



**ASDC UPDATE  
CERES SCIENCE TEAM MEETING  
MAY 5, 2015**

John Kusterer  
Head, ASDC



# Agenda

- CERES User Metrics
- ASDC Private Cloud Pilot
- Big Earth Data Initiative (BEDI) and Data Services

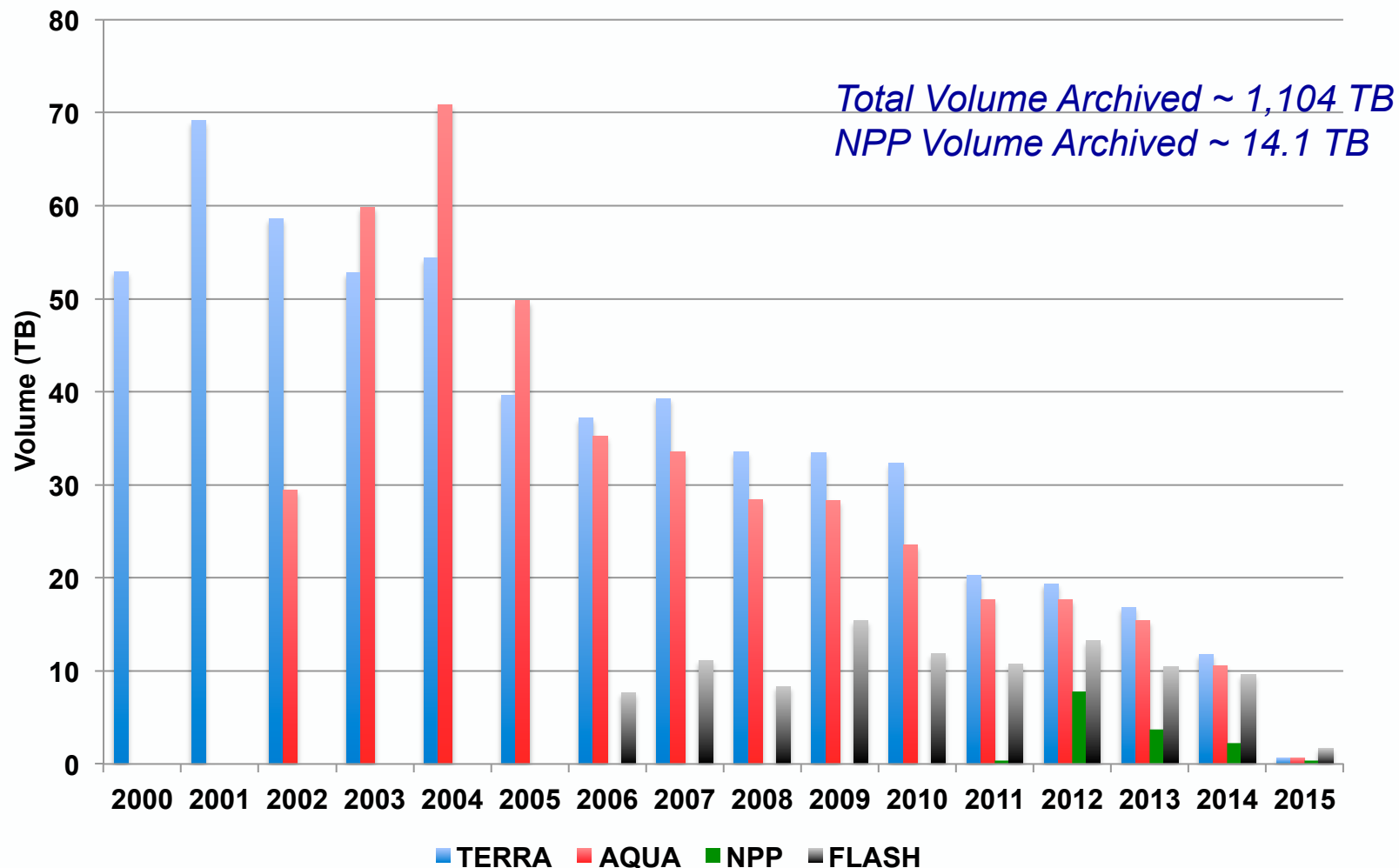


# **ASDC CERES USER METRICS**



# CERES and FLASHFlux Archive Volume

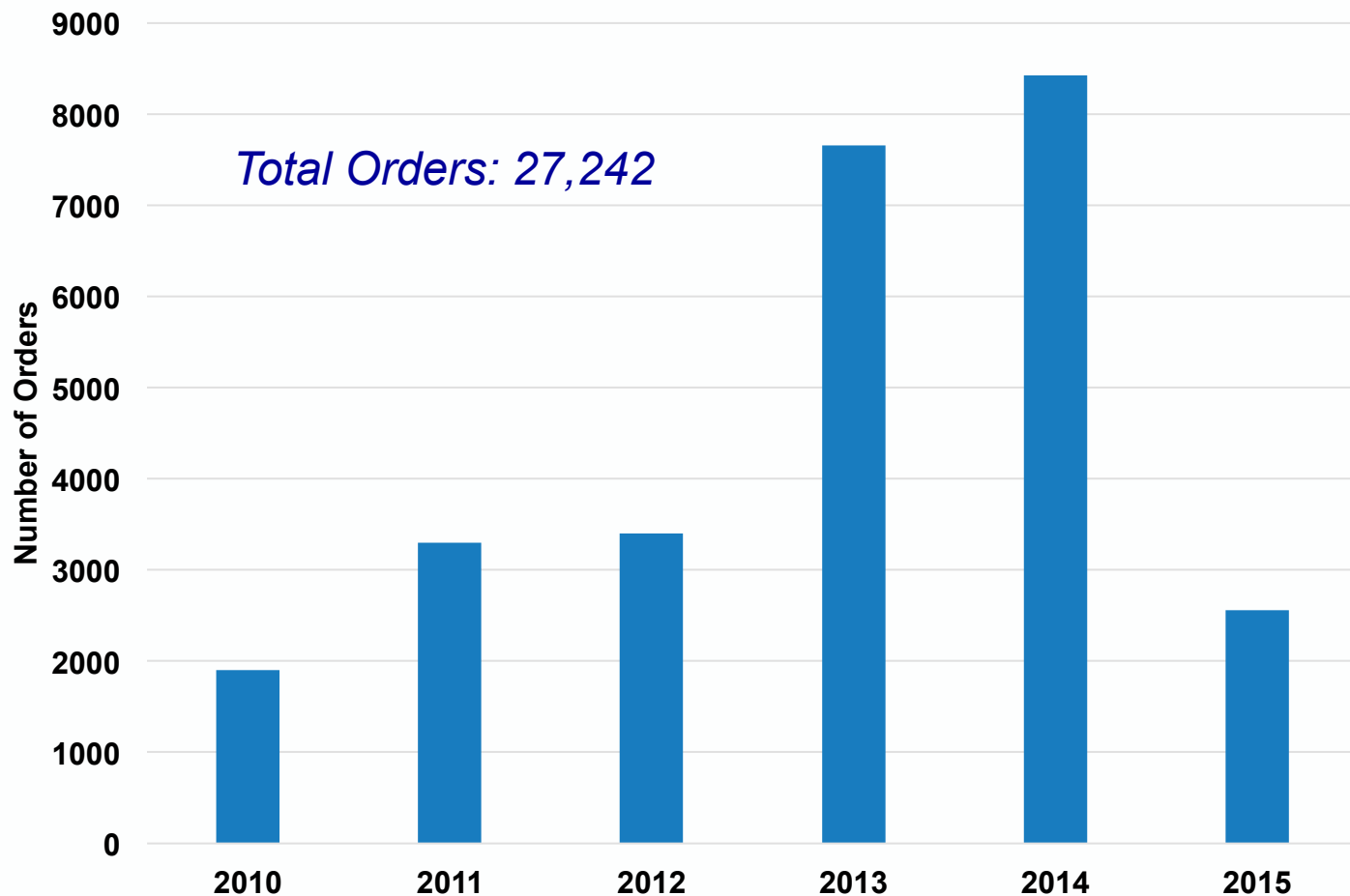
By Data Date Through March 2015





# CERES Data Orders

(June 2010 – March 2015)

