European Commission

Joint Research Centre

Risk Data Hub API Documentation

version 3.0.0

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2025

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JRC144026
EUR 40551

PDF ISBN 978-92-68-34368-5 ISSN 1831-9424 doi:10.2760/6311027 KJ-01-25-599-EN-N

Luxembourg: Publications Office of the European Union, 2025

Some content was created using GPT@JRC

How to cite this report: Roeslin, S., Salari, S., Rodomonti, D., Bountzouklis, C. and Sibilia, A., *Risk Data Hub API (version 3.0.0) Documentation,* Publications Office of the European Union, Luxembourg, 2025, https://data.europa.eu/doi/10.2760/6311027, JRC144026.

Contents

Abstract

Data on hazards, exposure, vulnerability, and damage and loss information from previous disasters are essential to understand disaster risks and design more tailored policies and disaster reduction measures and actions. The Risk Data Hub (RDH) operated by the Disaster Risk Management Knowledge Centre (DRMKC) has been engaged in the exploration, assessment, and aggregation of data pertaining to disaster risk within Europe. Furthermore, the RDH has consistently compiled, processed, and standardized disaster loss data from openly accessible data sources. Subsequently, the RDH has generated a variety of resources such as maps, dashboards, and reports, offering users valuable insights into the prevailing disaster risk landscape in Europe. This effort has garnered significant interest from numerous stakeholders who are eager to access the raw data due to its substantial relevance for disaster risk reduction (DRR).

In response to this demand, the RDH has introduced since November 2023, an Application Programming Interface (API) that enables users to query the core datasets within the RDH database. This feature allows users to autonomously extract the data they require. The RDH API presents robust search capabilities, enabling users to retrieve specific data elements tailored to their individual needs. The RDH API can be accessed directly through coding or via Postman (Asthana et al., 2012), a platform that facilitates interaction with various API endpoints. Ultimately, the RDH API significantly enhances access to curated Europe-wide information related to risk, hazards, exposure, vulnerability, and historical disaster loss data specific to Europe.

1 Introduction

Computing probabilistic disaster risk requires reliable data on hazards, exposure, and vulnerability. In addition, disaster loss data from historical events can provide valuable insights. Together, these data support more effective, disaster risk management and disaster risk reduction.

In recent years, the Risk Data Hub (RDH) within the Disaster Risk Management Knowledge Centre (DRMKC) has undertaken comprehensive exploration, evaluation, and consolidation of scientific data on disaster risk and its components across Europe. It has also collected open-access disaster loss data, processed, and harmonized them to make it comparable at a pan-European level. These efforts led to the development of an interactive web platform and an underlying database hosting information on hazard, exposure, vulnerability, probabilistic disaster risk and disaster losses across Europe. Users can access the results through interactive maps, dashboards, and reports. Nevertheless, until November 2023, access to curated RDH data was only provided on a case-by-case basis upon request from the users.

RDH vulnerability information is used by several EU agencies and advisory bodies, including the European Environment Agency (EEA) and the European Committee of the Regions (CoR). For instance, the EEA's Adaptation Dashboard (EEA, 2024) relies heavily on RDH vulnerability data, and the CoR has drawn on RDH resources to produce information sheets on disaster vulnerability across the EU-27 (European Committee of the Regions, 2025). A wide range of stakeholders requested RDH disaster losses and damage data including Directorates-General (DG) such as the Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO) and the Directorate-General for Economic and Financial Affairs (DG ECFIN), as well as institutions like the European Insurance and Occupational Pensions Authority (EIOPA) and the European Central Bank (ECB). The datasets also remain essential for researchers and students as well as users from the private-sector.

To facilitate broader and more efficient data access, the RDH developed an application programming interface (API) that enables external users to query selected datasets directly. Building on the initial version released in November 2023, the current RDH API v 3.0.0 provides structured access to vulnerability and disaster loss data and provides additional endpoints related to metadata on administrative divisions, hazard types, assets, and the metrics used in RDH computations.

The API includes search and filtering capabilities. API queries can be executed through code (e.g., using Python) or via Postman (Asthana et al., 2012), which provides a user-friendly graphical interface. This allows users to request only the information they need. Another benefit of the API is the ability for the users to retrieve up-to-date data as the API is always aligned to the latest version of the RDH database. This alleviates issues related to data shared on an ad-hoc basis at a particular point in time.

The report follows the structure of the online API documentation for version 3.0.0 (released in October 2025) available at https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/docs/. It guides users through: 1) obtaining an API token; 2) identifying and using the parameters required to query vulnerability and disaster loss data; and 3) understanding the assets, hazards, metrics, and administrative divisions covered in the RDH.

2 Change Log

Table 1: Change log table of the Risk Data Hub API

Version	Date	Change Description	Impact
v 3.0.0	Oct 2025	**Data updates** - Updated the 'Get Administrative Division' endpoint. Added NUTS with reference year 2024 - Updated the 'Get Losses' endpoint. Loss data is now available up to Q1 2025 - Updated the 'Get Vulnerability' endpoint. Vulnerability data version Oct 2025 **Technical updates** - introduced a new approach to obtain an API token. User now first need to create an account with the EU Login service, and then obtain a personalised API TOKEN by visiting the API TOKEN page - Introduced a limited lifespan of 10 hours of the API token	- After creating an EU Login account, users can automatically generate their API token, eliminating the need to wait for a response from the Risk Data Hub team. - Earlier USER_KEYs and any API_KEYs previously issued on an ad hoc basis are no longer usable. - Increased security
v 2.0.0	Sep 2024	**Data updates** - Updated the 'Get Losses' endpoint. Loss data is now available up to Dec 2023 - Updated the 'Get Vulnerability' endpoint. Vulnerability data version Oct 2024 - Major revision of the hazard and metric taxonomy. New hazard and metric codes.	- The former hazard and metric codes are now invalid. Pipelines built on these codes will need to be updated.
v 1.0.0	Nov 2023	Initial release of the API	

Source: JRC, Risk Data Hub, 2025.

3 Risk Data Hub outputs

The RDH offers multiple ways to interact with the data and obtain insights. This section provides an overview of the different outputs and tools developed and maintained by the RDH, the target audience, and the level of technical skills required.

- **Browse through RDH outputs to get insights**
    - Vulnerability
        - Vulnerability Dashboard

          https://drmkc.jrc.ec.europa.eu/risk-data-hub#/dashboardvulnerability
            - Explore how vulnerability evolves over time and across regions
        - Vulnerability Country Profiles

          https://drmkc.jrc.ec.europa.eu/risk-data-hub#/vulnerability/country_profiles
            - Detailed overview of Vulnerability analytics for European Countries.
    - Disaster losses
        - Disaster losses and damages Dashboard

          https://drmkc.jrc.ec.europa.eu/risk-data-hub#/losses/dashboard
            - Figures and charts from the RDH losses and damage
        - Event Explorer

          https://drmkc.jrc.ec.europa.eu/risk-data-hub#/losses/event-explorer
            - Explore and visualize events categorized under the RDH event ID

- **Retrieve the data on an ad hoc basis**
    - Use the **Risk Data Hub API** https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/docs/
    - Access the data via the Postman graphical user interface (GUI)
        - create an account to the EU Login - European Commission Authentication Service (ECAS) and then obtain an API TOKEN

- **Integrate the data from the Risk Data Hub in your code**
    - Use the **Risk Data Hub API** https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/docs/
    - Create an account to the EU Login - European Commission Authentication Service (ECAS) and then obtain an API TOKEN
    - Use a programming language, such as Python or R, to query the data.

      This approach stills requires the use of EU Login to obtain an API token that will have to be manually copied in the code as the token will expire after some time for security reasons.

- **Integrate the data from the Risk Data Hub in your application (technically advanced users only)**
    - For projects that require continuous access to the latest RDH data
    - Use the **Risk Data Hub API**

- Uses custom M2M credentials
- Please contact us at JRC-RISK-DATA-HUB@ec.europa.eu

4 Introduction section on the API website

The objective of the API portal is to make RDH data accessible to application developers. This API catalogue focuses on broadly useful and user-friendly APIs.

The server implementation follows the OGC API suite of standards 1.0.1 (Open Geospatial Consortium (OGC), 2023).

4.1 Disclaimer

The JRC data are provided "as is" and "as available" in conformity with the JRC Data Policy and the Commission Decision on reuse of Commission documents (2011/833/EU). Although the JRC guarantees its best effort in assuring quality when publishing these data, it provides them without warranty of any kind, either express or implied, including, but not limited to, any implied warranty against infringement of third parties' property rights, or merchantability, integration, satisfactory quality and fitness for a particular purpose. The JRC has no obligation to provide technical support or remedies for the data. The JRC does not represent or warrant that the data will be error free or uninterrupted, or that all non-conformities can or will be corrected, or that any data are accurate or complete, or that they are of a satisfactory technical or scientific quality. The JRC or as the case may be the European Commission shall not be held liable for any direct or indirect, incidental, consequential or other damages, including but not limited to the loss of data, loss of profits, or any other financial loss arising from the use of the JRC data, or inability to use them, even if the JRC is notified of the possibility of such damages. The depiction and use of geographic names and related data included in lists, tables on this spreadsheet are not warranted to be error free nor do they necessarily imply official endorsement or acceptance by the European Union and the United Nations.

4.2 How to cite a dataset – JRC Data Catalogue

Vulnerability:

SIBILIA, Andrea; EKLUND, Gustav; MARZI, Sepehr; VALLI, Igor; BOUNTZOUKLIS, Christos; ROESLIN, Samuel; RODOMONTI, Davide; SALARI, Sandro; ANTOFIE, Tiberiu-Eugen; CORBANE, Christina (2025): Vulnerability. European Commission, Joint Research Centre (JRC) [Dataset] PID: http://data.europa.eu/89h/f161517b-2153-4a8f-b4b0-7834e5bfd5f5

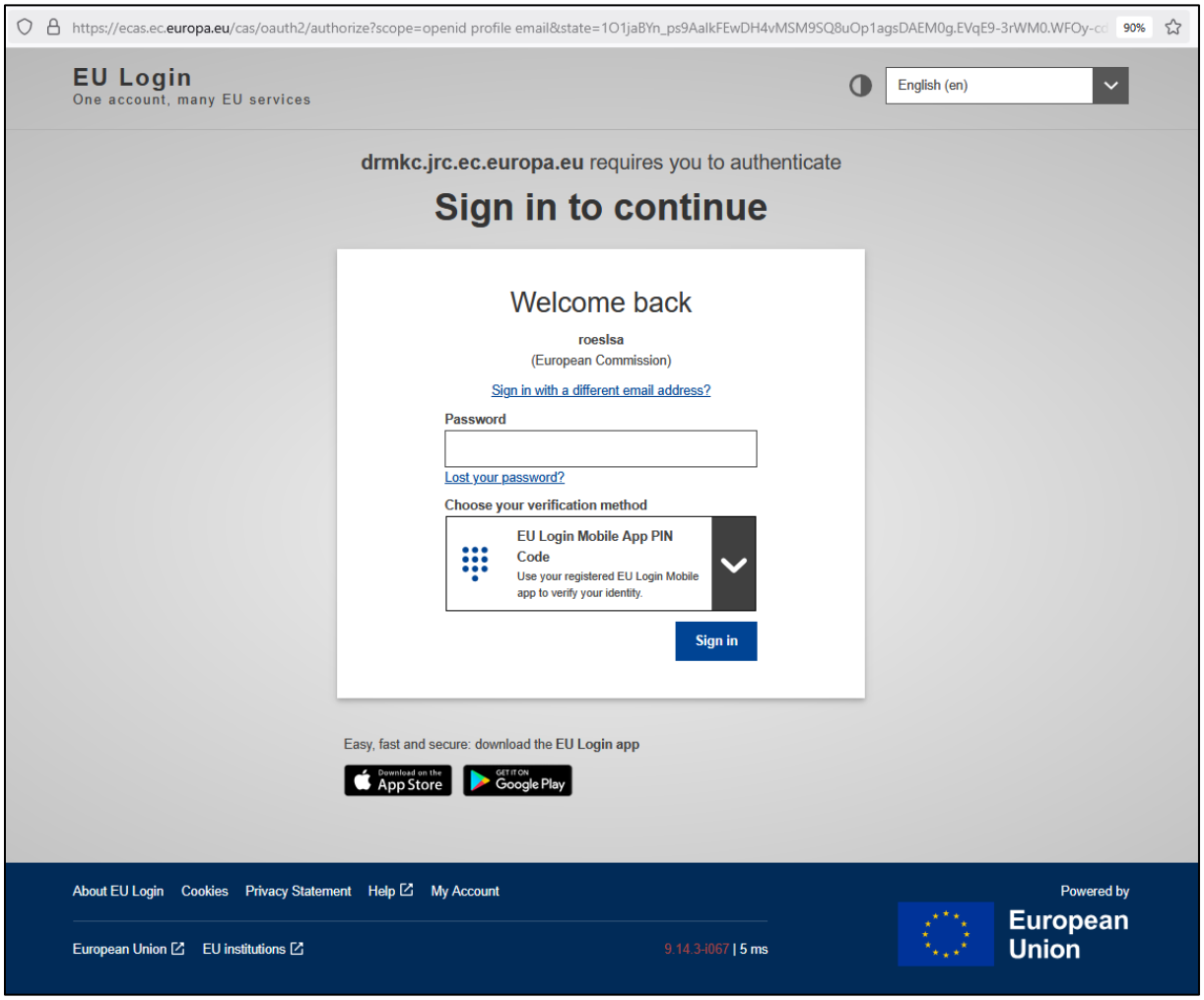
Disaster losses:

