

APO Metadata application profile v0.5

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Document status

All comments refer to changes in the Resource class, except where stated.

Version	Date issued	Comment
0.1	n/a	First draft. Unpublished. For circulation with trusted stakeholders
0.2	26 November 2018	Concept class added Event class removed Range declarations added Full lists for taxonomies < 100 terms in Example / References Uploaded to https://github.com/leskneebone/APO-MAP
0.3		typo “org:Organisation” corrected to “org:Organization” grid:hasRelated added to org:Organization class updated obligation for schema:pageStart apo:chapter removed (duplicated mods:partNumber) eprint namespace added foaf:openID property added to foaf:person class apo:journalTitle replaced by dcterms:isPartOf <i>References</i> section added. <i>Registrations</i> section added. datatype removed for schema:pageStart; schema:pageEnd skos:prefLabel replaces dcterms:title for org:organization class skos:altLabel replaces dcterms:alternate for org:organization class foaf:depiction added to skos:concept class dcterms:isPartOf range changed to range dcterms:bibliographicResource class modsrdf namespace added mods namespace removed

0.4	7 January 2020	<p>changed <i>Range</i> column to <i>Datatype</i></p> <p>added <i>Range includes</i> column</p> <p>changed <i>Example / References</i> column to <i>Notes</i></p> <p>updated obligation for dcterms:abstract</p> <p>updated obligation for dcterms:description</p> <p>updated obligation for dcterms:temporal</p> <p>updated obligation for bibo:doi</p> <p>updated obligation for schema:articleBody</p> <p>updated obligation for dcterms:extent</p> <p>added note for apo:contentAssociation</p> <p>added note for apo:keyword</p> <p>added note for dcterms:subject</p> <p>updated vocabulary for dcterms:license</p> <p>updated vocabulary for org:purpose in og:organization</p> <p>removed duplicate apo:contentAssociation</p> <p>updated dcterms:spatial examples for foaf:project</p>
0.5		<p>added dcterms:replaces to org:Organization class</p> <p>updated obligation for apo:collectionType</p> <p>updated obligation for apo:featured</p> <p>deprecated Collection type vocabulary and dcterms:type element removed from Collections class</p> <p>updated notes for dcterms:subject with reference to APO Subject taxonomy</p> <p>bibo:doi removed</p> <p>identifiers:doi added</p> <p>identifiers:isbn added</p> <p>identifiers:hdl added</p> <p>removed apo:contentAssociation</p> <p>added dcterms:contributor</p> <p>removed note from foaf:name in Person class</p> <p>added madsrdf:hasAffiliation</p> <p>updated obligation for apo:publicationPlace</p>

Registrations

MARC

The Analysis & Policy Observatory is registered with the MARC Code List for Organizations (Library of Congress, 2017). The code “auhaapo” can be used to indicate APO as the original cataloguing source or as a prefix in APO identifiers.

Ontology

APO class matrix

name	RDF class	notes
Resources	dcterms:BibliographicResource	
Collection	dcterms:Collection	
Project	foaf:Project	
Organisation	org:Organization	
Person	foaf:Person	
Conference	dcterms:event	
Concept	skos:concept	AKA taxonomies

Namespaces

@prefix aglsterms: <http://www.agls.gov.au/agls/terms/> .
 @prefix apo: <http://ontology.apo.org.au/> .
 @prefix dcterms: <http://purl.org/dc/terms/> .
 @prefix eprint: <http://eprints.org/ep2/data/2.0/> .
 @prefix foaf: <http://xmlns.com/foaf/0.1/> .
 @prefix geo: <http://www.w3.org/2003/01/geo/wgs84_pos#> .
 @prefix grid: <http://www.grid.ac/ontology/> .
 @prefix identifiers: <http://id.loc.gov/vocabulary/identifiers> .
 @prefix hasAffiliation: <http://www.loc.gov/mads/rdf/v1#hasAffiliation> .
 @prefix modsrdf: <http://www.loc.gov/standards/mods/modsrdf/v1/> .
 @prefix org: <http://www.w3.org/ns/org#> .
 @prefix owl: <http://www.w3.org/2002/07/owl#> .
 @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
 @prefix researchgraph: <http://researchgraph.org/schema/v2.0/xml/nodes> .
 @prefix rifcs: <http://ands.org.au/standards/rifcs> .
 @prefix schema: <http://schema.org/> .
 @prefix scholix: <http://www.scholix.org/> .
 @prefix skos: <http://www.w3.org/2004/02/skos/core#> .
 @prefix xsd: <http://www.w3.org/2001/XMLSchema#> .

