

Economics 300: The Economy of Alaska
NOTES: INTRODUCTION TO ALASKA GEOGRAPHY
by Gunnar Knapp
Updated January 16, 2005

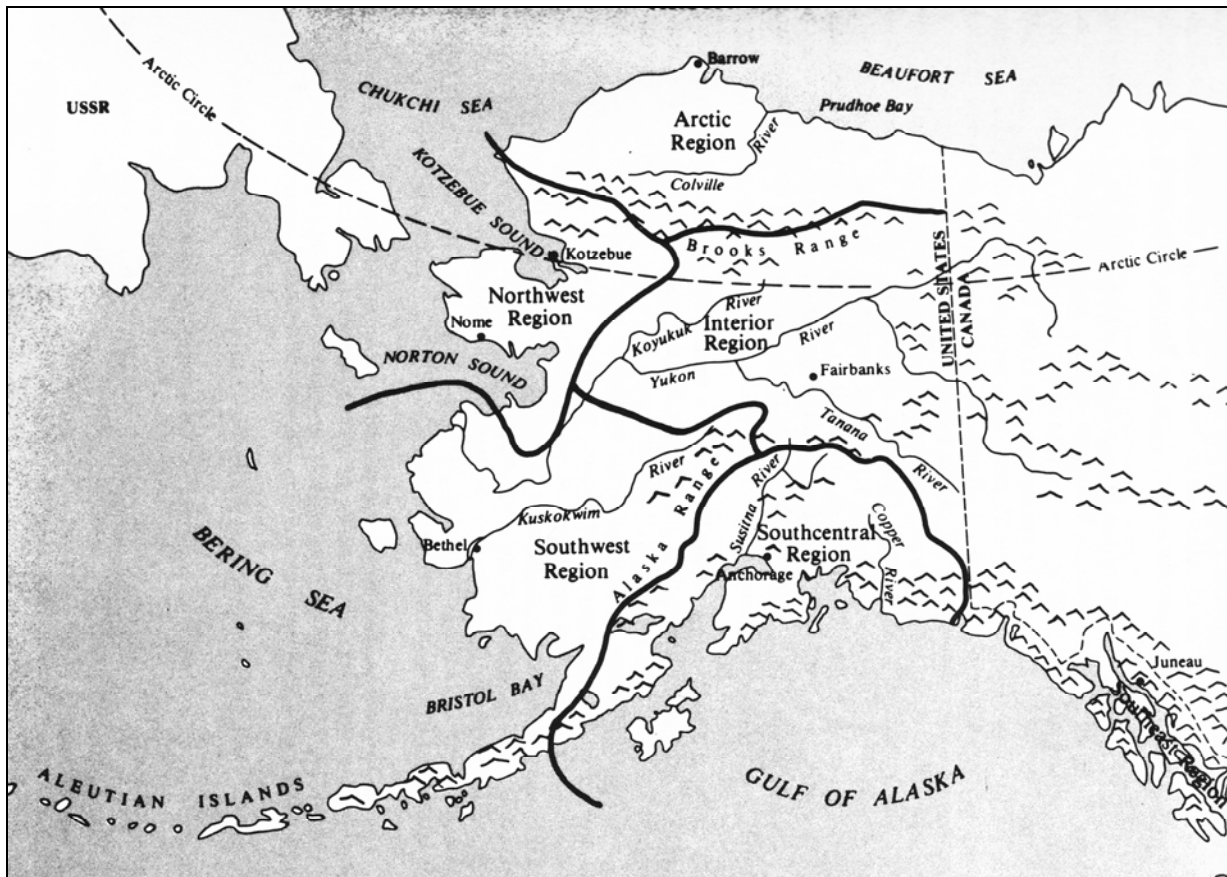
These notes provide a brief introduction to features of Alaska geography which are important for understanding Alaska's economy. The maps—from a number of different sources—show Alaska from a variety of different perspectives.

Six Alaska Regions

Alaska is a very large state. There are very significant differences between different parts of Alaska in climate, terrain, natural resources, human settlement, the transportation systems, and so on. As a result, it is useful to distinguish between different geographic regions of Alaska.

A useful way to do this is to think of Alaska in terms of the six major regions shown in the map below: Southeast, Southcentral, Interior, Arctic, Northwest, and Southwest.

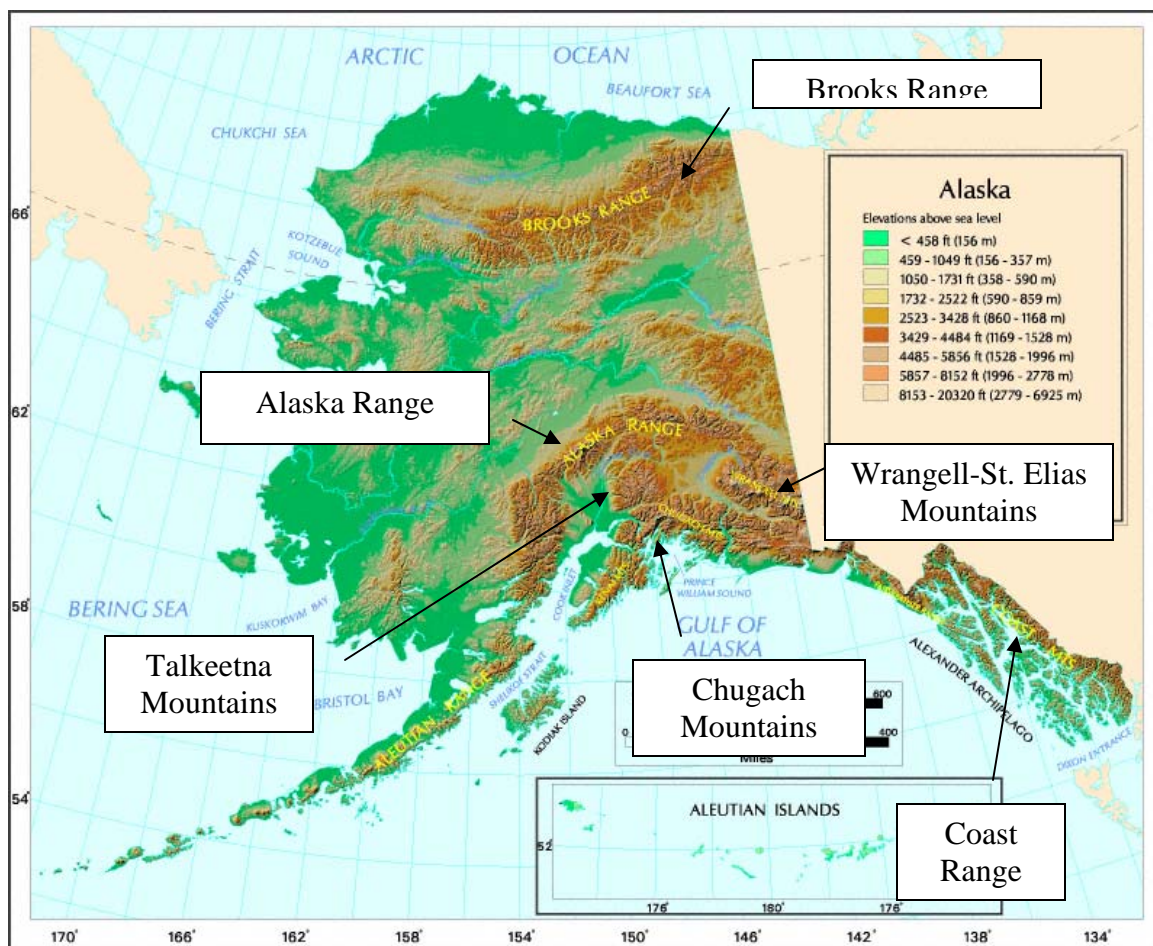
There are significant differences between these regions with respect to climate, natural resources, Native cultures, population, types of economic activity, and so on.



