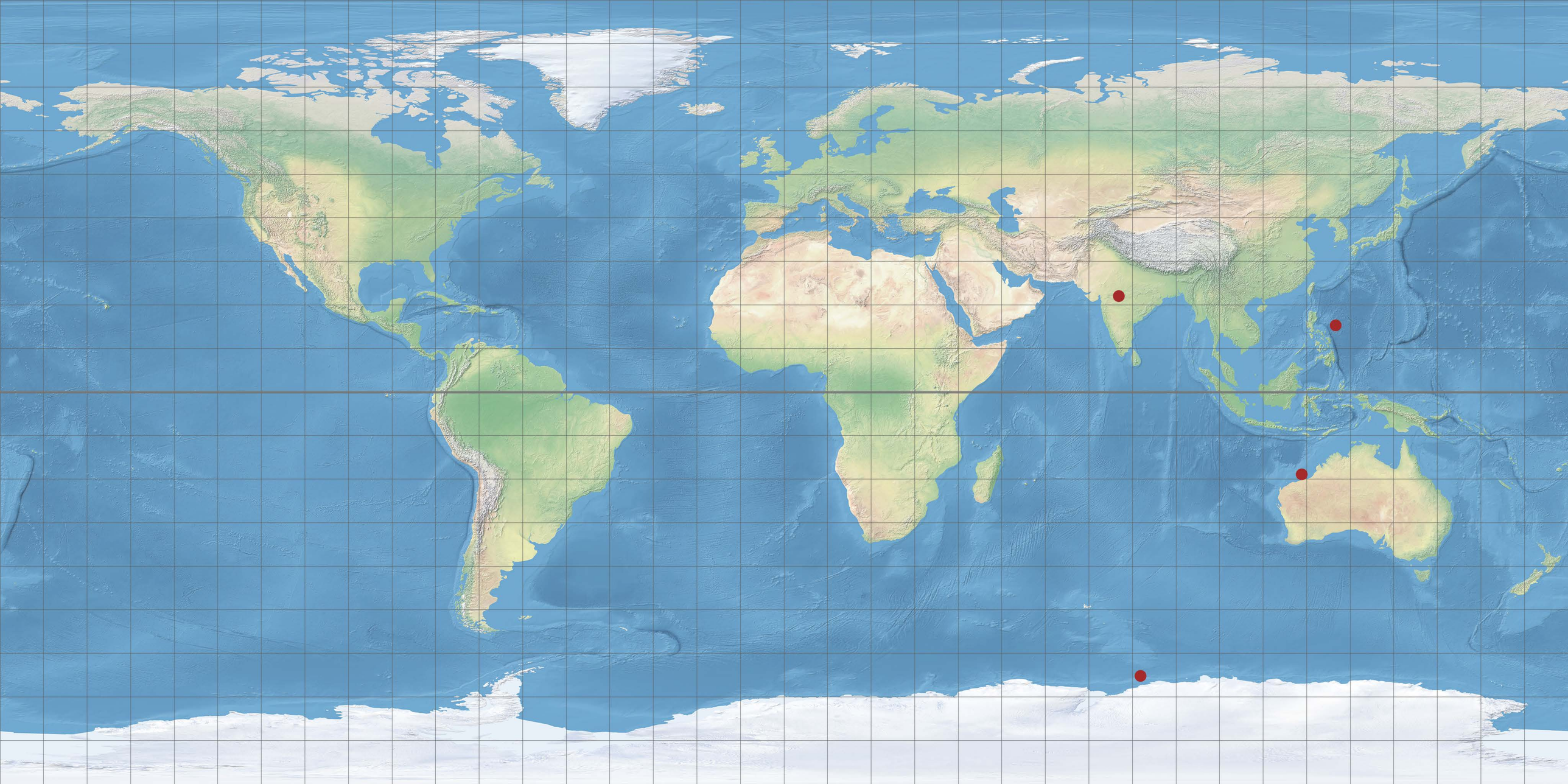


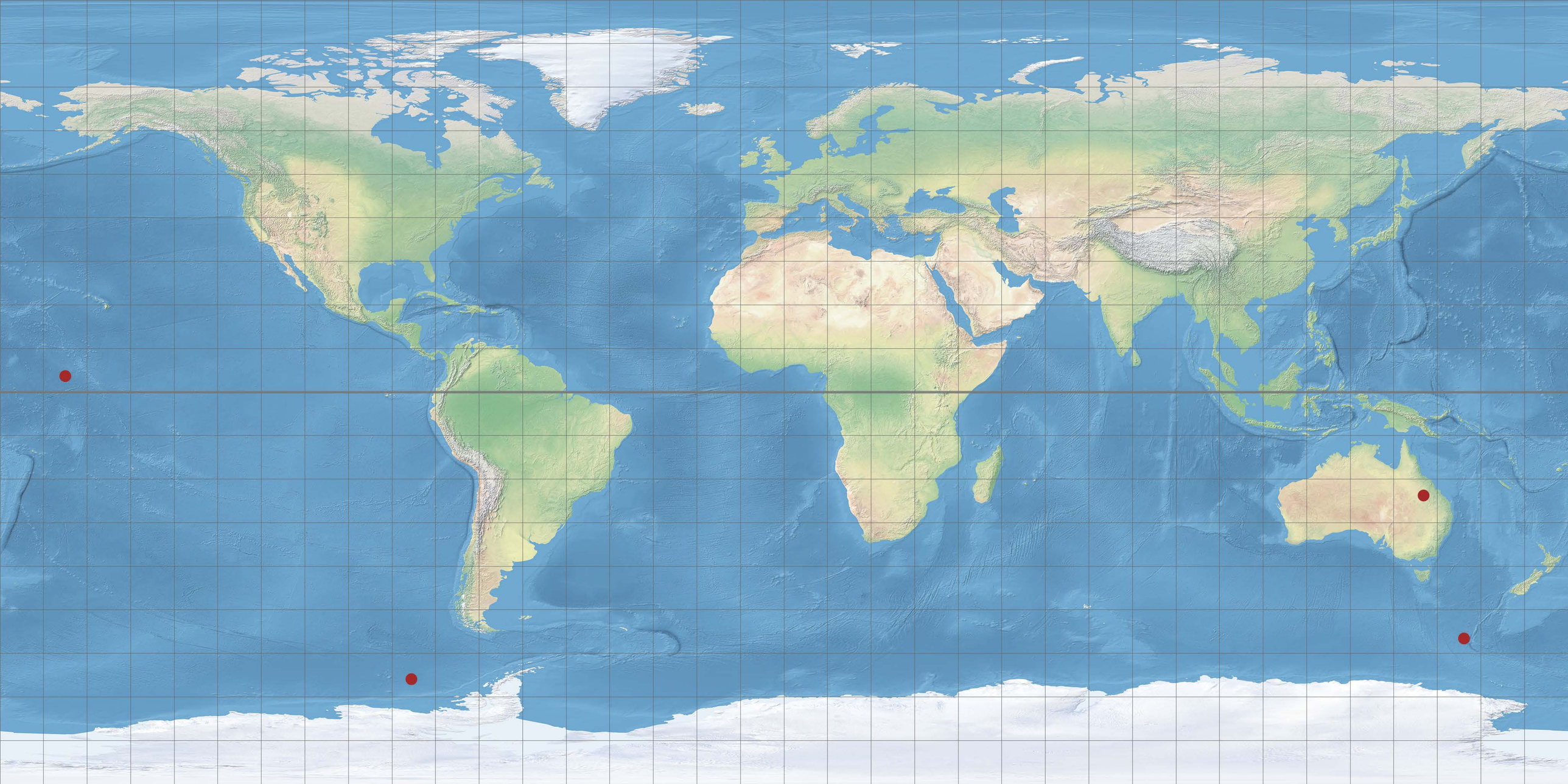


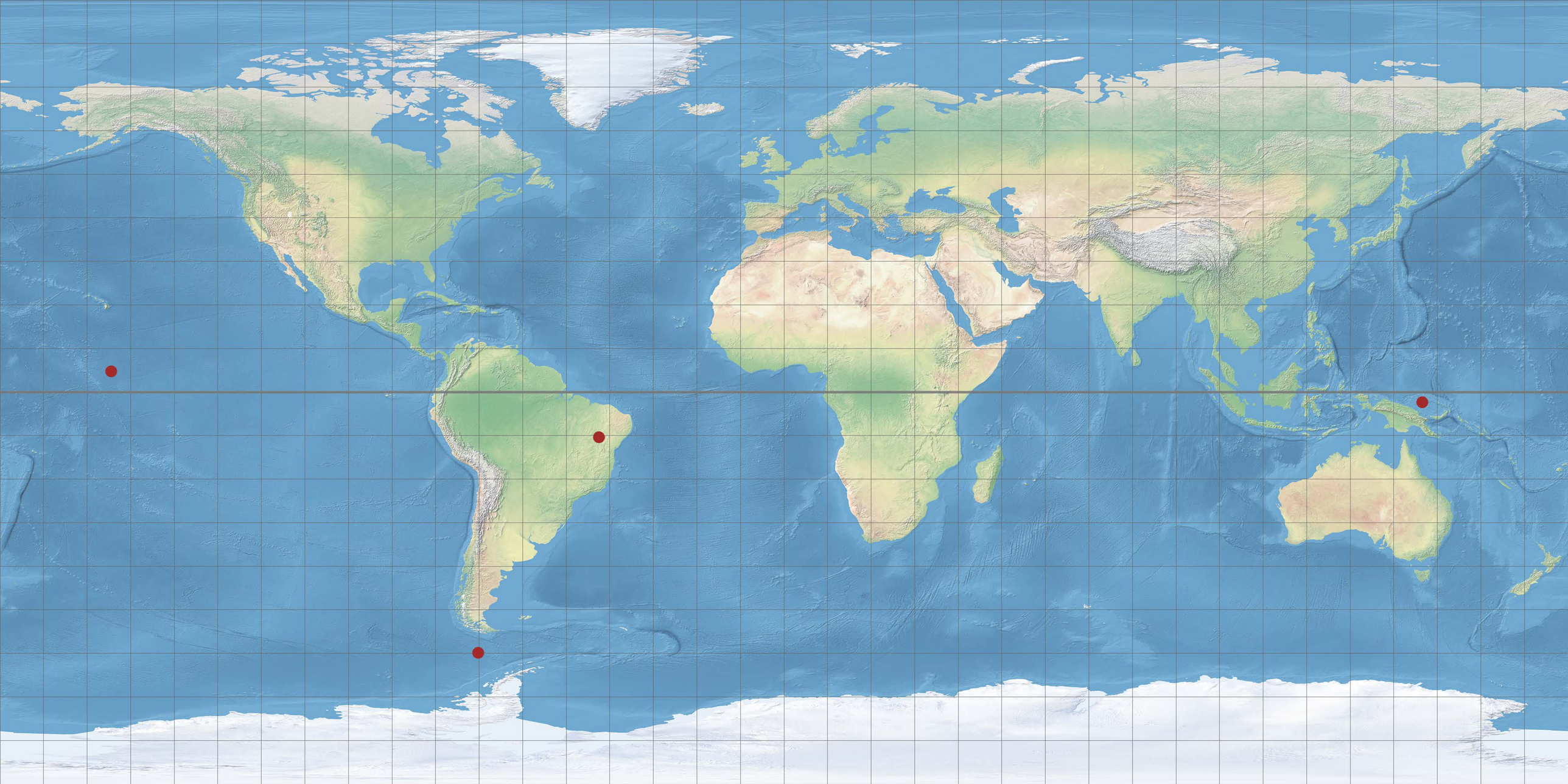


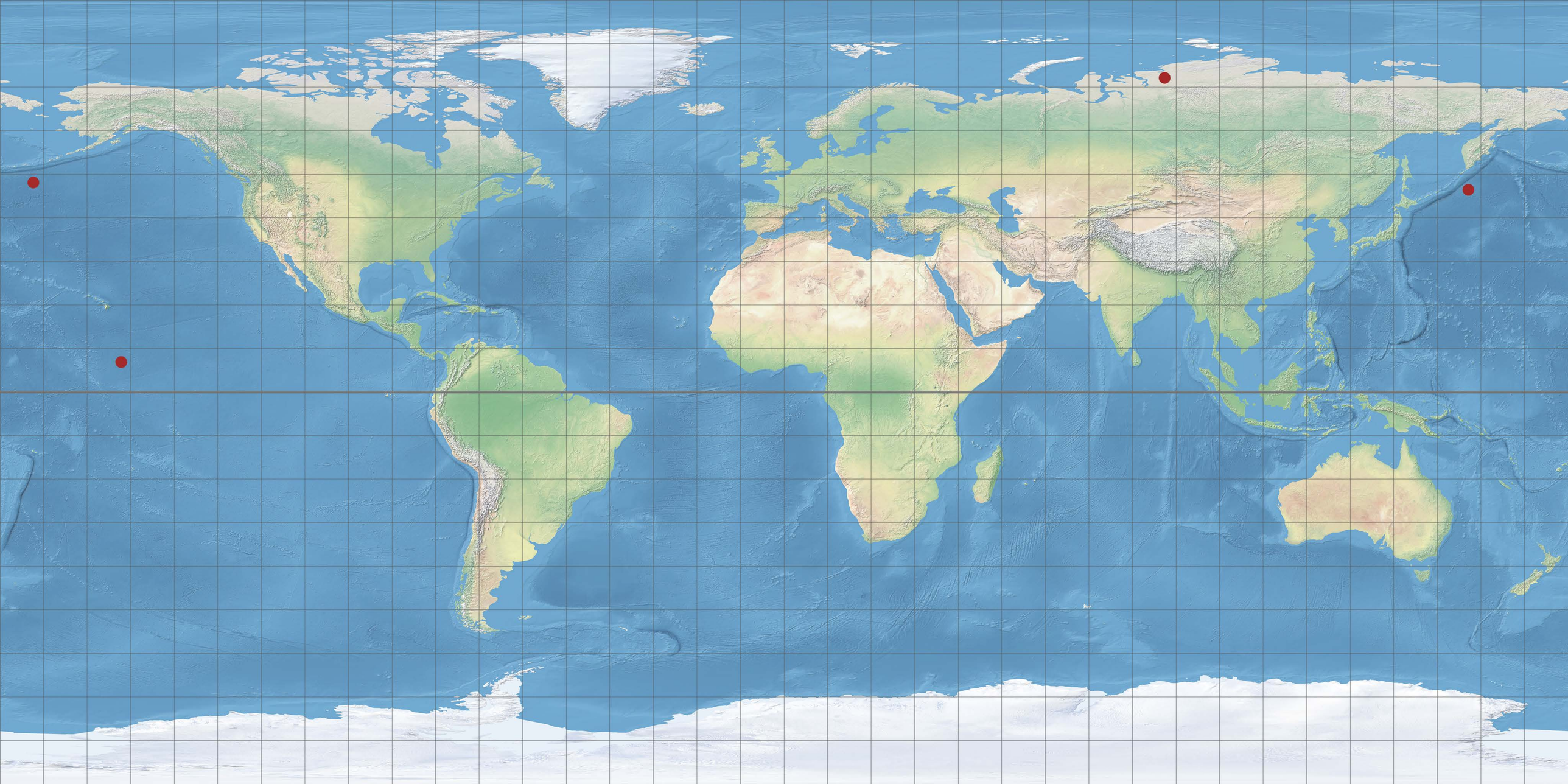


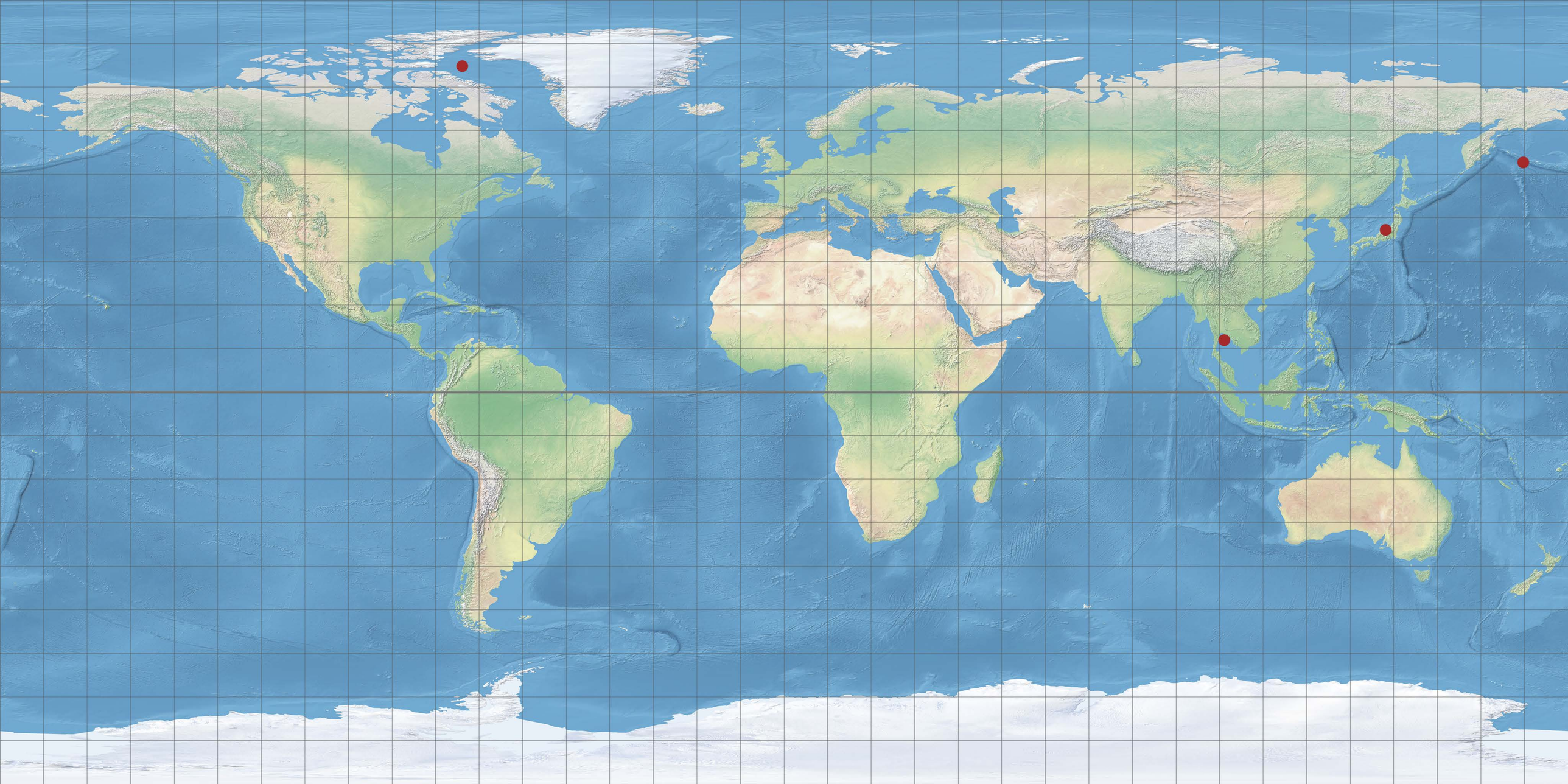


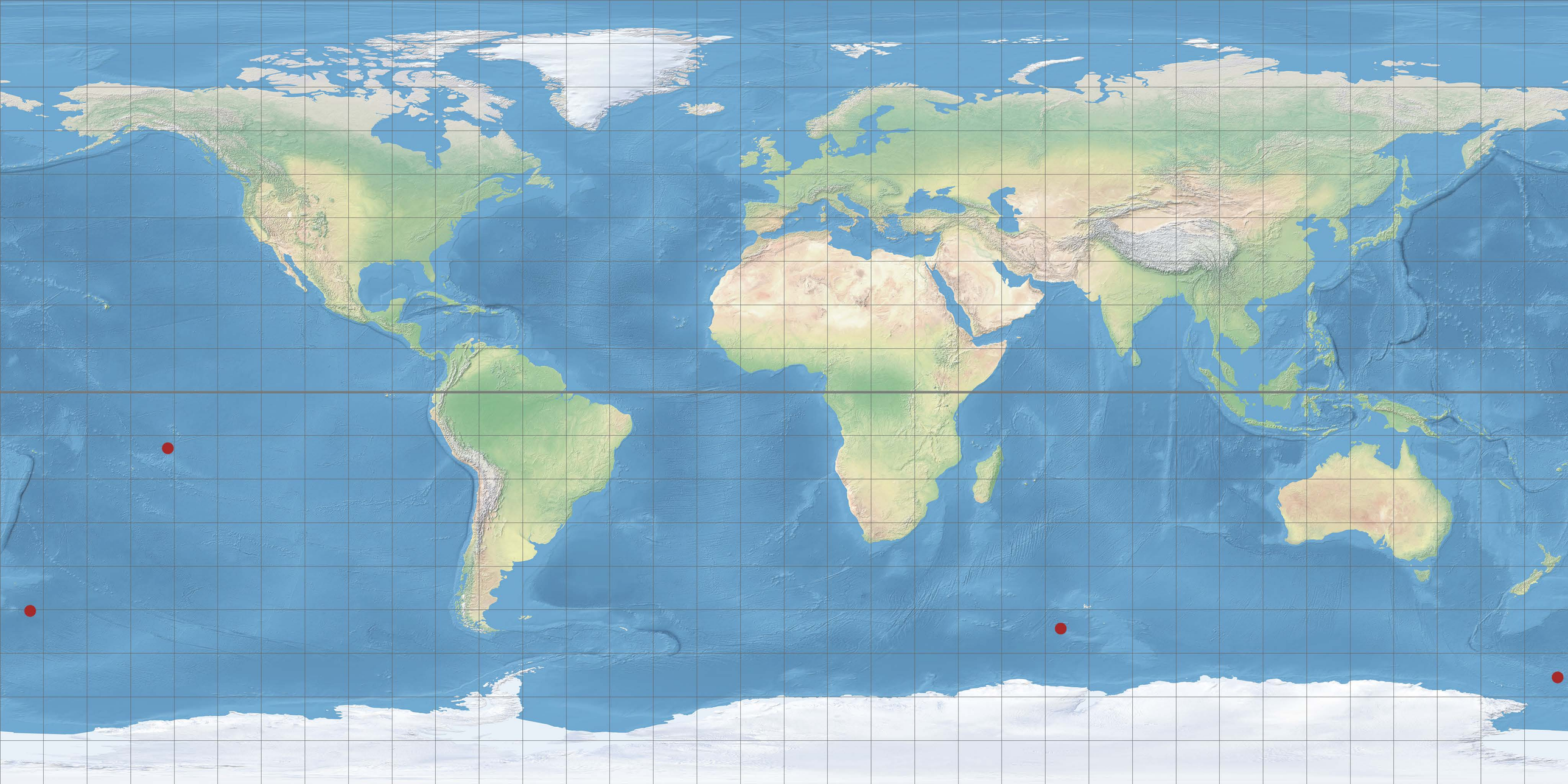


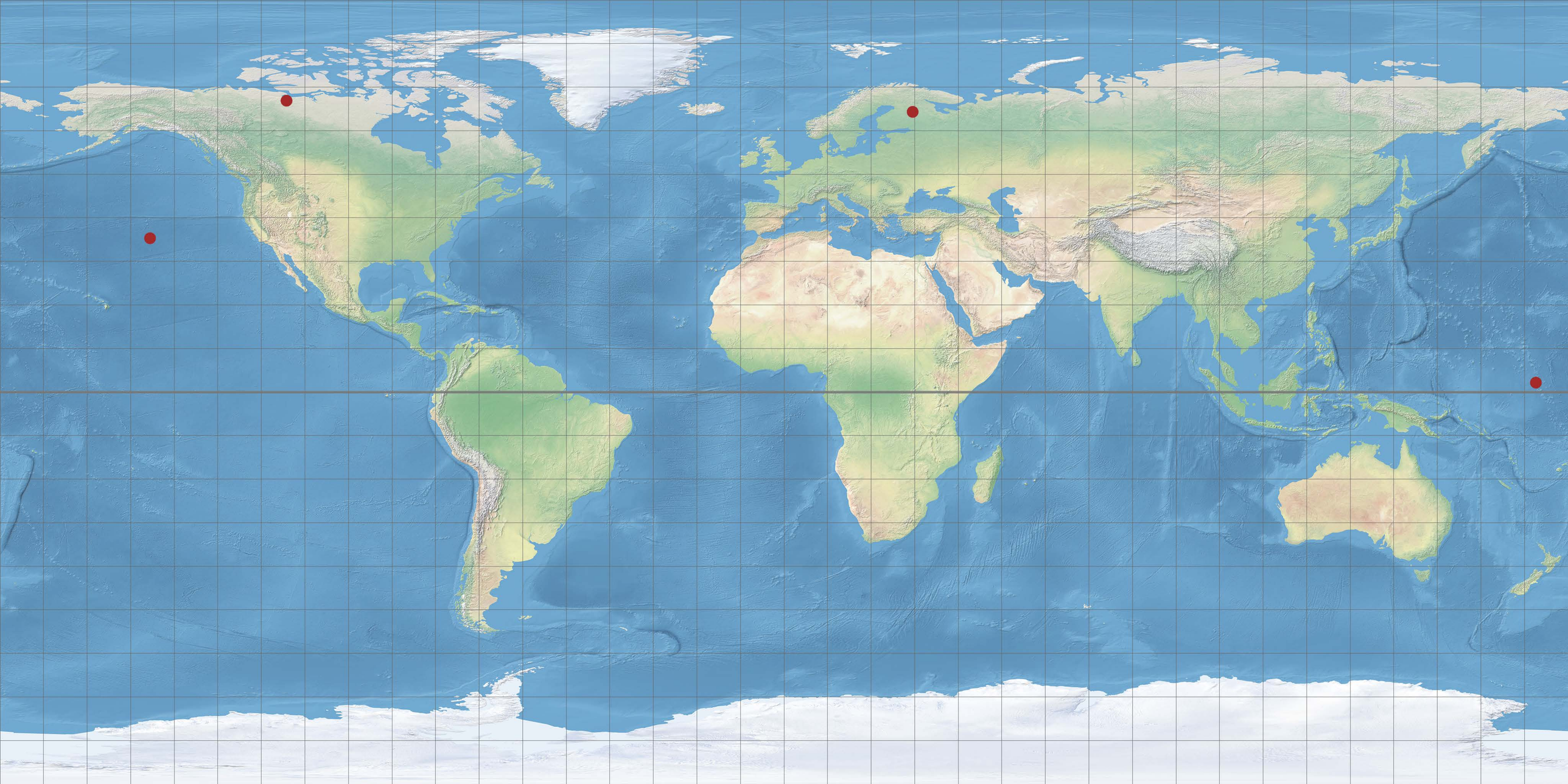




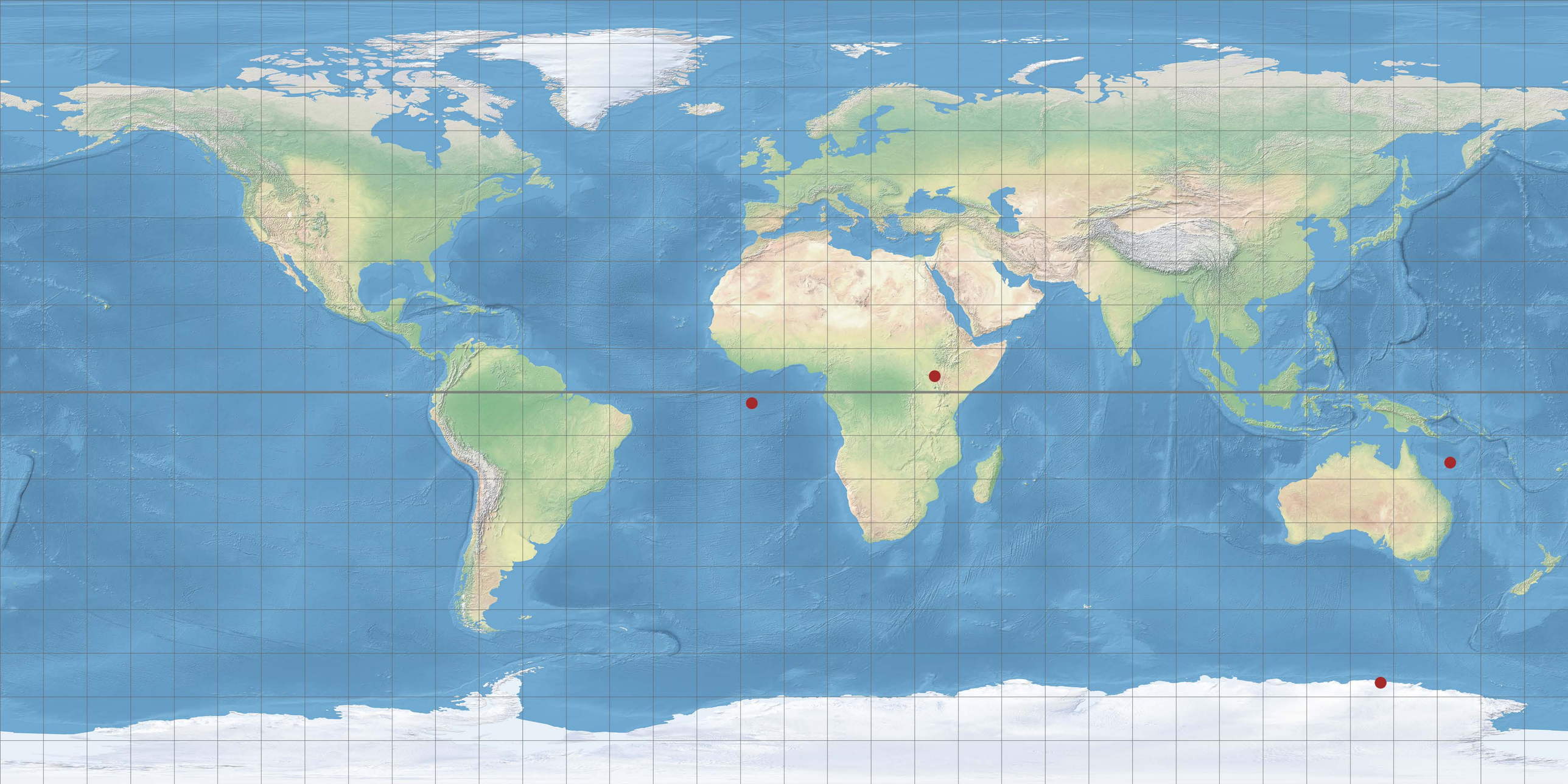


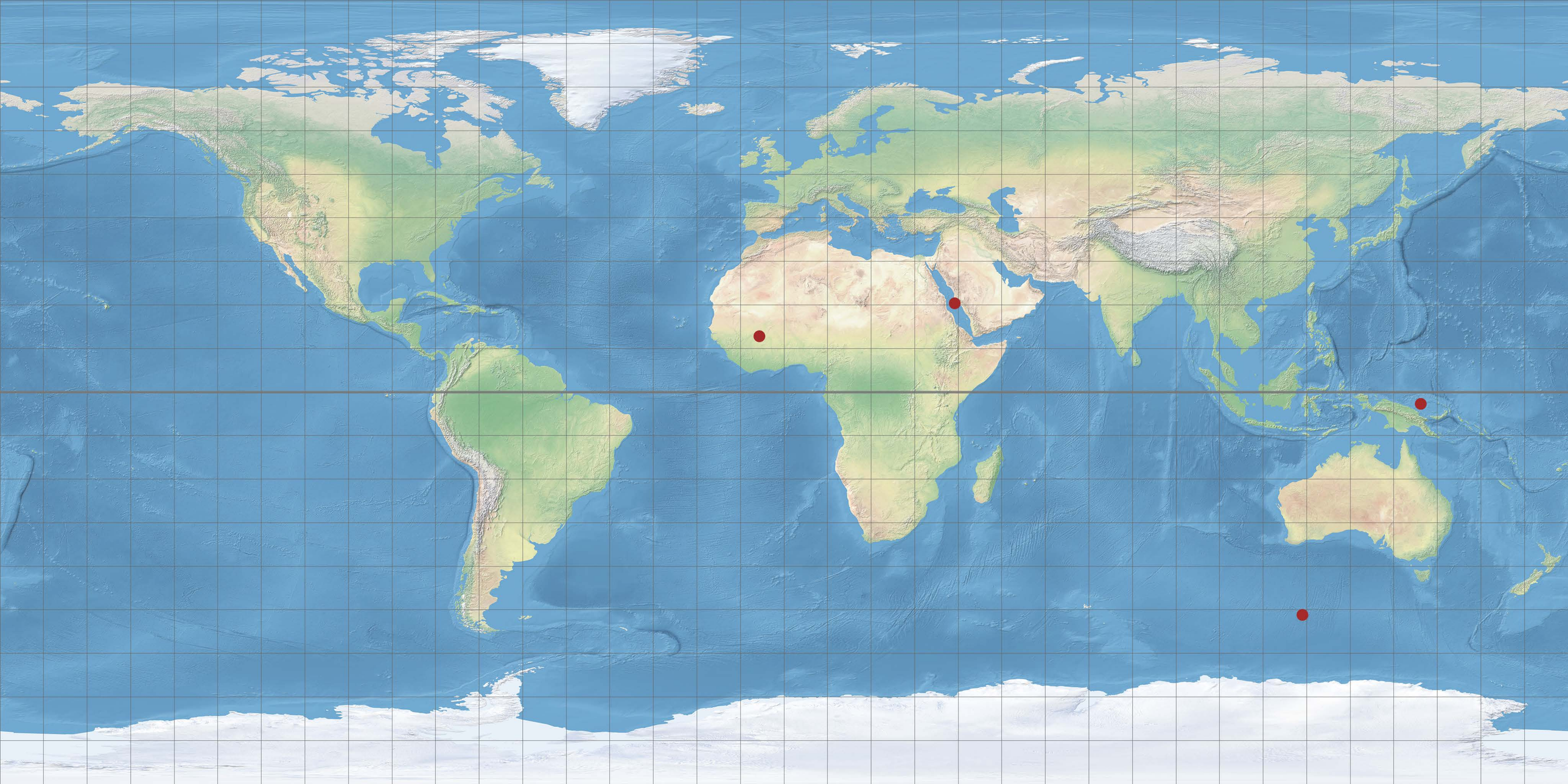


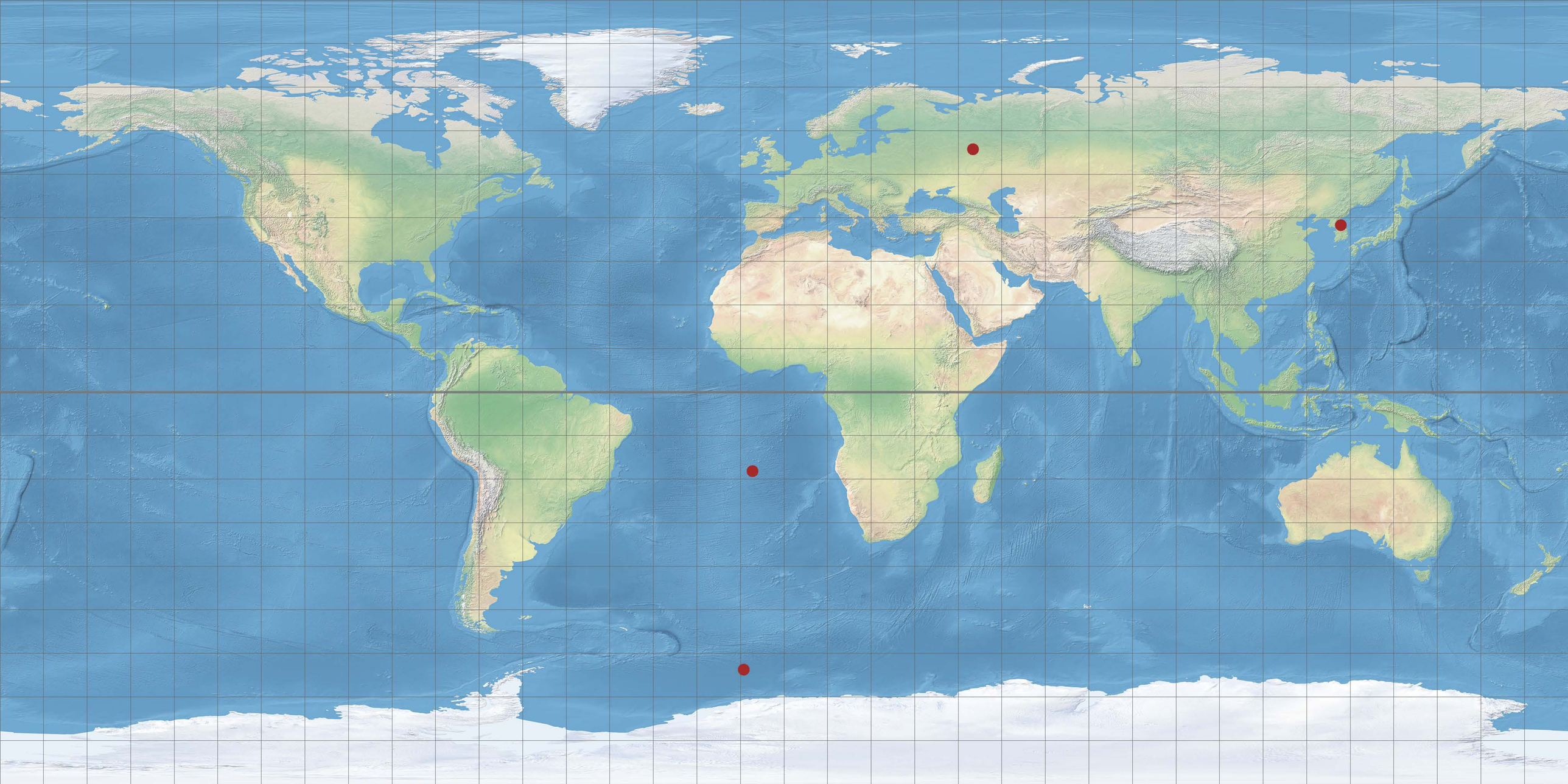


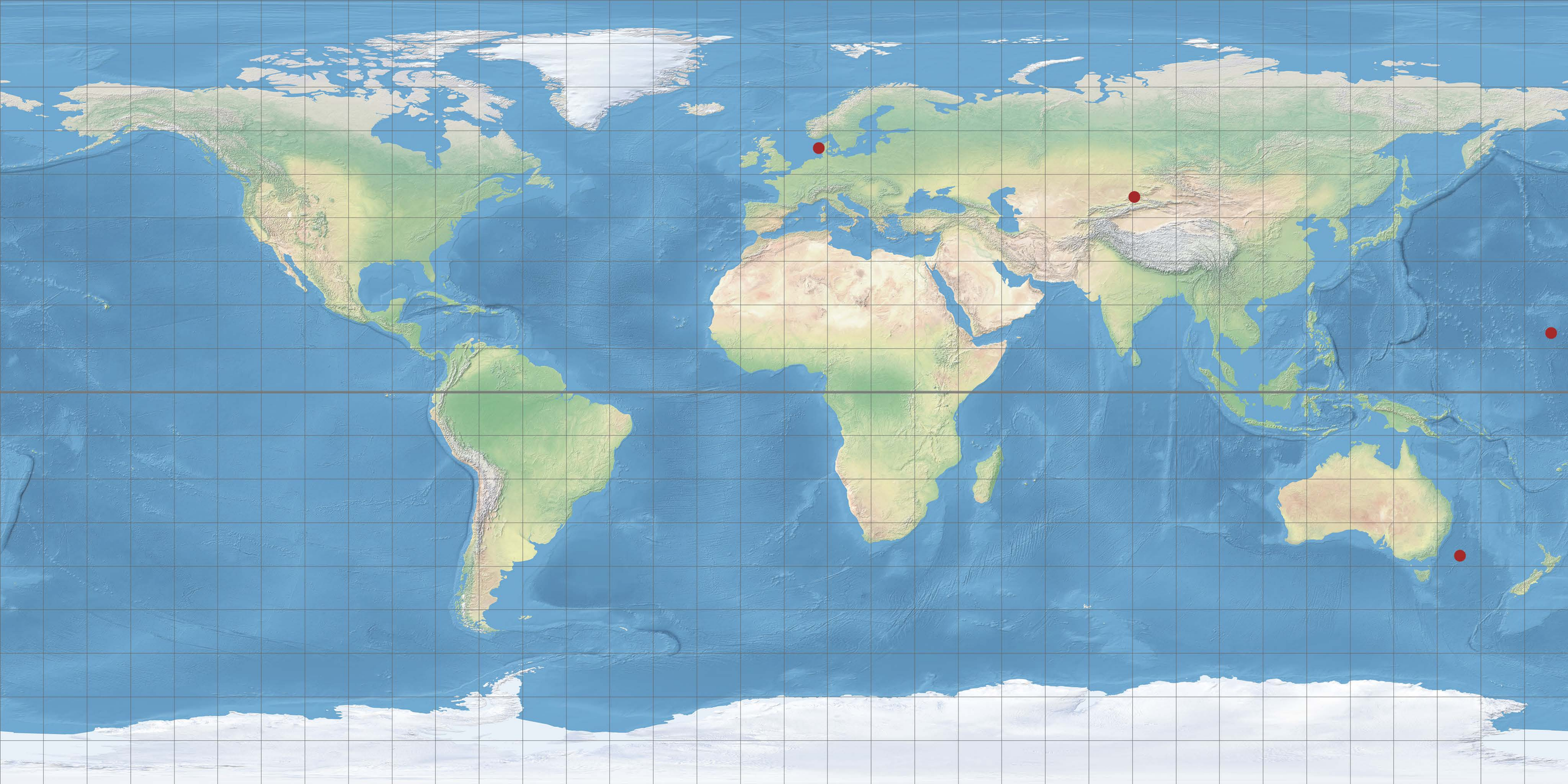


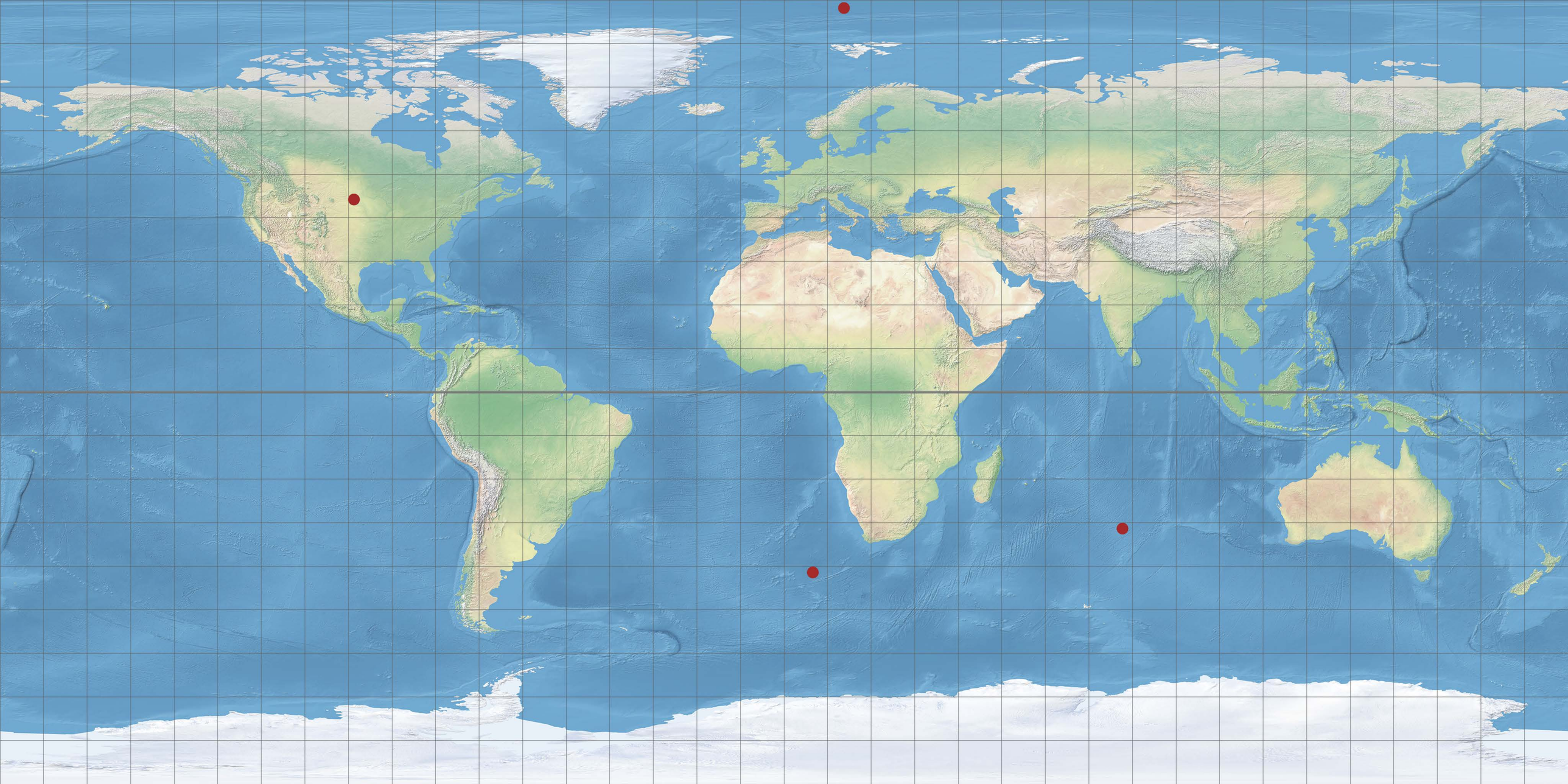
Distance comparison
Far distance condition