Class tables

Resource

RDF Class:	dcterms:BibliographicResource
Definition	A book, article, or other documentary resource

Usage note	
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Property	Namespace	Datatype	Range includes	Obligation	Notes
identifier	dcterms	xsd:anyURI		Recommended	local system URL of the resource landing page
doi	identifiers	xsd:anyURI		Optional	
isbn	identifiers			Optional	
hdl	identifiers	xsd:anyURI		Optional	
format	dcterms	xsd:string	Internet Media Types [MIME]	Mandatory	
title	dcterms	xsd:string		Mandatory	Includes 'subtitles' with punctuation delimiter (such as colon)
subTitle	modsrdf	xsd:string		Optional	"subTitle" includes a subtitle when it is desired to include it as a separate element. Alternatively, it may be included as part of a title.
description	dcterms	xsd:string		Recommended*	*Mandatory if dcterms:abstract is empty
abstract	dcterms	xsd:string		Recommended	Content limited to 400 characters
articleBody	schema	xsd:string		Not recommended	use in exceptional circumstances where full text needs to be captured within the metadata
backstory	schema	xsd:string		Optional	
issued	dcterms	w3c-dtf		Mandatory	
available	dcterms	w3c-dtf		Mandatory	System generated
modified	dcterms	w3c-dtf		Mandatory	System generated
creator	dcterms	xsd:string		Mandatory	
hasPrincipleInvestigator	rifcs	xsd:anyURI	foaf:person	Optional	Example: http://apo.org.au/node/127671 [Brydie-Leigh Bartleet]
publisher	dcterms	xsd:anyURI	org:Organization	Mandatory	Example: http://apo.org.au/node/283 [Australian Institute of Health and Welfare]

contributor	dcterms	xsd:anyURI	org:Organization	Optional	An organisation that has a significant role in making the resource available but is not the publisher. replaces apo:contentAssociation
type	dcterms			Mandatory	Vocabulary: [Sound] Audio Audio interview Audio presentation Audio podcast [Text] Annual Report Draft report Policy report Report Article Bill Blog post Book Book review Briefing paper Case study Chapter Commentary Conference paper Conference proceedings Discussion paper Essay Evaluation Fact sheet Guide Infographic Journal

					Journal article Literature review Manifesto Policy Poster Preprint Presentation Slide film Statistics Strategy Submission Survey Systematic review Technical report Thesis Transcript Working paper Other text [Data] Dataset [Interactive resource] Database Data portal Website Other interactive resource [Collection] Collection Reports [Moving image] Interview Video
broadSubject	apo			Recommended	Vocabulary includes top concepts from the APO Subject taxonomy

					https://apo.org.au/page/browse Built environment Communications Culture Economics Education Environment Government Health Indigenous International relations Justice National security Science Social issues Technology
subject	dcterms			Mandatory	APO Subject taxonomy https://apo.org.au/page/browse
keyword	apo			Optional	
relation	dcterms	xsd:anyURI	dcterms:bibliographicResource	Optional	
isPartOf	dcterms	xsd:anyURI	dcterms:bibliographicResource	Optional	
references	scholix	-		-	[structured property]
basedOnData	scholix	xsd:anyURI	dcterms:dataset	Optional	attribute of scholix:references
hasVersion	dcterms	xsd:anyURI	dcterms:bibliographicResource	Optional	
source	dcterms	xsd:anyURI	dcterms:bibliographicResource	Optional	
replaces	dcterms	xsd:anyURI	dcterms:bibliographicResource	Mandatory*	*Mandatory where a Resource replaces a Resource that has been unpublished

isDerivedFrom	rifcs	xsd:anyURI		Not recommended	Superseded by scholix:basedOnData
spatial	dcterms	xsd:anyURI	geonames.org	Optional	
temporal	dcterms	w3c-dtf		Not recommended	See issue on datatype here: https://www.w3.org/2011/gld/track/issues/3
license	dcterms			Recommended	Vocabulary: All Rights Reserved CC BY CC BY-NC CC BY-NC-ND CC BY-NC-SA CC BY-ND CC BY-SA CC0 Open Government Licence v3.0
rights	dcterms	xsd:string		Recommended	
dateCopyrighted	dcterms	w3c-dtf		Optional	
accessRights	dcterms			Mandatory	Vocabulary: Open Paid subscription required Pay-per-view required Signup required
publicationPlace	apo	xsd:string		Not recommended	
partNumber	modsrdf	xsd:integer		Optional	
volume	apo	xsd:integer		Optional	
issue	apo	xsd:integer		Optional	
pageStart	schema			Optional	Mandatory where schema:pageEnd is not empty
pageEnd	schema			Optional	Recommended where schema:pageStart is not empty
bibliographicCitation	dcterms	xsd:string		Optional	

status	eprint	xsd:anyURI		Recommended	Value for a peer reviewed Resource is http://purl.org/eprint/status/PeerReviewed and is left empty if the work is not reviewed.
extent	dcterms	xsd:duration		Optional*	Recommended where dcterms:type is Sound OR Moving image
language	dcterms	xsd:string	RFC 4646	Recommended	

