

Geoscience Australia

Collection Management Practices



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❖ CEOS Data Stewardship Glossary

- The ensemble of some products or auxiliary data having a common focus or theme or purpose (e.g., collection of land photos).

❖ A different spin?

- A group of datasets that have been processed using a consistent radiometric calibration, geometric registration base, data / metadata format, and version of processing algorithms

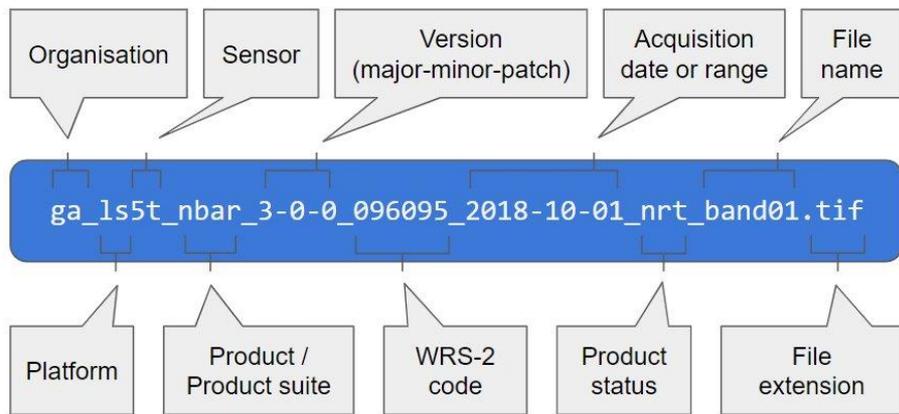
- ❖ Attributes of an EO Collection
- ❖ Overview of EO Collections at Geoscience Australia
- ❖ Collection Governance – how/who decides?
- ❖ Upgrades versus Updates
- ❖ Principles
- ❖ Options for a WGISS activity?

- ❖ Consistent base
- ❖ Contains multiple datasets derived from a common root
- ❖ Some change is allowed, within tolerance
- ❖ Multiple factors can drive decisions regarding management of collections

