FILLING THE GAPS

A survey of existing/future datasets to identify those that align with GHRC DAAC new strategic focus

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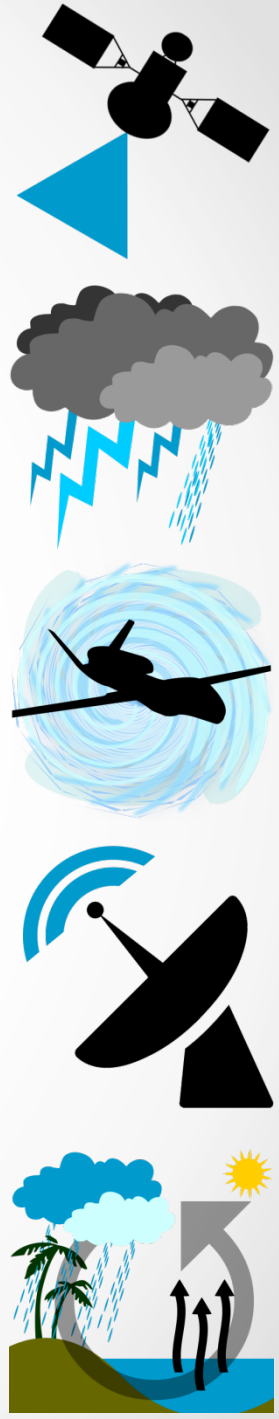
Presented at the GHRC User Working Group Meeting
October 7, 2015



UWG Recommendation 4

Carry out dataset holdings analysis and create a reporting structure that categorizes *what is available at GHRC and possibly elsewhere*. This compilation should enable prioritization of efforts that will fill the most significant data voids, where these efforts *align with the new GHRC mission*.

Response: Surveyed both internal and external datasets, as well as future datasets, that align with GHRC new strategic focus

Product 1: TRMM/GPM Precipitation Feature (PF) Database

PI/POC: Chuntao Liu

Science Value:

Identification of precipitation features on a "global" scale.

Alignment:

Database of precipitation-related *Atmospheric Phenomena*

Factors:

- Operationally run and archived at GSFC *but not discoverable*
- Conflict with GES-DISC?

Metrics:

131 Citations in G.S.
95 – AMS
97 – Web of Science

Product 2: TRMM/GPM Tropical Cyclone PF Database

PI/POC: Haiyan Jiang

Science Value:

Identification of tropical cyclones on a "global" scale since 1997

Alignment:

Database of tropical *Atmospheric Phenomena* that pose *Natural Hazards*

Factors:

- Currently not operational (2011-2014 in processing)
- PI has already agreed to collaborate with GHRC

Metrics:

29 Citations in G.S.
23 – AMS
22 – Web of Science

Product 3: Tropical Cyclone Cold Wake Database

PI/POC: Chelle Gentemann

Science Value:

Diverse collection of 3-D measurements of individual tropical cyclones

Alignment:

Database of tropical *Atmospheric Phenomena* that pose *Natural Hazards*

Factors:

- Similar to TRMM/GPM TC PF but also includes other satellite measurements
- Produced by private company RSS but uses NASA measurements

Metrics:

No metrics available. It is a very new dataset with only 2 conference presentations

Product 4: World Wide Lightning Location Network (WWLLN) *selected subsets*

PI/POC: R. H. Holzworth

Science Value:

Dataset for monitoring intense global lightning activity

Alignment:

Database of *Lightning*-related *Atmospheric Phenomena* that pose *Natural Hazards*

Factors:

- Already being downloaded for LIS/GLM Cal/Val
- Distribution questionable, but agreement in place for select subsets in support of HS3

Metrics:

34 relevant publications in AMS
38 – Web of Science (h-index=15)

Product 5: TRMM/GPM Flood Maps

PI/POC: H. Wu

Science Value:

Identifies potential flood events on a "global" scale

Alignment:

Environmental Application cataloging a potential Natural *Hazard* that can result in *Disasters*

Factors:

- Operational system produced and archived by UMD since 2013
- Application of NASA measurements not archived at a DAAC

Metrics:

38 citations in G.S.
29 – Web of Science

Product 6: TRMM/GPM Landslide Potential Maps

PI/POC: D. Kirshbaum

Science Value:

Identifies potential landslide events on a "global" scale

Alignment:

Environmental Application cataloging potential Natural *Hazard* that can result in *Disasters*

Factors:

- Operational system produced by GSFC PPS but not archived
- Application of NASA measurements not archived at a DAAC

Metrics:

60 citations in G.S.
27 – Web of Science

Product 7: Global Landslide Inventory

PI/POC: D. Kirshbaum

Science Value:

Catalog of landslide events that occur globally

Alignment:

Database of a Natural *Hazard* that has resulted in a *Disaster*

Factors:

- Curated/archived at GSFC
- Not archived at a DAAC
- Continually updating database

Metrics:

68 citations in G.S.
26 – Web of Science

Collection 8: CRYSTAL-FACE Field Campaign Dataset

Science Value:

Diverse F.C. collection investigating electrically active tropical convection

Alignment:

Field Campaign dataset of *Atmospheric Phenomena* that has been used in *Lightning* studies

Factors:

- NASA funded F.C. not archived at a DAAC
- Dataset is dispersed—some at ESPO, DOE ARM, PIs?
- Requires some data archaeology

Metrics:

94 relevant publications in AMS
43 – Web of Science (h-index=22)

Future Potential Data Collections

- Virtual collection of lightning research data
- Disaster Response data collection
- GOES-R Atmospheric Motion Vectors product (recently funded via NASA Severe Storms call)
- Potential NASA-led Field Campaigns related to Severe Weather (only in the feasibility study phase right now)
- Field Campaigns included in recently-funded NASA EVS-2 investigations

Next Steps

- Obtain priority rankings from GHRC UWG form

https://docs.google.com/a/uah.edu/forms/d/17B3XS-kyDWXcB4cW9zjRUf_Dyt1TId3Oc7F3gOReejY/viewform

- Immediately pursue those ranked as high
- Promote GHRC at scientific conferences/meetings to expand GHRC collections in focus areas
- Continually revise list

- Which additional data sets do you use most often together with GHRC data?