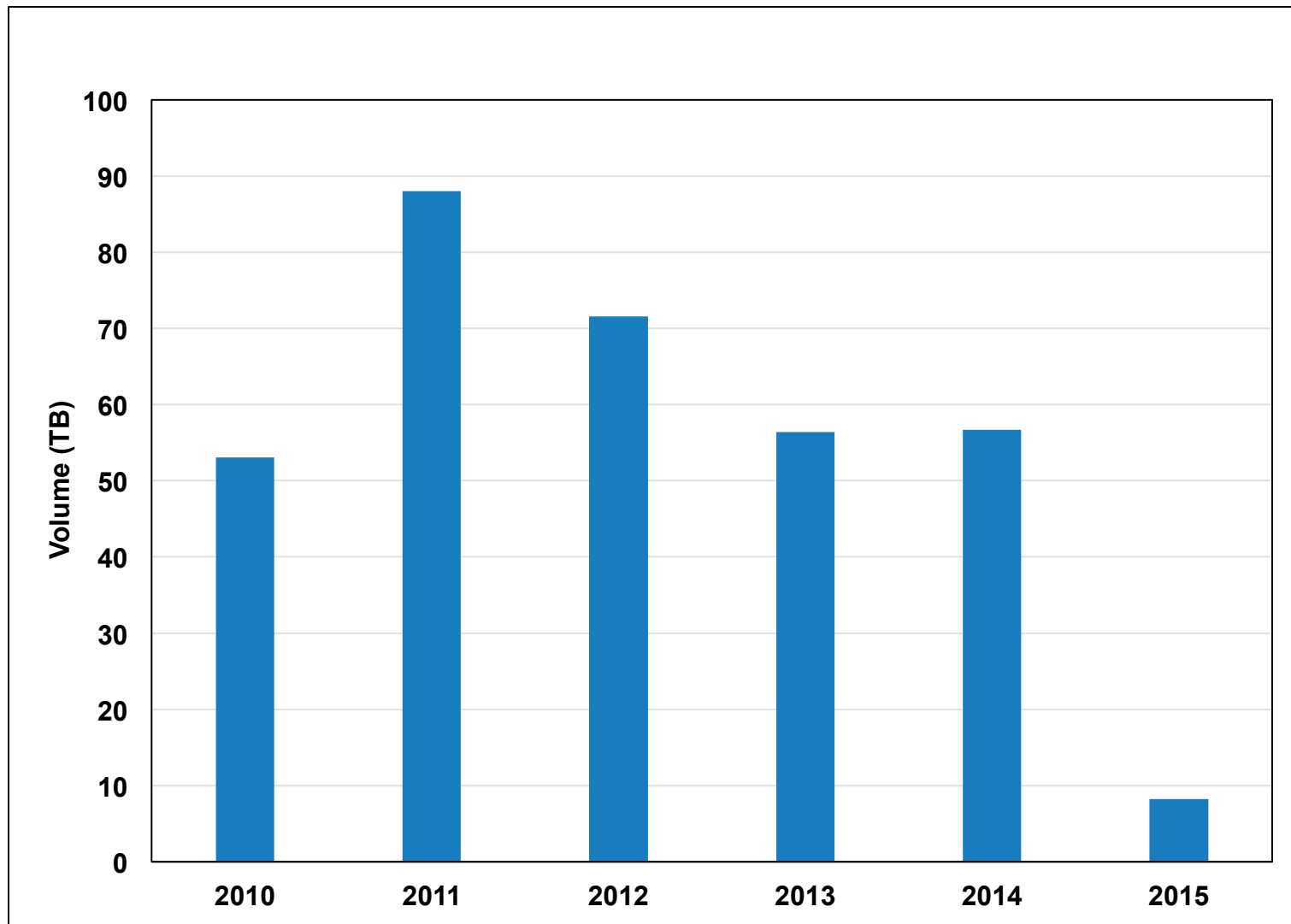






# CERES Data Distribution

