



To the Farthest Reaches of Asia

What are the extremes of Asia's landmass? Asia is, after all, the world's largest continent, covering over 8% of the Earth's surface, and nearly 30% of its land area, with over 60% of the world's population. What if you could take a circular trip around the entire continent, exploring the extreme boundaries of Asia? Using National Geographic's MapMachine, an online GIS (Geographic Information System), you can!

Your Mission: Explore Asia's landmass extremes. Be an investigative geographer and think about all of the places where Asia comes close to or touches another continent. These are some of the places where Asian cultures and peoples historically mixed with those from other continents. These places represent not only the extreme boundaries of Asia, but also extremes in climate, population, ecoregions, and landforms.

1. **Access the National Geographic MapMachine** to begin your voyage!
<http://www.nationalgeographic.com/maps>

Select "Road Map", type in "Asia" in the box and click "Find a Place", as follows:



2. **Go East!** Type in "Diomedes Islands" in the box, click "Find a Place" and zoom out using the slider bar on the left until the scale in the lower left reads 100 mi/100 km.

In what sea are the Diomedes Islands?

What continent is to the east of the Diomedes Islands? What continent is to the west of the Diomedes Islands?

Big Diomedes Island belongs to the continent to the west, and Little Diomedes Island belongs to the continent to the east. Both are in what is known as a strait. A strait is a narrow part of the sea between two landmasses. This is the Bering Strait.

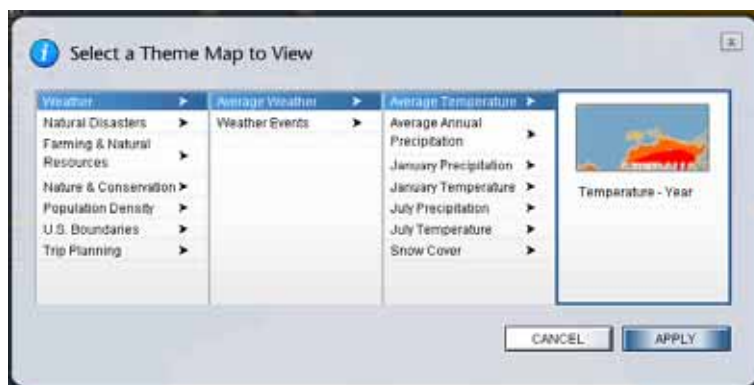
Read more about these islands and examine a photograph of them from National Geographic:

<http://green.nationalgeographic.com/environment/wallpaper/littlediomedecost.html>

What country does Big Diomedes Island belong to? What country does Little Diomedes Island belong to?

From the photograph, and also judging from where these islands are on the map, describe what you think the climate is like on these islands.

Switch the map type to More Theme Maps → Weather → Average Weather → Average Temperature, as follows:



What is the average temperature for this area? Pan the map to where you live and back to the islands. **Are the Diomedes Islands colder or hotter than where you live? What kinds of food do you think you**

would eat on the islands? How would you dress, and why? What kind of job do you think you would have?

Make a physical map and a satellite map of the region of the Bering Strait.
How would you describe the area's physical geography?

If you stood on the shore of Little Diomed Island in North America, do you think you could see all the way to Asia? Why or why not? What is the distance between the two islands?

This peninsula and island off of Russia might be considered to as "extreme eastern Asia" because it extends so far east as to be in the western hemisphere! Big Diomed Island lies at 169 degrees West Longitude. **At what line of longitude does the western hemisphere begin?**

3. Go South! First, change the map back to Road Map and zoom back out to Asia by typing "Asia" in the Find A Place box.

Where else might you be able to see Asia from another continent? Zoom to Papua New Guinea. Zoom out until you can answer the following question:
What part of Asia are you studying now?

What continent is to the south of Papua New Guinea?

This might be considered to be extreme south Asia. Zoom to the Torres Strait, which is the body of water separating Asia from Australia here.

Find Moa Island. Find Mabuiag Island. Find Badu Island. These are all considered part of the Australian continent. **Which one is the closest to Asia?**

Find Buru Island. This island is considered part of the Asian continent.

What is the distance between the island closest to Asia that you identified above, and Buru Island? Do you think you would be able to see Asia from Australia? Why or why not?

Change the map type to Physical. **What factors of physical geography would influence your ability to see across the Torres Strait?**

Switch the map type to More Theme Maps→ Weather→ Average Weather→ Average Temperature, as you did before.

