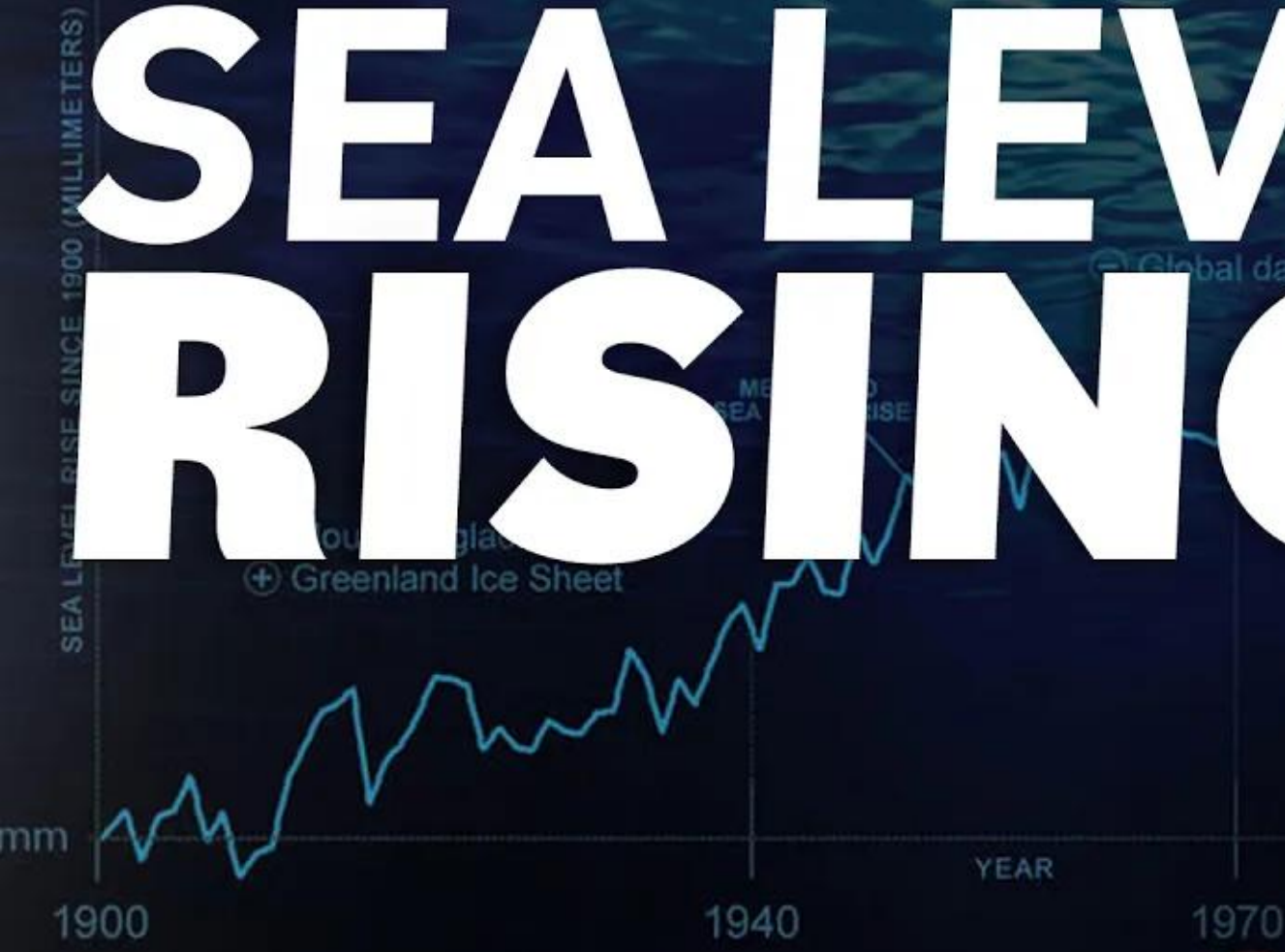




WHY IS SEA LEVEL RISING?



1
00:00:00,861 --> 00:00:03,835
Why is sea level rising?

2
00:00:05,387 --> 00:00:07,007
NASA.

3
00:00:07,007 --> 00:00:08,241
We Asked a NASA Scientist.

4
00:00:08,436 --> 00:00:12,312
So on global scales, sea level is rising really because of our warming climate.

5
00:00:12,345 --> 00:00:14,914
There's two main factors causing sea level to change.

6
00:00:15,148 --> 00:00:17,150
The first is what we call thermal expansion.

7
00:00:17,150 --> 00:00:19,452
So as more heat gets trapped by the atmosphere,

8
00:00:19,519 --> 00:00:21,454
a lot of that heat gets absorbed by the ocean.

9
00:00:21,454 --> 00:00:25,392
When water warms, it actually expands
and that causes sea level to go up.

10
00:00:25,592 --> 00:00:28,428
The other reason that sea level is rising
is because of melting ice.

11
00:00:28,762 --> 00:00:30,797
So we have a lot of ice
contained in the ice sheets,

12
00:00:30,797 --> 00:00:33,500
the Antarctic, Greenland ice sheets

and different mountain regions.

13

00:00:33,824 --> 00:00:36,536

As the Earth warms, these regions are also warming.

14

00:00:36,726 --> 00:00:40,940

So what happens is this ice melts, and when it melts, that meltwater flows into the ocean.

15

00:00:40,940 --> 00:00:43,073

So again, this causes sea level to go up.

16

00:00:43,073 --> 00:00:46,679

On regional scales, the rates of sea level rise can actually be quite different.

17

00:00:46,713 --> 00:00:48,381

The ocean doesn't fill like a bathtub.

18

00:00:48,443 --> 00:00:52,552

Different parts of the ocean see more of an effect than others, depending on two main factors.

19

00:00:52,719 --> 00:00:55,021

The first of these is something we call ocean dynamics.

20

00:00:55,055 --> 00:00:57,457

So as the climate changes, there can be changes

21

00:00:57,457 --> 00:01:00,593

in our ocean circulation, the currents, and this actually changes

22

00:01:00,593 --> 00:01:03,073

how water is distributed and moved about the Earth, causing

23

00:01:03,073 --> 00:01:05,498

sea level to be different in some locations than others.

24

00:01:05,532 --> 00:01:09,002

The other reason that we see differences
in the rates from one region to the next

25

00:01:09,002 --> 00:01:11,171

is something
we call the ice sheet fingerprints.

26

00:01:11,237 --> 00:01:13,039

So there's so much ice being lost

27

00:01:13,039 --> 00:01:14,941

from these different locations,
from the ice sheets

28

00:01:14,941 --> 00:01:17,577

that it actually affects the gravity
and rotation of the Earth.

29

00:01:17,610 --> 00:01:19,913

And we have these distinct,
what we call fingerprints,

30

00:01:19,913 --> 00:01:22,382

that really dictate
where the water goes when it melts.

31

00:01:22,698 --> 00:01:26,719

So some parts of the world will see more of an effect from some locations than others

32

00:01:26,719 --> 00:01:29,522

and that can really cause changes in
the amount of sea level rise that we see.

33

00:01:29,856 --> 00:01:32,044

In sum, why is sea level rising?

34

00:01:32,044 --> 00:01:34,531

Sea level is rising really because of our warming climate.