



Environmental Data Management Framework

A Presentation to the
NOAA Science Advisory Board

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Outline



- Purpose
- Issue
- NOAA Coordination and Views
- Presentation of Briefing



Purpose



Purpose: to summarize for the SAB the response to the recommendation that NOAA develop a Framework for Environmental Data Management.



Issue



- **SAB report (March 2012) regarding the "urgent need to establish a NOAA-wide Environmental Data Management Framework"**
- EDM Framework means "the organization and governance structure (i.e., roles and responsibilities, policies, procedures), data management principles and practices, technical standards, etc. needed to manage the life-cycle of environmental data across the NOAA enterprise."



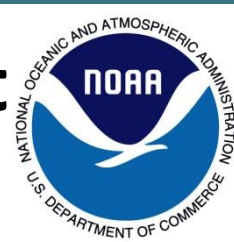
NOAA Coordination & Views



- Development of EDM Framework assigned to EDM Cmtee
- Initial draft based on OSTP National Earth Observations (NEO) Strategy chapter on data management
- 4 drafts circulated to NOAA Committees and Councils
 - Environmental Data Management Committee, Observing Systems Committee, Enterprise Architecture Committee, GIS Committee
 - NOAA Observing Systems Council, Chief Information Officer Council
 - NOAA Executive Panel and Council
 - Helpful input from 30+ reviewers



NOAA Environmental Data Management Framework



Data Management Framework

Principles				
Governance				
Resources				
Standards				
Architecture				
Assessment				
Data Lifecycle	Data Lifecycle	Data Lifecycle	Data Lifecycle	Data Lifecycle

Goals:

- Promote a **common understanding** of data management policies and activities across NOAA
- Maximize the likelihood that environmental data will be **discoverable, accessible, well-documented, and preserved** for future use
- Encourage the development and use of **uniform tools and practices** across NOAA for environmental data

Data Management Framework



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Principles

- Full and Open Access
 - Except in special cases
- Data Preservation
- Information Quality
- Ease of Use

Data Management Framework



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Governance

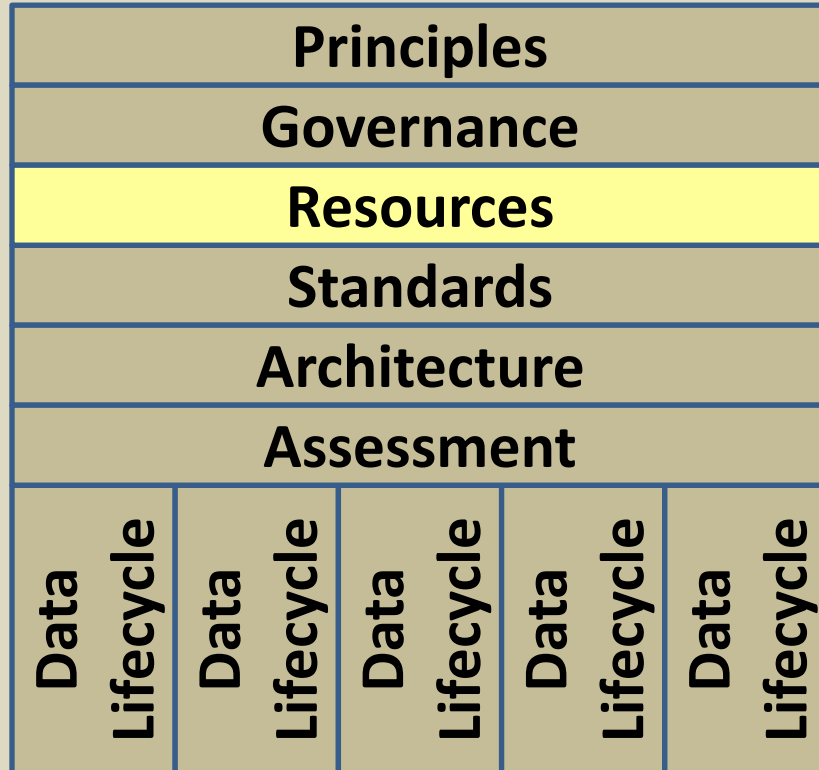
- Agency bodies
- NOAA policies & docs
- National policies & docs
- External coordination
- Enforcement



Data Management Framework



Data Management Framework



Resources

- Personnel
 - Training, Recognition
- Budget
 - Project-specific, NOAA-wide
- Other Resources
 - Facilities, Teams, Software, etc.