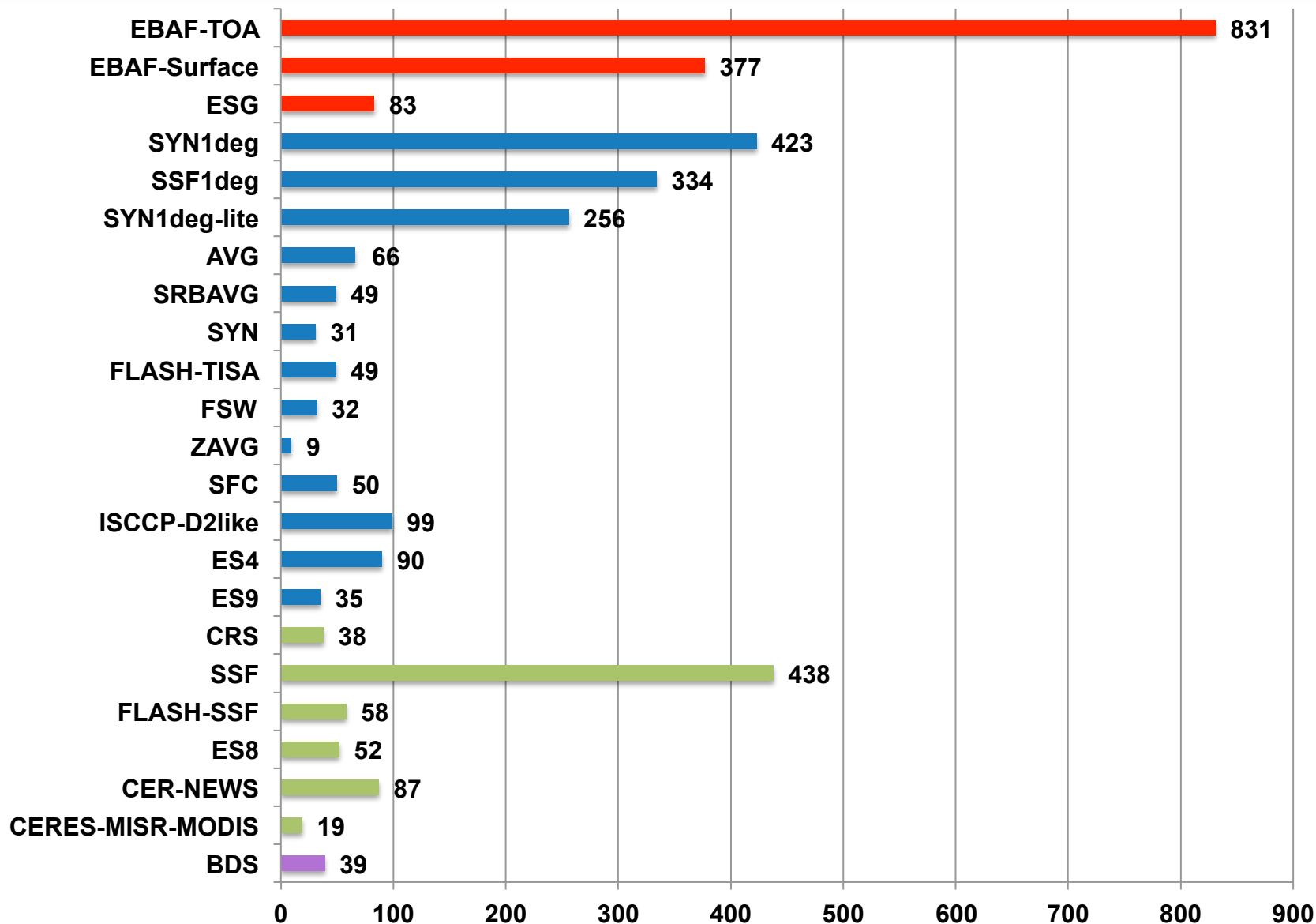
(June 2010 – March 2015)