Source: Thomas Morehouse, ed., *Alaska Resources Development: Issues for the 1980s* (Boulder, Colorado, Westview Press, 1984), page 7.

Alaska Topography

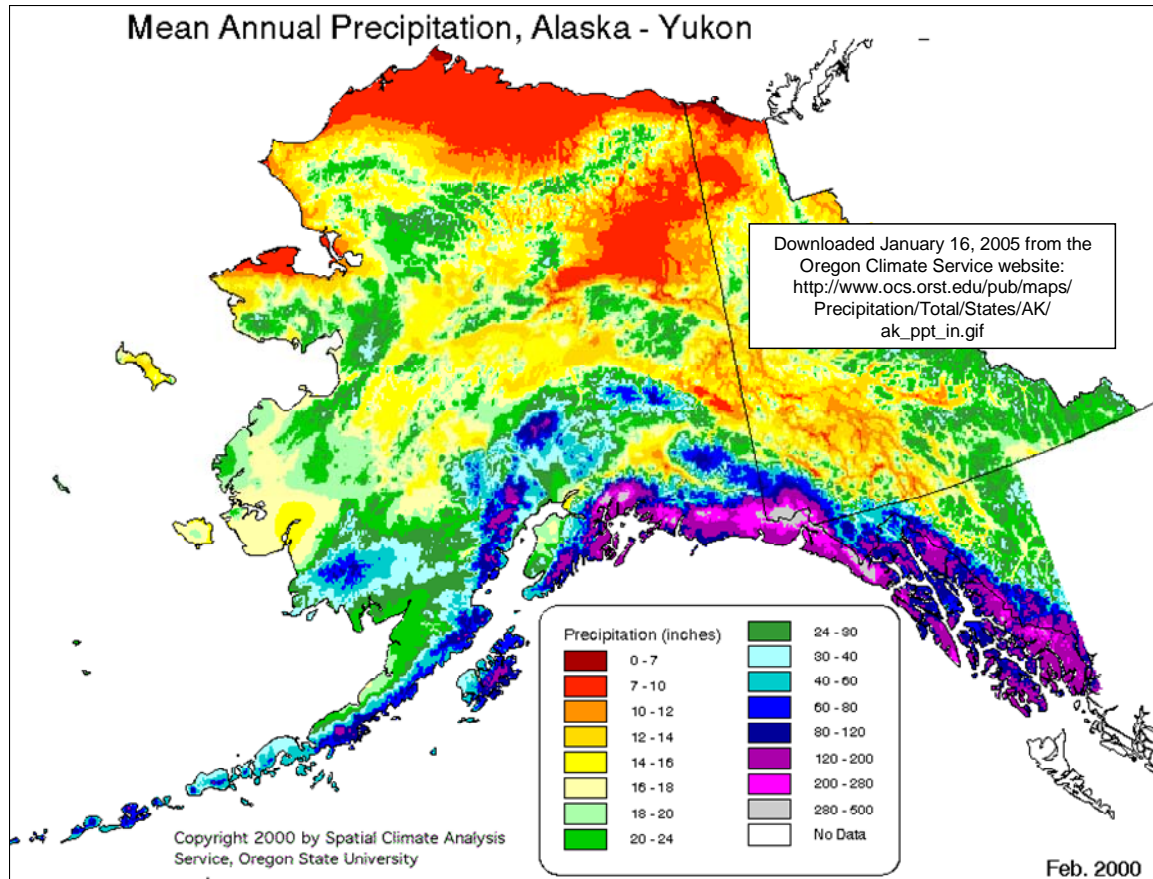
Alaska has several very large mountain ranges, which provide fabulous scenery and recreational opportunities but represent major barriers to land transportation development. The most important mountain ranges are the Alaska Range, which includes Denali (Mt. McKinley); the Brooks Range (which extends across most of Northern Alaska); the Coast Range (along the Canadian border in southeast Alaska); the Chugach mountains east of Anchorage extending north of Prince William Sound; and the Wrangell St. Elias mountains (in the eastern part of southcentral Alaska). Most kinds of economic development or settlement is impossible or impractical in these mountainous areas.



Source: Marjorie Hermans, *Alaska in Maps: A Thematic Atlas* (Alaska Geographic Society, 2003).

Alaska Climate: Precipitation

The wettest parts of Alaska are along the coast of southeast and southcentral Alaska, parts of which receive more than 200 inches of rain per year. By way of comparison, Anchorage typically receives less than 20 inches of precipitation per year (note that snowfall is converted to the equivalent rainfall). The driest part of Alaska is the North Slope (the name for the area north of the Brooks Range), which typically receives less than 10 inches of rain per year.



