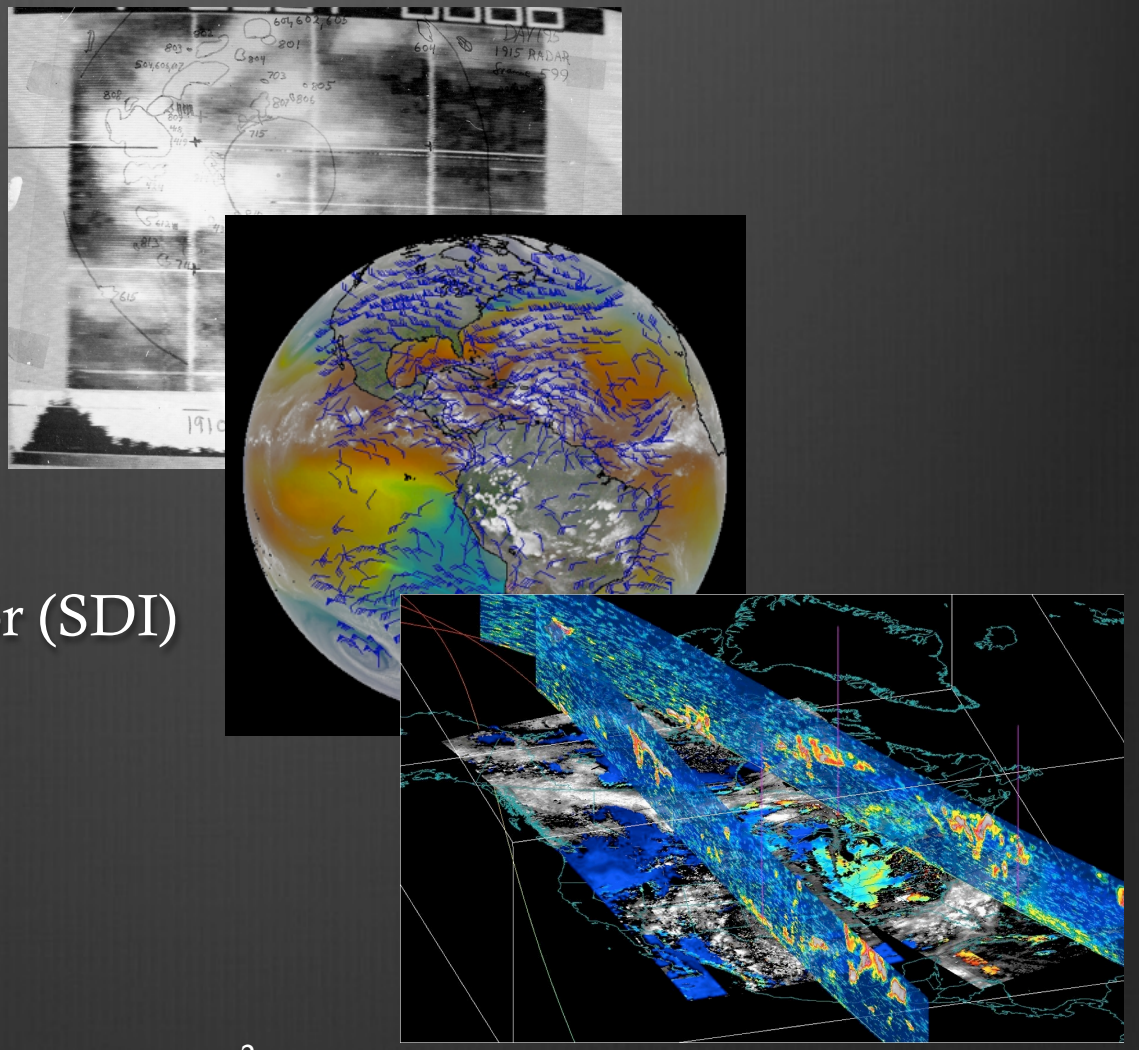
McIDAS Program Status

David Santek

2023 McIDAS Users' Group Meeting
25 September 2023

McIDAS Status

- McIDAS-X
- McIDAS-XCD
- McIDAS-XRD
- McIDAS-V
- SSEC Data Ingestor (SDI)



