



## Alegoria Metadata Query and Reuse

28/12/2021

The metadata of the photographs dealt with by the Alegoria project are published as Linked Open Data. These metadata describe the main characteristics of the photographs: the collection to which they belong, their producer, their date of creation, the place photographed, their title (when they have one), etc. They also represent the characteristics of each available instantiation of a given photograph: the type of support (film, paper, glass, digital, etc.), the format, the type of photographic technique used, the institution that stores this instantiation, etc. Consistently with Linked Open Data principles, each photograph (as well as each instantiation, each record set, etc.) is identified by a URI (Unified Resource Identifier).

The metadata are represented according to the International Council on Archives [Records in Contexts Ontology](#) (RiC-O). An extension of this vocabulary has also been published to represent the properties of geographical records such as aerial photographs (see the [Ontology of geographic archival records](#)).

### Metadata access

#### 1. Dereferencing over HTTP:

Following Linked Open Data principles, the description of each photograph can be accessed by dereferencing its URI, using content negotiation.

**Example 1 :** Search this Lapie photograph URI with your browser:

<http://data.alegoria-project.fr/id/anf/lapie/record/058220-c-70wu0112w-14118b4znre8s>

**Example 2:** Get the Turtle data file describing the photograph identified by the following URI:

<http://data.alegoria-project.fr/id/anf/lapie/record/058220-c-70wu0112w-14118b4znre8s> Remove the brackets and change “proxy” and “port” values if you use a proxy. Otherwise, remove this bracketed parameter. Other available data formats are: text/html, application/rdf+xml, and application/json.

```
curl -H "Accept: text/turtle" -L [-x http://proxy:port]
http://data.alegoria-project.fr/id/anf/lapie/record/058220-c-
70wu0112w-14118b4znre8s > myPhotographMetadata.ttl
```

#### 2. Querying through the SPARQL endpoint

Alegoria Metadata are also queryable and downloadable in many formats through a SPARQL endpoint, available here: <http://data.alegoria-project.fr/sparql>

A detailed description of the metadata vocabulary and basic queries are given below to help you start querying the endpoint.

### 3. Dumps download

To foster the reuse of the full metadata sets, dumps are available for download at the following links:

- [IGN administratives units](#)
- [IGN corporate bodies](#)
- [IGN photographs](#)
- [Archives nationales - all Alegoria datasets](#)
- [Nicéphore Niépce Museum - Combiér photographs](#)
- [Nicéphore Niépce Museum - corporate bodies](#)

### Terms of use

Please follow the terms of use of the Alegoria metadata sets:

#### **Archives nationales (ANF)**

These metadata are public data. The user has a non-exclusive right of free "re-use" for commercial or non-commercial purposes, throughout the world and for an unlimited period. Each redistribution of the information must be accompanied by a precise mention of the source of the metadata: "Archives nationales of France", date of the metadata (December 2021), name of the repository.

#### **IGN**

IGN metadata are available under the terms of the Etalab Open License V2.0 ([English version](#) - [French version](#)).

#### **Nicéphore Niépce Museum**

These metadata are free of rights for any non-commercial use. Please add the mention "Fonds Combiér, Musée Nicéphore Niépce, Ville de Chalon-sur-Saône". For any other use, please contact: [contact@museeniepce.com](mailto:contact@museeniepce.com).

### Metadata vocabulary for old aerial photographs

As there is no ontology well suited to represent aerial photographs, we adopted the Records in Contexts (RiC-O) ontology, developed by a working group of the International Council on Archives (ICA), for the description in RDF of archival resources and their contextual entities. RiC-O is particularly well suited to the description of the images and graphic documents dealt

with by the project, which are all archival record sets or parts of archival record sets. Moreover, it can be easily extended to describe the properties of each type of archival records, such as aerial images.

