

# GHRC Data Management

Leigh Sinclair - Data Management Team Lead

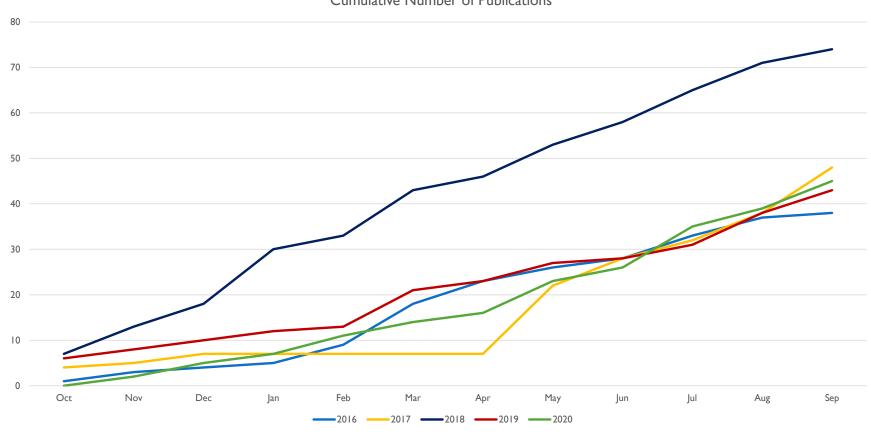




October 13, 2020

### 2020 Data Publications



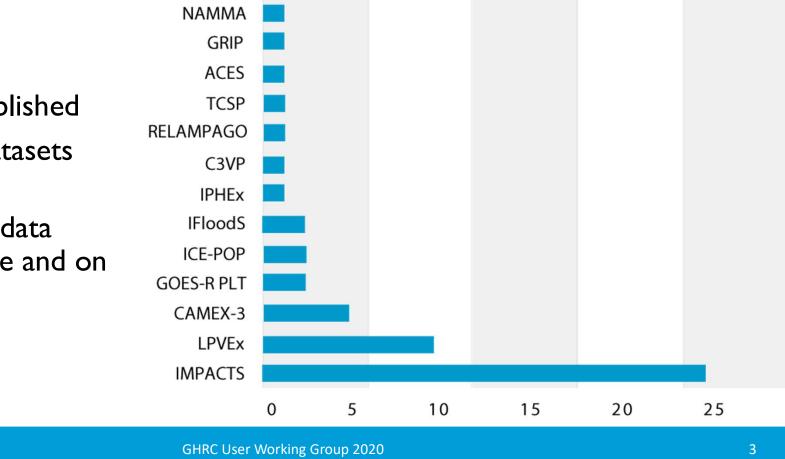


Cumulative Number of Publications

October 13, 2020

# Dataset Types Published in FY20





Datasets Published per Project

- 45 Datasets Published
- Averaged ~4 datasets per month
- Dual-published data both on-premise and on cloud

## New Data Approved for Publication



- Investigation of Microphysics and Precipitation for Atlantic Coast-Threatening Snowstorms (IMPACTS)
- January-March 2020
  - Will continue January-March 2021-2022
- Mid-Atlantic and New England states



- Remote sensing of Electrification, Lightning, And Mesoscale/microscale Processes with Adaptive Ground Observations (RELAMPAGO)
- November 2018-April 2019
- Argentina



# New Data Approved for Publication



- SEA FLUX
  - Variety of ocean surface variables
  - 31-year period record of the data from January 1988-December 2018

- GLM Cluster Integrity, Exception Resolution, and Reclustering Algorithm (GLM CIERRA)
  - On going dataset
  - January 1, 2018 ongoing

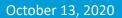
- Geostationary Lightning Mapper (GLM)
  - Includes global GLM Level 2 products, early beta GLM data from GOES-R PLT, and science-level reprocessing of GLM Level 2
  - On going dataset
- Additional GPM Ground Validation datasets
  - LPVEx
  - ICE POP
  - C3VP

## Remaining Datasets to Publish



- ~26 datasets remaining **in-house** 
  - Includes IMPACTS, GPM GV, and SEA FLUX
  - Does not include NALMA, GLM data, ISS LIS
- Currently publishing data in both the cloud and on-premise





# **GHRC** Ongoing Datasets



- Data that continue to be collected and made public on GHRC servers
  - ISS LIS data (2), NRT LIS data on LANCE
  - DISCOVER MEaSUREs SSMIS ocean products from FI6 and FI7 (8)
  - DISCOVER MEaSUREs TPW and Wind Speed climatology (2)
  - AMSU/MSU V6 Temperature Anomalies and Annual Cycle products (4)
- AMSU/MSU Atmospheric Temperatures