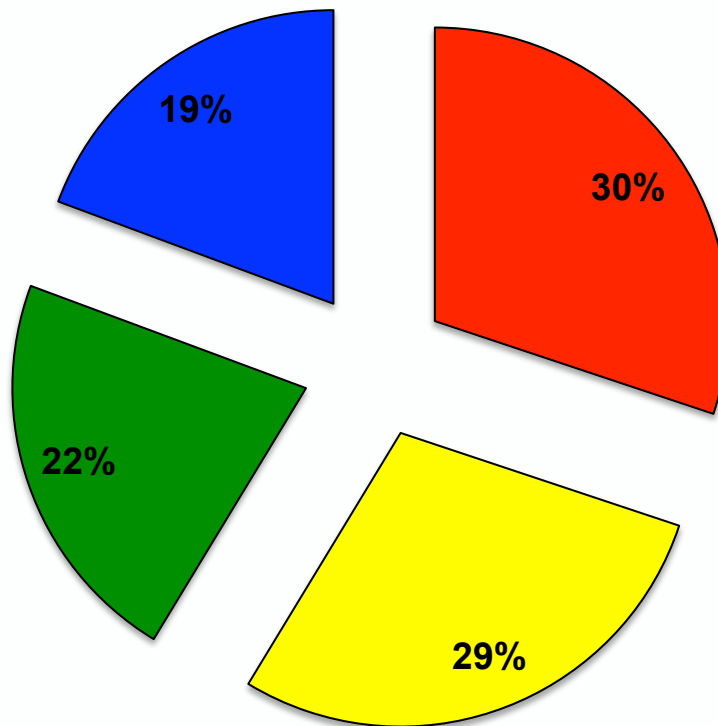


# Number of Users by Product

(June 2010 – March 2015)