ROESLIN, Samuel; SALARI, Sandro; RODOMONTI, Davide; SIBILIA, Andrea; BOUNTZOUKLIS, Christos; Corbane, Christina (2025): Disaster losses. European Commission, Joint Research Centre (JRC) [Dataset] PID: http://data.europa.eu/89h/0030f450-6f4f-40c5-9390-66bb11dc2442

5 Generate API TOKEN

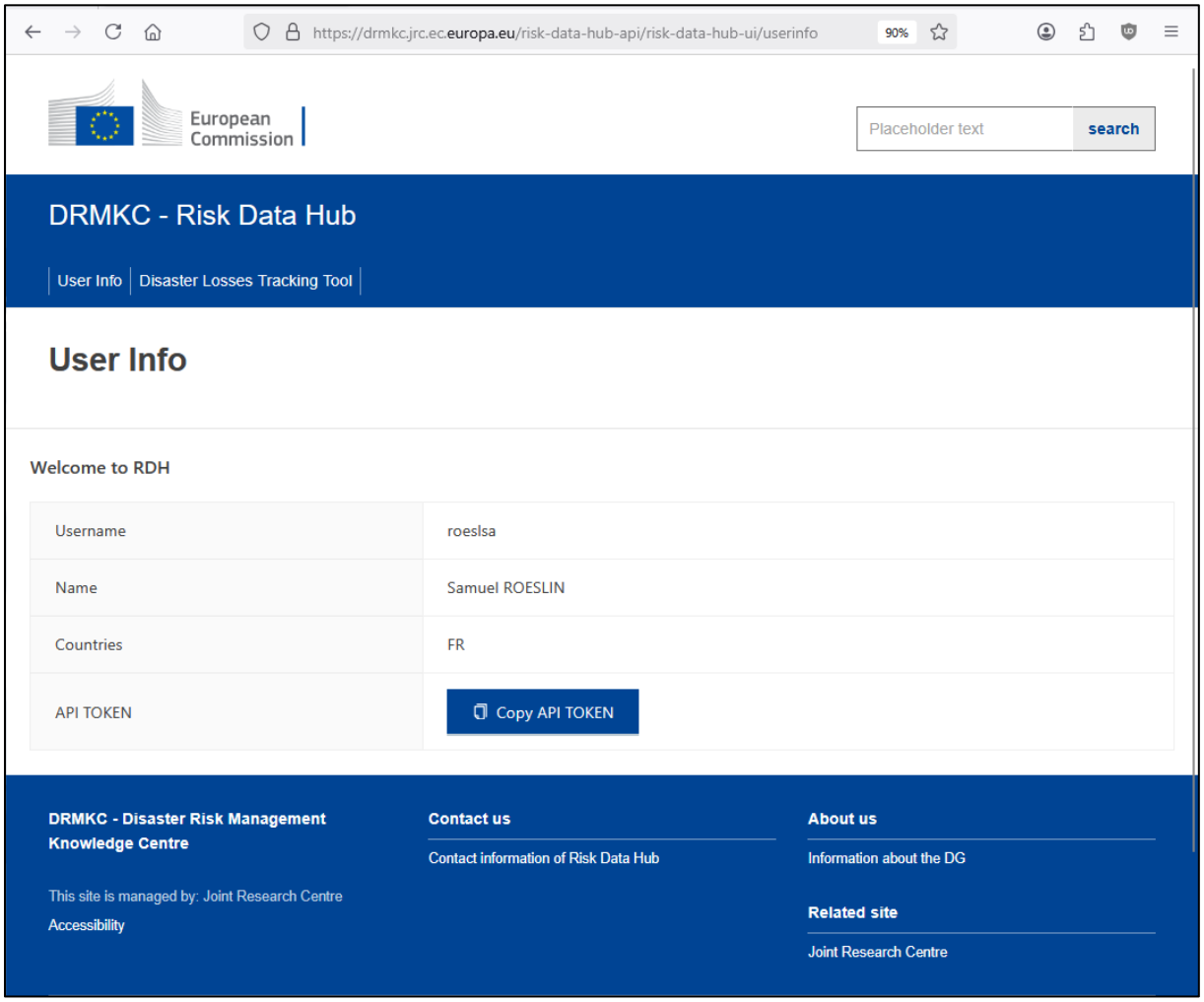
To retrieve data from the RDH APIs, create an account to the EU Login service (see Figure 1) and then obtain the API TOKEN visiting the page API TOKEN (see Figure 2). You must keep your API TOKEN confidential and not share it with any third party. You are solely and entirely responsible for all uses of the APIs and the content occurring under your keys. Your API TOKEN has a limited lifespan of 10 hours, once it expires, you'll have to get another one reloading the API TOKEN page.

Figure 1: User page that enables to retrieve the API TOKEN



Source: European Commission, 2025.

Figure 2: Screenshot of the user page that enables to retrieve the API TOKEN



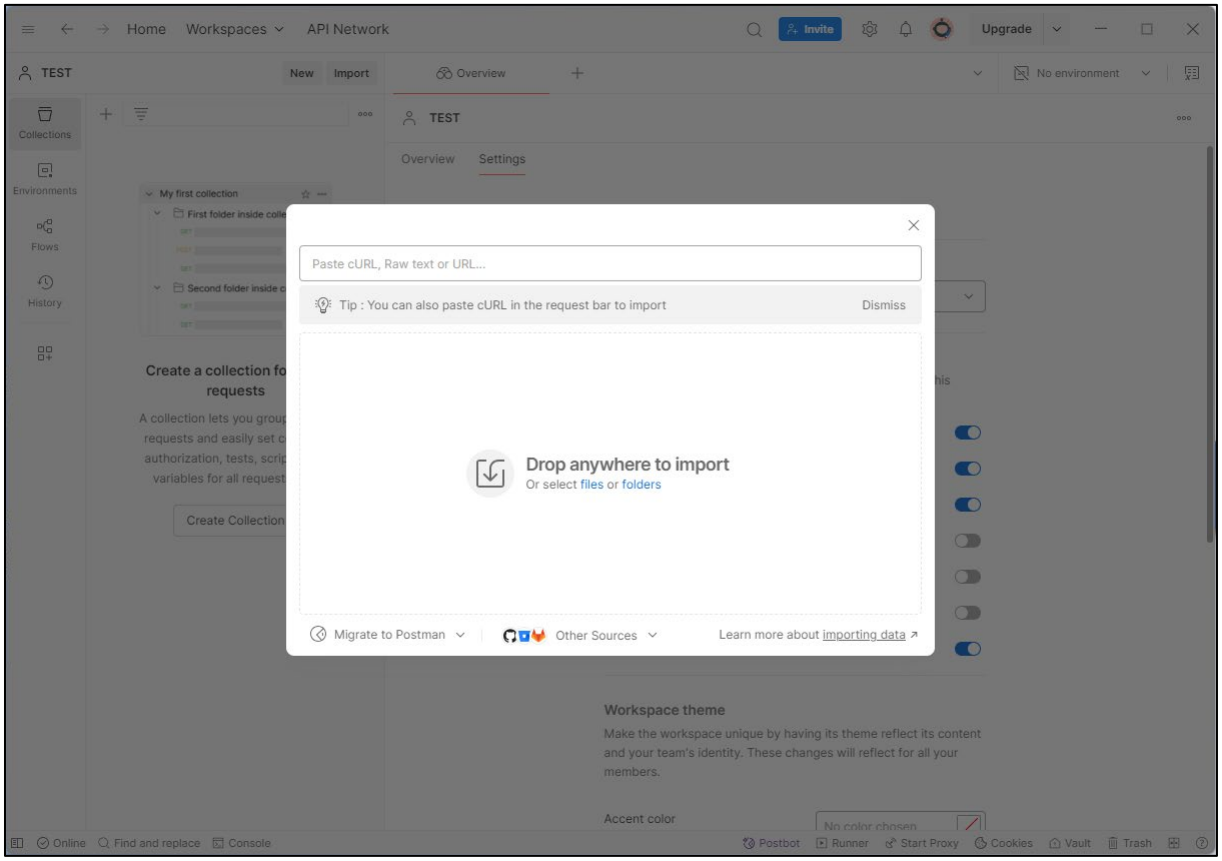
Source: JRC, Risk Data Hub, 2025.

6 Discover our APIs with Postman

Postman is an application designed to help with API integrations and exploration. This is the tool of choice for both experienced developers and no-code enthusiasts to get familiar with the endpoints, requests, and responses available on the RDH APIs. Postman offers users two options for accessing its platform: one is directly through a web browser while the other involves downloading and installing the application. To utilize the web version, users are required to create a free Postman account. Alternatively, the application can be easily installed on Windows, Mac or Linux operating systems and doesn't require the need for an account. More detailed instructions for both methods can be found on the homepage of Postman (https://www.postman.com/).

