Speaker: For many people, the word asteroid is synonymous with destruction. It brings to mind the extinction of the dinosaurs or images from disaster movies with shattering buildings and cartwheeling cars. But large asteroid impacts are exceedingly rare. And as it turns out, there are actually things we can do now to lower the chance that someday one may harm us.

The idea that an asteroid impact can be prepared for, like one might prepare for a big winter storm, can come as a surprise. Metaphorically, asteroids seem to embody our lack of control over the universe. In literature, art, and popular culture, they are acts of God, cosmic phenomena that highlight our own powerlessness. But the reality is quite different. As a species, we have the scientific understanding and technological prowess to actually do something about this particular problem. And it all starts with mapping the asteroids in our cosmic neighborhood.

Thanks to the hard work of generations of asteroid hunters, we have found almost all of the biggest, most hazardous objects. By the end of 2011, we had found over 90% of asteroids bigger than one kilometer across that get close to Earth; that is, those capable of massive destruction. And because the hunt for these objects has continued since then, that percentage is even higher today. It is crucial we keep searching the skies. Not only would we like to find all the asteroids bigger than one kilometer across, it is also a good idea to find the slightly smaller but still pretty big asteroids that are out there. Asteroid hunters are currently working towards a second target: finding 90% of the asteroids bigger than 140 meters across that get close to Earth. These objects are big enough to decimate a medium-sized country, and so far, only about 30% of these have been found.

Asteroid hunting is our responsibility to the rest of the planet. We are the only species able to understand calculus or build telescopes. The poor dinosaurs didn't stand a chance, but we do. If we found a hazardous asteroid with enough early warning, we could nudge it out of the way. Unlike earthquakes, hurricanes, or volcanic eruptions, asteroid impacts are a natural disaster that can be precisely predicted and, with enough time, entirely prevented.

Speaker: And I want to be clear that this is a very small asteroid, so nobody was freaking out like this is a very small thing that was going to burn up in the atmosphere. That being said though, this is super exciting because there had never been a time when an asteroid was tracked in the sky and then collected as pieces of meteorites on the ground, and people thought this was a good opportunity to do this.

So the whole scientific community all across the world, different people with different telescopes immediately latched onto this object. And they were observing it as night fell, as soon as night fell in an area, telescopes there would be on it. So you got hundreds of observations within a second of each other all across the globe which was super cool. And then people who compute orbits -- this is a whole other specialty of studying asteroids -- were computing and computing. The first people to get it right were Steve Chesley and Paul Chodas at the Jet Propulsion Laboratory. They predicted that it was going to impact over the Sudan and actually gave enough warning time to warn the government.

There's a funny side story to this which is that they processed this through the proper channels. Dana Perino, who was George W. Bush's Press Secretary at the time, remembers the weirdest email she ever got in her tenure was one called "Heads Up" as the title and being like, "By the way, this asteroid is going come over the Sudan. Can you warn the Sudanese government about this?" So that was a fun day for her as well.

But anyways, as word was getting out about this, somebody else had the very clever idea to alert two Dutch KLM pilots that this was going to happen. They were flying nearby it. They diverted slightly so they could see it come down. They actually watched it come down from that elevated viewpoint which was really cool. People coming from morning prayers in Northern Sudan and Southern Egypt saw it as well which was super cool. And it landed in this very dry deserty area which is a perfect place for a meteorite. If this had landed over an ocean, we would have been in trouble. If it had landed in a rainforest, it would have gotten wet and maybe some of the rocks would have started to break down. But it's a pristine place. It took a little while, but finally Peter Jenniskens from SETI, who's actually local here, teamed up with Muawia Shaddad who is a professor at the University of Khartoum. They got some students, and they went out to the desert. They were going to look for this object that had fallen. And they really…