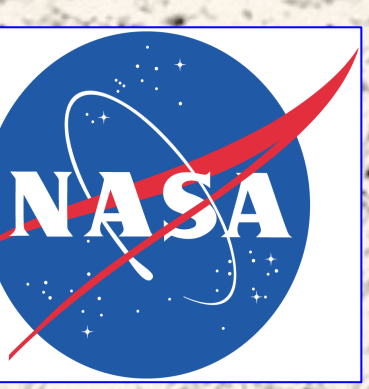# Learning from GES DISC's MLS and OMI data users Metrics Matter

NASA/GODDARD EARTH SCIENCES DATA and INFORMATION SERVICES CENTER (GES DISC)

Jennifer Wei[1], Suhung Shen[1,2], Chung-Lin Shie[1,3], James Johnson[1,3], Guang-Dih Lei[1,3], Elaine Owens[1,4], Gary Alcott[1], and David J. Meyer[1]

[1]Goddard Space Flight Center, [2]George Mason University, [3]University of Maryland, Baltimore County, [3]Adnet Systems Inc., [4]Telophase Corp.

Why metrics matter?

➤ **Science Team**
- **To provide context around a mission team's performance that can be analyzed more precisely, e.g., proposal development and research performance evaluation**
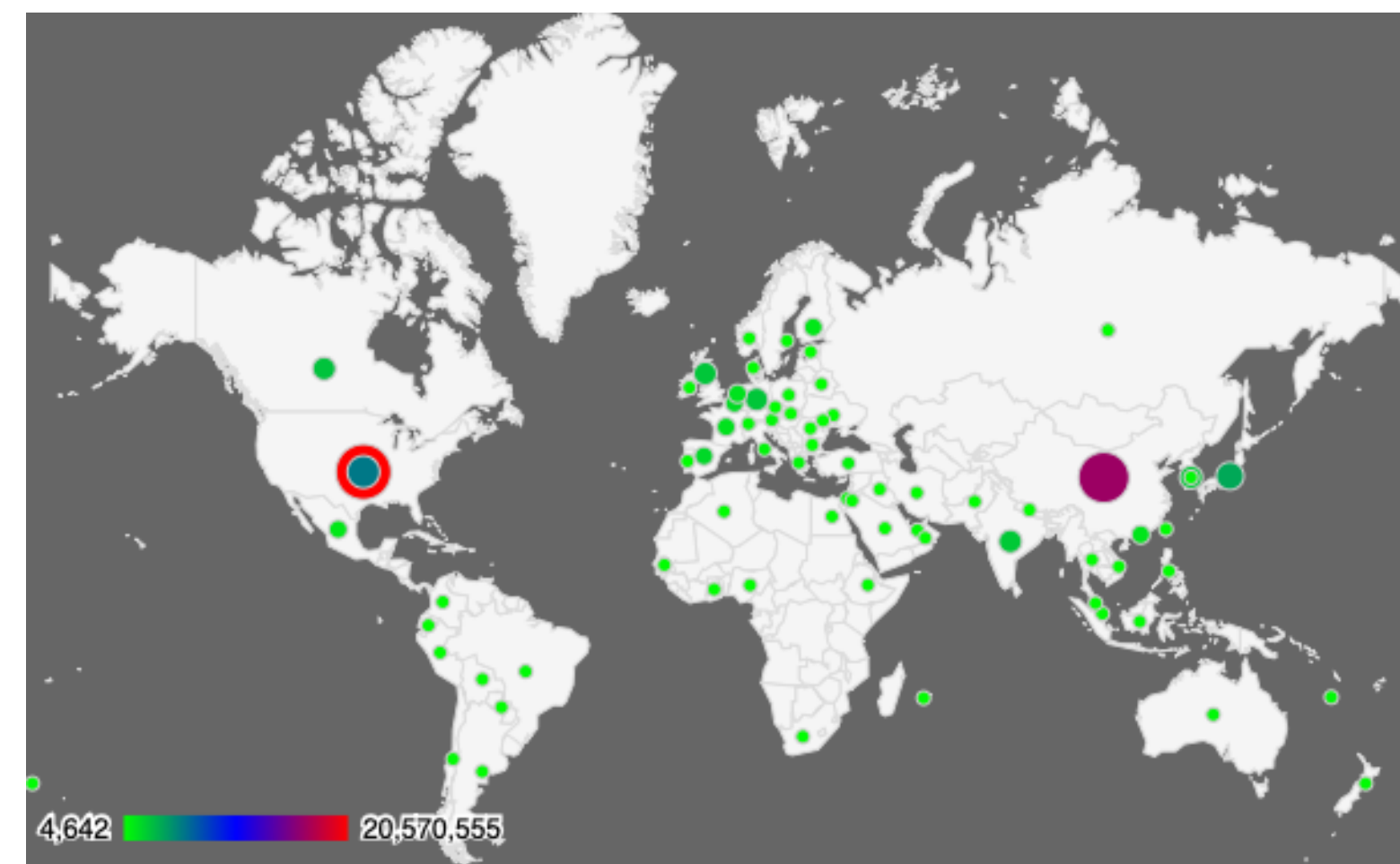
➤ **Data Distribution Center**
- **To evaluate performance of an individual