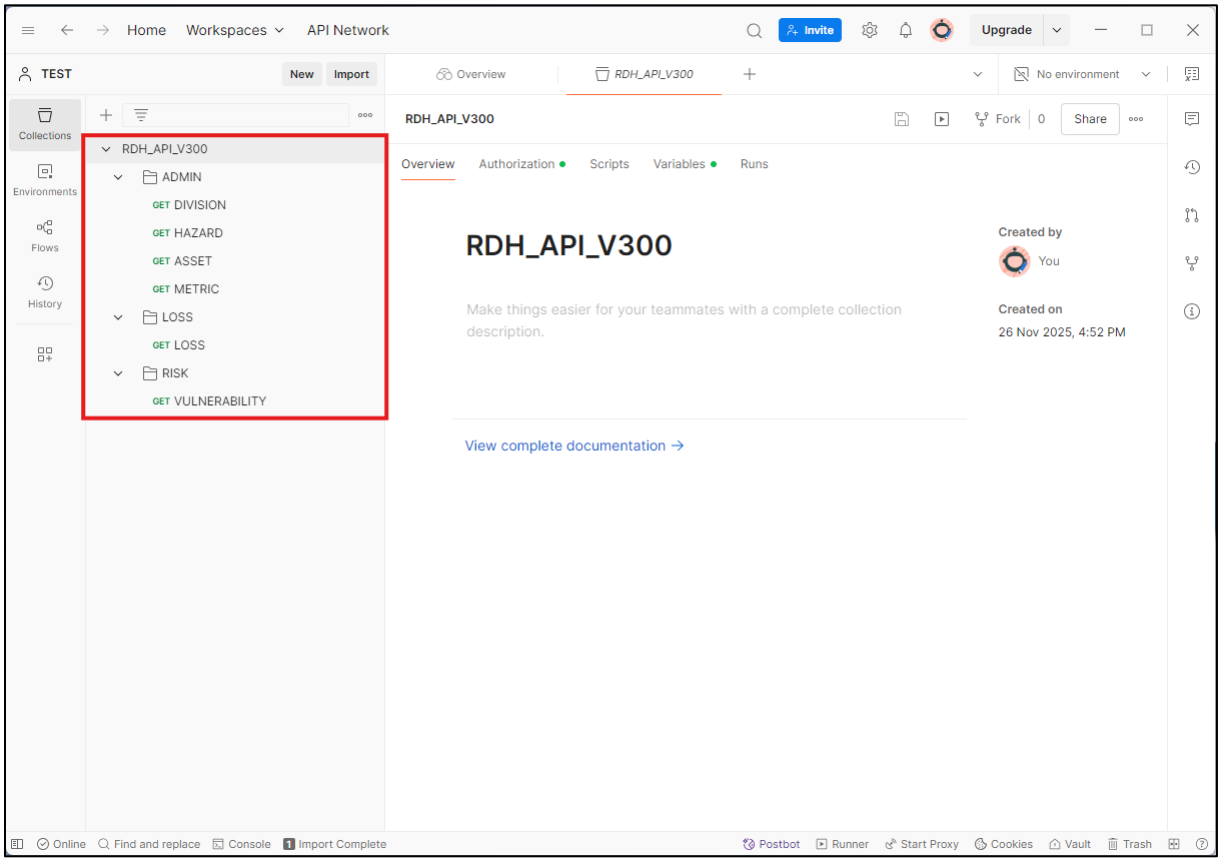
Following the installation of the app (or the opening of the web platform), it is necessary to download and import the Postman Collection related to the RDH API (available at https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/docs/#section/Discover-our-APIs-with-Postman). The RDH API collection is a group of saved requests stored in a json file format which can be imported into Postman. To import the RDH Postman collection, users should click on the import button. A pop-up window will then appear enabling them to upload the json file downloaded beforehand (see Figure 3). A set of variables used by all APIs has been pre-set in the RDH Postman collection (see Figure 4). In Postman, enter your API TOKEN into the 'Token' field under the 'Auth' section, making sure the 'Auth Type' is set to 'Bearer Token' (see Figure 5).

Figure 3: First steps to import the RDH collection into Postman



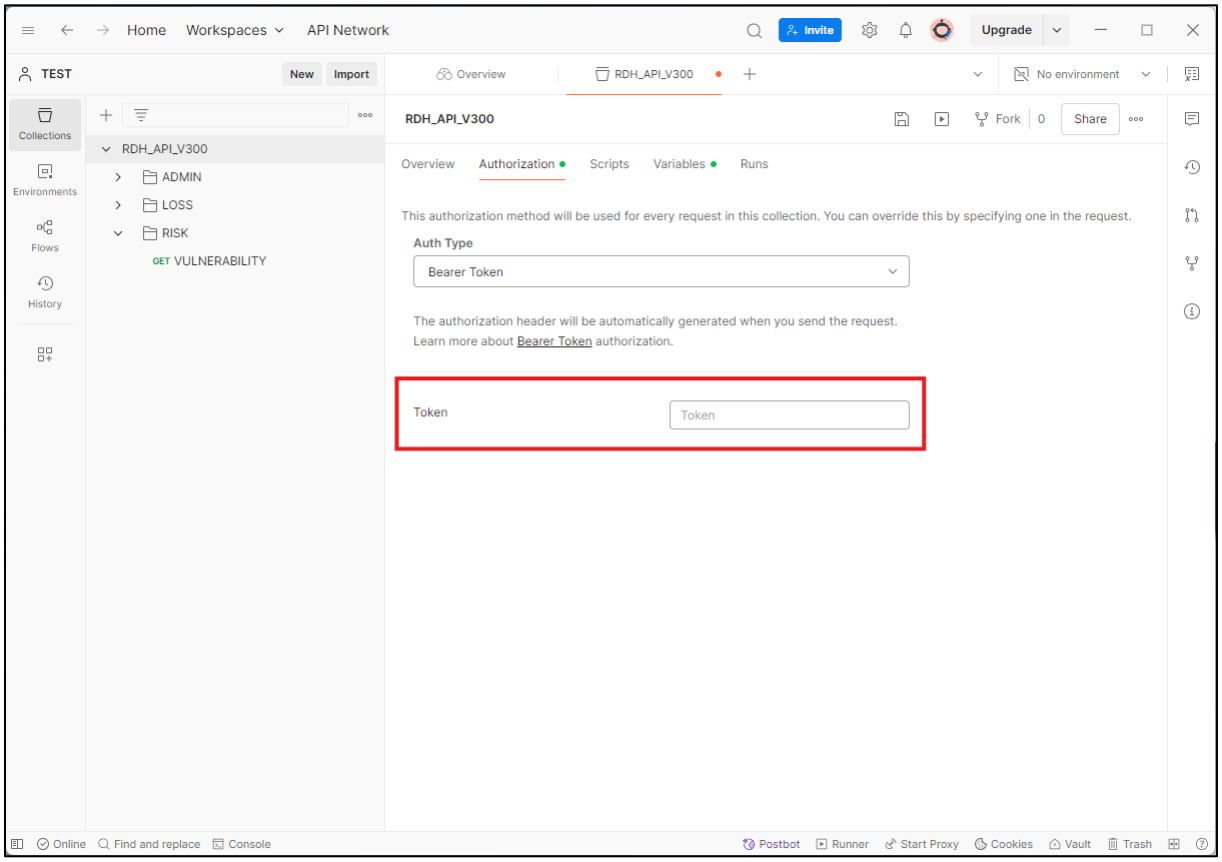
Source: Postman API Platform, 2025.

Figure 4: List of variables available in the Postman collection



Source: Postman API Platform, 2025.

Figure 5: Screenshot of the Auth section in Postman where the API TOKEN should be pasted



Source: Postman API Platform, 2025.

7 Get Asset

GET /risk-data-hub-service/admin/asset/items

https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/risk-data-hub-service/admin/asset/items

The asset object contains information related to physical assets such as buildings, equipment, and infrastructure, as well as population.

The asset object lists all the assets available in the RDH exposure database.

Specific information related to the asset object are in the **features.properties** response element:

Figure 6: Example of a response in json for the GET Asset endpoint

Source: JRC, Risk Data Hub, 2025.

7.1 AUTHORIZATIONS

HTTP: jwt

Use the JWT to authenticate

HTTP Authorization Scheme: Authorization

7.2 QUERY PARAMETERS

Table 2: Query parameters for GET Asset

f	string Default: "json" Enum: "json" "html" "jsonld" "csv" The optional f parameter indicates the output format which the server shall provide as part of the response document. The default format is GeoJSON.
lang	string

	Default: "en-US" Value: "en-US" The optional lang parameter instructs the server to return a response in a certain language, if supported. If the language is not among the available values, the Accept-Language header language will be used if it is supported. If the header is missing, the default server language is used. Note that providers may only support a single language (or often no language at all), that can be different from the server language. Language strings can be written in a complex (e.g. "fr-CA,fr;q=0.9,en-US;q=0.8,en;q=0.7"), simple (e.g. "de") or locale-like (e.g. "de-CH" or "fr_BE") fashion.
limit	integer [1 .. 10000] Default: 10 The optional limit parameter limits the number of items that are presented in the response document. Only items are counted that are on the first level of the collection in the response document. Nested objects contained within the explicitly requested items shall not be counted. Minimum = 1. Maximum = 10000. Default = 10.
properties	Array of strings Items Enum: "taxonomy" "group" "subgroup" "category" "code" "name" "impact_type" "impact_metric" "impact_unit" "loss_type" "quantity_kind" "metric_dimension" "sendai_code" The properties that should be included for each feature. The parameter value is a comma-separated list of property names.
vendorSpecificParameters	object Additional "free-form" parameters that are not explicitly defined
sortby	Array of strings non-empty Specifies a comma-separated list of property names by which the response shall be sorted. If the property name is preceded by a plus (+) sign it indicates an ascending sort for that property. If the property name is preceded by a minus (-) sign it indicates a descending sort for that property. If the property is not preceded by a plus or minus, then the default sort order implied is ascending (+).
offset	integer >= 0 Default: 0 The optional offset parameter indicates the index within the result set from which the server shall begin presenting results in the response document. The first element has an index of 0 (default).
code	string Unique identifier generated by the Risk Data Hub team using the first three letters of Category, Group, Subgroup, and Name, following the pattern xxx-xxx-xxx-xxx
category	string Exposure category: classifies the type of exposed element (e.g. buildings, infrastructure, population) according to the RDLS exposure_category codelist.

taxonomy	string Schema taxonomy; aligns with GED4ALL (https://wiki.openstreetmap.org/wiki/GED4ALL) when applicable.
group	string High-level category; corresponds to main categories in GED4ALL.
subgroup	string Sub-category; corresponds to the value in the GED4ALL column on the GED4ALL webpage (https://wiki.openstreetmap.org/wiki/GED4ALL)
name	string Lowest-level sub-category under 'subgroup'. If no further subdivision exists, the value is set to 'general'.
loss_type	string Loss classification from the RDLS loss_type codelist. For possible values see: https://docs.riskdatalibrary.org/en/latest/reference/codelists/#loss-type
impact_type	string Loss classification from the RDLS impact_type codelist. For possible values see: https://docs.riskdatalibrary.org/en/latest/reference/codelists/#impact-type
impact_metric	string Loss classification from the RDLS impact_metric codelist. For possible values see: https://docs.riskdatalibrary.org/en/latest/reference/codelists/#impact-metric
impact_unit	string Loss classification from the RDLS impact_unit codelist. For possible values see: https://docs.riskdatalibrary.org/en/latest/reference/codelists/#impact-unit
metric_dimension	string Loss classification from the RDLS metric_dimension codelist. For possible values see: https://docs.riskdatalibrary.org/en/latest/reference/codelists/#metric-dimension
quantity_kind	string Loss classification from the RDLS quantity_kind codelist. For possible values see: https://docs.riskdatalibrary.org/en/latest/reference/codelists/#quantity-kind

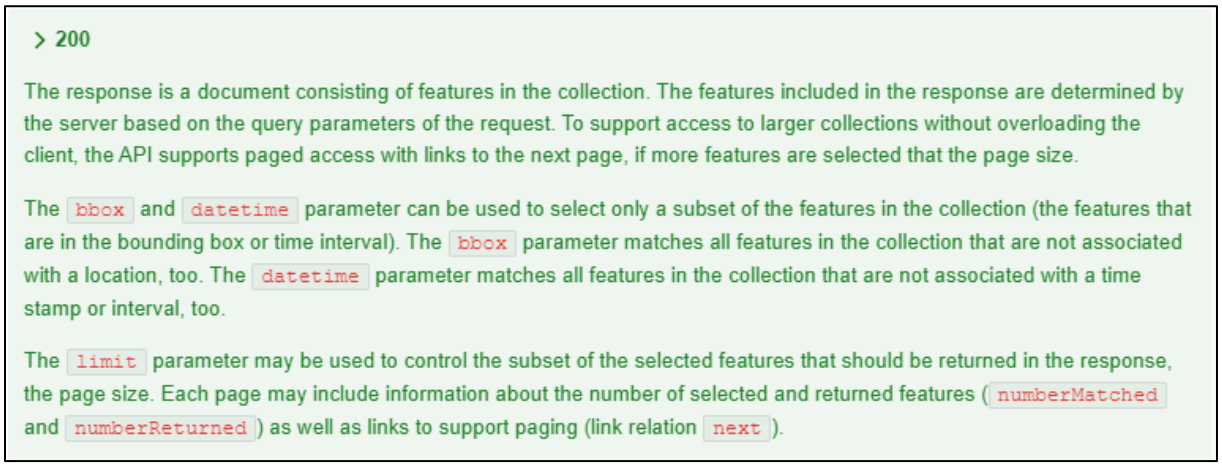
Source: JRC, Risk Data Hub, 2025.

