1
00:00:25,570 --> 00:00:22,210
the ice is melting

2
00:00:27,610 --> 00:00:25,580
the seas are rising little by little in

3
00:00:30,609 --> 00:00:27,620
most parts of the world the ocean is

4
00:00:32,890 --> 00:00:30,619
overtaking the land most of us don't

5
00:00:34,930 --> 00:00:32,900
think much about sea level rise but it's

6
00:00:37,360 --> 00:00:34,940
one of the biggest signs that humans are

7
00:00:40,330 --> 00:00:37,370
affecting the Earth's climate and it's

8
00:00:43,000 --> 00:00:40,340
something worth watching so the big

9
00:00:46,119 --> 00:00:43,010
question is are we facing a doom and

10
00:00:47,799 --> 00:00:46,129
gloom scenario I prefer not to think

11
00:00:50,799 --> 00:00:47,809
about climate change in global warming

12
00:00:53,229 --> 00:00:50,809
in terms of doom and gloom scenarios so

13
00:00:55,360 --> 00:00:53,239

much as a change in our planet our

14
00:00:57,700 --> 00:00:55,370
planet is definitely changing and we're

15
00:00:59,290 --> 00:00:57,710
definitely causing it so we're gonna

16
00:01:01,540 --> 00:00:59,300
have to learn to deal with some of these

17
00:01:03,369 --> 00:01:01,550
changes but in addition we're gonna have

18
00:01:10,630 --> 00:01:03,379
to learn how to make a slightly smaller

19
00:01:16,340 --> 00:01:13,730
sea level is rising effectively because

20
00:01:19,310 --> 00:01:16,350
of global warming as the planet heats up

21
00:01:20,690 --> 00:01:19,320
then two things happen to the ocean one

22
00:01:23,359 --> 00:01:20,700
is that the temperature of the water

23
00:01:25,719 --> 00:01:23,369
increases and as that happens the water

24
00:01:28,190 --> 00:01:25,729
actually expands and takes up more room

25
00:01:31,100 --> 00:01:28,200
the other thing that happens is that ice

26
00:01:33,800 --> 00:01:31,110
that was on land in the form of glaciers

27
00:01:35,830 --> 00:01:33,810
and ice sheets begins to melt and as

28
00:01:38,300 --> 00:01:35,840
that runs off into the ocean it

29
00:01:43,039 --> 00:01:38,310
increases the water in the ocean and it

30
00:01:44,899 --> 00:01:43,049
actually raises sea level as well it's

31
00:01:47,059 --> 00:01:44,909
important to understand how the world's

32
00:01:49,580 --> 00:01:47,069
ice sheets form how they change over

33
00:01:50,270 --> 00:01:49,590
time and how fast they are moving into

34
00:01:52,639 --> 00:01:50,280
the sea

35
00:01:55,370 --> 00:01:52,649
that's where researchers like NASA's

36
00:01:57,229 --> 00:01:55,380
Laura Koenig come in she recently spent

37
00:02:00,080 --> 00:01:57,239
three months in Greenland studying the

38
00:02:02,149 --> 00:02:00,090

composition of those ice sheets all ice

39
00:02:04,850 --> 00:02:02,159
sheets and glaciers start a snowfall

40
00:02:07,429 --> 00:02:04,860
those tiny flakes get compressed by the

41
00:02:10,520 --> 00:02:07,439
weight of more snow above and eventually

42
00:02:12,589 --> 00:02:10,530
become dense masses of ice what we're

43
00:02:15,590 --> 00:02:12,599
seeing right now on the ice sheets and

44
00:02:20,030 --> 00:02:15,600
with glaciers is that they are shrinking

45
00:02:22,699 --> 00:02:20,040
in size and as glaciers on land are

46
00:02:25,370 --> 00:02:22,709
shrinking overall that contributes a

47
00:02:28,340 --> 00:02:25,380
little bit to sea-level rise and we are

48
00:02:30,650 --> 00:02:28,350
worried as we see warming over the ice

49
00:02:32,210 --> 00:02:30,660
sheets and increase melting over the ice

50
00:02:36,550 --> 00:02:32,220
sheets that they are going to start

51
00:02:39,020 --> 00:02:36,560
contributing much more to sea-level rise

52
00:02:42,559 --> 00:02:39,030
two thirds of the fresh water on Earth

53
00:02:46,370 --> 00:02:42,569
is frozen in the world's ice fields if

54
00:02:48,349 --> 00:02:46,380
that ice melts Seas will rise if all of

55
00:02:51,710 --> 00:02:48,359
that ice were to melt sea level would

56
00:02:53,780 --> 00:02:51,720
rise worldwide by 70 meters no one

57
00:02:56,180 --> 00:02:53,790
expects all of that ice to melt anytime

58
00:02:58,250 --> 00:02:56,190
soon but even the meter of sea level

59
00:03:00,250 --> 00:02:58,260
rise that many scientists predict in the

60
00:03:02,670 --> 00:03:00,260
next century could have dramatic

61
00:03:05,789 --> 00:03:02,680
consequences

62
00:03:07,500 --> 00:03:05,799
even though the polar regions seem very

63
00:03:09,930 --> 00:03:07,510

far from a lot of people's day-to-day

64
00:03:12,270 --> 00:03:09,940
life they are very important because

65
00:03:15,630 --> 00:03:12,280
they are the regions that cool our earth

66
00:03:18,690 --> 00:03:15,640
and as they change they're going to

67
00:03:21,330 --> 00:03:18,700
cause larger changes throughout the rest

68
00:03:23,970 --> 00:03:21,340
of the globe a lot of people live in

69
00:03:27,449 --> 00:03:23,980
coastal areas coastal places that have

70
00:03:30,390 --> 00:03:27,459
beaches as sea level rises then beaches

71
00:03:33,630 --> 00:03:30,400
begin to erode and we begin to lose

72
00:03:35,940 --> 00:03:33,640
wetlands a lot of different ecologically

73
00:03:38,280 --> 00:03:35,950
sensitive regions lie along the

74
00:03:41,130 --> 00:03:38,290
coastline and as sea level rises these

75
00:03:43,949 --> 00:03:41,140
get flooded the ecosystems are forced to

76
00:03:46,440 --> 00:03:43,959
change and so all this can have big

77
00:03:49,949 --> 00:03:46,450
consequences for people and especially

78
00:03:51,720 --> 00:03:49,959
people who live near the coast as the

79
00:03:54,300 --> 00:03:51,730
great ice sheets in Antarctica and

80
00:03:56,250 --> 00:03:54,310
Greenland began to melt and break up due

81
00:03:58,349 --> 00:03:56,260
to global warming we really might

82
00:04:00,899 --> 00:03:58,359
experience very rapid sea level rise

83
00:04:03,599 --> 00:04:00,909
three or four times as fast as the rate

84
00:04:05,940 --> 00:04:03,609
that we see today so predicting this

85
00:04:08,339 --> 00:04:05,950
rate out into the future is very tricky

86
00:04:10,890 --> 00:04:08,349
because we really don't know when the

87
00:04:13,740 --> 00:04:10,900
ice sheets might break up and how fast

88
00:04:15,449 --> 00:04:13,750

they will when they do so predicting