Advantages of Consistency



Landsat ARD

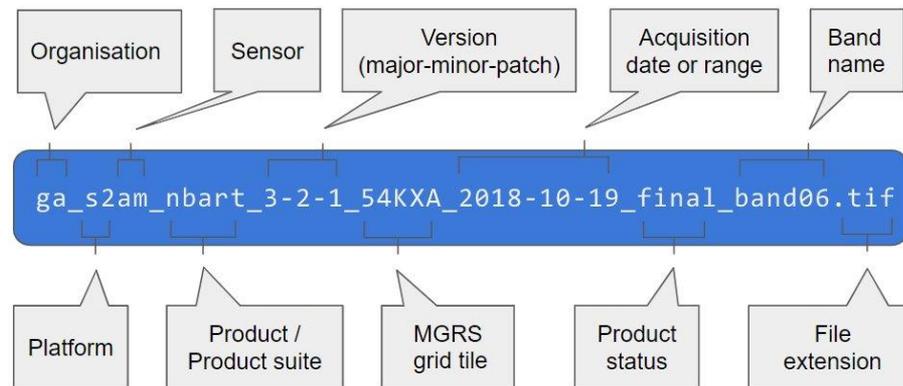


Australian Government
Geoscience Australia



Digital Earth
AUSTRALIA

Sentinel-2 ARD



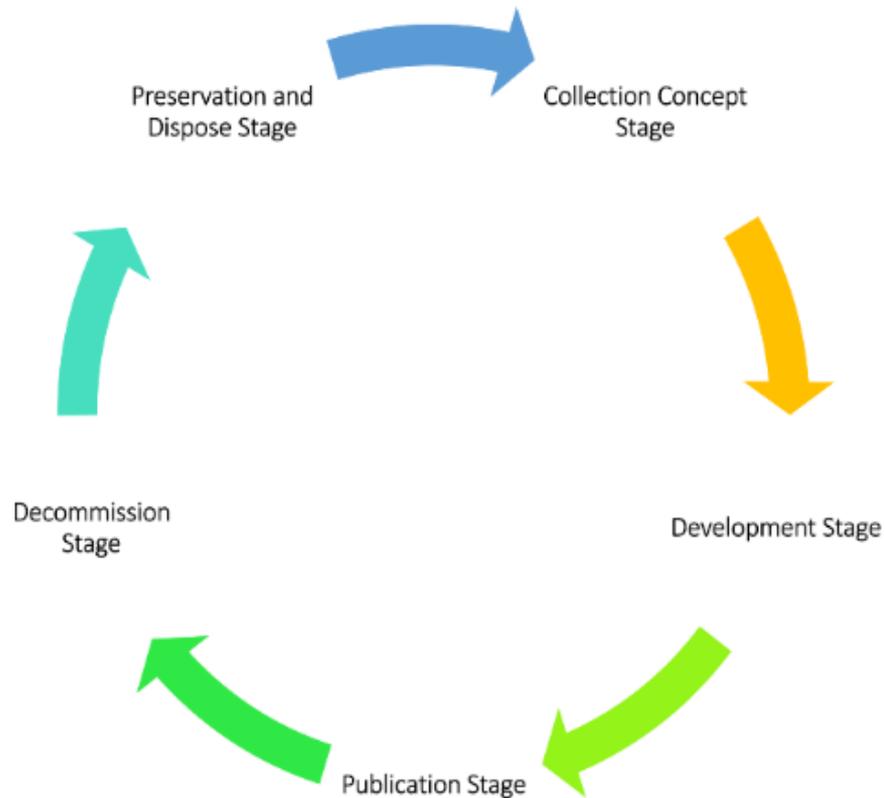
- ❖ Consistency between collections maintained through a common code base
 - Consistent approaches to ARD generation
 - Algorithmic
 - ❖ Minimise mission data interoperation issues
 - ❖ Maximise fused product quality
 - Auxiliary inputs
 - Formatting
 - Geometric baseline
 - Quality assurance
 - Metadata
 - Geometric Quality Assessment
 - Data access and analytics from a common codebase

GA Landsat Collection Structure



Operational				
Level	Spatial Manifestation	Landsat Mission		
1	USGS Replica C1/ C2 Scenes	TM (4-5)	ETM+ (7)	OLI/TIRS (8-9)
2	UTM Scenes	ARD (NBAR-T + OA)		
3	UTM Scenes	Fractional Cover		
3	UTM Scenes	Water Observations		
4	UTM Scenes	NBAR-T Geometric Median		
4	Australian Albers EA Tiles	Water Observations Frequency		
4	Australian Albers EA Tiles	Fractional Cover Percentiles		
4	Australian Albers EA Tiles	Tasseled Cap Percentiles		
4	Australian Albers EA Tiles	Landcover		
4	Australian Albers EA Tiles	Mangroves		
4	Vectors	Waterbodies		
4	Vectors	Coastlines		

Collection Lifecycle



EO Collection Governance



Geoscience Australia	
National Archives Act 1983	Governing legislation for management of official 'records'
National Archives of Australia	<ul style="list-style-type: none">• Collects Australian Government records, manages them, preserves them and makes them public.• Assist Australian Government employees working in information management.• Administers Disposal Authorities which enable the accountable disposal of business information and records.
GA Information and Records Management Team	Under a Records Disposal Authority issued by the National Archives of Australia (NAA), copies of superseded products are not required to be retained
Digital Earth Australia Management Committee	Program decision-making body on Upgrades to Collections based on project business case – managed as project <ul style="list-style-type: none">• Upstream upgrade (Level 1)• DEA ARD of Information Product Upgrades
Digital Earth Australia Control Board	Peer review of proposed Updates to existing Collections.

