# Data Conversion

Many namespaces were used to organize and differentiate elements, attributes, and identifiers. Some entities were used because they already exist in some ontologies such as RDF and schema.org. To capture other entities and relations, we defined some entities and relations in our own namespace.

| **prefix** | **namespace** | **comment** |
| --- | --- | --- |
| rdfs | <http://www.w3.org/2000/01/rdf-schema#> | Namespace of the RDFS ontology |
| xsd | <http://www.w3.org/2001/XMLSchema#> | Namespace of the XMLSchema ontology |
| sem | <http://semanticweb.cs.vu.nl/2009/11/sem/> | Namespace of the SEM ontology |
| sdo | <https://schema.org/> | Namespace of the schema.org ontology |
| purl | <http://purl.org/dc/terms/date> | Namespace of the  DublinCore ontology |
| prov | [http:www.w3.org/ns/prov#](http://www.w3.org/ns/prov#) | Namespace of PROV ontology |
| l4reorevent | <https://linked4resilience.eu/data/EOR/April2023/event/> | Namespace of the Linked4resilience EOR event |
| l4reorlocation | <https://linked4resilience.eu/data/EOR/April2023/location/> | Namespace of the Linked4resilience EOR location |
| l4reorgeo | <https://linked4resilience.eu/data/EOR/April2023/geo/> | Namespace of the Linked4resilience EOR geo |
| l4ro | <https://linked4resilience.eu/ontology/> | Namespace of the Linked4resilience ontology |
| l4rchevent | <https://linked4resilience.eu/data/CH/April2023/event/> | Namespace of the Linked4resilience CH event |
| l4rchlocation | [https://linked4resilience.eu/data/CH/April2023/location/](https://linked4resilience.eu/data/EOR/April2023/location/) | Namespace of the Linked4resilience CH location |
| l4rchgeo | [https://linked4resilience.eu/data/CH/April2023/geo/](https://linked4resilience.eu/data/EOR/April2023/geo/) | Namespace of the Linked4resilience CH geo |

# EyesOnRussia

### Conversion

From GeoJSON data to RDF triples, enabling seamless connections between diverse datasets and facilitating comprehensive analyses and insights. By leveraging linked data principles, open data becomes more discoverable, accessible, and reusable, to make data-driven decisions and develop impactful applications. Conversion of the data was done by the following steps:

* Excluded 899 events outside of Ukraine.
* Converted city to Geonames URI using Geonames Webservice[[1]](#footnote-0). For example:
  + From:

"city": "Gulyaipole"

* + To:

<https://linked4resilience.eu/data/EOR/April2023/event/00004797> ns1:addressCity <http://sws.geonames.org/707898/> ;

* Converted region to Geonames URI
  + From:

"province": "Zaporizhzhia Oblast"

* + To:

<https://linked4resilience.eu/data/EOR/April2023/event/00004797> ns1:addressRegion <http://sws.geonames.org/687700/> ;

* Converted country to Geonames URI
  + From:

"country": "Ukraine"

* + To

<https://linked4resilience.eu/data/EOR/April2023/event/00004797> ns1:addressCountry <http://sws.geonames.org/690791/> ;

* Converted date to valid date XSD format and removed the exact time of the day
  + From:

"verifiedDate": "2022-07-12T00:00:00"

* + To

<https://linked4resilience.eu/data/EOR/April2023/event/00004797> ns3:date "2022-07-12"^^xsd:date ;

* Converted latitude and longitude to valid float XSD format
  + From:

[36.25515, 47.66777]

* + To

ns2:latitude "47.66777"^^xsd:float ;

ns2:longitude "36.25515"^^xsd:float .

* Made a unique location representation of the coordinates as geocoordinates

<https://linked4resilience.eu/data/EOR/April2023/location/00004797> a ns2:Place ;

ns2:geo <https://linked4resilience.eu/data/EOR/April2023/geo/00004797> .

<https://linked4resilience.eu/data/EOR/April2023/geo/00004797> a ns2:GeoCoordinates ;

* Added postal code as a literal

<https://linked4resilience.eu/data/EOR/April2023/event/00004797> ns2:postalCode "39036" ;

* Converted description to rdf label and added language specification
  + From:

"description": "Shelled center for children's and youth creativity"

* + To

<https://linked4resilience.eu/data/EOR/April2023/event/00004797> rdfs:label "Shelled center for children's and youth creativity"@en

* Added the violence level as rdfs: comment together with the event category

"violenceLevel": 1,"categories": ["Civilian Infrastructure Damage"]

* + To

<https://linked4resilience.eu/data/EOR/April2023/event/00004797> rdfs:comment "Editors of the Eyes on Russia project assigned a violence level to this event as 1. According to Eyes on Russia, this event is of type Civilian Infrastructure Damage. "@en ;

* Converted URL to anyURI in XSD format

From:

"url":"https://www.facebook.com/groups/350205398793325/posts/1414343122379542/"

* + To

<https://linked4resilience.eu/data/EOR/April2023/event/00004797>ns2:url"https://www.facebook.com/groups/350205398793325/posts/1414343122379542/"^^xsd:anyURI .

* For each event, we make a unique event URI with a unique ID.

<https://linked4resilience.eu/data/EOR/April2023/event/00004797> a <http://semanticweb.cs.vu.nl/2009/11/sem/Event> ;

### Enrichment

Data enrichment is valuable because it enhances the quality and depth of existing data, providing additional context, insights, and value. The enrichment processes was done by the following steps:

* Retrieved Postal code using reverse coding via coordinates(Geo names web service).
* Retrieved missing cities from the entries, and updated those that were not recognized by the geonames while converting.
* Retrieved missing provinces from the entries, and updated those that were not recognized by the geonames while converting.

### 

### Deleted Information

Street data and time because they are not available for most events.

# **Civilian Harm**

### Conversion

Similar approach was followed to handle the conversion process for Civilian Harm datasets, the following steps were taken:

* Excluded 12events outside of Ukraine.
* Converted city to Geonames URI using Geonames Webservice
* Converted region to Geonames URI
* Converted country to Geonames URI
* Converted date to valid date XSD format
* Converted latitude and longitude to valid float XSD format
* Made a unique location representation of the coordinates as geocoordinates
* Added postal code as a literal
* Converted description to rdf label and added language specification
* Converted URL to anyURI in XSD format
* For each event, we make a unique event URI with a unique ID.

### Enrichment

Before and during converting, some data entries were enriched to enhance the completeness of messing entries, which was done by the following:

* retrieved province, country code, and postal code using reverse coding via coordinates.
* updated cities that were not recognized by the GeoNames while converting.

1. Geonames webservices has hourly and daily limit, [↑](#footnote-ref-0)