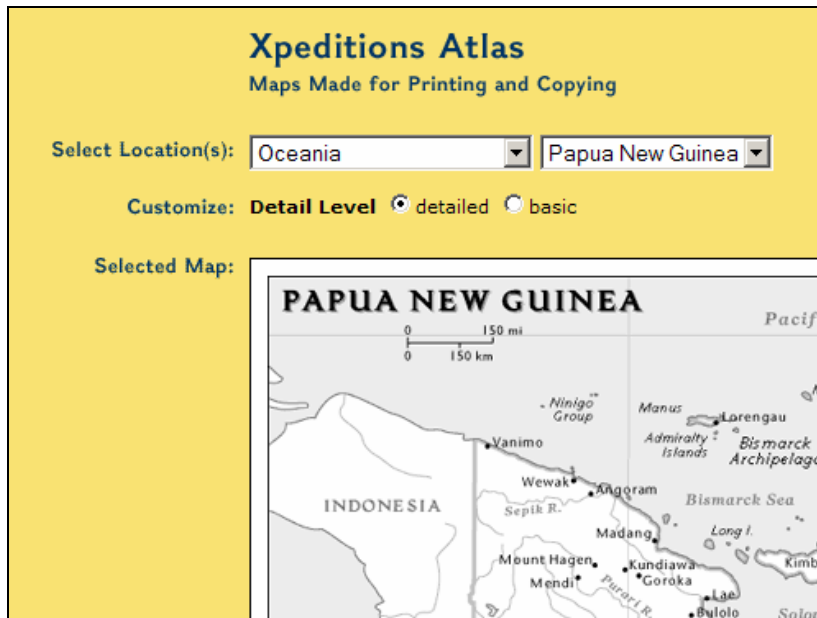
What is the average temperature for this area? Pan the map to where you live and back to the Torres Strait. **Is this area colder or hotter than where you live? What kinds of food do you think you would eat**



here? How would you dress, and why? What kind of job do you think you would have?

Examine a map of Papua New Guinea from the National Geographic Xpeditions Atlas, on: <http://www.nationalgeographic.com/xpeditions/atlas/>

Enter "Oceania" in the first box, and "Papua New Guinea" in the second box, as follows. Sometimes, atlases group the islands off Southeast Asia into a continent-like category called "Oceania":



What is the latitude and longitude of this region of Asia? What two hemispheres is this region in? This might be considered to be the extreme southern point in Asia from which you might be able to see Asia from another continent.

However, if you zoom out, you will notice some islands 2,000 kilometers to the west that are also considered part of Asia, but are even farther south than Buru Island. **What are the names of these islands? Investigate these islands using the Xpeditions Atlas. What is the latitude and longitude of these islands? Are they their own separate country or are they part of another country?**

Investigate these countries using the country index on the right side of the page:

<http://www3.nationalgeographic.com/places/countries/>

List the two most interesting things that you found about each of the countries here.

Make a physical map, a satellite map, and a rainfall map of the region. **How would you describe the area's physical geography? How is it similar to the area of the Torres Strait or to the Bering Strait?**

4. **Go Southwest!** First, change the map back to Road Map and zoom back out to Asia by typing "Asia" in the Find A Place box.

Where else might you be able to see Asia from another continent? Find "Yemen." Pan to the southwest corner of Yemen to where the water is the narrowest, and examine the coastline. **What sea separates Yemen from the continent to the southwest of Yemen?**

What is the continent to the southwest of this sea?

What is the first country on this other continent that you would reach if you sailed on a boat from Yemen to the southwest?

What is the distance across the body of water from Yemen to the other shore? Do you think you would be able to see this continent if you stood on the shore in Yemen? Why or why not?

Investigate these countries using the country index on the right side of the page:
<http://www3.nationalgeographic.com/places/countries/>

Describe the two most interesting things that you found out about each country.

Zoom out until you can answer the following question: **What part of Asia are you studying now?**

5. **Go West!** First, change the map back to Road Map and zoom back out to Asia by typing "Asia" in the Find A Place box.

Where else might you be able to see Asia from another continent? Zoom to the Red Sea (select the second choice in the dialog box, "Red Sea, Sea, Red Sea." As you know from your investigation above, the Red Sea separates two continents.

Zoom to Port Said. Zoom out until you can answer the following question: **What part of Asia are you studying now? What country in Africa borders Asia at this location? What country in Asia borders Africa at this location?**

What body of water is Port Said on?



Switch to a satellite view, and zoom out a bit and examine the canal that has its northern end at Port Said. **What is the name of this famous canal?** Pan the map to the southern end of the canal. **What body of water is at the southern end?**

Zoom out if you need to see the entire region to answer the following question: **Why is the canal so important?**

Enter "Khan Yunis" in the Find A Place window. This is the city closest to the Asia-Africa boundary. Read about this place on http://en.wikipedia.org/wiki/Khan_Yunis.

Describe the history of Khan Yunis and why this place is important in terms of its political geography.

What kind of architecture would you expect to find in Khan Yunis or Port Said? Why?

Make a physical map, a satellite map, a temperature, and a rainfall map of the region. **How would you describe the area's physical geography? How is it similar to the area of the Torres Strait or to the Bering Strait? What kinds of food do you think you would eat here? How would you dress, and why? What kind of job do you think you would have?**

Investigate these countries using the Xpeditions Atlas. **What is the latitude and longitude of this area? In what hemispheres is it located?**

This area might be thought of as extreme western Asia. But there is another place in Asia that is even further west.