- New Ongoing Datasets
  - North Alabama Lightning Mapping Array (NALMA)
  - GLM L2 datasets
  - GLM CIERRA

October 13, 2020

# **ARC** Metadata Repairs

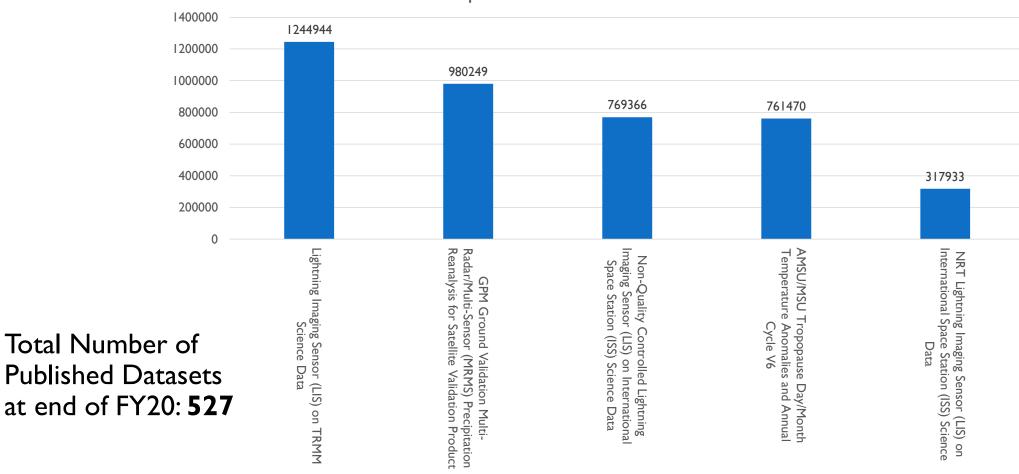


- What is ARC?
  - ARC = Analysis and Review of CMR (Common Metadata Repository)
  - ARC project consists of a team of metadata checkers confirming quality of metadata for DAAC published data
  - ARC report is sent to DAACs with problems/issues to be fixed and recommendations of changes to make
- Completed all ARC recommendations this FY
- Completed all ARC re-check recommendations this FY

#### **Data Access Metrics**



Top 5 Downloaded Dataset for FY20



Number of Downloads

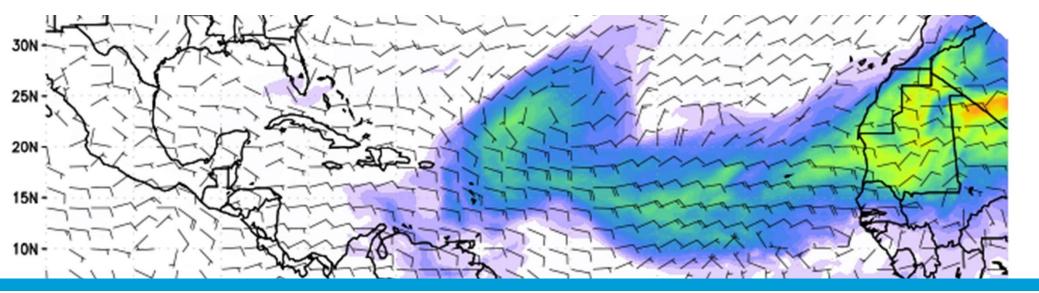
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## **2021** Publication Plans



- Year 2 IMPACTS Data
- Additional GPM GV Data
- Publishing new, ongoing datasets in the Cloud
- Publishing in the Cloud
  - Dual-publishing until later this FY
  - Earthdata Pub
- We want your ideas on what GHRC can do to obtain more data relevant to our mission

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# **GHRC** Outreach

Geoffrey Stano





October 13, 2020

#### **Community Outreach**



	FIND DATA MEASUREMENTS FIELD CAMPAIGNS PROJECTS RESOURCES
GPM G	round Validation OLYMPEX Field Campaign Data Collection
nch of the GPM Core Sa mpaigns, using state of th nse rain gauge and disdr	easurement (GPM) mission Ground Validation campaign used a variety of methods for validation of GPM satellite constellation measurements prior to and after tellite, which launched on February 27, 2014. The instrument validation effort included numerous GPM-specific and joint agency/international external field he art cloud and precipitation observational infrastructure (polarimetric radars, profilers, rain gauges, and disdrometers). Surface rainfall was measured by very orneter networks at various field campaign sites. These field campaigns accounted for the majority of the effort and resources expended by GPM GV. More mission is available at https://gmm.mas.ag.ov/GPM.
s to validate rain and sno cipitation by GPM can be ars, and airborne instrum development, evaluation	periment (OLYMPEX) was one of the GPM Ground Validation field campaigns held in the Pacific Northwest during the winter 2015-2016. The goal of OLYMPEX we measurements in midiatitude frontal systems as they move from ocean to coast to mountains and to determine how remotely sensed measurements of e applied to a range of hydrologic, weather forecasting, and climate data. The OLYMPEX campaign was part of nertiation monitoring oceanic storms systems as they approached and traversed the Peninsula and the Olympe Mountains. The OLYMPEX campaign was part of n, and improvement of GPM remote sensing precipitation algorithms. More information is available from the NASA GPM Ground Validation web site even and the IuNemitie of Michenberg ON VIDEX was part of the hot information even with
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OLYMPEX Field Campaign landing page