Collection

RDF Class:	dcterms:Collection
Definition	A collection is described as a group; its parts may also be separately described.
Usage note	

Property	namespace	Datatype	Range includes	Obligation	Notes
identifier	dcterms	xsd:anyURI		Recommended	repeatable with different schemes, e.g. DOI; APO
hasPart	dcterms	xsd:anyURI	dcterms:bibliographicResource	Mandatory	
title	dcterms	xsd:string		Mandatory	Includes 'subtitles' with punctuation delimiter (such as colon)
description	dcterms	xsd:string		Mandatory	
abstract	dcterms	xsd:string		Recommended	Typically short enough to display in full in search results
featured	apo	xsd:anyURI	dcterms:bibliographicResource	Optional	
issued	dcterms	w3c-dtf		Mandatory	
available	dcterms	w3c-dtf		Mandatory	System generated

modified	dcterms	w3c-dtf		Mandatory	System generated
creator	dcterms	xsd:string		Mandatory	
sponsor	schema	xsd:anyURI	org:Organization	Recommended	
depiction	foaf	xsd:anyURI		Recommended	
subject	dcterms			Mandatory	APO Subject taxonomy https://apo.org.au/page/browse
spatial	dcterms			Optional	
temporal	dcterms	w3c-dtf		Optional	
license	dcterms			Recommended	Vocabulary: All Rights Reserved CC BY CC BY-NC CC BY-NC-ND CC BY-NC-SA CC BY-ND CC BY-SA CC0 Open Government Licence v3.0
rights	dcterms	xsd:string		Recommended	
dateCopyrighted	dcterms	w3c-dtf		Recommended	
accessRights	dcterms			Mandatory	Vocabulary: Open Paid subscription required Pay-per-view required Signup required
language	dcterms	RFC 4646		Recommended	
available	dcterms	w3c-dtf		Mandatory	system generated
modified	dcterms	w3c-dtf		Mandatory	system generated

Project

RDF Class:	foaf:Project
Definition	a collective endeavour of some kind
Usage note	

Property	namespace	Datatype	Range includes	Obligation	Notes
arc	rifcs	xsd:string	http://www.arc.gov.au/grants-dataset	Recommended	Example: LP150100522
raid	rifcs	xsd:anyURI		Recommended	
funder	researchgraph	xsd:anyURI	org:Organization	Recommended	Example: http://apo.org.au/node/59202 [Australian Research Council]
fundingScheme	researchgraph	xsd:string	http://www.arc.gov.au/grants	Mandatory*	Mandatory when funder is ARC Australian Laureate Fellowships Discovery Early Career Researcher Award Discovery Indigenous Discovery Projects Future Fellowships ARC Centres of Excellence Industrial Transformation Research Program Learned Academies Special Projects Linkage Infrastructure, Equipment and Facilities Linkage Projects Special Research Initiatives

					Mandatory where funder is Tertiary Education Commission [NZ]; range includes: http://www.tec.govt.nz/funding/funding-and-performance/funding/current-funds/
isManagedBy	rifcs	xsd:anyURI	org:Organization	Recommended	Example: http://apo.org.au/node/82220 [Griffith University]
hasMember	rifcs	xsd:anyURI	org:Organization	Optional	Example: http://apo.org.au/node/83847 [Queensland Conservatorium Research Centre]
title	dcterms	xsd:string		Mandatory	
alternative	dcterms	xsd:string		Optional	Includes acronyms and former titles
description	dcterms	xsd:string		Mandatory	
subject	dcterms			Mandatory	APO Subject taxonomy https://apo.org.au/page/browse
keyword	apo			Optional	[Source=local] Indigenous arts centres; Creative economy
subject	dcterms			Optional	[Source= anzsrc-for] http://purl.org/au-research/vocabulary/anzsrc-for/2008/190499 [Performing Arts and Creative Writing not elsewhere classified]
spatial	dcterms			Optional	Examples: Victoria https://apo.org.au/taxonomy/term/2987 Mornington Peninsula https://apo.org.au/taxonomy/term/99591

					Barkly http://sws.geonames.org/11523984
spatial	dcterms	xsd:anyURI	https://www.geonames.org/	Recommended	
spatial	dcterms	xsd:string	iso3166-1	Recommended	Example: AU
start-year	researchgraph	W3C-DTF		Recommended	Example: 2016
end-year	researchgraph	W3C-DTF		Recommended	Example: 2019
participant_list	researchgraph	xsd:anyURI	foaf:person	Recommended	Example: http://apo.org.au/node/127676 [Sandy O'Sullivan]
hasPrincipalInvestigator	rifcs	xsd:anyURI	foaf:person	Recommended	Example: http://apo.org.au/node/127671 [Brydie-Leigh Bartleet]

Organisation

RDF Class:	org:Organization
Definition	An organization
Usage note	Represents a collection of people organized together into a community or other social, commercial or political structure. The group has some common purpose or reason for existence which goes beyond the set of people belonging to it and can act as an Agent. Organizations are often decomposable into hierarchical structures.