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Standards

- Interoperability
- Metadata
- Vocabularies
- IT Security
- Quality Control

Data Management Framework



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Architecture

- Existing Infrastructure
- Service-based approach
- Designing for flexibility
- Appendix: Cloud computing

Data Management Framework



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Assessment

- Current state
 - Observing System DM assessment (*in progress*)
- Progress measurements
 - EDMC Reporting
 - EDM Dashboard
- Feedback from users & implementers (*planned*)

Data Management Framework

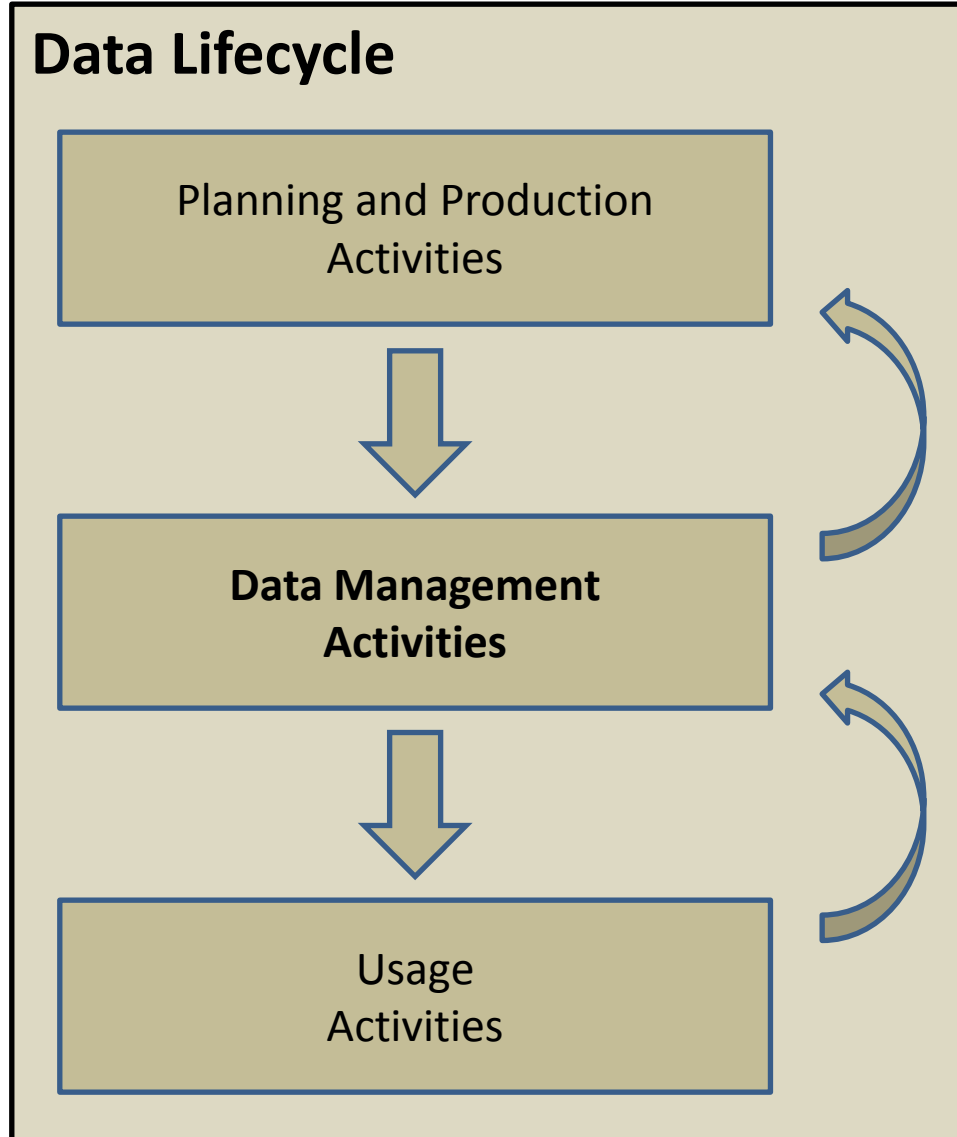


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Data Lifecycle Overview





Data Lifecycle

*Planning and
Production
Activities*

Requirements Definition
Planning
Development
Deployment
Operations

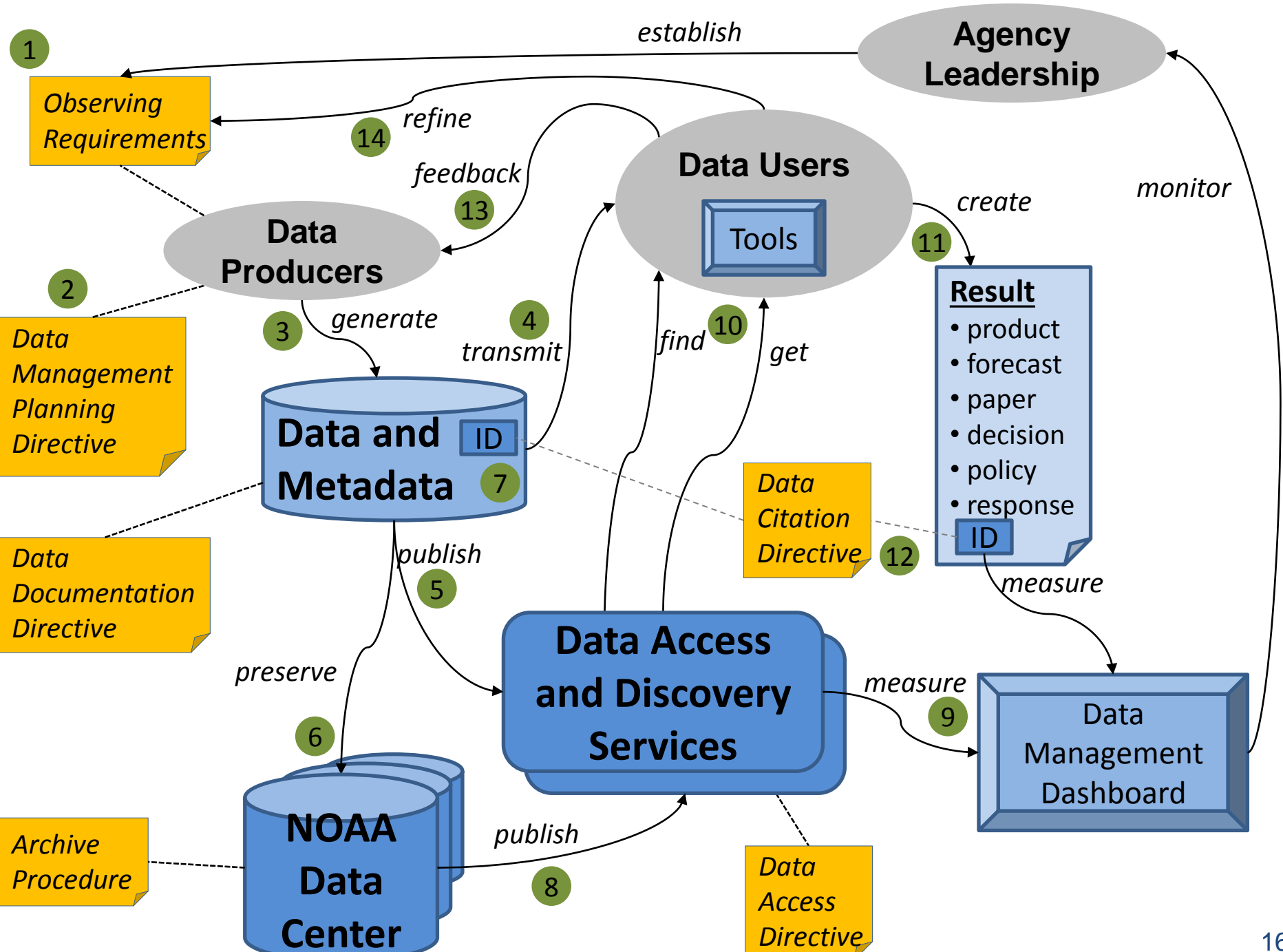
*Data
Management
Activities*

Collection
Processing
Quality Control
Documentation
Cataloging
Dissemination
Preservation
Stewardship
Usage Tracking
Final Disposition