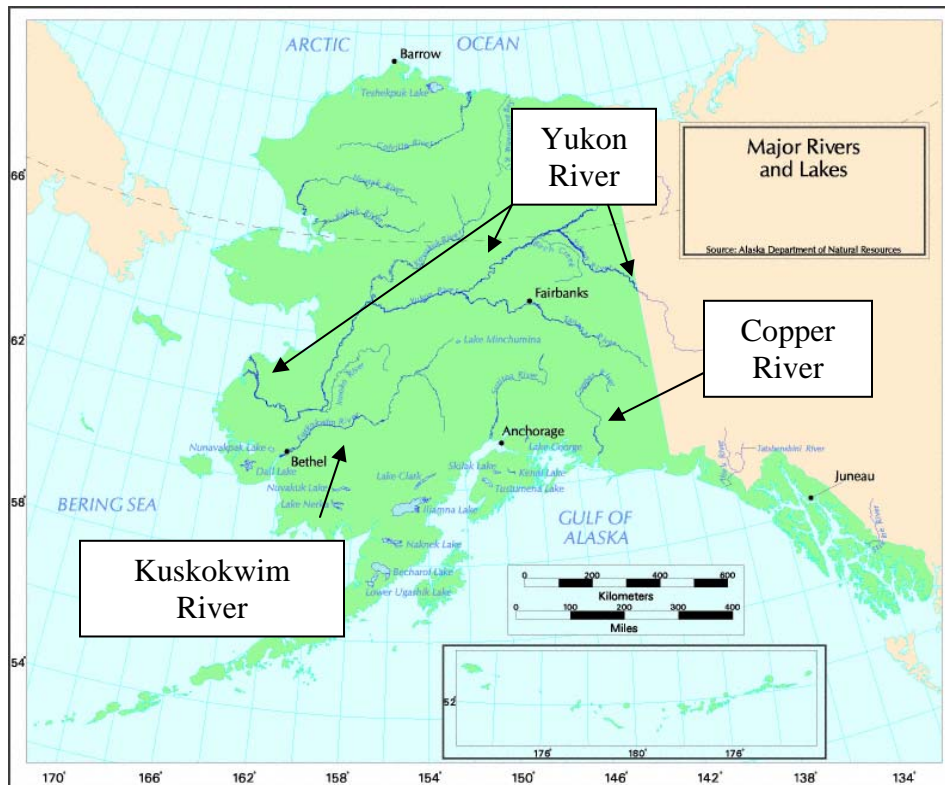
Alaska Rivers

Alaska's most important river is the Yukon River, which flows from British Columbia and the Yukon Territory into Alaska, and then across Alaska to the Yukon River Delta on the Bering Sea. Prior to completion of the Alaska Railroad in the 1920s, the Yukon River was a major transportation route for bringing people and freight to Interior Alaska. It remains very important for travel and fishing for the people in the many Native communities located along the river.

Second in importance to the Yukon river is the Kuskokwim River, which flows through western Alaska past Bethel into the Bering Sea.

The area of southwestern Alaska near the mouths of both of these rivers is known as the Yukon-Kuskokwim Delta or simply the "Y-K Delta." This region is inhabited by Yupik Eskimos and Yupik culture remains very strong in numerous small Native villages.

Historically, the Copper River was an important travel route from the Interior to the coast. In the 1910s, the Copper River and Northwestern Railroad was built along the Copper River to access the Kennecott copper mines.

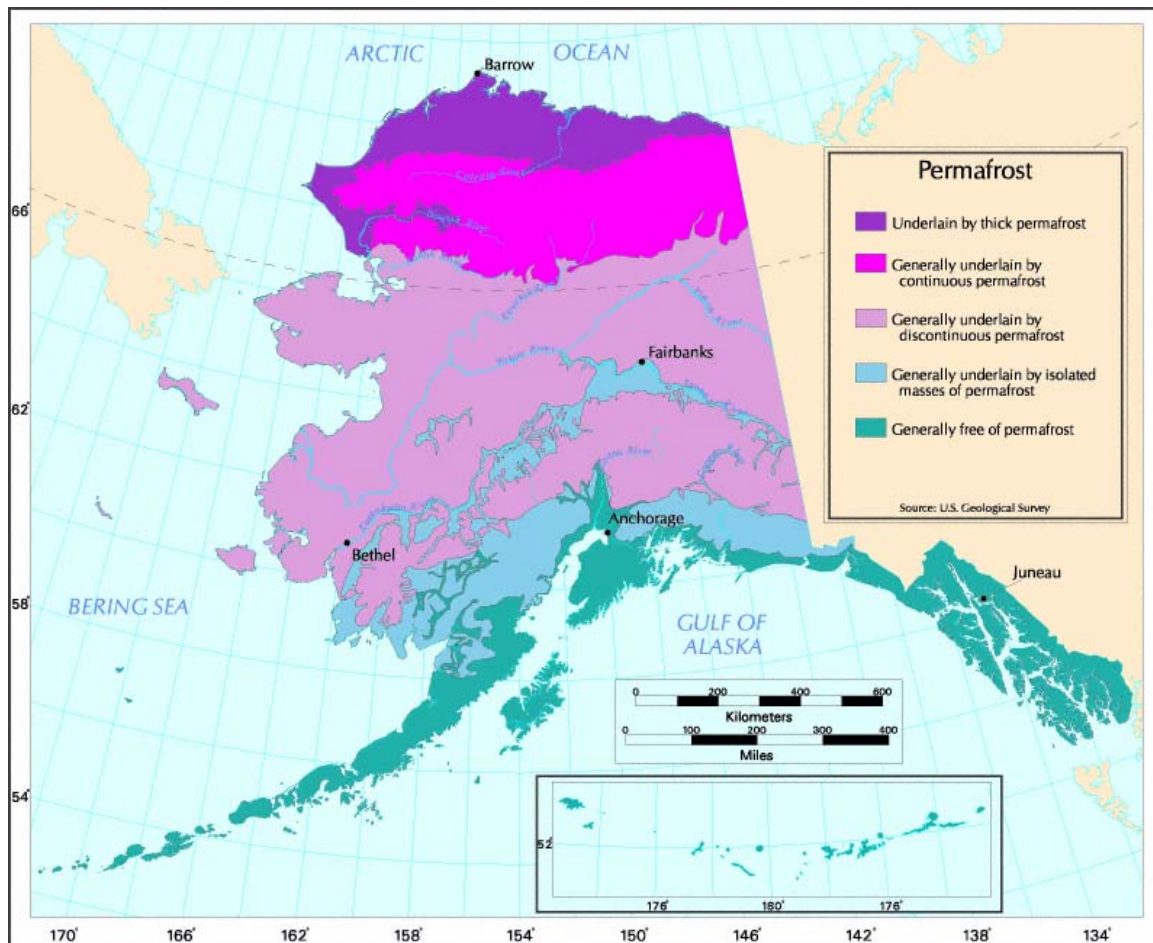


Source: Marjorie Hermans, *Alaska in Maps: A Thematic Atlas* (Alaska Geographic Society, 2003).

Permafrost

Much of Alaska is underlain by permafrost—frozen ground—which may be either continuous (everywhere) or discontinuous (just in some places). Permafrost adds very significantly to the cost of construction of roads, buildings, pipelines, etc., because if the permafrost is disturbed it may melt. Buildings in areas of permafrost are often built on pilings to keep the heat of the building from melting the permafrost.