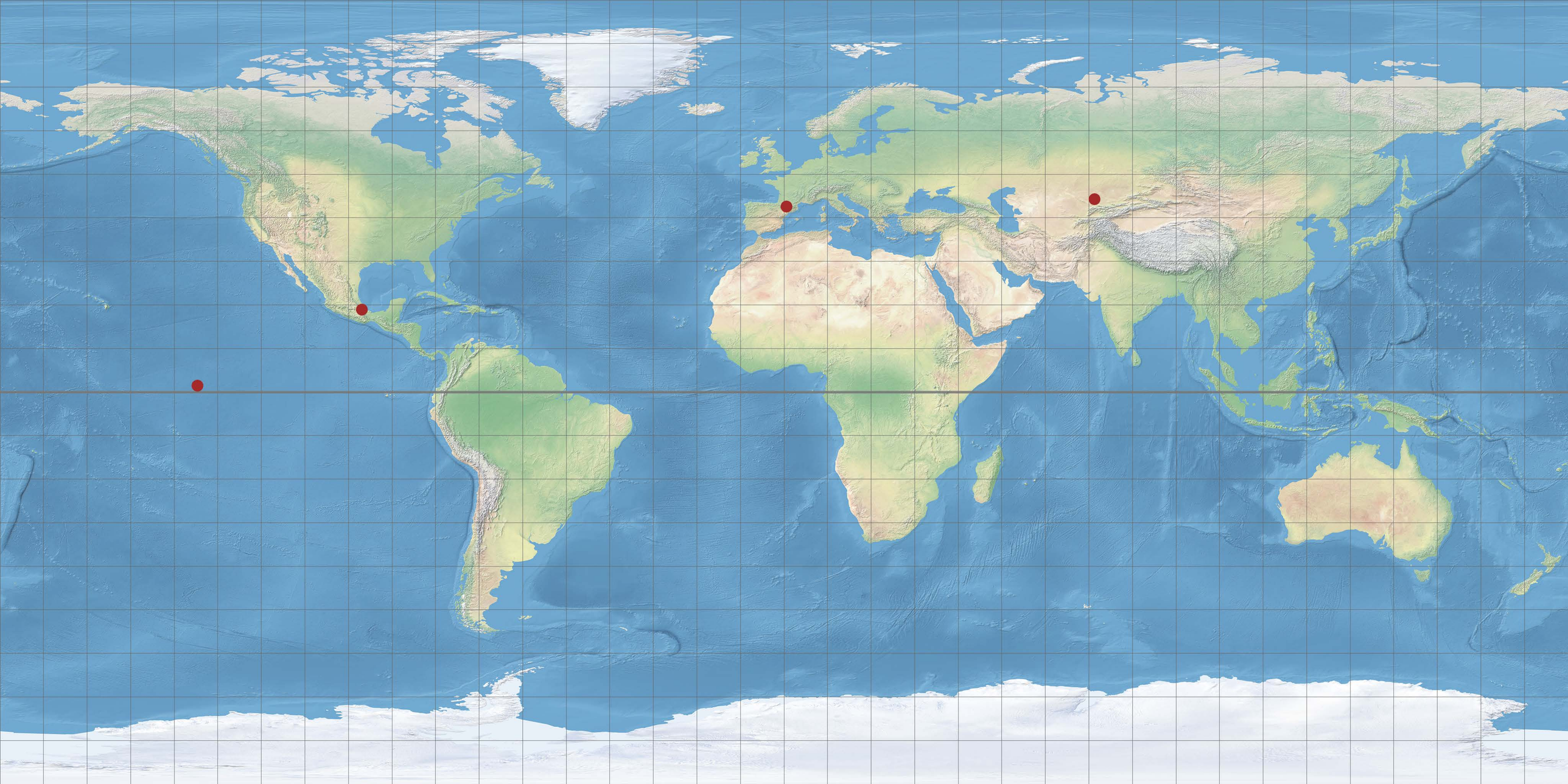


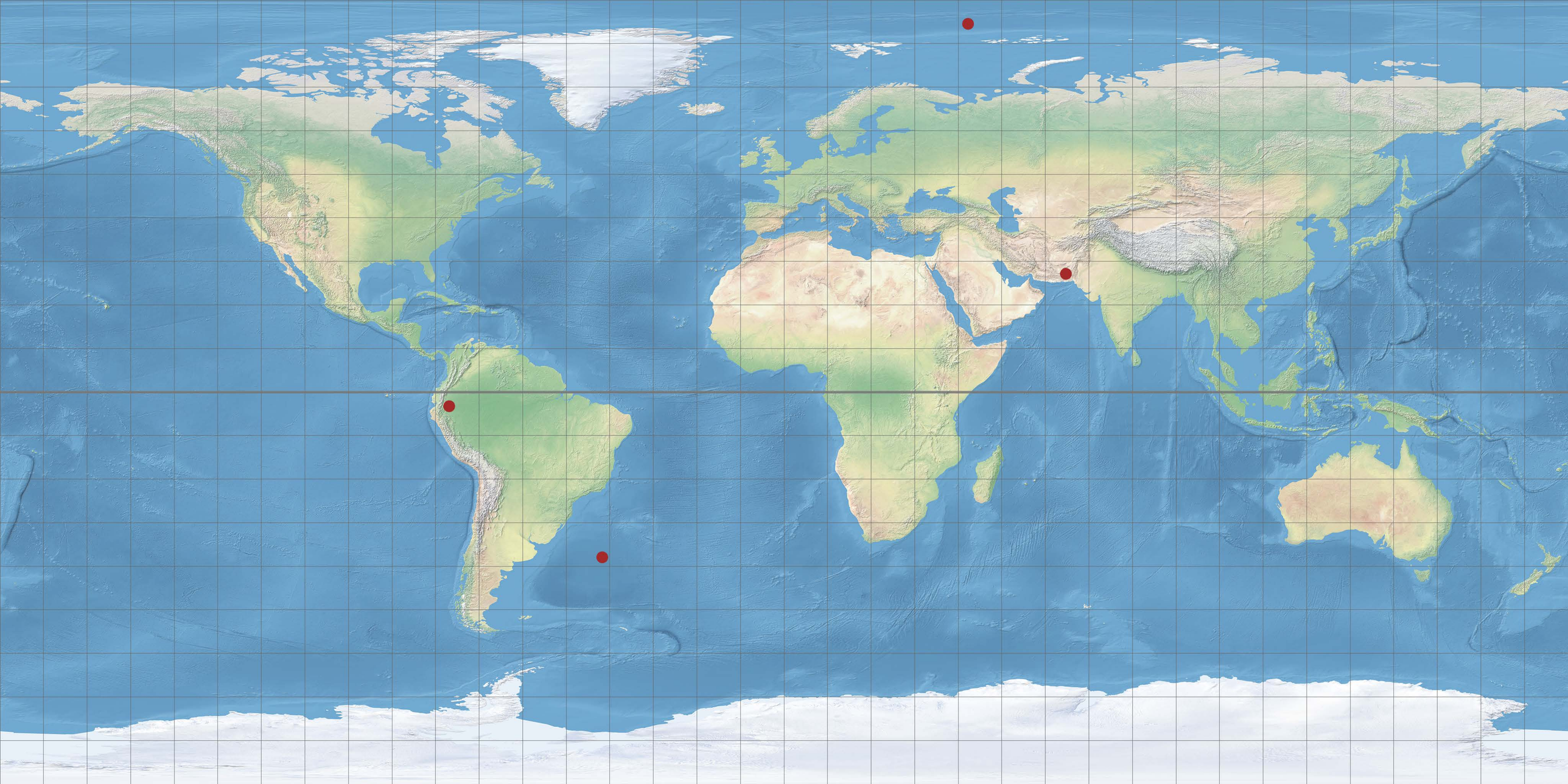


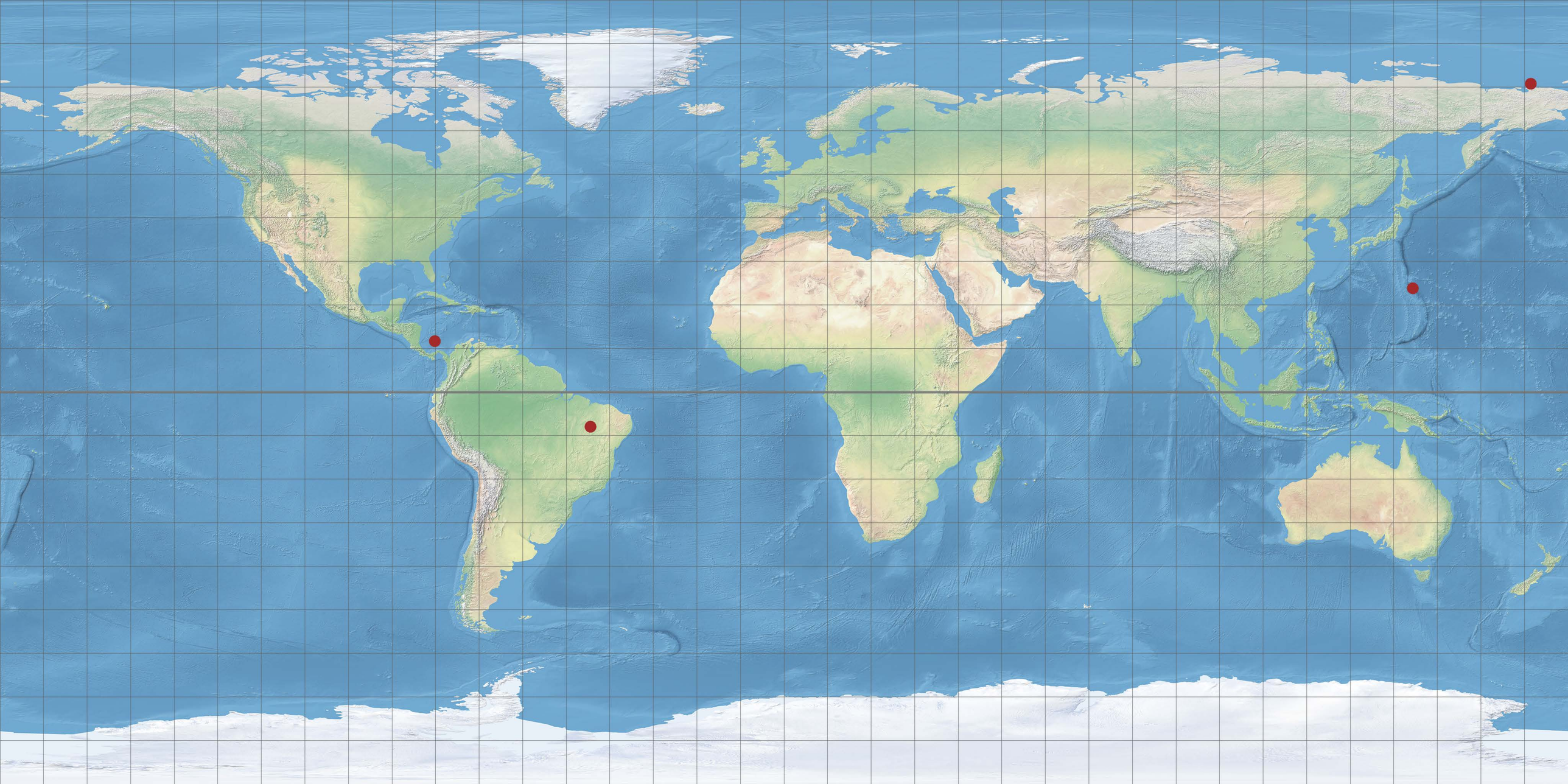


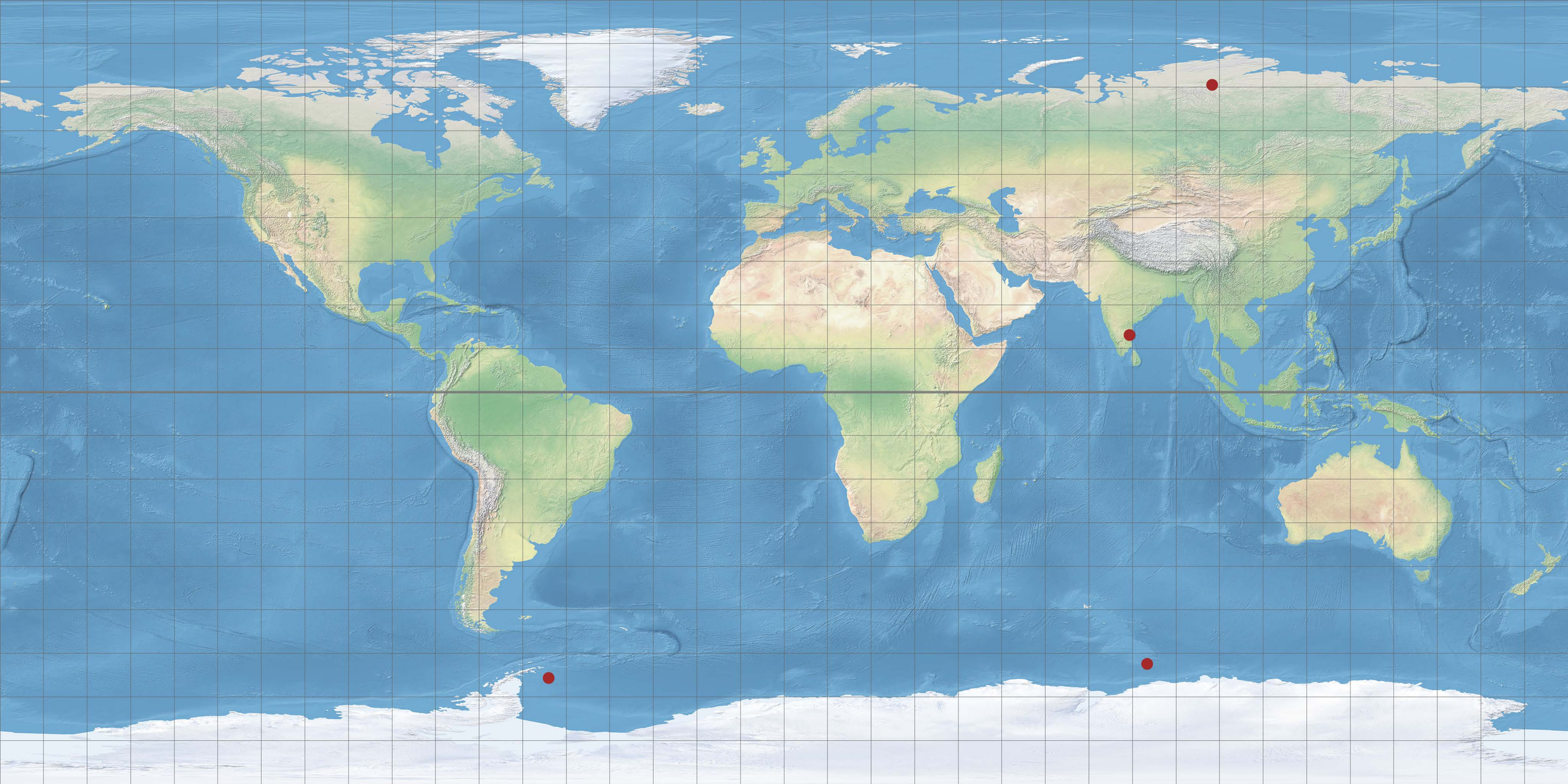


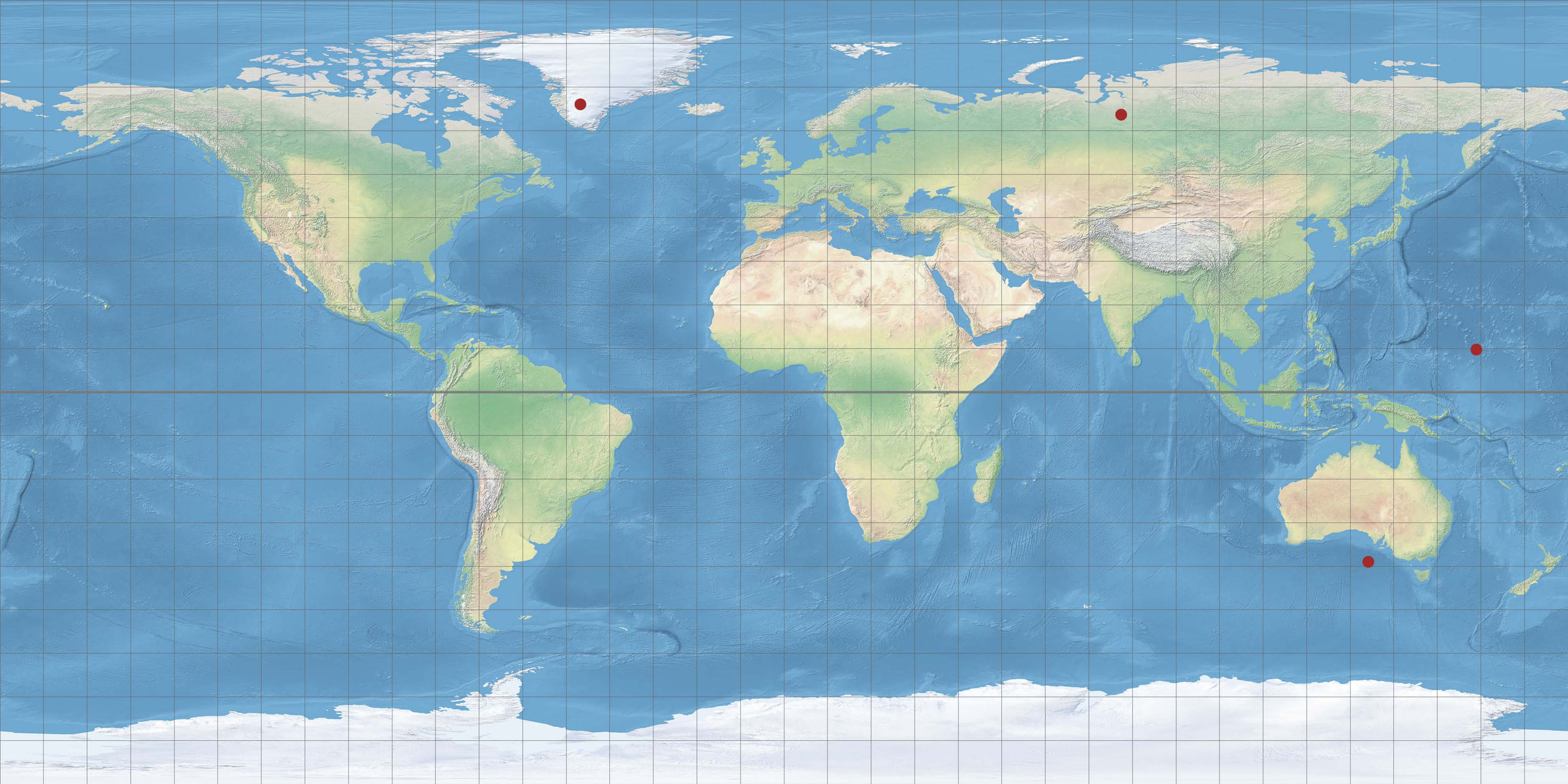


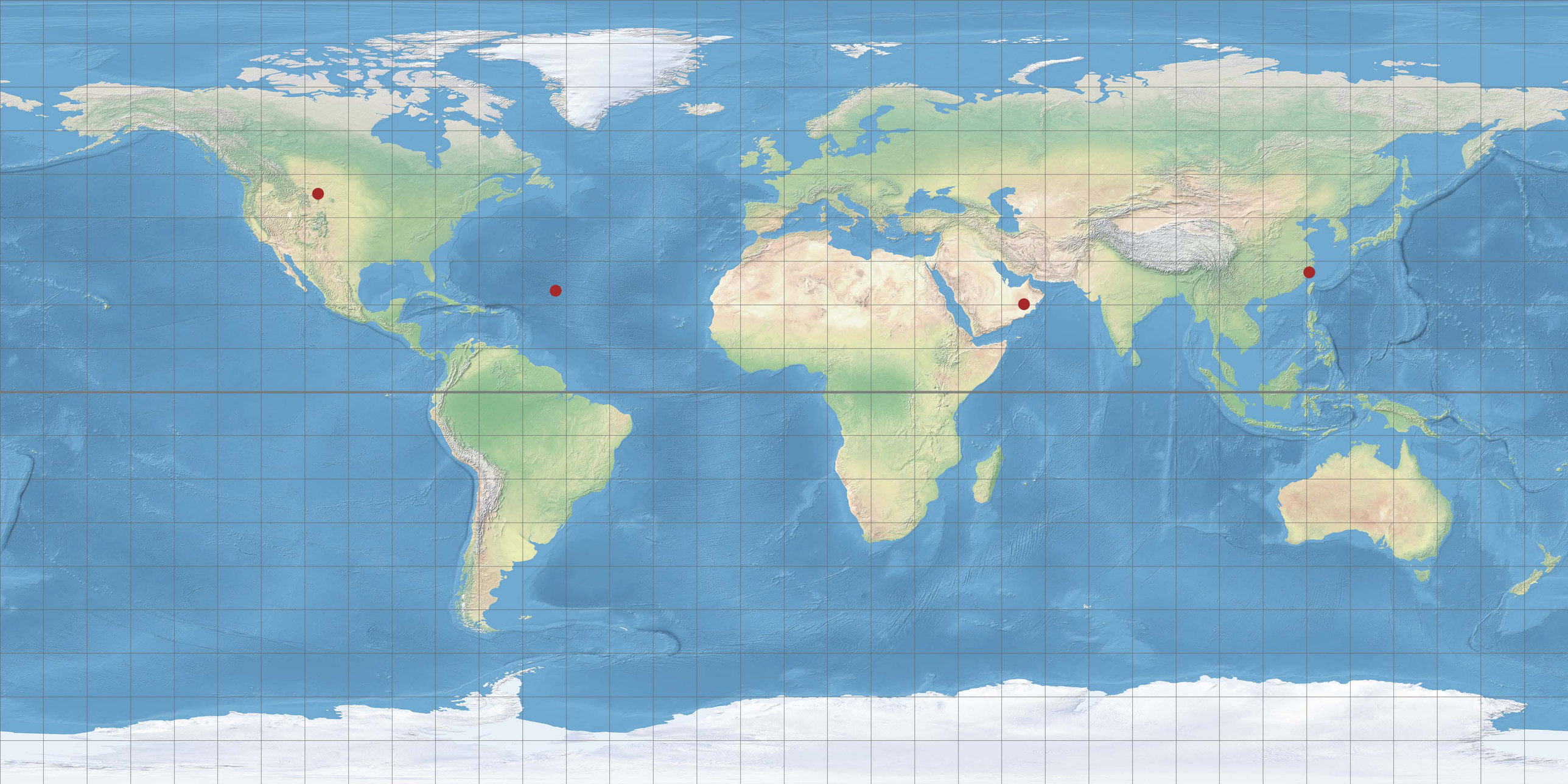


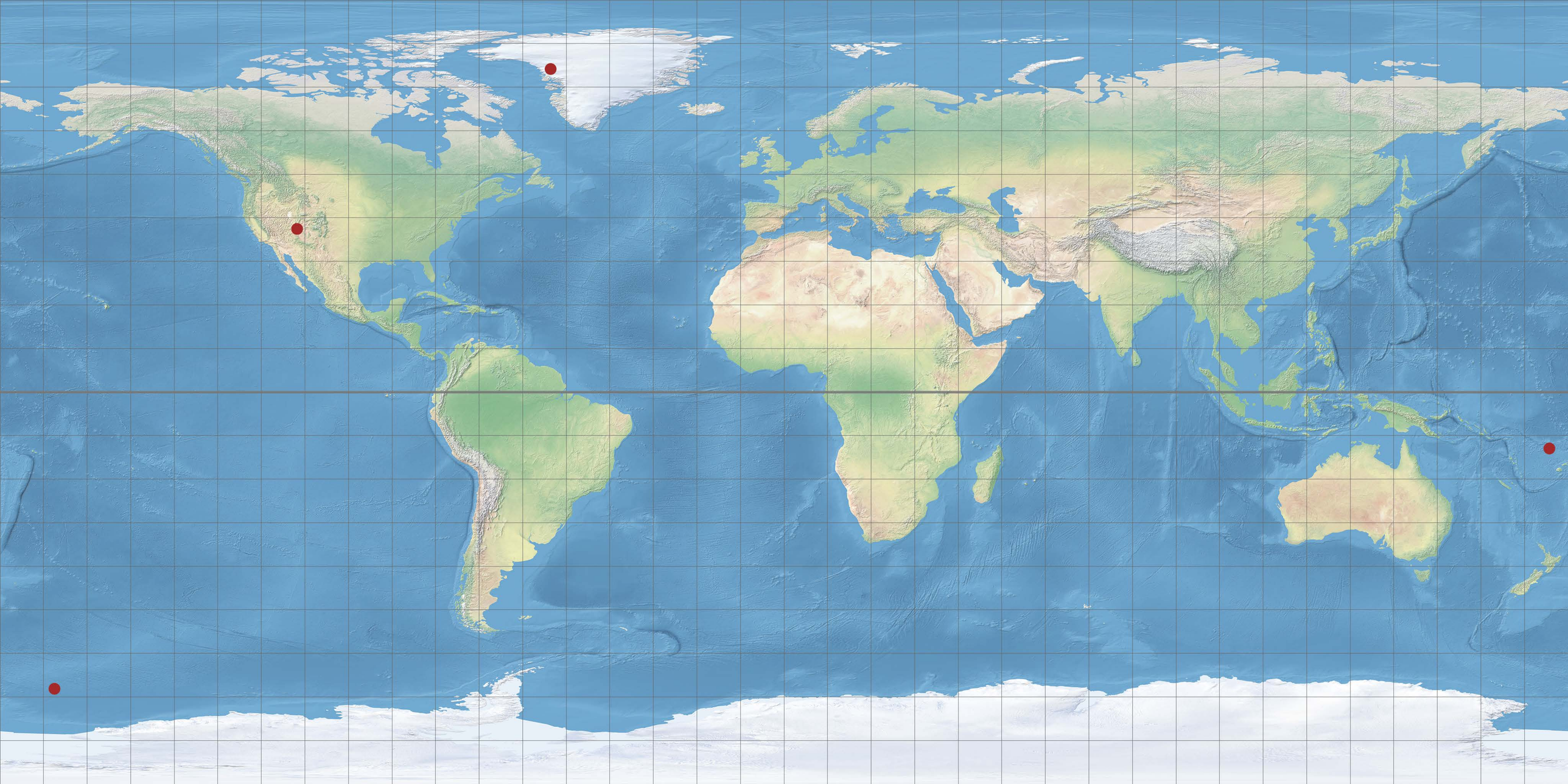




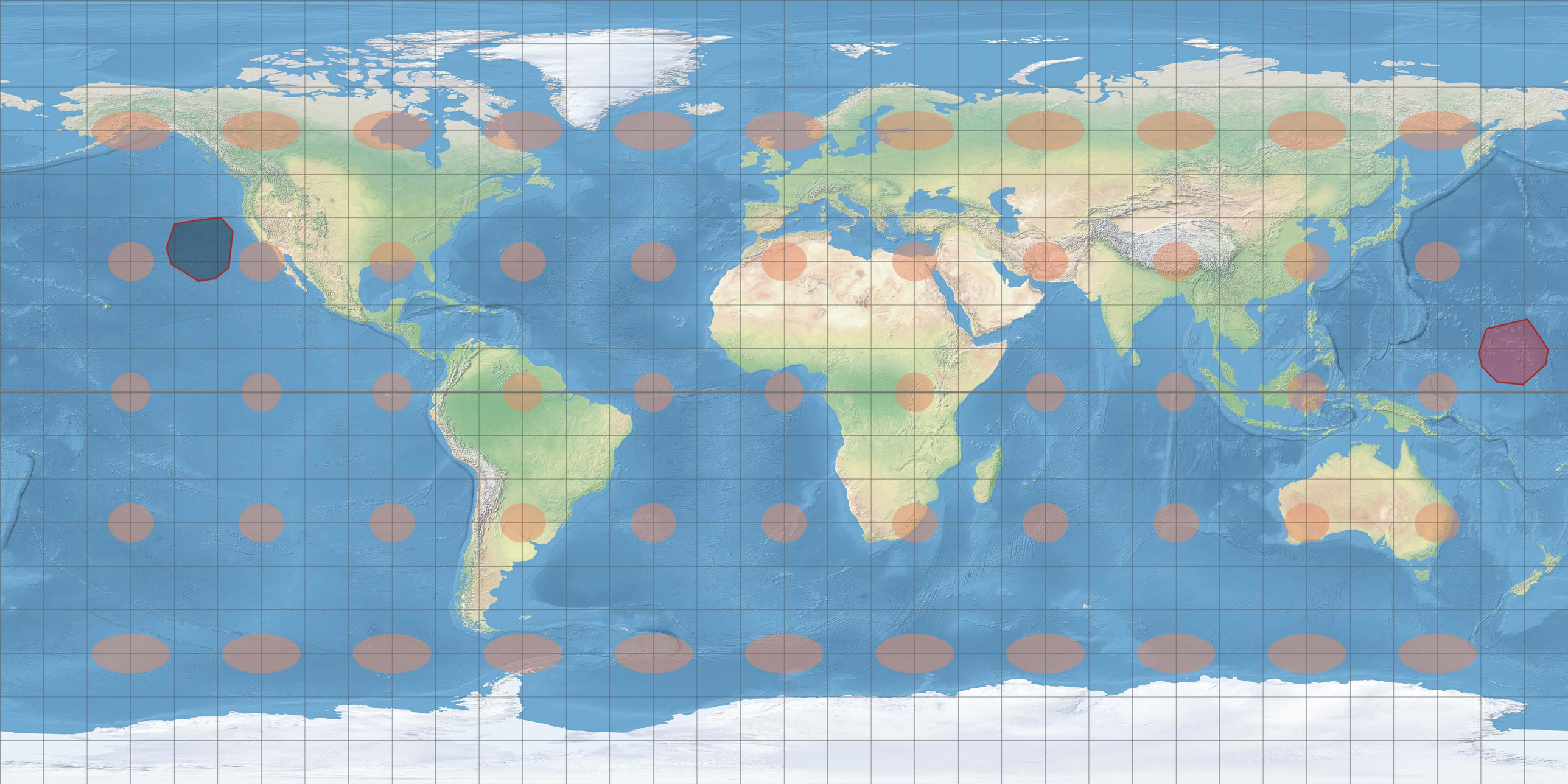


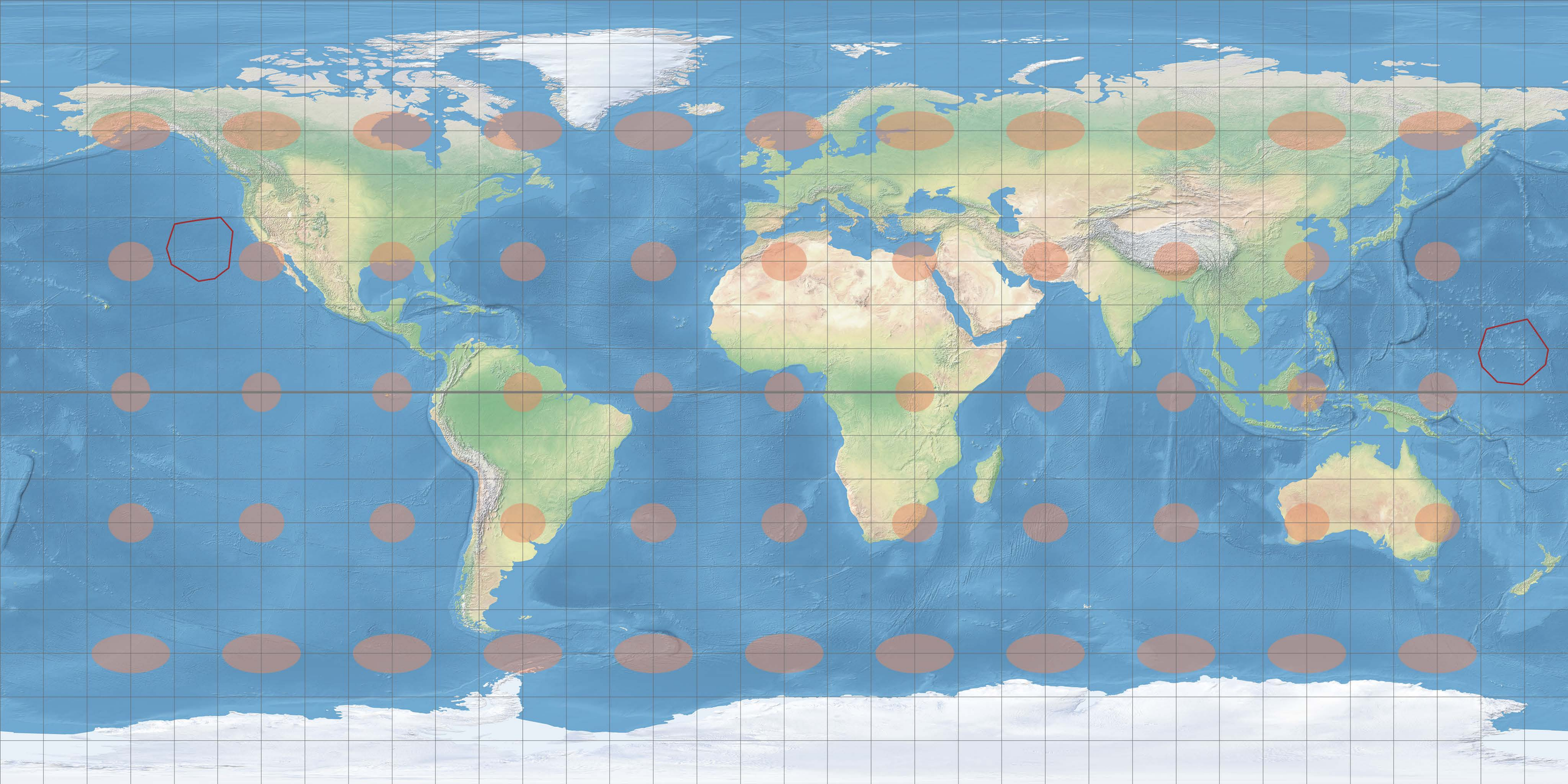


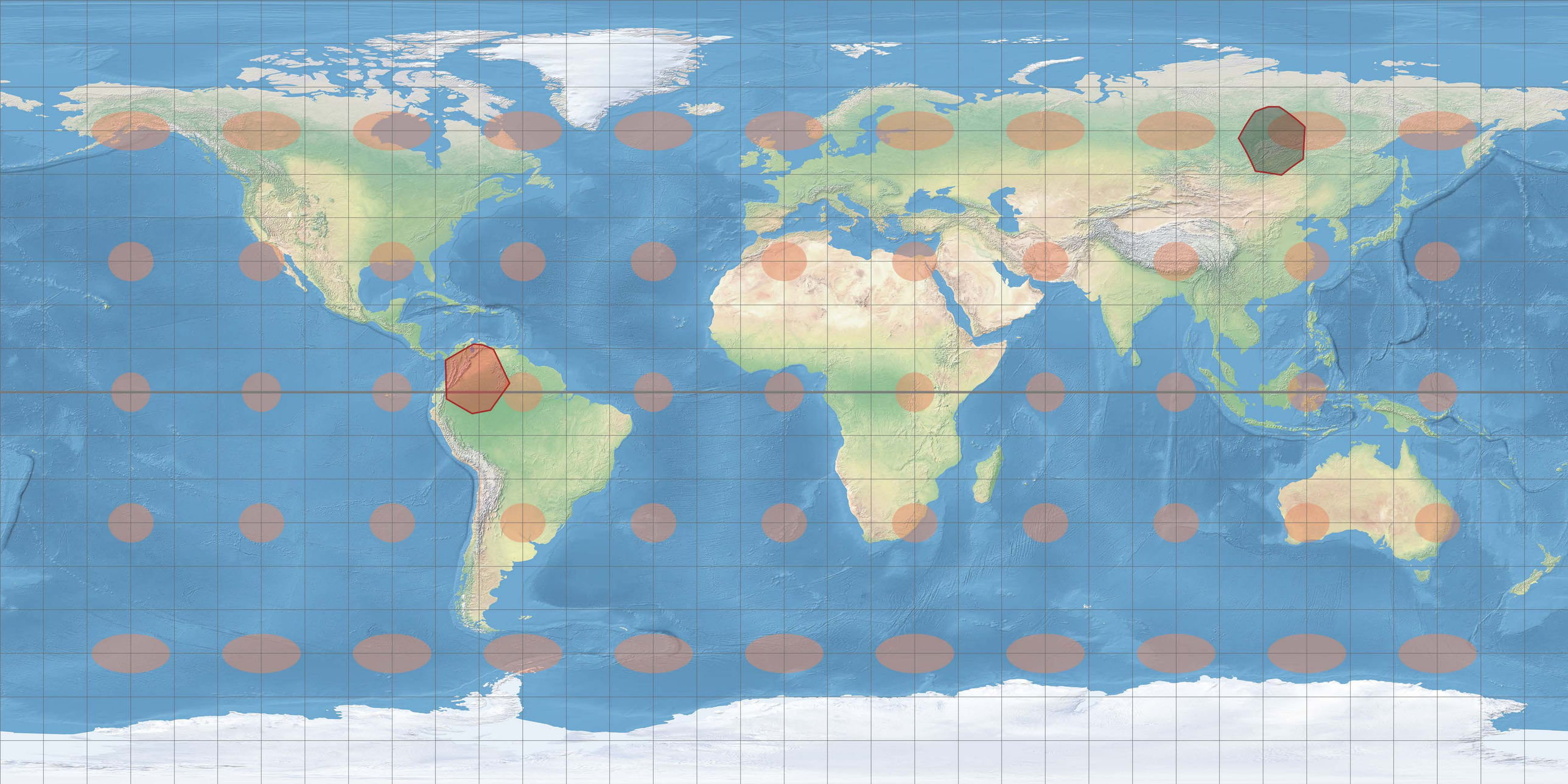


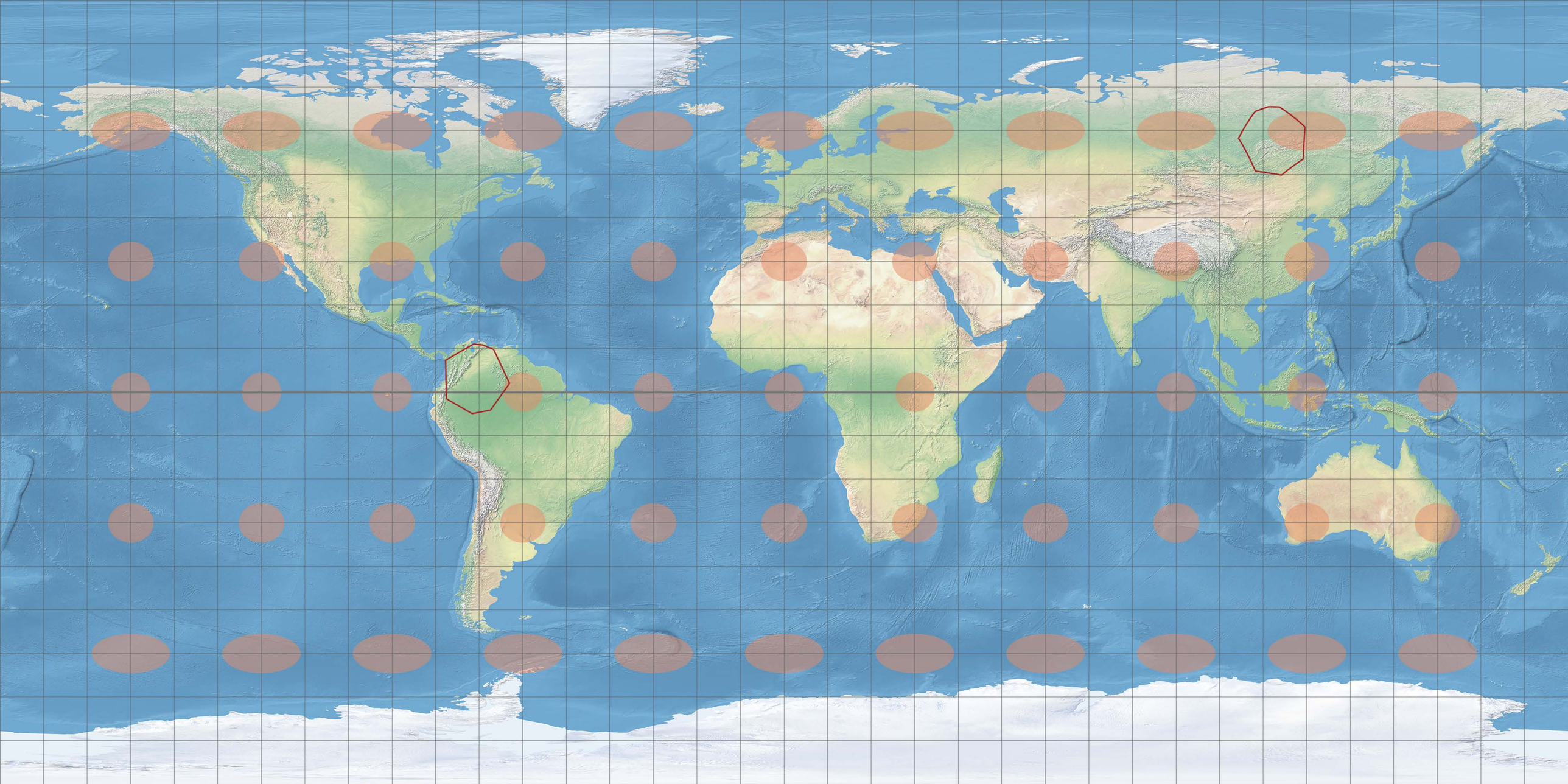


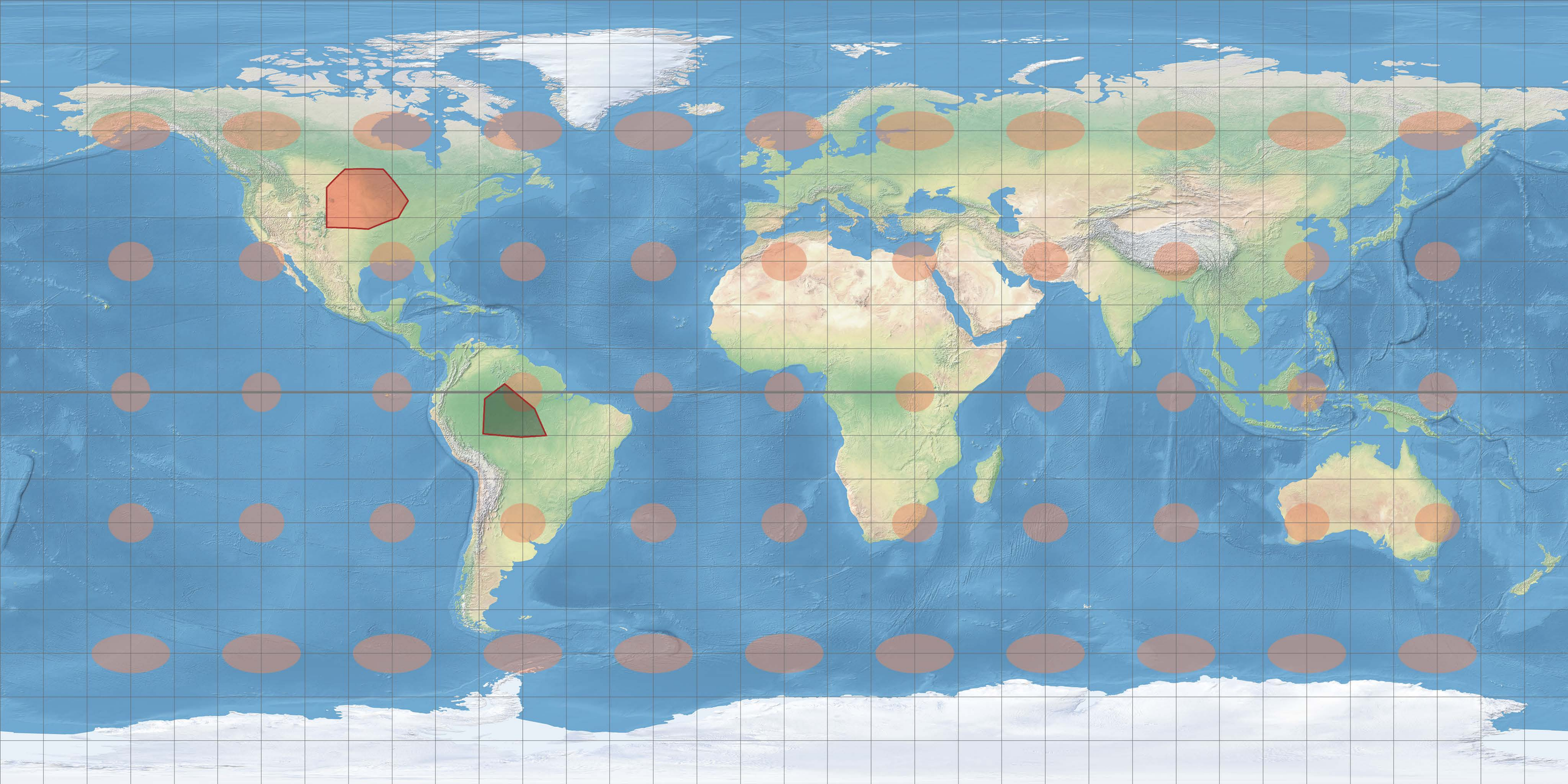
Area comparison
Training (with correct answers shown to participants)