UPGRADE vs UPDATE triggers



Collection UPDATE	Collection UPGRADE
Software updates	Algorithm enhancement
Source or auxiliary data reprocessing or upgrades	Baseline / input data upgrade
Metadata fixes	
Remedial reprocessing	

Collection UPGRADE 3.x.x



Archives Act 1983

Disposal Authority

Records Management

Commission New Collection

Decommission Previous Collection

Project Close

Upstream Collection Upgrade

Innovation milestone within GA

Operations Development

Operations Implementation

Prototyping

Project Initiation

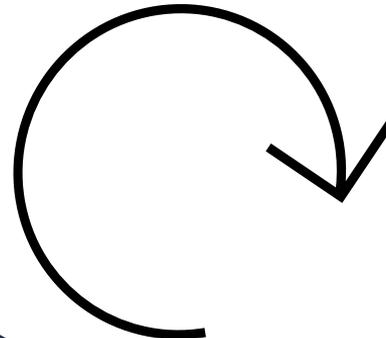
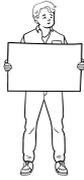
Endorsement

DEA Management Committee
Senior Responsible Official

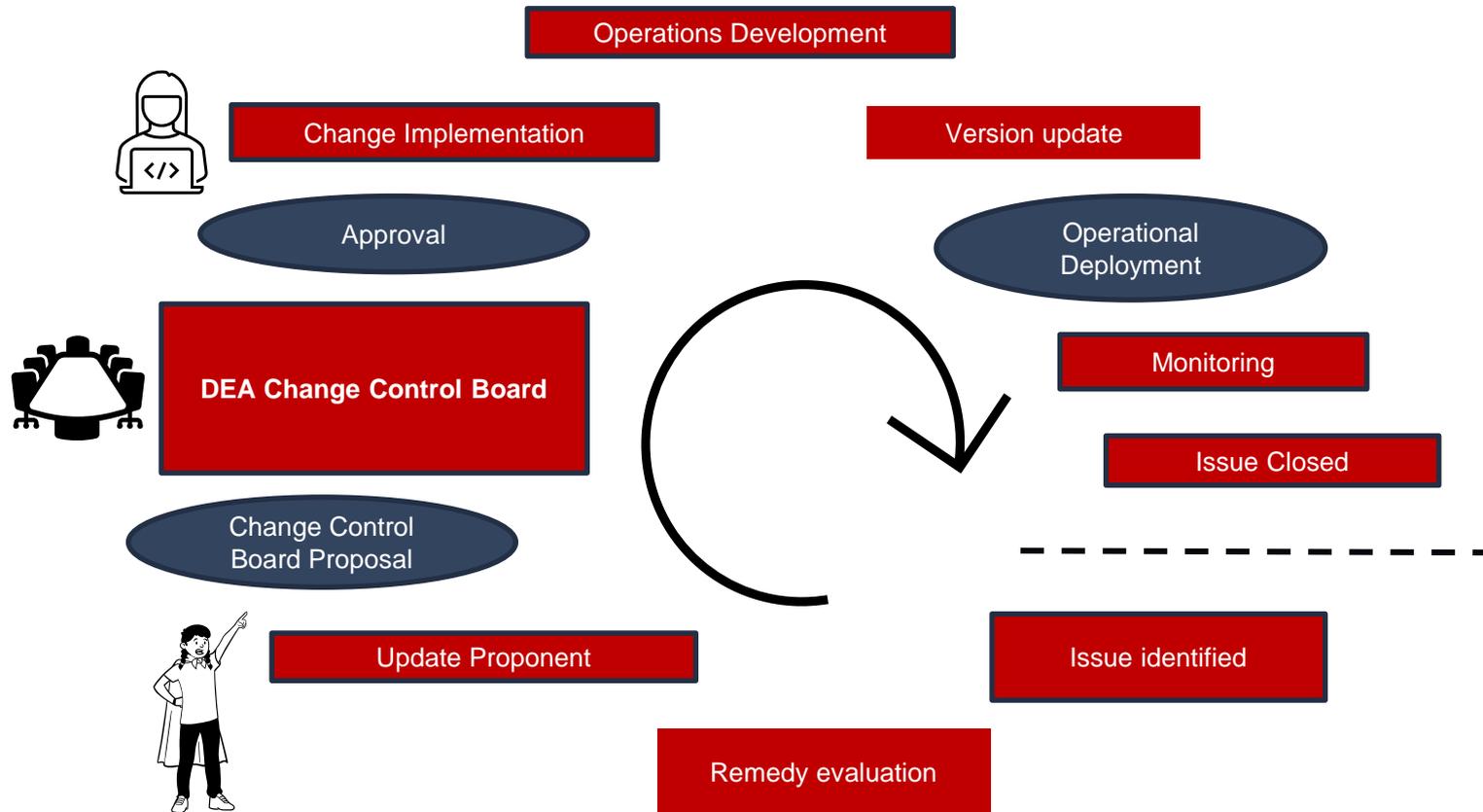
Upgrade Proposal

Upgrade Champion

DEA Board



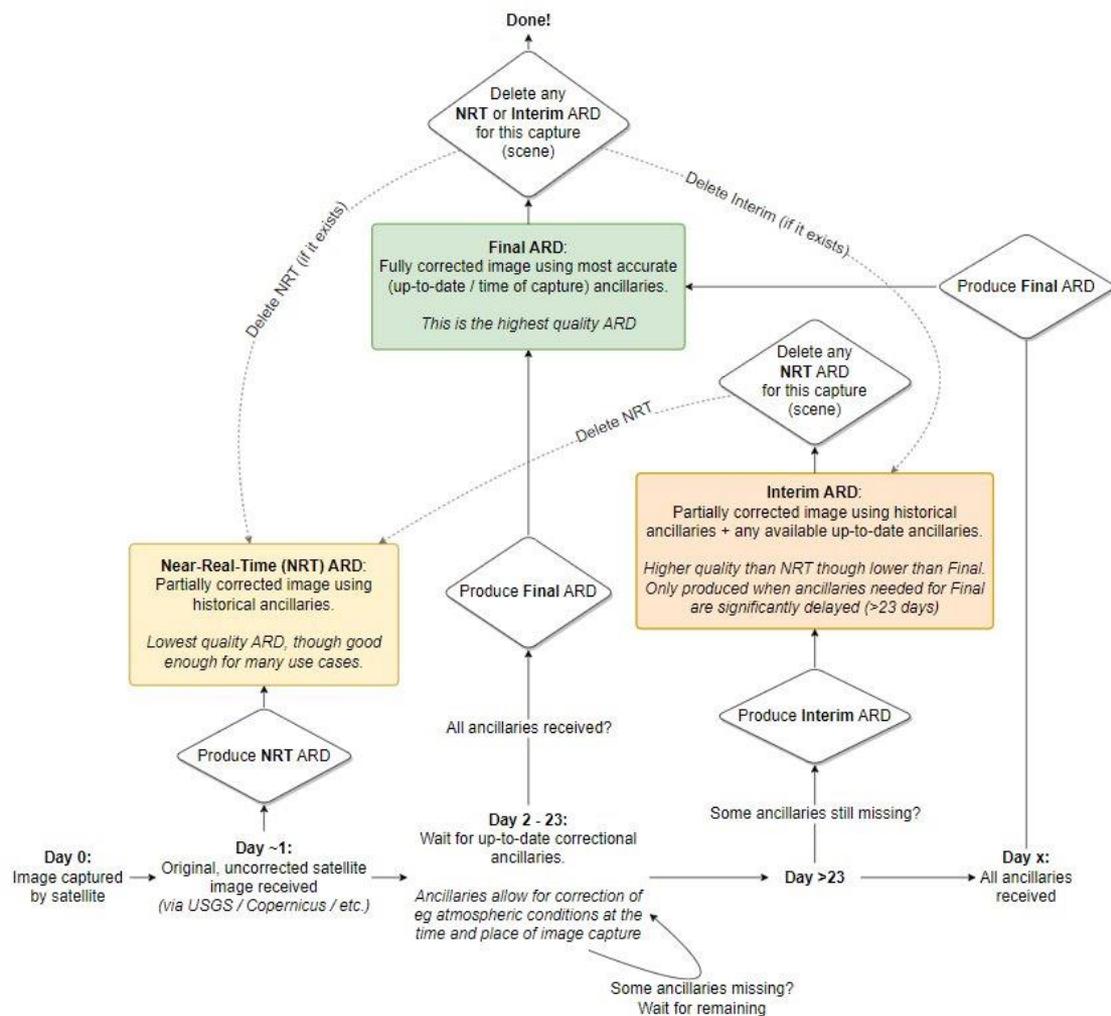
Collection UPDATE x.1.0

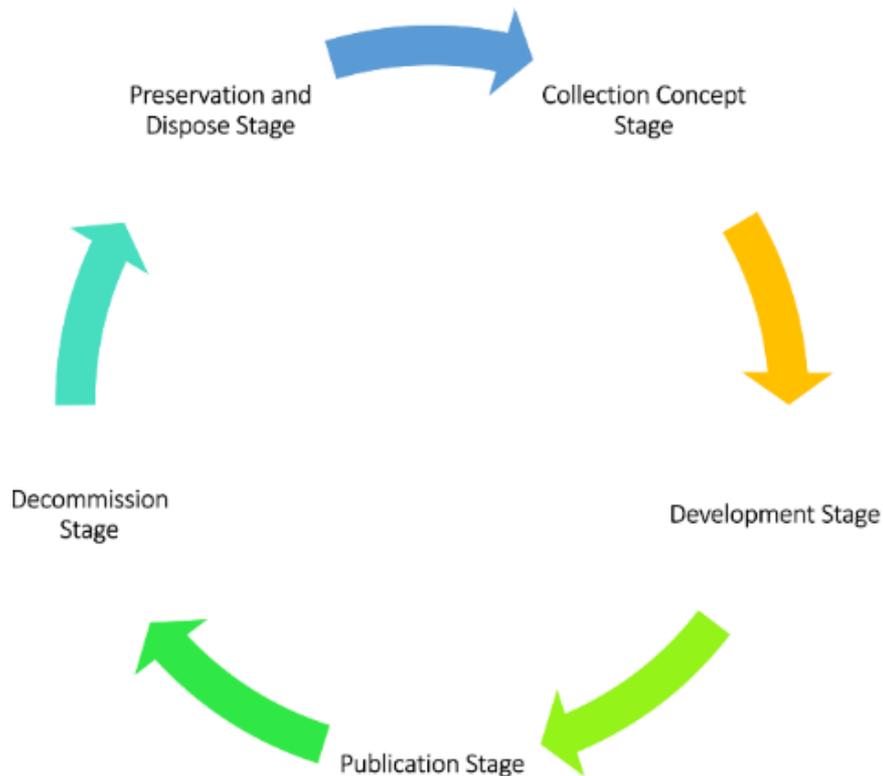


- ❖ Updates to source datasets are staged and not automatic
 - e.g. USGS Landsat 9 reprocessing does not automatically trigger updates in GA Collection
- ❖ Changes to data or systems with a potential to impact the consistency of the Collection **must be approved by the Change Control Board**
- ❖ Upgrades to Collections are approved via the DEA Management Committee
- ❖ Collection Disposal is conducted in line with Archive Act responsibilities through consultation with Records Management and National Archives of Australia

- ❖ All changes likely to impact users **must be communicated**
- ❖ Only a single instantiation of a dataset (nrt, interim or final) is available to a user at any given instant.
 - Dataset maturity may be specified in API calls.