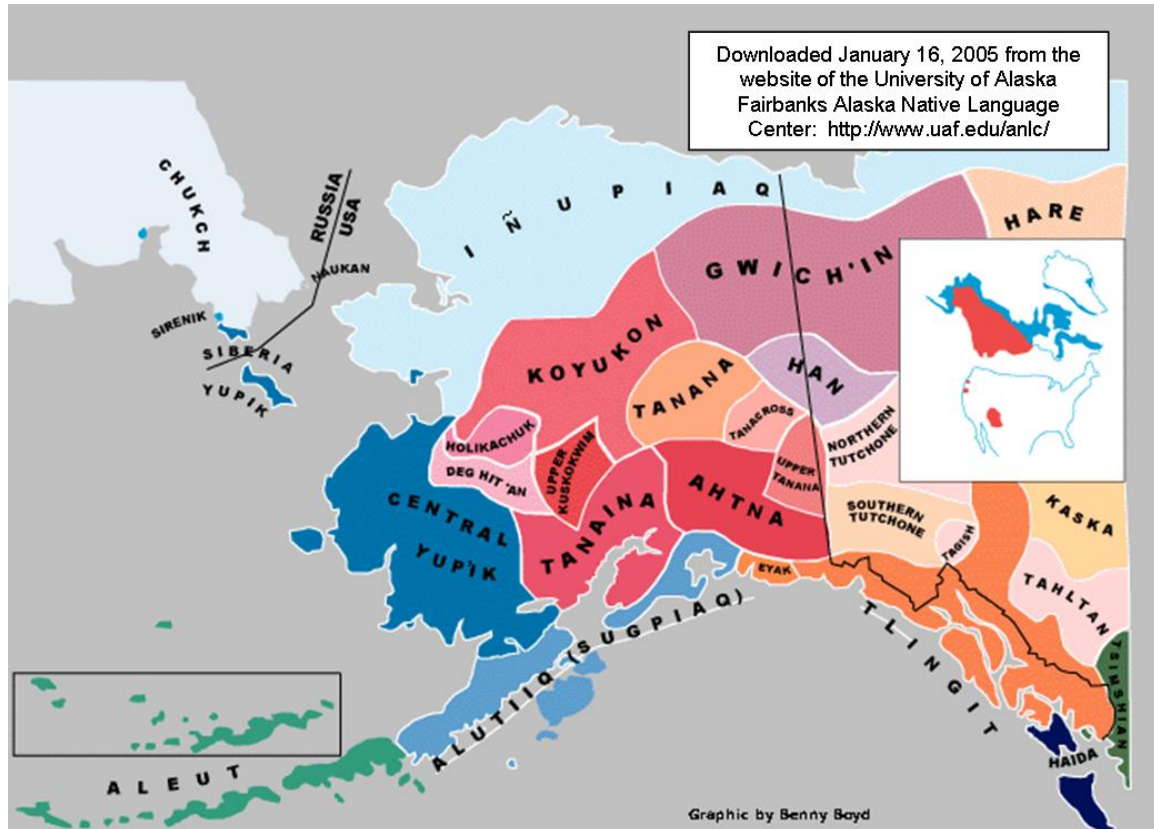
Temperatures have been increasing in Alaska in recent years, as in many parts of the world. Melting permafrost could result in significant maintenance problems for roads, powerlines, pipelines and buildings.



Source: Marjorie Hermans, *Alaska in Maps: A Thematic Atlas* (Alaska Geographic Society, 2003).

Alaska Native Cultures

Alaska is home to many different Native groups. This map shows languages spoken historically by different groups. Some of these languages now have very few speakers; others—in particular Central Yup'ik and Inupiaq—continue to be spoken by thousands of people.



Surface Transportation System

Alaska's road system is very limited. The main roads are those that connect Homer, Kenai, Seward, Anchorage, Fairbanks, Glennallen and Valdez. The entire western half of the state is not connected to the rest of the road system and has only a few roads leading out of Nome and to the Red Dog Mine (north of Kotzebue). Southeast Alaska has very few roads, except for a fairly extensive road system (not shown on this map) on Prince of Wales Island, west of Ketchikan, developed in connection with timber logging.

Roads are expensive to build and to maintain in Alaska due to its topography (major mountain ranges, rivers, glaciers and permafrost) and climate (in particular winter freezing).

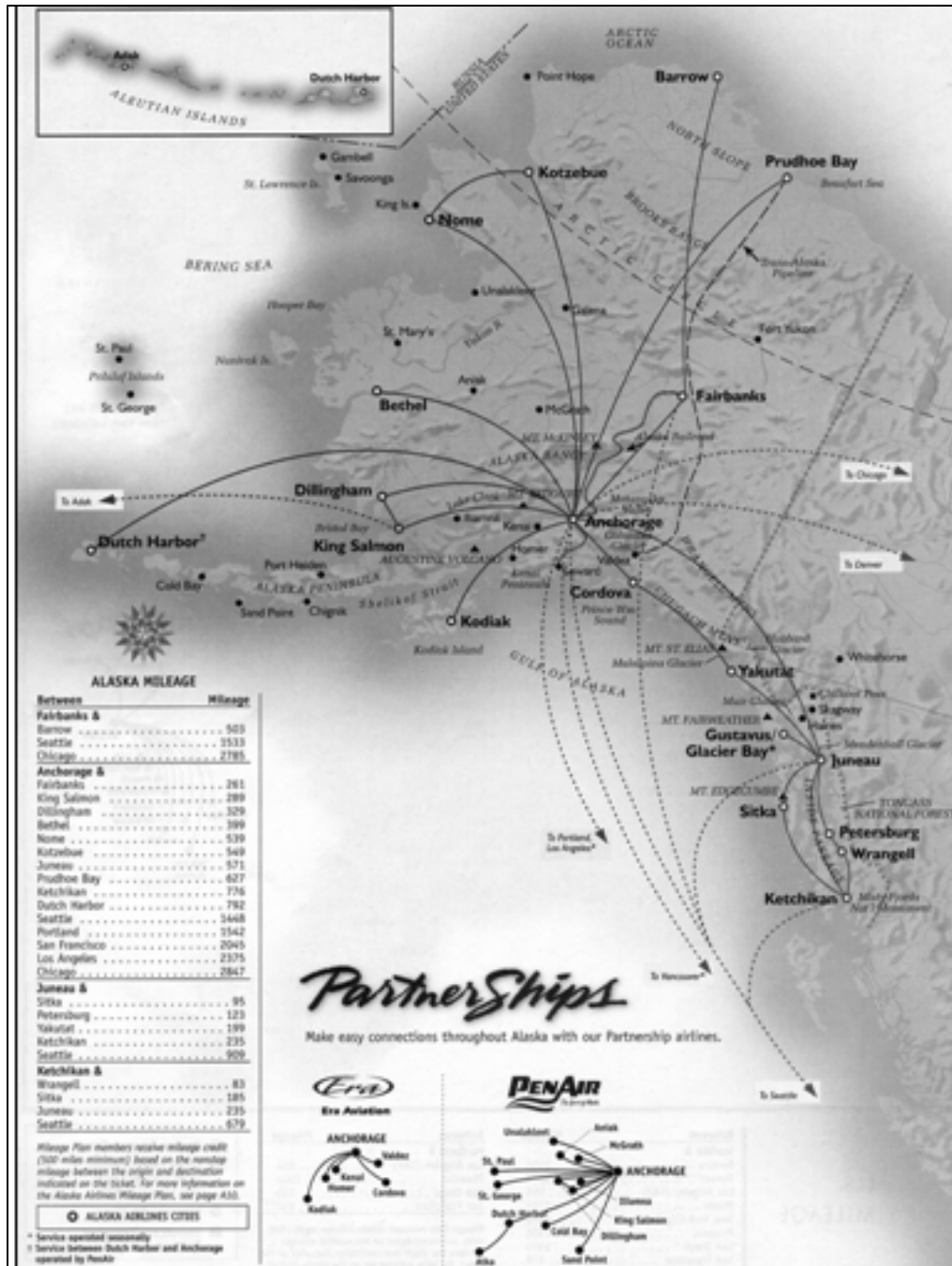
The Alaska Railroad is an important transportation link between Seward, Anchorage and Fairbanks. The Marine Highway (state ferry) system is an important transportation link, particularly in Southeast Alaska. Air travel is of major importance everywhere in Alaska, but particularly in western, interior and northern Alaska. Coastal and river shipping is very important for freight transport, but is limited to the ice-free summer season in western, northern and interior Alaska.



