



NOAA's Big Data Initiative

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#AMS2017

The Big Data Project

“Portals versus Platforms”

NOAA’s Big Data Project
(CRADA) began in April ‘15

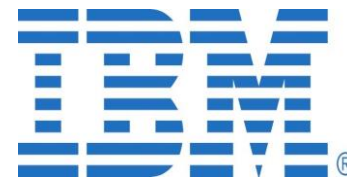
Leverage the value of
NOAA’s data to increase
their utilization?

Keys:

- NOAA’s open data - freely available
- Industry’s infrastructure expertise
- NOAA’s subject matter expertise
- Level playing field



Google Cloud Platform



OPEN COMMONS CONSORTIUM

Why is NOAA interested in this?

- NOAA's data are increasingly popular and valuable.
- **Under the current scheme, NOAA struggles to keep up with public demand – budgets for capacity and security aren't keeping pace with data access costs.**
- NOAA wants to learn about solutions while we also promote use, democratize data access, facilitate research and enable new economic opportunities for partners.

NOAA
Data Expertise

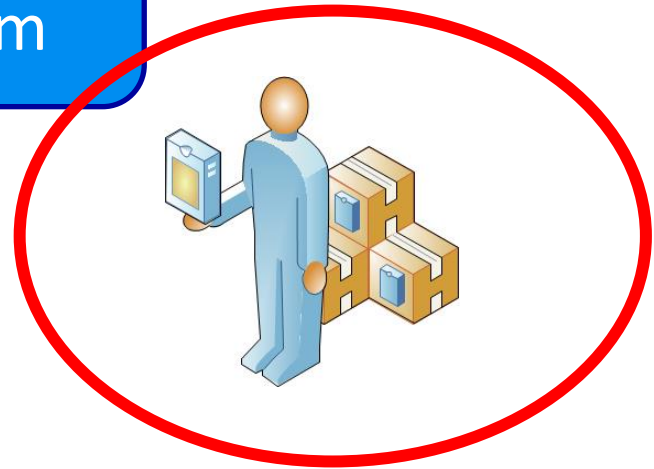
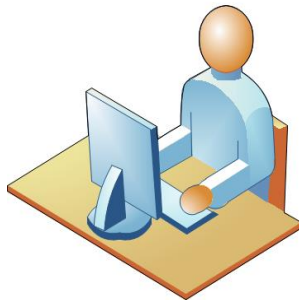


CRADA Collaborators
Infrastructure Expertise



Google Cloud Platform

BDP
Ecosystem



End User
Wider Consumer Community

Third Party Partner
Value-Added Services

The Win-Win-Win



- **Easier use of NOAA's data**

Reduced loads on NOAA systems – and budgets

- **New business opportunities**

NEXRAD L2 Activity on AWS

Began Oct 2015

- 80% of NEXRAD archive orders are now **fulfilled by AWS**
- **Single access point** for archived and real-time data
- 64% of NEXRAD data stayed on the AWS platform

Data utilization has increased by 2.3 times at AWS, at no net cost to the US taxpayer

- **Options:** Redirects to BDP Collaborators' services
- **Faster:** Jobs that took 3+ years **now take only a few days**
- **Cheaper:** Loads down over 50% on NOAA archives

Big Data Project Methodology



Business Discovery

CRADA Collaborators & any Third-Party Partners work together to identify datasets of interest & develop business cases



Initial Technical Development

Develop a strategy for data sharing/delivery from NOAA to BDP Collaborator(s) without impacting current NOAA operations



In-Depth Data Discussions

Engage NOAA subject matter experts, BDP Collaborators, and their Associates/Partners for technical interchanges



Product Development and Deployment

Collaborators and their Partners create services and applications

- Develop markets and financial opportunities based on NOAA data
- Generate revenue and profits



Augmented NOAA Services

NOAA continues all of its existing data services

- No interruption of existing services to customers, but new options
- BDP activities are an augmentation of existing services

How do new partners get involved with the BDP and the Collaborators?