*Usage
Activities*

Discovery
Reception
Understanding
Analysis
Value-Added Products
User Feedback
Citation
Tagging
Gap Assessment

**Data
Lifecycle
Activities**



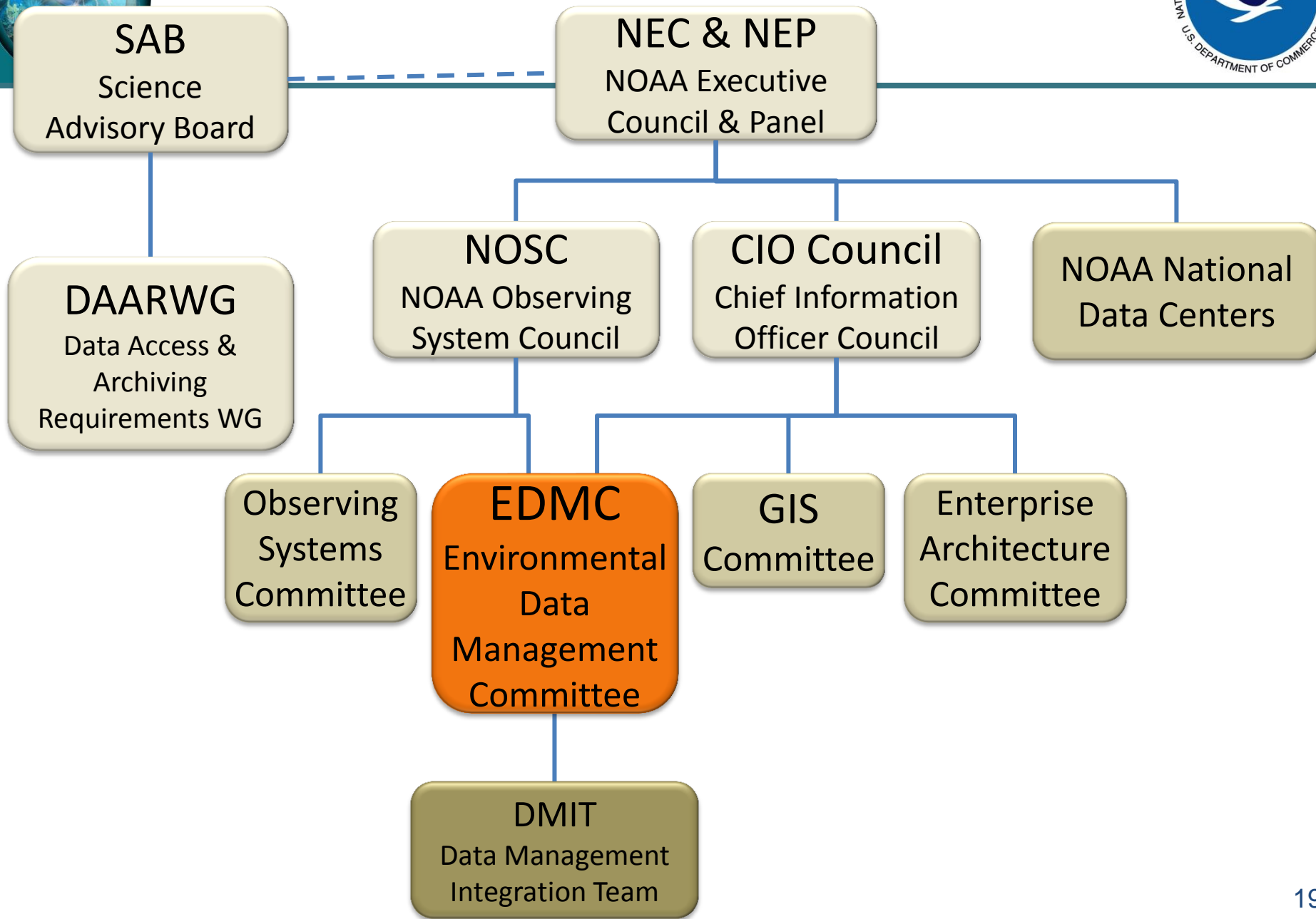


Questions?



