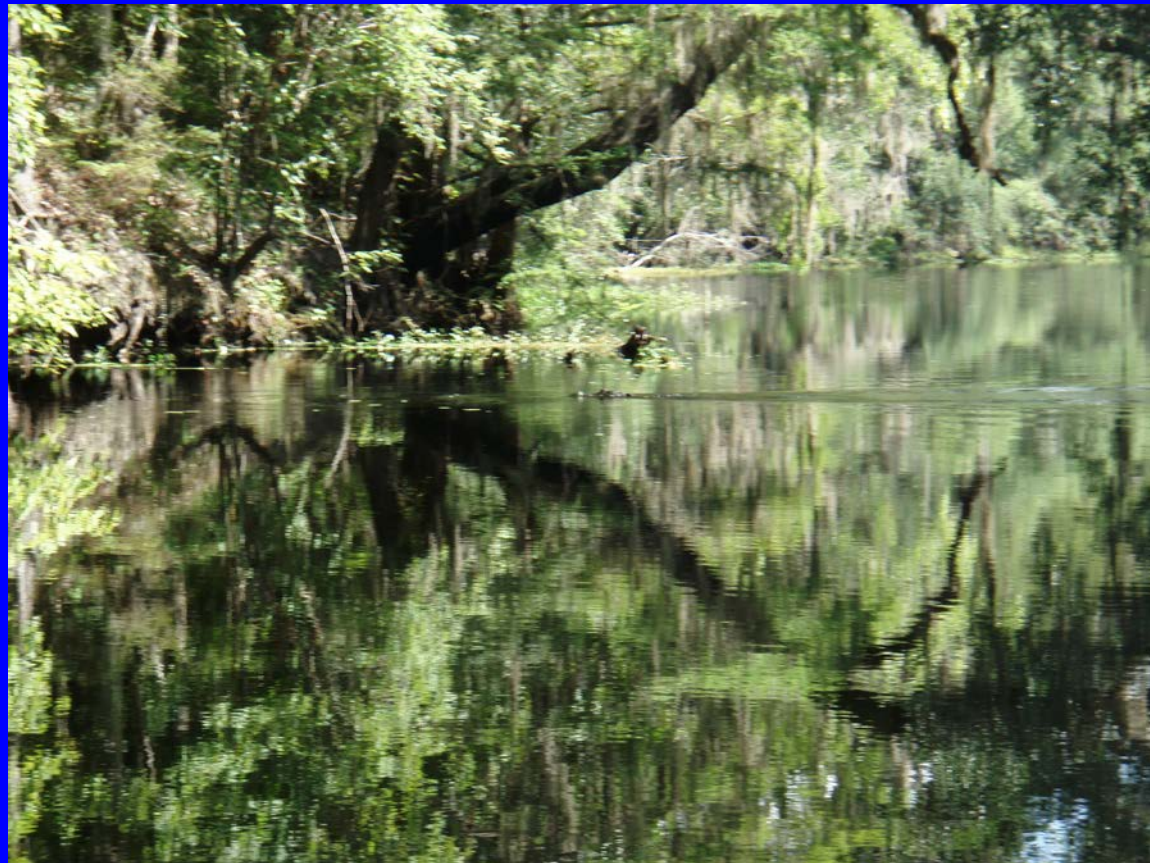


Big Data for Environmental Monitoring

University
of Florida

*Paul Gader
Computer & Information
Sciences & Engineering*





- **Big Data Collected For Remote Sensing of the Environment**
- **Multiple Sensors on**
 - **Satellites**
 - **Airplanes**
 - **Towers**
 - **Ground**
 - **Water**