# User Affiliations

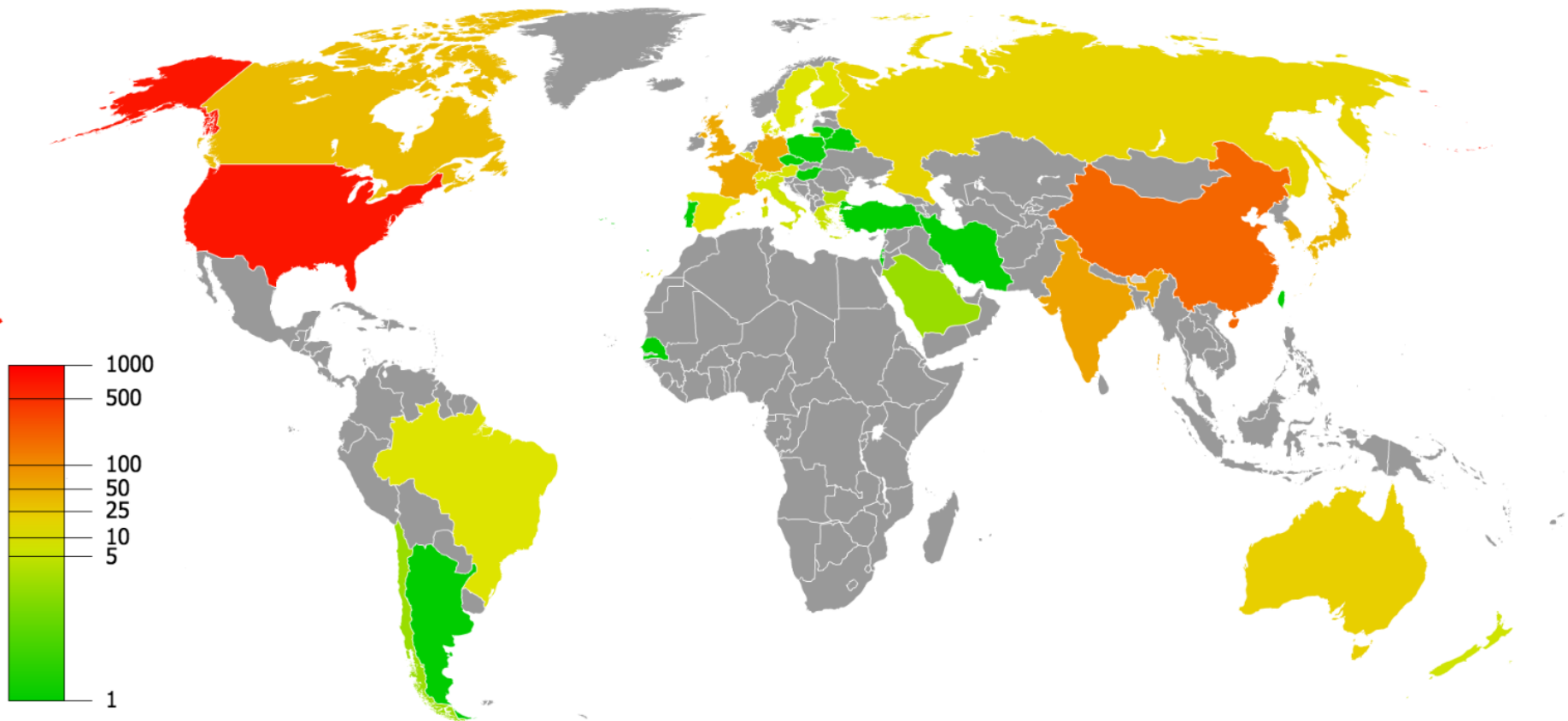


■ Commercial ■ Educational ■ Government ■ Other





# Users by Country (June 2010 – March 2015)





# **ASDC PRIVATE CLOUD PILOT**



# ASDC Private Cloud Pilot

- ASDC has participated in numerous cloud experiments and research efforts
  - Cloudbursting, experiment with LaRC OCIO, others
- Learning has been exceptional, progress not so much
  - IT Security has been a challenge
  - Cost models evolving
  - Different groups leading different efforts
- Often looks like “solution looking for a problem”
  - Application hosting
  - Data storage
  - Collaborative processing

