Cartographic Potential of New Technologies: HU:CARE

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Hampton University Center for Atmospheric Research and Education
Direct Broadcast Receiving Station

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Hampton Roads Adaptation Forum
• Creating research opportunities and career pathways for underrepresented minorities in Atmospheric Science

• High-School, Two-Year College, Undergrad and Graduate Education programs

• Partners: NASA Langley Research Center, Univ. Wisconsin Madison, Univ. Maryland Baltimore County, VA Space Grant Consortium and National Institute of Aerospace.
Direct Broadcast Receiving Station

- Automated satellite tracking receives data from any satellite above the horizon.

- Suomi-NPP, AQUA, TERRA, NOAA-18 & 19, Metop-A & B (ESA), FY-3B & 3C (China), GCOM-WI (JAXA), SARAL (India)

- Data is near-real time (processing lag of seconds + transfer) received from swath beneath the satellite track.
Joining a Nationwide Network

DB Antenna Sites (NOAA and partners)
Sea Surface Temperature

cloudy
Day-Night Band Sees Power Outage

9/21

9/22
Atmospheric Properties

• Air Quality Indicators
• Smoke/Ash
• Cloud Phase
• Severe Weather
• Storm Tracking
• Lightning

Super-Typhoon Megi Hits Taiwan
Land Surface Properties

- Temperature
- Fire/Volcanic Eruption
- Artificial Light
- Vegetation Index
- Hydrology/Flooding

Upper-Midwest Floods, June 2016
Ideas Welcome

- Near-real Time
- Several passes per day
- Wide range of atmospheric/land/ocean parameters
- How can we make this useful for you?