product or service, e.g., improve products and services to help users download data easier/faster and better explore the products**
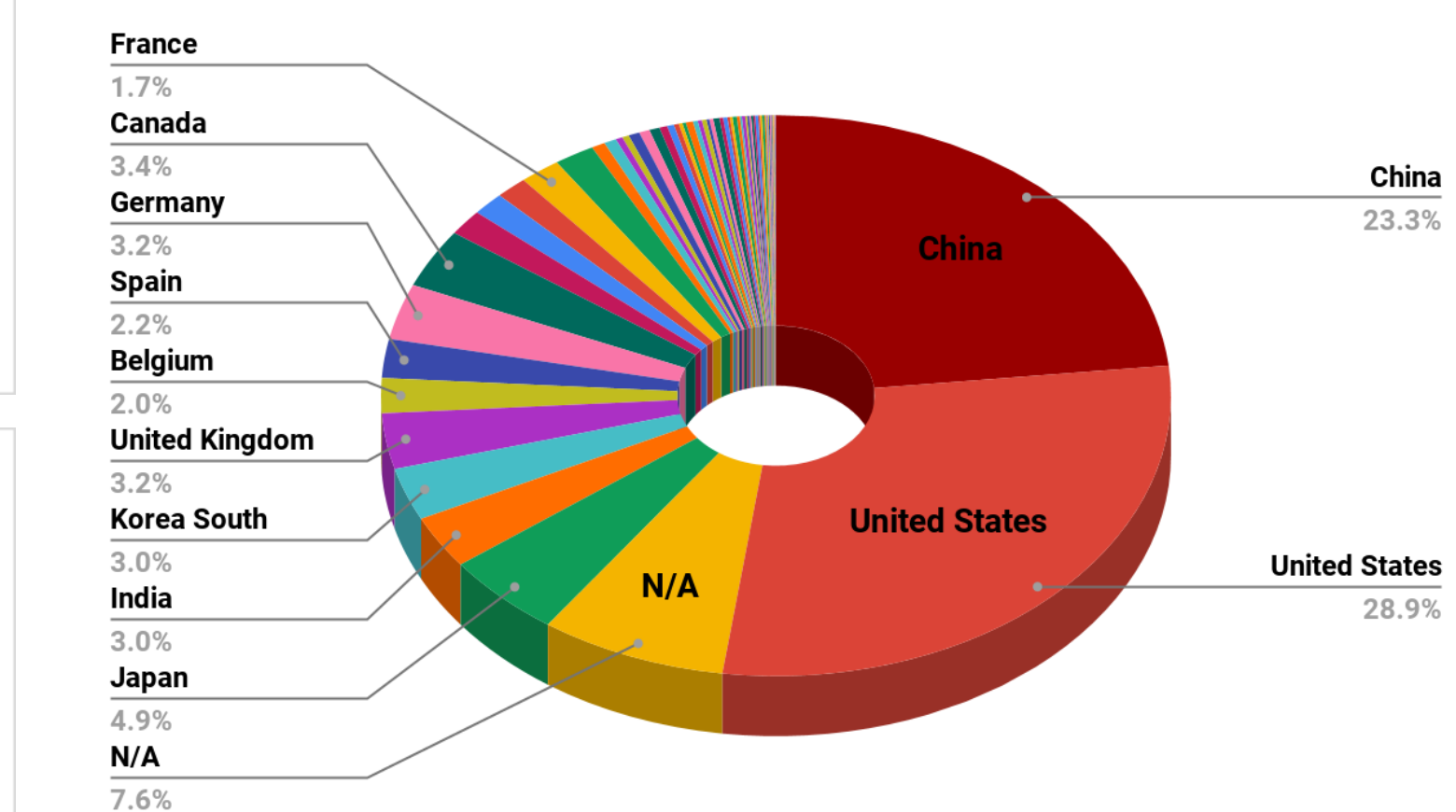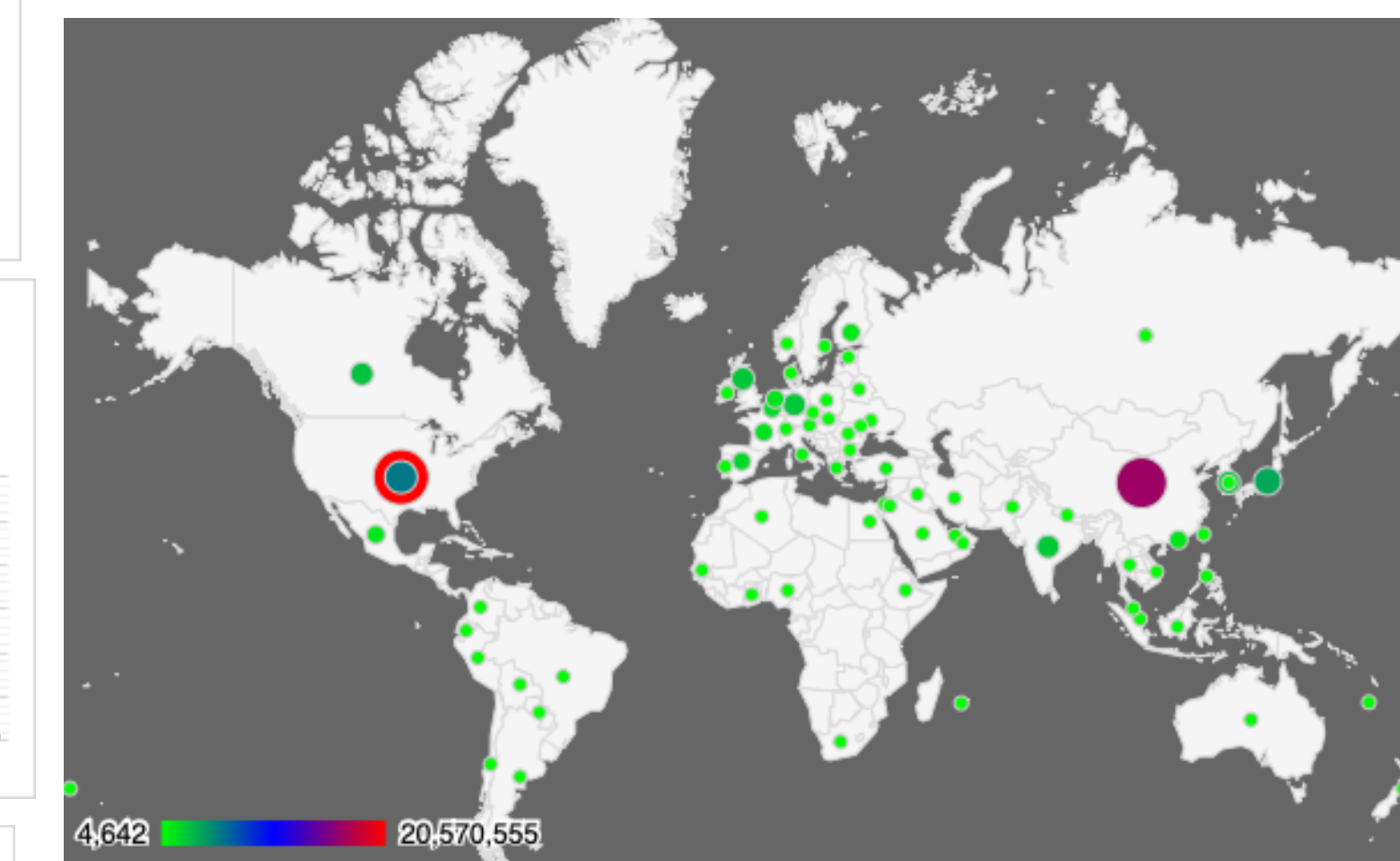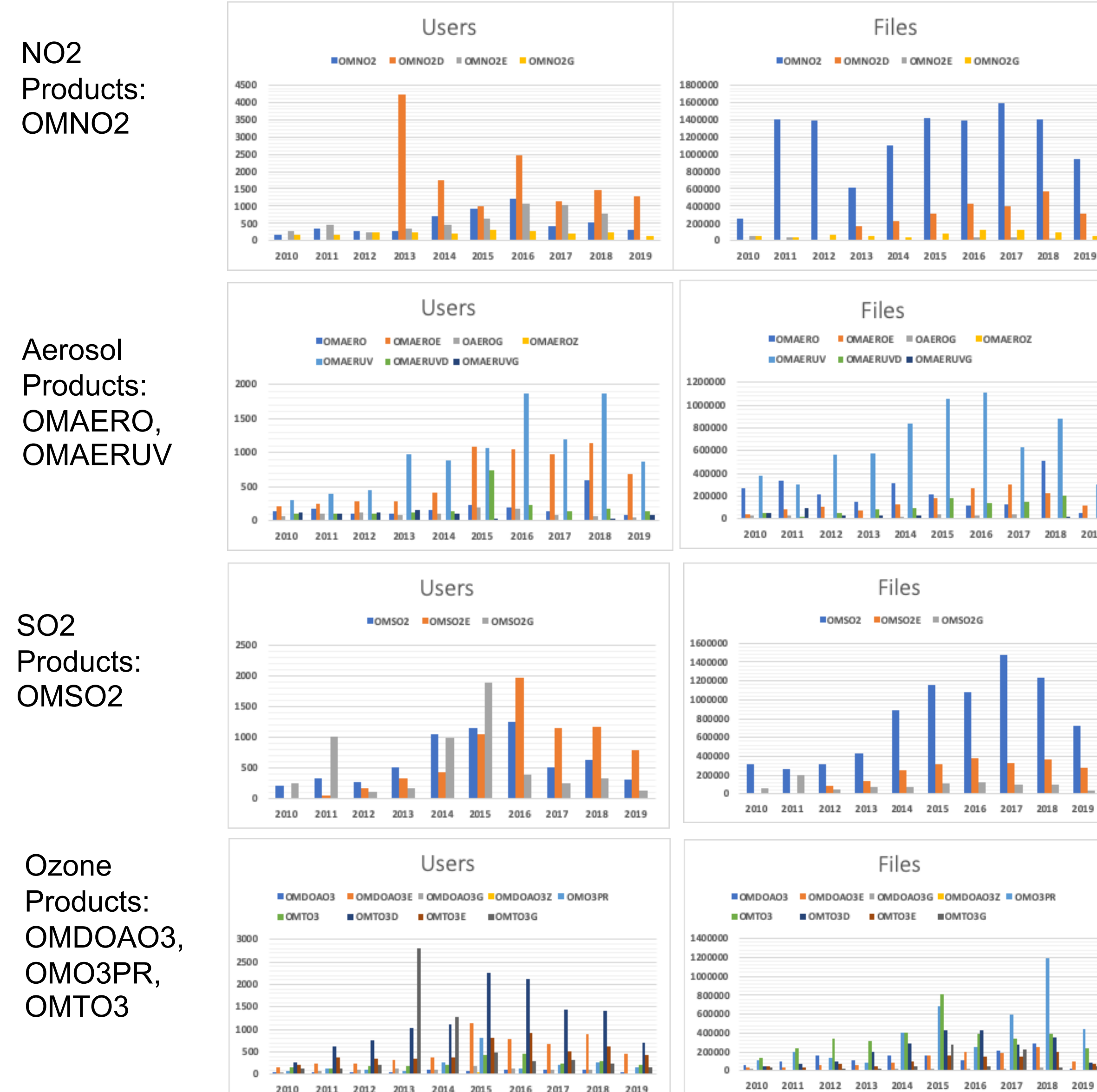
Distribution (EMS)