7.3 Responses

7.3.1 Response 200

Positive response

Figure 7: Get Asset; Response 200

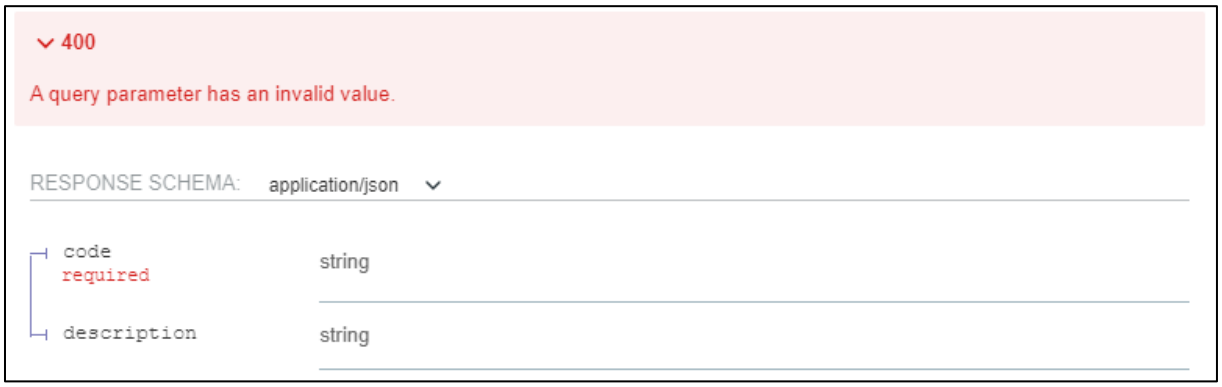


Source: JRC, Risk Data Hub, 2025.

7.3.2 Response 400

A query parameter has an invalid value.

Figure 8: Get Asset; Response 400



Source: JRC, Risk Data Hub, 2025.

7.3.3 Response 404

The requested resource does not exist on the server. For example, a path parameter had an incorrect value.

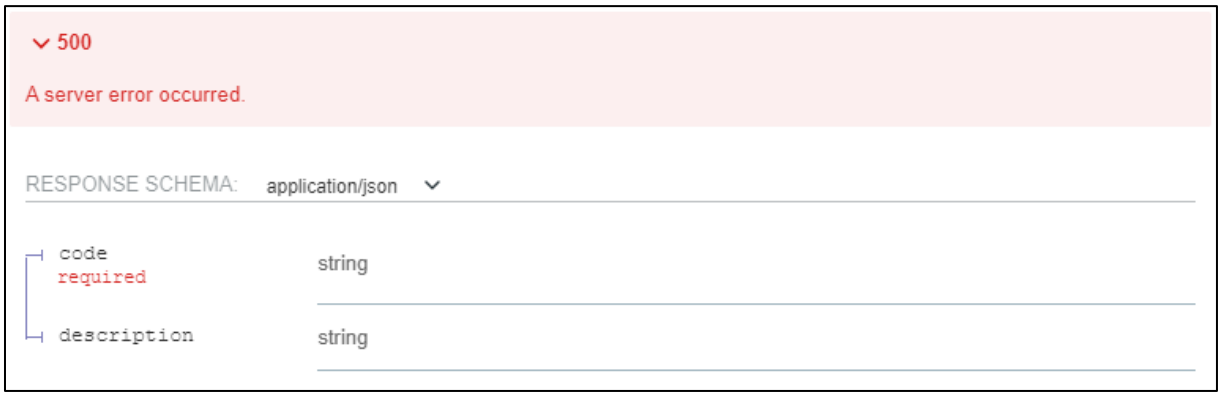
Figure 9: Get Asset; Response 404

Source: JRC, Risk Data Hub, 2025.

7.3.4 Response 500

A server error occurred.

Figure 10: Get Asset; Response 500



Source: JRC, Risk Data Hub, 2025.

8 Get Administrative Division

GET /risk-data-hub-service/admin/division/items

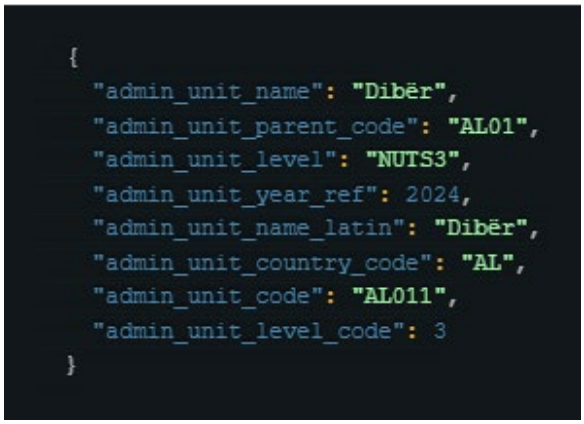
https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/risk-data-hub-service/admin/division/items

The division object contains information pertinent to the Geographic Information System of the Commission (GISCO) administrative/statistical units. It includes details about the Nomenclature of Territorial Units for Statistics (NUTS) such as the NUTS id and the hierarchy.

The division object lists all the administrative units available in the RDH database.

Specific information related to the division object are in the **features.properties** response element:

Figure 11: Example of a response in json for the Get Administrative Division endpoint



Source: JRC, Risk Data Hub, 2025.

8.1 AUTHORIZATIONS

HTTP: jwt

Use the JWT to authenticate

HTTP Authorization Scheme: Authorization

8.2 QUERY PARAMETERS

Table 3: Query parameters for GET Administrative Division

f	string Default: "json" Enum: "json" "html" "jsonld" "csv" The optional f parameter indicates the output format which the server shall provide as part of the response document. The default format is GeoJSON.
lang	string Default: "en-US" Value: "en-US"

	The optional lang parameter instructs the server return a response in a certain language, if supported. If the language is not among the available values, the Accept-Language header language will be used if it is supported. If the header is missing, the default server language is used. Note that providers may only support a single language (or often no language at all), that can be different from the server language. Language strings can be written in a complex (e.g. "fr-CA,fr;q=0.9,en-US;q=0.8,en;q=0.7"), simple (e.g. "de") or locale-like (e.g. "de-CH" or "fr_BE") fashion.
bbox	Array of numbers [4 .. 6] items Only features that have a geometry that intersects the bounding box are selected.The bounding box is provided as four or six numbers, depending on whether the coordinate reference system includes a vertical axis (height or depth).
limit	integer [1 .. 10000] Default: 10 The optional limit parameter limits the number of items that are presented in the response document. Only items are counted that are on the first level of the collection in the response document. Nested objects contained within the explicitly requested items shall not be counted. Minimum = 1. Maximum = 10000. Default = 10.
crs	string <uri> Indicates the coordinate reference system for the results.
bbox-crs	string <uri> Indicates the coordinate reference system for the given bbox coordinates.
properties	Array of strings Items Enum: "admin_unit_code" "admin_unit_name" "admin_unit_name_latin" "admin_unit_country_code" "admin_unit_parent_code" "admin_unit_level_code" "admin_unit_level" "admin_unit_year_ref" The properties that should be included for each feature. The parameter value is a comma-separated list of property names.
vendorSpecificParameters	object Additional "free-form" parameters that are not explicitly defined
skipGeometry	boolean Default: false This option can be used to skip response geometries for each feature.
sortby	Array of strings non-empty Specifies a comma-separated list of property names by which the response shall be sorted. If the property name is preceded by a plus (+) sign it indicates an ascending sort for that property. If the property name is preceded by a minus (-) sign it indicates a descending sort for that property. If the property is not preceded by a plus or minus, then the default sort order implied is ascending (+).

offset	integer >= 0 Default: 0 The optional offset parameter indicates the index within the result set from which the server shall begin presenting results in the response document. The first element has an index of 0 (default).
admin_unit_code	string One of the values coming from the field admin_unit_code of Administrative Division
admin_unit_name	string One of the values coming from the field admin_unit_name of Administrative Division
admin_unit_name_latin	string One of the values coming from the field admin_unit_name_latin of Administrative Division
admin_unit_parent_code	string The NUTS3 code of the parent adiministrative unit. One of the values coming from the field admin_unit_code of Administrative Division
admin_unit_level_code	integer One of the values coming from the field admin_unit_level_code of Administrative Division
admin_unit_level	string One of the values coming from the field admin_unit_level of Administrative Division
admin_unit_year_ref	string Reference year for the NUTS version (currently 2024)

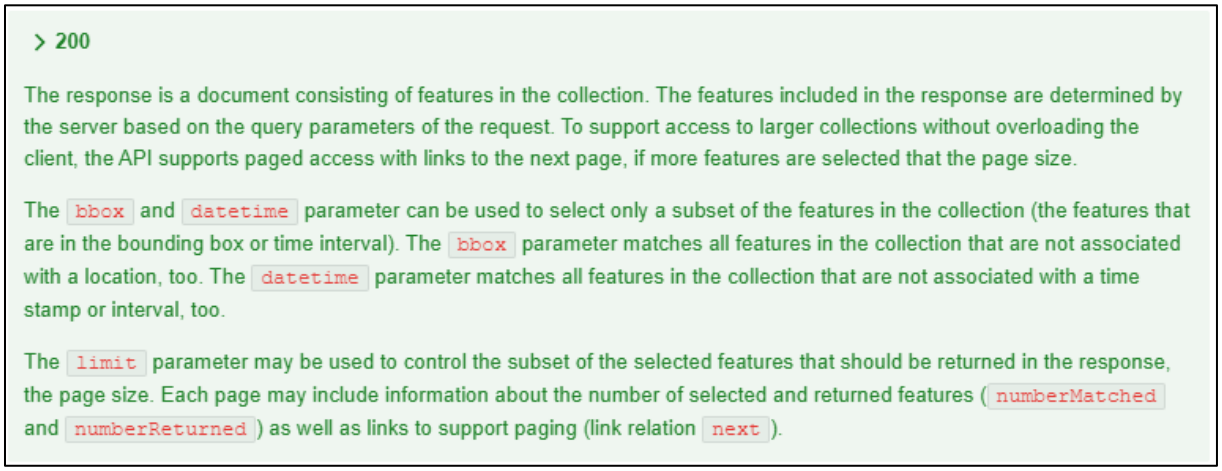
Source: JRC, Risk Data Hub, 2025.

8.3 Responses

8.3.1 Response 200

Positive response

Figure 12: Get Administrative Division; Response 200

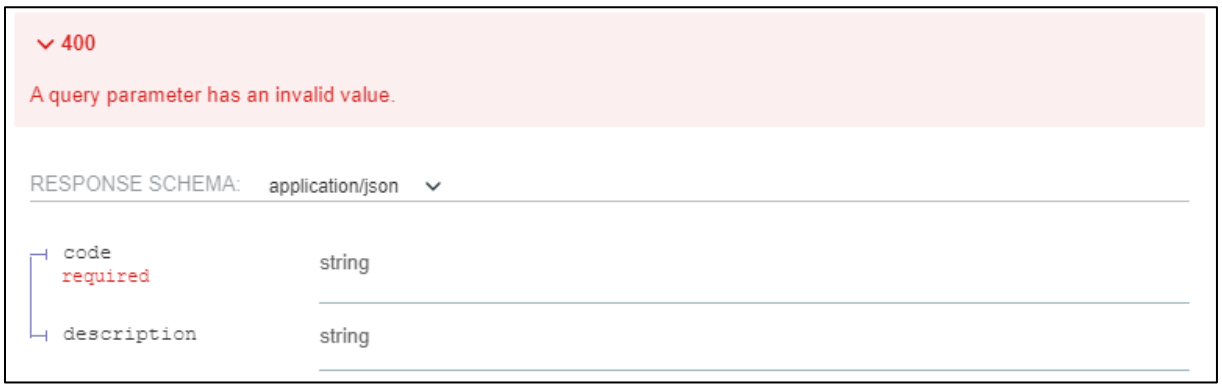


Source: JRC, Risk Data Hub, 2025.

8.3.2 Response 400

A query parameter has an invalid value.