6. Go Northwest! Change the map back to Road Map, and zoom out to Istanbul by entering "Istanbul" in the Find A Place box. Watch the two-minute National Geographic video filmed in Istanbul on:

http://video.nationalgeographic.com/video/player/places/regions-places/europe-eastern/turkey_istanbultour.html

Name at least 3 things that are unique about Istanbul.

Look at your map. **In what country is Istanbul? What two continents does Istanbul straddle?**



Switch to a satellite view. Notice the narrow strait that runs through Istanbul. **Can you drive across the strait? How can you tell? How wide is the strait?**

Do you think you would be able to see Europe from Asia here? Why or why not?

Switch to Road Map and zoom out to answer the following question: **What two major seas does this strait connect?**

Investigate this area using the Xpeditions Atlas. **What is the latitude and longitude of this area? In what hemispheres is Istanbul located?**

Make a physical map, a satellite map, a temperature, and a rainfall map of the region. **How would you describe the area's physical geography? How is it similar to the Gaza Strip, the Torres Strait, or to the Bering Strait? What kinds of food do you think you would eat here? How would you dress, and why? What kind of job do you think you would have?**

7. A Boundary or Not a Boundary? Perhaps you are starting to notice that there is little difference between the European and the Asian sides of Istanbul. Istanbul is the world's only city located on two different continents. The rest of the boundary between Asia and Europe is even less well defined. In fact, some geographers do not consider Asia and Europe to be separate continents at all, because there is not really a physical separation between them. Asia could be thought of as the major eastern part of the continent of Eurasia, with Europe being a northwestern peninsula of that landmass. Continents, after all, are really a human-created concept. But since you have your Web-based GIS at your fingertips, you can investigate what is considered to be the boundary between Asia and Europe and decide for yourself whether this is a logical division between the two continents.

Switch the map to a physical map. Moving north from Istanbul, the accepted boundary between Europe and Asia continues through the strait to the large sea to the northeast. **What is the name of this sea?**

Enter "Caucasus Mountains" and then zoom out once you find these mountains. You should be on the east side of the large sea you were examining a moment ago. Fly east along the Caucasus Mountains, switching to a road map as necessary to answer the following questions.

Which side of the mountains is Europe, and which side is Asia?

What countries are on the north side of the mountains, and which ones are on the south side?



Investigate these countries using the country index on the right side of the page:

<http://www3.nationalgeographic.com/places/countries/>

Describe the two most interesting things that you discovered about each country.

As you fly eastbound along the Caucasus Mountains, you end up in another large sea. **What is the name of this sea?**

The sea provides another convenient boundary between Europe and Asia.

Type the following name into the Find A Place box: Ostrov Nordvestinskiy.

At what end of the sea is Ostrov Nordvestinsky?

Next, fly northeast along the Ural River, passing towns such as Ural'sk and Orenburg. This is also the Europe-Asia boundary, but the country is the same on either side of the boundary. **What is the name of this country?**

Do you think the Europe-Asia boundary is more important here than in the other places you have been examining, or less important? Why?

After reaching the headwaters of the Ural River, switch to a physical map and fly along the mountains to the north-northeast, all the way to the Arctic Ocean. These mountains, the Urals, are considered the boundary between Europe and Asia.

Switch to a road map when you reach the Arctic Ocean. **What is the closest town to the ocean and nearest the Europe-Asia boundary?**

Investigate a physical map, a satellite map, a temperature, and a rainfall map of the region. **How would you describe the area's physical geography? How is it similar to the Istanbul, the Gaza Strip, the Torres Strait, or to the Bering Strait? What kinds of food do you think you would eat here? How would you dress, and why? What kind of job do you think you would have?**

Investigate this area using the Xpeditions Atlas. **What is the latitude and longitude of this area? In what hemispheres is this area located? Are you farther north than you were while at the Diomed Islands?**

How far is the area that you are now investigating from the Diomed Islands where you started your journey? What does this tell you



about the size of the country that you are investigating at the moment?

Investigate this country using the country index on the right side of the page: <http://www3.nationalgeographic.com/places/countries/>

List the two most interesting things that you found about this country.

Do you think the Ural River and the Ural Mountains are the most logical dividing line between Europe and Asia? If not, along which features do you think a more logical dividing line should be located?

8. Dig Deeper. You have used an online GIS to investigate Asia. Use other web-based mapping tools such as the 3-D ArcGIS Explorer (<http://www.esri.com/arcgisexplorer>), ArcWeb Explorer (<http://www.arcwebservices.com/awx>), and WorldMapper (<http://www.worldmapper.org>) to deepen your understanding of the continent.

Use a desktop GIS such as ArcView (<http://www.esri.com/arcview>) together with lessons on <http://www.esri.com/gaw> to ask questions and explore spatial relationships among population, biodiversity, climate, trade, elevation, culture, and other aspects of this fascinating continent.

Go to Asia someday! Use the National Geographic travel planner below to plan your trip!
http://www3.nationalgeographic.com/places/continents/continent_asia.html