The RiC-O ontology underlying model is based on three main concepts: the archival documents (or *Record*), their various physical or dematerialised forms (called *Instantiation*) and the archival document sets (or *RecordSet*) that include the records. In this model, an aerial photograph is therefore an instance of the *Record* concept. Its analogue (film, paper, etc.) and digital (scan, files in different digital formats, etc.) counterparts are instances of the *Instantiation* concept. And finally, sets of photographs such as fonds or photos grouped by place or missions (at the ANF), or in accordance with the organization of photogrammetric shots adopted by the IGN, strips, flights, worksites or missions, are instances of *RecordSet*.

Figure 1 presents the metadata of the photograph, or Record, "1947\_DUR\_87\_0011" of the IGN's oblique aerial image fonds. The photograph exists in two forms, or Instantiations: the glass plate from the original shot and its digitization as a positive image. It belongs to four sets of photographs, or RecordSets, of the type Strip, Flight, WorkSite and AerialMission (see figure 2). Reflecting the organization of the aerial photographs taken by IGN, each of these sets is included in its successor.

Depending on the available information and the organization of each institution, the RiC-O compliant metadata can use different properties and vocabularies. But overall, the structure shown in Fig. 1 is still valid for querying all the fonds of the project. The structure presented in Figure 2 essentially concerns the IGN's oblique photographs, the other fonds grouping the photographs directly into a RecordSet of type Fonds.

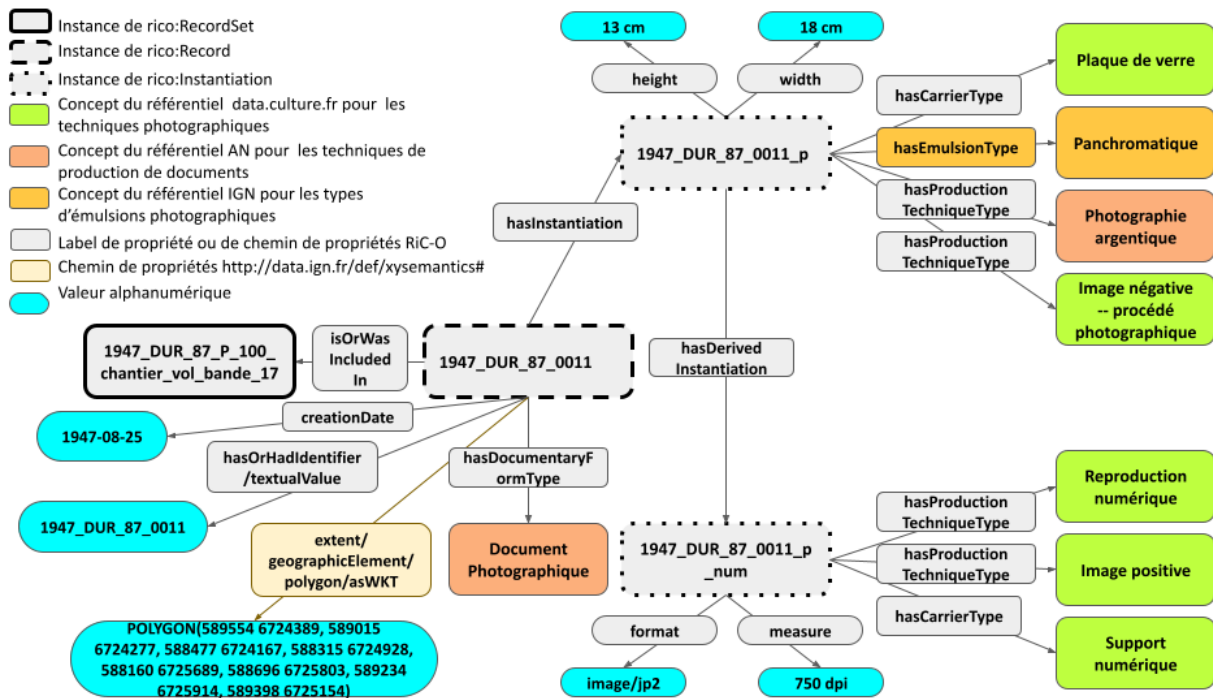


Figure 1 : Metadata of the photograph identified by the following URI: [http://data.alegoria-project.fr/id/ign/photographiesAeriennes/record/1947\\_DUR\\_87\\_0011](http://data.alegoria-project.fr/id/ign/photographiesAeriennes/record/1947_DUR_87_0011)