Figure 13: Get Administrative Division; Response 400

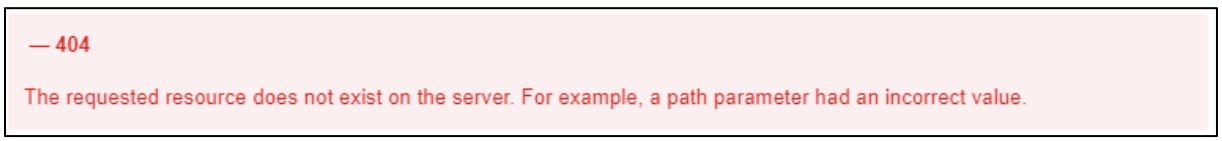


Source: JRC, Risk Data Hub, 2025.

8.3.3 Response 404

The requested resource does not exist on the server. For example, a path parameter had an incorrect value.

Figure **14**: Get Administrative Division; Response 404

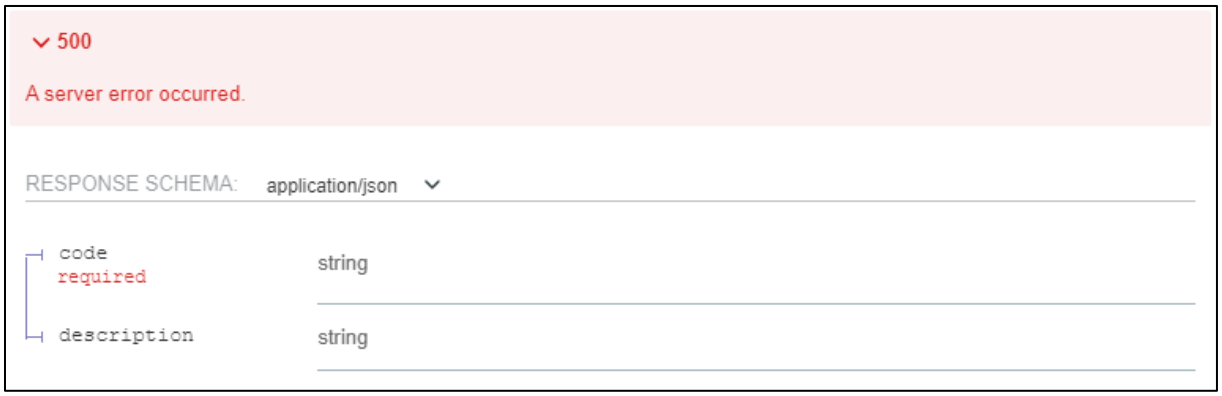


Source: JRC, Risk Data Hub, 2025.

8.3.4 Response 500

A server error occurred.

Figure 15: Get Administrative Division; Response 500



Source: JRC, Risk Data Hub, 2025.

9 Get Hazard

GET /risk-data-hub-service/admin/hazard/items

https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/risk-data-hub-service/admin/hazard/items

The hazard object contains information pertinent to a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation as defined by UNDRR -Sendai Framework Terminology On Disaster Risk Reduction - Hazard.

The hazard object lists all the hazards considered in the RDH database.

Specific information related to the hazard object are in the **features.properties** response element:

Figure 16: Example of a reply in json for the GET Hazard endpoint

Source: JRC, Risk Data Hub, 2025.

9.1 AUTHORIZATIONS

HTTP: jwt

Use the JWT to authenticate

HTTP Authorization Scheme: Authorization

9.2 QUERY PARAMETERS

Table 4: Query parameters for GET Hazard

f	string Default: "json" Enum: "json" "html" "jsonld" "csv" The optional f parameter indicates the output format which the server shall provide as part of the response document. The default format is GeoJSON.
lang	string Default: "en-US" Value: "en-US"

	The optional lang parameter instructs the server return a response in a certain language, if supported. If the language is not among the available values, the Accept-Language header language will be used if it is supported. If the header is missing, the default server language is used. Note that providers may only support a single language (or often no language at all), that can be different from the server language. Language strings can be written in a complex (e.g. "fr-CA,fr;q=0.9,en-US;q=0.8,en;q=0.7"), simple (e.g. "de") or locale-like (e.g. "de-CH" or "fr_BE") fashion.
limit	integer [1 .. 10000] Default: 10 The optional limit parameter limits the number of items that are presented in the response document. Only items are counted that are on the first level of the collection in the response document. Nested objects contained within the explicitly requested items shall not be counted. Minimum = 1. Maximum = 10000. Default = 10.
properties	Array of strings Items Enum: "admin_hazard_group_name" "admin_hazard_type" "admin_hazard_category" "admin_hazard_subgroup_name" "admin_hazard_code" "admin_hazard_subtype" The properties that should be included for each feature. The parameter value is a comma-separated list of property names.
vendorSpecificParameters	object Additional "free-form" parameters that are not explicitly defined
sortby	Array of strings non-empty Specifies a comma-separated list of property names by which the response shall be sorted. If the property name is preceded by a plus (+) sign it indicates an ascending sort for that property. If the property name is preceded by a minus (-) sign it indicates a descending sort for that property. If the property is not preceded by a plus or minus, then the default sort order implied is ascending (+).
offset	integer >= 0 Default: 0 The optional offset parameter indicates the index within the result set from which the server shall begin presenting results in the response document. The first element has an index of 0 (default).
admin_hazard_group_name	string Group name of the hazard
admin_hazard_type	string Type of the hazard
admin_hazard_category	string Category of the hazard
admin_hazard_subgroup_name	string Subgroup name of the hazard
admin_hazard_code	string

	Code of the hazard
admin_hazard_subtype	string Subtype of the hazard

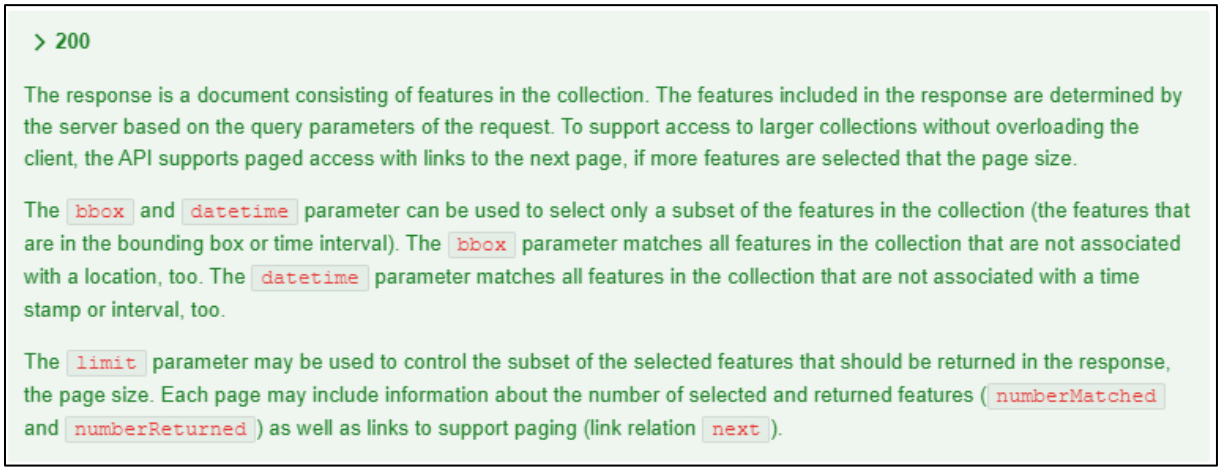
Source: JRC, Risk Data Hub, 2025.

9.3 Responses

9.3.1 Response 200

Positive response

Figure 17: Get Hazard; Response 200

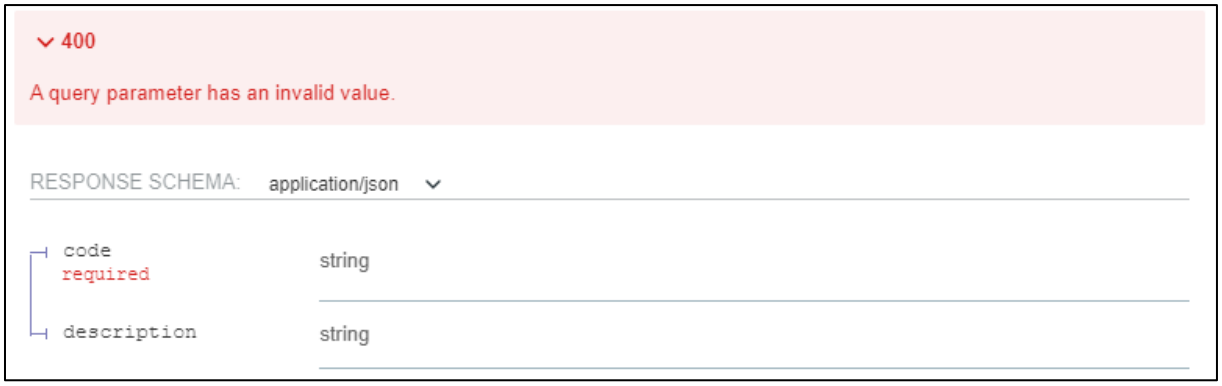


Source: JRC, Risk Data Hub, 2025.

9.3.2 Response 400

A query parameter has an invalid value.

Figure 18: Get Hazard; Response 400



Source: JRC, Risk Data Hub, 2025.

9.3.3 Response 404

The requested resource does not exist on the server. For example, a path parameter had an incorrect value.

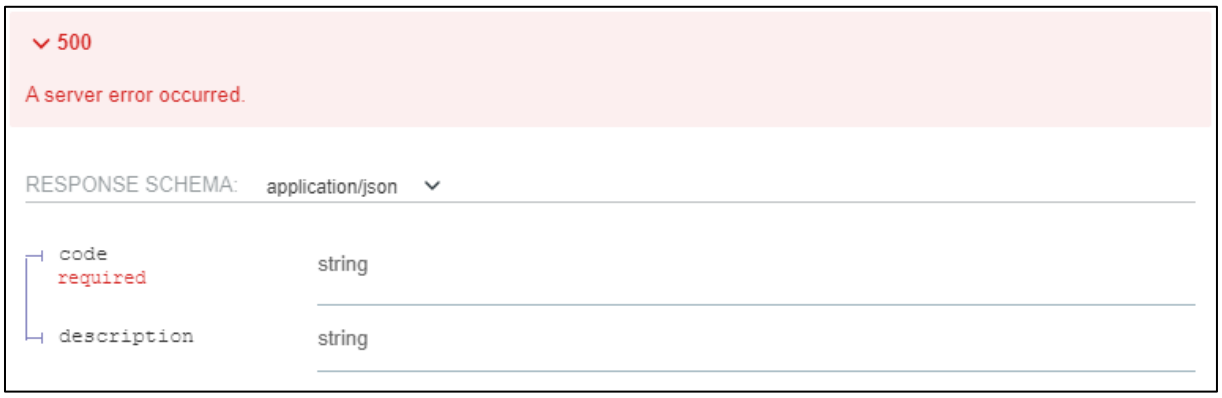
Figure 19: Get Hazard; Response 404

Source: JRC, Risk Data Hub, 2025.

9.3.4 Response 500

A server error occurred.

Figure 20: Get Hazard; Response 500



Source: JRC, Risk Data Hub, 2025.

10 Get Metric

GET /risk-data-hub-service/admin/metric/items

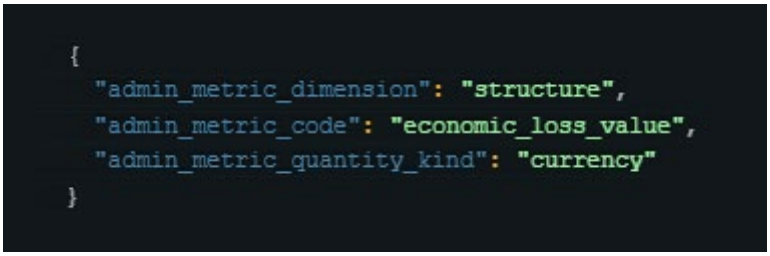
https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/risk-data-hub-service/admin/metric/items

The metric object contains information related to the measure of the impact caused by a hazard or the combination of a hazard with the exposure. It is related to the asset and can be expressed in both relative and absolute values.