- Which products are popular, i.e., most used?
- How many users?
- **Where** and **who** are these users?

MLS Data Distribution 2010-2019

OMI Data Distribution 2010-2019

NO2 Products: OMNO2

Aerosol Products: OMAERO, OMAERUV

SO2 Products: OMSO2

Ozone Products: OMDOAO3, OMO3PR, OMTO3

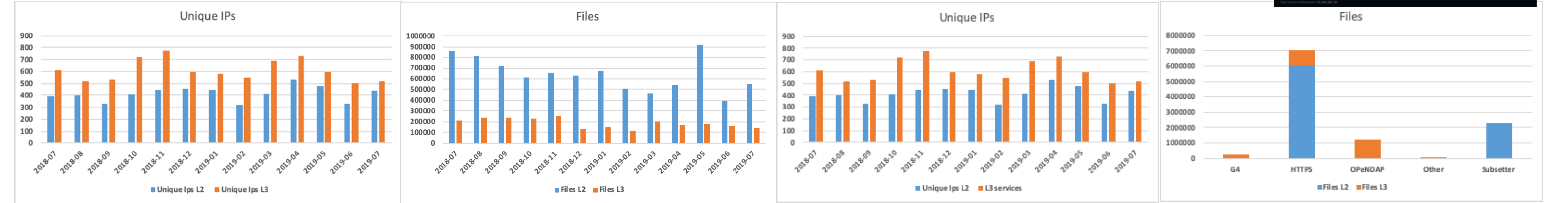Top OMI Products Download by Users:
OMNO2D, OMAERUV, OMSO2E, OMTO3D