Backup Slides

NOAA EDM Governance Bodies



EDMC Procedural Directives



Data Management Planning PD

Plan, in advance, how you will preserve, document and distribute your data.

Archive Procedure

What to archive, how to submit to archive.

Data Documentation

How to apply ISO 19115 metadata for discovery, use & understanding.

Data Sharing by NOAA Grantees

State in proposal how you will share data, and share within 2 years.

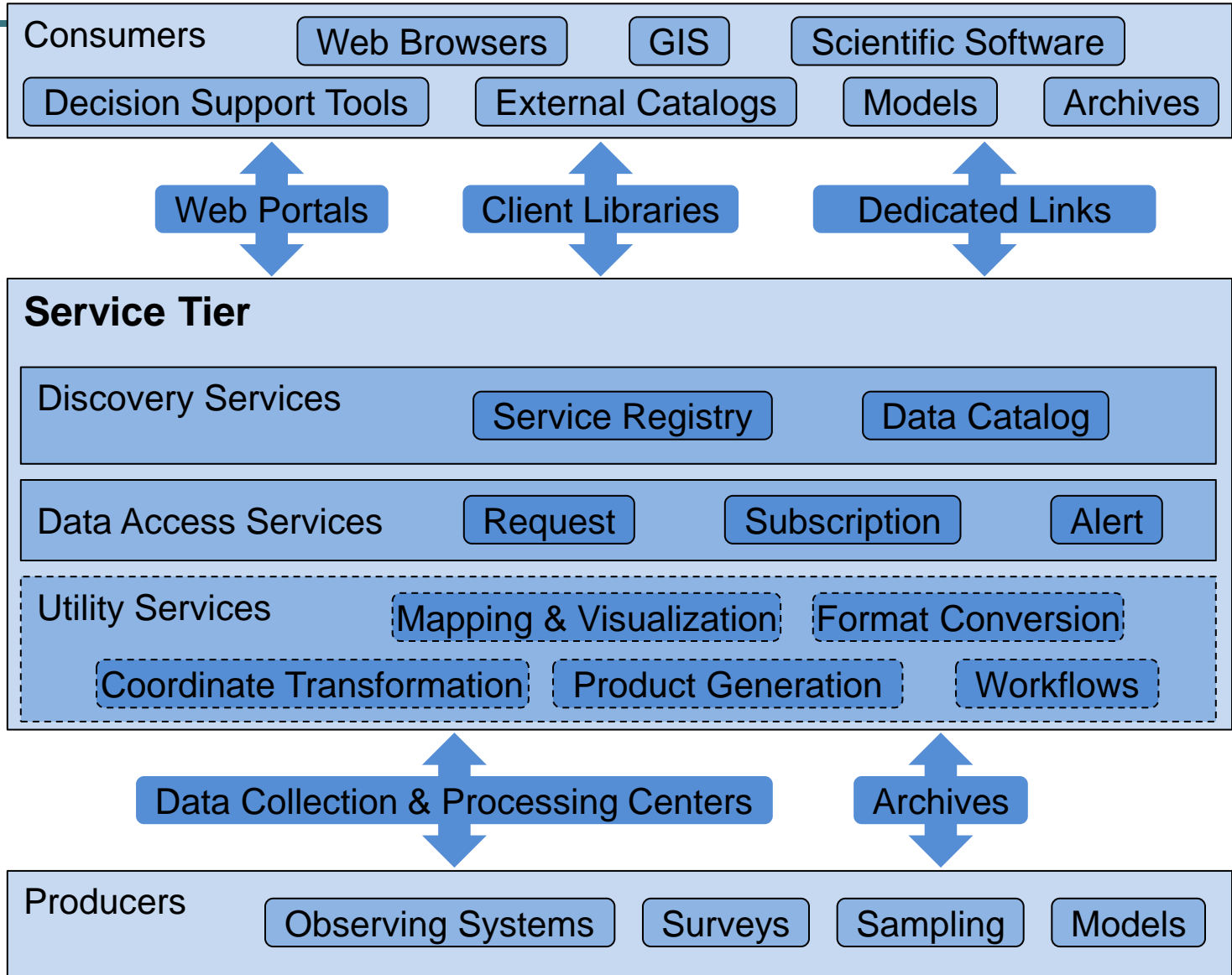
Data Citation

Use unique identifiers to allow data to be referenced and tracked.