The metric object lists all measures of impact (population and economic) available in the RDH database.

Specific information related to the metric object are in the **features.properties** response element:

Figure 21: Example of a response in json for the GET Metric endpoint



Source: JRC, Risk Data Hub, 2025.

10.1 AUTHORIZATIONS

HTTP: jwt

Use the JWT to authenticate

HTTP Authorization Scheme: Authorization

10.2 QUERY PARAMETERS

Table 5: Query parameters for GET Metric

f	string Default: "json" Enum: "json" "html" "jsonld" "csv" The optional f parameter indicates the output format which the server shall provide as part of the response document. The default format is GeoJSON.
lang	string Default: "en-US" Value: "en-US" The optional lang parameter instructs the server return a response in a certain language, if supported. If the language is not among the available values, the Accept-Language header language will be used if it is supported. If the header is missing, the default server language is used. Note that providers may only support a single language (or often no language at all), that can be different from the

	server language. Language strings can be written in a complex (e.g. "fr-CA,fr;q=0.9,en-US;q=0.8,en;q=0.7"), simple (e.g. "de") or locale-like (e.g. "de-CH" or "fr_BE") fashion.
limit	integer [1 .. 10000] Default: 10 The optional limit parameter limits the number of items that are presented in the response document. Only items are counted that are on the first level of the collection in the response document. Nested objects contained within the explicitly requested items shall not be counted. Minimum = 1. Maximum = 10000. Default = 10.
properties	Array of strings Items Enum: "admin_metric_quantity_kind" "admin_metric_code" "admin_metric_dimension" The properties that should be included for each feature. The parameter value is a comma-separated list of property names.
vendorSpecificParameters	object Additional "free-form" parameters that are not explicitly defined
sortby	Array of strings non-empty Specifies a comma-separated list of property names by which the response shall be sorted. If the property name is preceded by a plus (+) sign it indicates an ascending sort for that property. If the property name is preceded by a minus (-) sign it indicates a descending sort for that property. If the property is not preceded by a plus or minus, then the default sort order implied is ascending (+).
offset	integer >= 0 Default: 0 The optional offset parameter indicates the index within the result set from which the server shall begin presenting results in the response document. The first element has an index of 0 (default).
admin_metric_quantity_kind	string
admin_metric_code	string
admin_metric_dimension	string

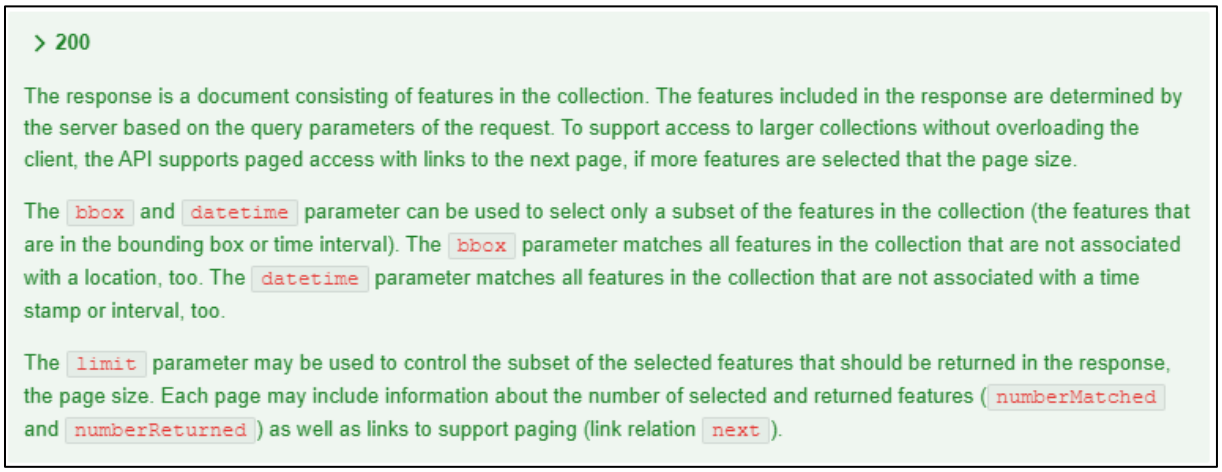
Source: JRC, Risk Data Hub, 2025.

10.3 Responses

10.3.1 Response 200

Positive response

Figure 22: Get Metric; Response 200

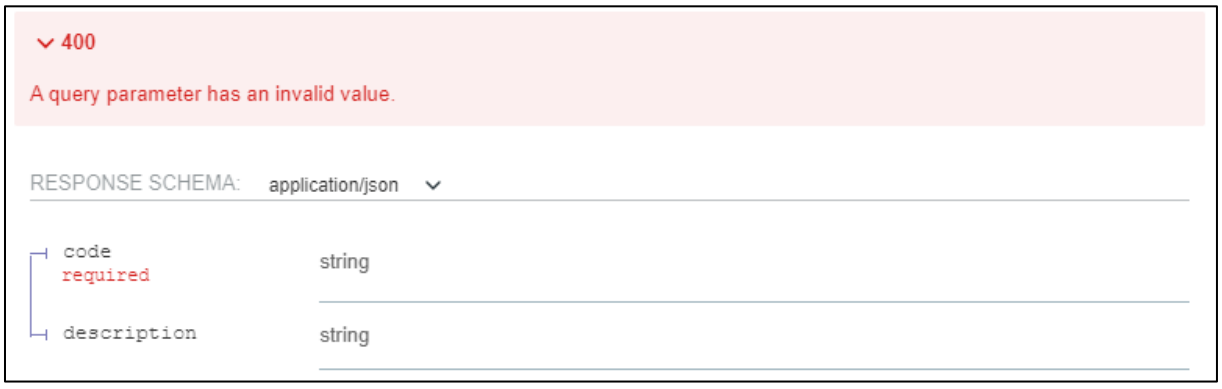


Source: JRC, Risk Data Hub, 2025.

10.3.2 Response 400

A query parameter has an invalid value.

Figure 23: Get Metric; Response 400



Source: JRC, Risk Data Hub, 2025.

10.3.3 Response 404

The requested resource does not exist on the server. For example, a path parameter had an incorrect value.

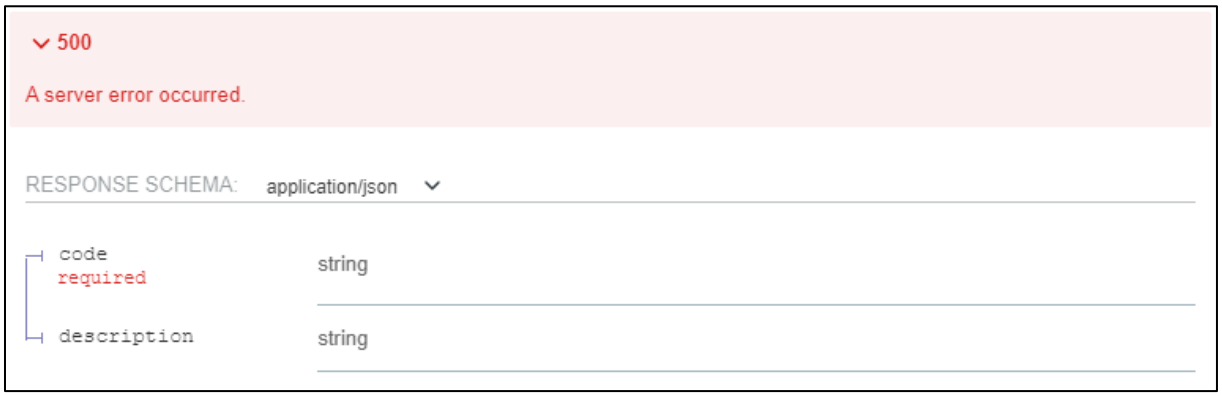
Figure 24: Get Metric; Response 404

Source: JRC, Risk Data Hub, 2025.

10.3.4 Response 500

A server error occurred.

Figure 25: Get Metric; Response 500



Source: JRC, Risk Data Hub, 2025.

11 Get Losses

GET /risk-data-hub-service/losses/losses/items

https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/risk-data-hub-service/losses/losses/items

The losses object contains information related to the absolute average loss for specific event, asset, administrative division, and hazard as computed by the RDH.

The unit of measure of the returned value is the one associated with the metric of interest (number of people for metrics related to the population and € for economic metrics).

Specific information related to losses object are in the **features.properties** response element:

Figure 26: Example of a response in json for the GET Losses endpoint


```
  "event_code": "FLIT202209150001",
  "event_code_eu": "FLEU202209150002",
  "event_start_date_day": 15,
  "event_start_date_month": 9,
  "event_start_date_year": 2022,
  "event_end_date_day": 16,
  "event_end_date_month": 9,
  "event_end_date_year": 2022,
  "admin_unit_code": "ITI3",
  "admin_unit_name": "Marche",
  "admin_unit_name_latin": "Marche",
  "admin_unit_level": "NUTS2",
  "admin_unit_level_code": 2,
  "admin_unit_parent_code": "ITI",
  "admin_unit_country_code": "IT",
  "admin_unit_country_name": "Italia",
  "admin_unit_country_name_latin": "Italy",
  "hazard": "nat-hyd-flo-flo",
  "hazard_subgroup": "Hydrological",
  "asset": "sec-pop-gen",
  "metric": "population_fatalities",
  "dimension": "population",
  "quantity_kind": "count",
  "value_event_src_average": 12.0,
  "data_source_list": "EMDAT",
  "hazard_category": "FL",
  "hazard_group_name": "Natural",
  "hazard_type": "Flood",
  "hazard_subtype": "Flood (General)",
  "admin_unit_country_is_eu27": true
}
```


Source: JRC, Risk Data Hub, 2025.

11.1 AUTHORIZATIONS

HTTP: jwt

Use the JWT to authenticate

HTTP Authorization Scheme: Authorization

11.2 QUERY PARAMETERS

Table 6: Query parameters for GET Losses

f	string Default: "json" Enum: "json" "html" "jsonld" "csv" The optional f parameter indicates the output format which the server shall provide as part of the response document. The default format is GeoJSON.
lang	string Default: "en-US" Value: "en-US" The optional lang parameter instructs the server return a response in a certain language, if supported. If the language is not among the available values, the Accept-Language header language will be used if it is supported. If the header is missing, the default server language is used. Note that providers may only support a single language (or often no language at all), that can be different from the server language. Language strings can be written in a complex (e.g. "fr-CA,fr;q=0.9,en-US;q=0.8,en;q=0.7"), simple (e.g. "de") or locale-like (e.g. "de-CH" or "fr_BE") fashion.
bbox	Array of numbers [4 .. 6] items Only features that have a geometry that intersects the bounding box are selected. The bounding box is provided as four or six numbers, depending on whether the coordinate reference system includes a vertical axis (height or depth).
limit	integer [1 .. 10000] Default: 10 The optional limit parameter limits the number of items that are presented in the response document. Only items are counted that are on the first level of the collection in the response document. Nested objects contained within the explicitly requested items shall not be counted. Minimum = 1. Maximum = 10000. Default = 10.
properties	Array of strings Items Enum: "event_code", "event_code_eu", "event_start_date_day","event_start_date_month", "event_start_date_year", "event_end_date_day", "event_end_date_month", "event_end_date_year", "admin_unit_code" "admin_unit_name", "admin_unit_name_latin", "admin_unit_level" "admin_unit_level_code", "admin_unit_parent_code", "admin_unit_country_code", "admin_unit_country_name" "admin_unit_country_name_latin", "hazard", "hazard_subgroup", "asset", "metric", "dimension", "quantity_kind", "value_event_src_average", "data_source_list", “hazard_category”, “hazard_group_name”, “hazard_type”, “hazard_subtype”, “admin_unit_country_is_eu27” The properties that should be included for each feature. The parameter value is a comma-separated list of property names.
vendorSpecificParameters	object