Top OMI Products Download by Files:
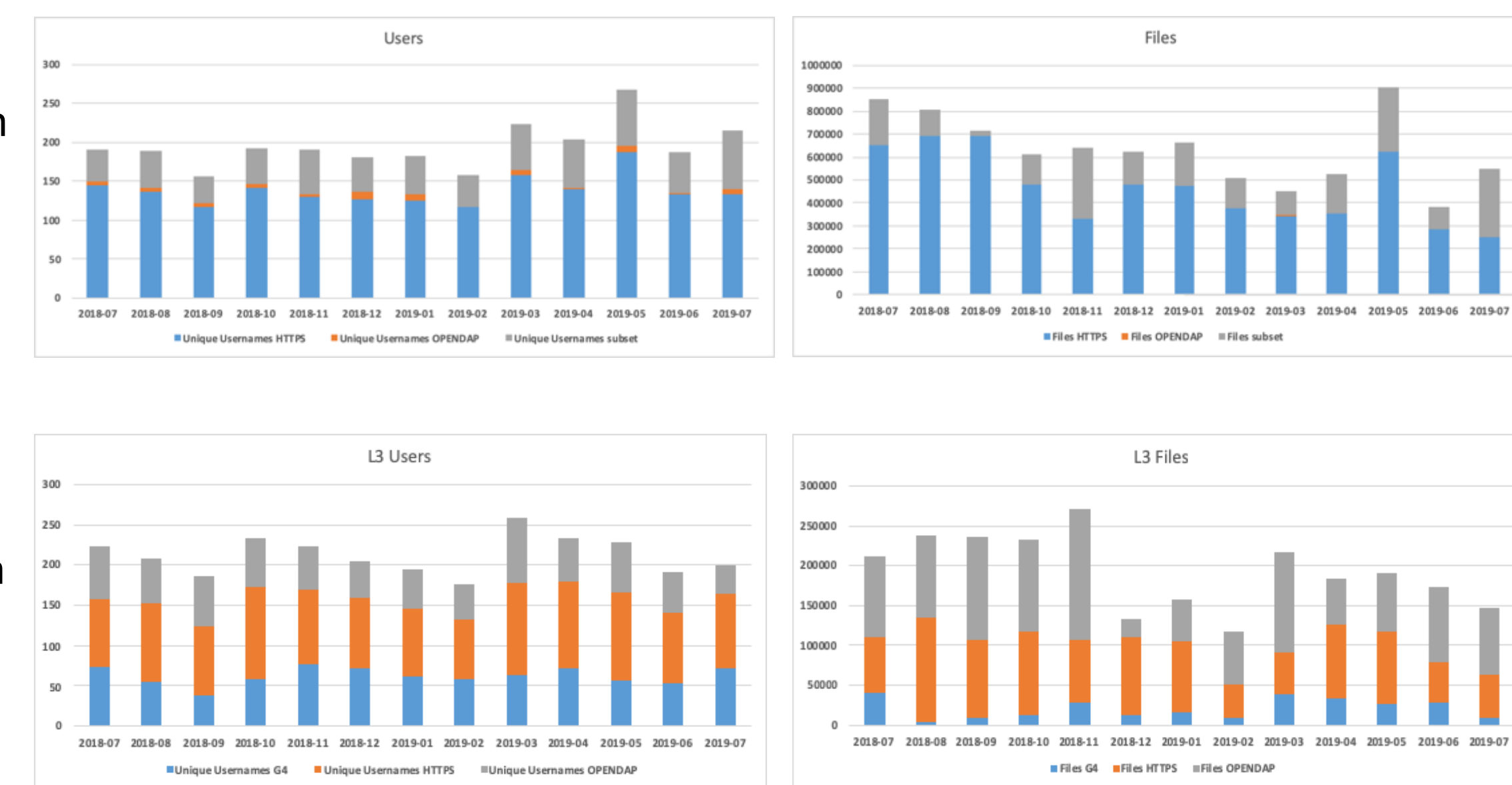OMNO2, OMAERUV, OMSO2, OMTO3

Services Metrics

- What parameters are used, or not used at all?
- How aree those parameters being used – through what service?
- Have users done "window shopping" only? (coming soon)