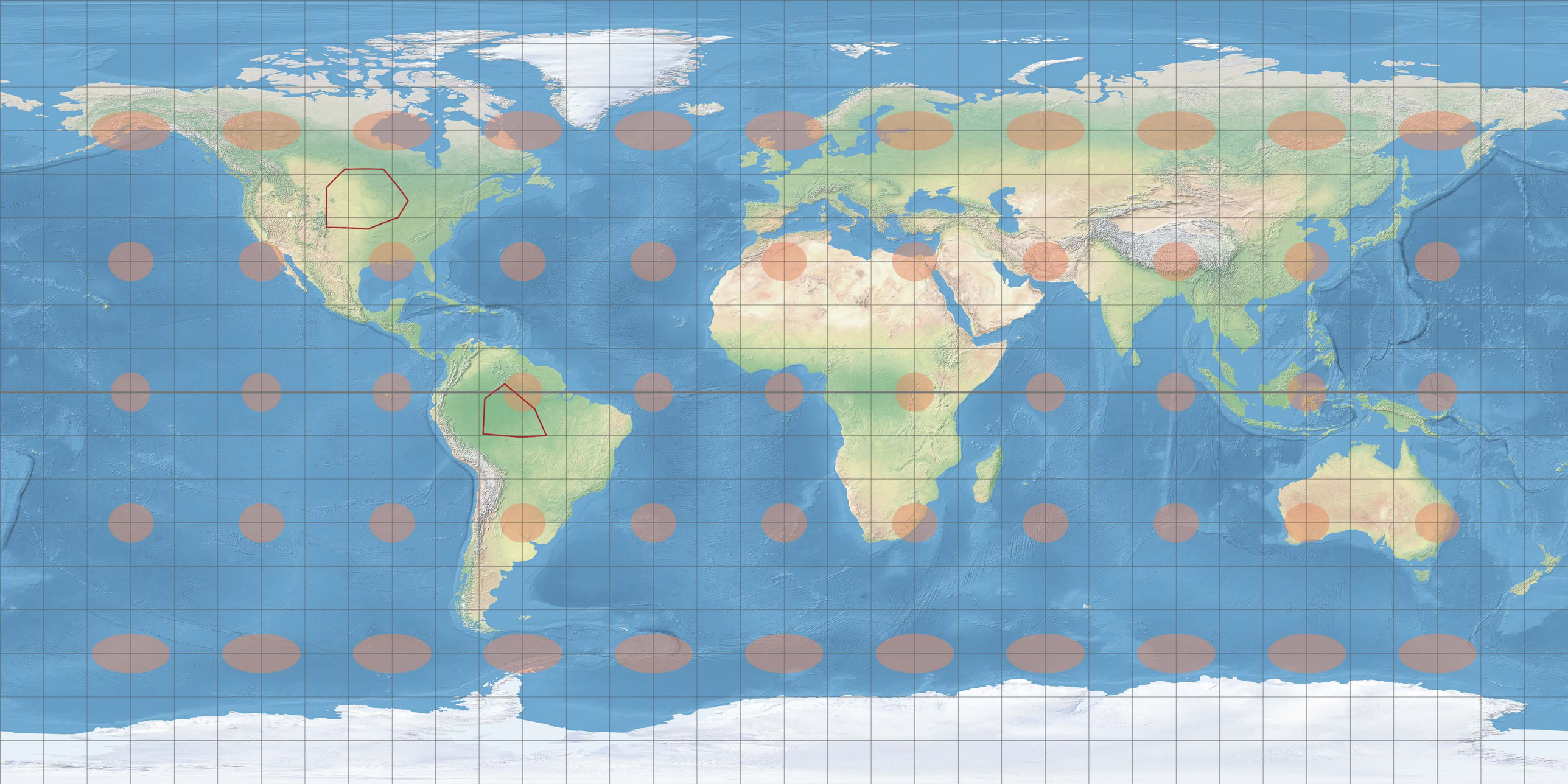


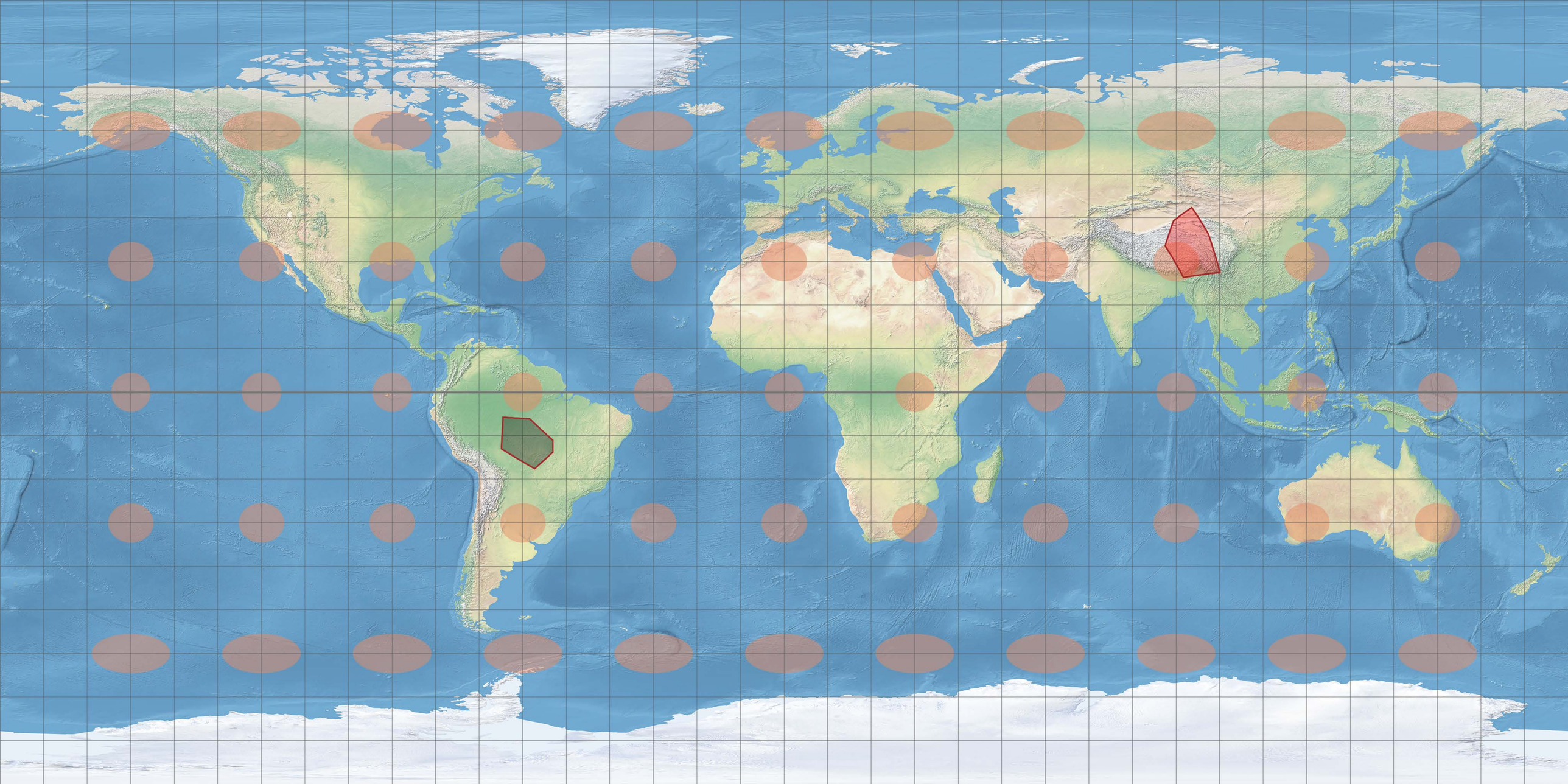


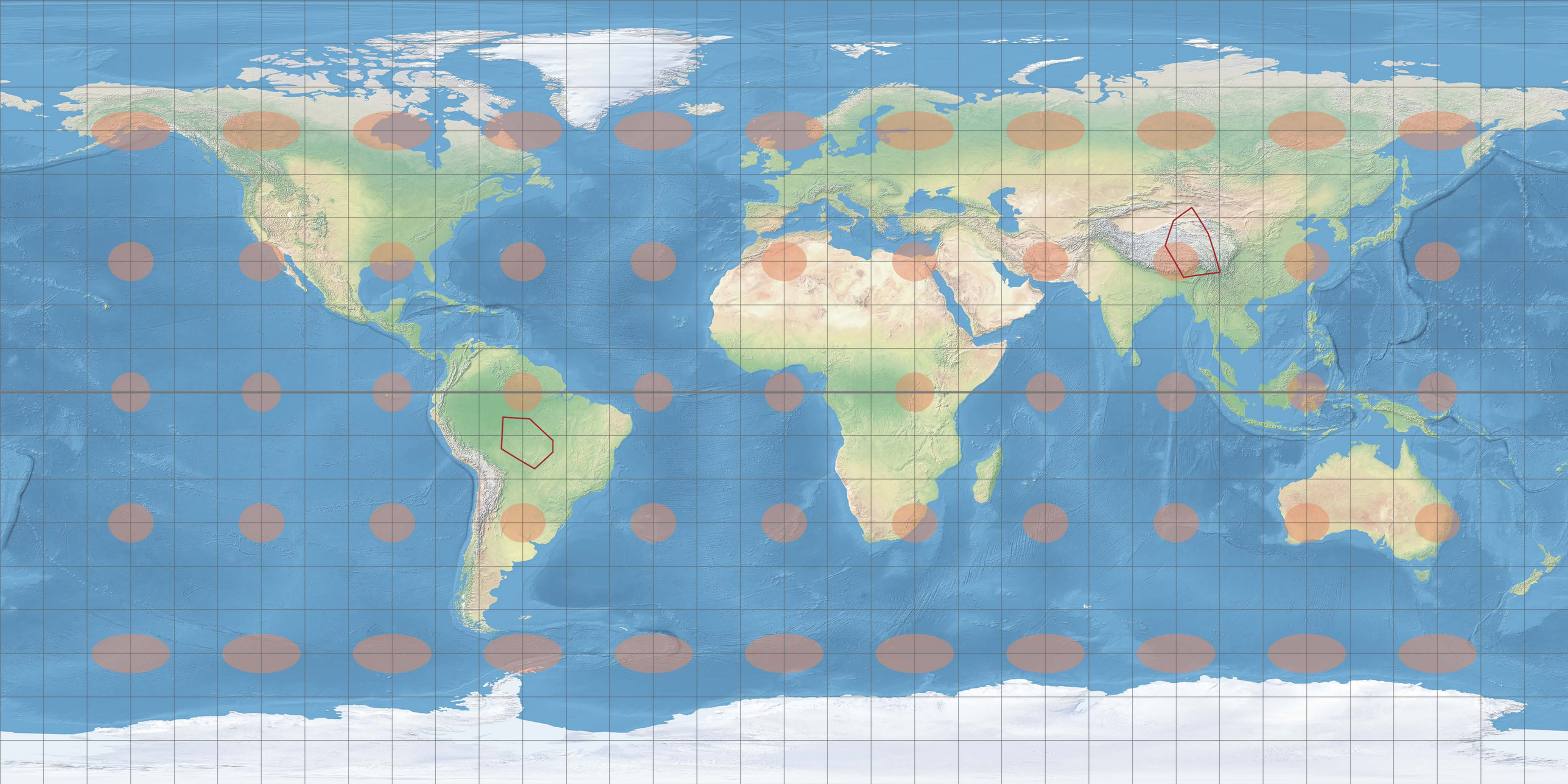


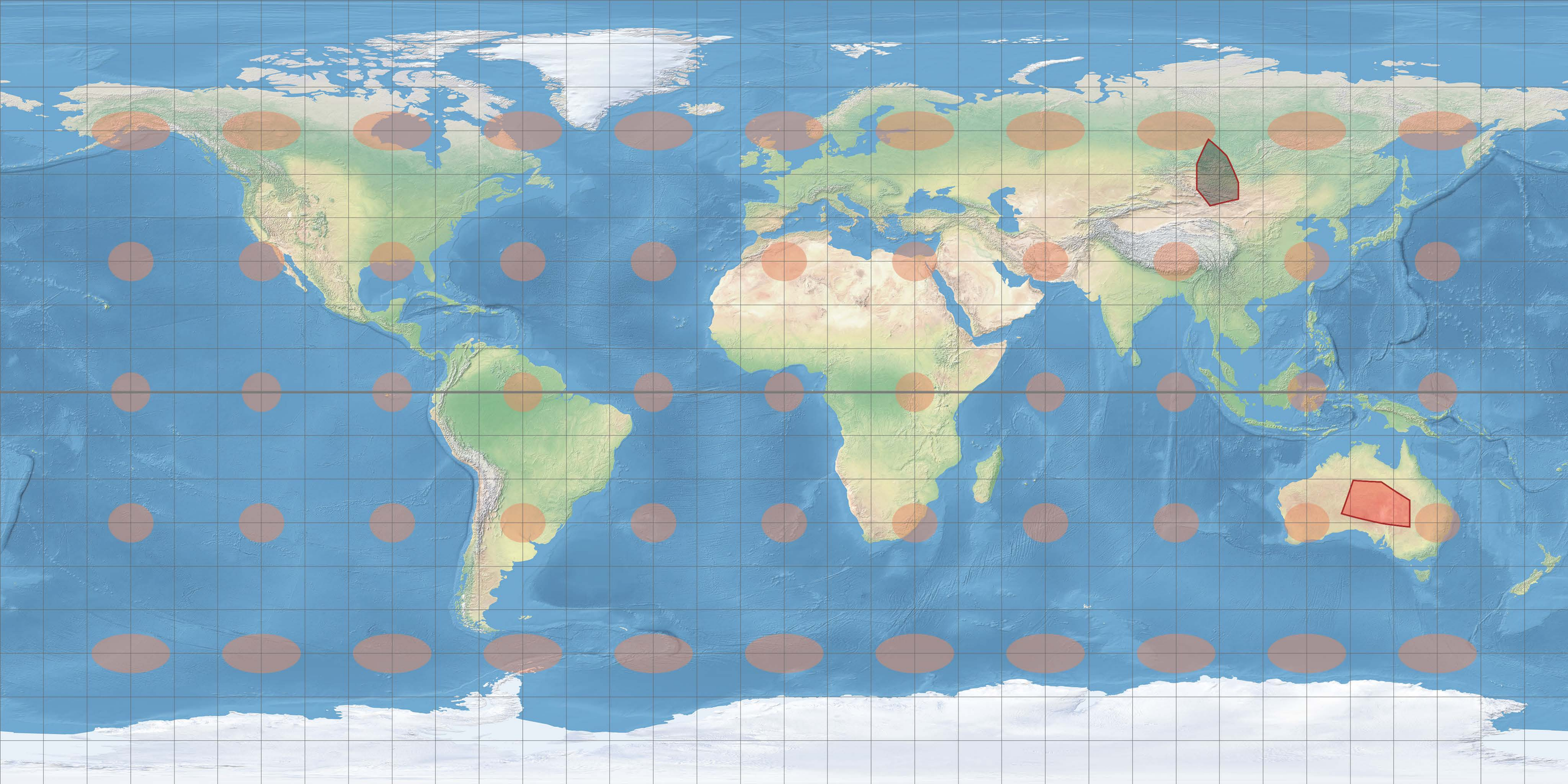


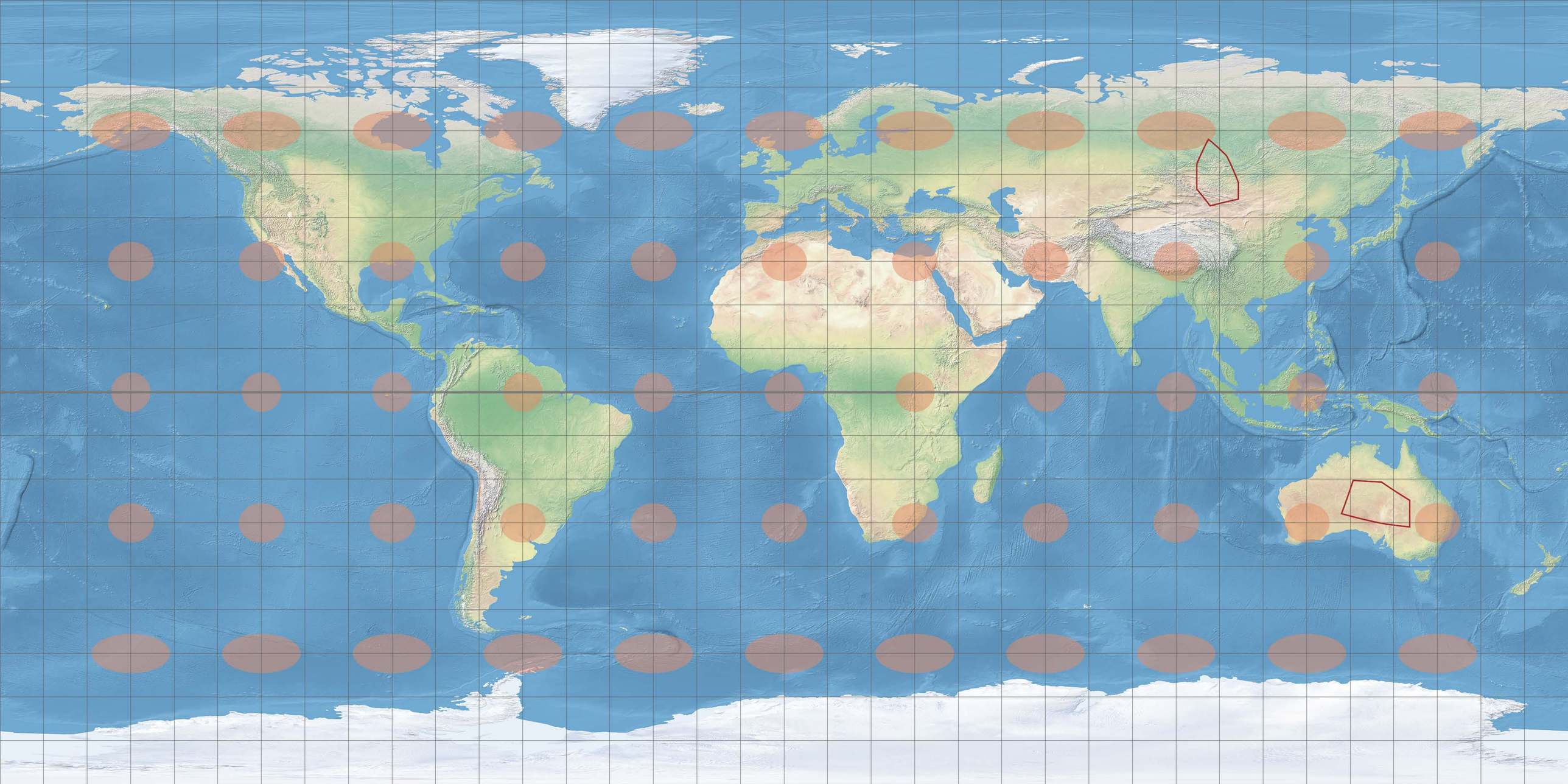


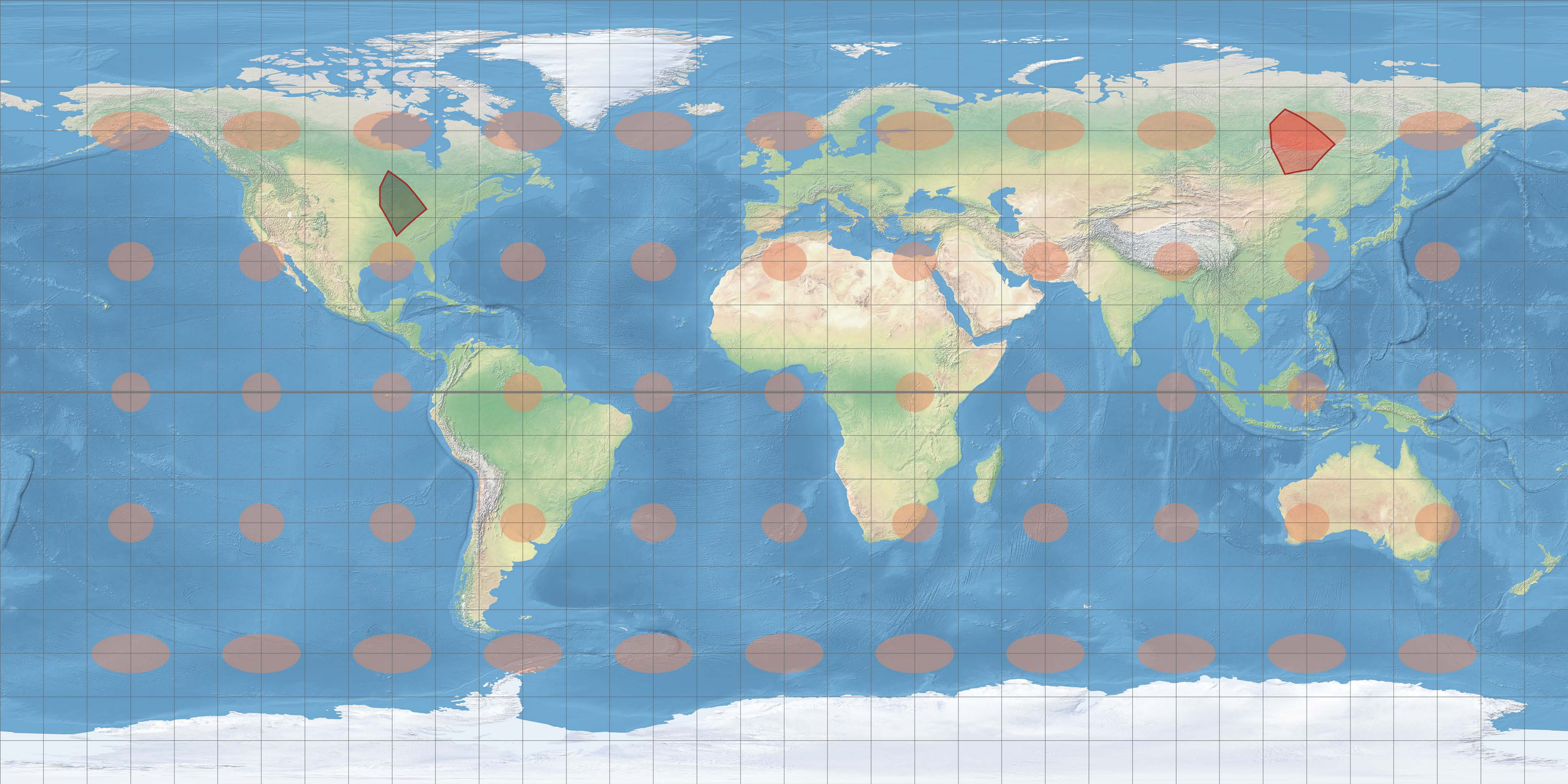


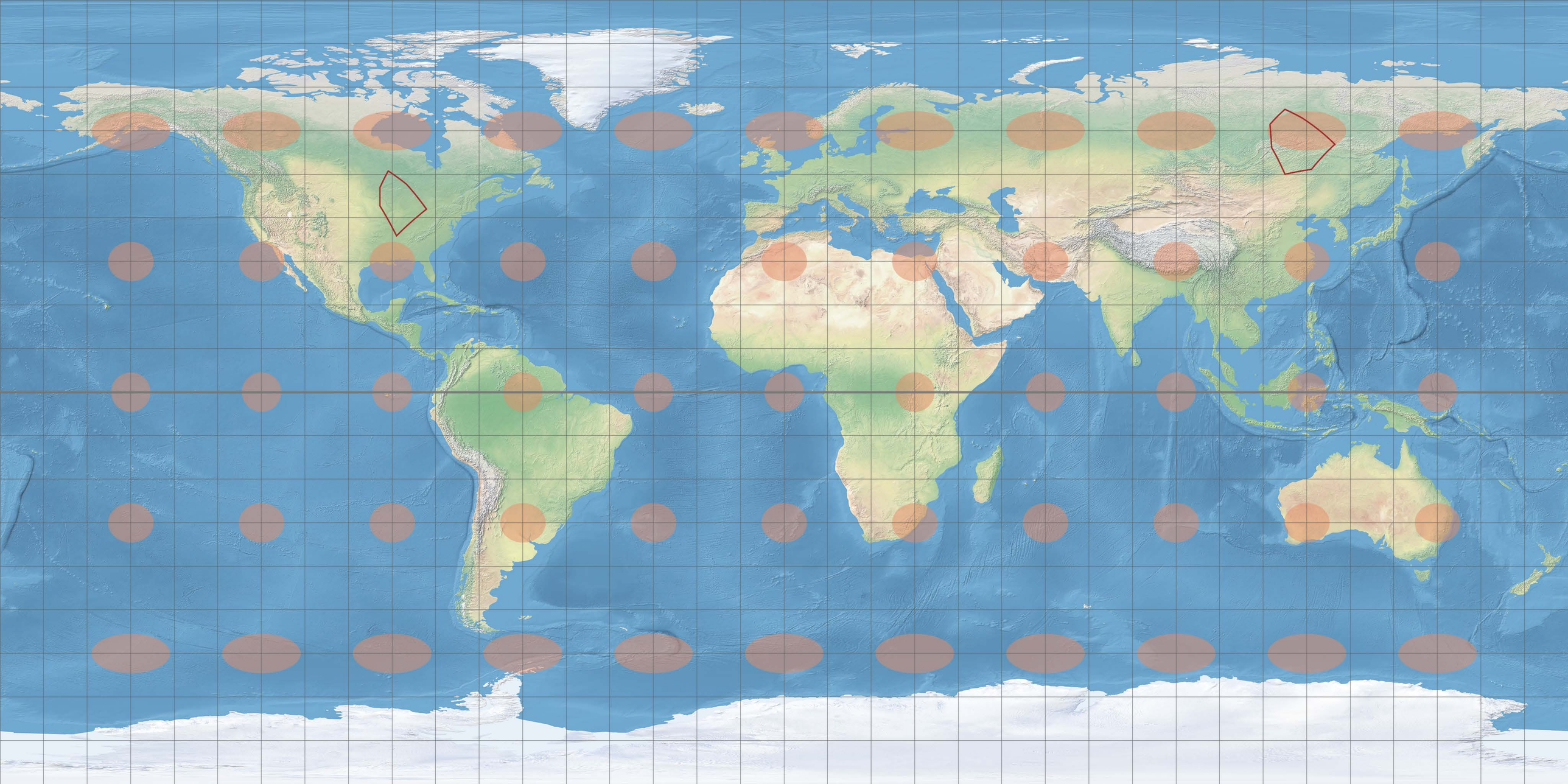


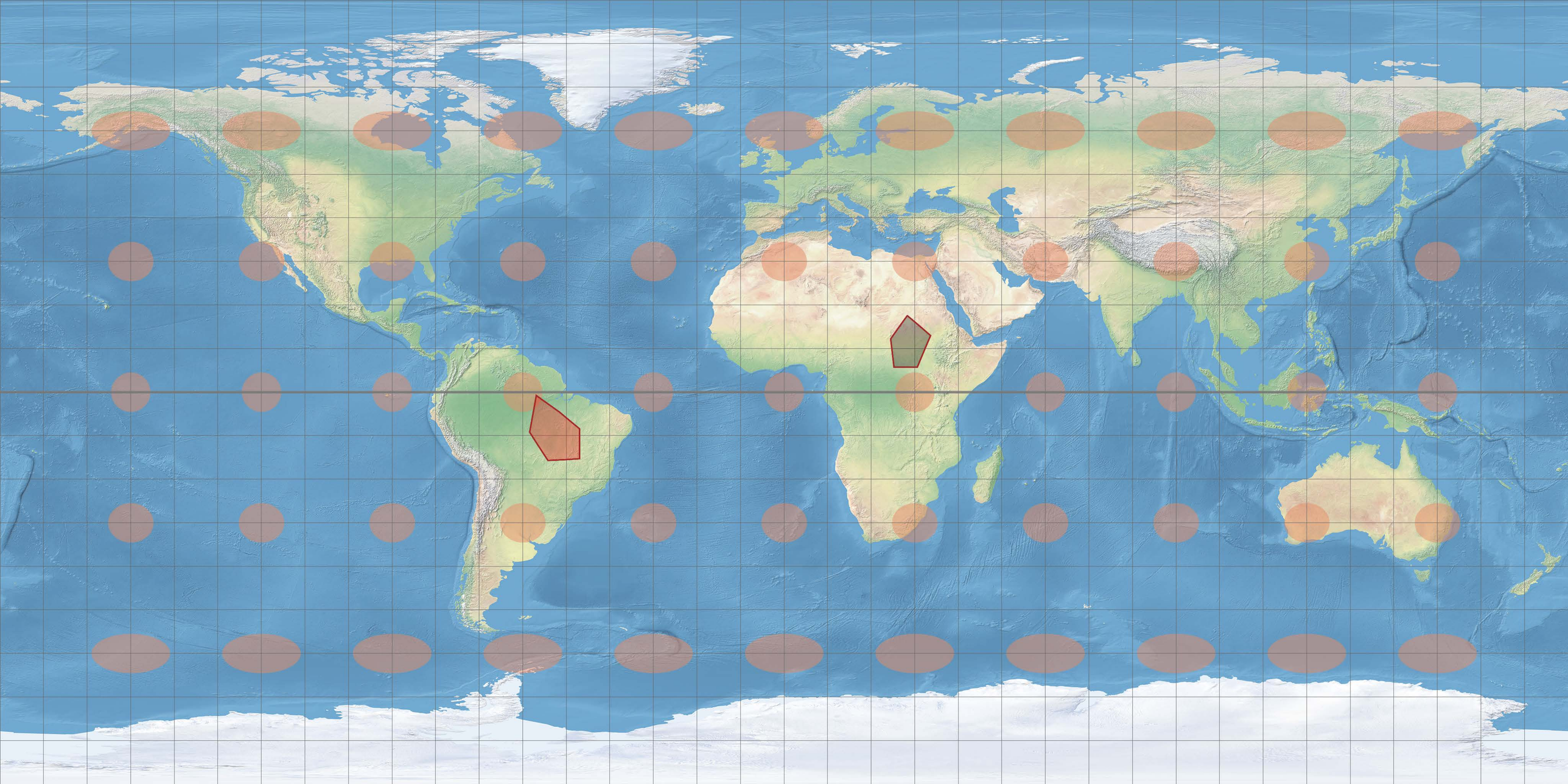


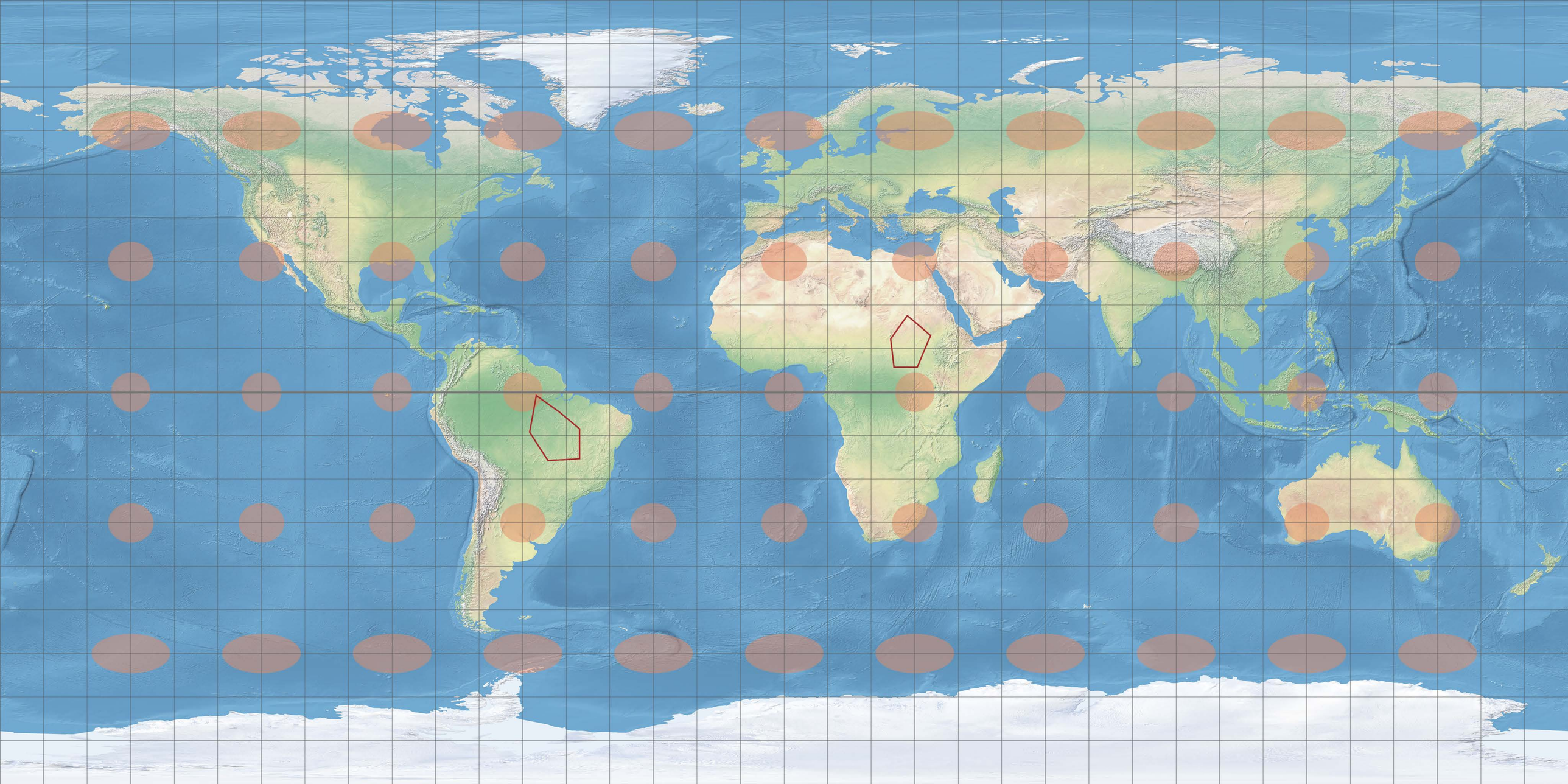


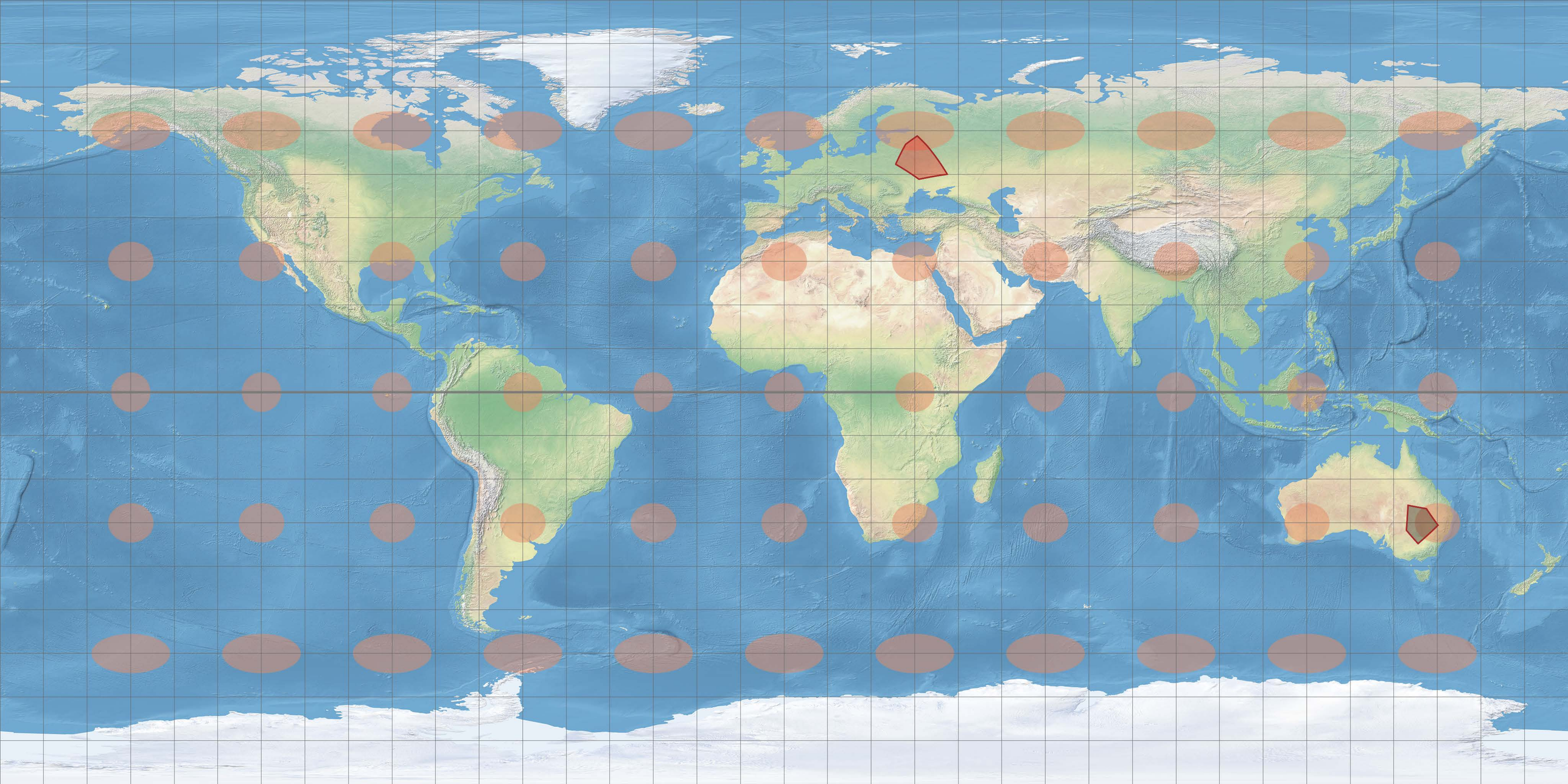


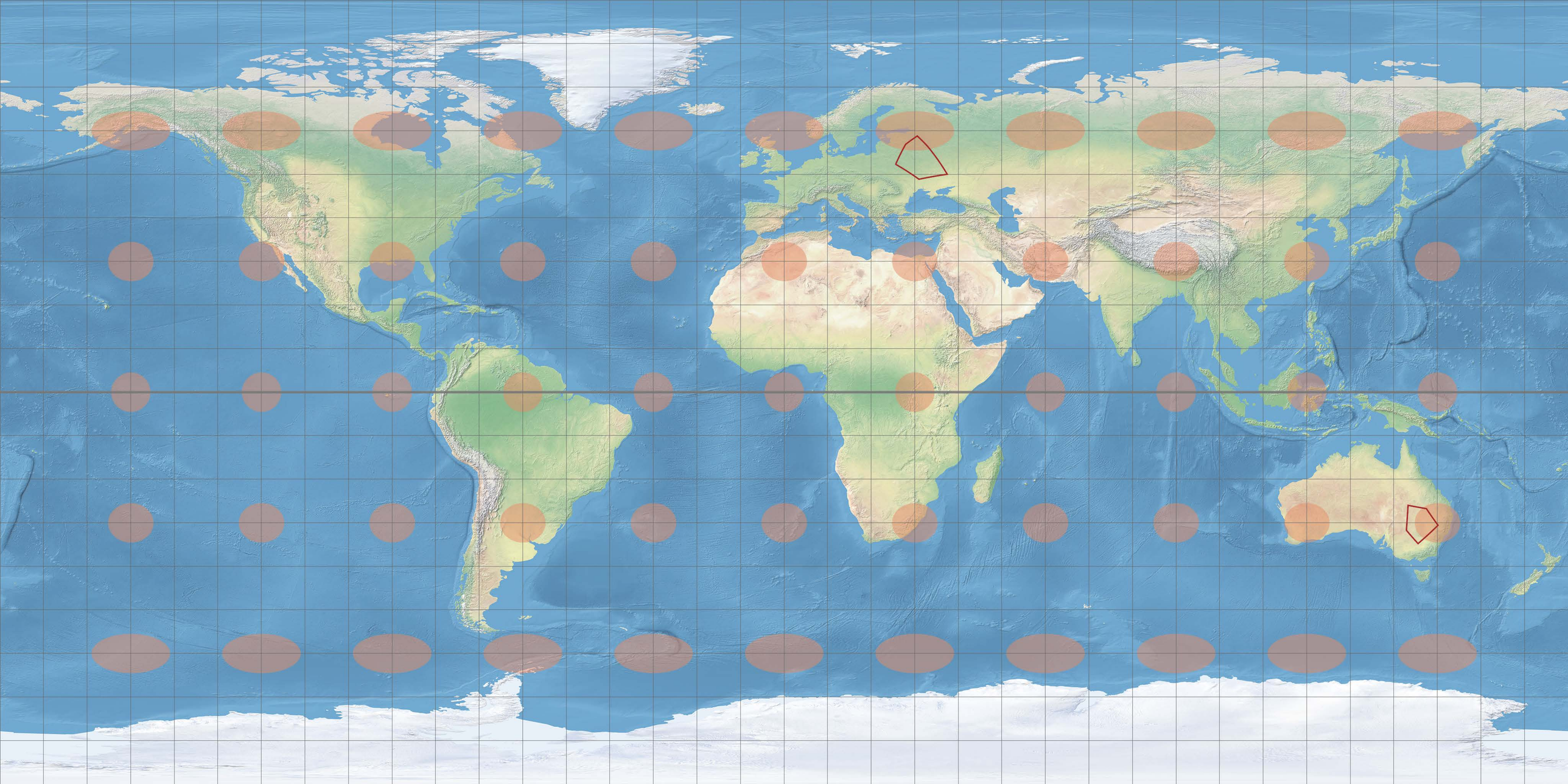




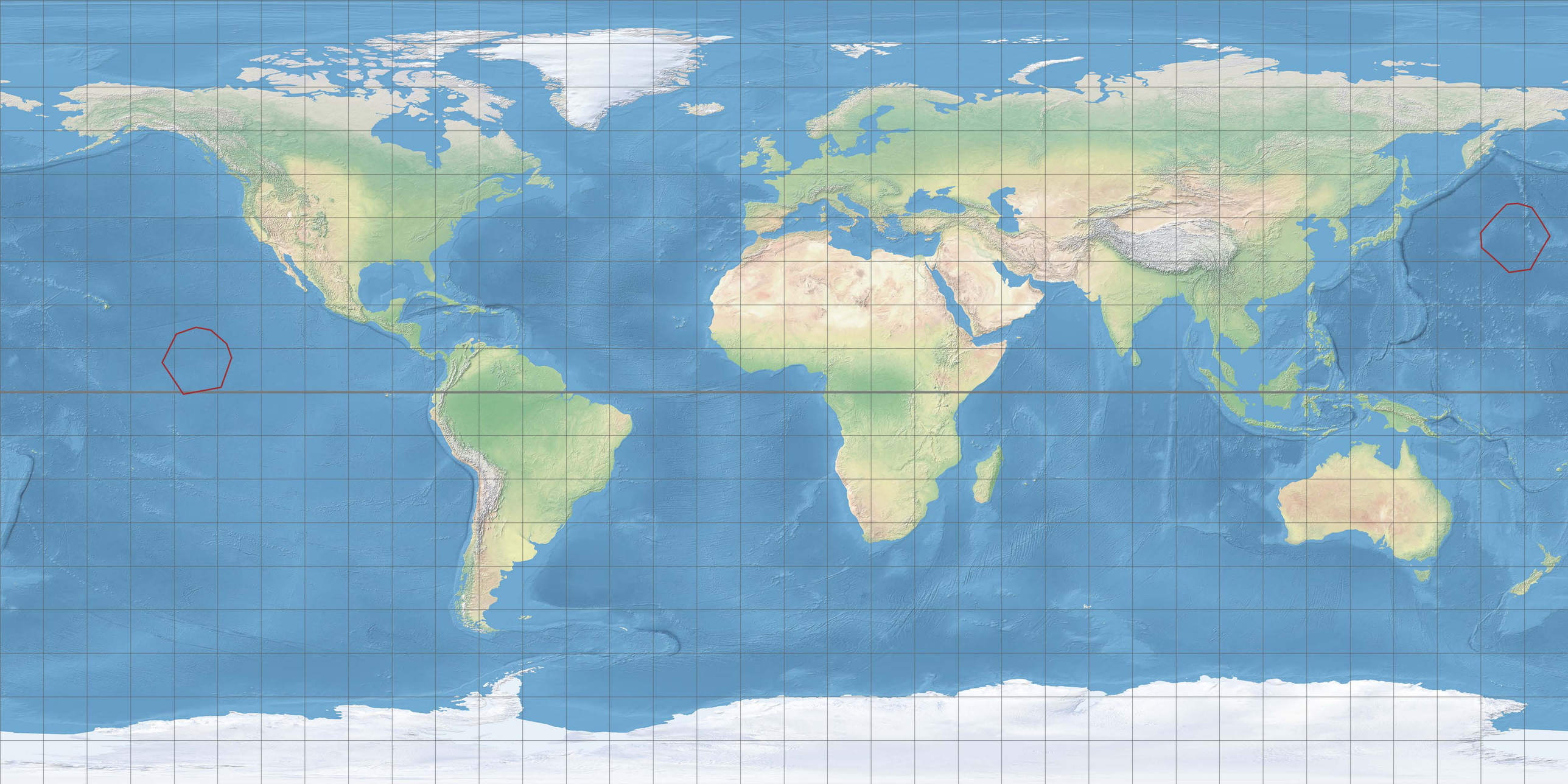


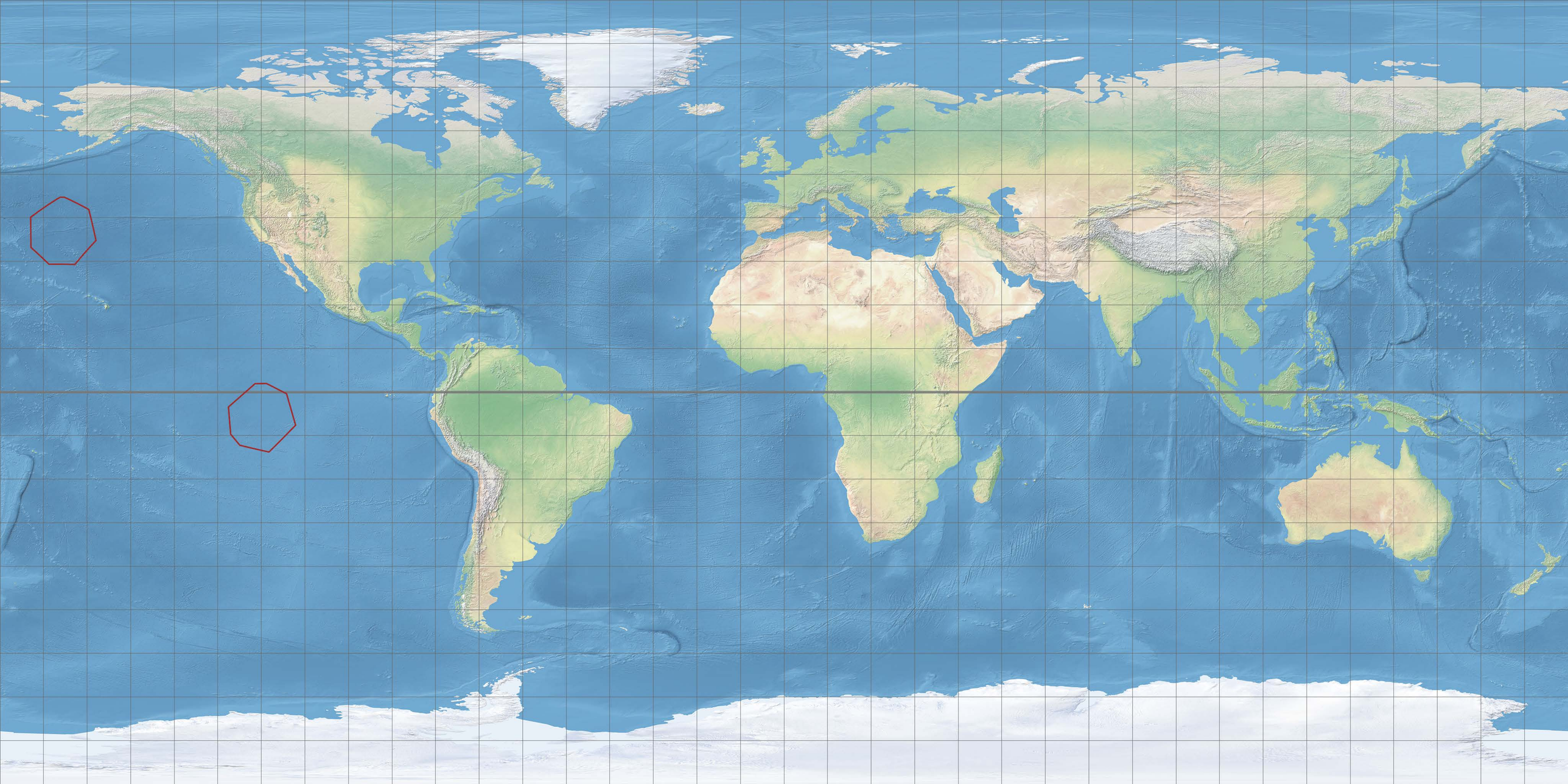


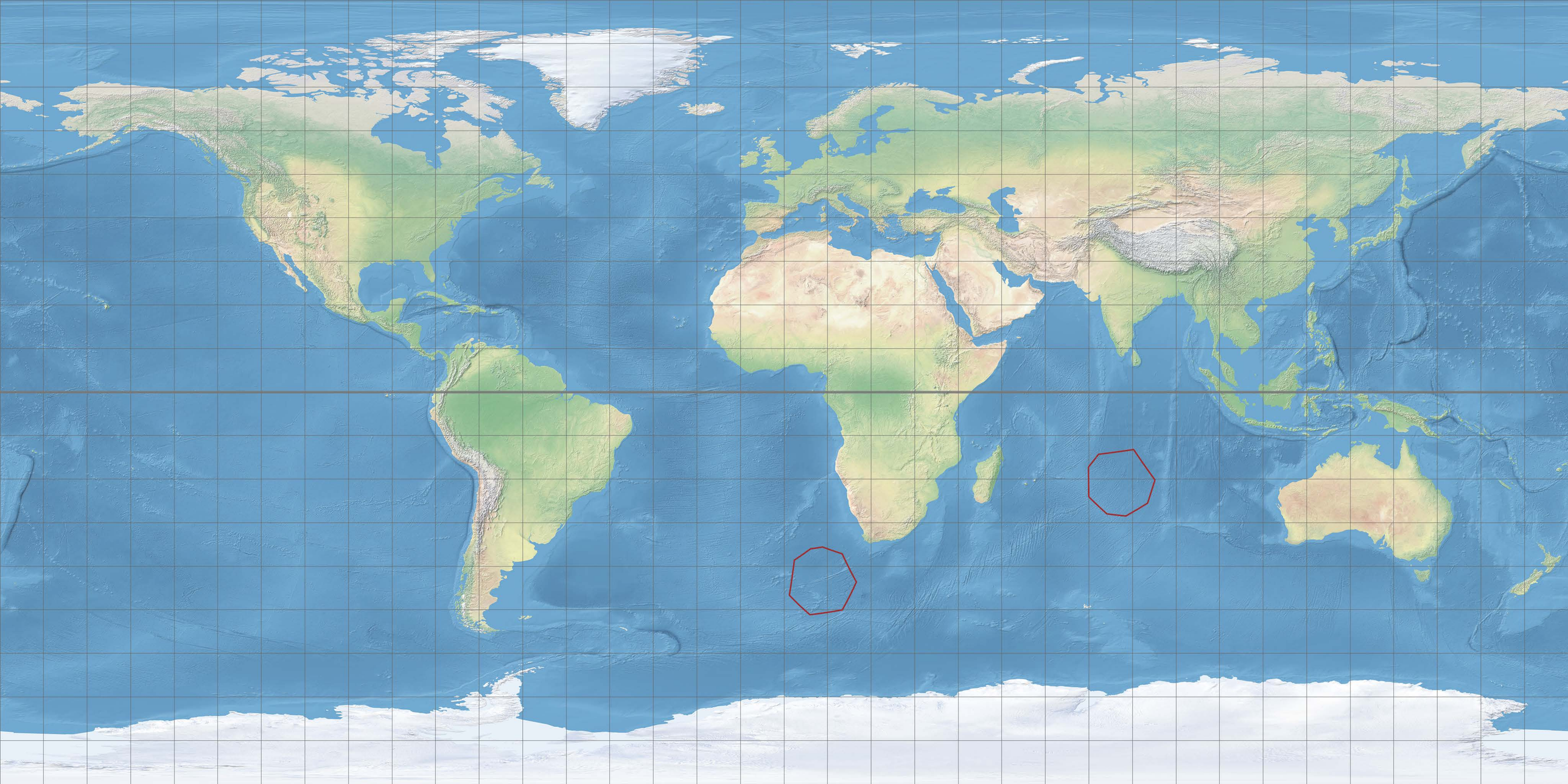


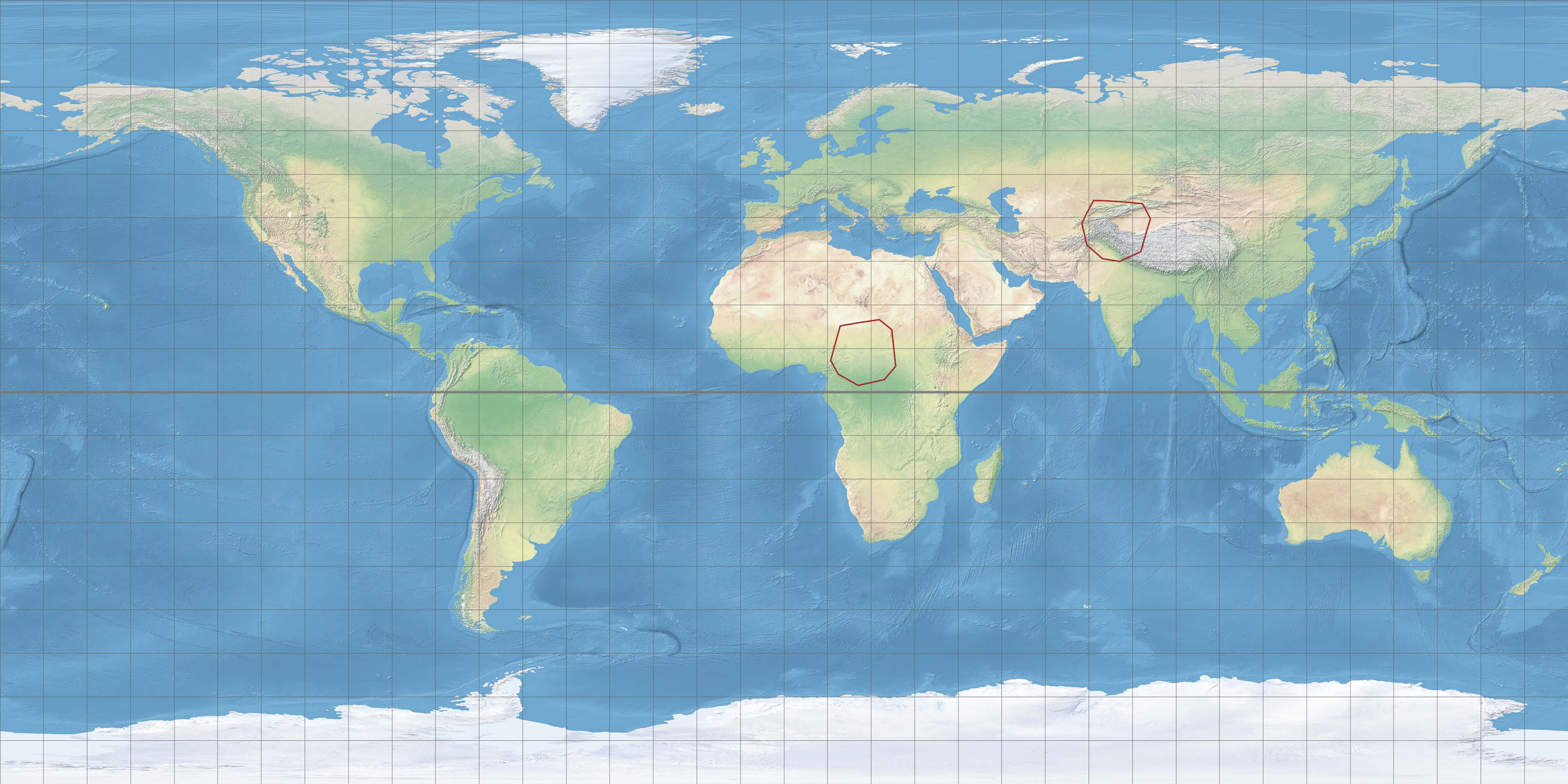