Property	namespace	Datatype	Range includes	Obligation	Notes
identifier	dcterms	xsd:anyURI	https://www.grid.ac/	Recommended	
prefLabel	skos	xsd:string		Mandatory	
altLabel	skos	xsd:string		Optional	Includes acronyms and former titles
description	dcterms	xsd:string		Mandatory	
subOrganizationOf	org	xsd:anyURI	org:Organization	Optional	
hasRelated	grid	xsd:anyURI	org:Organization	Optional	
purpose	org			Recommended	Vocabulary: Company Education Government High-level global forum Media Not for profit Other Political party Think Tank

function	aglstterms	xsd:anyURI	https://data.naa.gov.au/def/agift/AGIFT	Recommended	
spatial	dcterms	xsd:string		Recommended	range includes alpha-2 codes from ISO-3166 https://www.iso.org/iso-3166-country-codes.html
replaces	dcterms	xsd:anyURI	org:Organization	Optional	

Person

RDF Class:	foaf:Person
Definition	A person
Usage note	The Person class represents people. Something is a Person if it is a person. We don't nitpic about whether they're alive, dead, real, or imaginary.

Property	namespace	Datatype	Range includes	Obligation	Notes	Protective marking
openID	foaf	xsd:anyURI	https://orcid.org/ ; https://www.scopus.com	Recommended		Unclassified
name	foaf	xsd:string		Optional		Unclassified
firstName	foaf	xsd:string		Mandatory		Unclassified
lastName	foaf	xsd:string		Mandatory		Unclassified
former Name	apo	xsd:string		Optional		Protected
alternativeName	apo	xsd:string		Optional		Unclassified

hasAffiliation	madsrdf	xsd:string		Optional		
thumbnail	foaf	xsd:anyURI		Optional		Protected

Conference

RDF Class:	dcterms:Event
Definition	A non-persistent, time-based occurrence.
Usage note	

Property	namespace	Datatype	Range	Obligation	Notes
ID	dcterms	xsd:anyURI		Recommended	see https://www.crossref.org/working-groups/conferences-projects/
title	dcterms	xsd:string		Mandatory	

Concept

RDF Class:	skos:Concept
Definition	<p>A SKOS concept can be viewed as an idea or notion; a unit of thought. However, what constitutes a unit of thought is subjective, and this definition is meant to be suggestive, rather than restrictive.</p> <p>The notion of a SKOS concept is useful when describing the conceptual or intellectual structure of a knowledge organization system, and when referring to specific ideas or meanings established within a KOS.</p> <p>Note that, because SKOS is designed to be a vehicle for representing semi-formal KOS, such as thesauri and classification schemes, a certain amount of flexibility has been built in to the formal definition of this class.</p>

Usage note	
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Property	namespace	Datatype	Range includes	Obligation	Notes
inScheme	skos	xsd:anyURI	skos:conceptScheme	recommended	
topConceptOf	skos	xsd:anyURI	skos:conceptScheme	optional	
prefLabel	skos	xsd:string		mandatory	
altLabel	skos	xsd:string		optional	
broader	skos	xsd:anyURI	skos:concept	mandatory*	*mandatory when skos:topConceptOf is empty
narrower	skos	xsd:anyURI	skos:concept	optional	
related	skos	xsd:anyURI	skos:concept	optional	
scopeNote	skos	xsd:string		optional	
notation	skos	xsd:string; xsd:integer		optional*	*recommended when owl:sameAs is not empty
depiction	foaf	xsd:anyURI		optional	
sameAs	owl	xsd:anyURI	skos:concept	optional*	mandatory where the concept is the same as a concept in a different skos:conceptScheme
exactMatch	skos	xsd:anyURI	skos:concept	optional	
closeMatch	skos	xsd:anyURI	skos:concept	optional	
lat	geo	xsd:decimal		optional*	mandatory when geo:long is not empty
long	geo	xsd:decimal		optional*	mandatory when geo:lat is not empty

References

Library of Congress (2017). MARC Code List for Organizations. Retrieved from <http://www.loc.gov/marc/organizations/orgshome>