NSF NEON Program

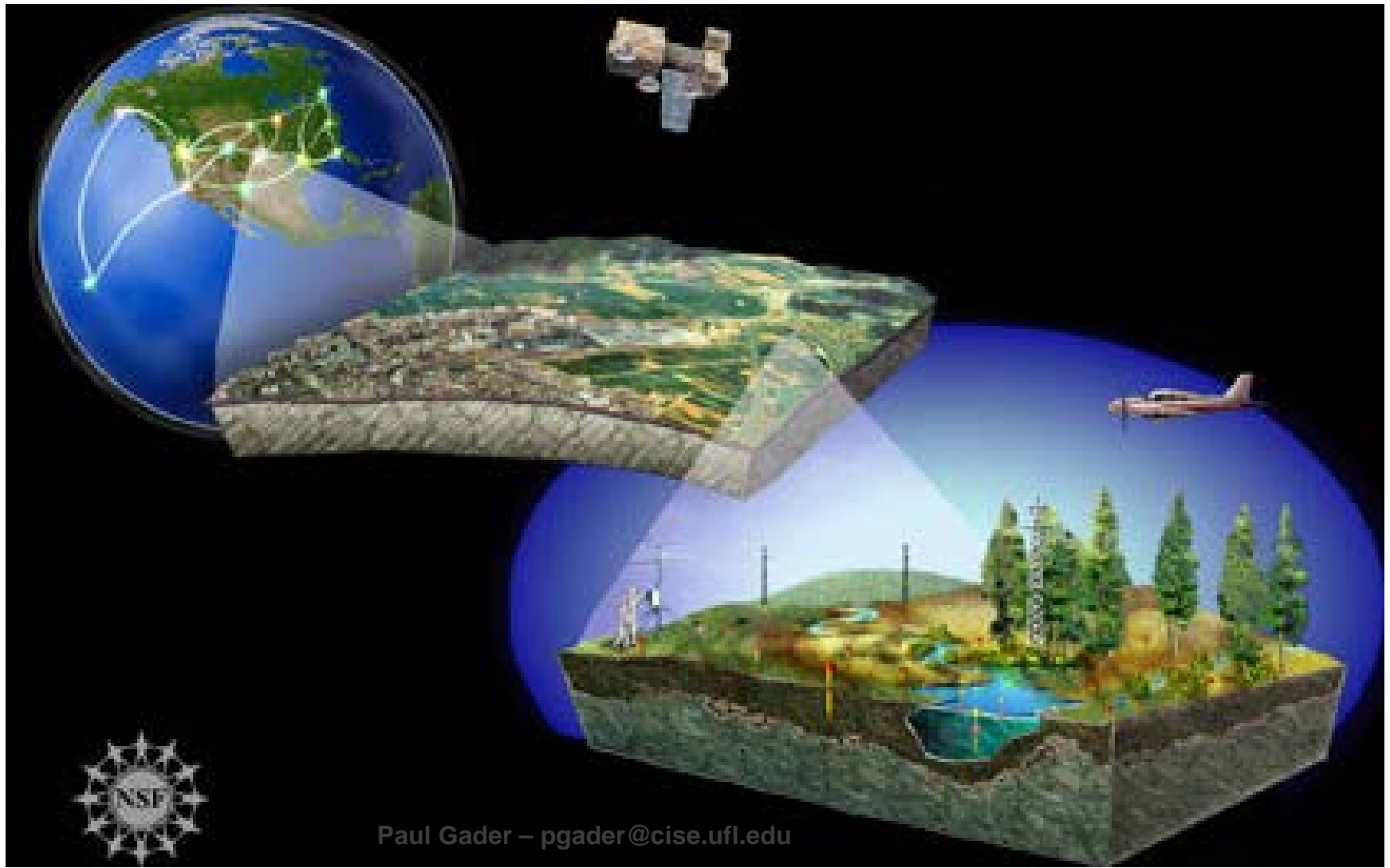


- **NEON = National Ecological Observation Network**
- **Continental Scale mapping of Environment**
- **20 eco-climatic domains**
- **Over 100 sites, heavily instrumented**
 - **Daily data streams**
- **UF-IFAS Ordway-Swisher is a core site**
- **Airborne Sensing each year at all sites for 30 yrs**

NSF NEON



Graphic from: <http://www.neoninc.org/science/overview>





- **Automated Ground Cover Classification**
- **Vegetation Stress**
- **Biological and Chemical States**
 - Chlorophyll, Carbon, ...
- **Continental Scale => Automation**

UF Resources include but not limited to

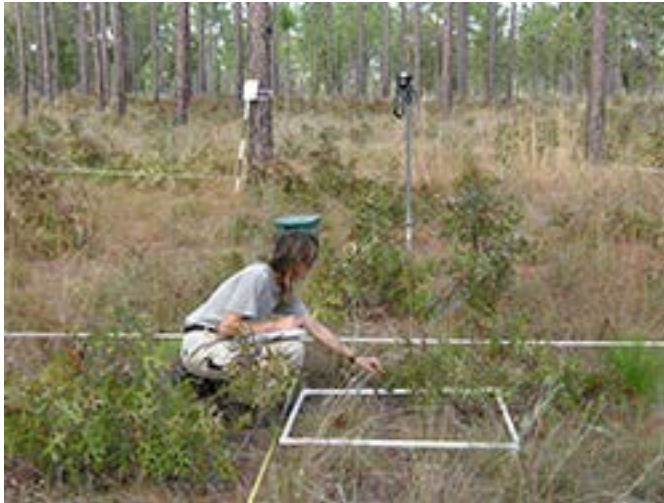


- **IFAS**
 - Wildlife Ecology
 - Ordway-Swisher
 - Forestry
 - Ag-Bio Engineering
- **Engineering**
 - Computer, Electrical, Industrial
- **CLAS**
 - Geography
- **Florida Museum of Natural History**
- **UF Data Center**

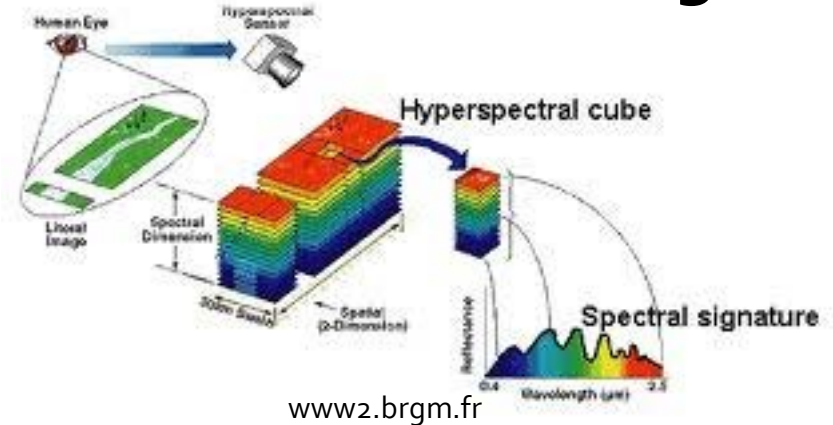


Sensor Data Analysis Remote Sensing

Domain Experts



<http://ordway-swisher.ufl.edu/conservation.htm>



Data Science