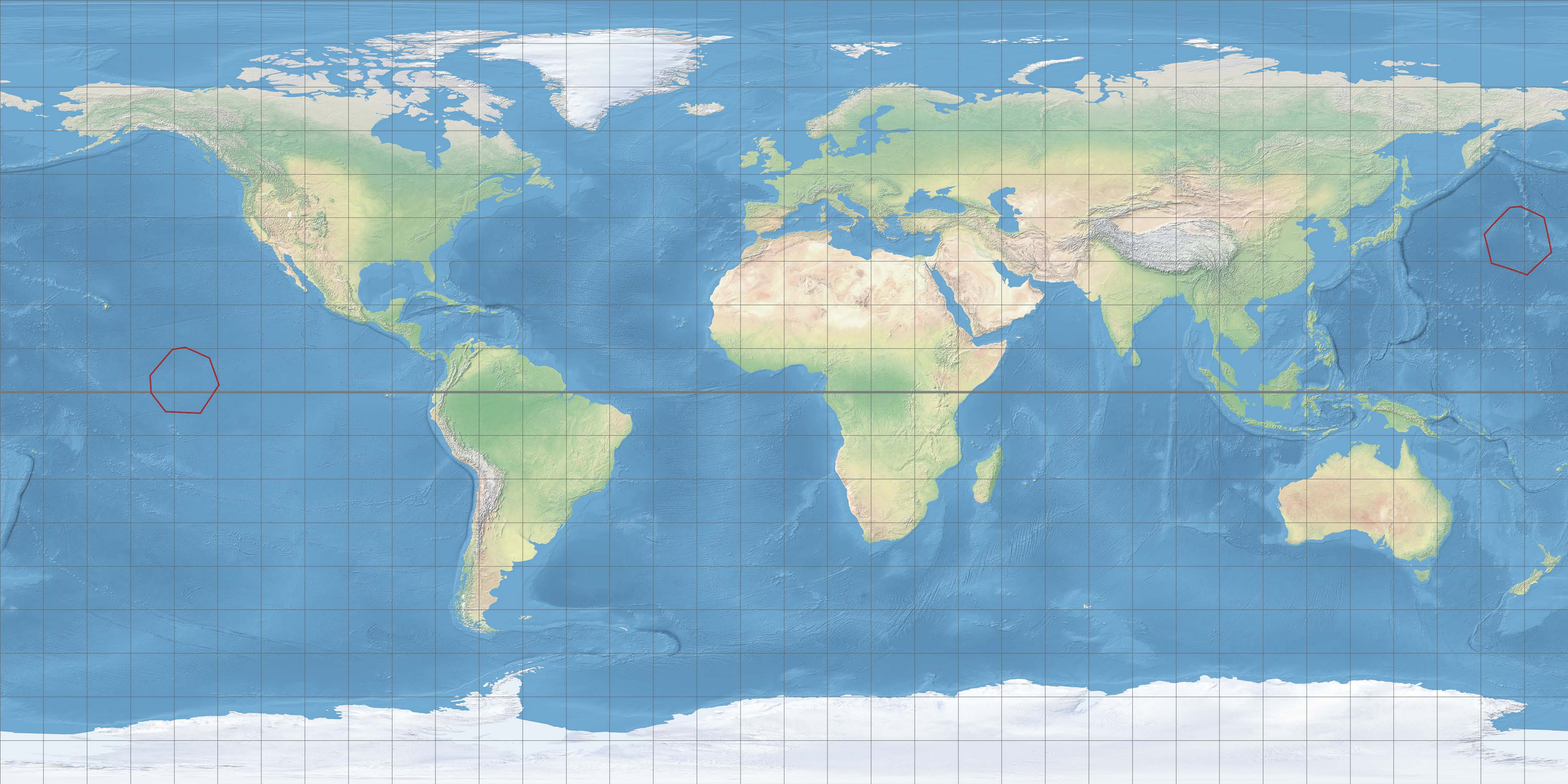
Area comparison
Easy condition

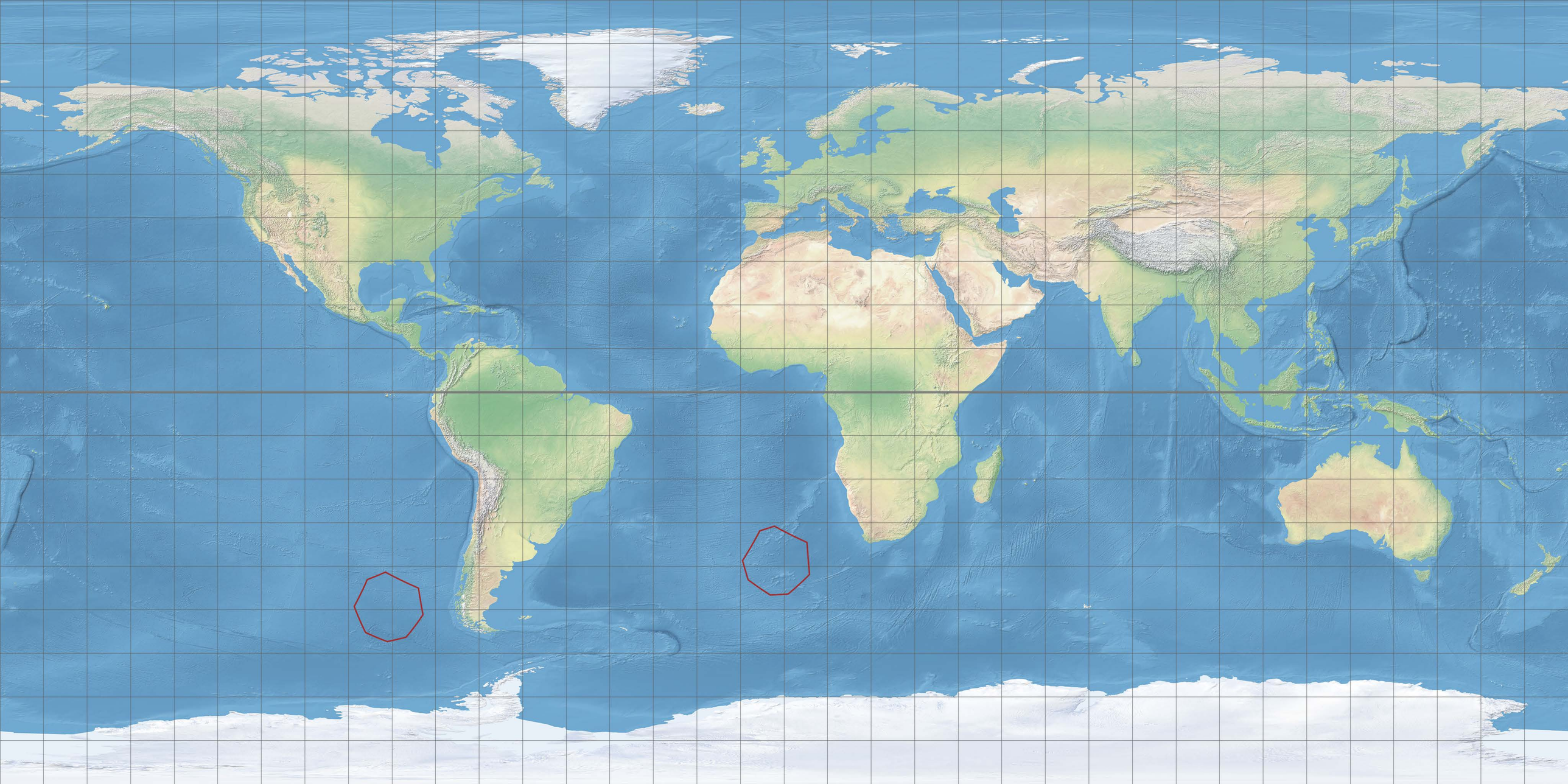


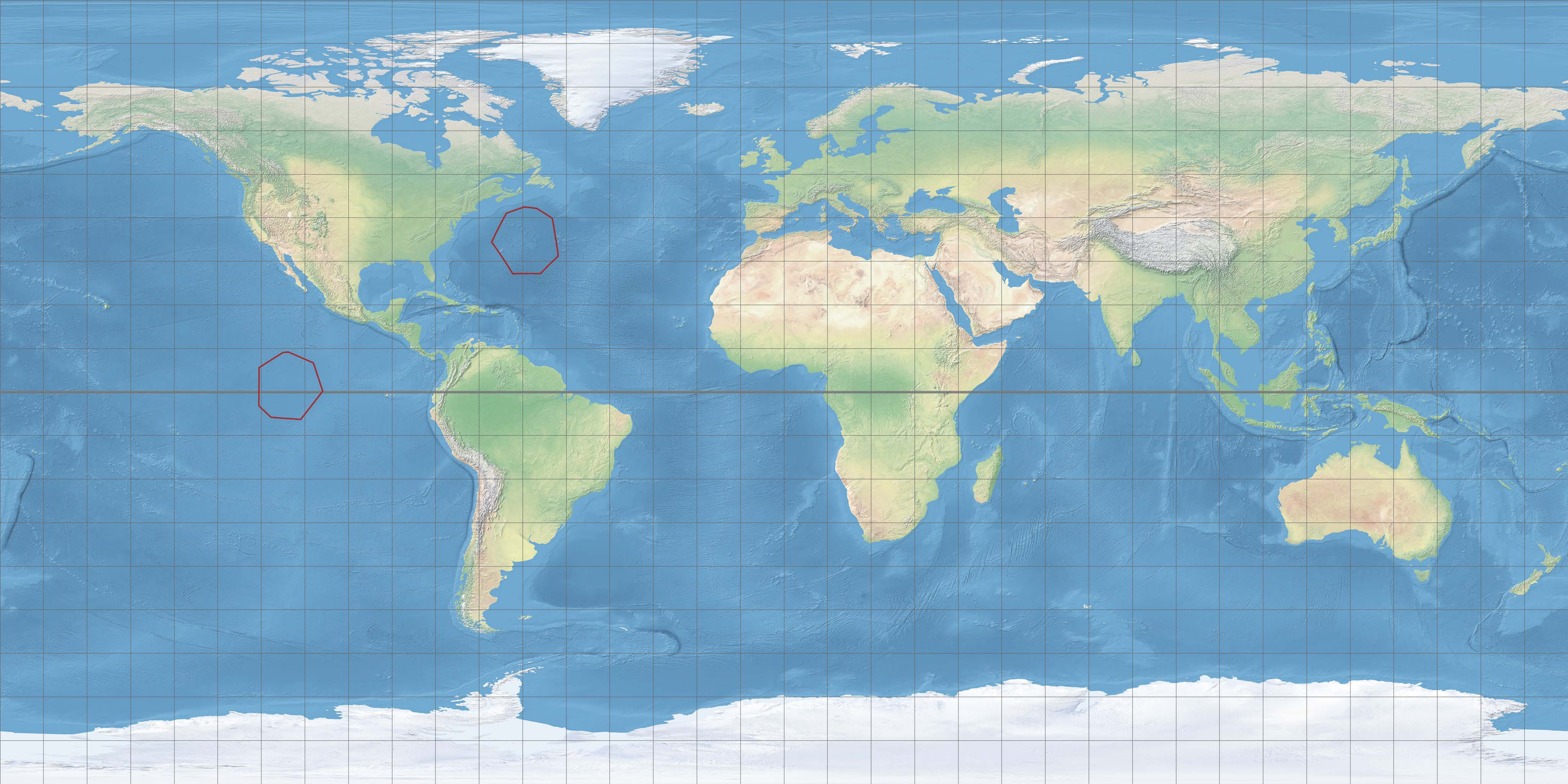


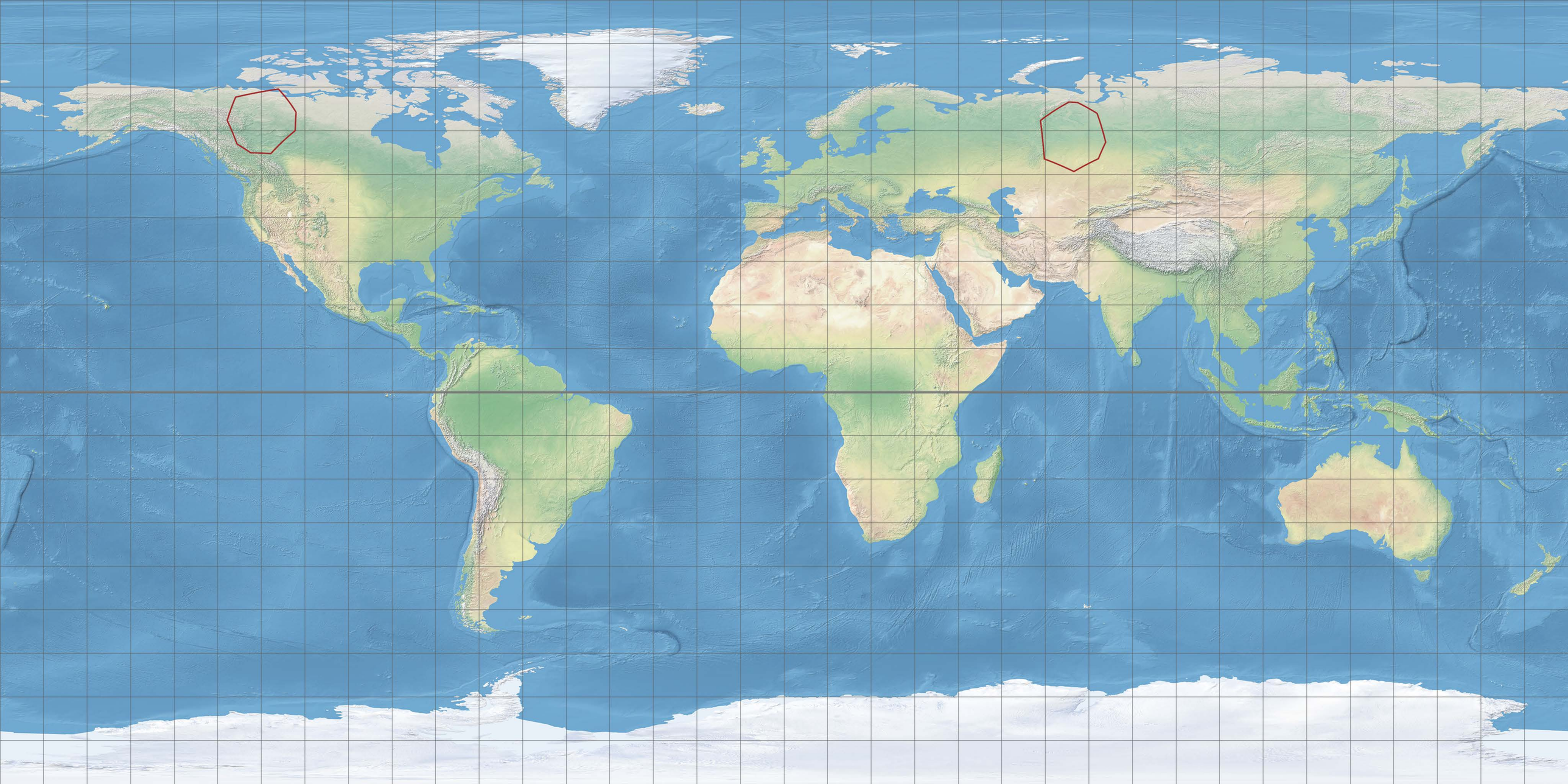


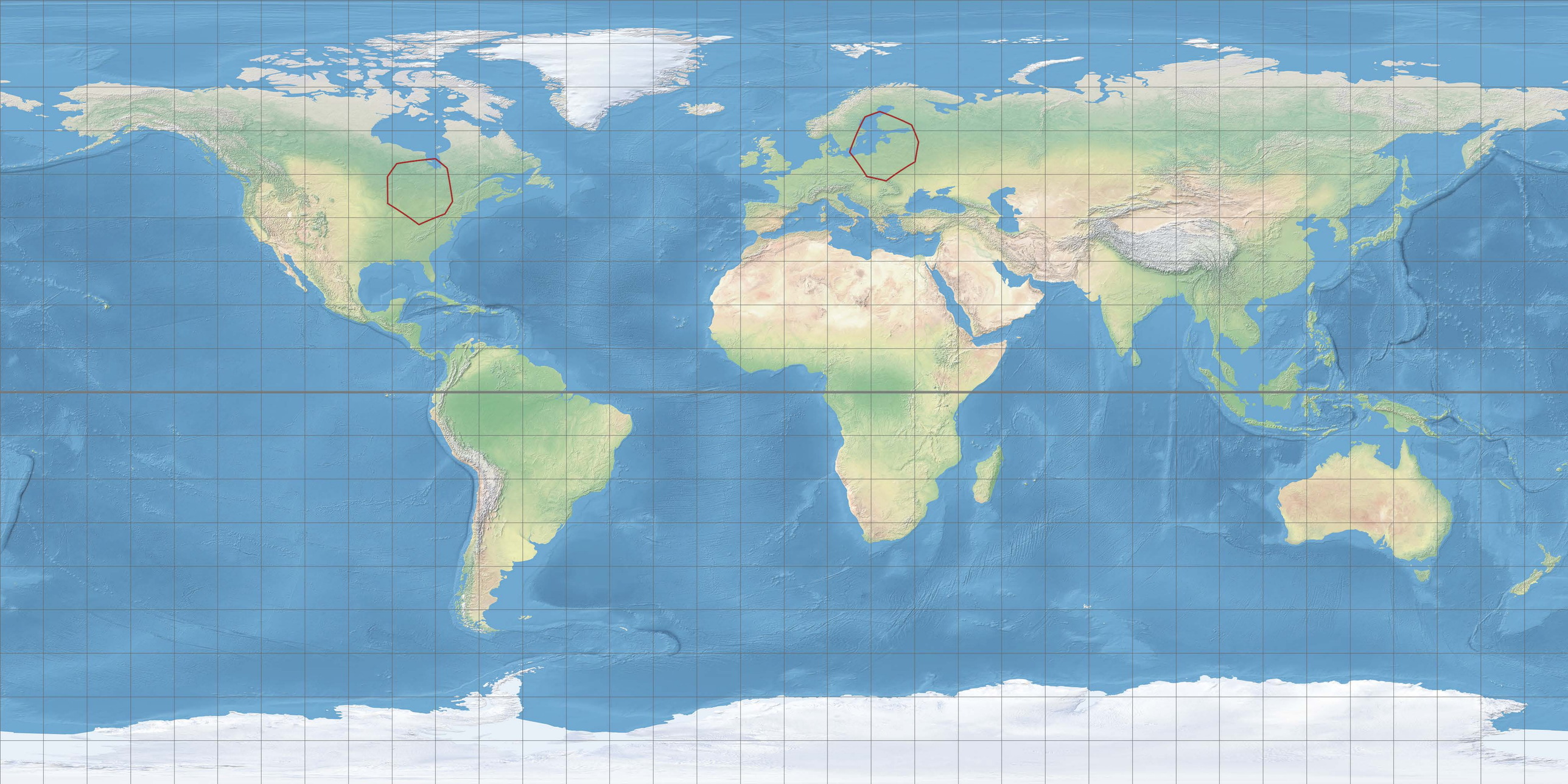


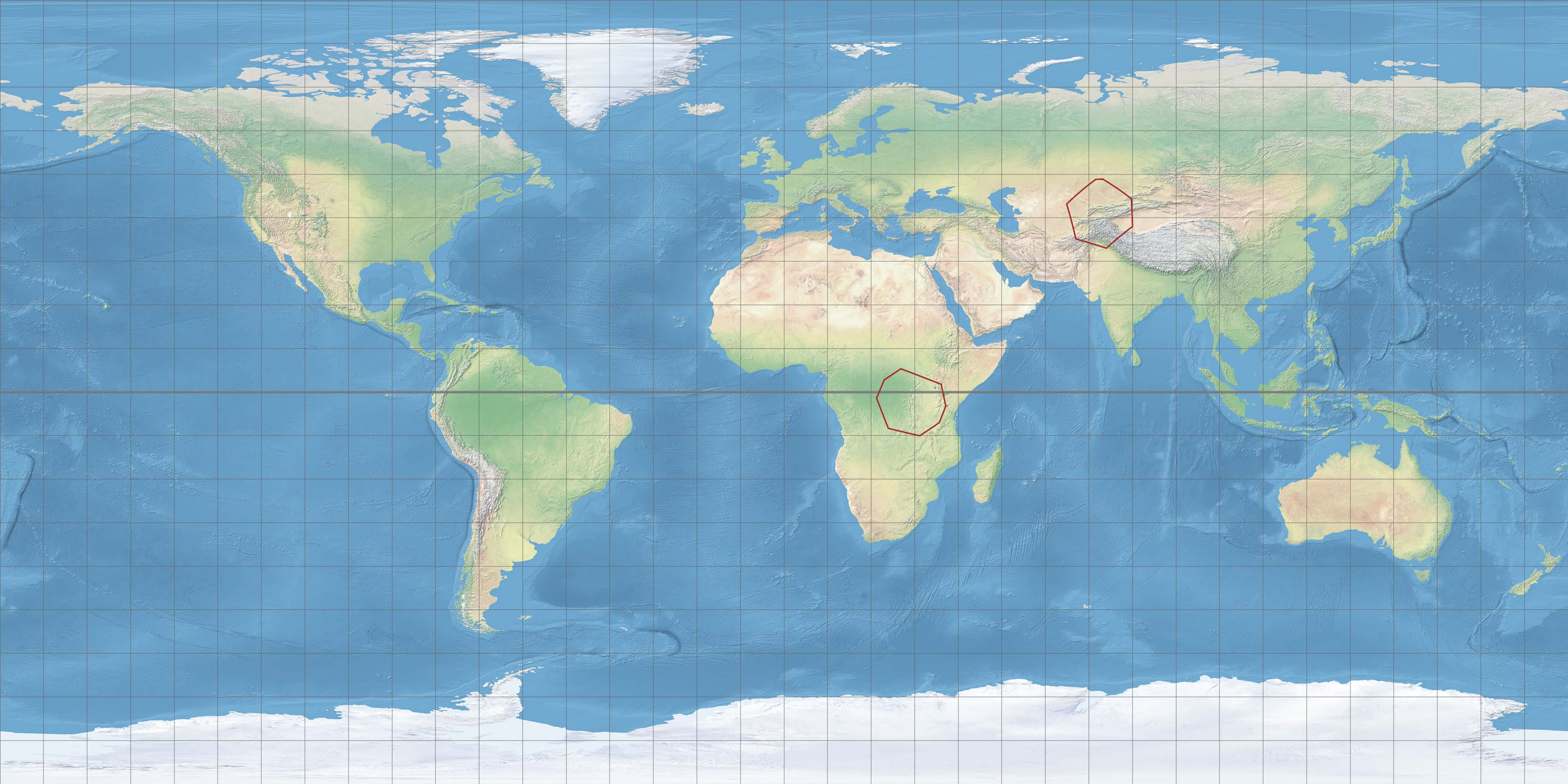


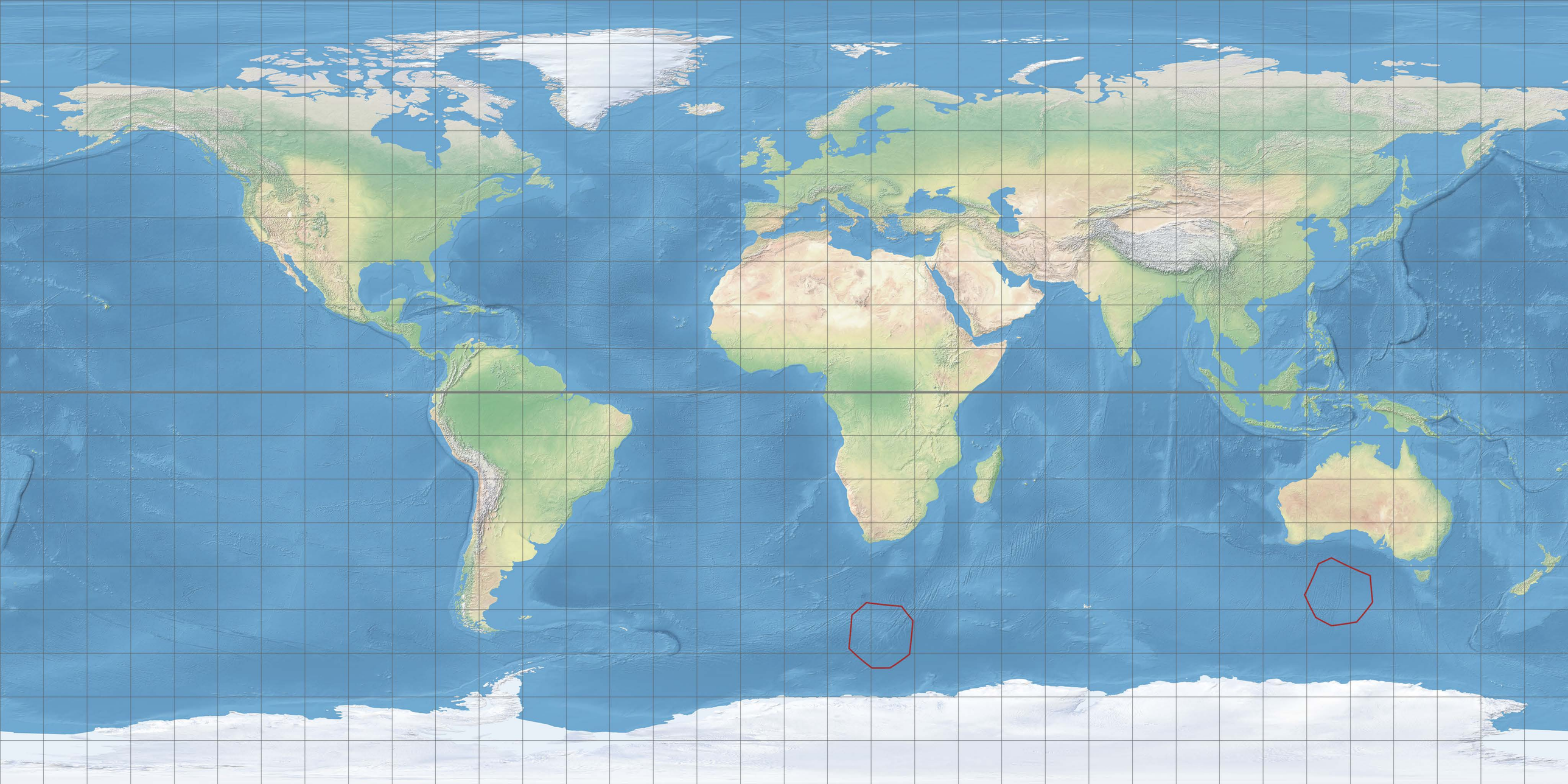


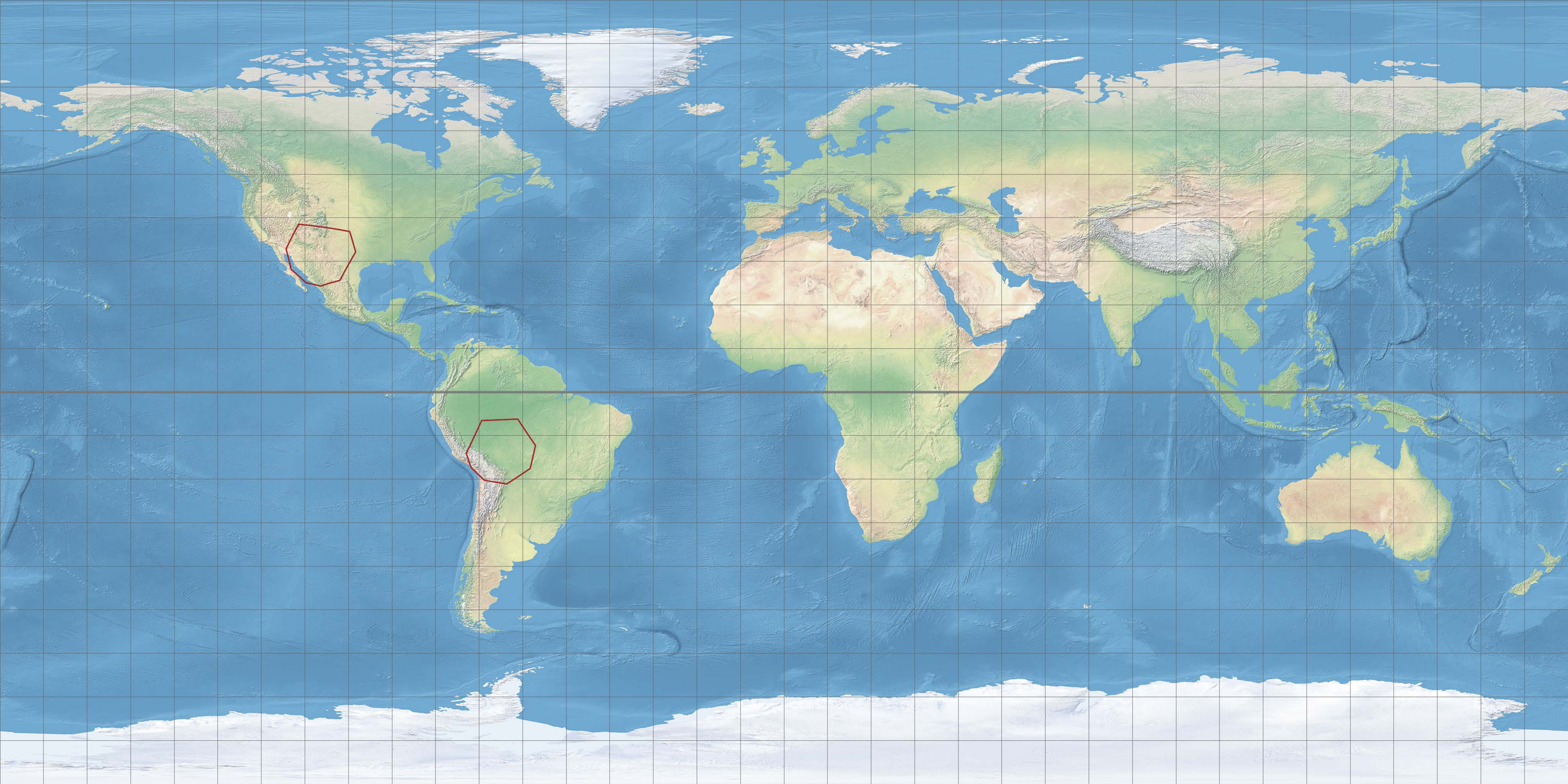




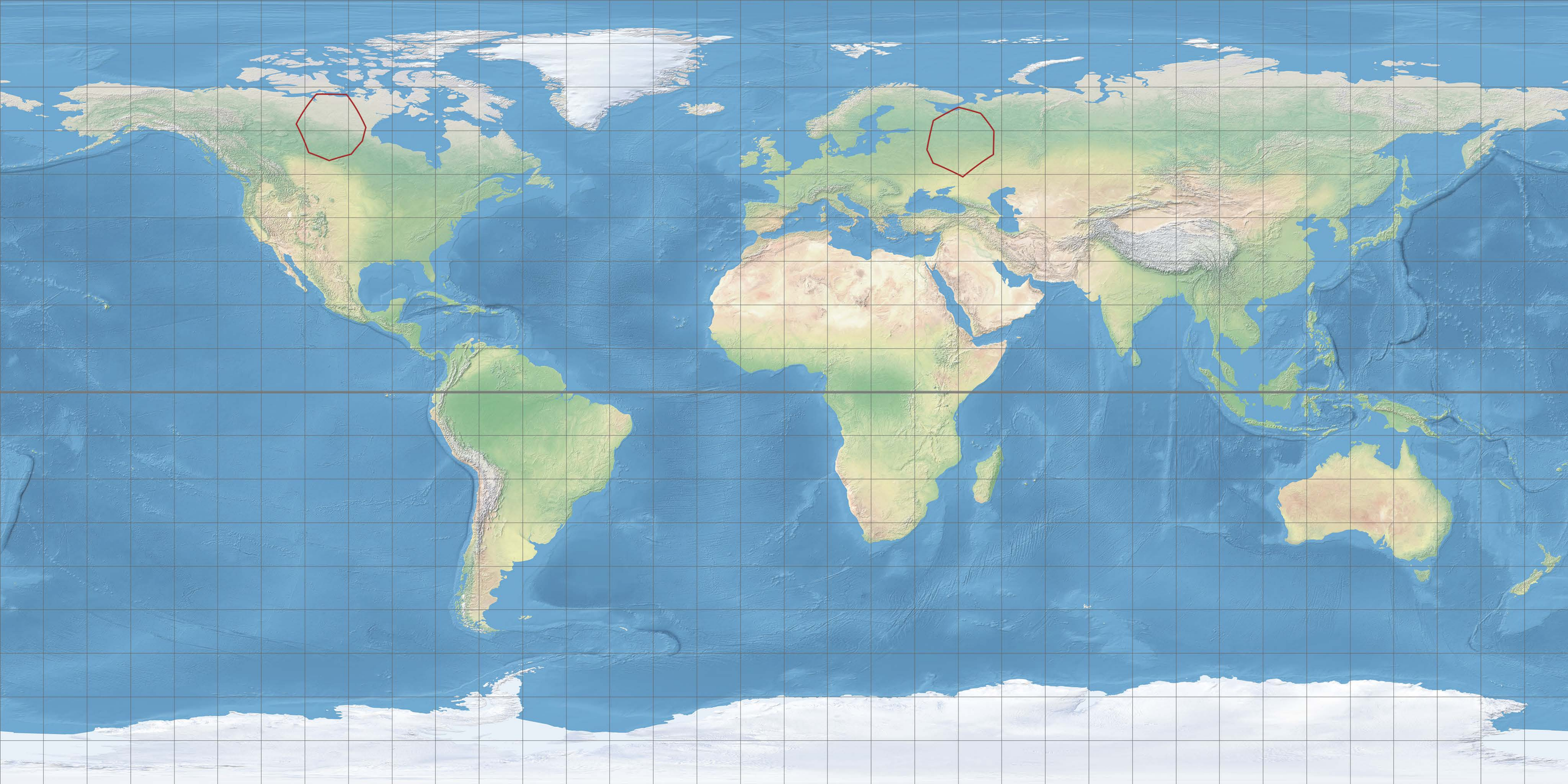


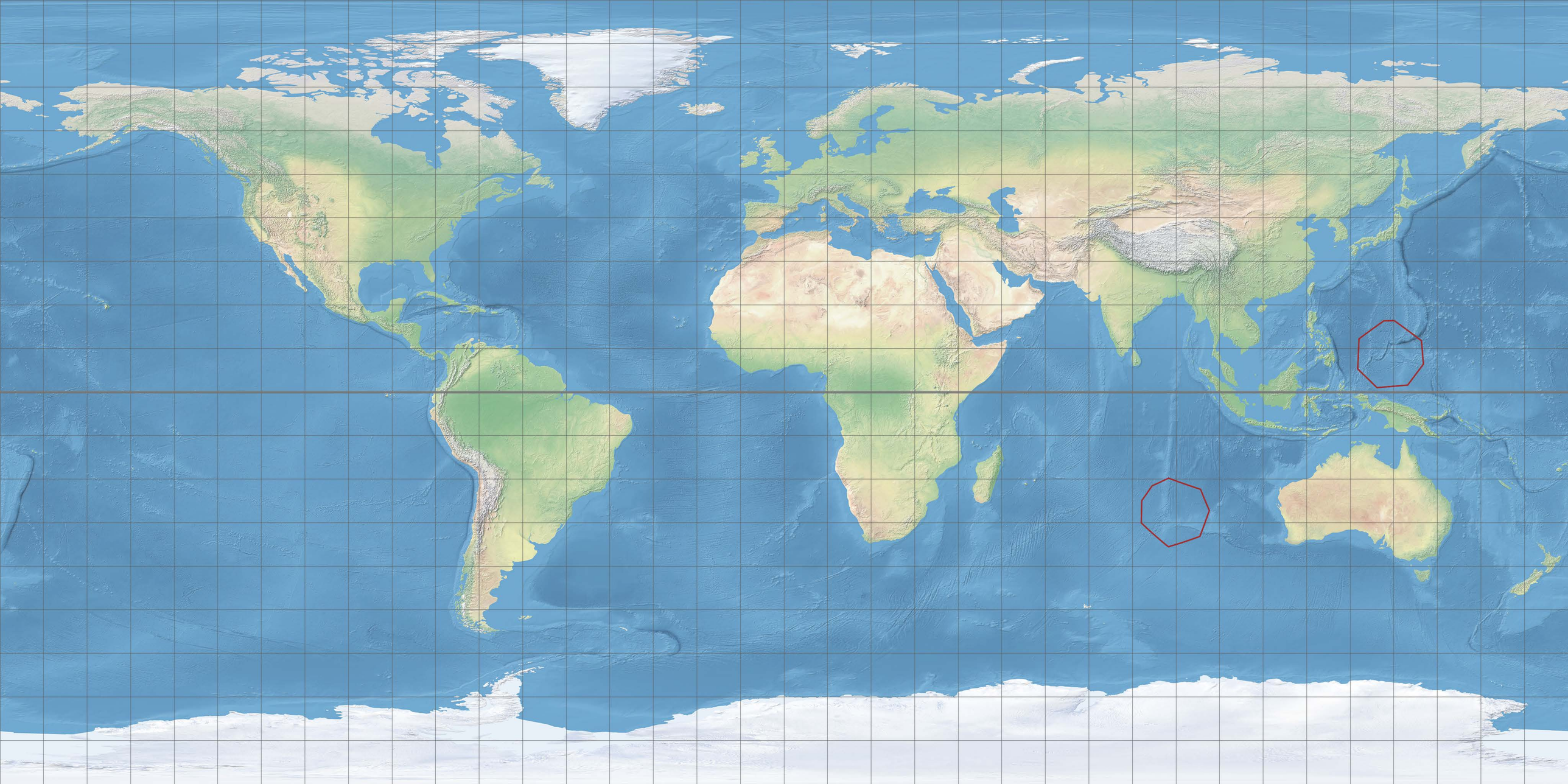


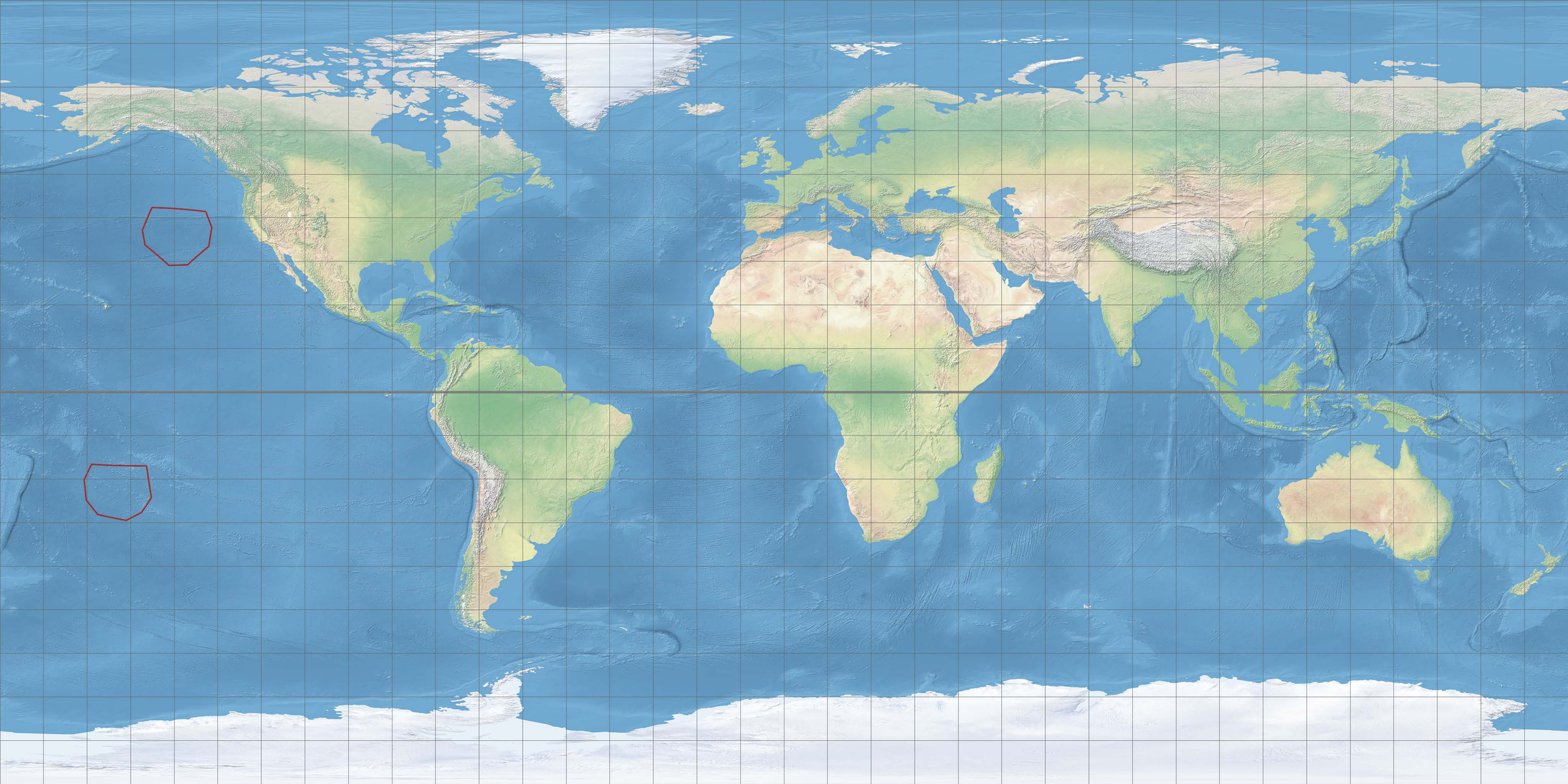


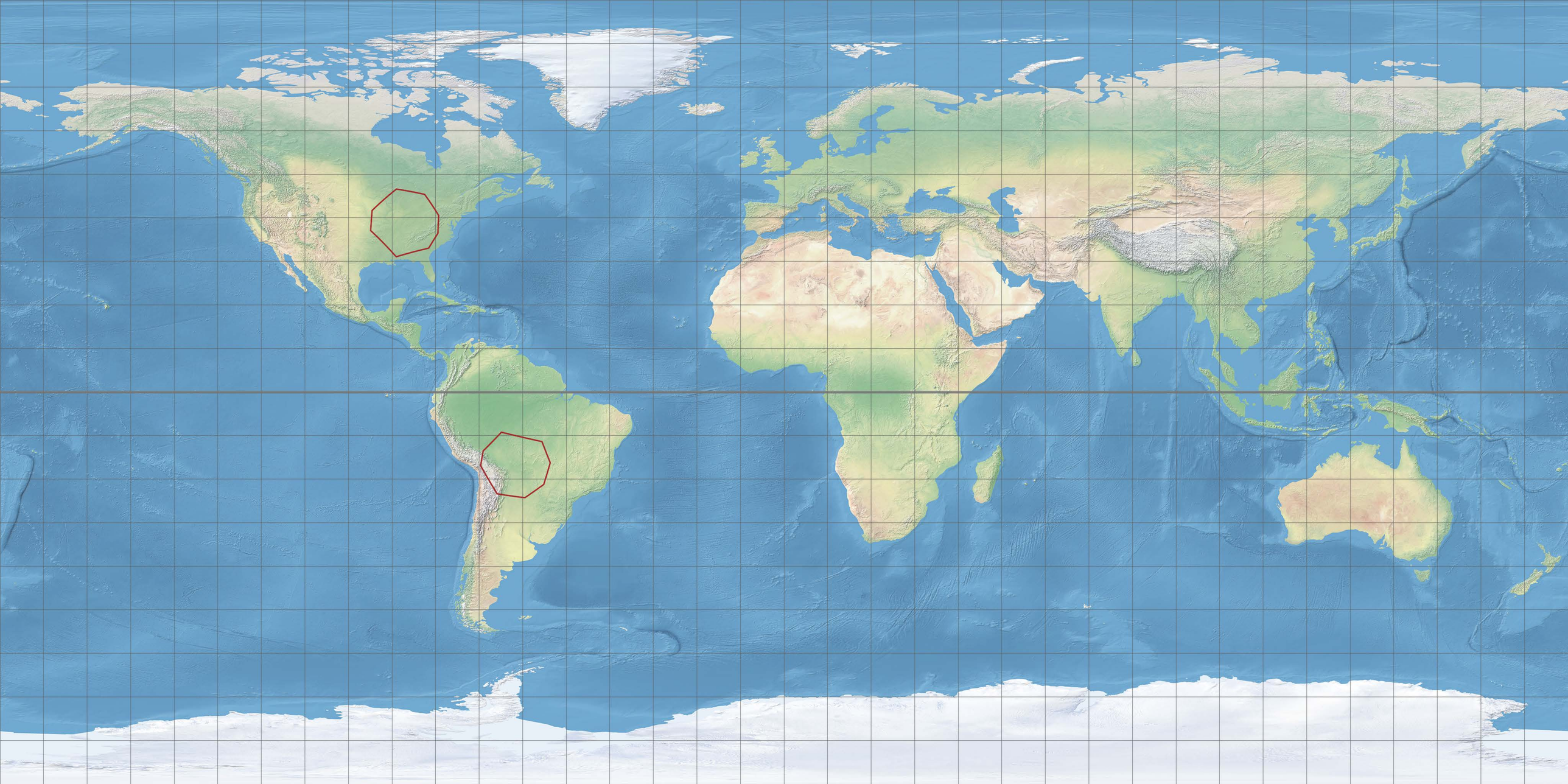


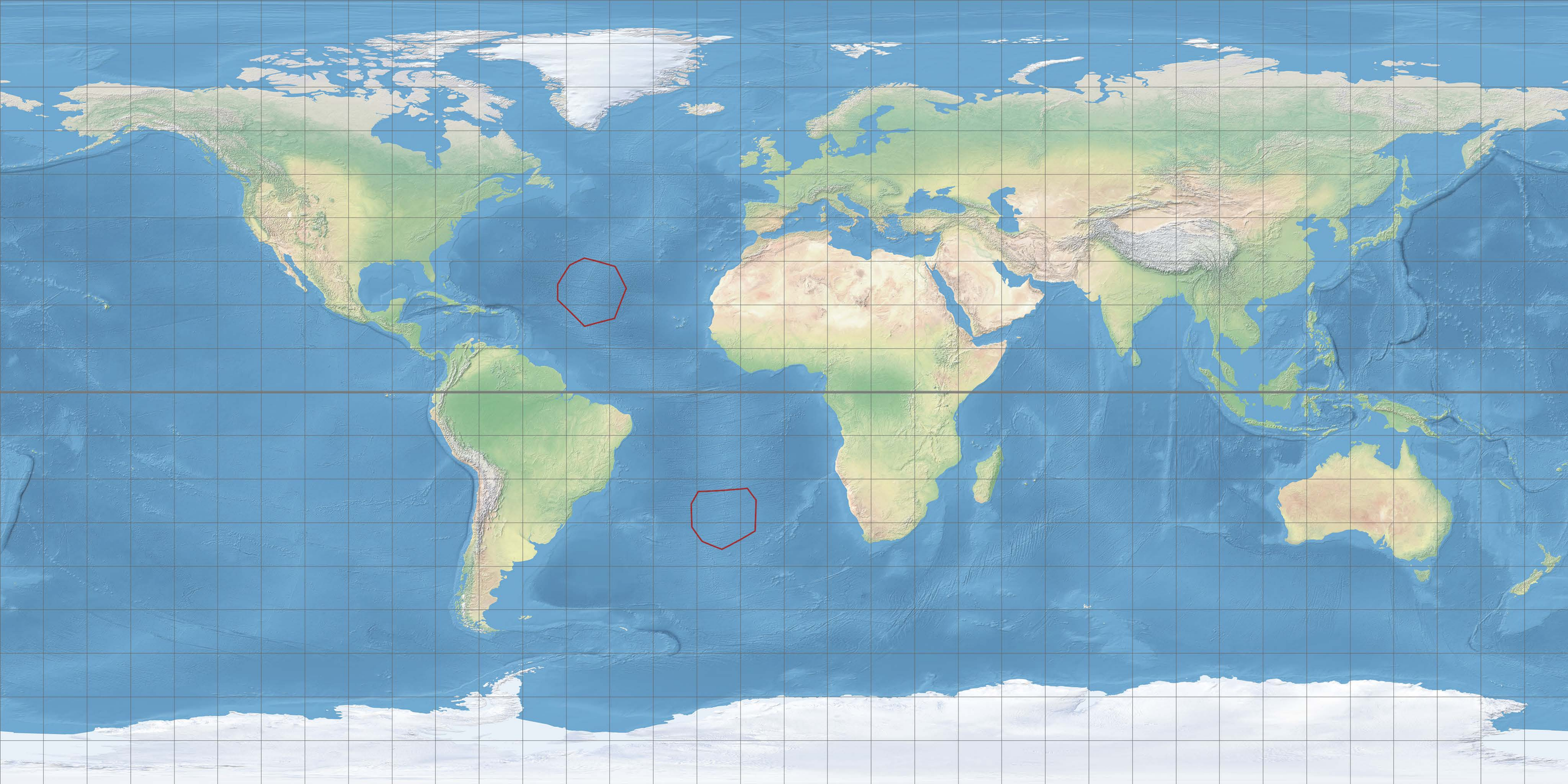
Area comparison
Small variation condition