McIDAS-X Current

- Periodic updates (1-2 times per year)
- Improvements to display
  - More channel combination tools (RGB)
  - Product enhancements
- Capability with newest and future satellites:
  - GOES-R ABI and GLM (more metadata and product access)
  - S-NPP, NOAA-20, -21 VIIRS ADDE server (SDR, EDR)
  - Upcoming Meteosat Third Generation (MTG)

ADDE Servers

- Implementing Python-based ADDE servers
  - Easier for others to write servers
    - First new servers based on Satpy which has readers for many different types of satellite data
  - Will be compatible with McIDAS-X and –V
  - More details tomorrow: *Python ADDE Project*

McIDAS-X Future

- MUG responsible for general improvements, bug fixes, maintenance (updates for current and new satellites), and OS and external library updates
  - Considering current Korean satellite GEO-KOMPSAT-2
  - Thinking toward Metop-SG (Second Generation), which is the replacement for the current Metop series
- Unique enhancements continue to be funded outside the MUG and code contributed by internal projects and external sites
- McIDAS-X is expected to be supported into the 2030s for the GOES-R series satellites. No sunset date in sight.

McIDAS-XCD
Conventional Data

- Ingest conventional weather data from NOAAPORT
- Current version to be supported for at least another year
- Beta of new version will be available in late 2023
  - Currently being tested in parallel with XCD 2022.1
- More information in *McIDAS-XCD Status and Demonstration*

McIDAS-XRD
Research and Development

- A collection of R&D code that is not formally tested by McIDAS User Services:
  - Over 100 McIDAS commands
  - Over 15 ADDE servers
  - Testing is limited to ensuring code builds on supported platforms
  - Occasionally promote to core
- Status: Current support level continues
- Future: Coincides with McIDAS-X future
- Past: Little known fact: McIDAS-XRD has heritage back to the….

McIDAS Underground Software
(circa 1980)

McIDAS UNDERGROUND KEYINS

BK: To find distance or move cursor uniformly on satellite image.

EE: Simulate the parcel method (with entrainment) to determine instability.

EH: Accounts for parallax in determining cursor position.

HH: Determine cloudheight using input sounding.

HM: Streamline, divergence, vorticity fields from wind file.

KG: Finds sunglint area and determines surface wind.

OZ: Similar to OD except separates by sensor.

SP: Plots station location on WRRRMs of satellite image.

TU: Determine Volz Turbidity (aerosol content) over the ocean.

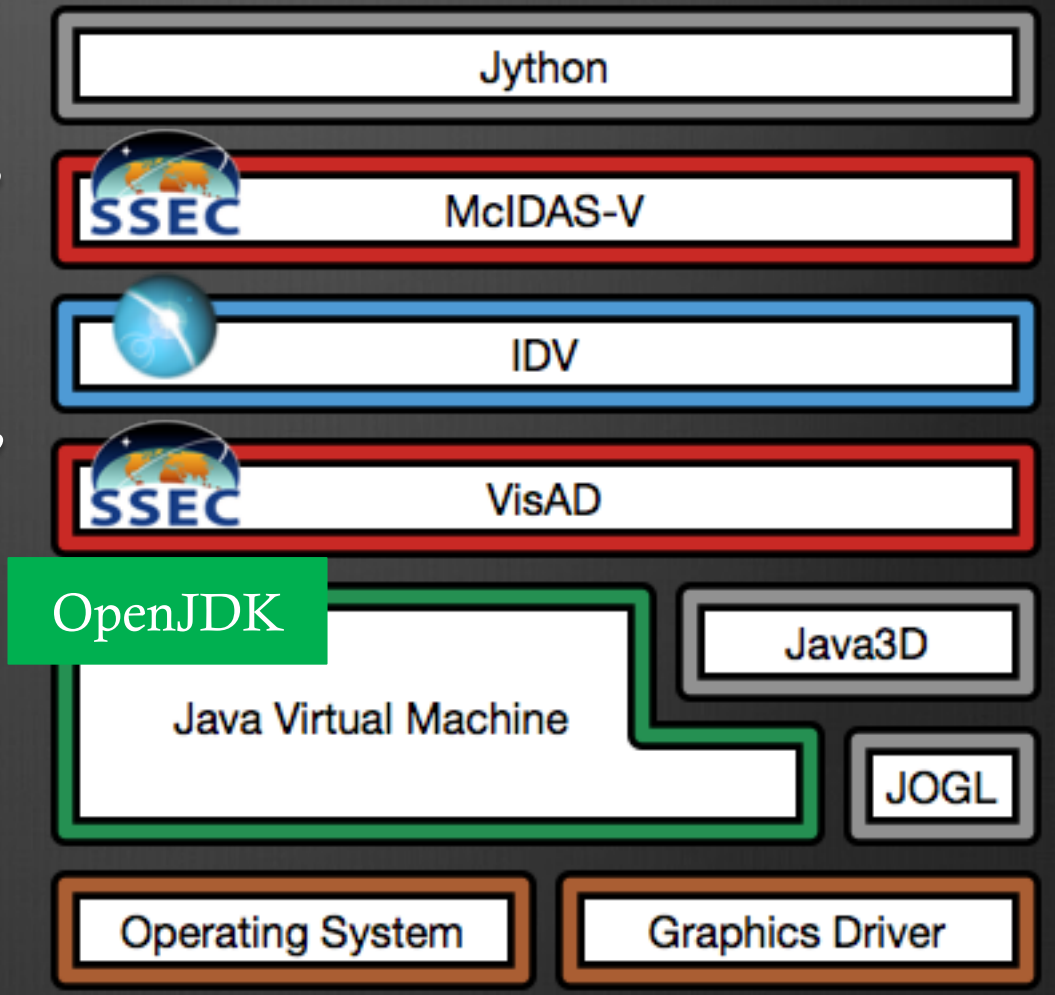
WF: Manually enter winds into wind file.

