

00:01 Hi, my name is Scott Lussier.  
00:03 I work in the Center for Urban Ecology and Sustainability here  
00:06 at Suffolk and I lead the drone programs.  
00:09 Thought I'd give you a little bit of an idea  
00:11 of what drones can do in honor of Earth Day for 2020.  
00:15 So what we have here in front of me is the training drones  
00:19 that we use the DJI Ryze Tello drones and the DJI Mavic 2 PRO,  
00:25 two of our drones that we have here at Suffolk that we use for research  
00:29 and teaching as part of our curriculum.  
00:31 We have a few ways that people can get involved with drones, including a student-led  
drone club  
00:40 or you can take some drone classes, whether it is an Intro to Drones course, UES 107,  
00:47 with the associated lab with that, or a mapping course or a videography class as well  
00:52 as a test prep class, one credit where you can get ready to take your FAA pilot's exam  
00:57 and fly one of these on your own.  
00:59 So we do fly these in class under my supervision.  
01:03 It's a lot of fun.  
01:05 These things are great.  
01:06 But let's talk a little bit about the environment in honor of Earth Day.  
01:09 So, drones can do amazing things for the environment,  
01:13 and we're going to look at some of these right now.  
01:16 One of the main, you know, the obvious things that drones can do is count wildlife.  
01:20 So whether you're looking at elephants in the savanna or koala bears down in Australia,  
01:26 which is very pressing these days given all of the fires that they've had,  
01:30 using a drone that can get up above into the treetops, look at things, use a thermal  
camera  
01:35 to see different things and count species is an amazing tool for an environmentalist to  
use.  
01:41 We can get up there, see the heat signatures, get good counts on things very quickly.  
01:46 It doesn't disturb any of the animals.  
01:47 It's an amazing tool.  
01:48 We're also using drones to gather information about whales and humpback whales,  
01:54 and they come up, they blow their snot out.  
01:57 The drone catches it on a petri dish.  
01:58 They bring it back to the lab and they can just get amazing information about whales  
02:02 we've never been able to do, you know, five years ago.  
02:05 So really pretty incredible.  
02:07 We can look at volcano eruptions and get sensors on these drones, get them right up  
close  
02:15 to the volcanoes and measure the gases coming out.  
02:19 We can look at farming.  
02:20 We can look at crop health using an NDVI filter.  
02:24 We can look at watering rates and pesticide rates.  
02:30 We can even use drones to plant trees.

02:32 They have drones almost like a paint gun and it shoots a seed down into the ground  
02:37 in like a burned area and they can replant trees by the hundreds and thousands.  
02:43 It's really quite incredible, the level of magnitude  
02:46 that we can now replant areas with these drones.  
02:49 So really pretty incredible what they're doing.  
02:51 This is just scratching the surface.  
02:53 I'd love for you to join me in CUES in one of our drones, or if you just want to come  
02:57 in as a student as part of the club, that's great too.  
03:01 Email me if you ever have any drone questions.  
03:04 I'd love to talk about drones and I'd love to fly with you, so let me know.  
03:08 All right.  
03:09 Thanks.