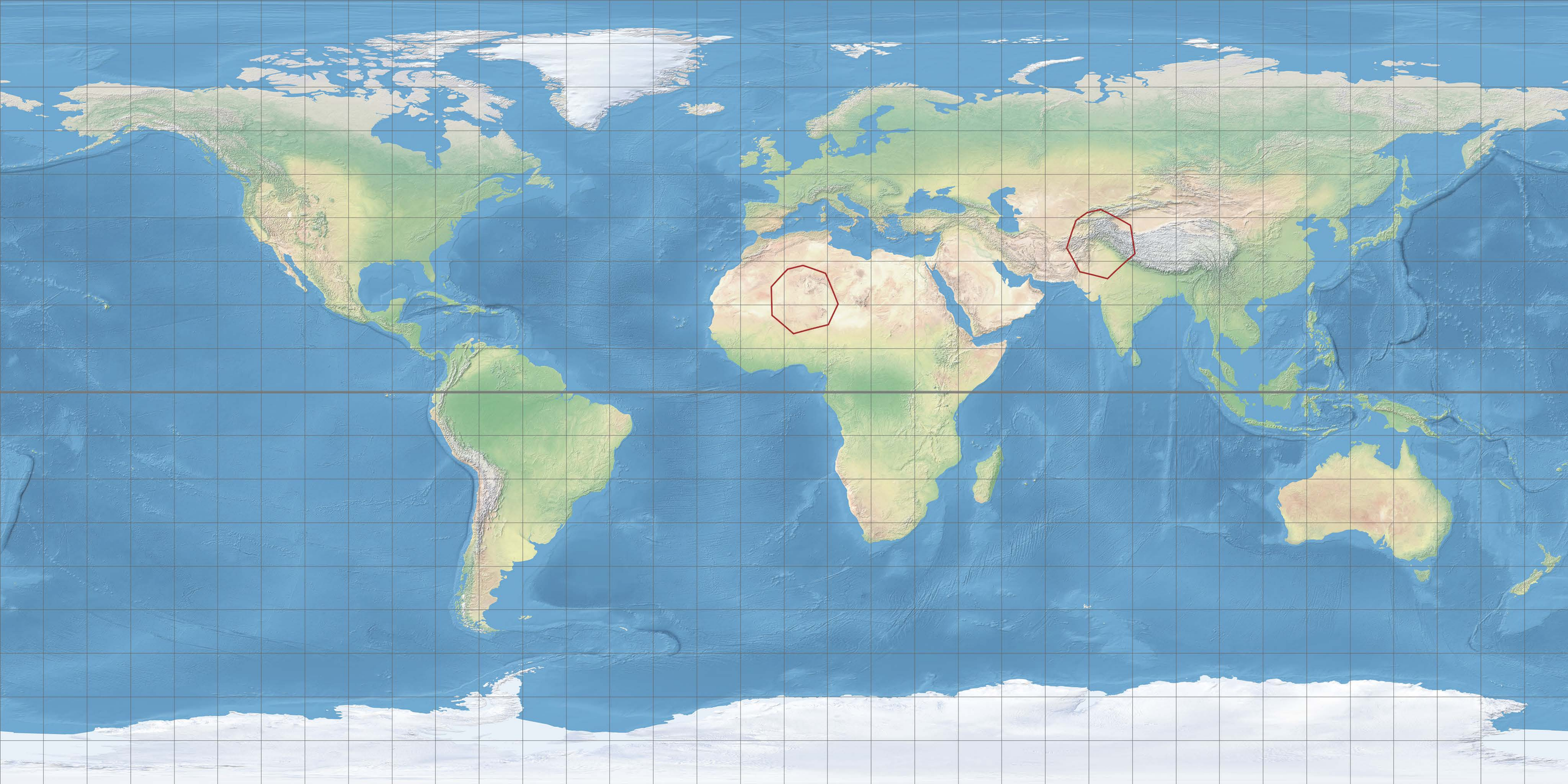


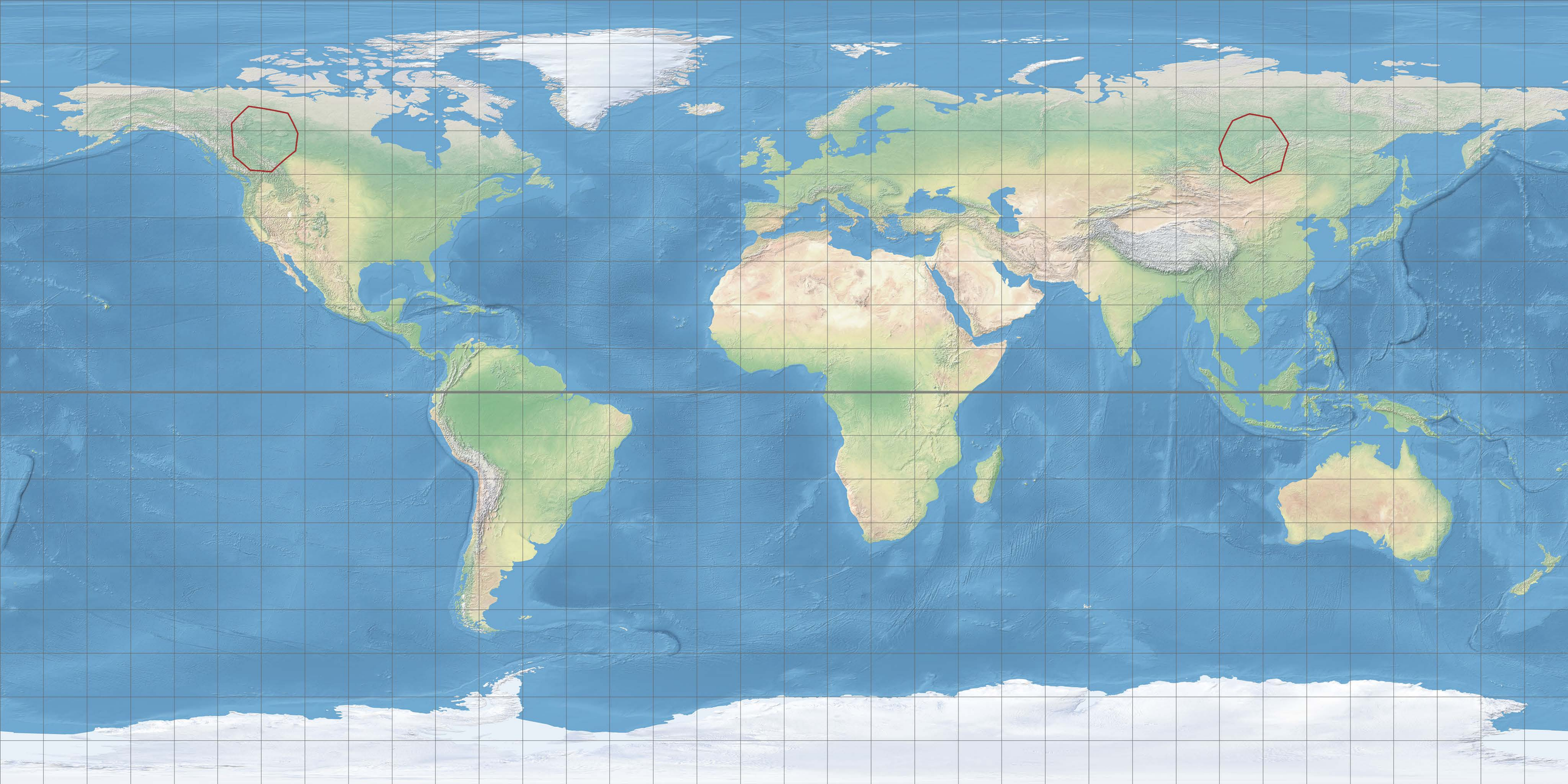


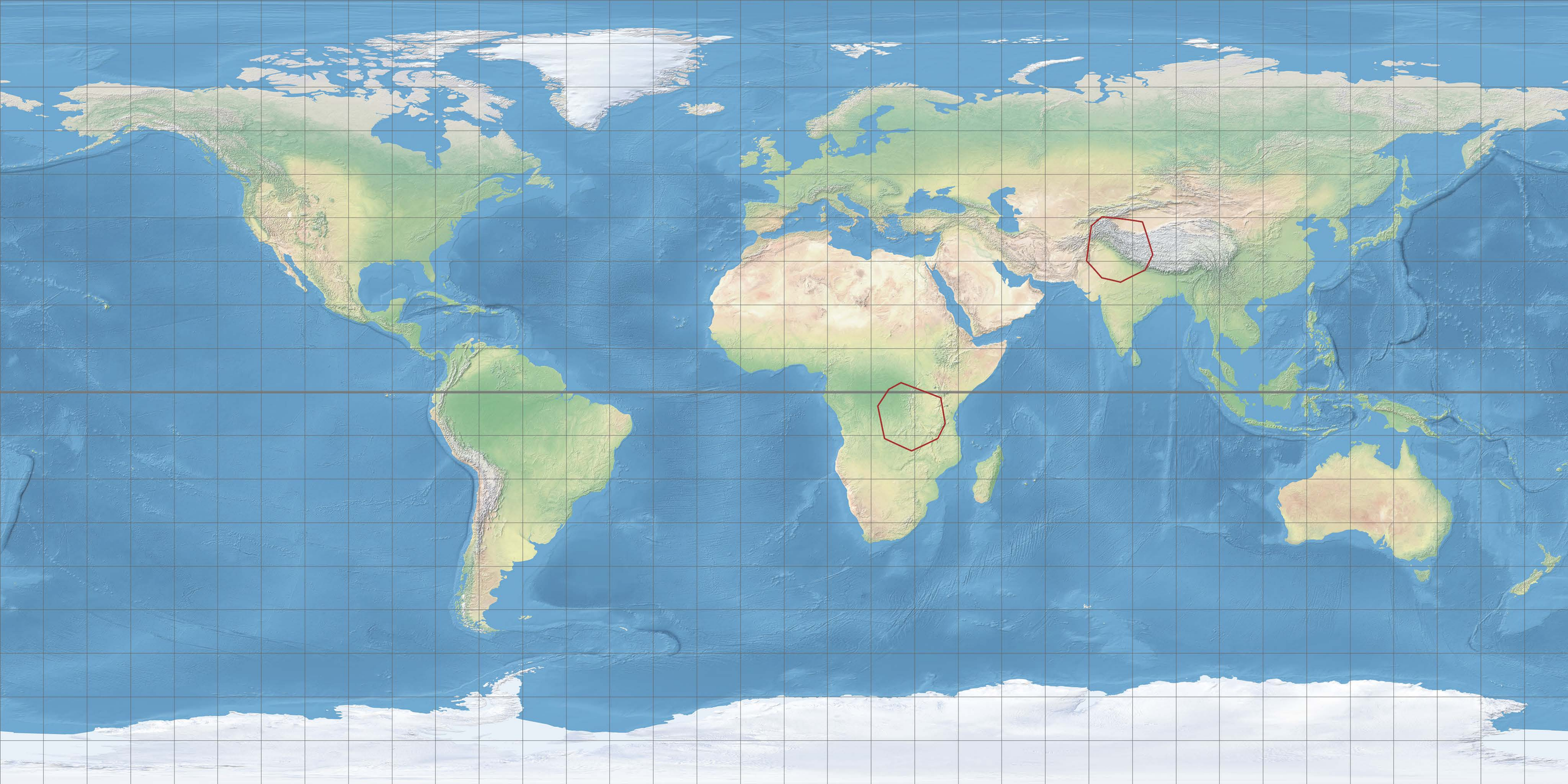


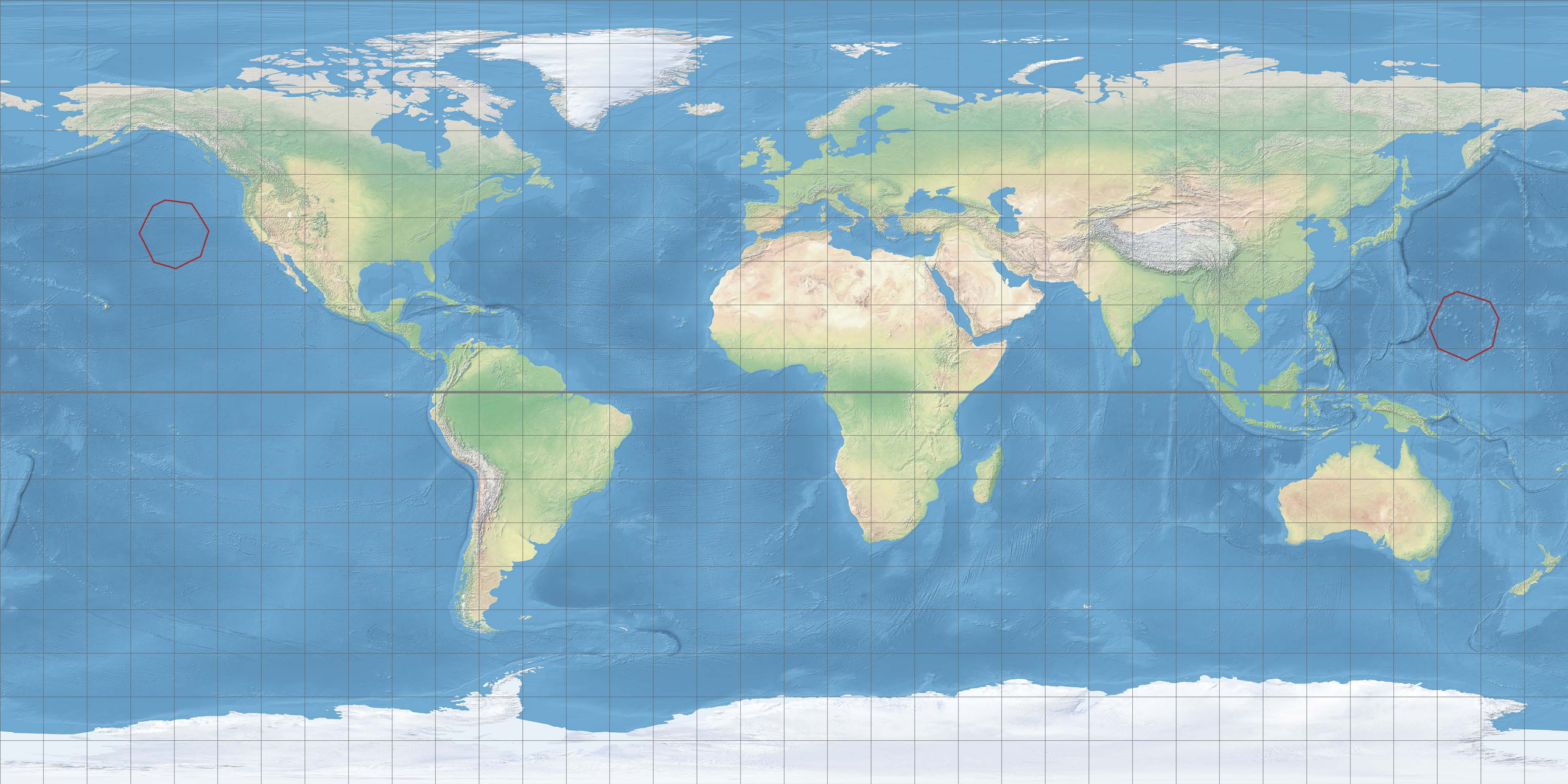


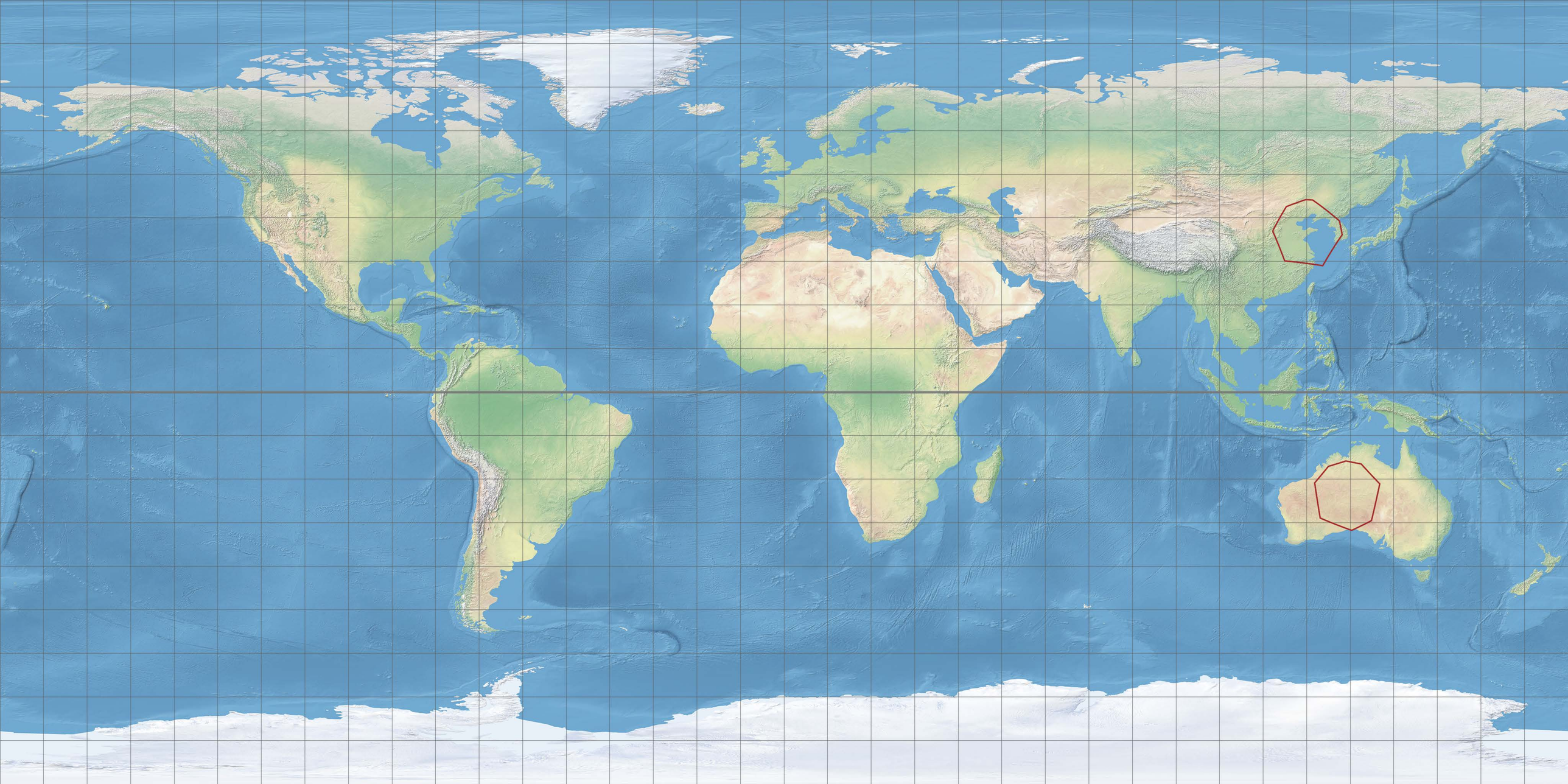


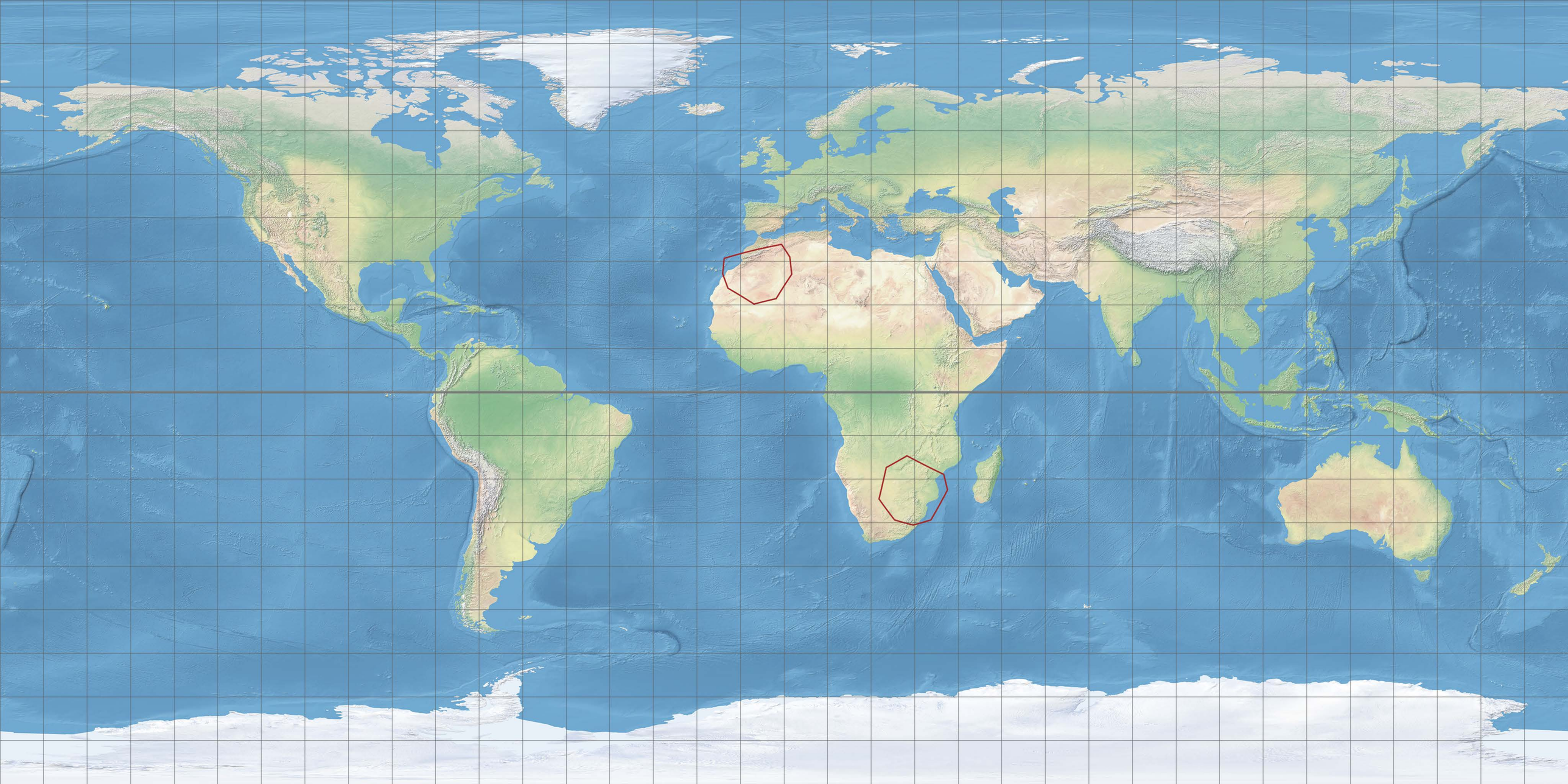


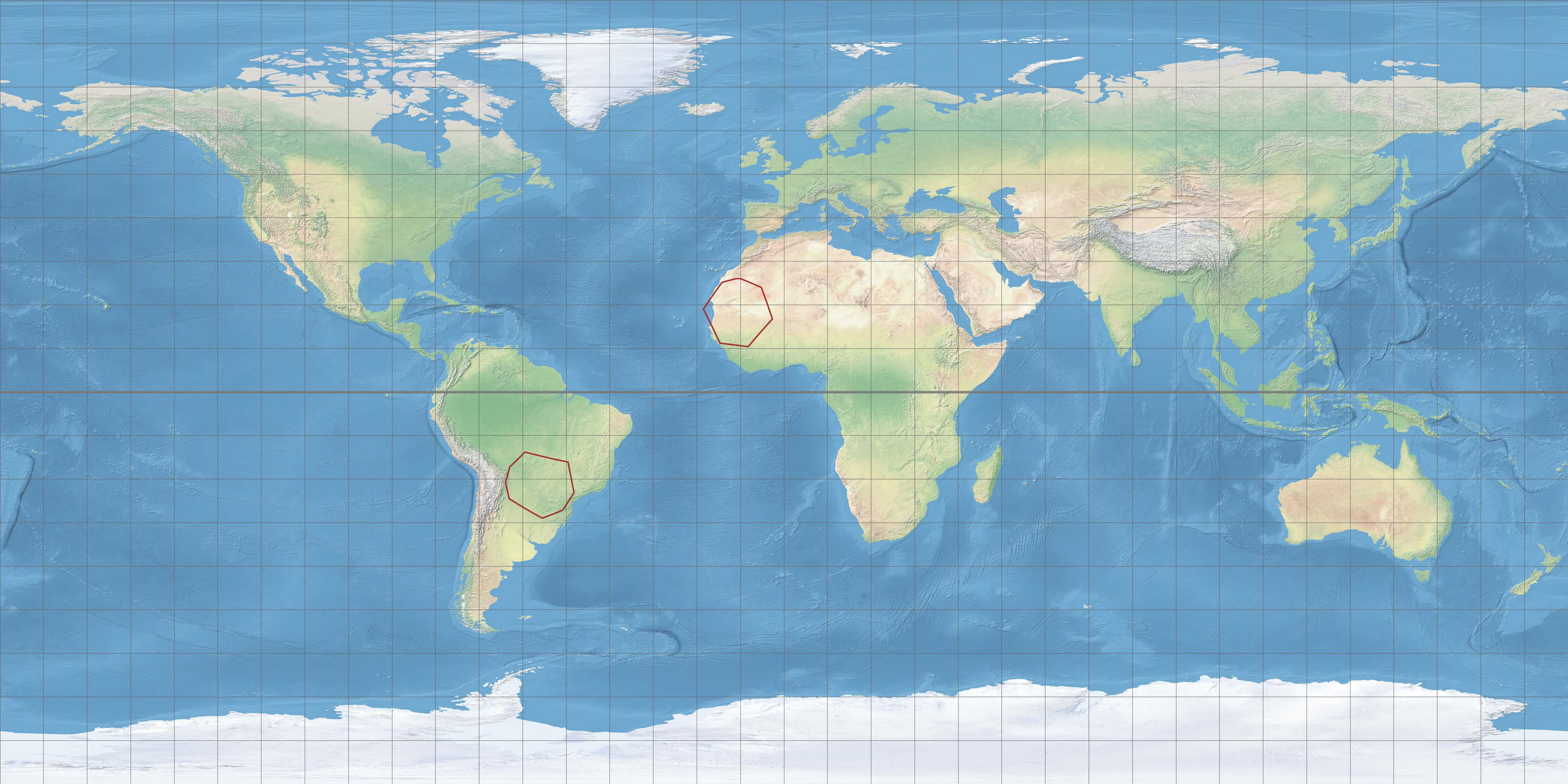




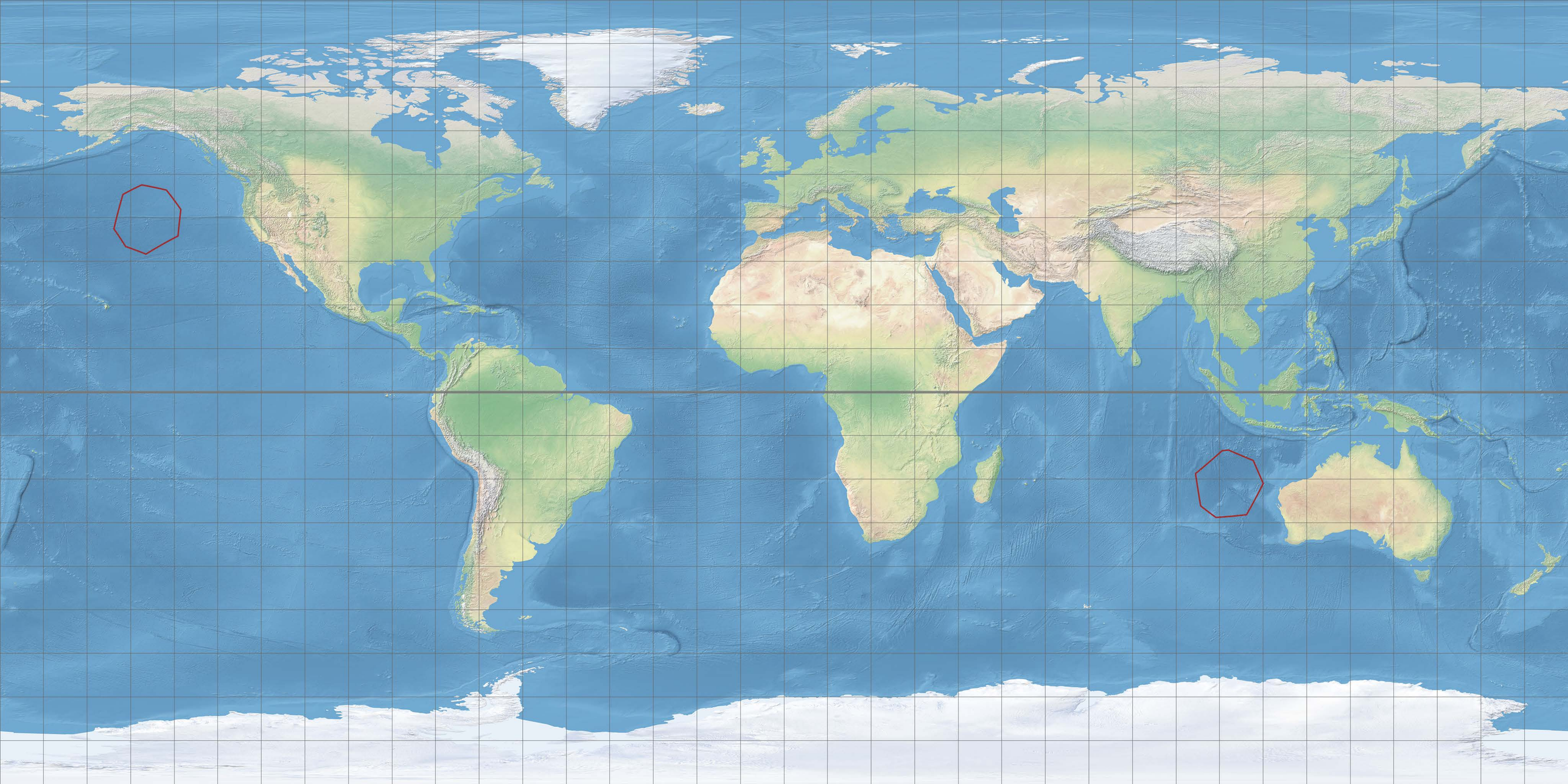


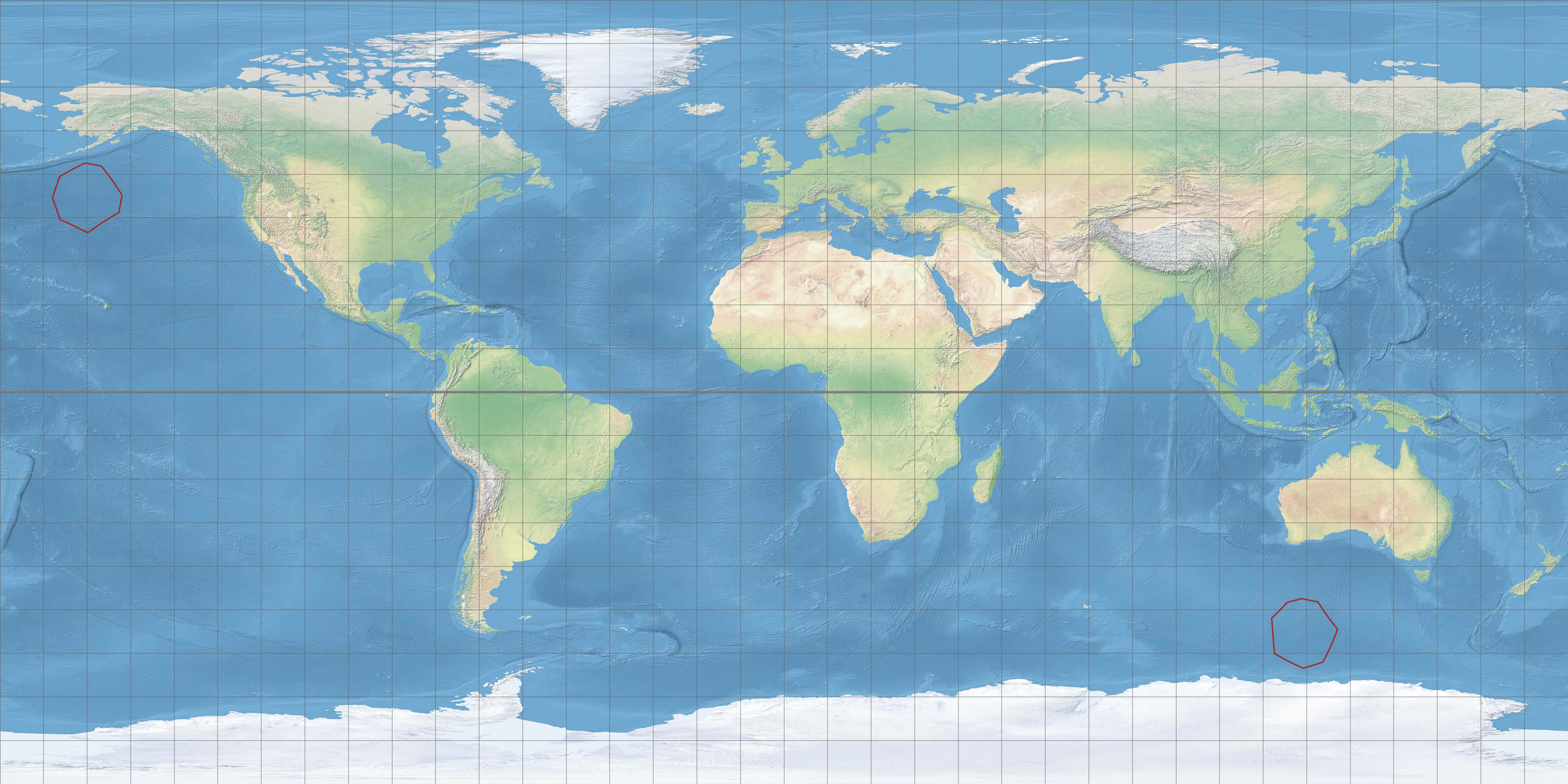


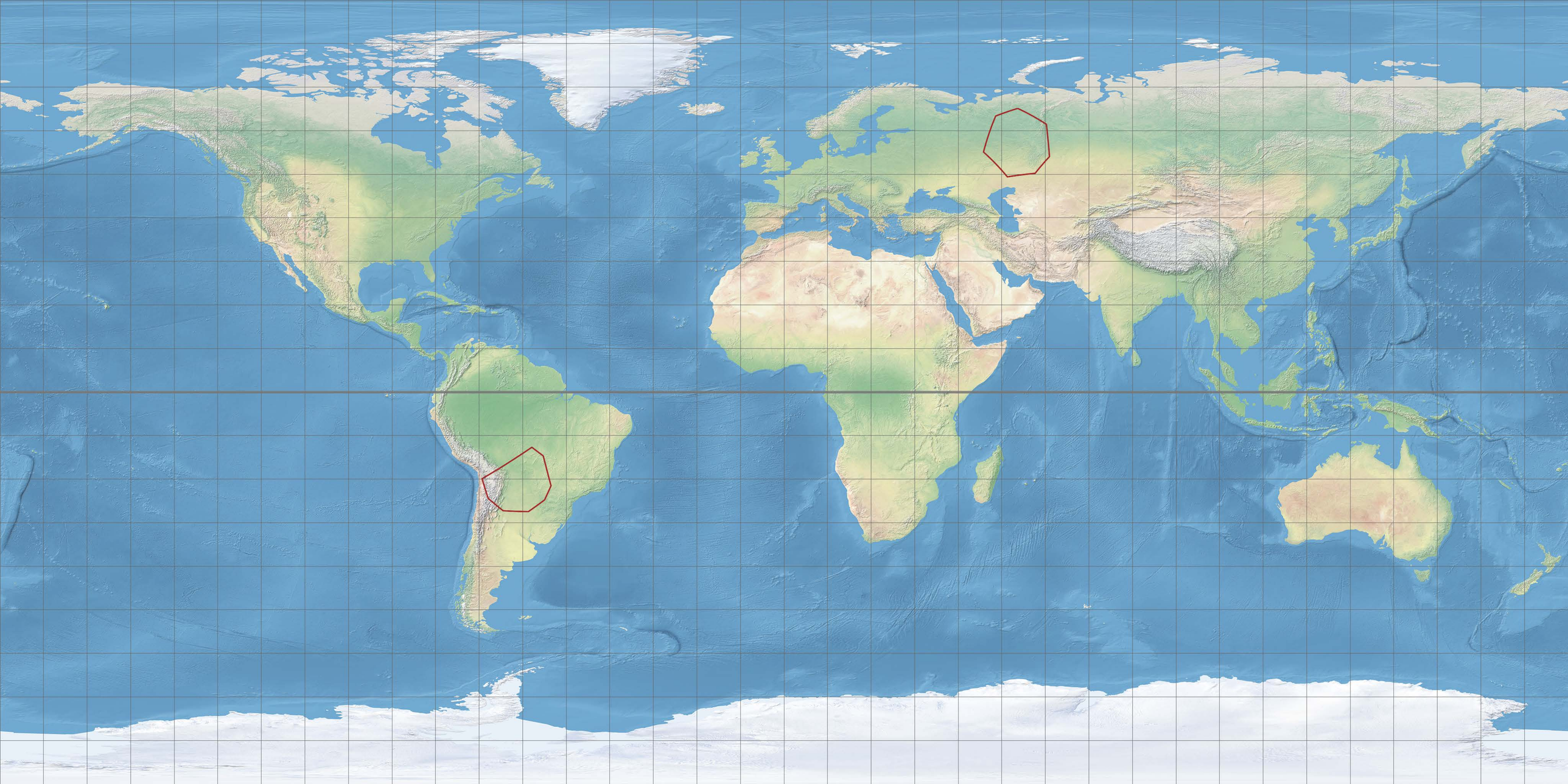


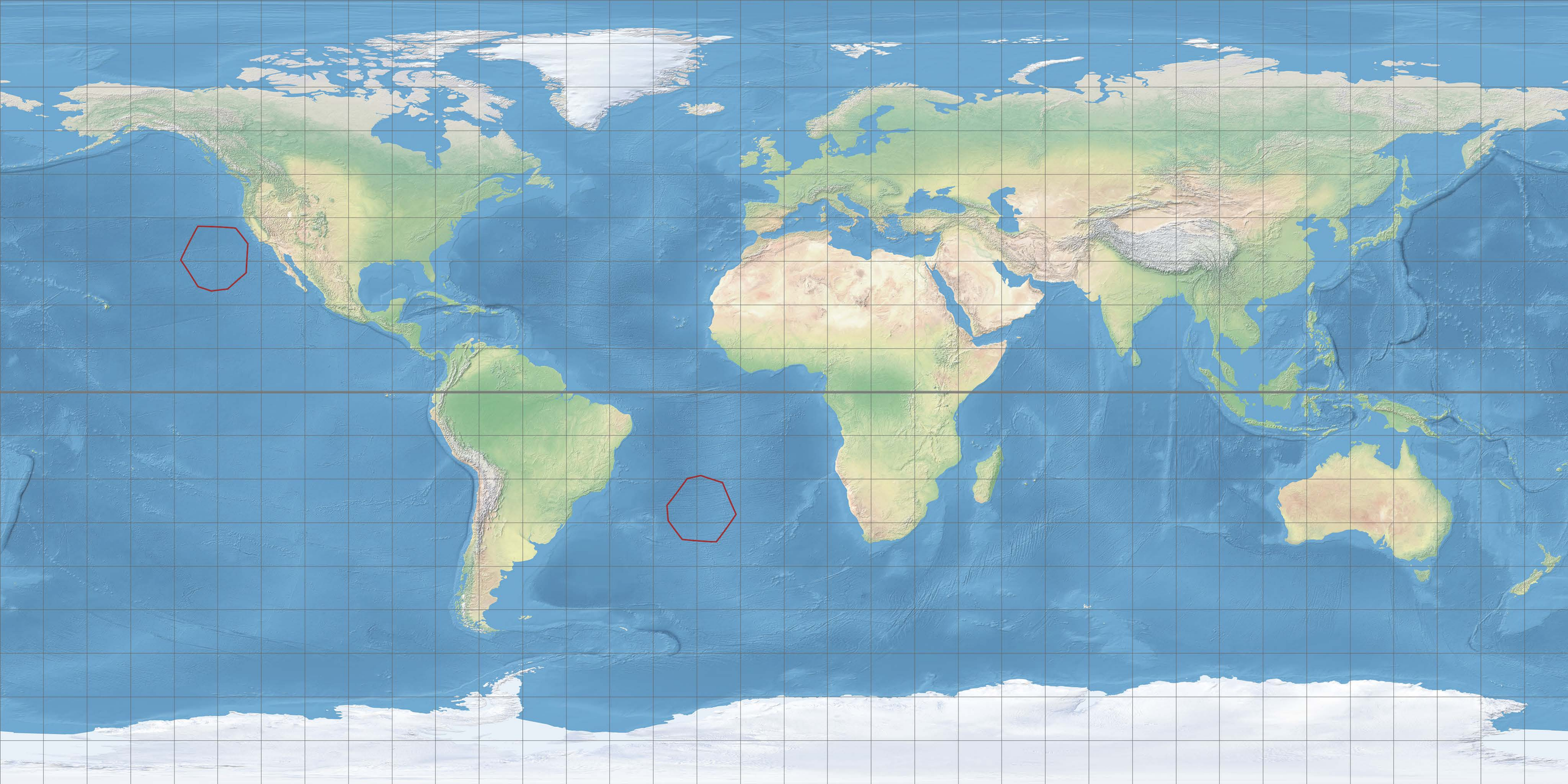


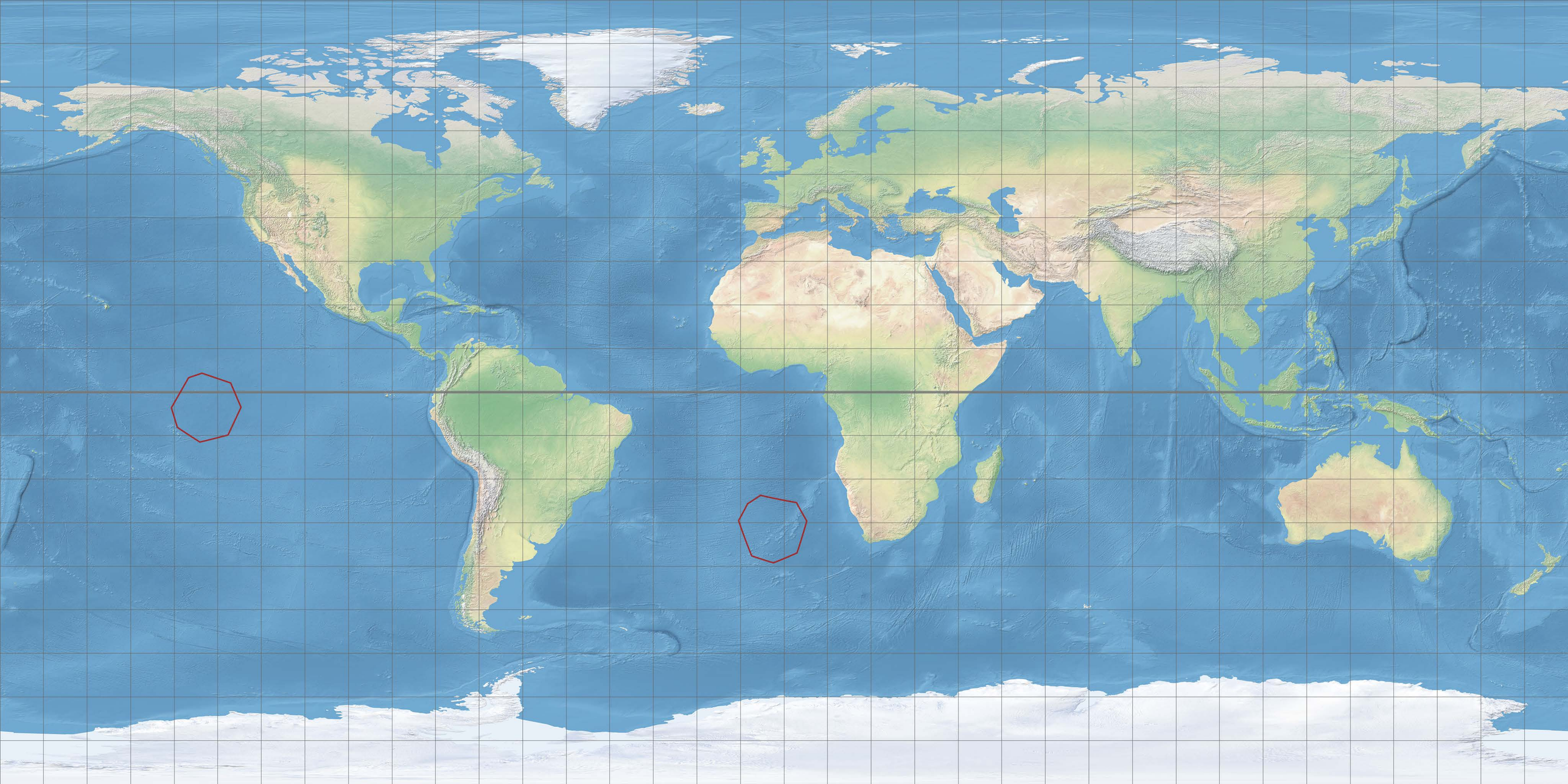
Area comparison
Far distance condition

