ARLAS

The ARLAS API makes the ARLAS catalog available for exploration and browsing. The catalog contains collections of geo-referenced elements. Every element has a geometry, a centroid, a timestamp and a set of fields specific to the collection.

URL Schema

The table below lists the URL endpoints and their optional "parts". A part is composed of optional parameters. The parameters are seperated with the character `&`.

PATH Template	Description
/arlas/explore/**_describe**	List the collections configured in ARLAS
/arlas/explore/`{collection}`/**_describe**?`form`	Describe the structure and the content of the given collection
/arlas/explore/`{collections}`/**_count**?`filter` & `form`	Count the number of elements found in the collection(s), given the filters
/arlas/explore/`{collections}`/**_search**?`filter` & `form` & `format` & `projection` & `size` & `sort`	Search and return the elements found in the collection(s), given the filters
/arlas/explore/`{collections}`/**_aggregate**?`aggregation` &`filter` & `form` & `format` & `size` & `sort`	Aggregate the elements in the collection(s), given the filters and the aggregation parameters
/arlas/explore/`{collections}`/**_suggest**?`filter` & `form` & `size` & `suggest`	Suggest the the n (n=`size`) most relevant terms given the filters

When multiple collections are permited ({collections}), the comma is used for seperating the collection names.

Examples
https://api.gisaia.com/demo/arlas/explore/`_describe`
https://api.gisaia.com/demo/arlas/explore/`city,state,country`/`_describe`
https://api.gisaia.com/demo/arlas/explore/`city,state,country`/`_count`?`q=bord*`&`f=country:Fran`
https://api.gisaia.com/demo/arlas/explore/`election`/`_search`?`f=country:France`&`after=1490613` `pretty=true`&`human=true`&`size=1000`&`include=id,name`
https://api.gisaia.com/demo/arlas/explore/`election`/`_aggregate`?`f=country:France`&`after=14906` `pretty=true`&`human=true`&`size=1000`&`include=id,name`&`agg=geohash`&`agg_interval=4`

URL Parts

Part: `aggregation`

The [`aggregation`] url part allows the following parameters to be specified:

Parameter	Default value	Values	Description	Multiple
agg	`None`	`datehistogram,geohash,histogram`	Type of aggregation	false
agg_field	`None`	`{field}`	Aggregates on the `{field}`.	true
agg_interval	`None`	interval	Size of the intervals.	true
agg_format	`None`	Date format for key aggregation	Date format for key aggregation.	true

Each aggregation has its own type of interval. The table below lists the semantic of the interval.

Aggregation	Interval	Description
datehistogram	`{size}` `(year,quarter,month,week,day,hour,minute,second)`	Size of a time interval with the given unit (no space between number and unit)
geohash	`{length}`	The geohash length: lower the length, greater is the surface of aggregation. See table below.
numeric	`{size}`	The interval size of the numeric aggregation

The table below shows the metric dimensions for cells covered by various string lengths of geohash. Cell dimensions vary with latitude and so the table is for the worst-case scenario at the equator.

GeoHash length	Area width x height
1	5,009.4km x 4,992.6km
2	1,252.3km x 624.1km
3	156.5km x 156km
4	39.1km x 19.5km
5	4.9km x 4.9km
6	1.2km x 609.4m
7	152.9m x 152.4m
8	38.2m x 19m
9	4.8m x 4.8m
10	1.2m x 59.5cm
11	14.9cm x 14.9cm
12	3.7cm x 1.9cm

> Example: `agg=datehistogram&agg_field=date&agg_interval=10day&agg_format=yyyyMMdd`

Part: `filter`

The `filter` url part allows the following parameters to be specified:

Parameter	Default value	Values	Description	Multiple
f	None	`{fieldName} {operator} {value}`	A triplet for filtering the result. Multiple filter can be provided. The order does not matter. A triplet is composed of a field name, a comparison operator and a value. The **AND** operator is applied between filters having different fieldNames. The **OR** operator is applied on filters having the same fieldName. If the fieldName starts with **-** then a **must not** filter is used	true
q	None	text	A full text search	false
before	None	timestamp	Any element having its point in time reference before the given timestamp	false
after	None	timestamp	Any element having its point in time reference after the given timestamp	false
pwithin	None	geometry	Any element having its centroid contained within the given geometry	false
gwithin	None	geometry	Any element having its geometry contained within the given geometry	false
gintersect	None	geometry	Any element having its geometry intersecting the given geometry (WKT)	false

Operator	Description	Value type
`:`	`{fieldName}` equals `{value}`	numeric or strings
`:gte:`	`{fieldName}` is greater than or equal to `{value}`	numeric
`:gt:`	`{fieldName}` is greater than `{value}`	numeric
`:lte:`	`{fieldName}` is less than or equal to `{value}`	numeric
`:lt:`	`{fieldName}` is less than `{value}`	numeric

> Example: `f=city:Toulouse` & `f=city:Bordeaux&after=1490613808&`

Part: `form`

The `form` url part allows the following parameters to be specified:

Parameter	Default value	Values	Description	Multiple
pretty	`false`	`true,false`	Pretty print	false
human	`false`	`true,false`	Human readable print	false

> Example: `pretty=true&human=true`

Part: `format`

The `format` url part allows the following parameters to be specified:

Parameter	Default value	Values	Description	Multiple
format	`false`	`json` , `geojson`	JSON or GeoJSON format	false

> Example: `format=geojson`

Part: `projection`

The `projection` url part allows the following parameters to be specified:

Parameter	Default value	Values	Description	Multiple
include	`*`	`{fieldNamePattern}`	List the name patterns of the field to be included in the result. Seperate patterns with a comma.	true
exclude	`*`	`{fieldNamePattern}`	List the name patterns of the field to be excluded in the result. Seperate patterns with a comma.	true

> Example: `include=*&exclude=city,state`

Part: `suggest`

The `suggest` url part allows the following parameters to be specified:

Parameter	Default value	Values	Description	Multiple
field	`_all`	`{fieldName}`	Name of the field to be used for retrieving the most relevant terms	false

> Example: `field=recommended`

Part: `size`

The `size` url part allows the following parameters to be specified:

Parameter	Default value	Values	Description	Multiple
size	10	>0	The maximum number of entries or sub-entries to be returned.	true

> Example: `size=1000`

Part: `sort`

The `sort` url part allows the following parameters to be specified:

Parameter	Default value	Values	Description	Multiple
sort	None	`{fieldName}`: (`ASC`, `DESC`)	Sort the result on a given field, ascending or descending. The parameter can be provided several times. The order matters. For aggregation, provide the `agg` keyword as the `{fieldName}`.	true

> Example: `sort=country:ASC&sort=city:ASC`