



1  
00:00:00,000 --> 00:00:09,390  
music

2  
00:00:09,410 --> 00:00:10,330  
silence

3  
00:00:10,350 --> 00:00:15,090  
music

4  
00:00:15,110 --> 00:00:20,150  
The fact that 2012, the date 2012, is close to 2014 is completely a coincidence.

5  
00:00:20,170 --> 00:00:26,990  
This up and coming solar cycle, roughly 2014, isn't going to be significantly different from the next one

6  
00:00:27,010 --> 00:00:30,130  
and the next one, and then the previous one.

7  
00:00:30,150 --> 00:00:34,510  
The sun is what we call and active star, and it has a cycle of activity.

8  
00:00:34,530 --> 00:00:40,070  
Over 11 years, we go to higher activity and back down to lower activity.

9  
00:00:40,090 --> 00:00:45,720  
So, this 11 years is fairly steady, and it has been happening through time as far as we can tell.

10  
00:00:45,740 --> 00:00:51,100  
And we always have solar flares. Some times we have big ones, some times we have small ones.

11  
00:00:51,120 --> 00:00:54,190  
We live on a planet with a very thick atmosphere.

12  
00:00:54,210 --> 00:01:01,610  
So, that atmosphere stops all of the harmful radiation that is produced in a solar flare.

13  
00:01:01,630 --> 00:01:05,490

Even in the largest events that we've seen in the past 10,000 years,

14

00:01:05,510 --> 00:01:13,530

we see that the effect is not enough to damage the atmosphere so that we are no longer protected.

15

00:01:13,550 --> 00:01:17,320

Coronal mass ejections are happening on the sun all the time.

16

00:01:17,340 --> 00:01:21,250

And they hit the Earth once or twice a week,

17

00:01:21,270 --> 00:01:23,040

sometimes more,

18

00:01:23,060 --> 00:01:26,670

and in general, the effects are minimal.

19

00:01:26,690 --> 00:01:29,930

If we have a really big one, we can have a really strong aurora.

20

00:01:29,950 --> 00:01:34,840

But, then it can effect satellites and power grids,

21

00:01:34,860 --> 00:01:39,350

and these are the kinds of things that people who run these systems know about.

22

00:01:39,370 --> 00:01:40,630

And we have warning.

23

00:01:40,650 --> 00:01:47,900

These CMEs travel at speeds that mean they take probably 2-3 days to get here.

24

00:01:47,920 --> 00:01:49,440

We've learned more and more about storms.

25

00:01:49,460 --> 00:01:52,270

We've learned how to better predict the effects.

26

00:01:52,290 --> 00:01:55,660

Where they are going to go. Where they are going to hit.

27

00:01:55,680 --> 00:02:00,680

As long as we continue paying attention to it and learning more about it,

28

00:02:00,700 --> 00:02:05,000

treating it like we treat a hurricane coming or a huge thunderstorm coming,

29

00:02:05,020 --> 00:02:08,540

we can take appropriate measures to prepare for them.

30

00:02:08,560 --> 00:02:12,420

We understand the sun well enough

31

00:02:12,440 --> 00:02:14,590

with all the technology and all the science

32

00:02:14,610 --> 00:02:19,610

and all of the many spacecraft we have that are monitoring it 24 hours a day,

33

00:02:19,630 --> 00:02:28,420

7 days a week, to know that this stuper storm that's going to wipe out the Earth simply isn't going to happen.