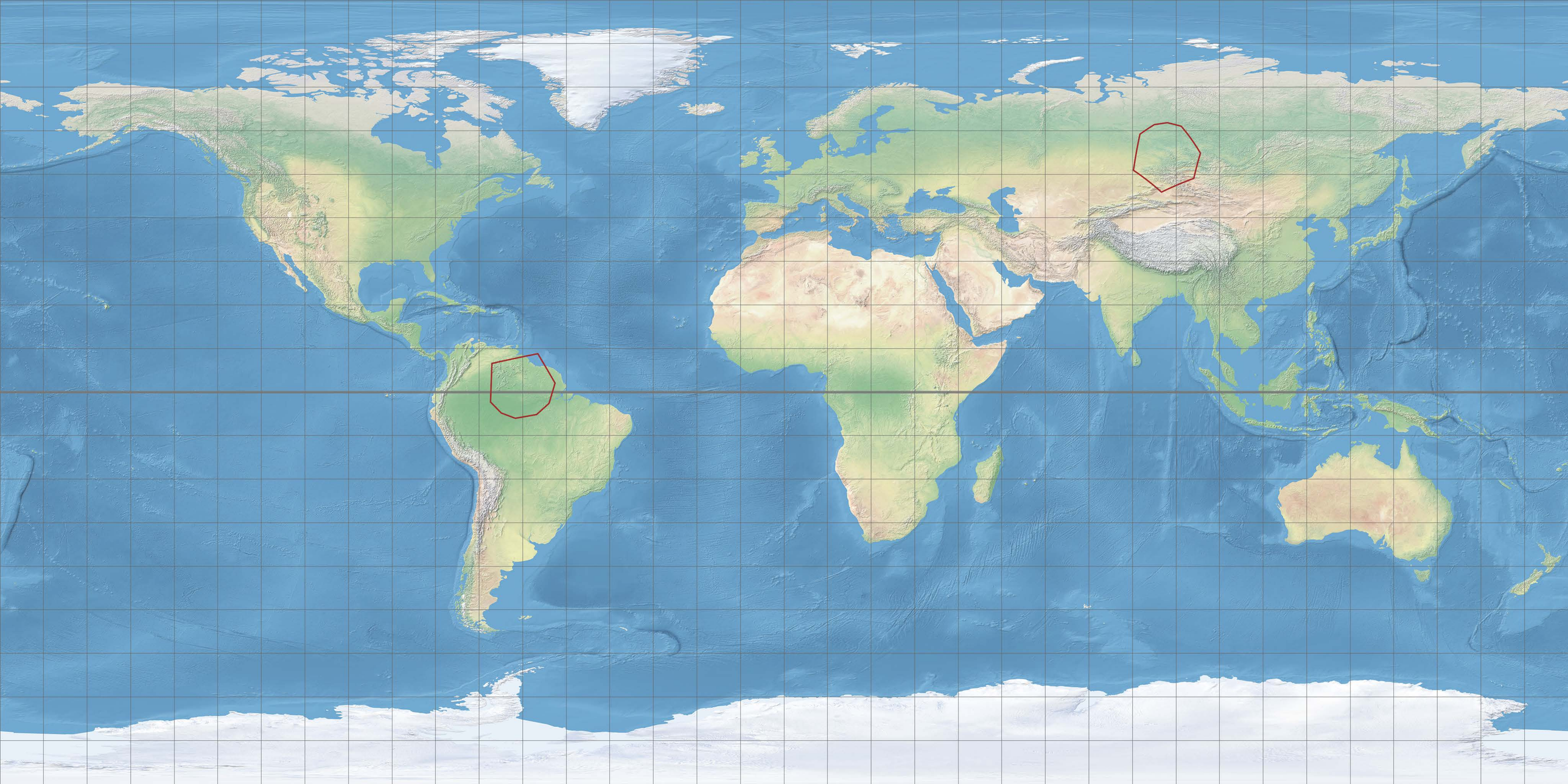


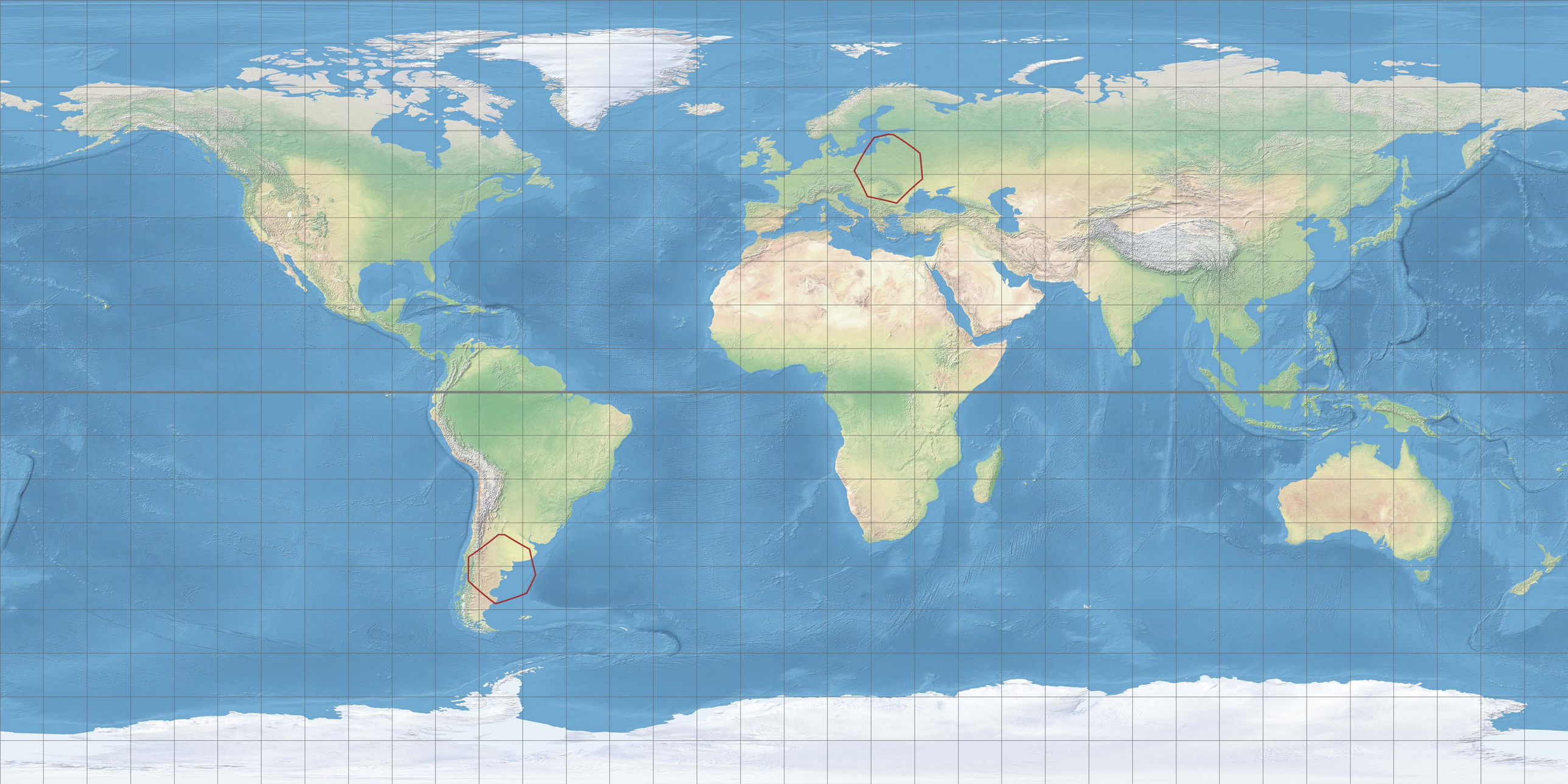


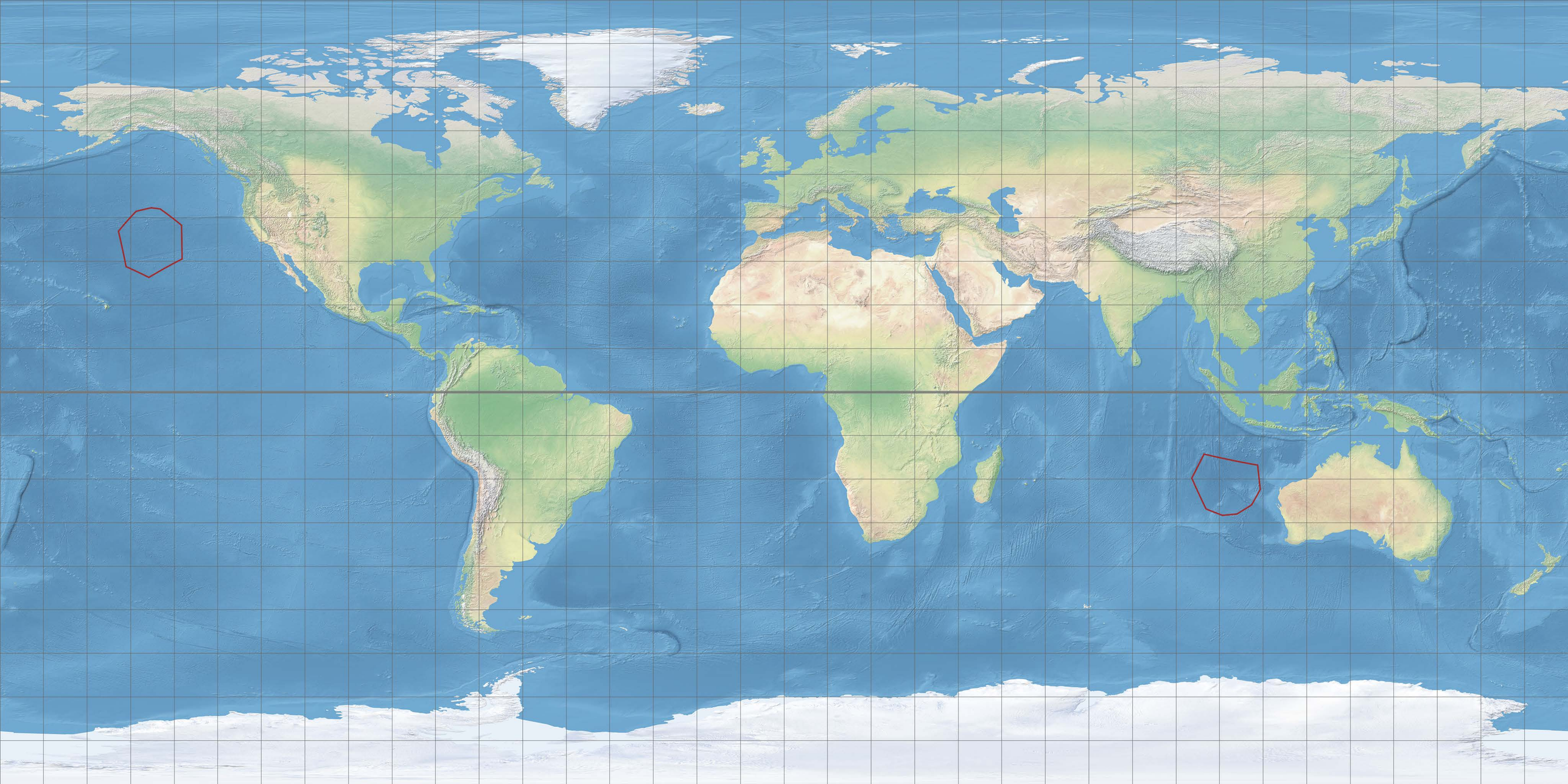


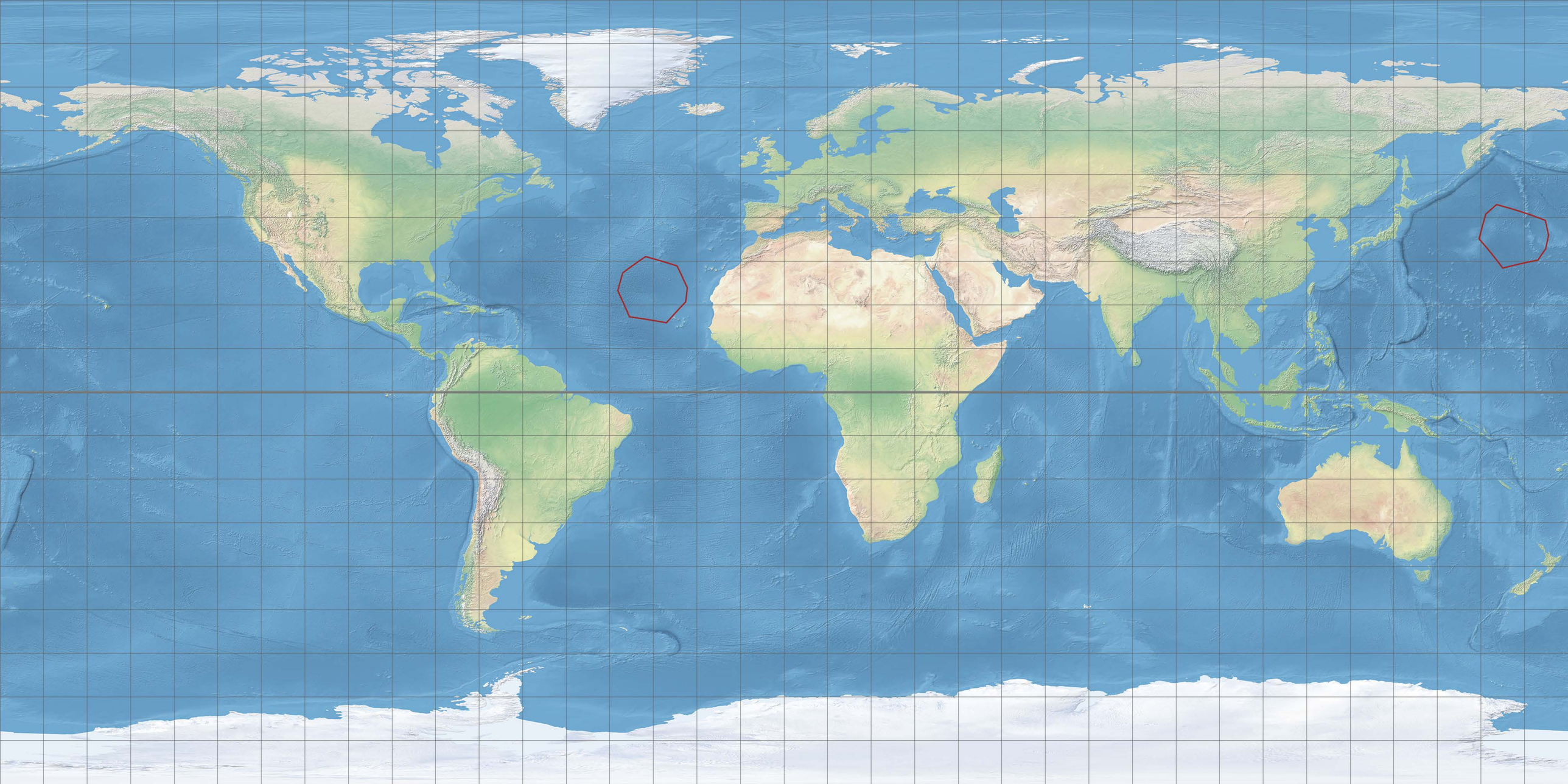


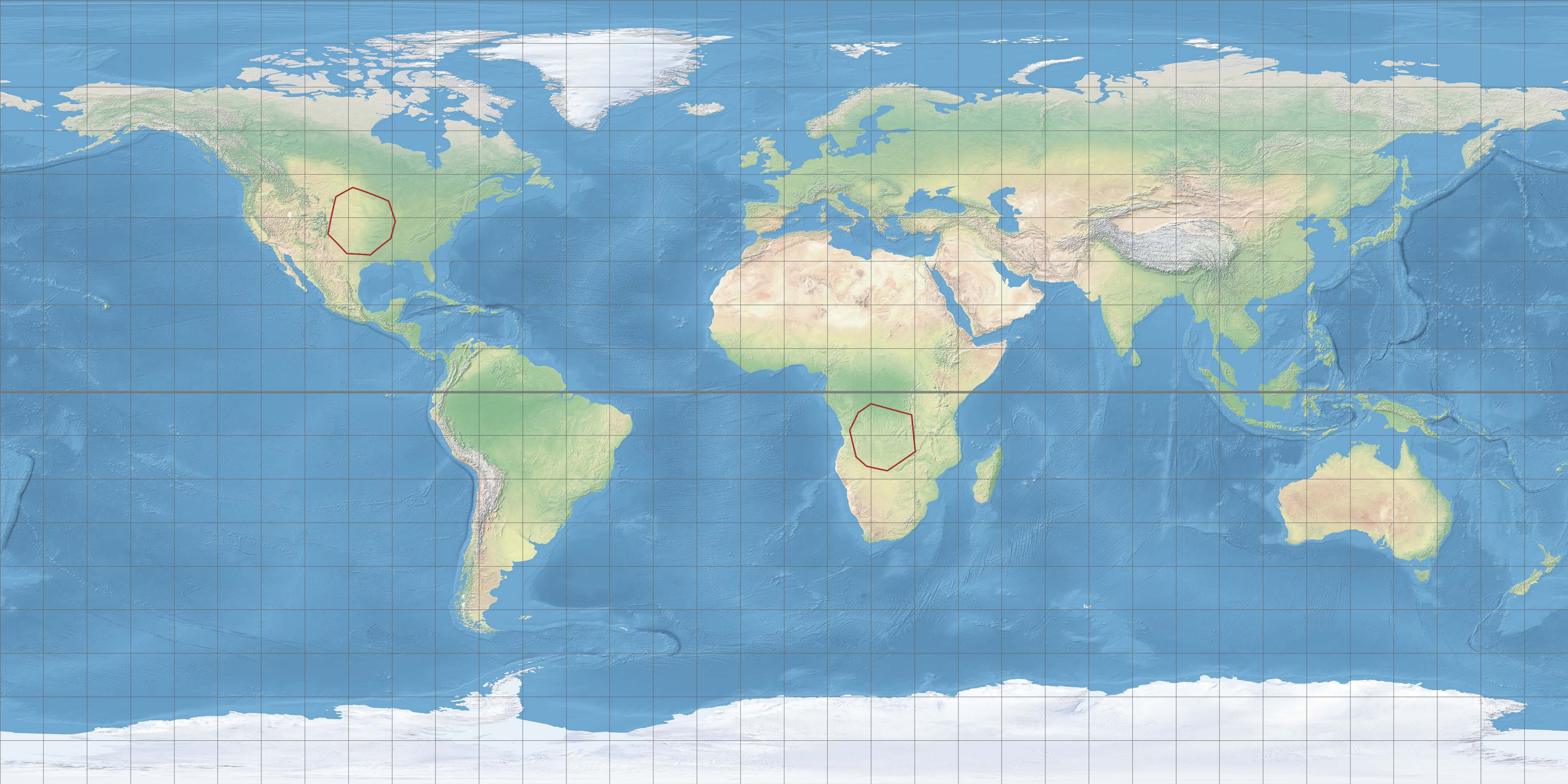


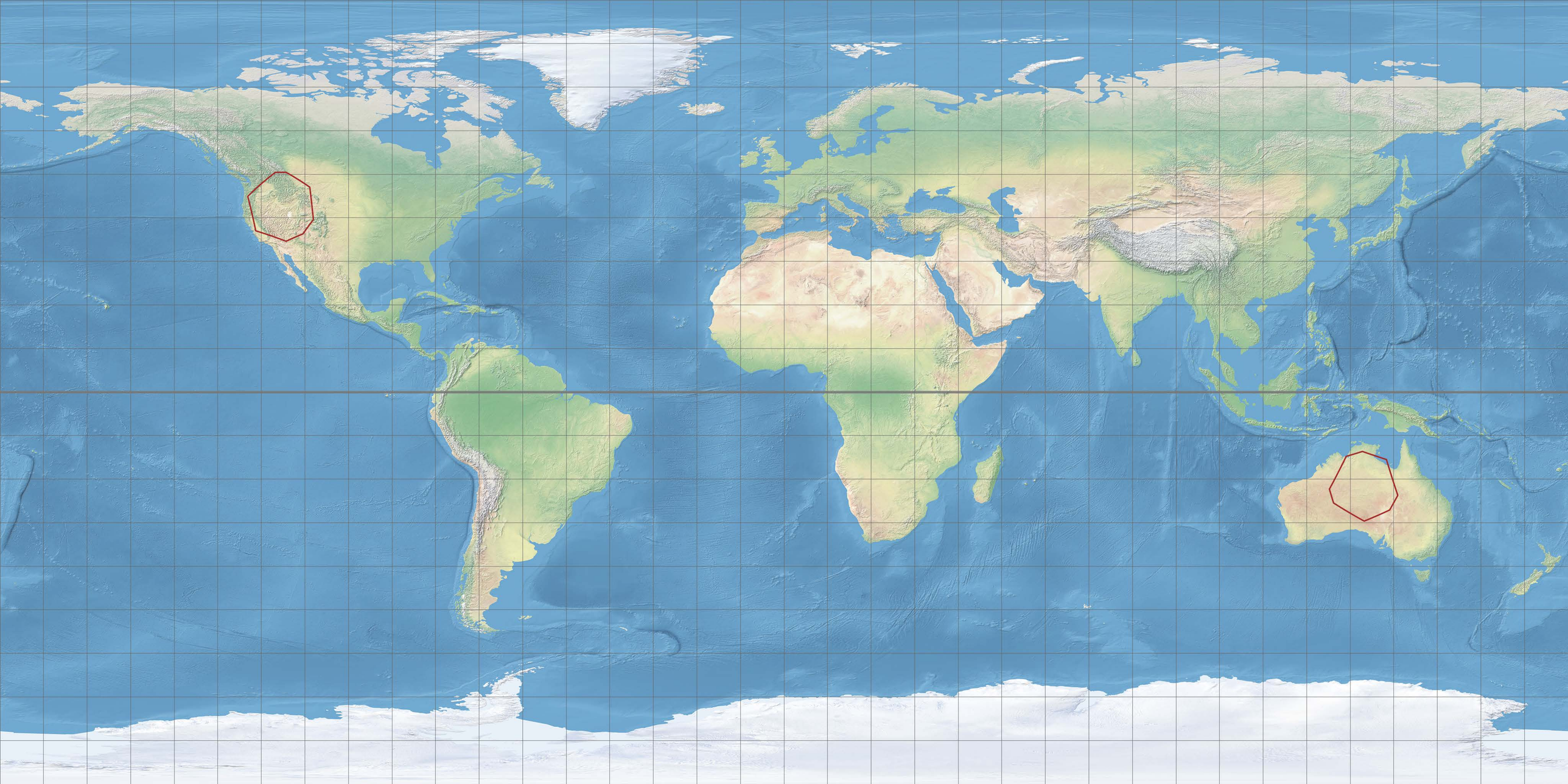


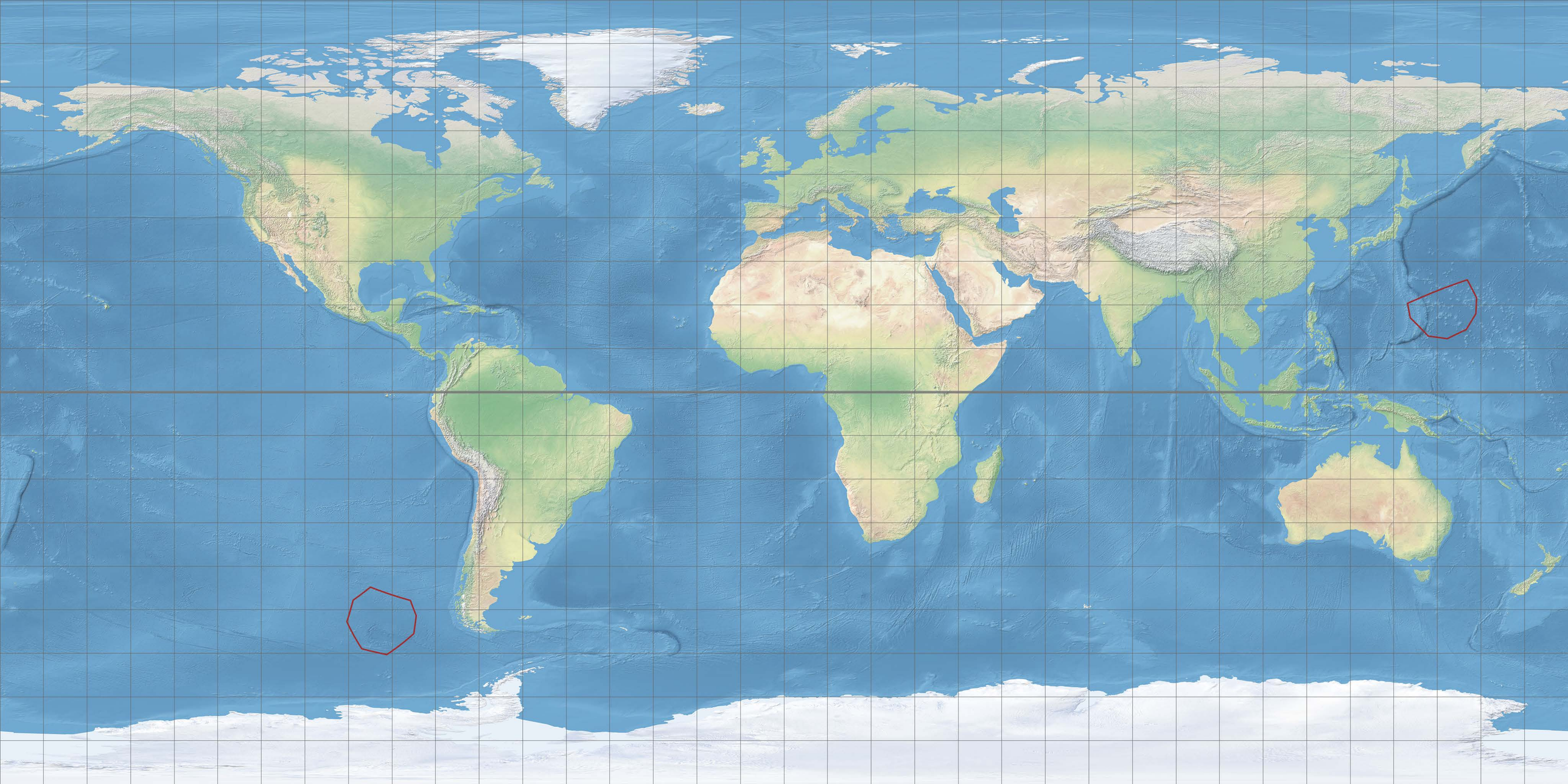




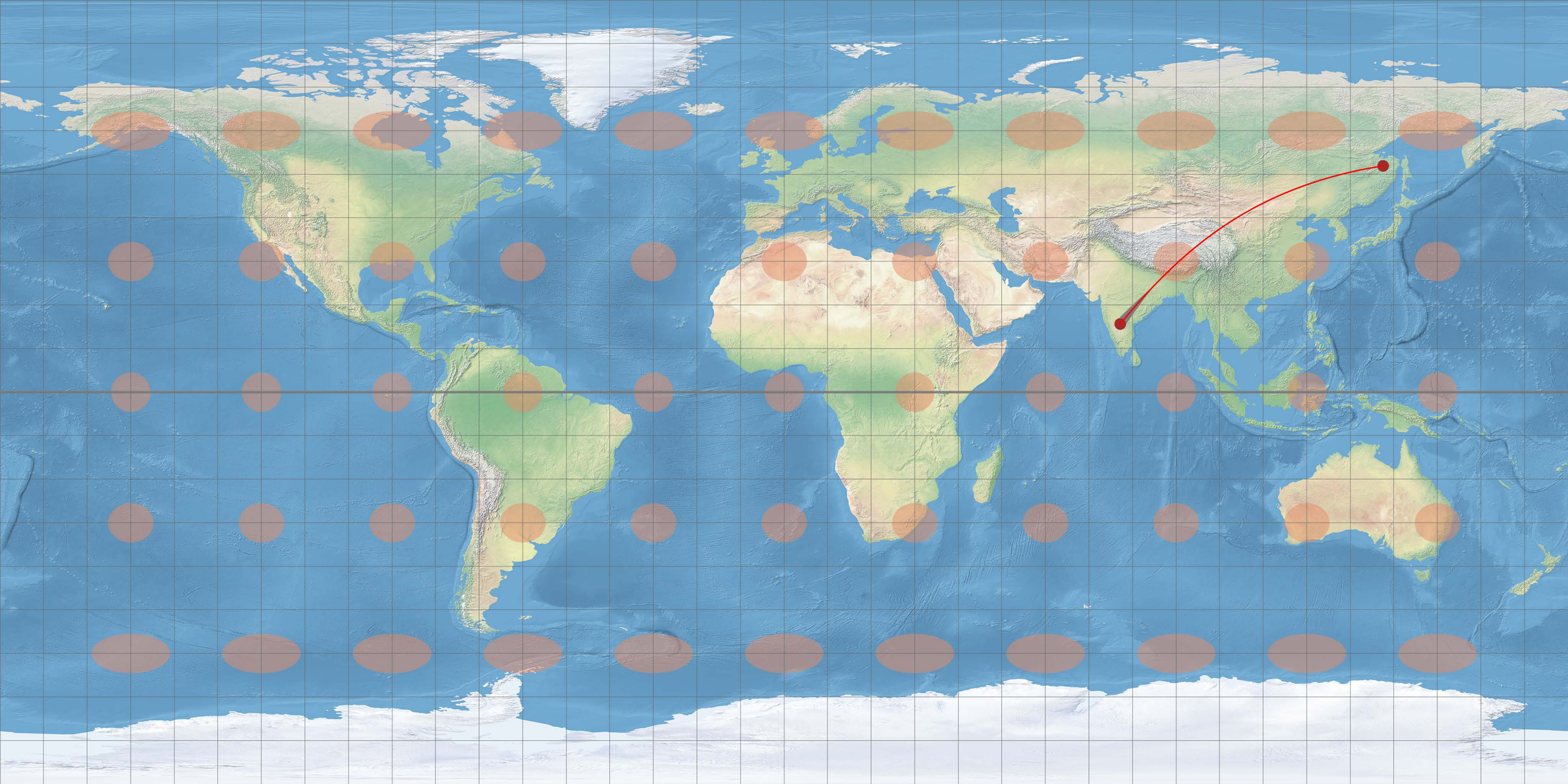


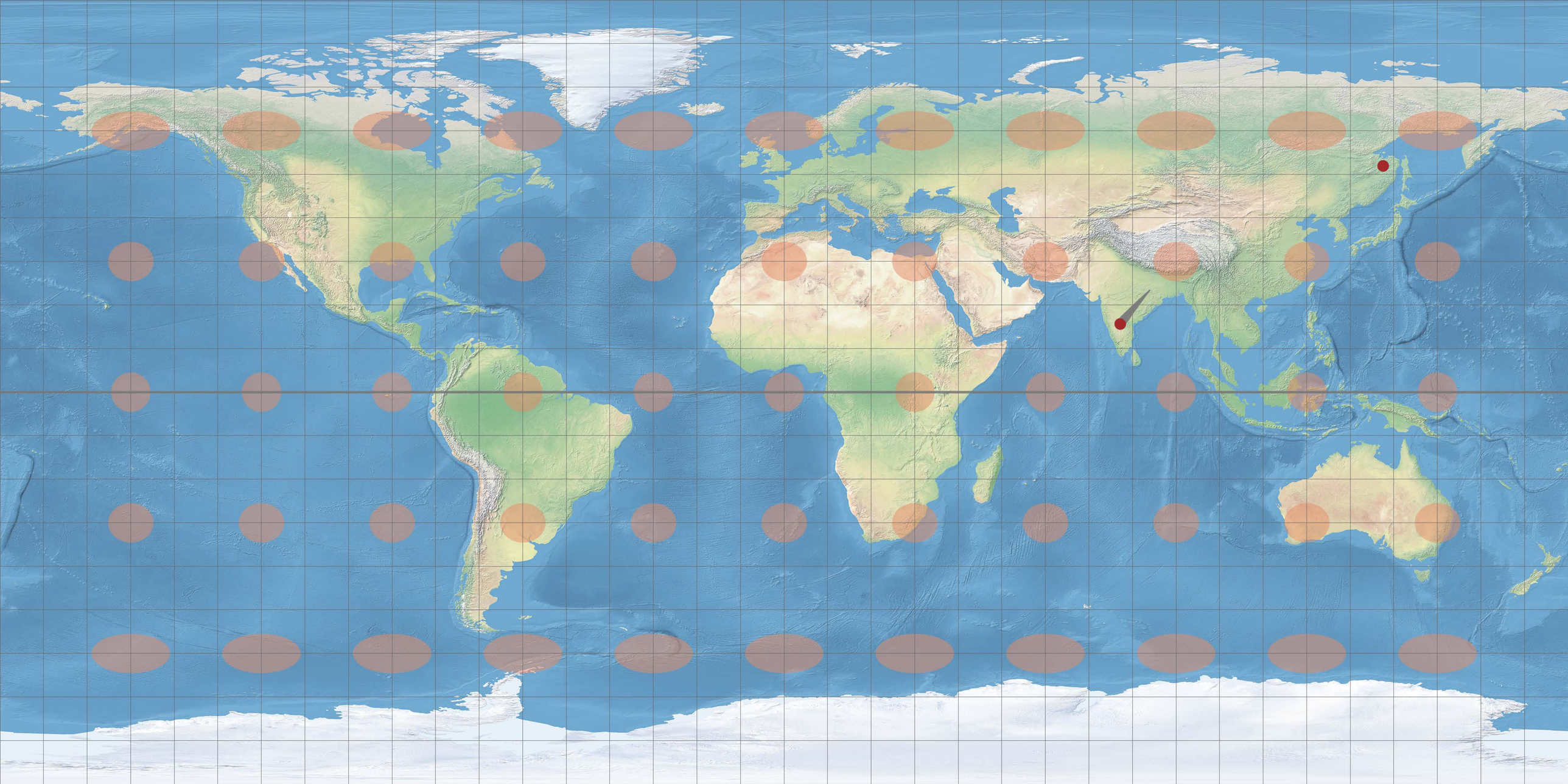


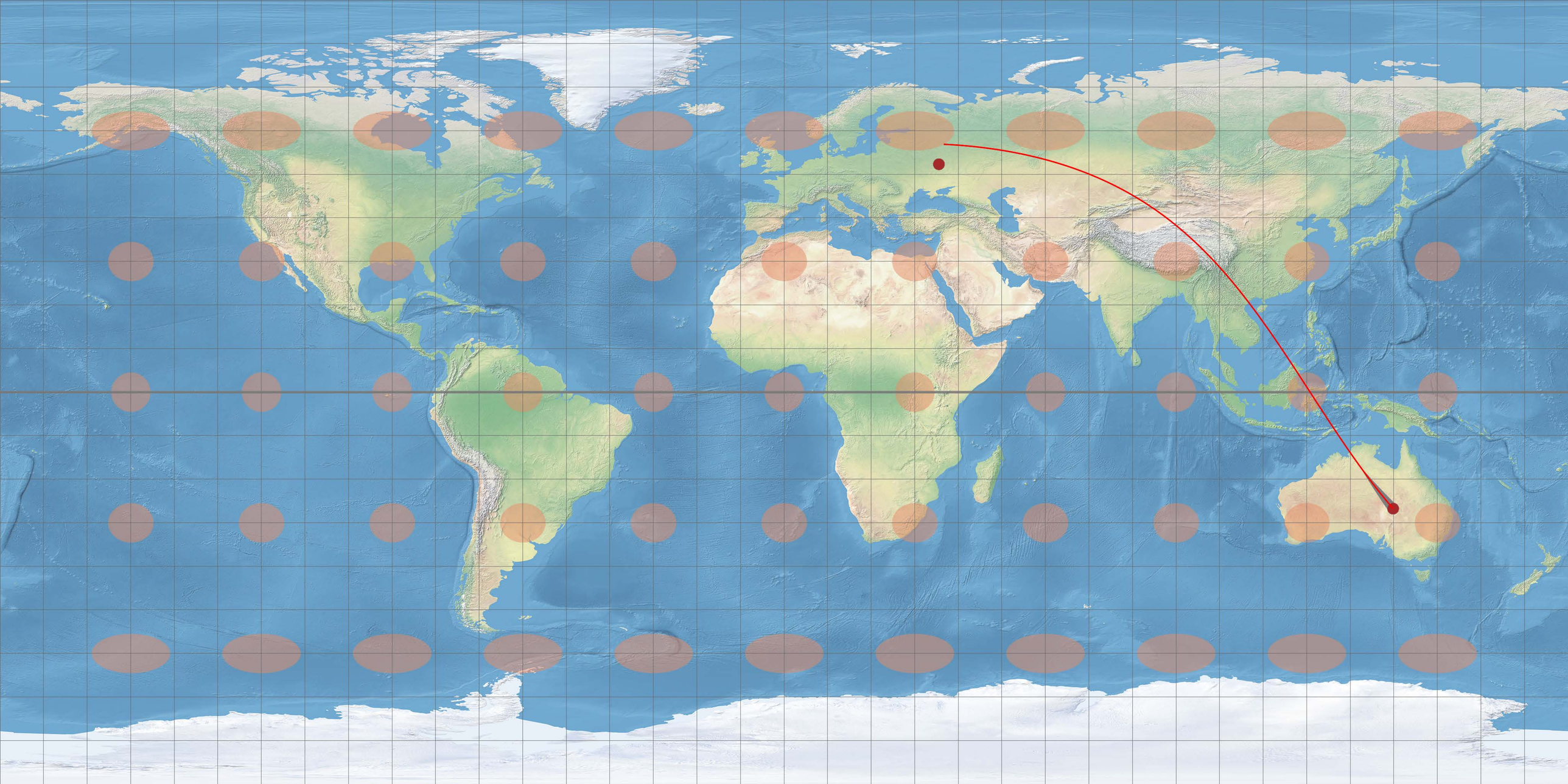


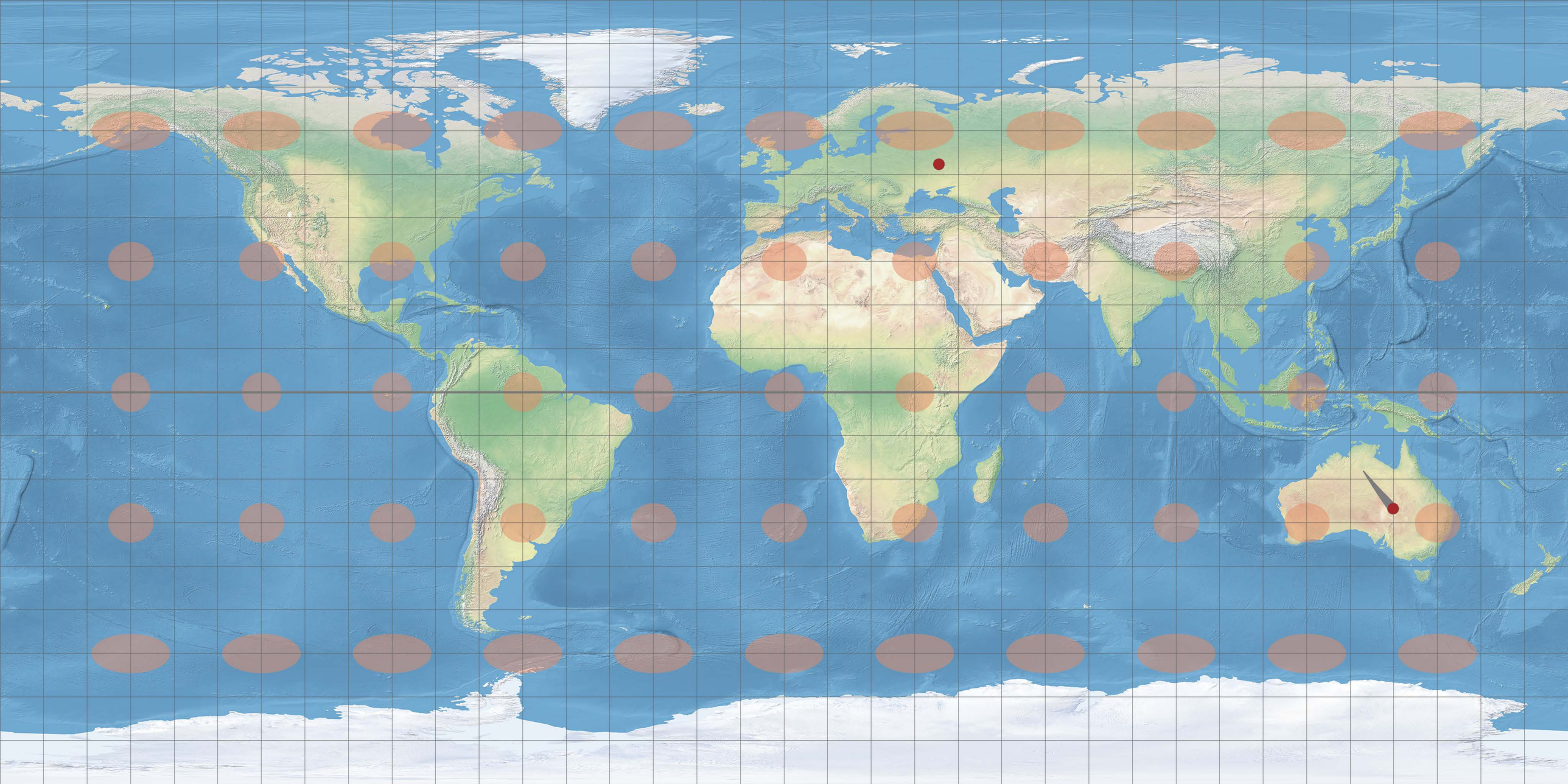


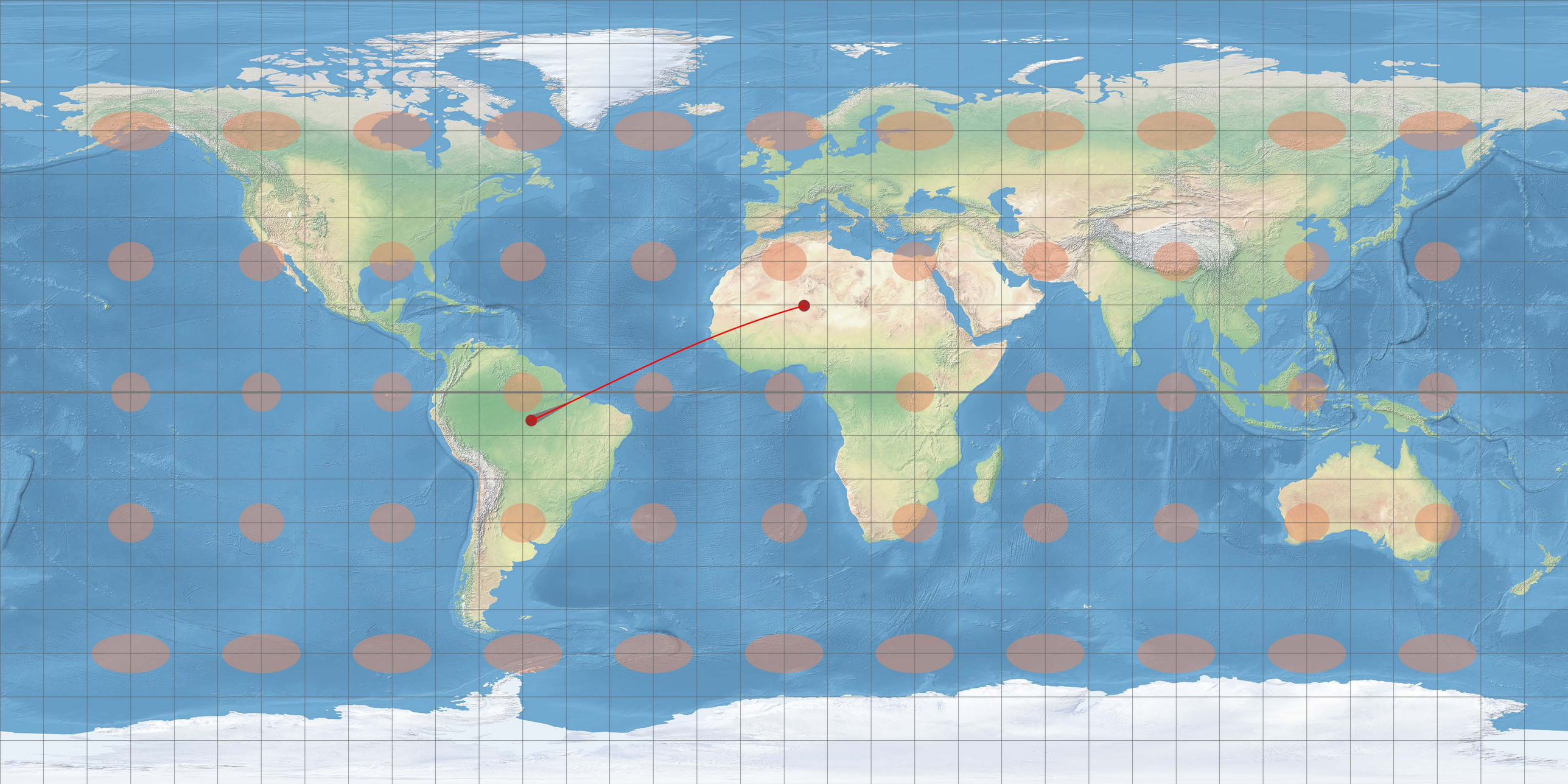
Direction estimation
Training (with correct answers shown to participants)