SDI
SSEC Data Ingestor

- SDI (SSEC Desktop Ingestor) 1997 - 2005
- SDI-104 (SSEC Data Ingestor) 2005 – ?
- SDI-GRB Appliance 2016 - ?
- Status: SDI-GRB fully supported; SDI-104 limited support
- Future:
  - SDI-104: Limited support as long as GOES GVAR satellites are operational or backup
  - SDI-GRB Appliance: throughout the GOES-R era

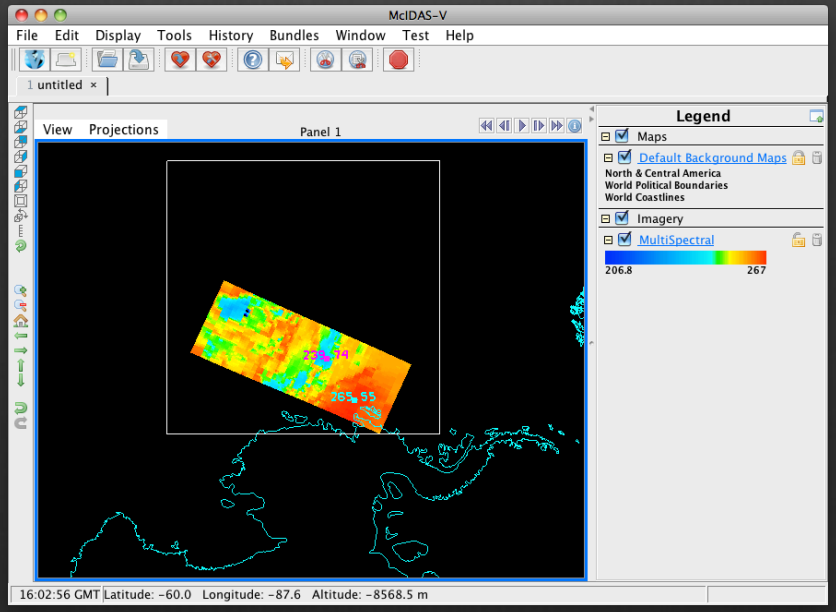
McIDAS-V Status

- Major components by Unidata, SSEC, OpenJDK, open source community
- Additional components include file format libraries, math libraries, packaging and build utilities; all open source
- OS vendors Linux,Windows, Mac
- Hardware drivers from manufacturers



McIDAS-V Funding

- MUG
- CIMSS grant from VIIRS Imagery Team
- On the watch for other proposal opportunities (e.g., NASA)

