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\f0\fs28 \cf0 Transcript\  
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Florida Ecological Forecasting: A Multi-Sensor Approach to Mapping the Inland Expansion of Mangrove Forests in Florida's Indian River Lagoon.\

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>>[Kristofer Lasko]: Hi, my name is Kristofer Lasko. I'm a graduate student studying GIS at the University of Maryland, College Park.\

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>>[Brock Blevins]: My name is Brock Blevins. I'm a graduate student at the University of Maryland, Baltimore County, and I am studying geographic information systems. \

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>>[Melissa Oguamanam]: Hi. I'm Melissa Oguamanam, and I graduate from the University of Maryland, College Park, with a major in Geography.\

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>>[Katrina Laygo]: My name is Katrina Laygo, and I'm a graduate student in Space Policy at the George Washington University. \

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>>[Temilola Fatoyinbo]: OK, Hi, my name is Lola Fatoyinbo, I'm a research physical scientist at NASA Goddard Space Flight Center. My research here is on mangrove ecosystems of the world, and in particular, I'm really interested in using remote sensing products to measure mangrove land cover, to measure land cover of ecosystems, and also the three-dimensional structure of mangrove forests. \

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Brock Blevins: Are Florida's mangrove ecosystems on the move? Using a combination of satellite imagery and field work, the NASA DEVELOP Team at Goddard teamed up with the Smithsonian Environmental Research Center and USGS to track this dynamic ecosystem as it travels and encroaches upon salt marsh neighbor to the North.\

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\cf0 Mangroves are salt water tolerant trees found in tropical and subtropical coastlines around the globe. Existing on the boundary between land and sea, mangroves play an important role for coastal communities which include providing breeding grounds for diverse marine species , mitigating damages from storms, and stabilizing shorelines from erosion through their extensive root systems. These root systems allow mangrove ecosystems to provide perhaps their most valuable service of all, carbon sequestration as they have been found to be one of the most carbon dense systems on the planet.\

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Melissa Oguamanam: However, mangrove ecosystems continue to be threatened by growth in urbanization and land for agriculture due to population growth as well as changes in temperature, rainfall, salinity, and sea level. So far, over 25% of mangroves have been destroyed globally. However, mangrove forests in the SE US are one of the places on earth where the ecosystem is expanding. Thus, there is a need to better understand the current impacts of climate change on mangrove distribution.\

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Our study area is along Florida's southeastern coast which lies the Indian River Lagoon, a shallow, expansive barrier island complex fed from expansive freshwater rivers and streams, where mangroves are said to be growing inwardly and northward into the salt marsh ecosystems.\

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Brock Blevins: Our project objectives are to characterize the extent and migration of mangroves in Indian River

Lagoon, Florida for 2000 \ '96 2010

\f1 , to  
\f0 create time series maps through a combination of radar, hyperspectral, and optical data sets including ALOS/PALSAR, Hyperion, and Landsat TM satellite imagery  
\f1 , and to  
\f0 forecast future mangrove distribution based on temporal trends and habitat suitability.\

\ Katrina Laygo: For the Spring 2013 term, the DEVELOP GSFC team is aiming to also use JAXA's ALOS/PALSAR datasets to characterize and examine the structure and make estimates of biomass along the same area. By using this multi sensor approach, we are aiming to create a series of maps to both classify the extent and the structure in order to help our end users make more informed decisions towards policy with regards to the management of mangroves along this crucial area along Florida's coast. \

\ Kristofer Lasko: Here you are looking at an image of the Mosquito Lagoon between the years 2000 and 2010. You can see that the yellow wetlands have turned to the brown mangroves, especially along the inland areas of the image. Also, it's important that this image can be passed along to our project partners, highlighting the hotspot areas within our study area, so that when they are doing more higher resolution products so that they can focus on these areas, instead of having to find areas of significant change. \

\ Brock Blevins: Transitioning the project over to our partners will provide robust information about the study area at large and small scales through change maps, change statistics, and overall extent between varying time periods. Additionally, we will be able to provide spectral profiles for mangrove and wetland areas that can aid in future projects. We hope to provide a comprehensive comparison and analysis of a variety of classification methods for mangroves in the region. We hope to characterize mangrove biomass, structure, height, and carbon storage\

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\cf0 Examining temperature, rainfall, and salinity patterns in study area for possible correlation. Partners can apply methodology for mangrove assessment to their research. \

\ [End transcript] \

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