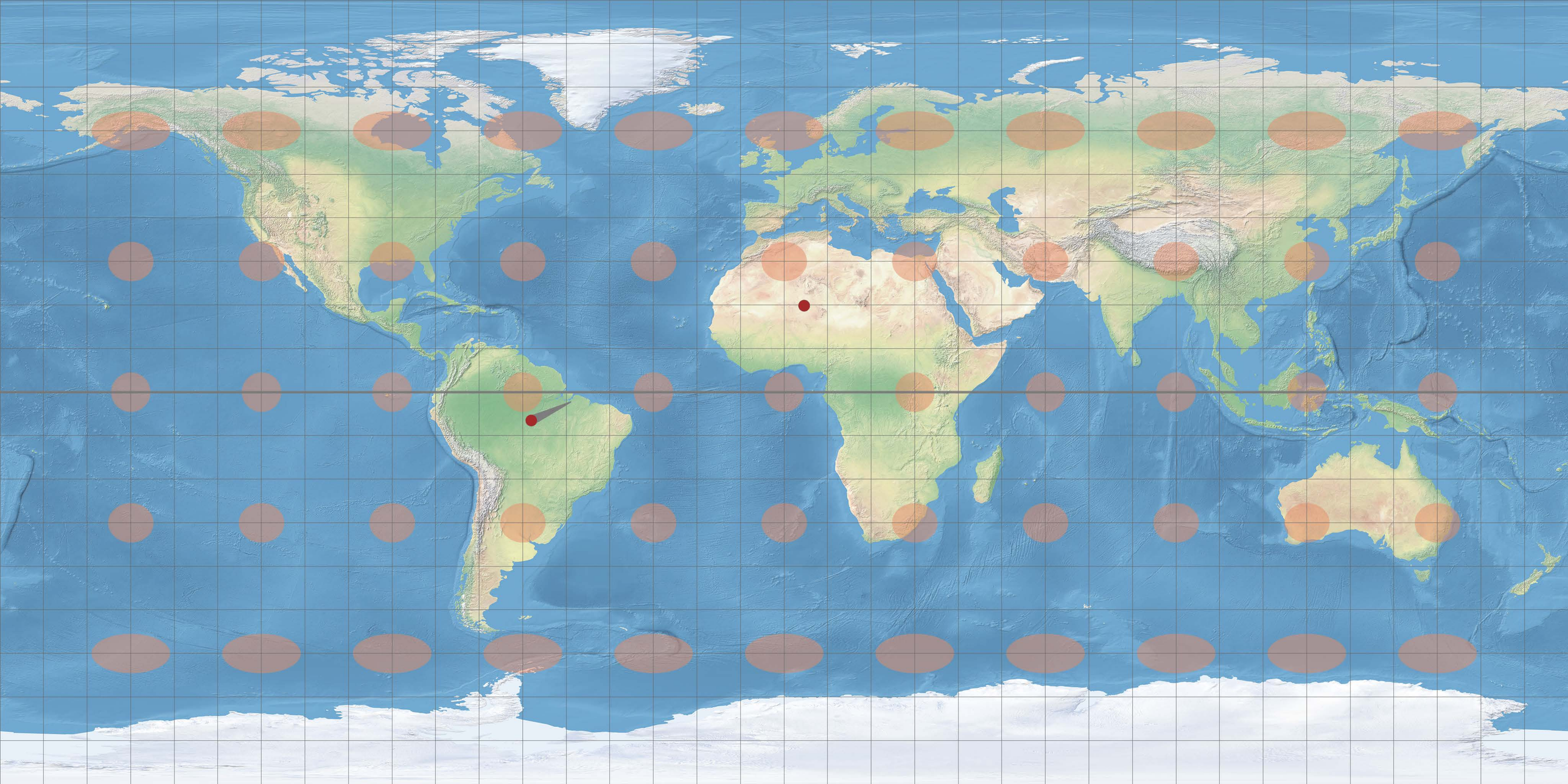


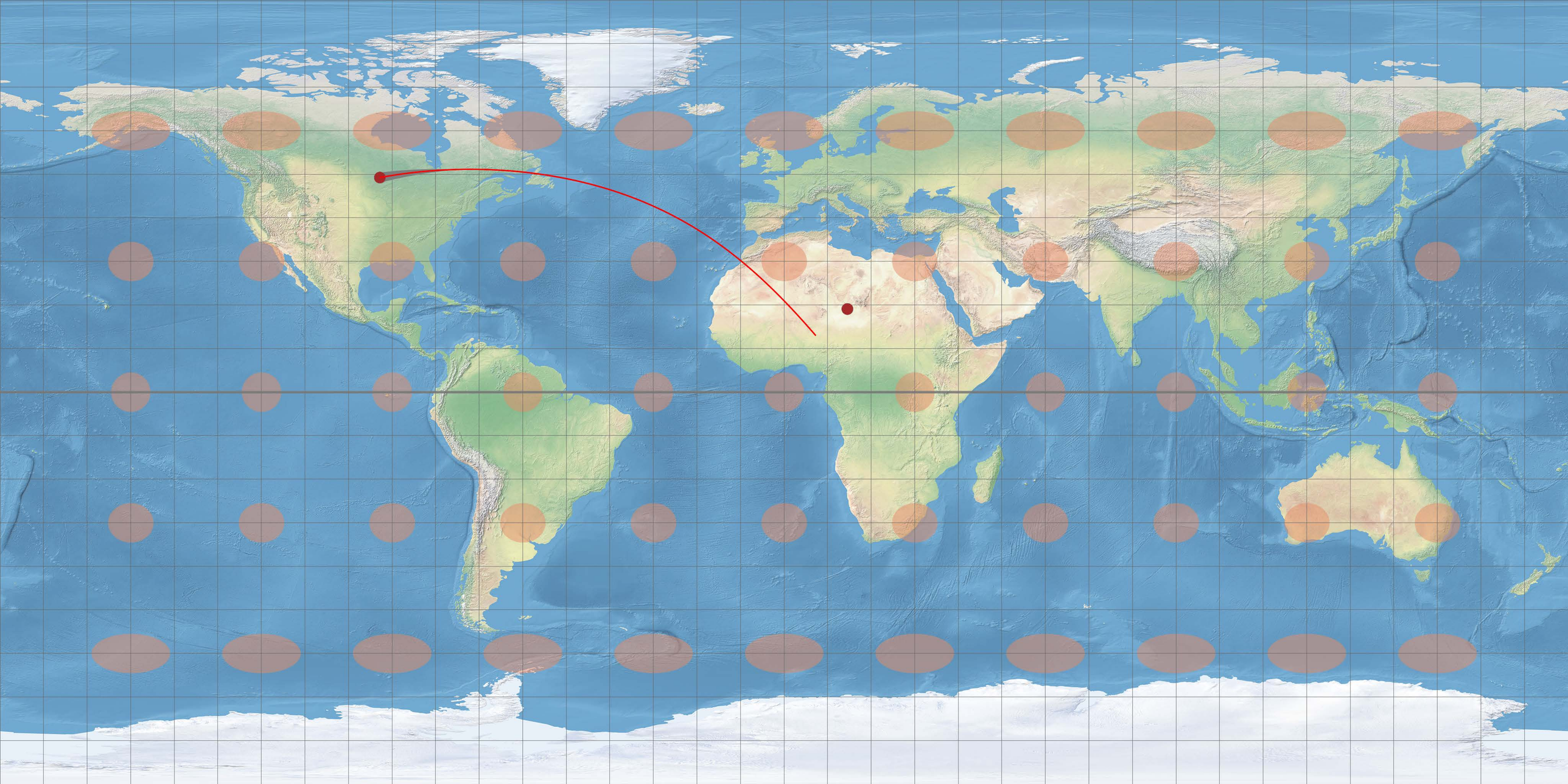


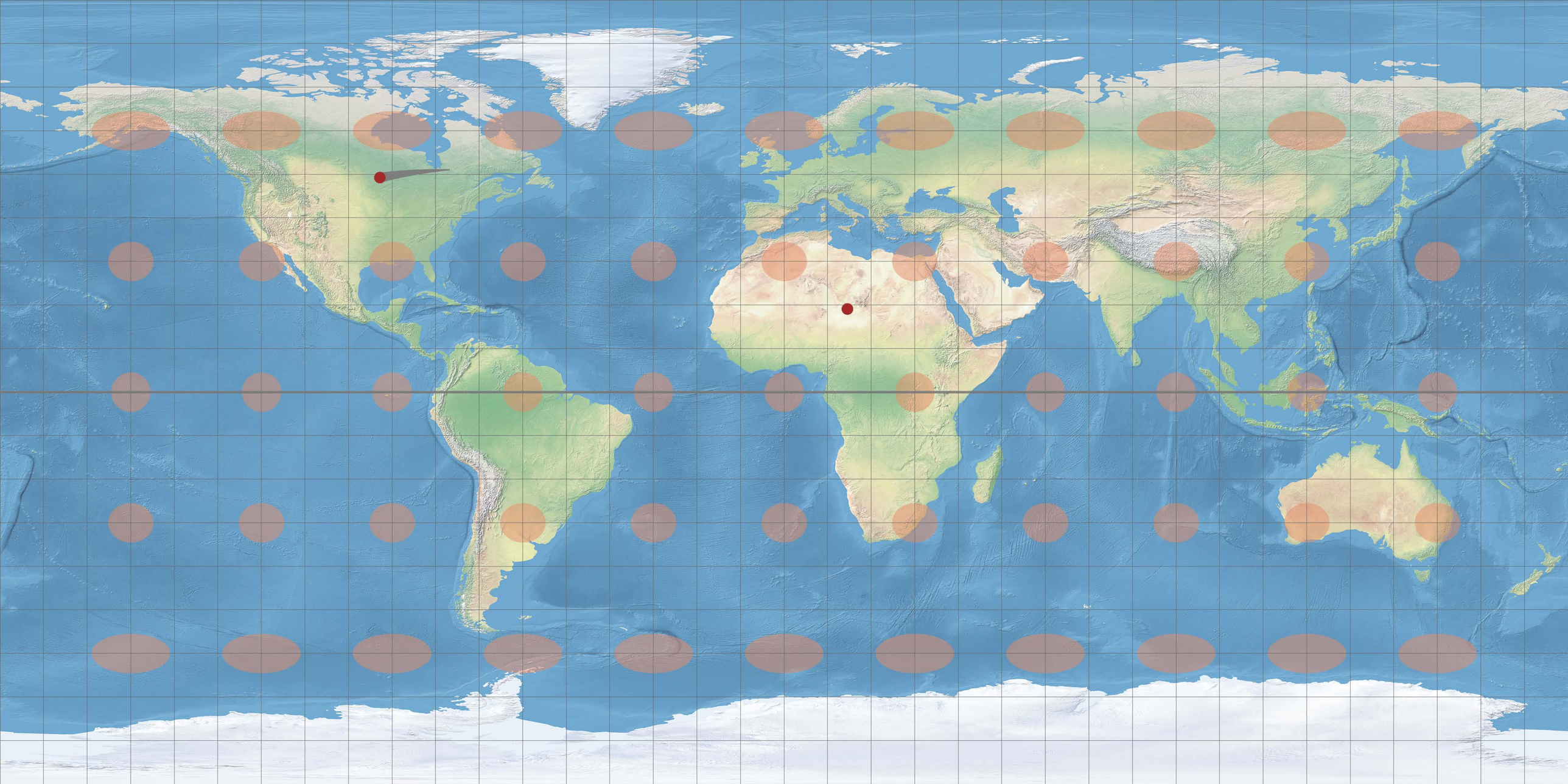


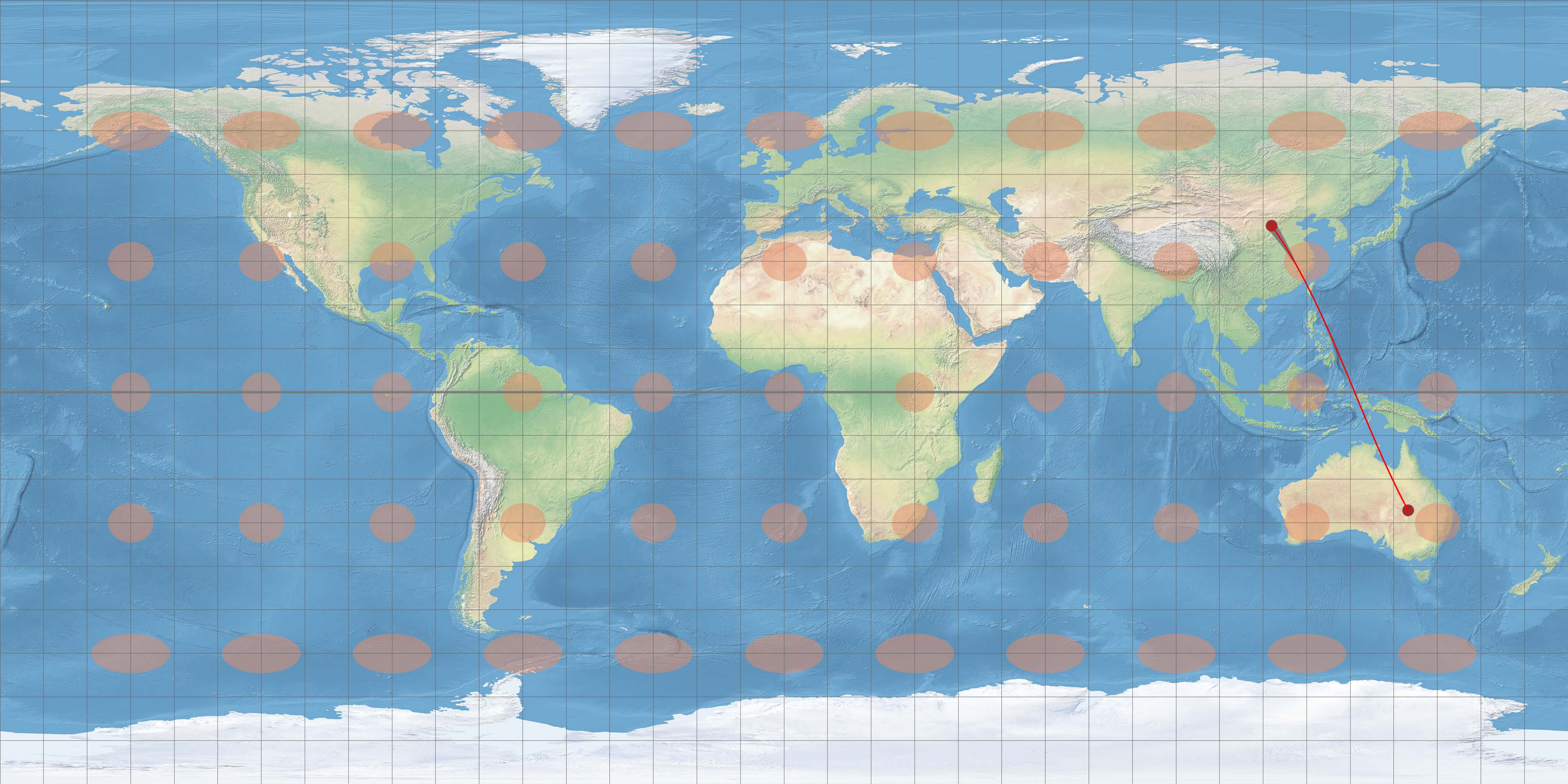


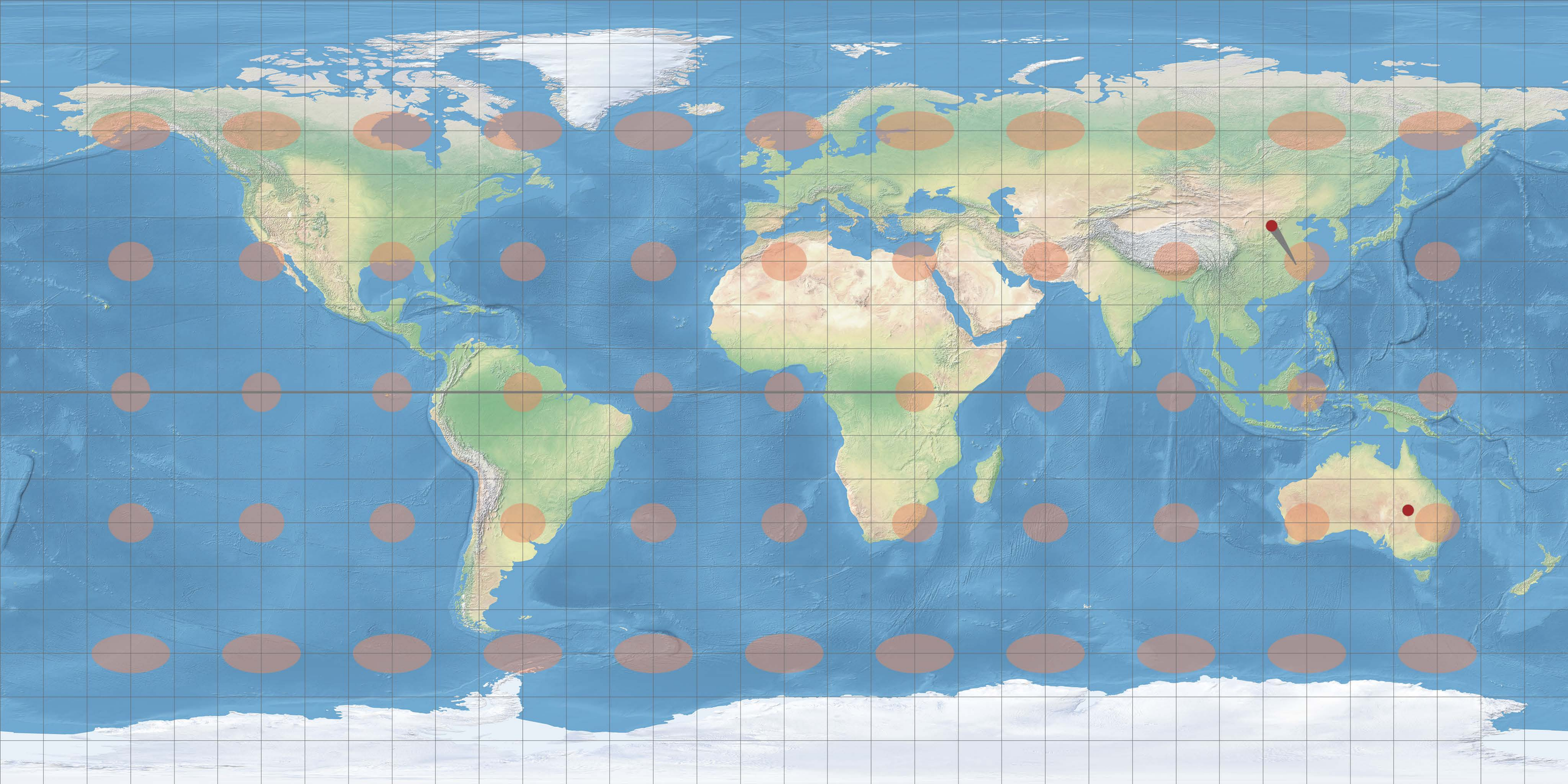


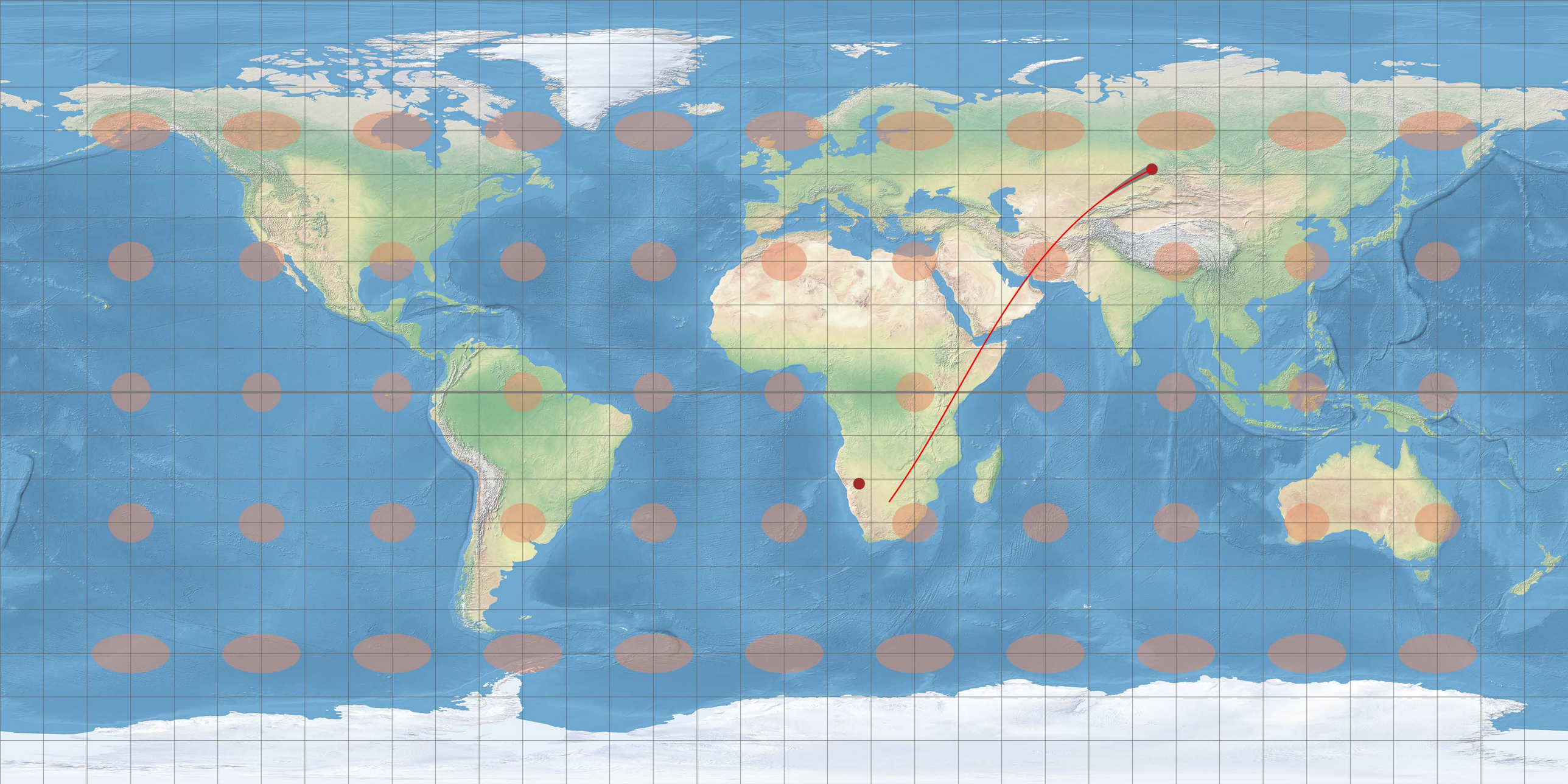


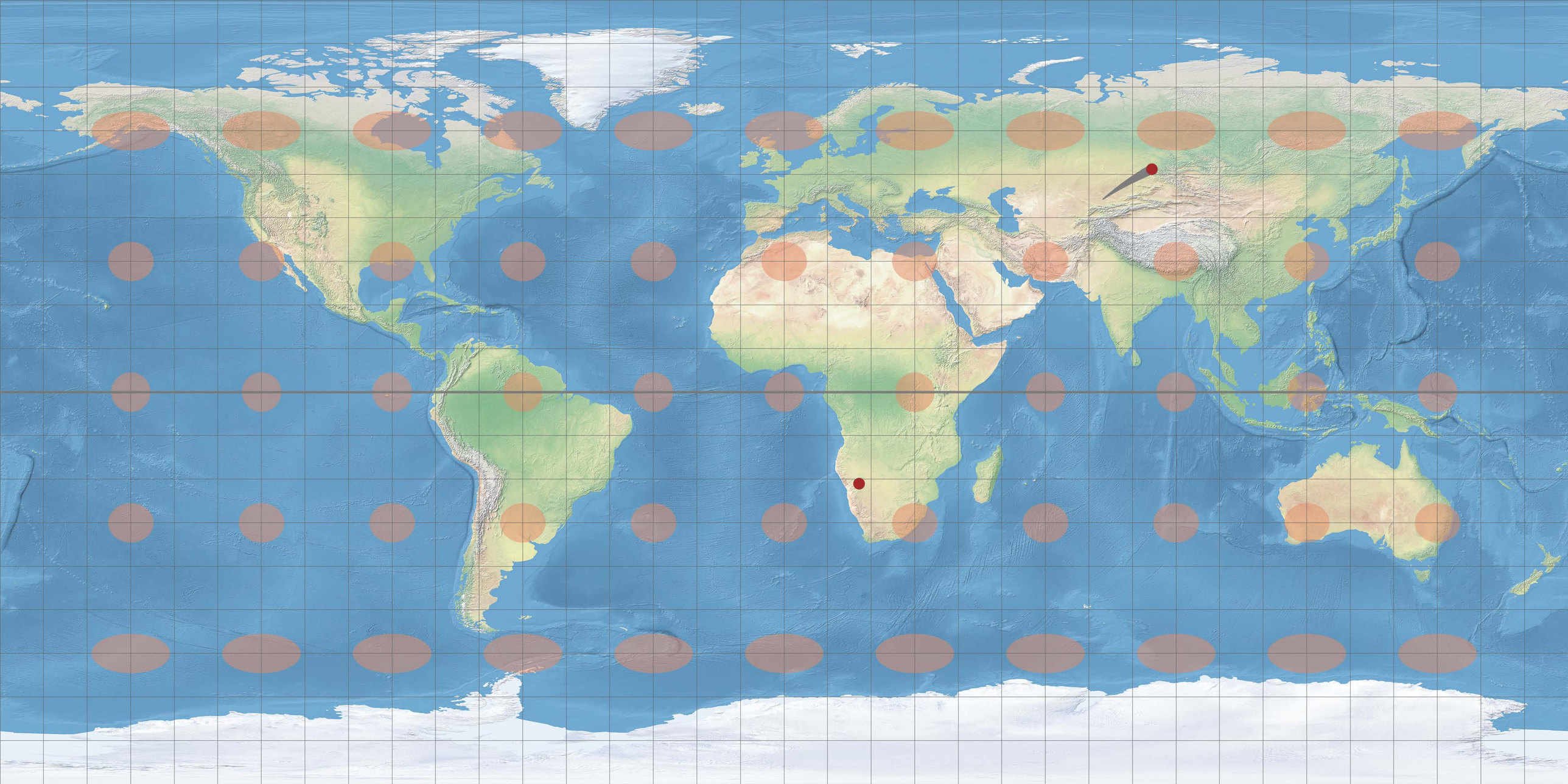


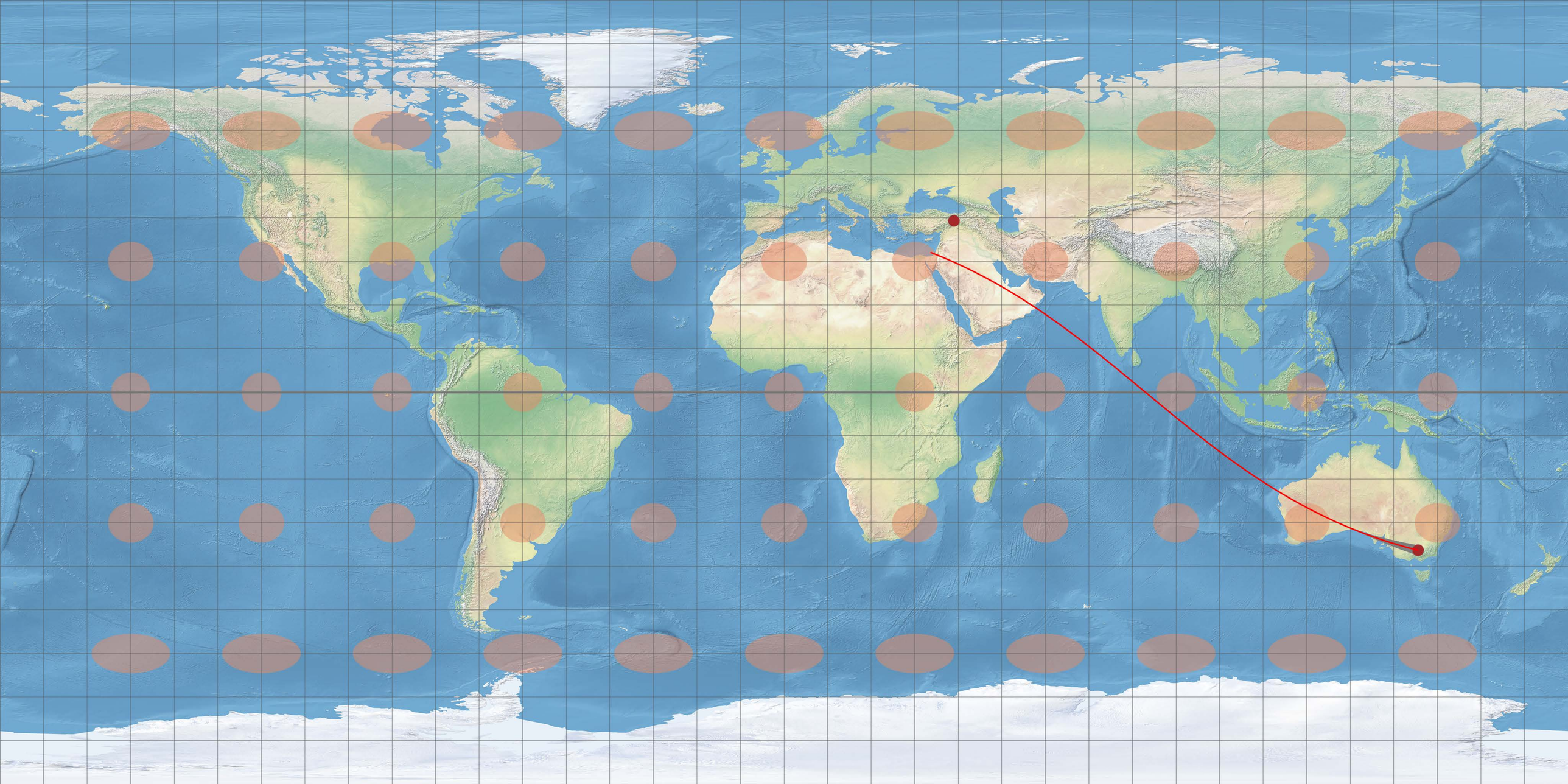


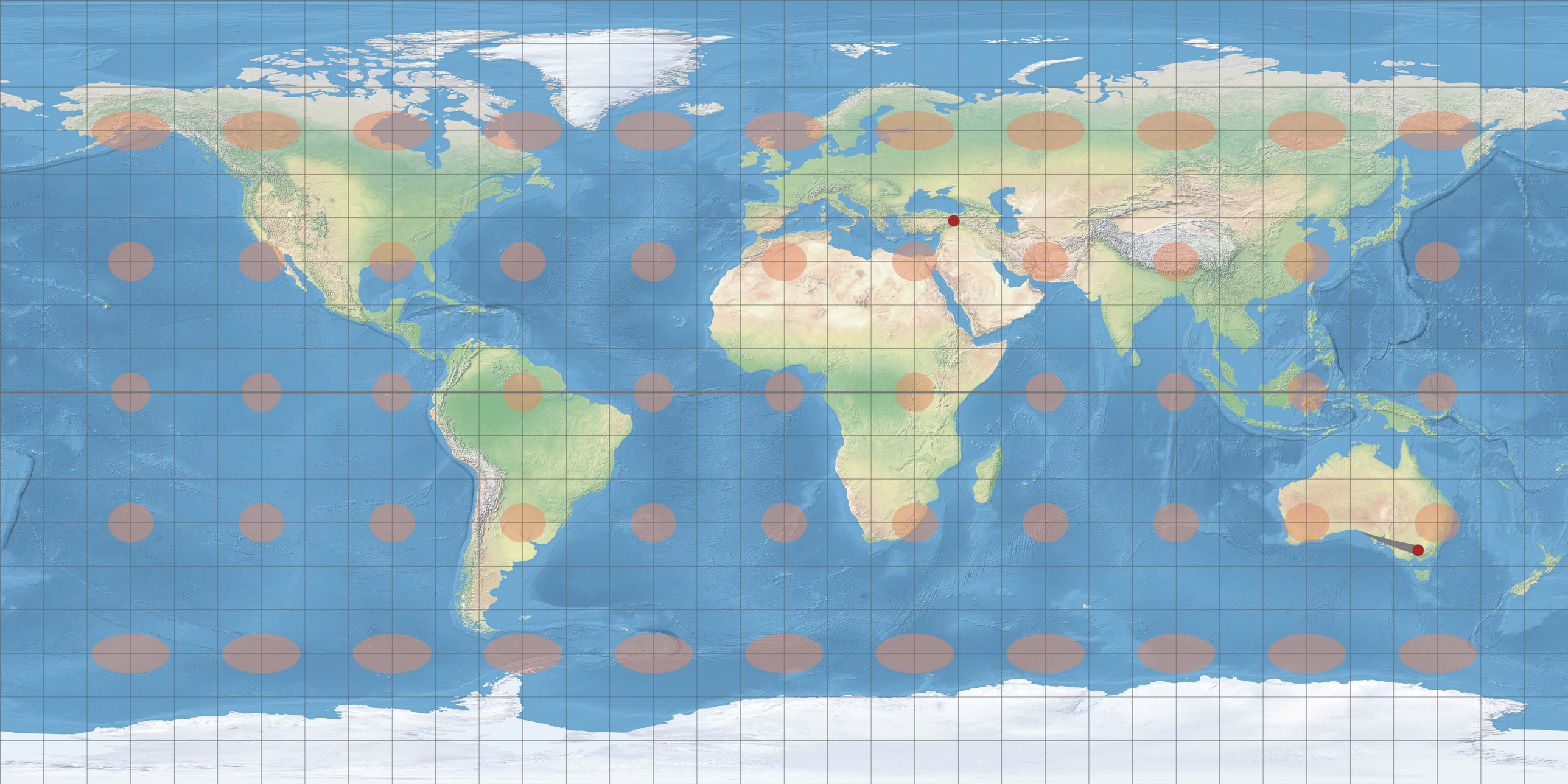


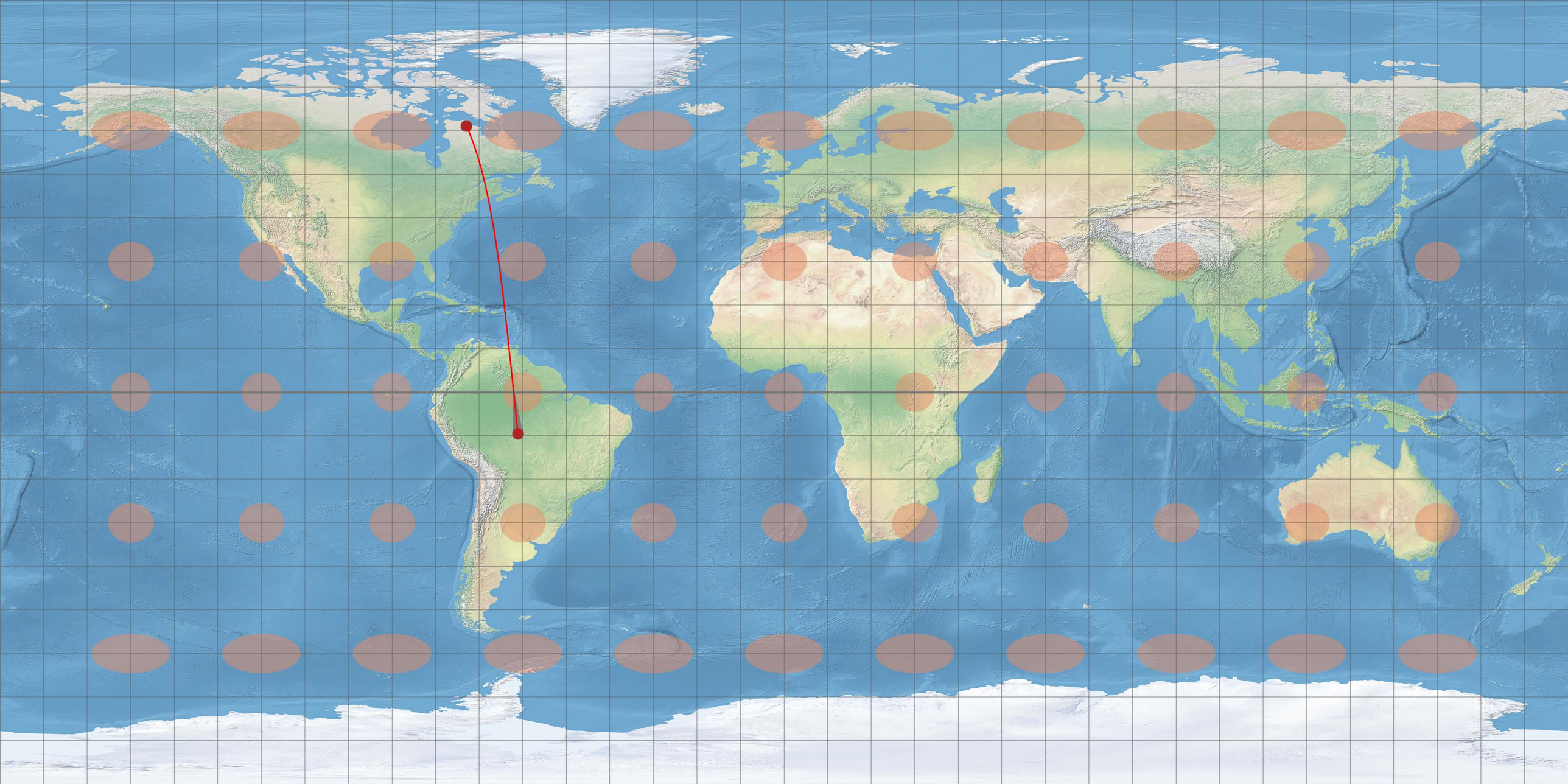


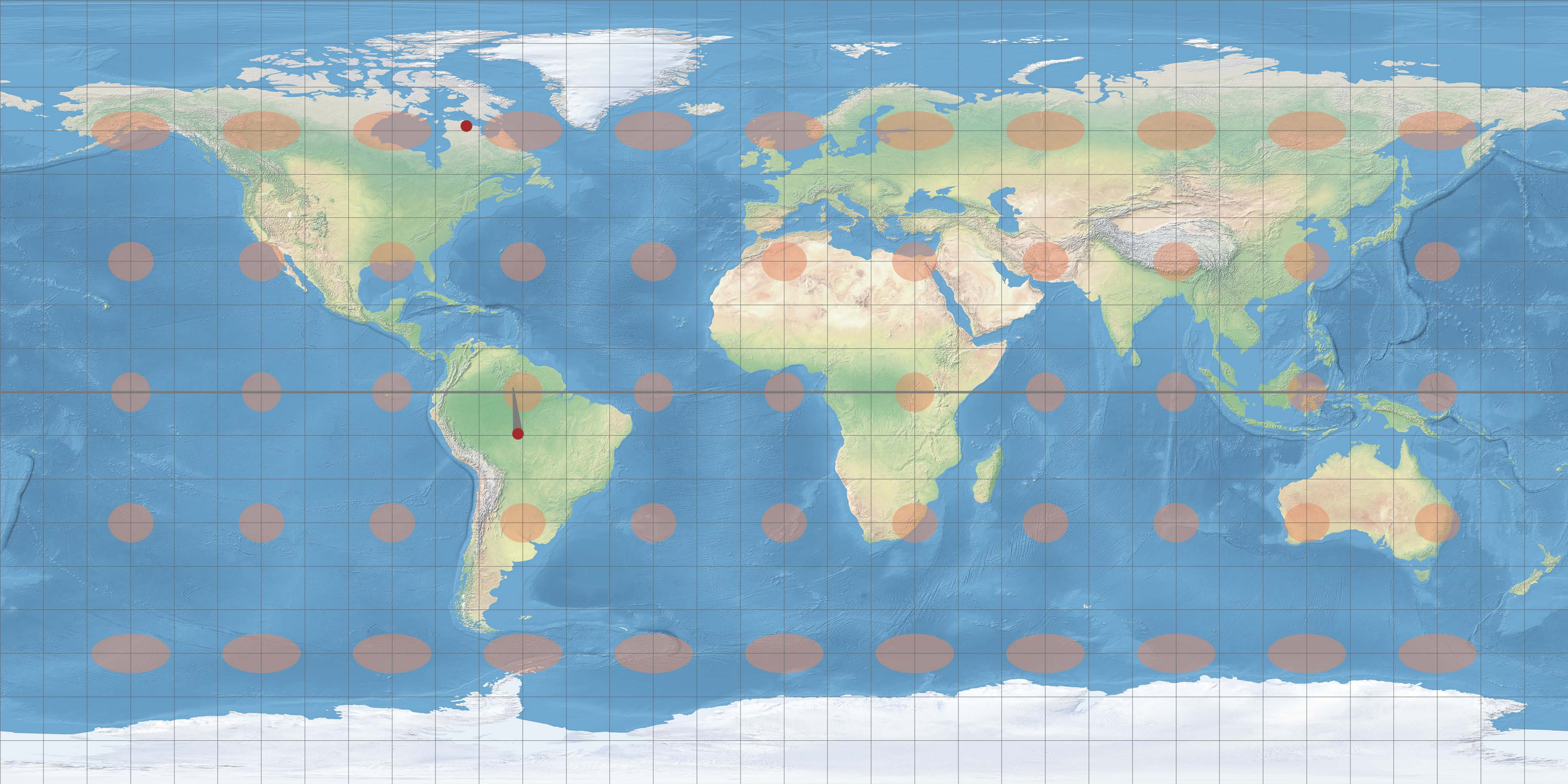




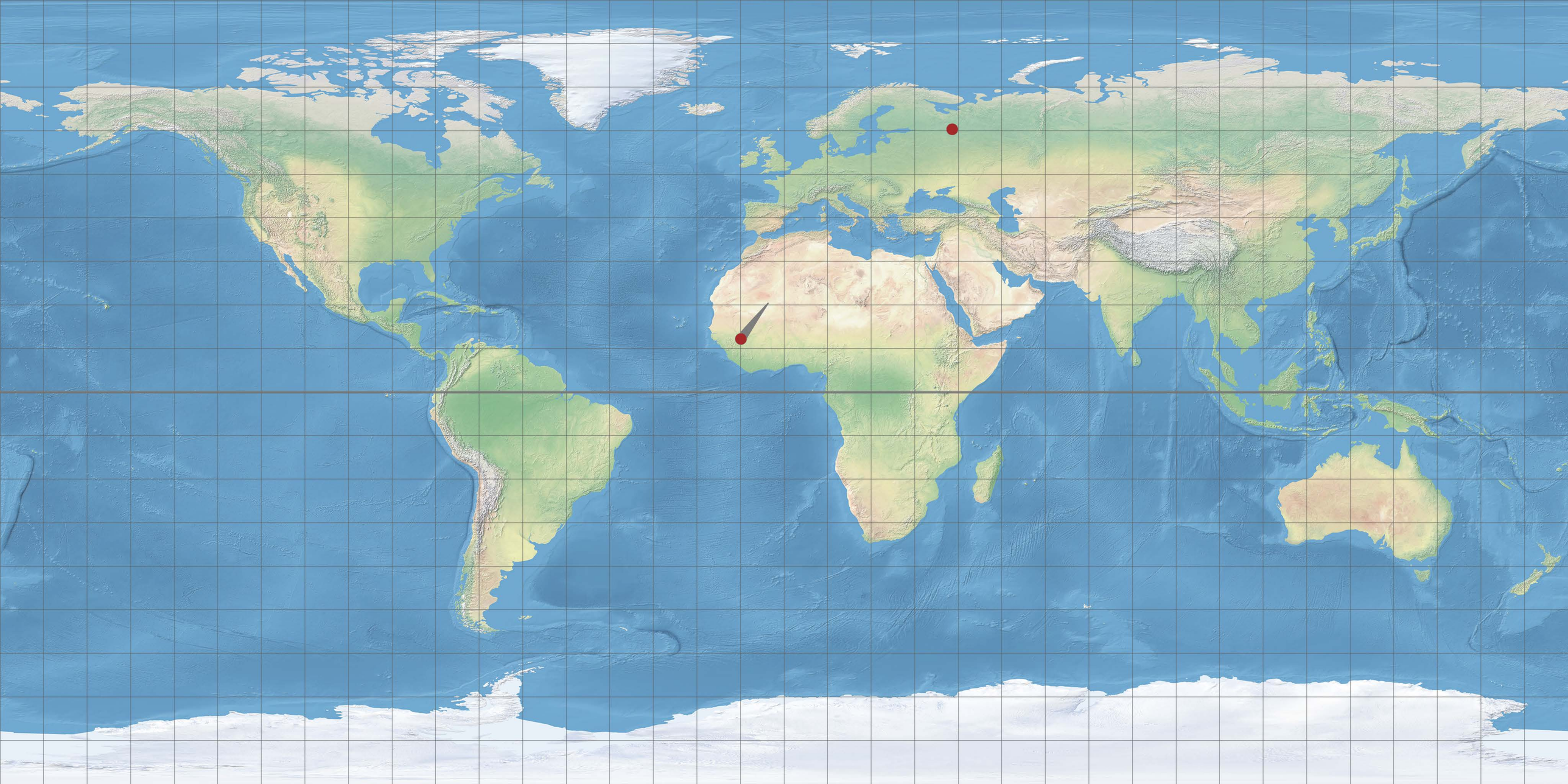


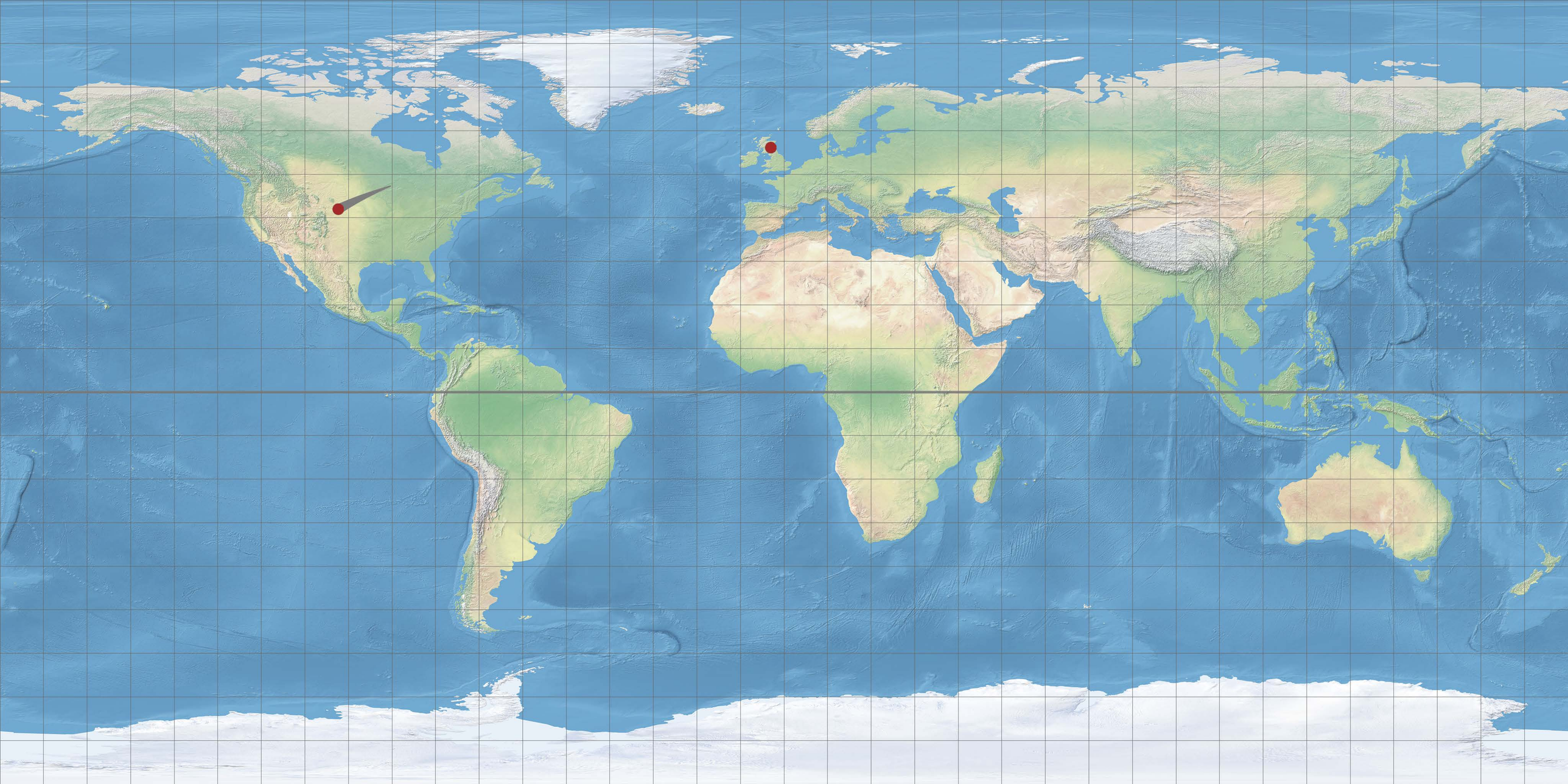


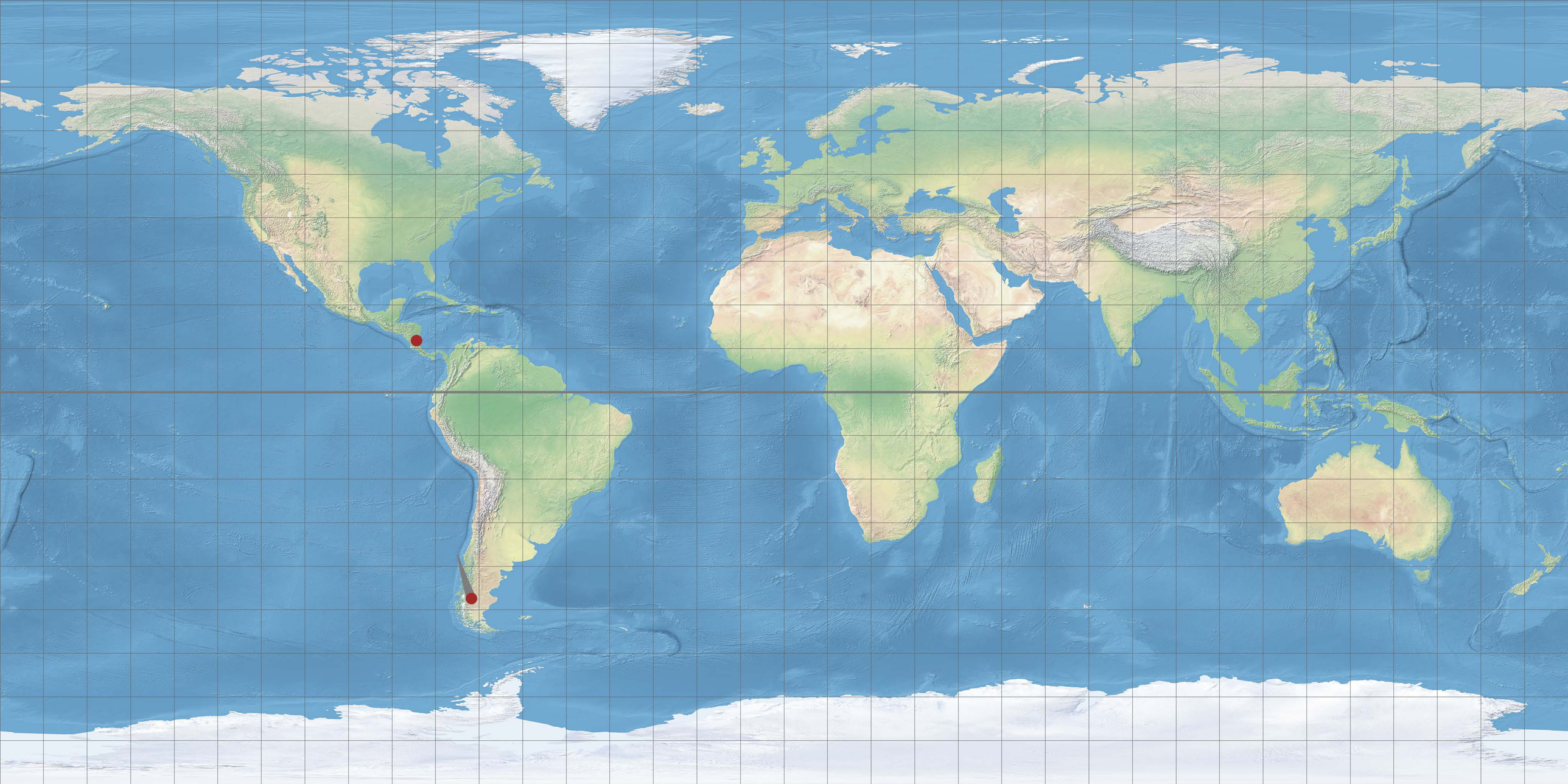


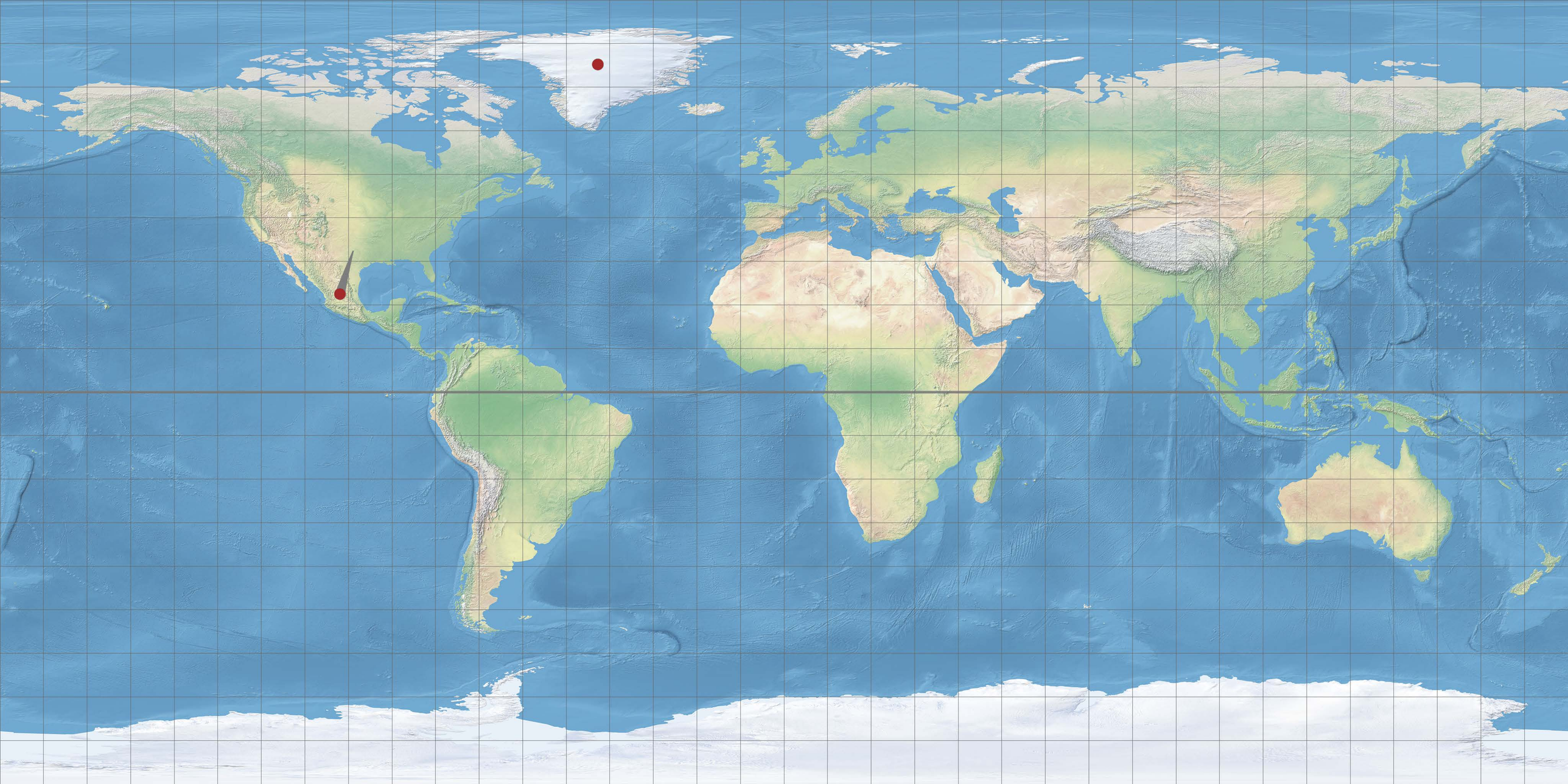


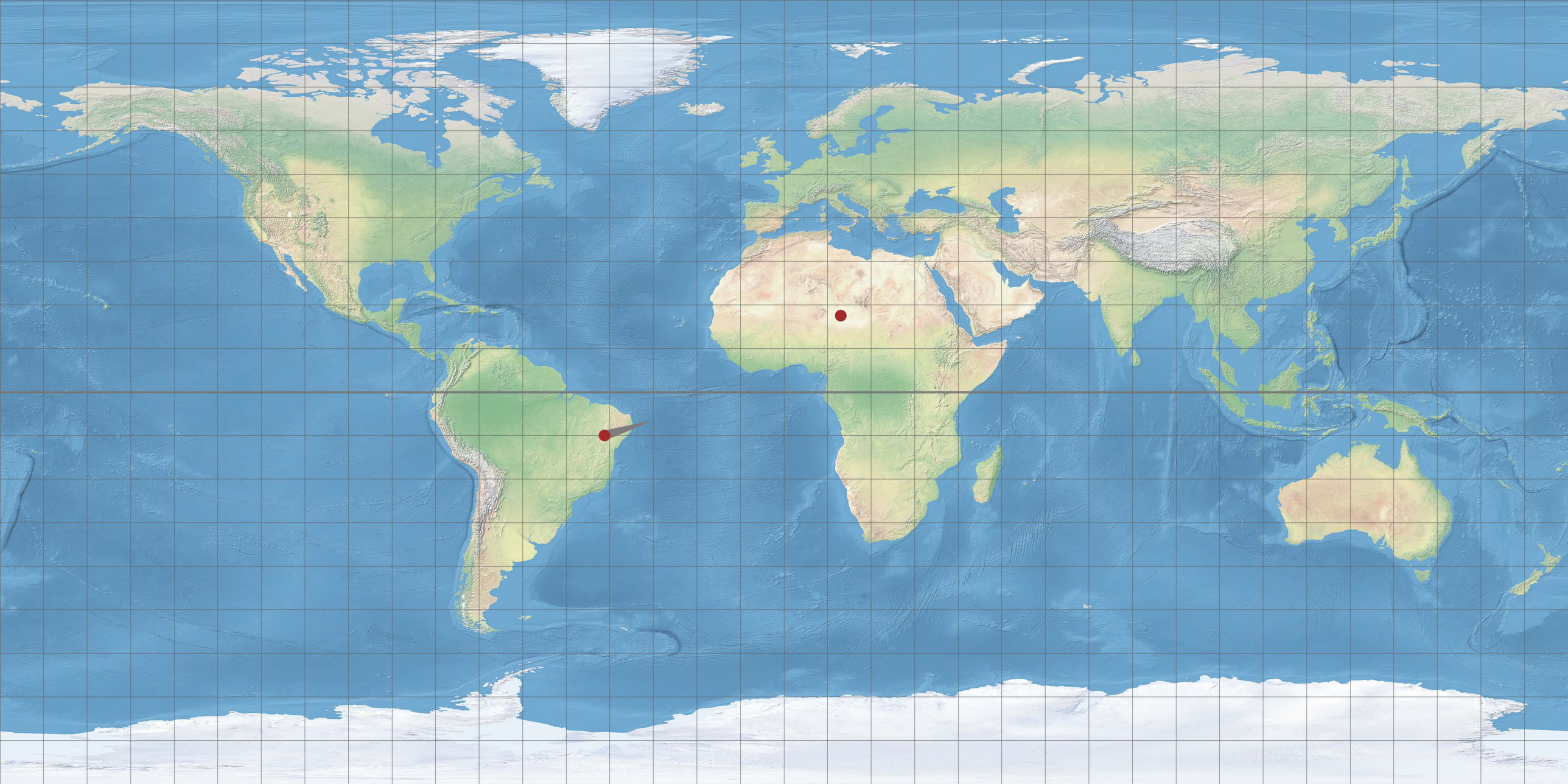
Direction estimation
Close distance condition

