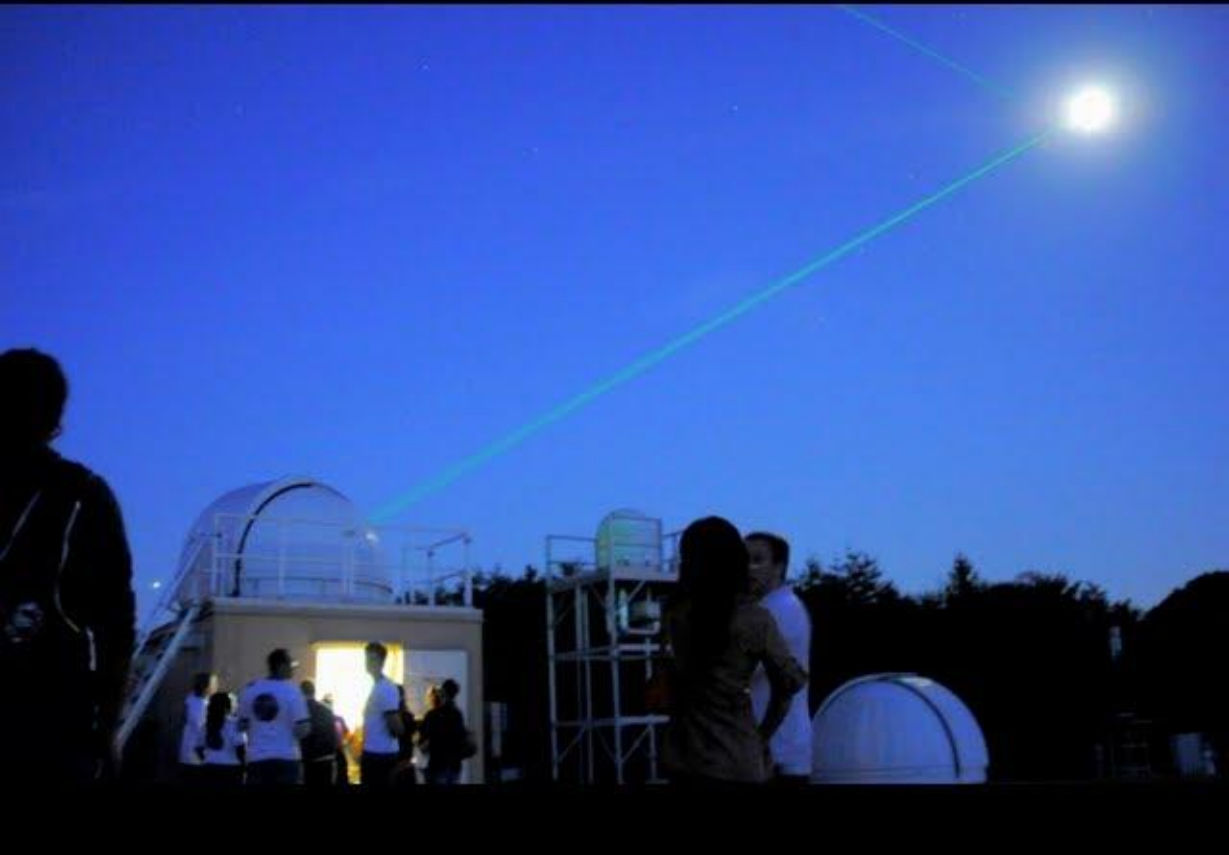

1
00:00:00,010 --> 00:00:03,680
[Music]

2
00:00:03,700 --> 00:00:10,680
My name is Stephen Merkowitz, I am a scientist at NASA Goddard, and I am the project manager for the space

3
00:00:10,700 --> 00:00:19,680
Space geodesy is simply the science of where things are either on Earth or in space, and we use a number of

4
00:00:19,700 --> 00:00:30,130
including what's very familiar to most people, GPS, along with Very Long Baseline Interferometry, Satellite Las

5
00:00:30,150 --> 00:00:38,990
One of the best experiences I've had is to go out to the optical site here at Goddard at night, when they are las

6
00:00:39,010 --> 00:00:47,480
and as you're looking out at the telescope, you can see a laser coming out and you can see it moving across th

7
00:00:47,500 --> 00:00:53,280
And just the knowledge that this laser is going up to some satellite way above us, bouncing off of it and returnin

8
00:00:53,300 --> 00:01:00,730
and we're detecting where that satellite is to millimeters is really an incredible experience.

9
00:01:00,750 --> 00:01:07,400
Well if you have an altimetry satellite that's trying to measure the height of the different objects on the Earth,

10
00:01:07,420 --> 00:01:14,620
it needs to know its height very precisely in order to measure the Earth, so that's information that we feed back

11
00:01:14,640 --> 00:01:23,630
In addition, by understanding the precise orbits of the satellite, we can get a measure of where the station is on

12
00:01:23,650 --> 00:01:29,880
Space geodesy is one of these projects that is like basic infrastructure.

13
00:01:29,900 --> 00:01:39,750

The current network is aging, it's thirty, forty years old, and it's really time to develop a new network, and that's

14
00:01:39,770 --> 00:01:54,130
The most exciting part about my job is thinking about a lot of the societal impacts that our work has, that it's no