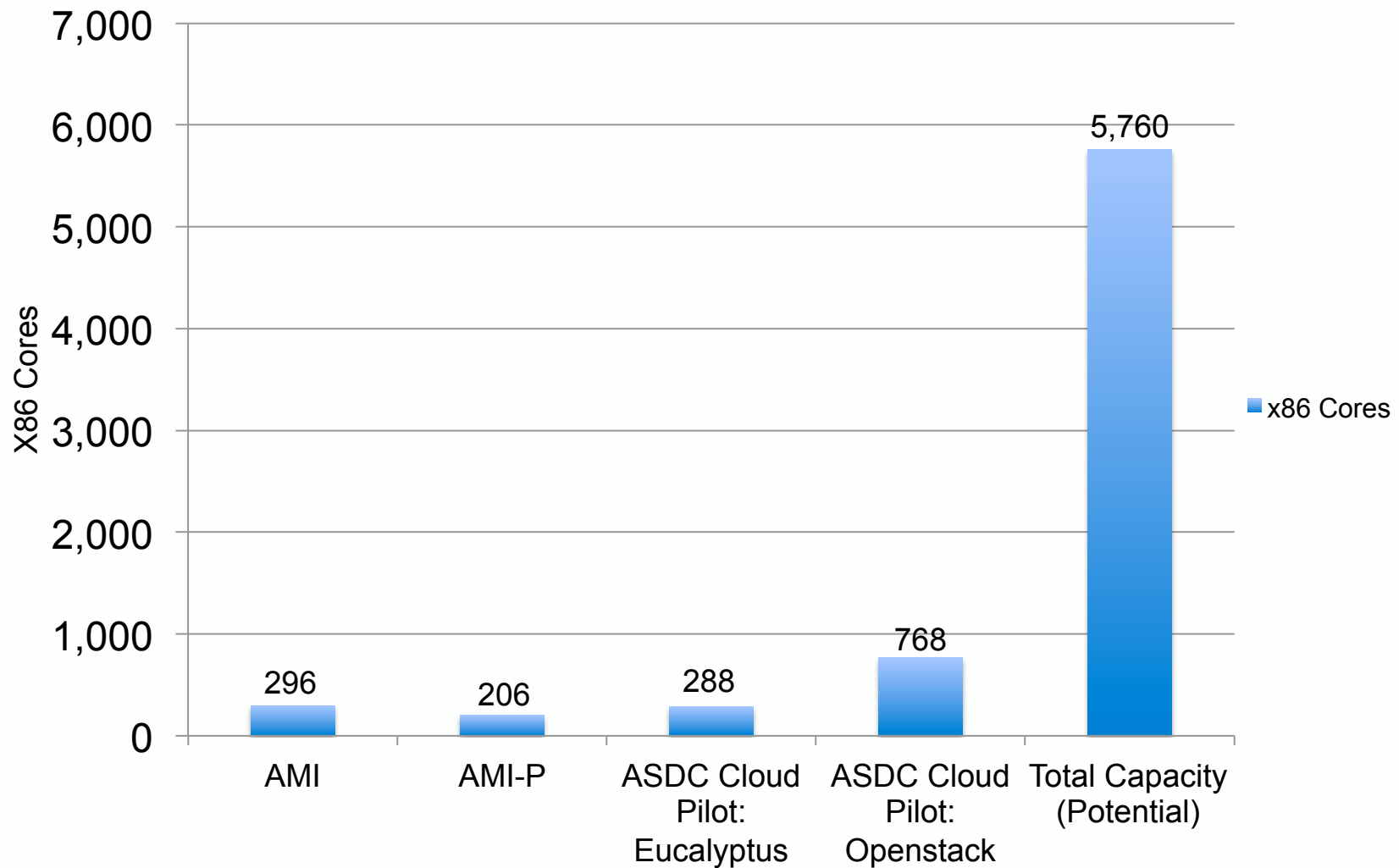


# ASDC Private Cloud Pilot

- ASDC setting up a private cloud in ASDC facility initially only available to internal (LaRC) users
  - Engineers out IT Security issues
  - Allows us to collectively learn about cloud realities
  - Addresses real-world challenges (i.e., episodic/surge processing requirements)
- Private cloud system being setup initially
  - Received from NCCS
  - 480 node 3 year old Dell system
  - All x86 based
  - Pilot targeted to be operational in September 2015
  - Eucalyptus and Openstack cloud technologies being utilized



# ASDC Private Cloud Pilot

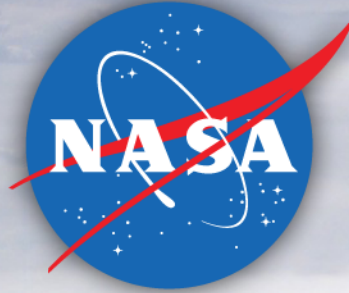




## ASDC Private Cloud Pilot

- Will identify potential processing candidates to run on pilot cloud in coming months
- Will evaluate as we exercise cloud and adjust plans accordingly





# **BIG EARTH DATA INITIATIVE (BEDI) AND DATA SERVICES**



# Big Earth Data Initiative (BEDI)

ASDC has four BEDI groups based on BEDI assigned tasks  
*working on most current versions of CERES, CALIPSO, MISR, MOPITT, TES*

1. **OPeNDAP** - configure hardware and software to implement data for availability through the OPeNDAP protocol and other Open Geospatial Consortium (OGC) services as appropriate.
2. **GCMD and ECHO Reconciliation** - provide a thorough review of current metadata and ensure all required metadata for identified ASDC data products is reconciled.



3. **GIBS** - coordinate with science teams to create and offer subsets identified images via GIBS. Coordination includes discussions with science teams to define and validate color scales and ingest testing with GIBS.



4. **DOI** - assess the current DOI registration status for the most current versions of identified products and provide the required metadata for each product to be registered (each DOI is updated based on Earth Science Data Types (ESDTs), EOSWEB Landing pages, Information Management System (IMS), GCMD, and ECHO as appropriate).



May 5, 2015

ASDC Update for CERES STM  
ASDC Update for CERES STM



# ASDC Data Services

- Standardized services that can be accessed in many different applications
- **ArcGIS Image Service**
  - Imagery and data service
  - Processing templates and functions
  - NASA Earthdata Webinar: [https://www.youtube.com/watch?v=N\\_BC7ZrWUwY](https://www.youtube.com/watch?v=N_BC7ZrWUwY)
- **OPeNDAP**
  - provides subsetting, dataset aggregations, and conversion to/from various data formats
- **Web Mapping Service (WMS)**
  - Imagery service with basic data access
  - Will serve imagery to GIBS



# Questions?