	Additional "free-form" parameters that are not explicitly defined
sortby	Array of strings non-empty Specifies a comma-separated list of property names by which the response shall be sorted. If the property name is preceded by a plus (+) sign it indicates an ascending sort for that property. If the property name is preceded by a minus (-) sign it indicates a descending sort for that property. If the property is not preceded by a plus or minus, then the default sort order implied is ascending (+).
offset	integer >= 0 Default: 0 The optional offset parameter indicates the index within the result set from which the server shall begin presenting results in the response document. The first element has an index of 0 (default).
filter	String Examples: • filter=id IN [12,23] - Show features with ids in a specific list • filter=admin_unit_name NOT LIKE '%Rom%'' - Show features with admin_unit_name that doesn't contain the string "Rom" The optional filter parameter to provide advanced filters on the collection items using CQL expressions
event_code	string Event identifier at COUNTRY level
event_code_eu	string Event identifier at EU level
event_start_date_day	integer The day when the event started (1-31)
event_start_date_month	integer The month when the event started (1-12)
event_start_date_year	integer The year when the event started
event_end_date_day	integer The day when the event ended (1-31)
event_end_date_month	integer The month when the event ended (1-12)
event_end_date_year	integer The year when the event ended
admin_unit_code	string One of the values coming from the field admin_unit_code of Administrative Division
admin_unit_name	string One of the values coming from the field admin_unit_name of Administrative Division
admin_unit_name_latin	string One of the values coming from the field admin_unit_name_latin of Administrative Division
admin_unit_level	string One of the values coming from the field admin_unit_level of Administrative Division
admin_unit_level_code	integer

	One of the values coming from the field admin_unit_level_code of Administrative Division
admin_unit_parent_code	string The NUTS3 code of the parent adiministrative unit. One of the values coming from the field admin_unit_code of Administrative Division
admin_unit_country_code	string The NUTS3 code of the contry. One of the values coming from the field admin_unit_code of Administrative Division
admin_unit_country_name	string Full name of the country in its native language
admin_unit_country_name_latin	string Full name of the country in Latin script
hazard	string One of the values coming from the field admin_hazard of Hazard
hazard_subgroup	string Subgroup classification of the hazard (e.g., Meteorological, Geophysical, Transport)
asset	string One of the values coming from the field admin_asset of Asset
metric	string One of the values coming from the field admin_metric of Metric
dimension	string Dimension (e.g., population).
quantity_kind	string The type of quantity represented (e.g., count, area)
value_event_src_average	integer Average of value of data_source_list
data_source_list	string List of data sources used to compute the average
admin_hazard_category	string Category of the hazard
admin_hazard_group_name	string Group name of the hazard
admin_hazard_type	string Type of the hazard
admin_hazard_subtype	string Subtype of the hazard
admin_unit_country_is_eu27	boolean Is conutry in EU27

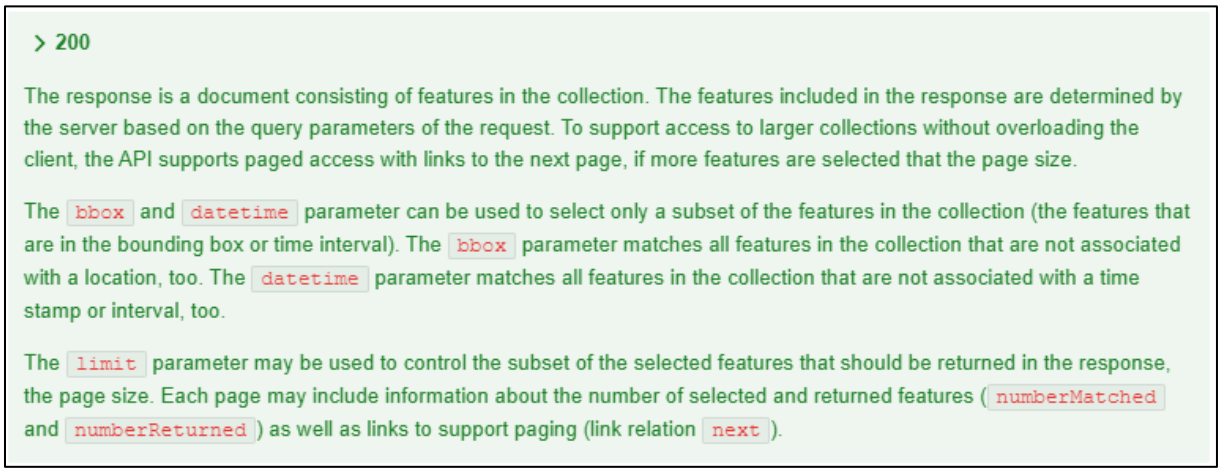
Source: JRC, Risk Data Hub, 2025.

11.3 Responses

11.3.1 Response 200

Positive response

Figure 27: Get Losses; Response 200

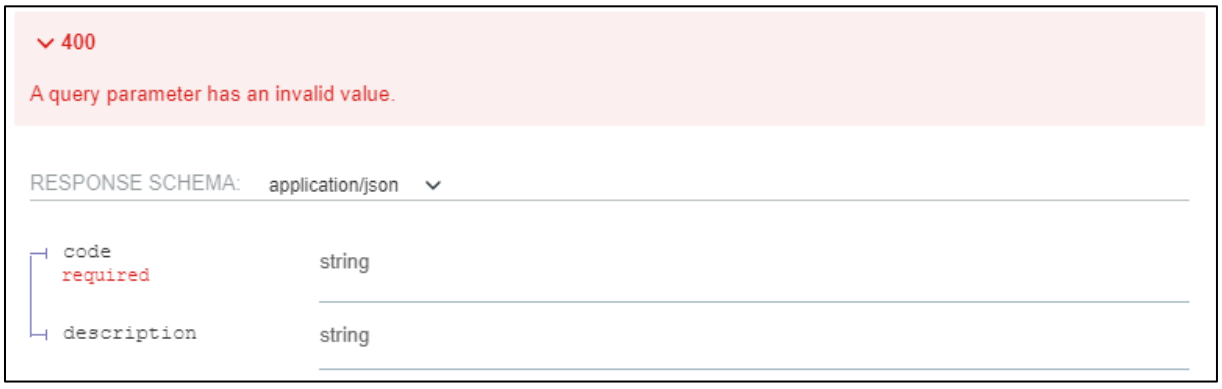


Source: JRC, Risk Data Hub, 2025.

11.3.2 Response 400

A query parameter has an invalid value.

Figure 28: Get Losses; Response 400



Source: JRC, Risk Data Hub, 2025.

11.3.3 Response 404

The requested resource does not exist on the server. For example, a path parameter had an incorrect value.

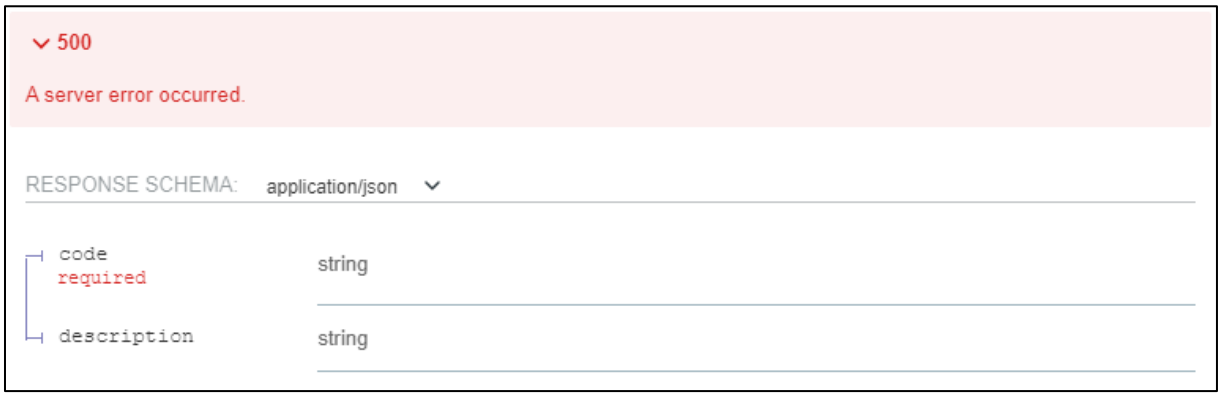
Figure 29: Get Losses; Response 404

Source: JRC, Risk Data Hub, 2025.

11.3.4 Response 500

A server error occurred.

Figure 30: Get Losses; Response 500



Source: JRC, Risk Data Hub, 2025.

12 Get Vulnerability

GET /risk-data-hub-service/risks/vulnerability/items

https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/risk-data-hub-service/risks/vulnerability/items

The **vulnerability** object contains information pertinent to the conditions determined by physical, social, economic, and environmental factors or processes that increase the susceptibility of an individual, community, assets, or systems to the impacts of hazards, as defined by UNDRR - Sendai Framework Terminology On Disaster Risk Reduction - Vulnerability. Each component of the index is identified by a code that reflects the hierarchical structure of the indicators. Details on how these codes are mapped to their IDs can be found on the Vulnerability Mapping document. The vulnerability object lists vulnerability index values by administrative unit and year as computed by the RDH. Specific information related to the vulnerability object is in the **features.properties** response element:

Figure 31: Example of a repsones in json for the GET Vulnerability endpoint

Source: JRC, Risk Data Hub, 2025.

12.1 AUTHORIZATIONS

HTTP: jwt

Use the JWT to authenticate

HTTP Authorization Scheme: Authorization

12.2 QUERY PARAMETERS

Table 7: Query parameters for GET Vulnerability

f	string Default: "json" Enum: "json" "html" "jsonld" "csv"

	The optional f parameter indicates the output format which the server shall provide as part of the response document. The default format is GeoJSON.
lang	string Default: "en-US" Value: "en-US" The optional lang parameter instructs the server return a response in a certain language, if supported. If the language is not among the available values, the Accept-Language header language will be used if it is supported. If the header is missing, the default server language is used. Note that providers may only support a single language (or often no language at all), that can be different from the server language. Language strings can be written in a complex (e.g. "fr-CA,fr;q=0.9,en-US;q=0.8,en;q=0.7"), simple (e.g. "de") or locale-like (e.g. "de-CH" or "fr_BE") fashion.
limit	integer [1 .. 10000] Default: 10 The optional limit parameter limits the number of items that are presented in the response document. Only items are counted that are on the first level of the collection in the response document. Nested objects contained within the explicitly requested items shall not be counted. Minimum = 1. Maximum = 10000. Default = 10.
properties	Array of any Items Enum: "vulnerability_year" "vulnerability_code" "vulnerability_measure" "vulnerability_parent_code" "vulnerability_type" "vulnerability_score" "admin_unit_code" "admin_unit_name" "admin_unit_name_latin" "admin_unit_parent_code" "admin_unit_level" "admin_unit_level_code" "admin_unit_country_code" "admin_unit_country_name" "admin_unit_country_name_latin" The properties that should be included for each feature. The parameter value is a comma-separated list of property names.
vendorSpecificParameters	object Additional "free-form" parameters that are not explicitly defined
sortby	Array of strings non-empty Specifies a comma-separated list of property names by which the response shall be sorted. If the property name is preceded by a plus (+) sign it indicates an ascending sort for that property. If the property name is preceded by a minus (-) sign it indicates a descending sort for that property. If the property is not preceded by a plus or minus, then the default sort order implied is ascending (+).
offset	integer >= 0 Default: 0 The optional offset parameter indicates the index within the result set from which the server shall begin presenting results in the response document. The first element has an index of 0 (default).
filter	string Examples:

	• filter=id IN [12,23] - Show features with ids in a specific list • filter=admin_unit_name NOT LIKE '%Rom%'' - Show features with admin_unit_name that doesn't contain the string "Rom" The optional filter parameter to provide advanced filters on the collection items using CQL expressions
vulnerability_year	integer The specific year corresponding to the recorded vulnerability data.
vulnerability_code	string A unique identifier code for the vulnerability indicator.
vulnerability_measure	string The full name of the vulnerability indicator (e.g., population density).
vulnerability_parent_code	string A unique identifier code for the parent category of the vulnerability indicator.
vulnerability_type	string The type of vulnerability indicator (e.g., 'indicator','index','dimension').
vulnerability_score	number Score representing the degree of vulnerability.
admin_unit_code	string One of the values coming from the field admin_unit_code of Administrative Division
admin_unit_name	string One of the values coming from the field admin_unit_name of Administrative Division
admin_unit_name_latin	string One of the values coming from the field admin_unit_name_latin of Administrative Division
admin_unit_parent_code	string The NUTS3 code of the parent adiministrative unit. One of the values coming from the field admin_unit_code of Administrative Division
admin_unit_level	string One of the values coming from the field admin_unit_level of Administrative Division
admin_unit_level_code	integer One of the values coming from the field admin_unit_level_code of Administrative Division
admin_unit_country_code	string The NUTS3 code of the contry. One of the values coming from the field admin_unit_code of Administrative Division

admin_unit_country_name	string Full name of the country in its native language.
admin_unit_country_name_latin	string Full name of the country in Latin script.