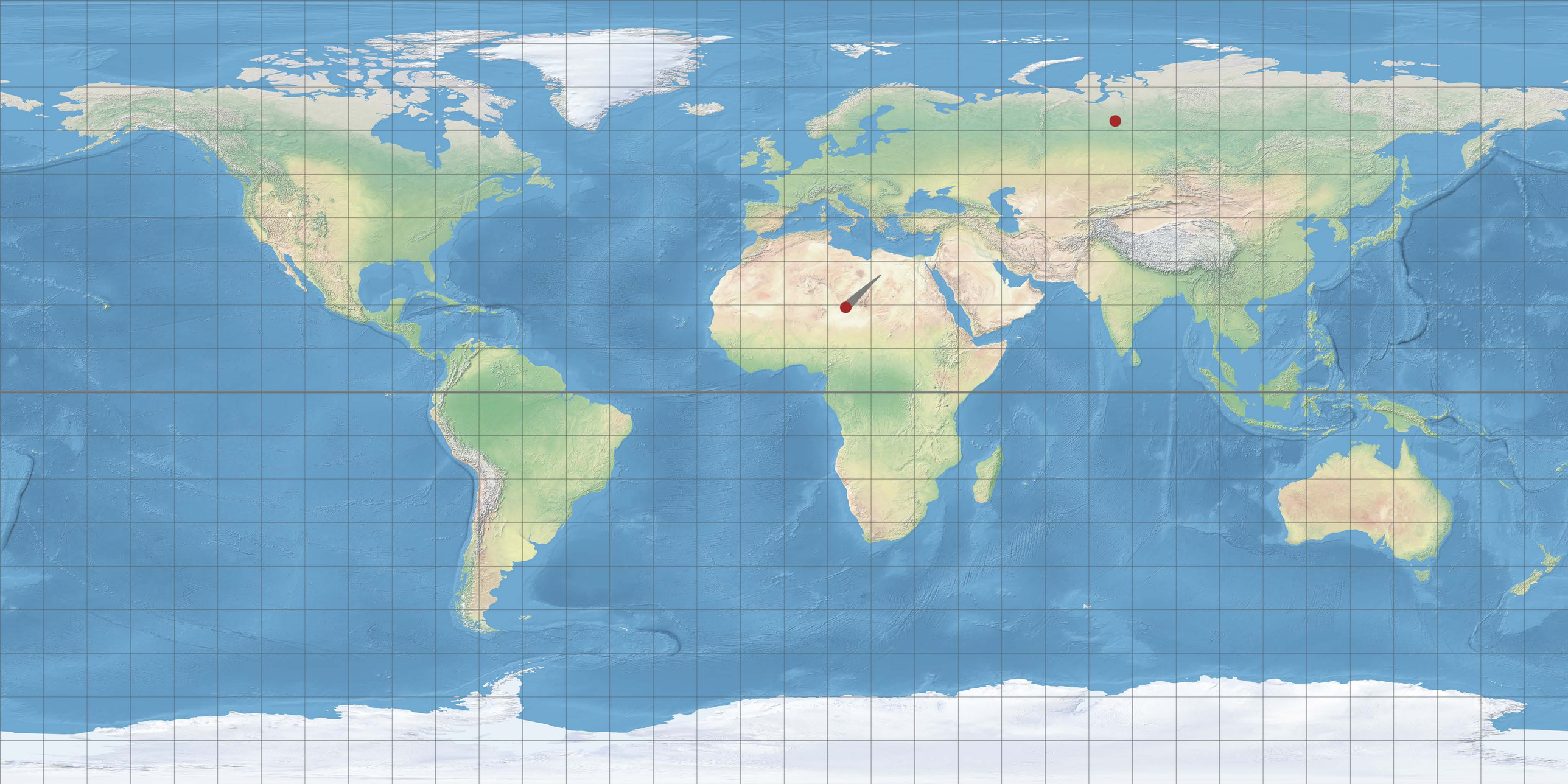


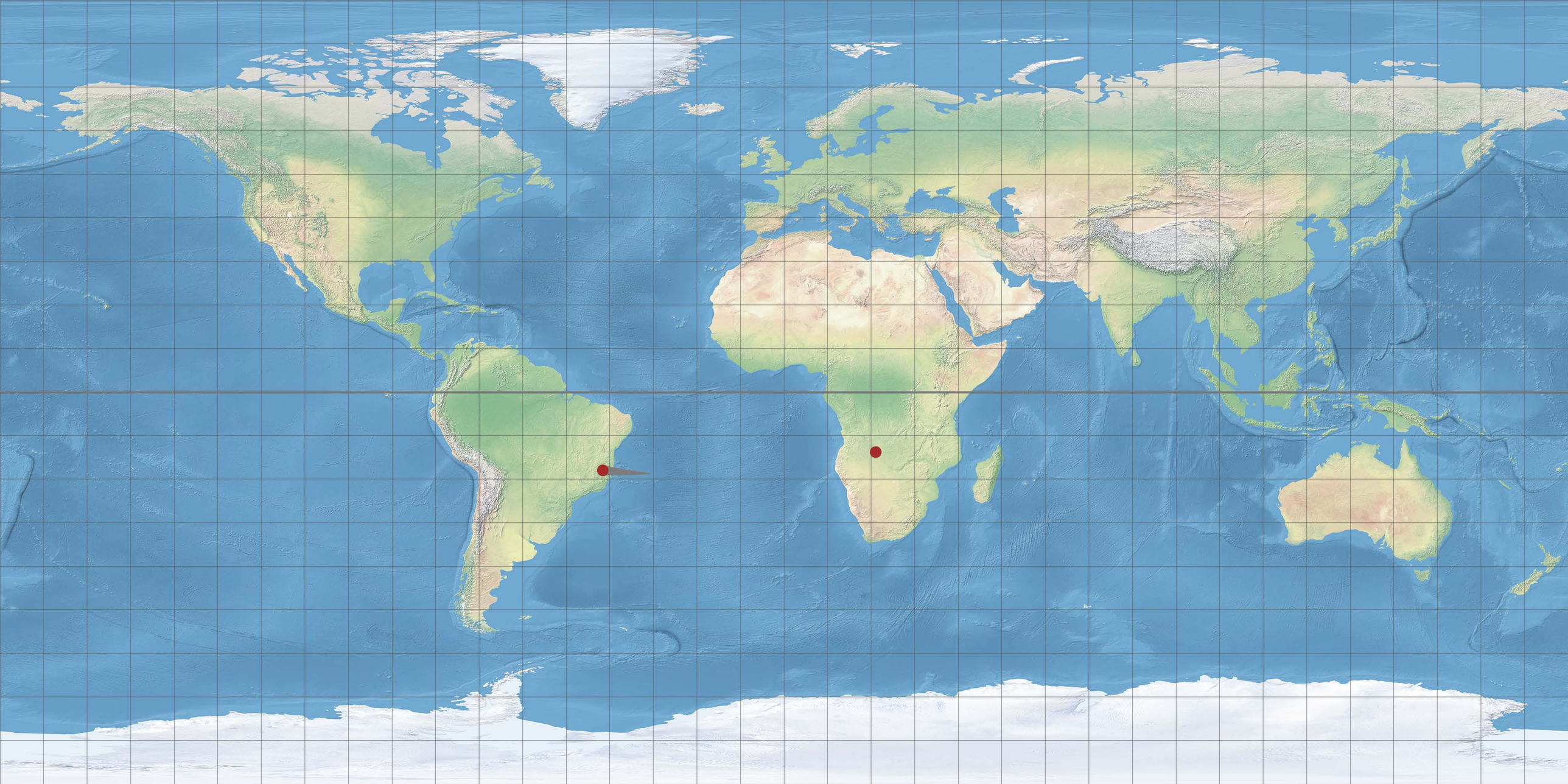


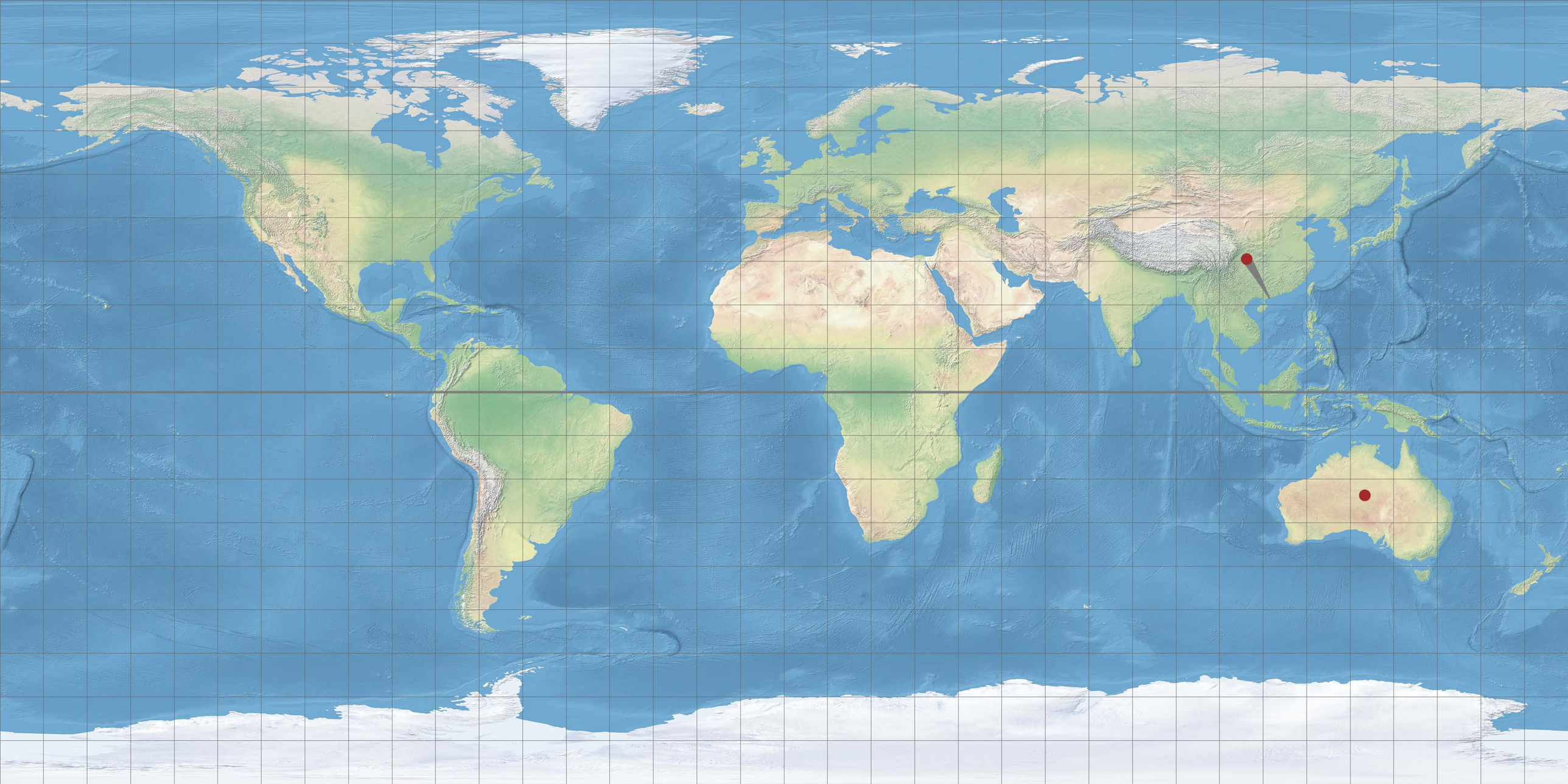


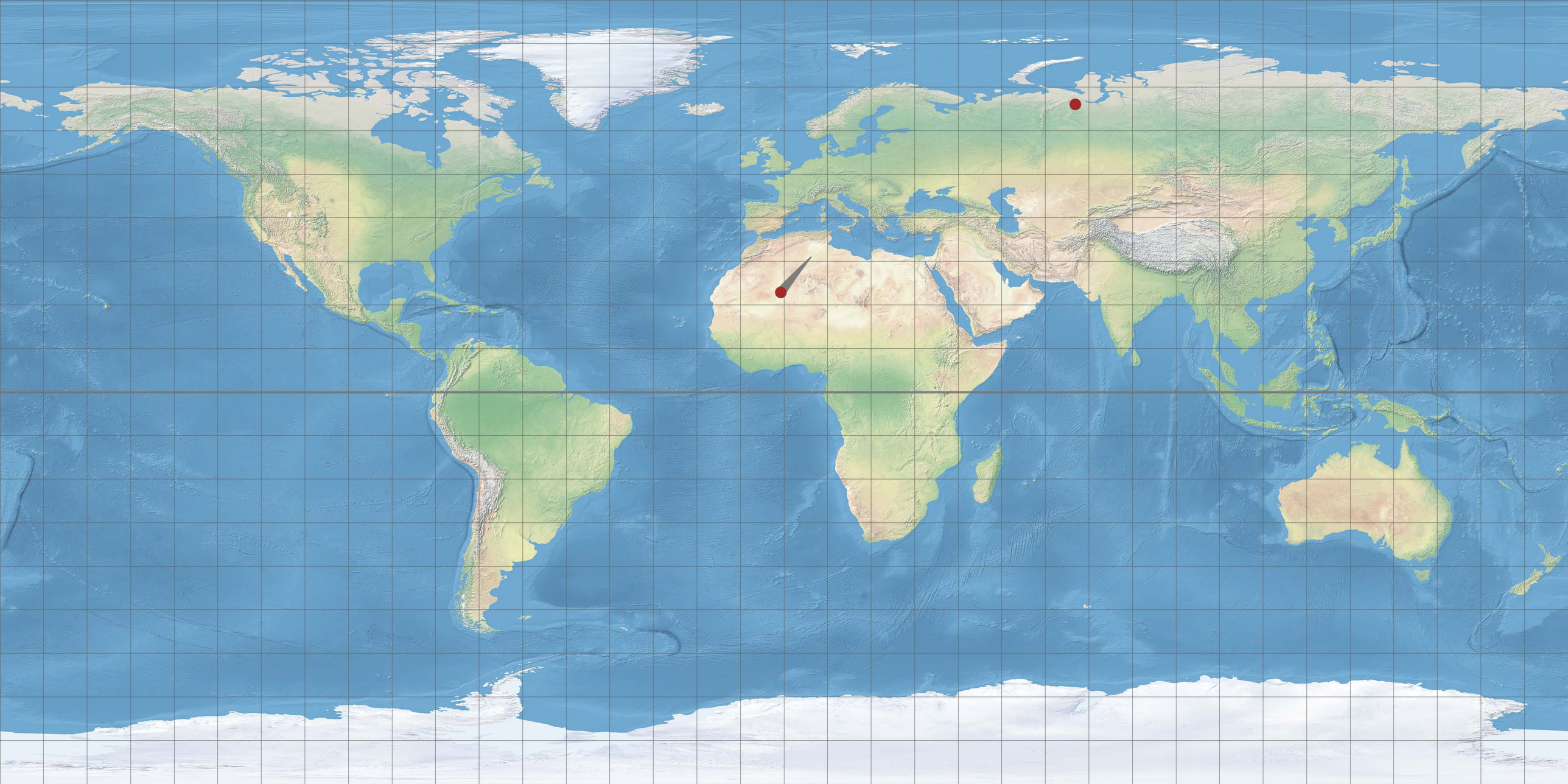


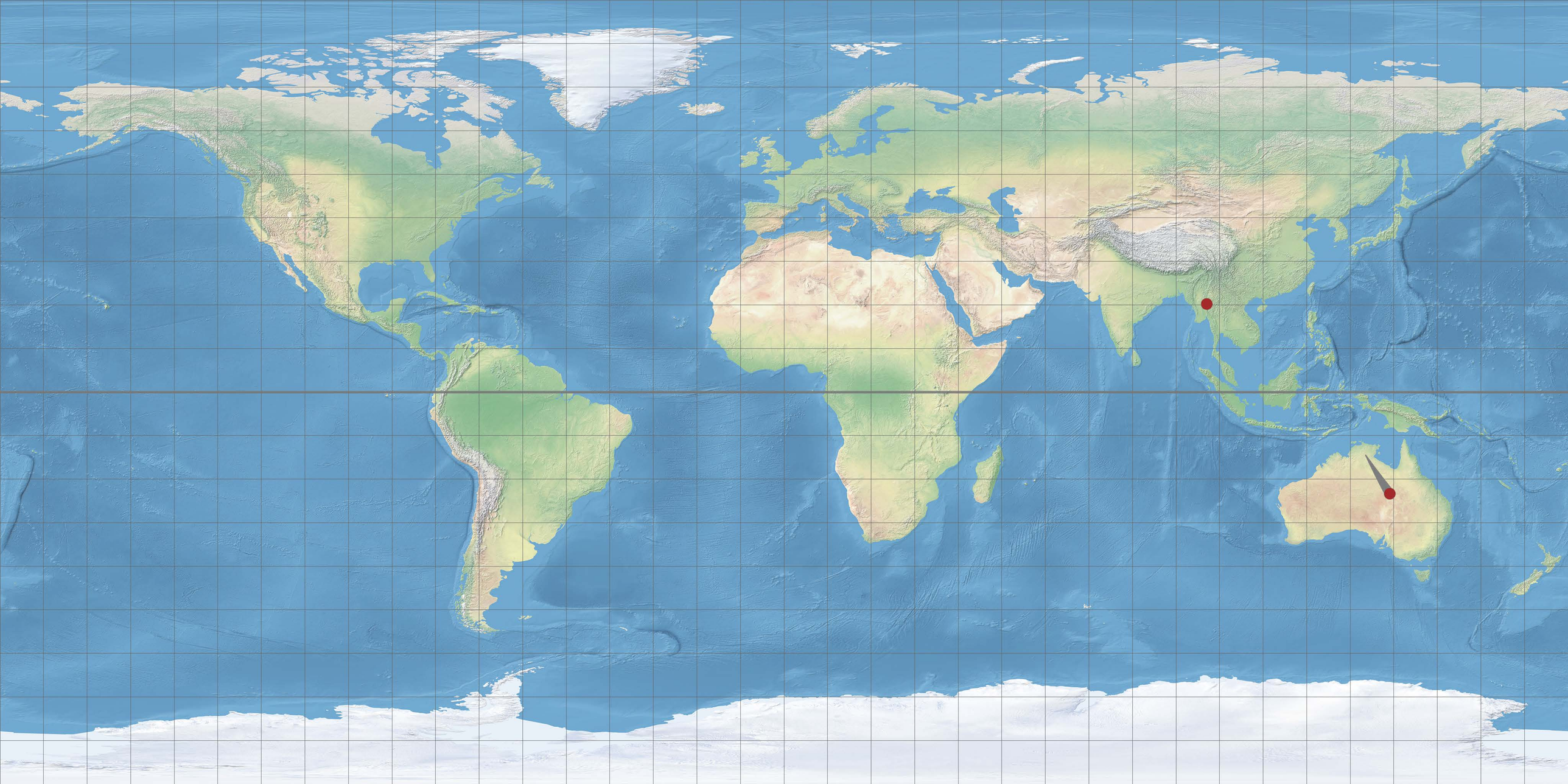


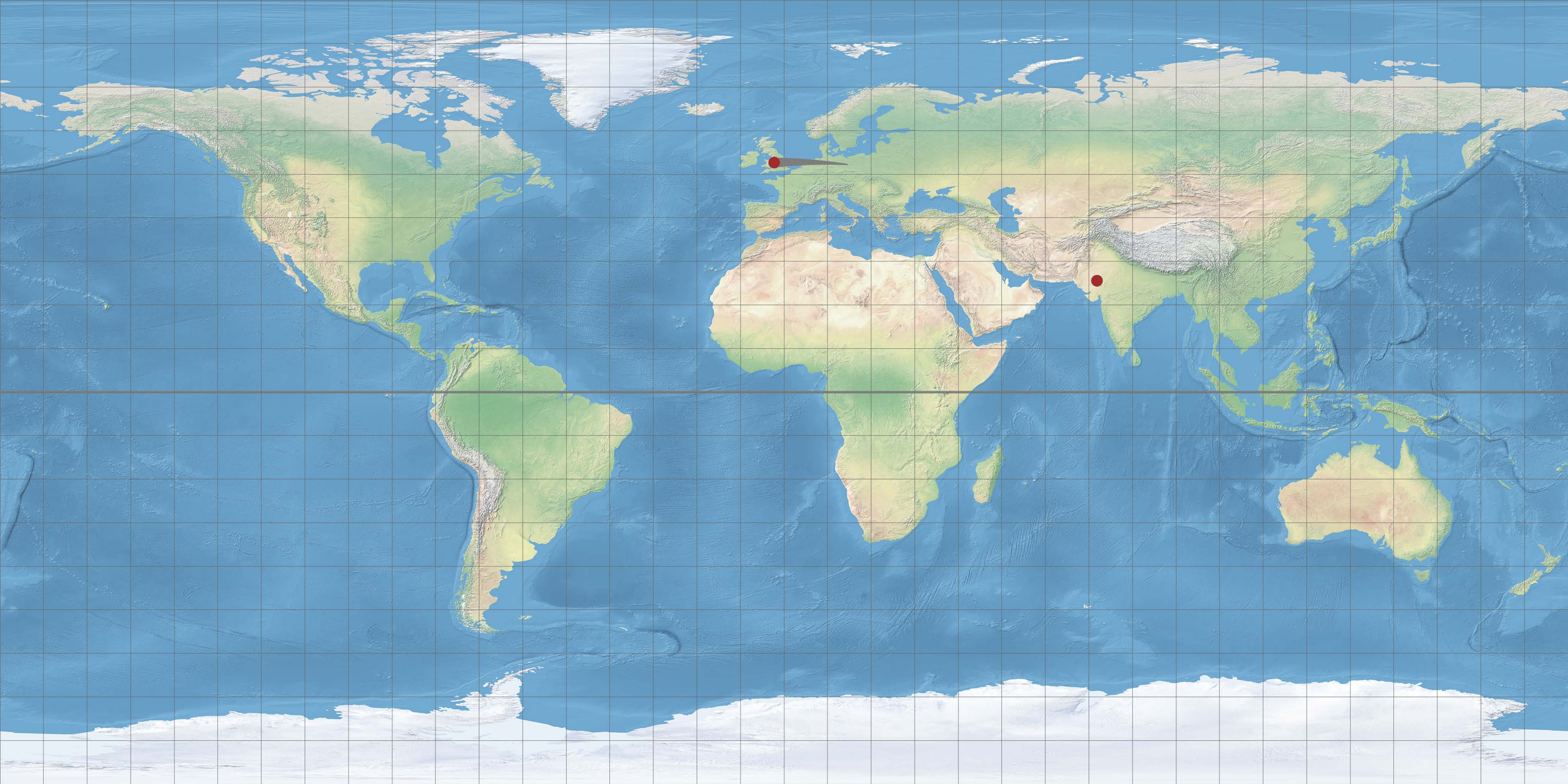


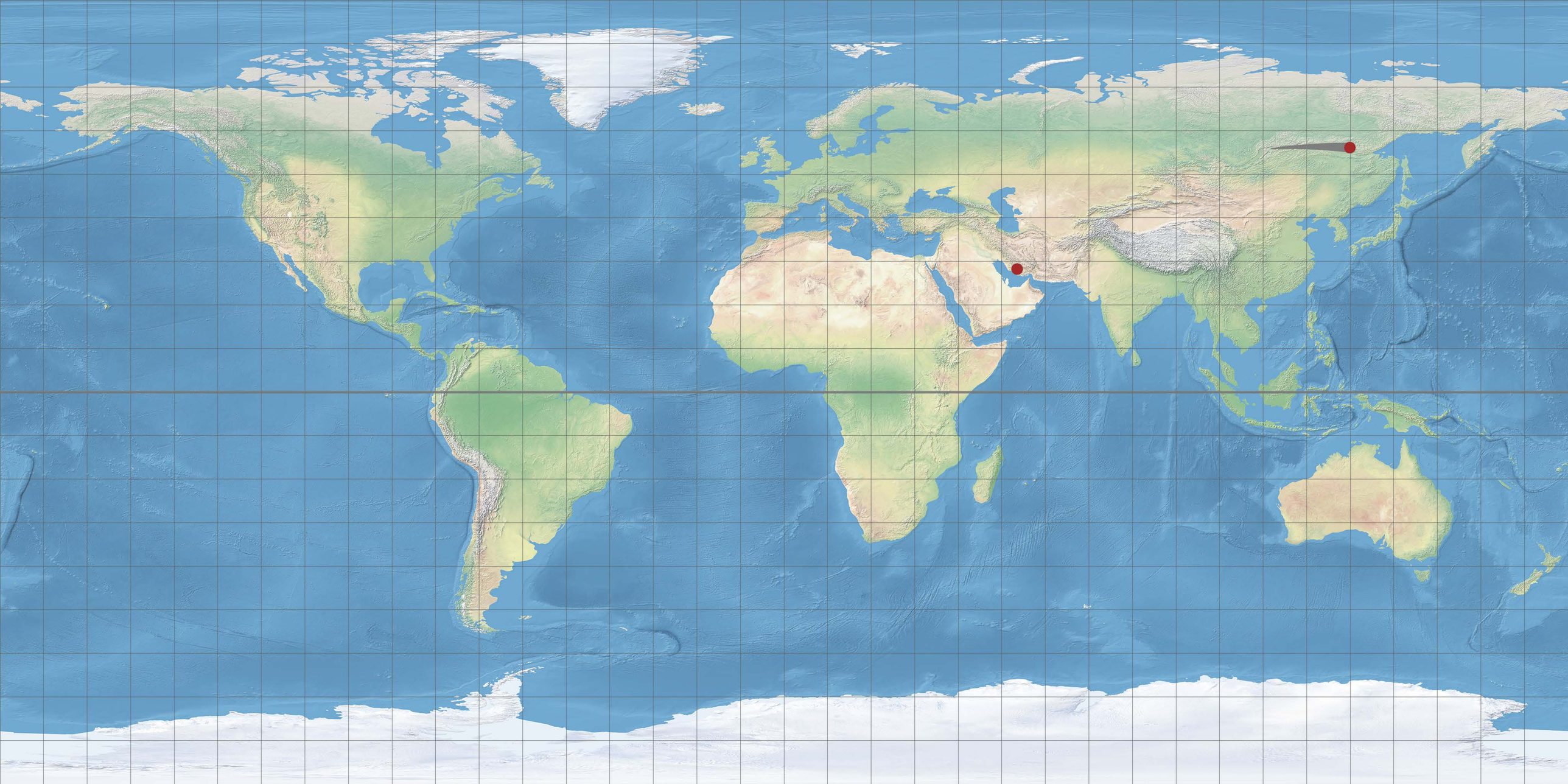


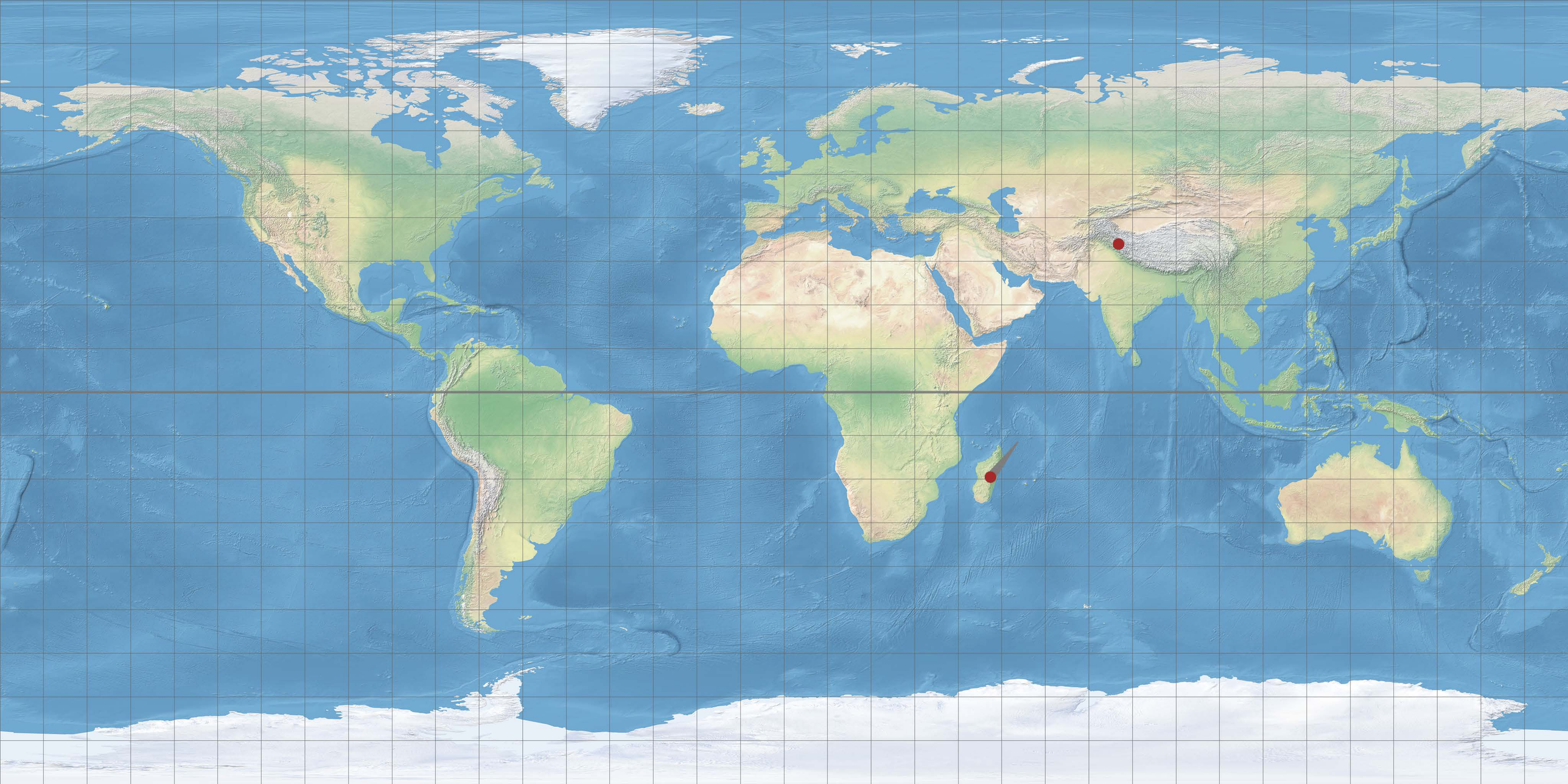


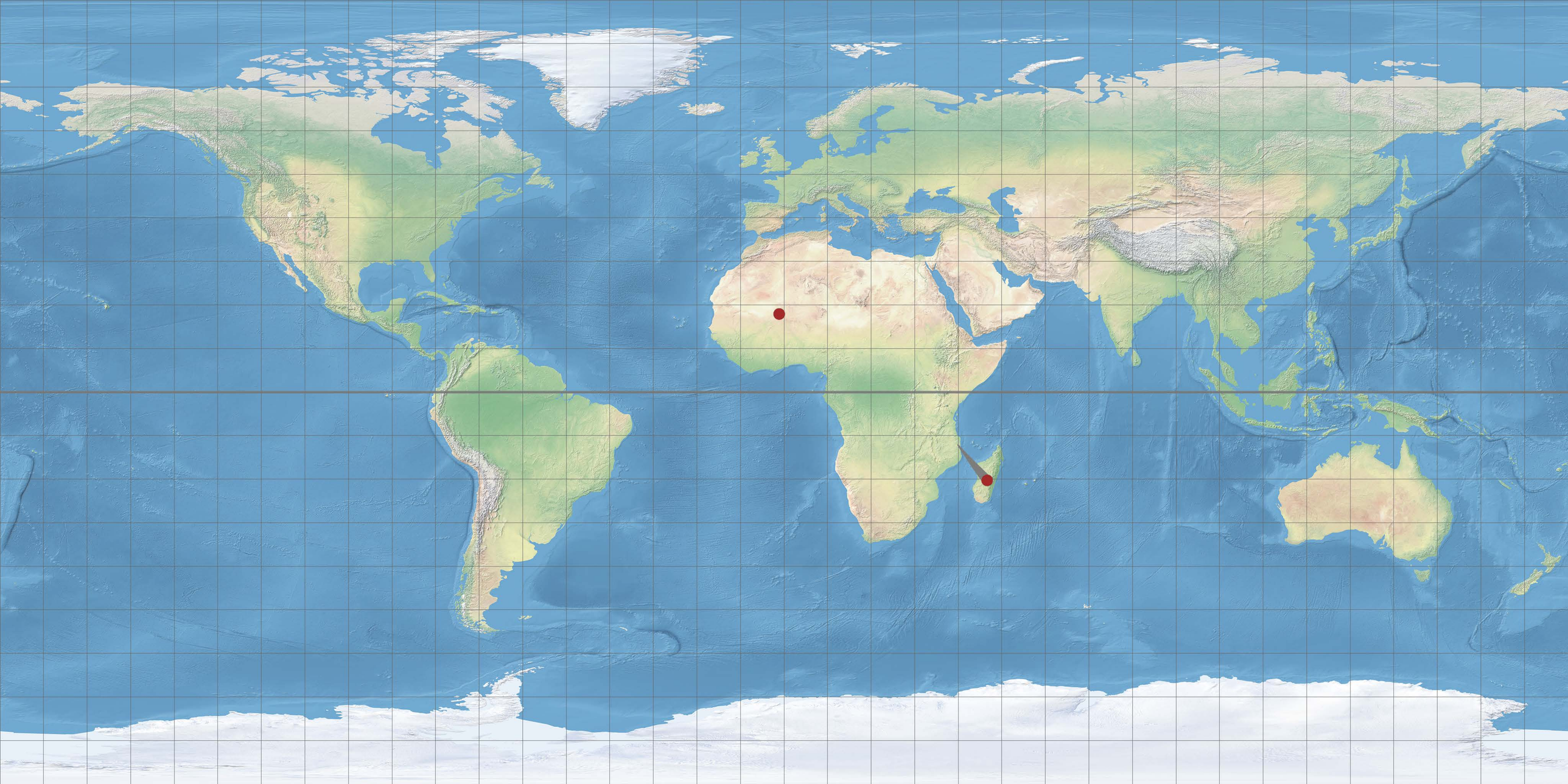


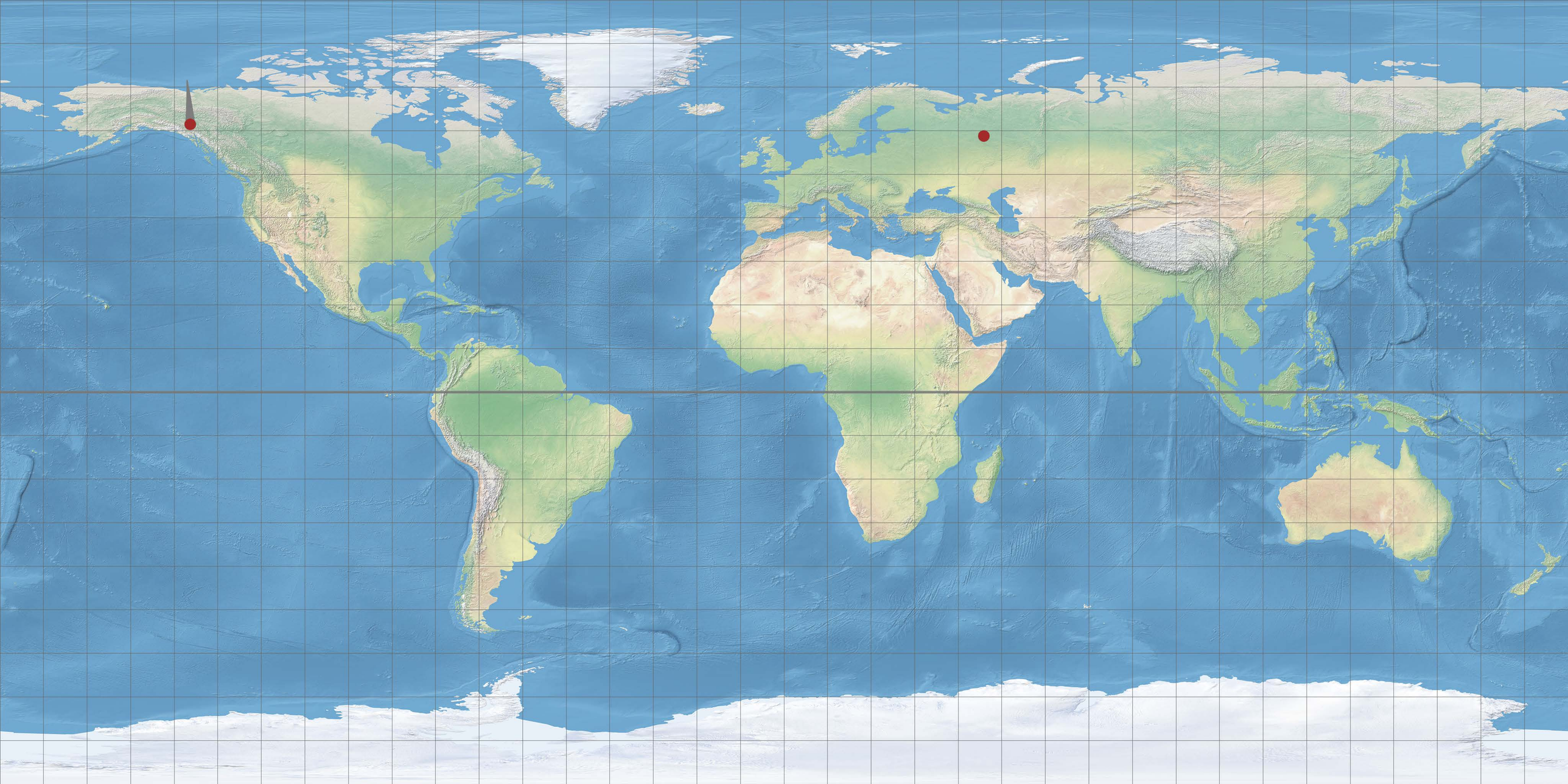


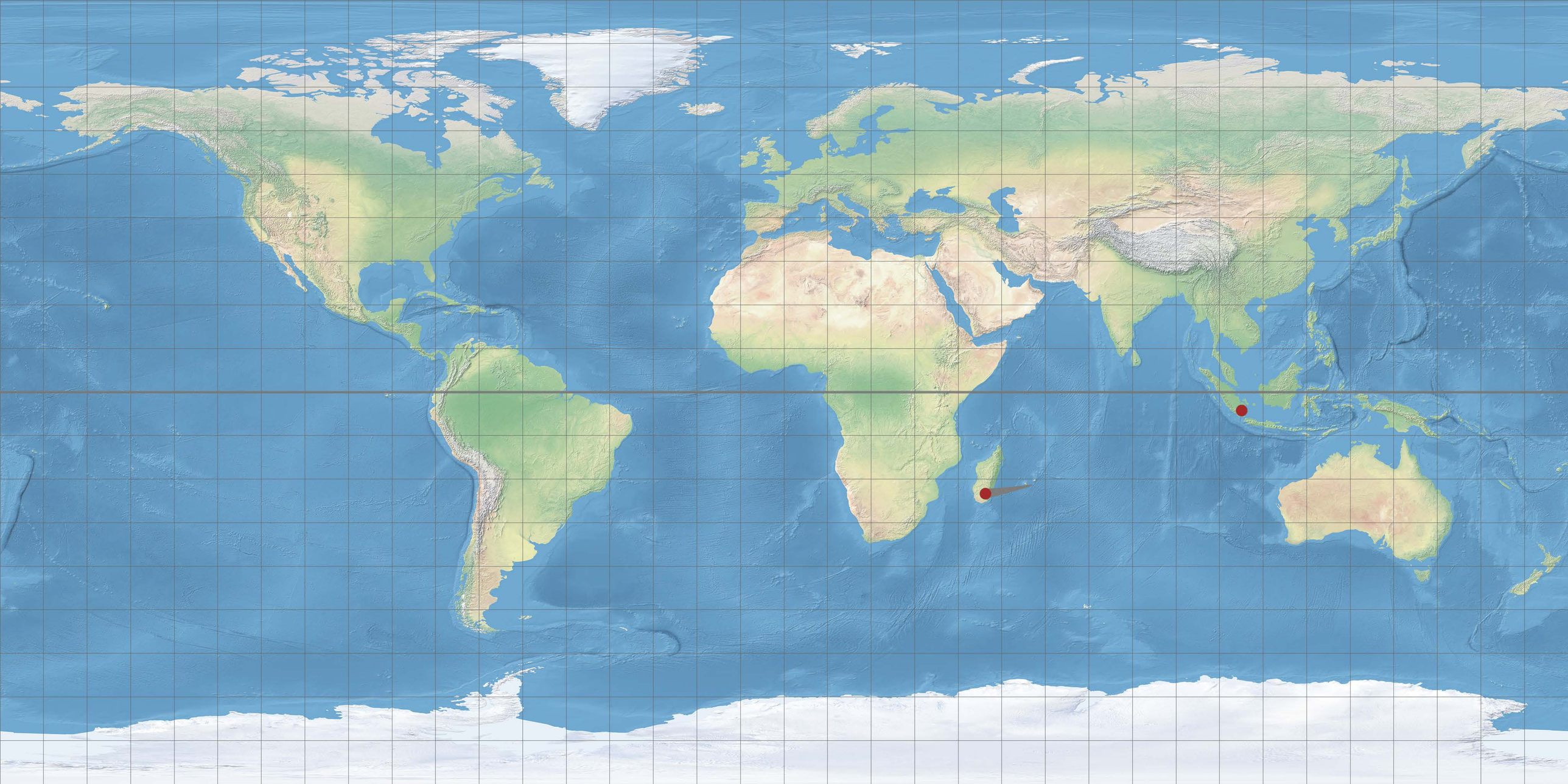


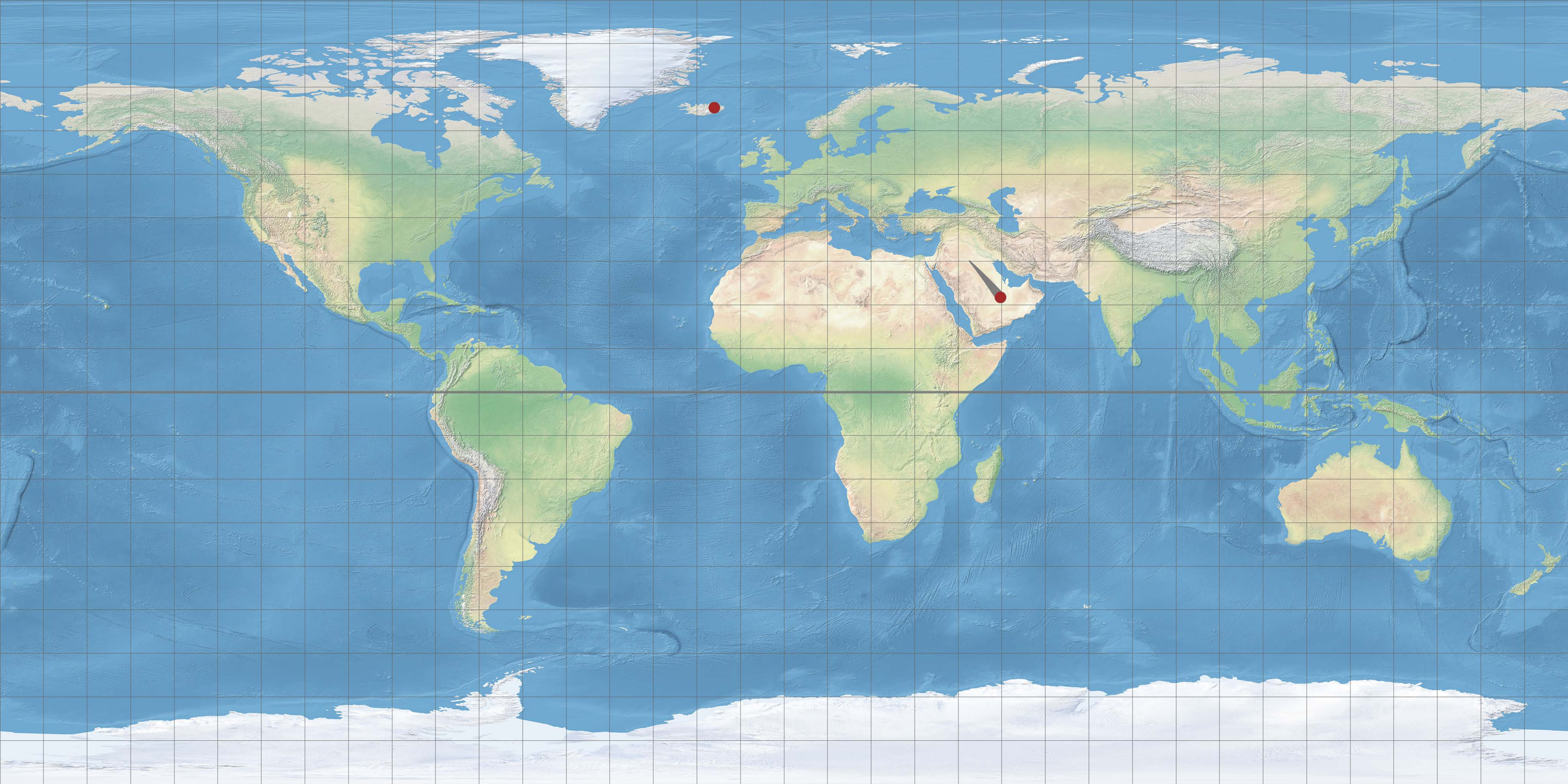


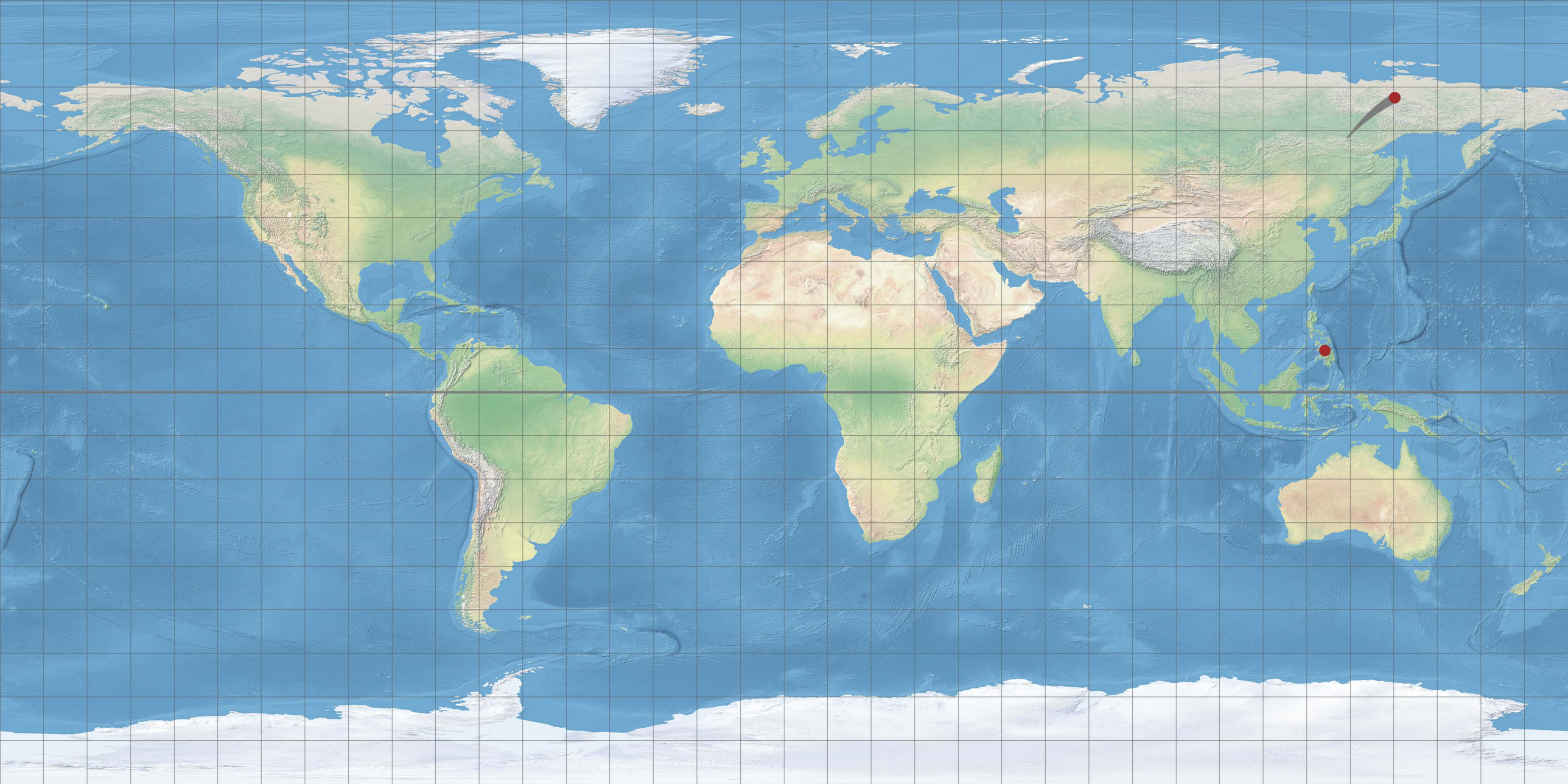


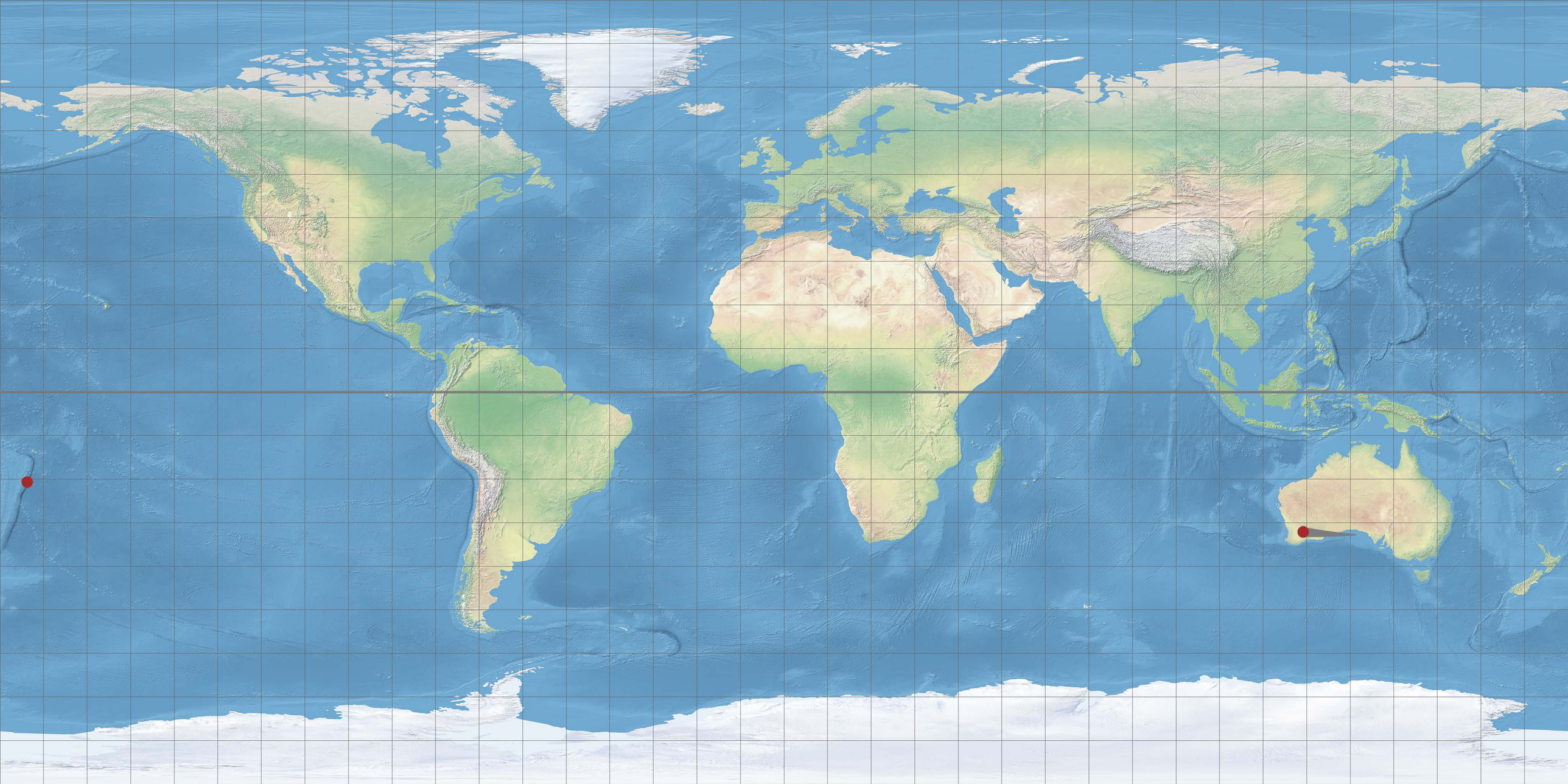


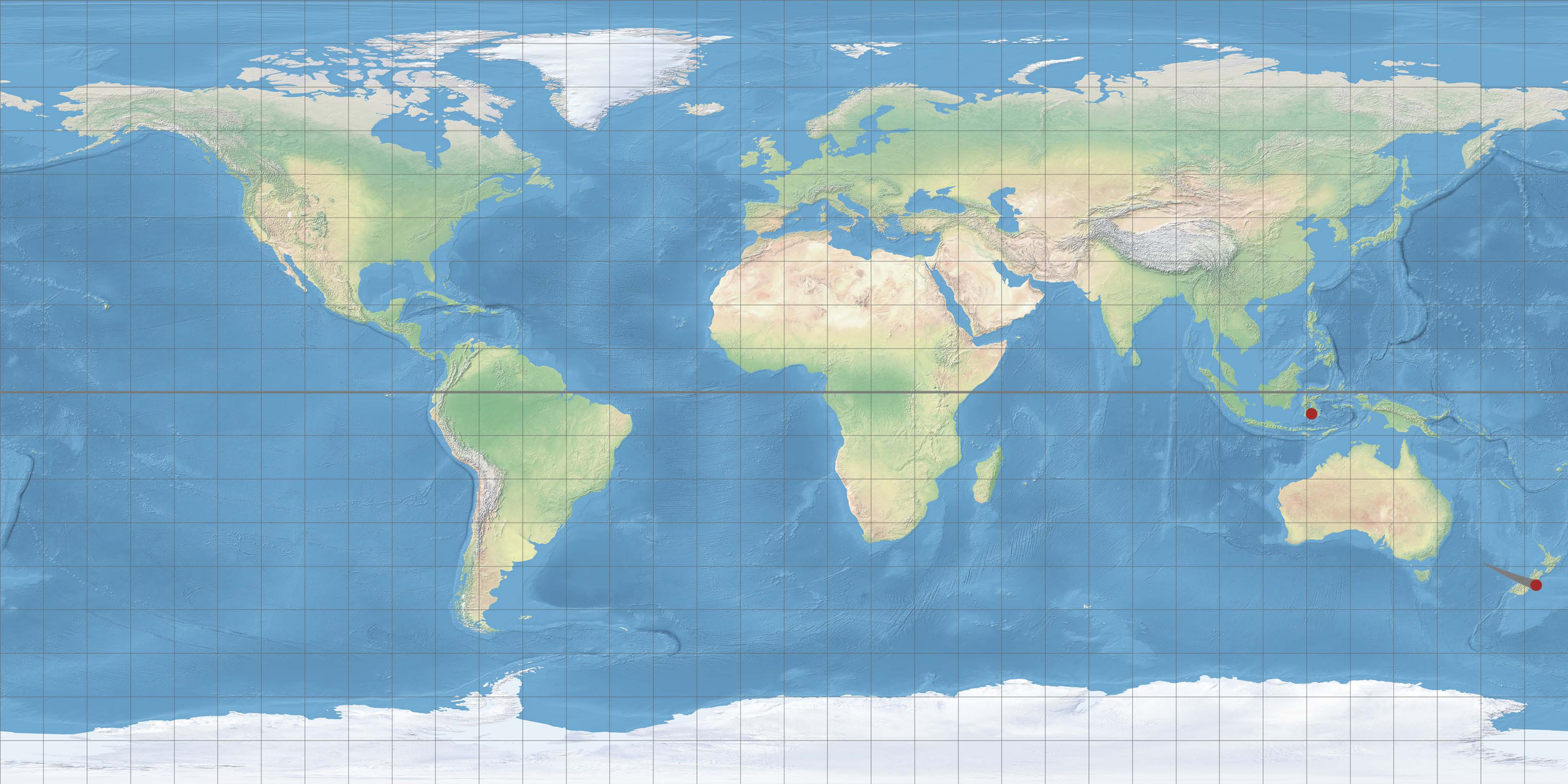


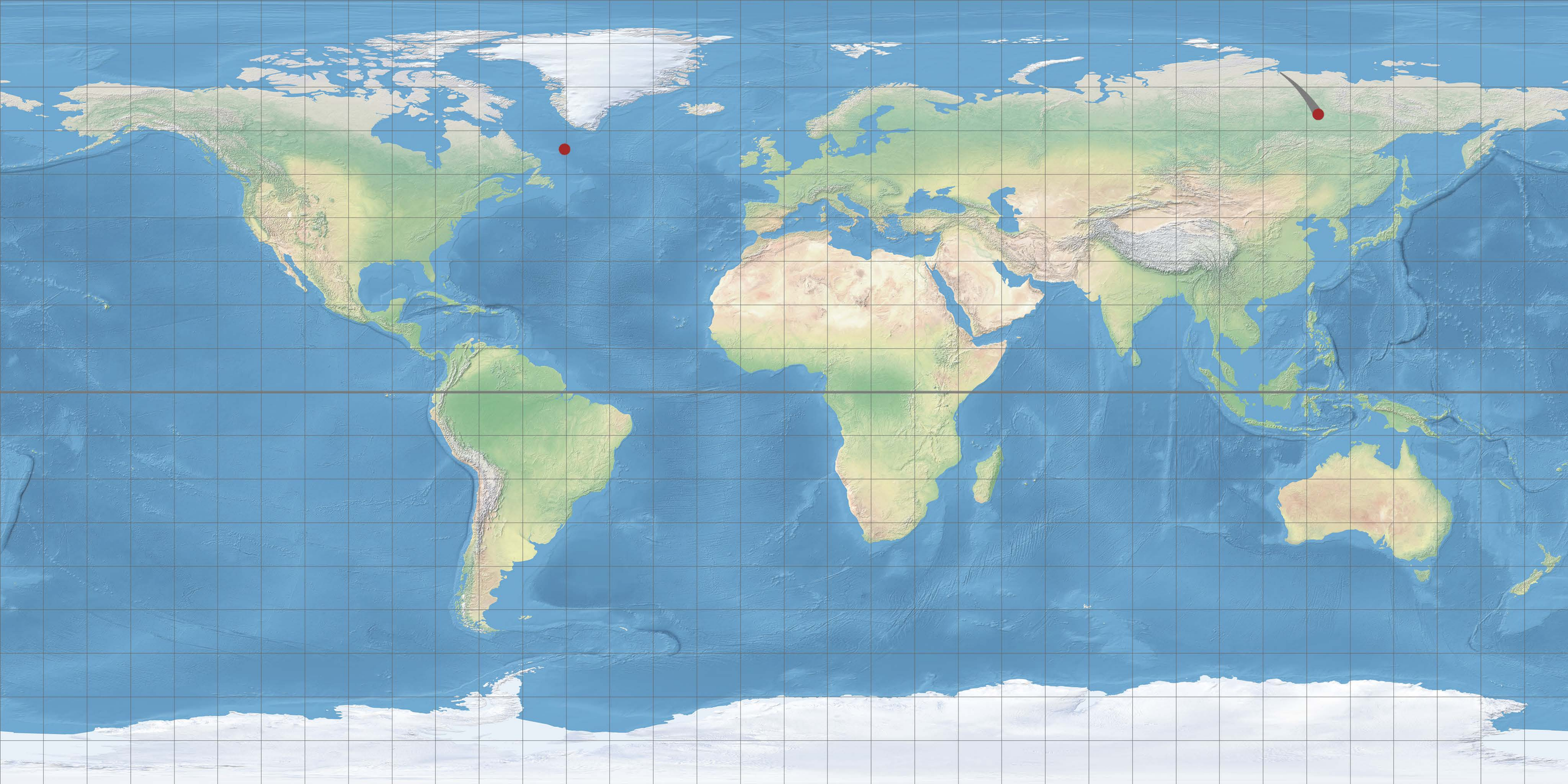


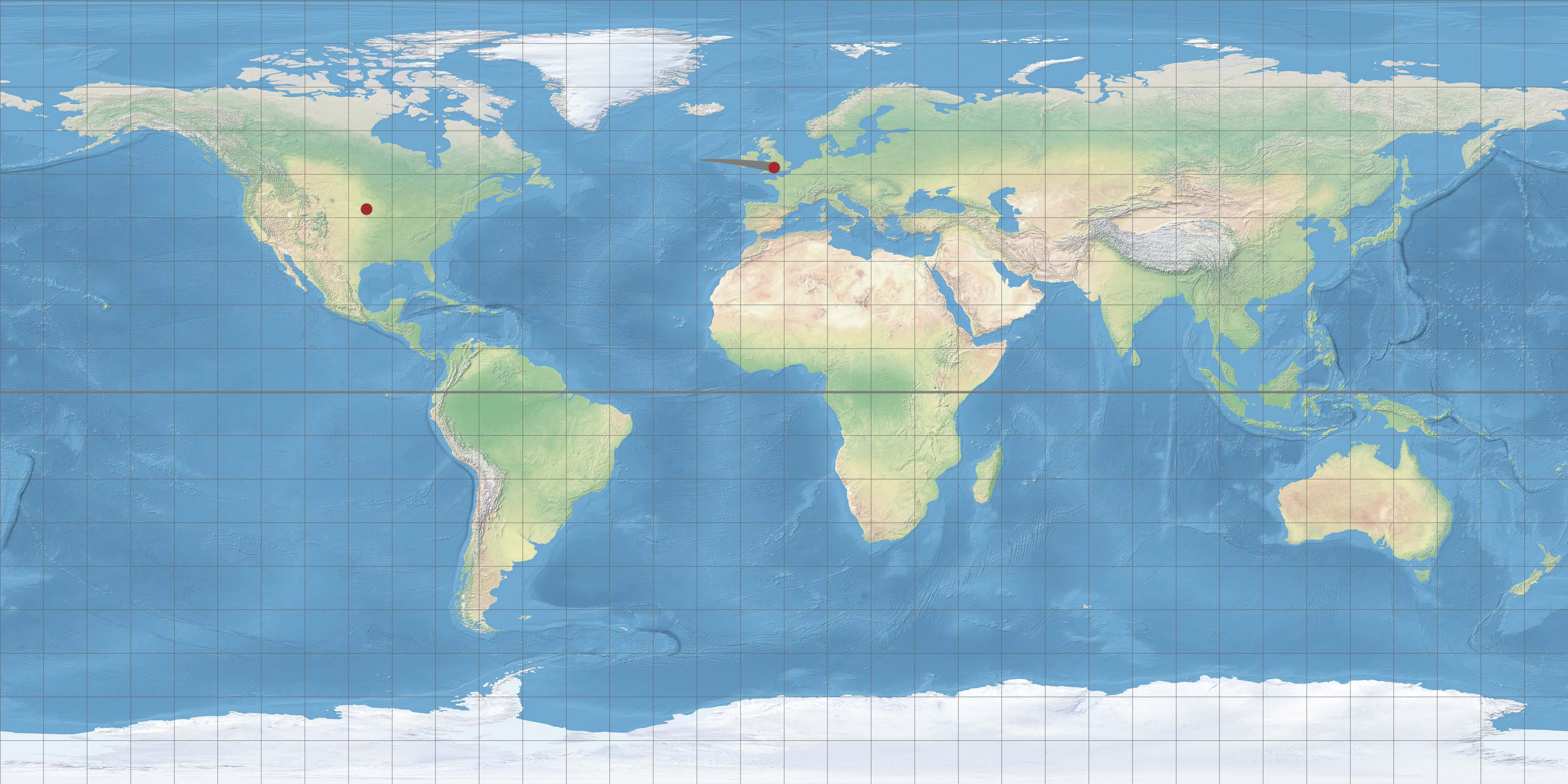


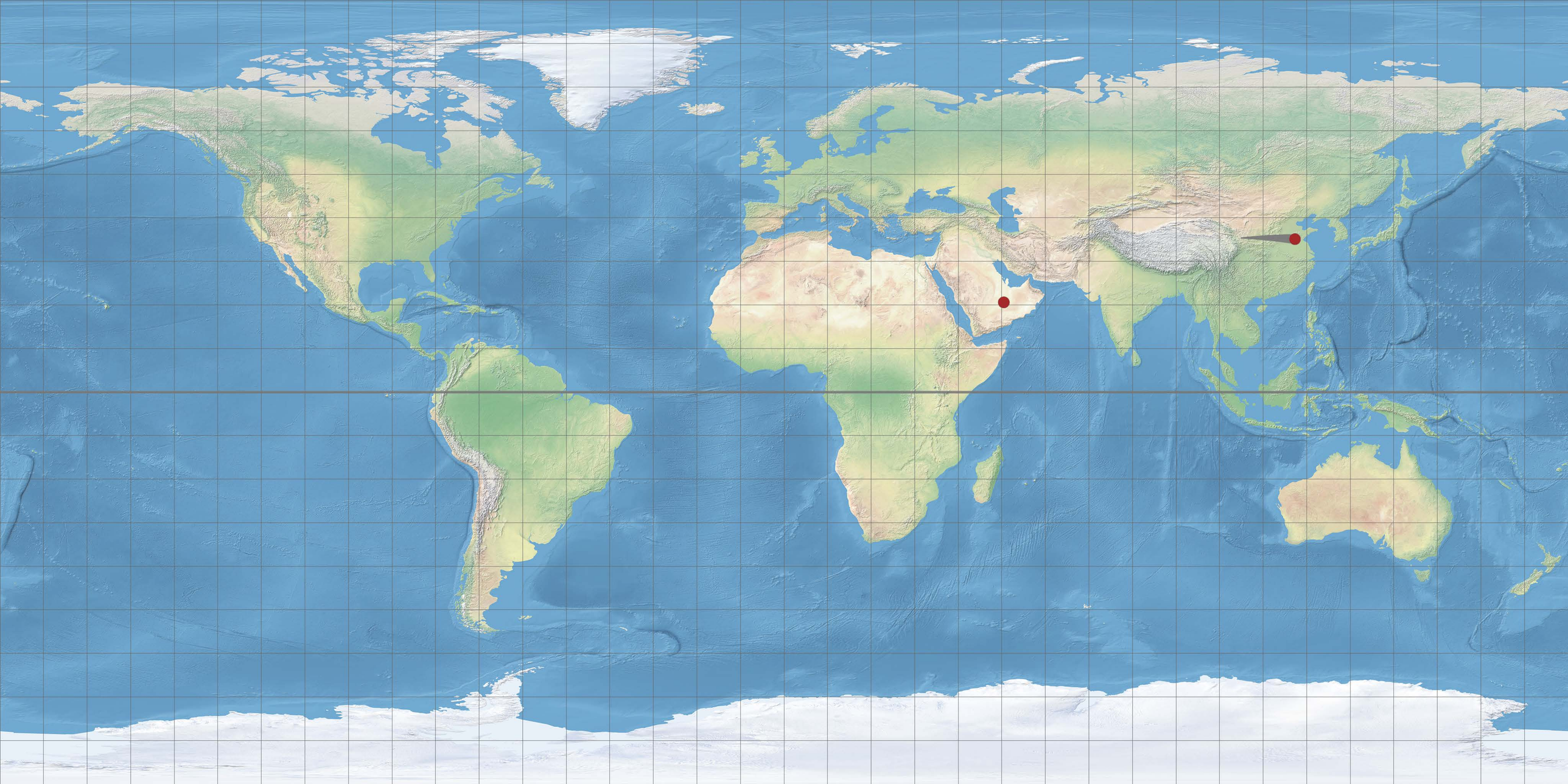


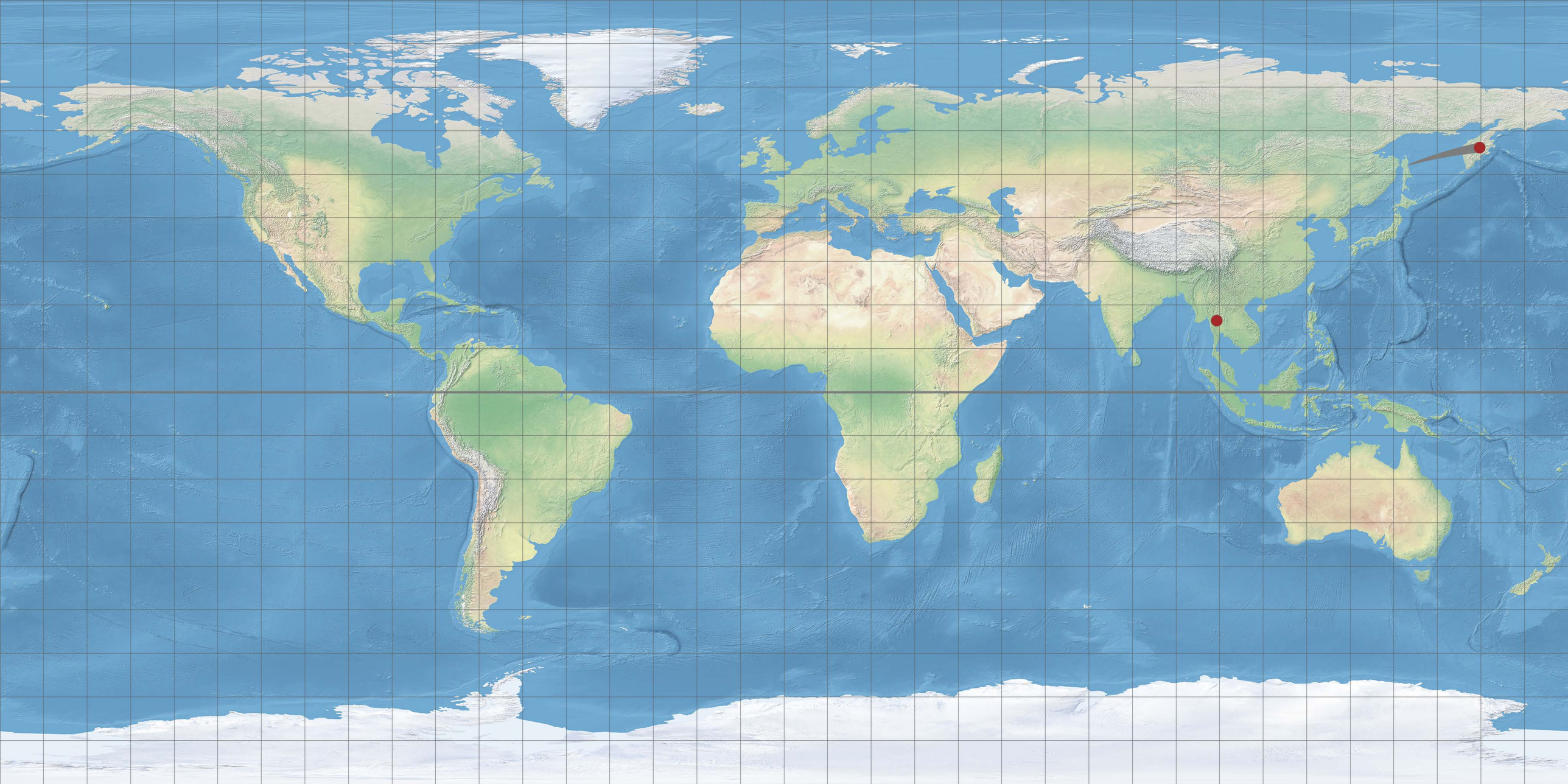












Direction estimation
Far distance condition