Source: Marjorie Hermans, *Alaska in Maps: A Thematic Atlas* (Alaska Geographic Society, 2003).

Air Transportation

This map shows major air routes of Alaska Airlines—by far the largest air carrier operating in Alaska—as well as two smaller instate airlines (ERA and Penair). Alaska Airlines and several other carriers offer jet service to major regional centers including Cordova, Kodiak, King Salmon, Dillingham, Dutch Harbor, Bethel, Nome, Kotzebue, and Barrow, as well as Juneau, Sitka, Petersburg, Wrangell and Ketchikan in Southeast. From these towns, regional carriers fly smaller planes to most Alaska villages.

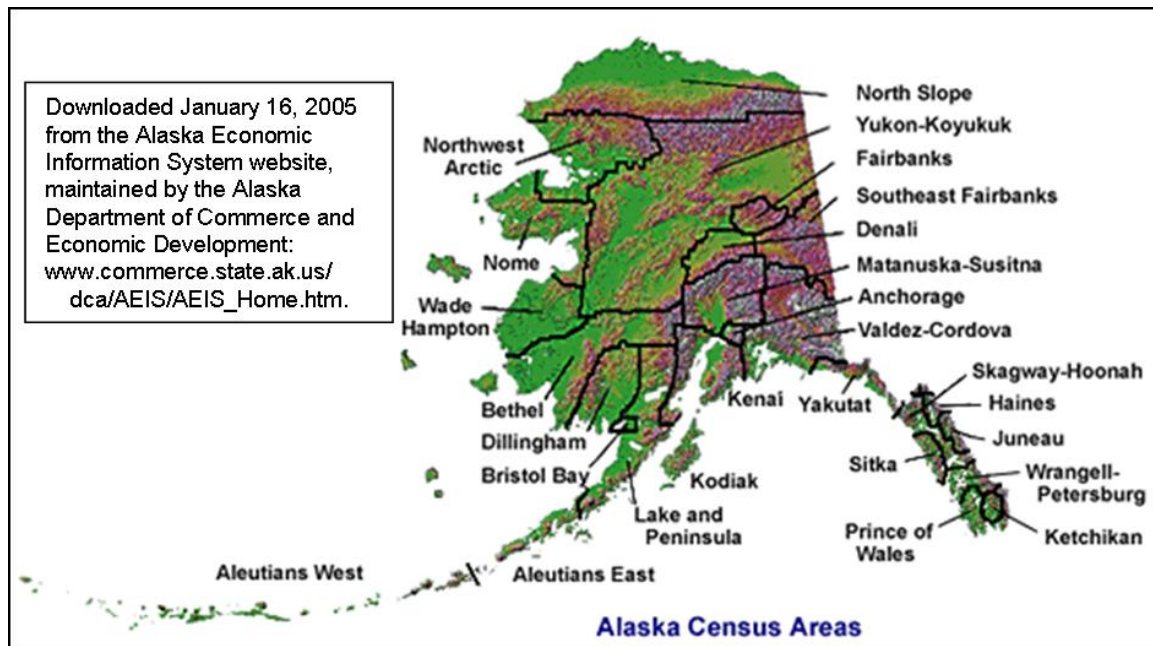


Source
Alaska
Airlines
Inflight
Magazine..

Alaska Census Areas

For purposes of collecting and reporting economic and social Alaska data, Alaska is divided into 27 “census areas.” These census areas are shown in the map below. Most of the regional economic data that we will use in the course is reported for these census areas.”

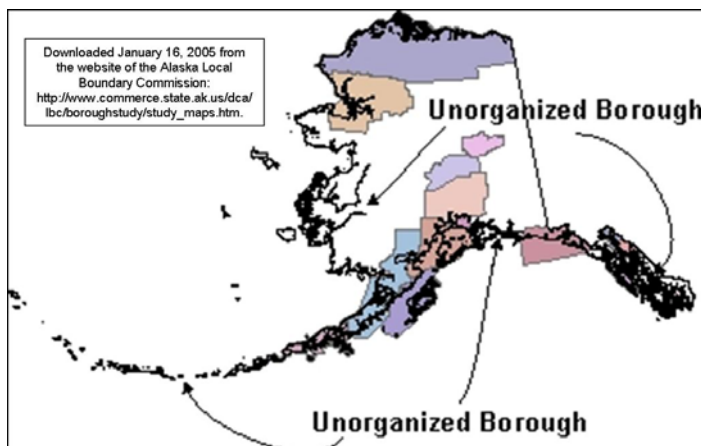
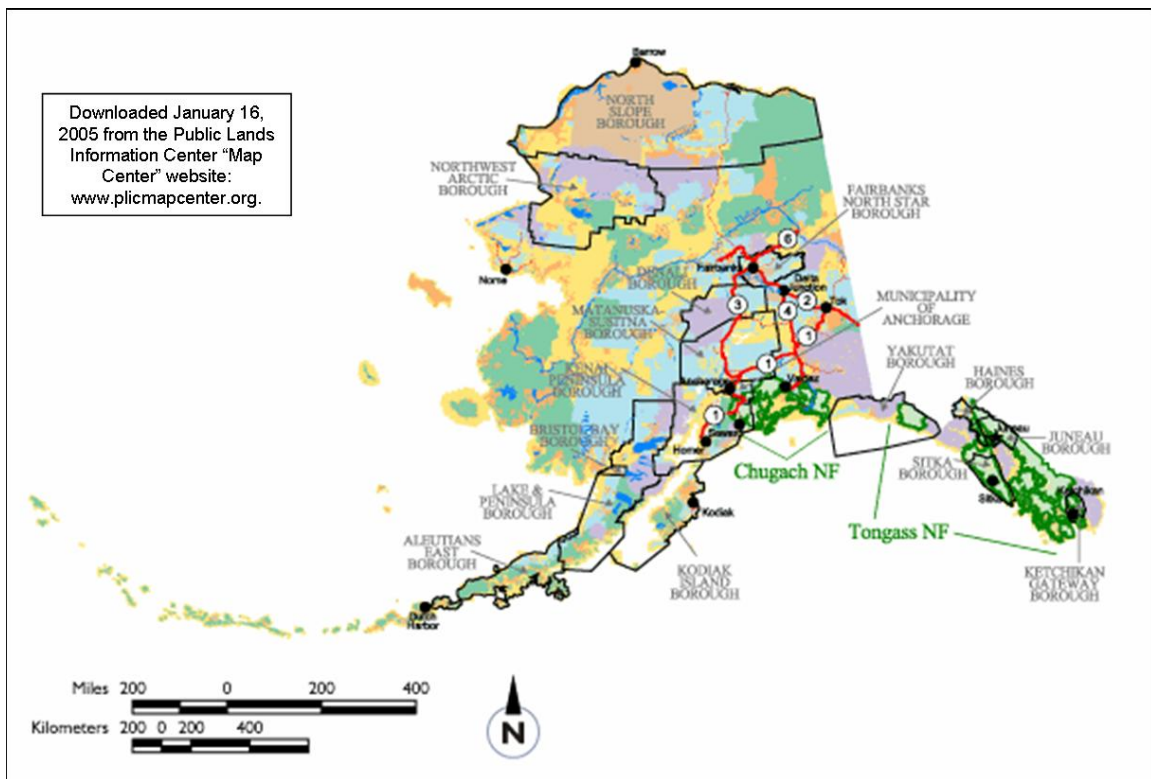
Most of the census area names are intuitive—they are based on a geographic feature (Denali), a geographic location (North Slope), or a community (Sitka). The exception is the “Wade Hampton” census area in western Alaska, which happens to be named for a Confederate general from the Civil War.