Dataset Maturity



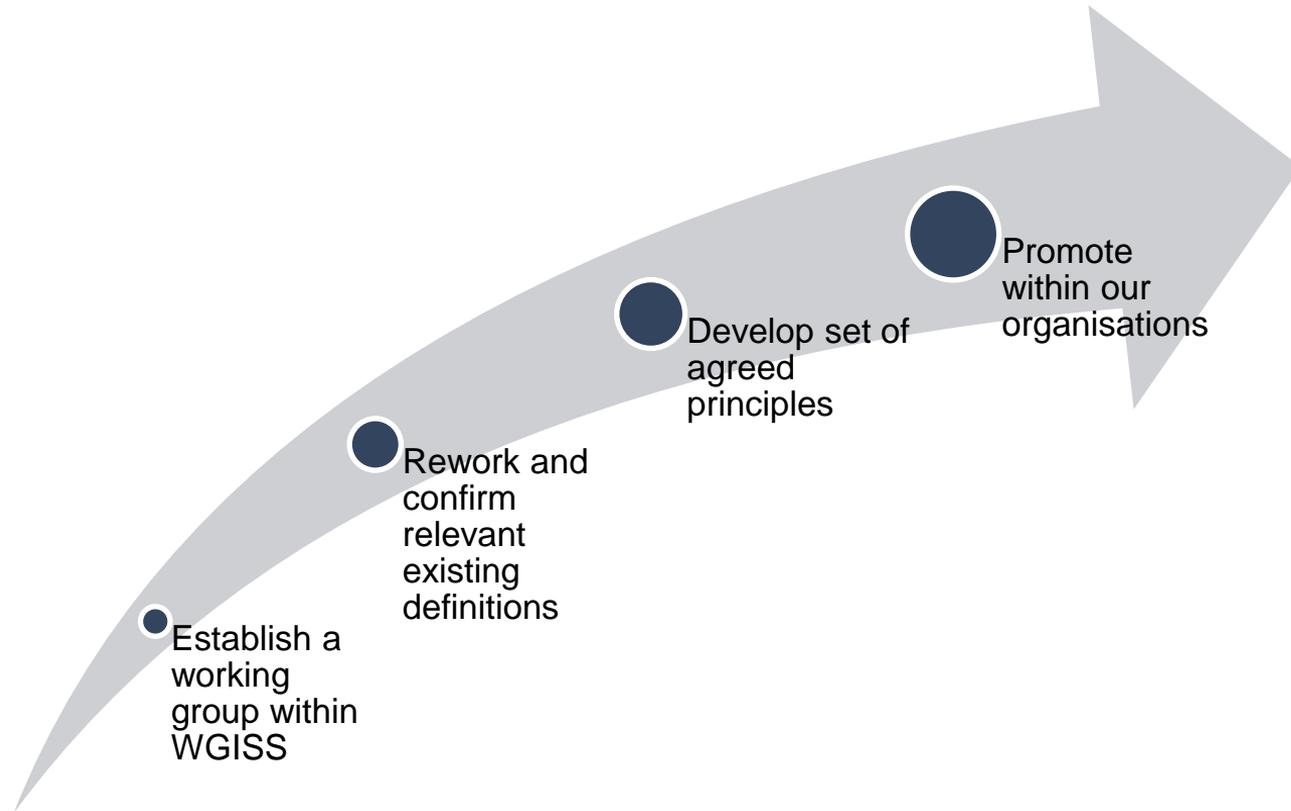


Examples...

- ❖ Collection Concept Stage
 - Principle 1: Products should be consistent within Collections
 - Principle 2: Collection Upgrades should be deliberate, meaningful and well considered

- ❖ WGISS as a vehicle to promote a common set of Collection Principles
- ❖ Consistent / predictable approaches
- ❖ Improved outcomes for users
- ❖ GA and USGS Collaboration as a starting point

Next Steps



Thanks!



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