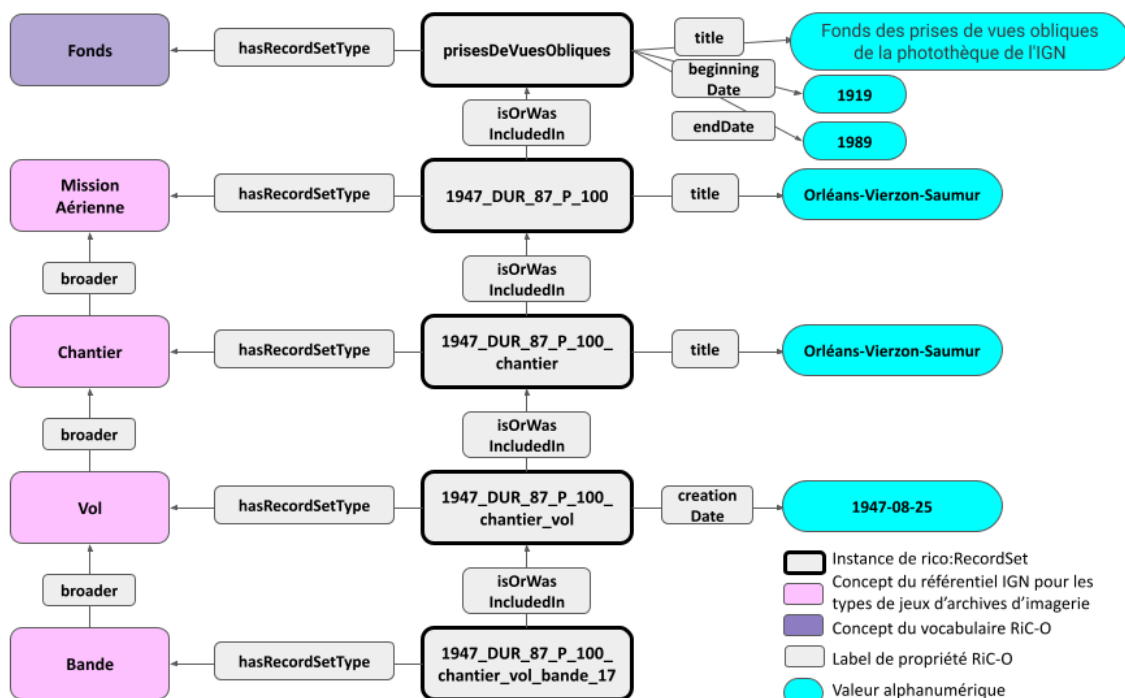


Figure 2 : The RecordSet instances to which the photograph represented in Figure 1 belongs

## Basic SPARQL queries

Here are some basic queries to start exploring the metadata of the Alegoria project's photographic fonds.

**Example 1:** The following query retrieves the properties and their values associated with the photograph identified by the following URI: <<http://data.alegoria-project.fr/id/anf/lapie/record/058220-c-70wu0112w-14118b4znre8s>>

```
PREFIX rico:<https://www.ica.org/standards/RiC/ontology#>
DESCRIBE <http://data.alegoria-project.fr/id/anf/lapie/record/058220-c-70wu0112w-14118b4znre8s>
```

**Example 2:** The following query retrieves the photographs URI and all their associated dates.

```
DEFINE input:inference 'urn:owl:inference:rules:records'
PREFIX rico:<https://www.ica.org/standards/RiC/ontology#>
SELECT distinct ?rec ?date
WHERE {
    {?rec a rico:Record.} UNION {?rec a rico:RecordSet.}
    ?rec rico:date ?date.
}
```