Data Access

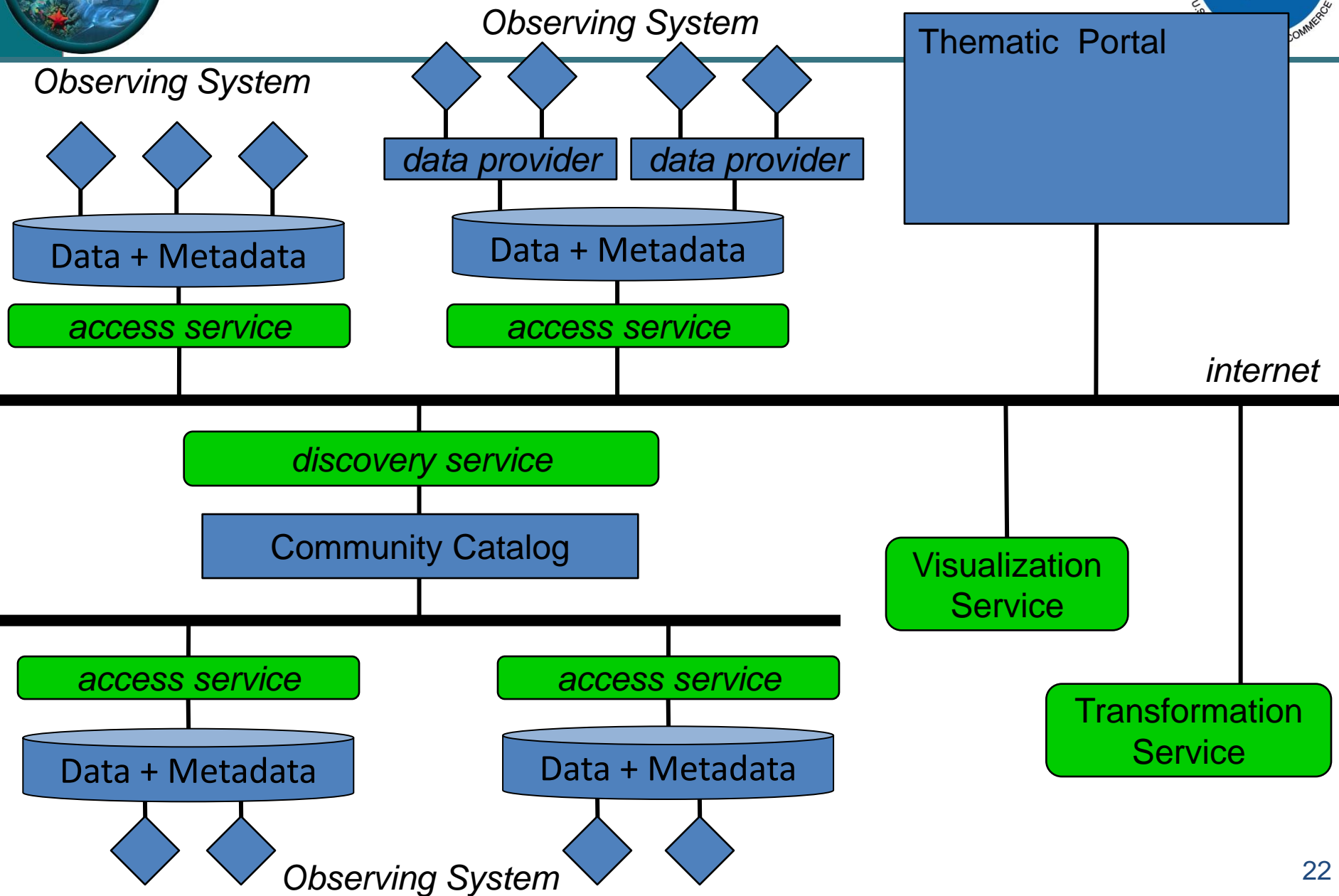
What on-line services to use so your data can be obtained.

Data Management Architecture - Services Viewpoint





Service-Based Approach



Potential Cloud Deployment Scenario