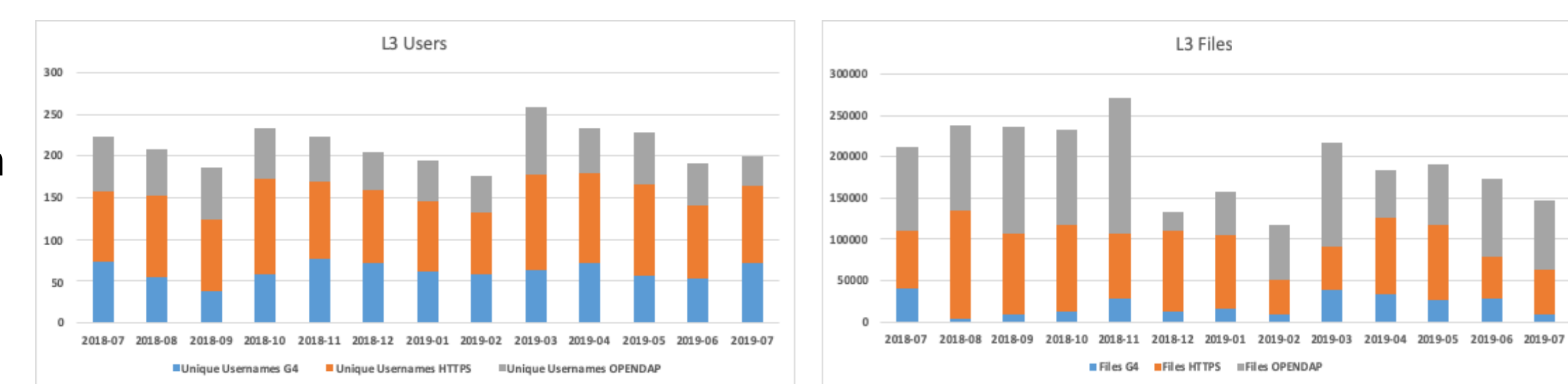Services metrics (2018 July to 2019 July): OMI L2/L3 products

HTTPS (replace anonymous ftp): L2, L3   OPeNDAP: L2, L3   Subsetter: L2, L3   Giovanni (G4): L3   Others (WCS, WMS, W10n): L2, L3

Services on OMI L2 Products

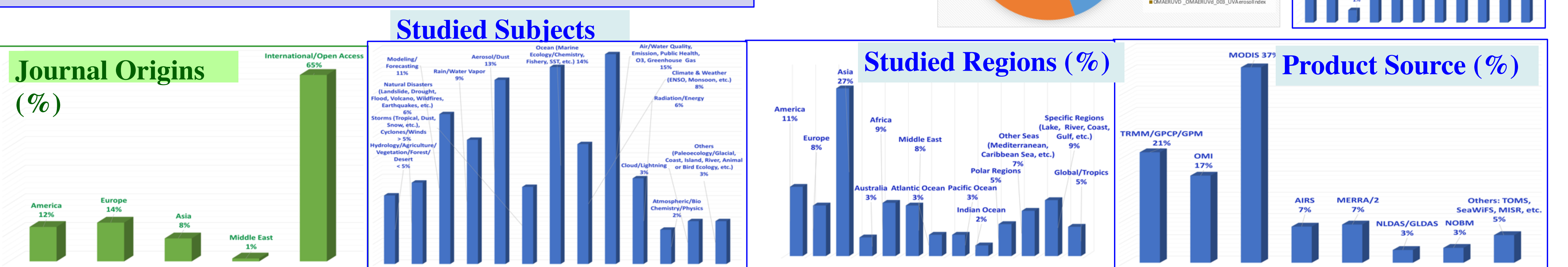Services on OMI L3 Products

- Increasing demand on L2 subsetting services
- Reduce download volume by over 90%
- Reduce user's data preparation time
- Increase data downloading performance

Publication Metrics

- How do users advance science knowledge with specific sets of parameters?

Variables Used for Studies (%)

Giovanni Publication Metrics (using 200 papers in 2017)

Journal Origins (%)   **Studied Subjects**   **Studied Regions (%)**   **Product Source (%)**

Promo: Please come to 2019 AGU Fall Meeting Informatics Session on "Citation, altmetrics, and other measures of research object use eLightning" to join the discussion!

Or send me an email to jennifer.c.wei@nasa.gov for any comment or suggestion you may have!