- Continued engagement with community
  - Traditional:AGU and AMS annual meetings
  - International Geoscience and Remote Sensing Symposium (IGARSS)
  - Participation with NASA Earthdata and World Data System
  - Science Team meetings
    - Geostationary Lightning Mapper (GLM)
    - New: IPACTS field campaign
    - New: Space Test Program (STPSat-6)
- Continued traditional metrics
  - Micro articles
  - Data recipes
  - Publications
- Web page update
  - New landing pages for field campaigns at request of the Airborne Data Management Group

#### Focus on IMPACTS Field Campaign

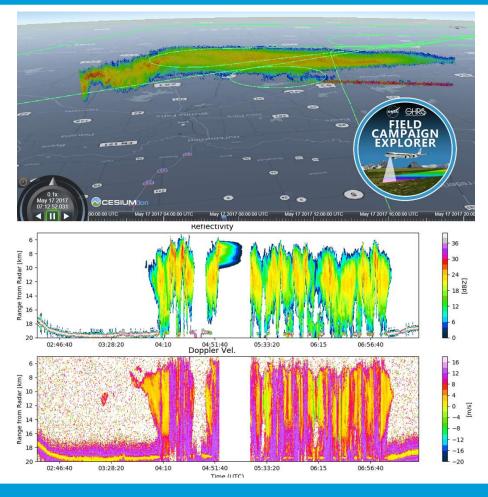




- Efforts started in 2018 have had direct results
  - GHRC backlog cleared
  - Enabled focus on new data
- FY2020 has focused on micro articles
  - Over a dozen created
  - Emphasis on data in IMPACTS and previous, GHRC archived campaigns
- Began addressing data recipes
  - New emphasis
  - Enable recipes to work on all data from an instrument
- Maintain close ties with science team

#### Utilizing the Field Campaign Explorer





Top: Cloud Radar System (CRS) in the Field Campaign Explorer (FCX) Bottom: CRS 2D display in data recipe derived from FCX

- Data recipes offer another outreach opportunity
- Intended to show users how to:
  - Ingest data
  - Conduct basic manipulation
  - Visualize
- FCX is a visualization tool
  - Utilize work in FCX to create data recipes
  - Aim for more than one-off versions
  - Focus on recipes to visualize instruments from each deployment
  - Utilize as training for cloud analysis

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### Community Impact and Future Work

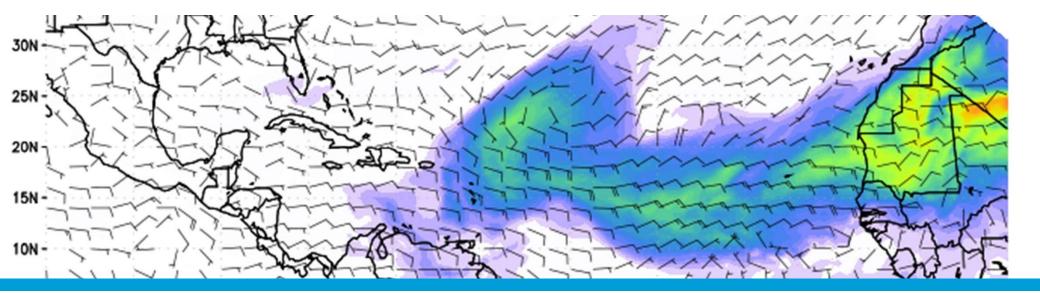


#### **Community Impact**

- Four graduate students supported
  - 2 directly with GHRC
  - 2 at NASA SPoRT (Short-term Prediction Research and Transition)
- One journal published
  - Editor's choice cover article for EOS in August
  - Second article in review
- ~I I journals using data that is or will be published at GHRC

#### **Future Outreach Activities**

- Further expand on UWG recommendations
- Coordinate outreach and cloud activities
  - How will this affect micro articles and data recipies
- Update methods to obtain metrics to capture "community impact"
- Identify activities to support diversity in science
  - Improvements GHRC can do locally
  - Activities outside GHRC Likely collaborations with UAH



# **THANK YOU!**

QUESTIONS?





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