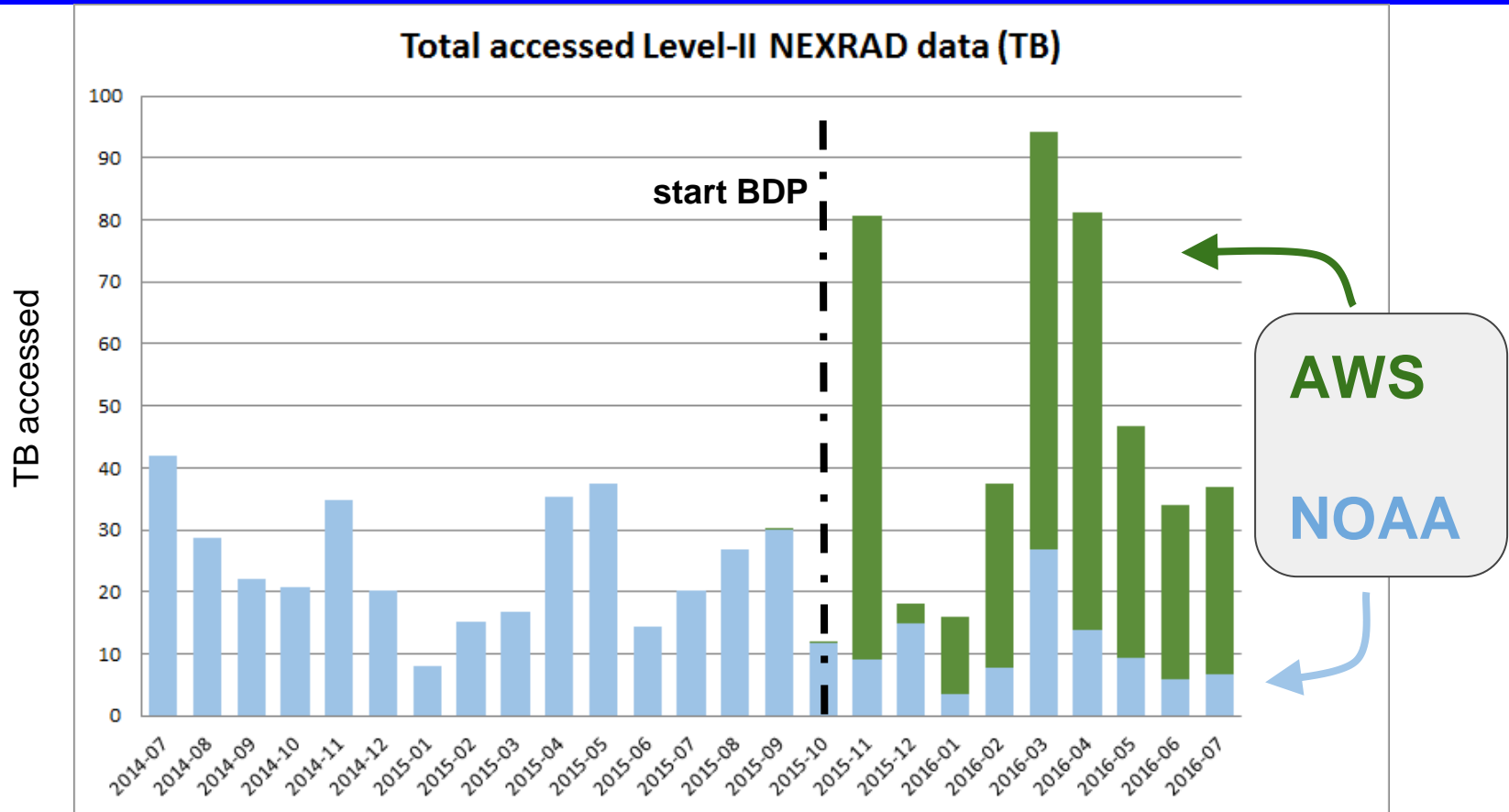
- **Approach one or more of the BDP Collaborators directly, or ask the NOAA BDP Office for introductions.**
- **Work with Collaborator(s) on identification of data needs & business plan.**
- **Discuss with NOAA BDP office and NOAA SMEs to gain understanding.**
- **NOAA will deliver the data to the Collaborator(s).**
- **Execute business plan with the Collaborator(s).**

Discussion

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NEXRAD Weather Radar Data

2015: Moved 850 TB to NOAA BDP Collaborators



AWS: Oct '15 <https://s3.amazonaws.com/noaa-nexrad-level2> (1991+)

OCC: Jun '16 <http://occ-data.org/NOAANEXRAD/> (2015+)

(S. Ansari et al, 2016)