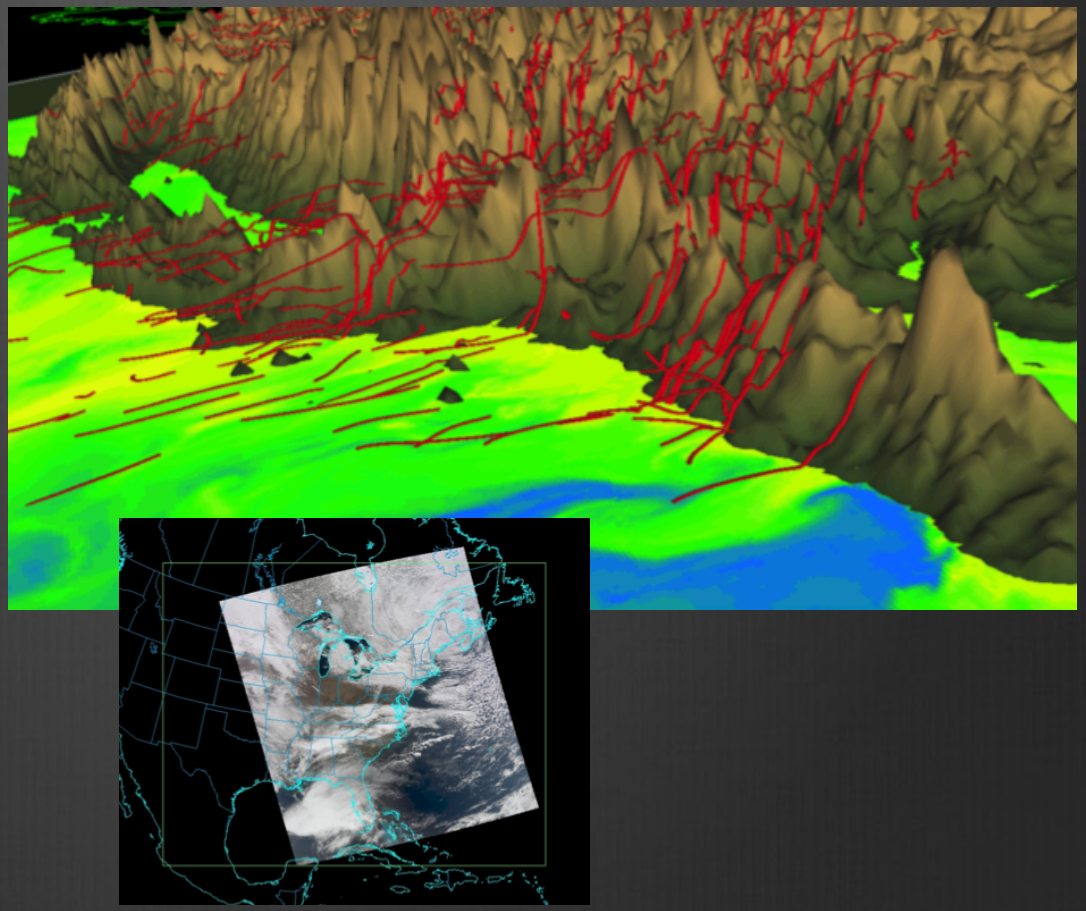


McIDAS-V
MUG Support

- User-level Infrastructure: User Interface, Scripting
- Bug fixes: Prioritize, coordinate internally and with Unidata
- Testing
- Documentation: Includes maintaining tutorials
- Help Desk: Includes maintaining forums

McIDAS-V
CIMSS Grants

- Improvements for trajectories (terrain-following)
- Handle S-NPP granules that span dateline
- Scripts to create VIIRS RGB images
- TROPOMI sensor support



McIDAS-V Priorities

- Fix Critical and Quick bugs (MUG, Unidata)
- Incorporate enhancements from CIMSS projects, especially those that are not possible in McIDAS-X (CIMSS, MUG)
- Ensure new data sources are usable (MUG, CIMSS)
  - Geo and Leo missions
  - Test with new data in standard formats (netCDF, HDF, BUFR, GRIB)
- Maintain compatibility with Unidata's IDV (Unidata, MUG)

McIDAS-V Future

- Continue to engage new researchers:
  - Workshops and training
  - Classroom
- Appeal to researchers:
  - Input/output data formats
  - Scripting
  - More data fusion
- Distributed as a signed application
  - Compliance with ever-changing OS security standards