Did you know there are 8 types of glaciers?

Ice is not just ice. You'll be amazed at the variety of glaciers around the world!

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A valley glacier follows the direction of a steep-walled valley, slowly scouring the sides of the mountains as it moves. (Photo: Jaymi Heimbuch)

Glaciers are rivers of ice, moving much like liquid water but in a frozen state. As snow accumulates and compacts, it turns into dense glacial ice that eventually pushes its way down mountainsides, through valleys, and across coastal flats, scouring the sides of

rocks, carting debris with it across miles of terrain and shaping the topography of the world as we know it. So it should be no surprise that they come in many, many forms. Here are just eight of those amazing, Earth-altering forms.

Ice caps and continental ice sheets

Aerial view of the ice sheet on Greenland's east coast. (Photo: Hannes Grobe/Wikipedia)

The largest chunks of glacier ice are what's known as ice caps and continental ice sheets. You've probably heard these terms come up in climate news, since both types are melting at worrying rates and their disappearance affects everything from weather systems to sea levels around the globe. Their presence also affects the presence and movement of other glaciers.

Ice sheets are enormous, and are now only found in Antarctica and Greenland. Ice sheets cover upward of 50,000 square kilometers and may be so thick that they cover topographical features such as mountains and valleys.

Ice caps are smaller versions of ice sheets, measuring less than 50,000 square kilometers. They're dome-shaped and can cover a mountainous area such that the mountains are hidden. Ice fields are similar to ice caps, except smaller still and their flow is affected by the topography of the land.

Many types of glaciers are fed by ice sheets, ice caps and ice fields. For instance, the Harding Icefield in the Kenai Mountains of Alaska feeds as many as 40 glaciers.

Outlet glacier

An outlet glacier flows from the Penny Ice Cap on Baffin Island, Nunavut, Canada. (Photo: Michael Studinger/NASA)

When a glacier flows out of an ice sheet, ice cap or icefield, it's called an outlet glacier. Outlet glaciers are hemmed in on the sides by exposed bedrock. They are the beginning of what usually becomes valley glaciers. The flowing "river" of ice from the ice cap down through a valley is evident in the photo above of the Penny Ice Cap outlet glacier.

The Lambert Glacier in Antarctica is one of the most famous outlet glaciers, in no small part because of its enormous size. It drains some 16 percent of the Antarctic ice sheet (PDF). It also holds the world record as the largest glacier anywhere on the planet, and it's one of the fastest moving.

Valley glacier

A valley glacier follows the direction of a steep-walled valley, slowly scouring the sides of the mountains as it moves. (Photo: Jaymi Heimbuch)

When an outlet glacier forms and slides away from an icefield, it could be a valley glacier. But valley glaciers can also form on their own, starting from high up on a mountain range and flowing down within the steep V between two peaks, often following a course carved out by ancient rivers. The result of the carving action of this type of glacier is typically a U-shaped valley. Yosemite Valley is a classic example of the steep-walled, flat-floored valley carved by an ancient glacier.

Tidewater glacier

The Johns Hopkins glacier in Alaska is a tidewater glacier. (Photo: Jaymi Heimbuch)

Tidewater glaciers are glaciers that flow down to the ocean, meeting the water. These glaciers calve ice as they surge forward, creating icebergs.

The Johns Hopkins glacier in Glacier Bay National Park, pictured above, is a full 1-mile wide, rises some 250 feet above the water, and stretches to around 200 feet below the water. This huge glacier is known for its calving activity, with great chunks of ice falling away as the glacier moves forward.

"As water undermines the ice fronts, great blocks of ice up to 200 feet high break loose and crash into the water," notes GlacierBay.org. "The Johns Hopkins Glacier calves such volumes of ice that it is seldom possible to approach its ice cliffs closer than about 2 miles."

Here is one such calving event from July 2016:

Calving of Johns Hopkins Glacier. (Photo: Jaymi Heimbuch)