Alaska Political Subdivisions

Most states are divided into counties, which have authority to raise various kinds of taxes, issue bonds, and provide various regional local government services such as local roads and schools.

Rather than being fully divided into counties, Alaska is partially divided into “boroughs,” as shown in the map below. These boroughs are roughly equivalent to counties in other states in the services that they provide. Boroughs play an important role in the Alaska economy because they have the right to levy property taxes. Some Boroughs—most importantly the North Slope Borough—raise very large revenues from property taxes on resource developments.

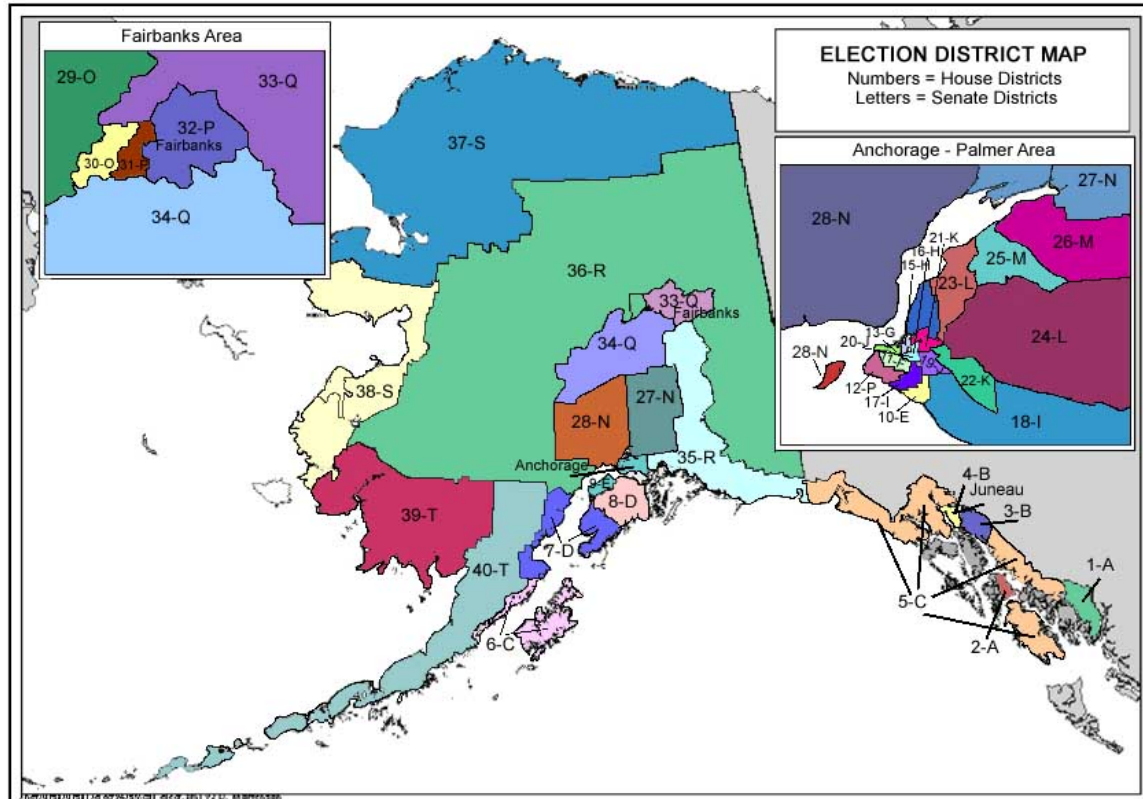


Large parts of Alaska are very sparsely settled and do not have sufficient population or economic resources to fund or provide for a local government. These parts have not been organized into boroughs. They are called the “Unorganized Borough,” as shown in the map to the left.

Alaska Election Districts

Alaska election districts are drawn so as to include approximately similar populations for each House district and for each Senate district, and to group “similar” areas together. Because the Alaska populations is concentrated in Anchorage, the Mat-Su Valley, Fairbanks and Juneau, most legislators are from these urban areas. Some rural election districts, such as in the Interior, are very large.

This map shows election districts as of 2002.



Source: Downloaded January 15, 2005 from www.AlaskaLegislature.com/maps. This is a web site sponsored by the Juneau Empire with information about the Alaska legislature.

