



Goddard
GLOSSARY

per • ma • frost

1

00:00:00,000 --> 00:00:04,000

Permafrost. Break the word down: Perma -- permanent or long-lasting

2

00:00:04,000 --> 00:00:08,000

and frost -- frozen. Permafrost is soil that has been frozen for at least

3

00:00:08,000 --> 00:00:12,000

two years. But typically, it's been frozen for much longer, hundreds or even thousands of

4

00:00:12,000 --> 00:00:16,000

years. Permafrost is found in the Arctic, the Antarctic, and at high elevations.

5

00:00:16,000 --> 00:00:20,000

So, why do we care about a frozen layer of soil? Because the human-caused

6

00:00:20,000 --> 00:00:24,000

climate change that's warming Earth is warming the Arctic first and fastest. And as

7

00:00:24,000 --> 00:00:28,000

temperatures climb, permafrost thaws. Thawing permafrost is a problem

8

00:00:28,000 --> 00:00:32,000

for things people build. As frozen soil turns to mud and water, roads, runways,

9

00:00:32,000 --> 00:00:36,000

and buildings start to wobble and collapse. And thawing permafrost packs a

10

00:00:36,000 --> 00:00:40,000

double punch by releasing planet-warming greenhouse gases. Over centuries,

11

00:00:40,000 --> 00:00:44,000

ancient plants and animals became frozen in the permafrost, which stored this material like a big

12

00:00:44,000 --> 00:00:48,000

freezer. When permafrost thaws, this organic material is eaten by microorganisms,