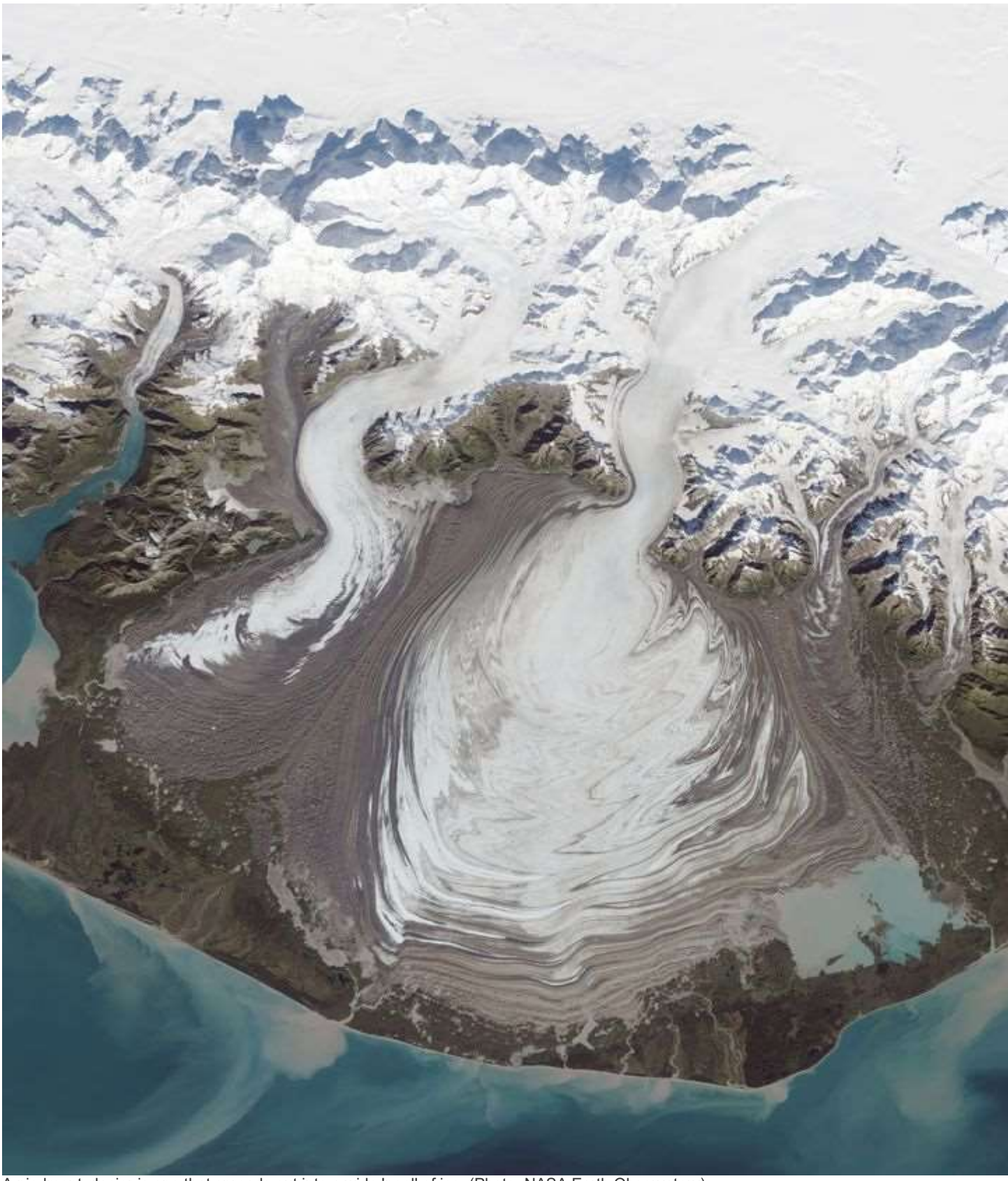
Hanging glacier

Hanging glaciers flow down mountainsides until they meet an abrupt end at a cliff's edge. (Photo: McKay Savage/Wikipedia)

A hanging glacier starts out high in the mountains and often will feed into a valley glacier. But this isn't in the smooth, stream-meets-river sort of joining together. Instead, hanging glaciers flow down a mountainside but stop abruptly, usually at a cliff. They then calve or feed valley glaciers through avalanches and ice falls.

Sudden surges of the glacier, and the resulting avalanches, can be dramatic and potentially deadly. That's what happened in in 2002 when the Kolka Glacier partially collapsed and caused the Kolka-Karmadon rock-ice slide, killing 125 people.

Piedmont glacier



A piedmont glacier is one that spreads out into a wide 'pool' of ice. (Photo: NASA Earth Observatory)

A piedmont glacier is what happens when a valley glacier spills out into a flat plain, spreading out like a big puddle. Only, a very frozen puddle.

According to the National Snow and Ice Data Center, "Malaspina Glacier in Alaska is one of the most famous examples of this type of glacier, and is the largest piedmont glacier in the world. Spilling out of the Seward Icefield, Malaspina Glacier covers about 3,900 square kilometers (1,500 square miles) as it spreads across the coastal plain."

Notice that the Malaspina Glacier, pictured above, is fed by several valley glaciers, including the Seward Glacier at the center of the image. The brown zigzagging lines are areas where rock and soil have been scraped up by the moving ice.

NASA explains, "Glaciers in this area of Alaska periodically 'surge,' meaning they lurch forward quickly for one to several years. As a result of this irregular flow, the moraines at the edges and between glaciers can become folded, compressed, and sheared to form the characteristic loops seen on Malaspina."

Cirque glaciers

A cirque glacier is formed in a depression on a mountainside, such as Glacier de Talefre. (Photo: Richard Allaway/Flickr CC)

A cirque glacier is snow that accumulates in small depressions on the side of a mountain, eventually compacting into glacier ice. When the glaciers build up and shift, they erode the depression to form bowl-shaped valleys called corries or (you guessed it) cirques. Sometimes cirque glaciers will accumulate enough ice to spill over and form valley glaciers.

Rock glaciers

Rock glaciers can look like muddy landslides from the distance, such as the Atlin Rock Glacier in Juneau, Alaska. (Photo: Kirk Miller/Wikipedia)

All glaciers have some amount of rock, soil and other debris built up within or around it. But rock glaciers take this to a new level. These are particularly slow-moving glaciers that are covered or filled with debris, often stuff that falls down from valley walls as the glacier inches along.

As Geology.com points out, "The rock glacier might consist of a mass of ice covered by rock debris, or it might consist of a mass of rock with interstitial ice. A gradient of compositions between these two states also exists."

Typically, rock glaciers look more like a dense mudslide than a glacier.

These eight types of glacier are just the tip of the iceberg when it comes to all the different variations of these rivers of ice around the world. Scientists can get even more specific when it comes to terms describing specific conditions affecting various glaciers, which really makes sense when you consider all the many ways ice can form, change, flow, interact with the landscape and build upon itself depending on the situation.

Whatever type of glacier a mass of ice might be, there is one thing they all have in common: they're melting away. Stark changes in glaciers have been recorded through photographs, and projects like the Extreme Ice Survey are showing how rapidly they're disappearing. So if you want to enjoy the spectacular and strange beauty of glaciers around the world, you might want to do it sooner rather than later.