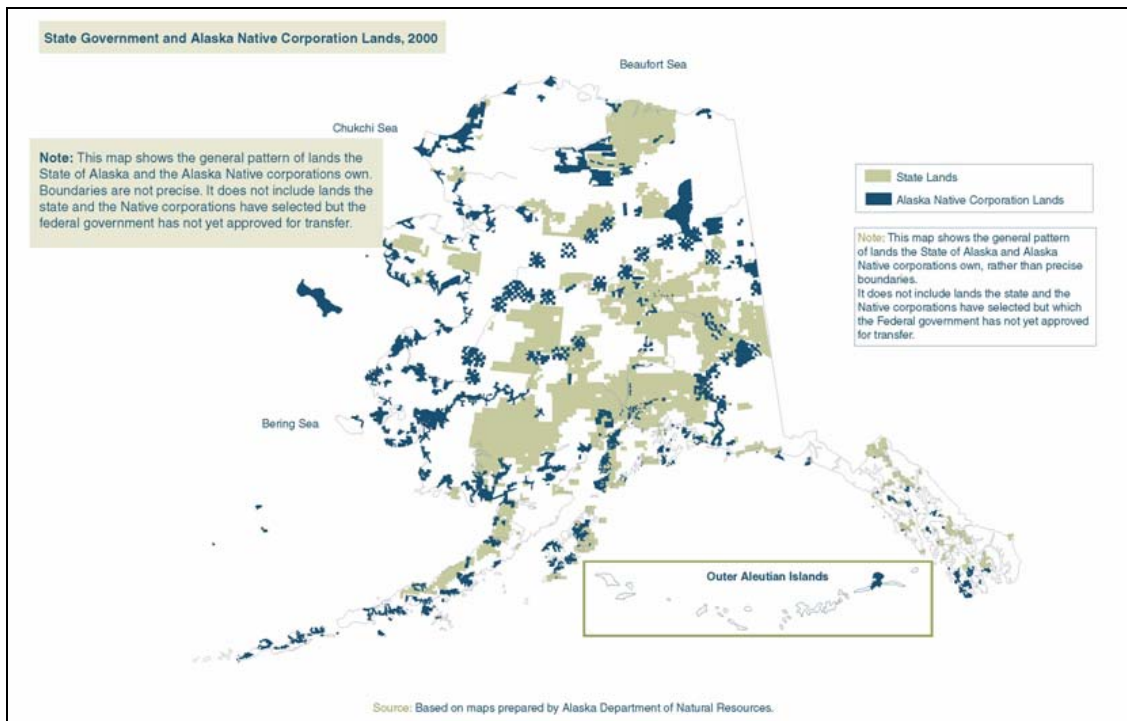
Alaska Land Ownership

Most Alaska lands are owned either by the federal government (59%), the state government (28%), or Alaska Native Corporations (12%). (These corporations were established under the Alaska Native Lands Claims Settlement Act of 1971, or ANCSA. Their share holders are Alaska Natives.) Only about 1% of Alaska is in other private ownership.

At the time Alaska became a state in 1959, almost all Alaska land was owned by the federal government. Under the Statehood act, the State of Alaska was entitled to select lands equal to 28% of the land area of Alaska from lands owned by the federal government, except for those federal lands reserved for special purposes such as National Parks and National Forests.

Under ANCSA, Native Corporations were was entitled to select lands equal to 12% of the land area of Alaska from lands owned by the federal government, except for those already selected by the State or reserved for special purposes such as National Parks and National Forests.

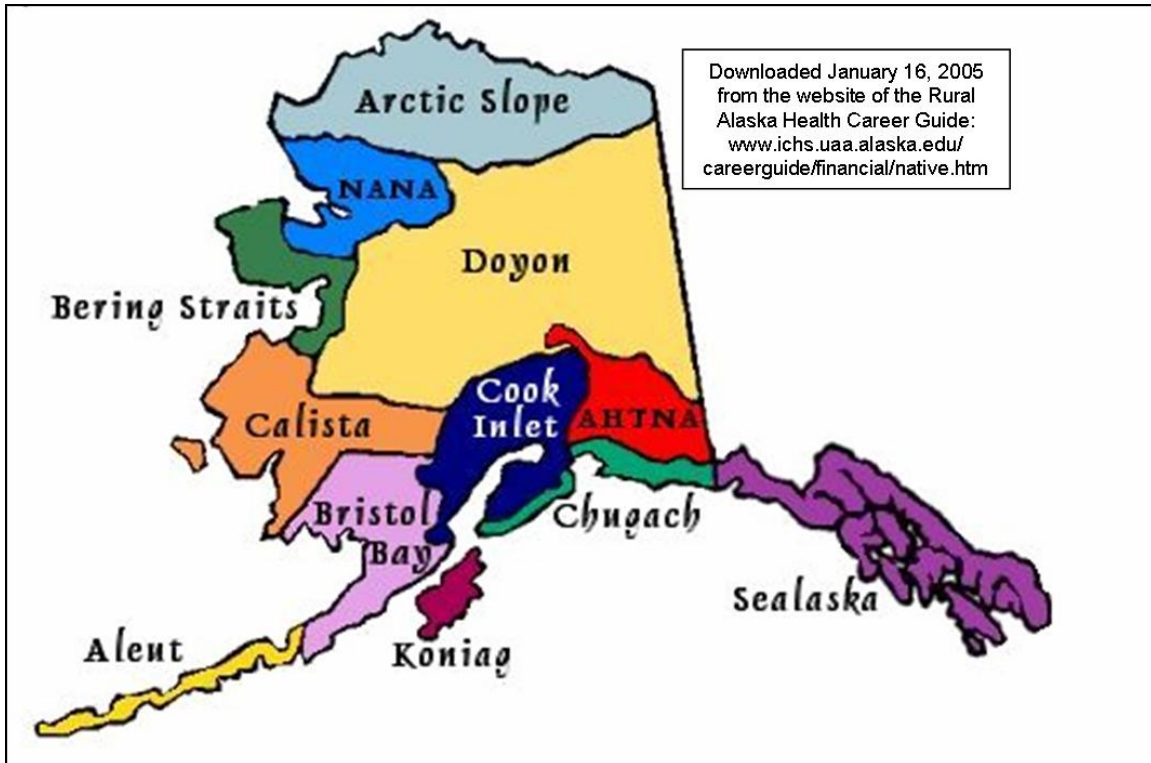
The map below shows Alaska land ownership as of 2000. Lands in grey are state lands; lands in dark blue are Native corporation lands.



Source: Teresa Hull and Linda Leask, "Dividing Alaska, 1867-2000: Changing Land Ownership and Management," Anchorage, University of Alaska Institute of Social and Economic Research.

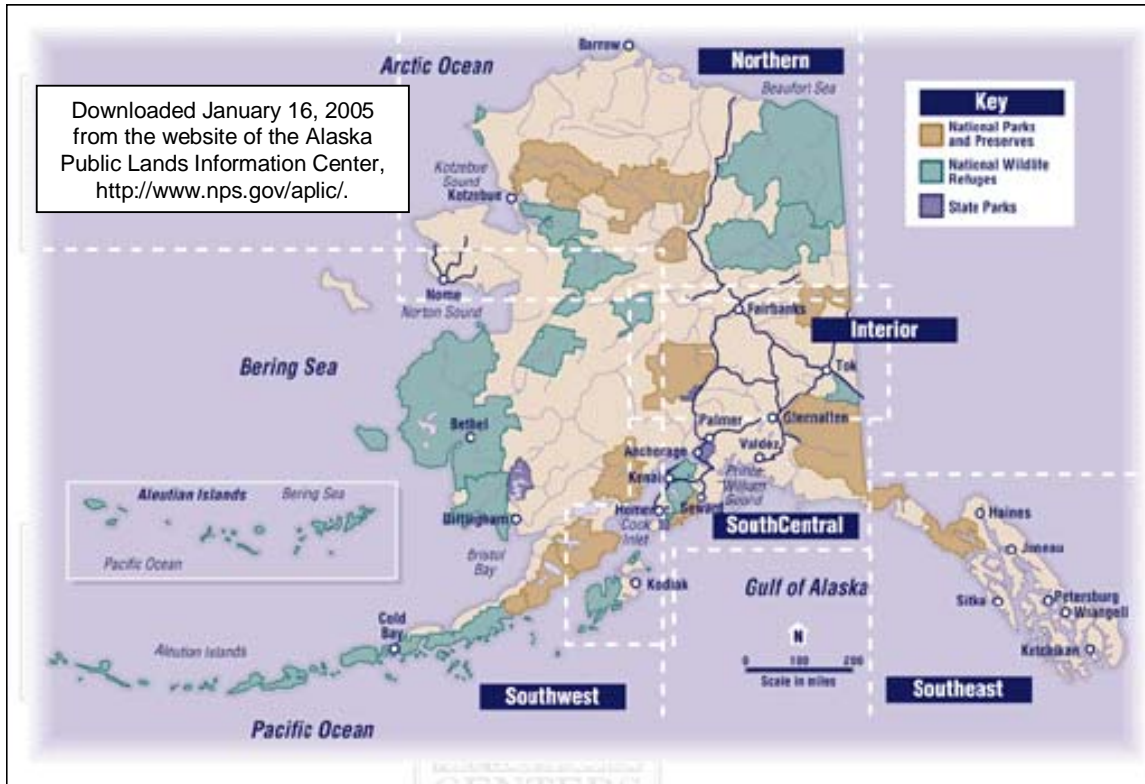
ANCSA Corporation Regions

Under the Alaska Native Claims Settlement Act of 1971 (ANCSA), Alaska was divided into twelve regions. The act established a regional Native corporation for each of these regions. The map below shows the regions and the names of the corresponding Native corporations.