**Example 3:** The following query retrieves the URI of the photographs associated with dates between 1935 and 1951.

```
DEFINE input:inference 'urn:owl:inference:rules:records'
PREFIX rico:<https://www.ica.org/standards/RiC/ontology#>

SELECT distinct ?rec ?date
WHERE {
    {?rec a rico:Record.} UNION {?rec a rico:RecordSet.}
    ?rec rico:date ?date.
    FILTER ( ?date >= "1935-01-01"^^xsd:date && ?date <= "1950-12-31"^^xsd:date )
}
```

**Example 4:** The following query retrieves the photographs URI, their associated dates and the name of the municipality where each photograph has been captured.

```
DEFINE input:inference 'urn:owl:inference:rules:records'
PREFIX rico:<https://www.ica.org/standards/RiC/ontology#>

SELECT distinct ?rec ?date ?communeName
WHERE {
    {?rec a rico:Record.} UNION {?rec a rico:RecordSet.}
    ?rec rico:date ?date.
}
```

```
?rec rico:hasOrHadMainSubject/owl:sameAs* ?commune.
?commune rdfs:label ?communeName.

}
```

**Example 5:** The following query retrieves the URI of the photographs and the name of the recordset they belong to and groups the results with respect to the recordset name.

```
PREFIX rico:<https://www.ica.org/standards/RiC/ontology#>

SELECT distinct ?fondsName ?rec
WHERE {
  {?rec a rico:Record.}UNION {?rec a rico:RecordSet.}
  ?rec rico:isOrWasIncludedIn* ?recset.
  {?recset rico:hasRecordSetType
<https://www.ica.org/standards/RiC/vocabularies/recordSetTypes#Series>
.} UNION {?recset rico:hasRecordSetType
<https://www.ica.org/standards/RiC/vocabularies/recordSetTypes#Fonds>
.}
  ?recset rdfs:label ?fondsName.
} GROUP BY ?fondsName
```

**Example 6:** The following query retrieves the URI of the photographs, the URI of their physical instantiations with their properties: carrier type, emulsion type and type of technique used to produce the instantiation.

```
PREFIX rico:<https://www.ica.org/standards/RiC/ontology#>
PREFIX dc:<http://purl.org/dc/elements/1.1/>

SELECT distinct ?rec ?inst ?carrierType ?emulType ?prodTechType
WHERE {
  ?rec a rico:Record.
  ?rec rico:hasInstantiation ?inst.
  ?inst rico:hasCarrierType ?carrierType.
  OPTIONAL {?inst <http://data.alegoria-project.fr/def/geotheque#aPourTypeDEmulsion> ?emulType.}
  OPTIONAL {?inst rico:hasProductionTechniqueType ?prodTechType.}
}
```

**Example 7:** The following query retrieves the URI of the photographs, the URI of their digital instantiations with their file format. The URI <http://data.culture.fr/thesaurus/resource/ark:/67717/c25e8a3b-c22c-4f00-bb06-b13f8eccb732> identifies the concept of photograph digital carrier in the vocabulary for photography techniques published by the French Ministry of Culture.

```
PREFIX rico:<https://www.ica.org/standards/RiC/ontology#>
PREFIX dc:<http://purl.org/dc/elements/1.1/>

SELECT distinct ?rec ?inst ?format
WHERE {
  ?rec a rico:Record.
```

```
?rec rico:hasOrHadMainSubject/owl:sameAs*/rdfs:label ?nomCommune.  
?rec rico:hasInstantiation* ?inst.  
?inst rico:hasCarrierType  
<http://data.culture.fr/thesaurus/resource/ark:/67717/c25e8a3b-c22c-  
4f00-bb06-b13f8eccb732>.  
?inst dc:format ?format.  
}
```