Satellite Data Level & Format

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Objectives

By the end of this presentation, you will be able to:

• List the different satellite data formats and levels
Data Processing Levels

L0: Raw Instrument Data
L1: Geolocated & calibrated
L2: Products derived from L1B
L3: Gridded
L4: Model output: derived variables

Harder to Use

Easier to Use
Data Levels

Orbital Data (Levels 0, 1, 2)
- More user control
- Highest spatial/temporal resolution
- Harder to use

Gridded Data Products (Levels 3, 4)
- Less user control
- Lower spatial/temporal resolution, but gridded
- May be available at multiple spatial/temporal resolutions
- More web tools available for analysis and access
- Easier to use
Aerosol Data Product Hierarchy

- **Level 1 Products**
  - Raw data with and without applied calibration
  - No aerosol data

- **Level 2 Products**
  - Geophysical products
  - Aerosol data

- **Level 3 Products**
  - Globally gridded geophysical products
  - Aerosol data
Levels of Data

Level 1B
Calibration to Radiance

Level 2
Aerosol Retrieval Algorithm

Level 3
Spatial and Temporal Averaging
Data Formats

**Text/ASCII**
- Pros: easy to read and examine right away
- Cons: large data files, not always available

**Binary: HDF, NetCDF, OpenDAP**
- Pros: less space, more information (metadata, SDS)
- Cons: Needs specific tools or code to read the data

**KML or KMZ (zipped KML)**
- Pros: easy 2D & 3D visualization of data through free tools; data files are similar in size and easier to download

**Shapefile/GEOTIFF**
- GIS applications
- May or may not work with open source
Questions?