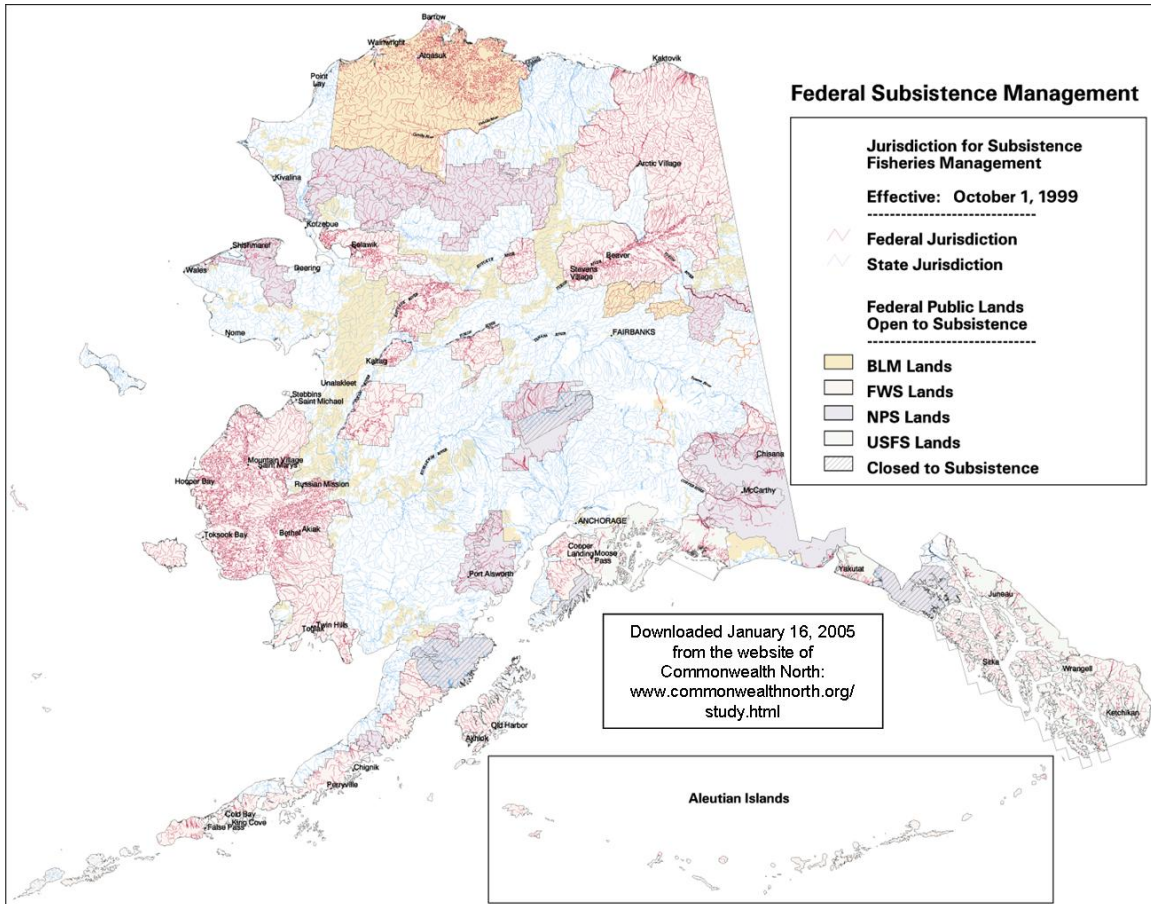
Alaska Parks and Preserves

As shown in this map, large parts of Alaska are set aside as National Parks and Preserves, national wildlife refuges, or state parks. Economic development activities such as logging and mining are typically restricted or banned on these lands. However, they offer significant potential for future tourism development.



Federal Subsistence Management

Land ownership affects who has authority to manage fish and wildlife in Alaska. As a result of a long-running dispute with the State over subsistence management, the federal government now manages subsistence hunting and fishing on federal lands and federal waters.



Alaska's Strategic Location

Alaska's location at the center of the North Pacific and adjacent to the Russian Far East and the Arctic Ocean has since World War II made Alaska an important location for U.S. military facilities, including air force bases, radar early warning facilities, army bases, and most recently for missile defense installations.



Source: Google Earth

Alaska is located roughly halfway between the United States and the major East Asian markets of Japan, China and Korea. This gives Alaska a very favorable location as a refueling stop for air cargo flights between the United States and Asia, which has been critical to the development of Alaska's important and growing air cargo industry.

Over the longer term, if the Arctic Ocean ice pack continues to shrink as the global climate warms, the Arctic Ocean could become a major shipping route, greatly reducing shipping costs from Alaska to Europe.

How Does Geography Affect Alaska's Economy?

Alaska's geography—its location, climate, topography, and resources—have driven Alaska's economy in the past and create and constrain its opportunities for the future. I would suggest the following as the four most important ways in which Alaska's geography affects Alaska's economy.

1. Alaska's geography adds to costs, making it difficult for Alaska to compete with other regions in most economic activities. Alaska's remoteness from major markets, cold climate, mountainous topography, permafrost, and relatively undeveloped transportation system make Alaska a relatively costly place for many economic activities compared with other parts of the world—particularly more northern and more remote parts of Alaska. Alaska's climate means that some activities are only possible on a seasonal basis. In a global economy, higher costs constrain Alaska's ability to compete in most economic activities except for:

- Those supplying goods or services to world markets in which Alaska has an offsetting economic advantage—such as natural resources or a strategic location
- Those supplying goods or services to Alaskans (retail trade, health care, etc.) which have to be based in Alaska.

2. Alaska's natural resources—oil, gas, minerals, fisheries, wildlife, timber, and (increasingly) its wilderness and natural beauty—provide opportunities for a wide variety of resource-based industries.

3. Alaska's geographic location with respect to the rest of the world gives Alaska a significant competitive advantage for two key industries: defense and transportation.

4. Alaska is a very large state, with significant differences between different regions in climate, terrain, natural resources, human settlement, the transportation systems, and so on. These regional geographic differences lead to important differences in economic activity and economic opportunities for different regions of Alaska.