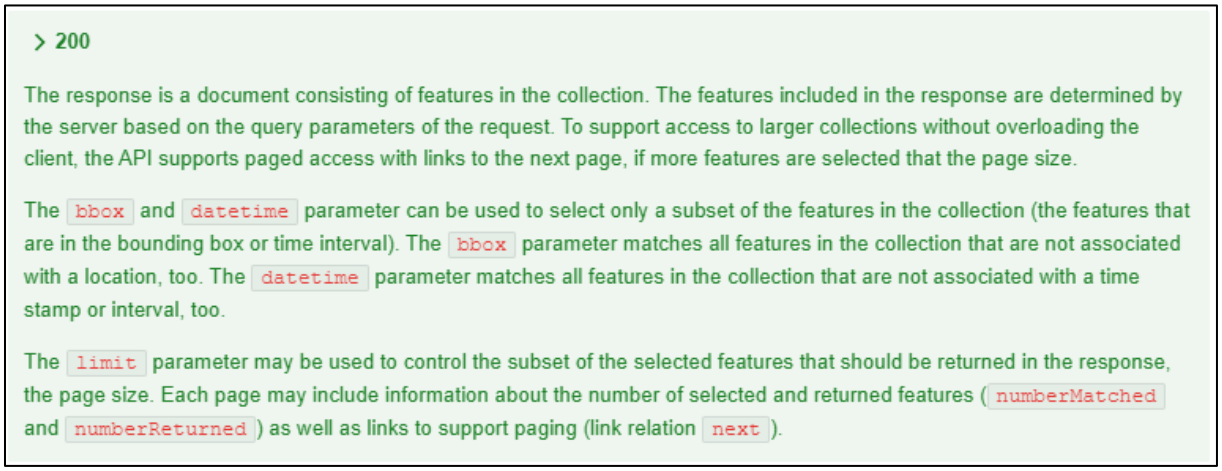
Source: JRC, Risk Data Hub, 2025.

12.3 Responses

12.3.1 Response 200

Positive response

Figure 32: Get Vulnerability; Response 200



Source: JRC, Risk Data Hub, 2025.

12.3.2 Response 400

A query parameter has an invalid value.

Figure 33: Get Vulnerability; Response 400

Source: JRC, Risk Data Hub, 2025.

12.3.3 Response 404

The requested resource does not exist on the server. For example, a path parameter had an incorrect value.

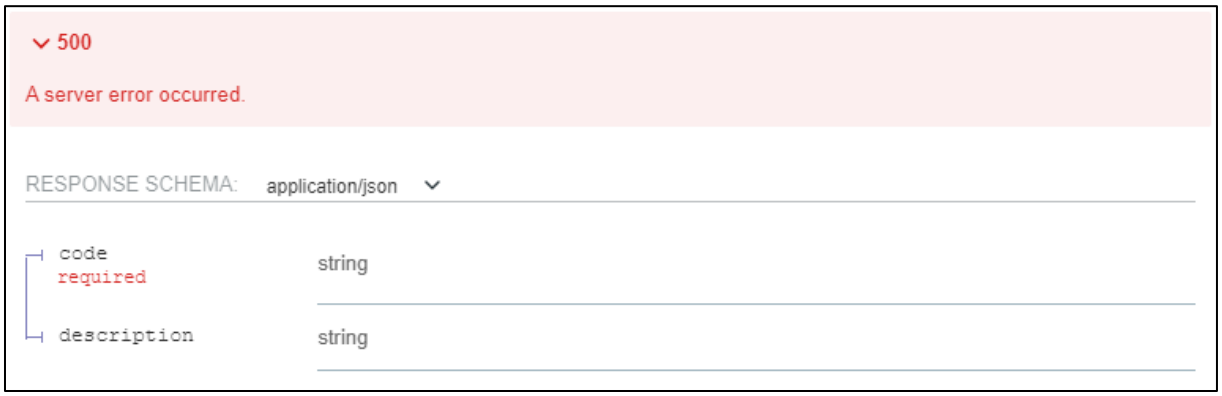
Figure 34: Get Vulnerability; Response 404

Source: JRC, Risk Data Hub, 2025.

12.3.4 Response 500

A server error occurred.

Figure 35: Get Vulnerability; Response 500



Source: JRC, Risk Data Hub, 2025.

13 Examples/Use cases

The Utility API provides reference values that can be used to filter data in the main API. Unlike the main API, it does not support advanced filtering.

- GET **Administrative Division**

  Returns administrative unit values (admin_unit_code, admin_unit_name, admin_unit_country_code, admin_unit_level, admin_unit_level_code) for use as filters in the main API.

- GET **Hazard**

  Returns hazard codes for use as filters in the main API.

- GET **Asset**

  Returns asset codes for use as filters in the main API.

- GET **Metric**

  Returns metric codes for use as filters in the main API.

The main API provides access to core data from the RDH database. Query parameters and filters can be applied to tailor requests to specific needs, allowing users to extract only the most relevant information. The following subsections illustrate example queries and their usage.

- GET **Losses**

  Returns all information related to the disaster losses, population and economic, for a specific event as defined by the Risk Data Hub approach.

- GET **Vulnerability**

  Returns all information related to the vulnerability computed by the Risk Data Hub.

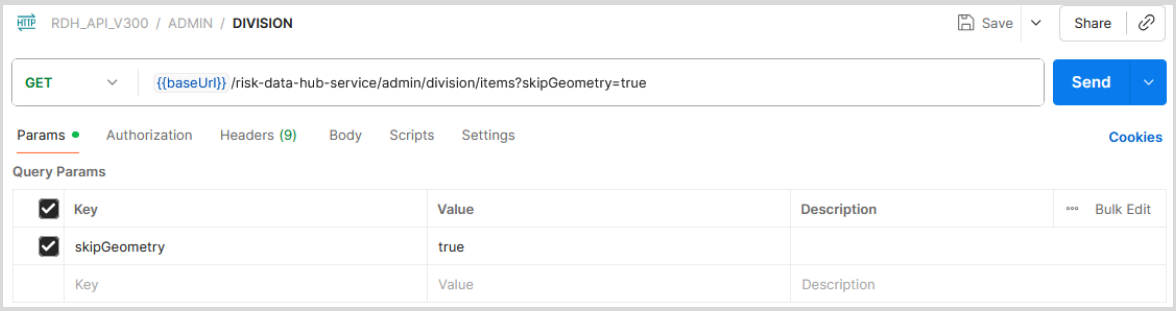
13.1 Examples using GET Administrative Division

13.1.1 How to get Administrative Division excluding geometry information

The following example shows how to query the all the administrative divisions at country level.

Box 1: Example using Postman to get administrative division at country level without the geometry (using the skipGeometry parameter)

Figure 36: Example in Postman for querying the GET Administrative Division endpoint (example 1)



Source: Postman API Platform, 2025.

Used parameters:

- skipGeometry = true
  (The API does not return any geometry information)

CURL command example

```
curl                    --location                    '{{baseURL}}/risk-data-hub-service/admin/division/items?skipGeometry=True'\
-H "Authorization: Bearer Token"
```

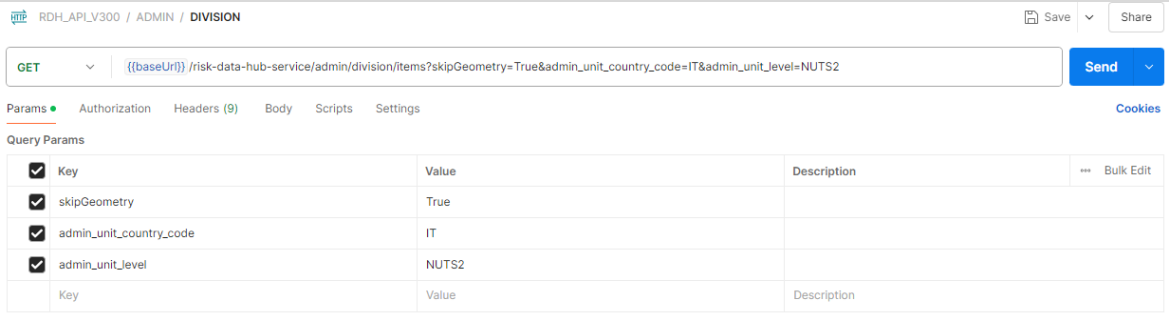
13.1.2 How to get Administrative Division for a specific region of interest

The following example shows how to query the administrative divisions at NUTS2 level for Italy (IT).

Box 2: Example using Postman to get administrative division for a specific region of interest

GET Administrative Division

Figure 37: Example in Postman for querying the GET Administrative Division endpoint (example 2)



Source: Postman API Platform, 2025.

Used parameters:

- skipGeometry = true
  (The API does not return any geometry information)
- admin_unit_country_code= IT
  (country of interest)
- admin_unit_level = NUTS2
  (administrative level of interest)

CURL command example

```
curl --location '{{baseURL}}/risk-data-hub-service/admin/division/items?skipGeometry=True
&admin_unit_country_code=IT&admin_unit_level=NUTS2'\
-H "Authorization: Bearer Token"
```

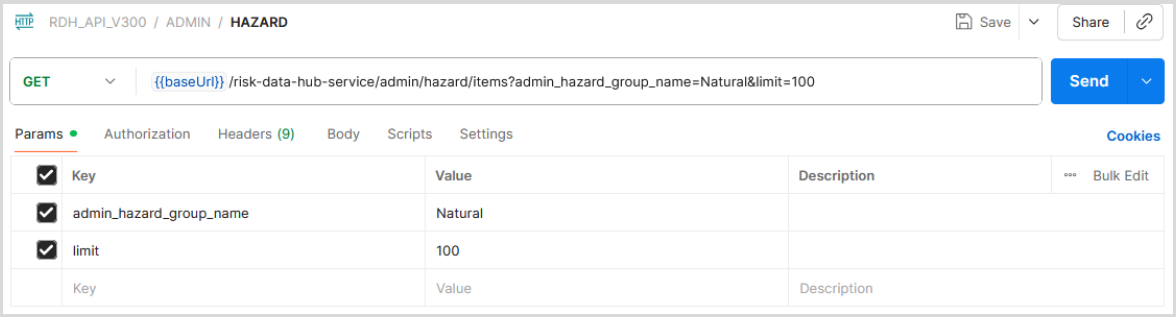
13.2 Examples using GET Hazard

13.2.1 How to get natural Hazards

Box 3: Example using Postman to get the natural hazards (excluding the technological hazards)

GET Hazard

Figure 38: Example in Postman for querying the GET Hazard endpoint (example 1)



Source: Postman API Platform, 2025.

Used parameters:

- admin_hazard_group_name = 'Natural'
- limit = 100
  (The query returned more than 10 results. Setting the limit to 100 ensures all results are included in the JSON response.)

CURL command example

```
curl --location '{{baseURL}}/risk-data-hub-service/admin/hazard/items?admin_hazard_group_name=Natural&limit=100'

-H "Authorization: Bearer Token"
```

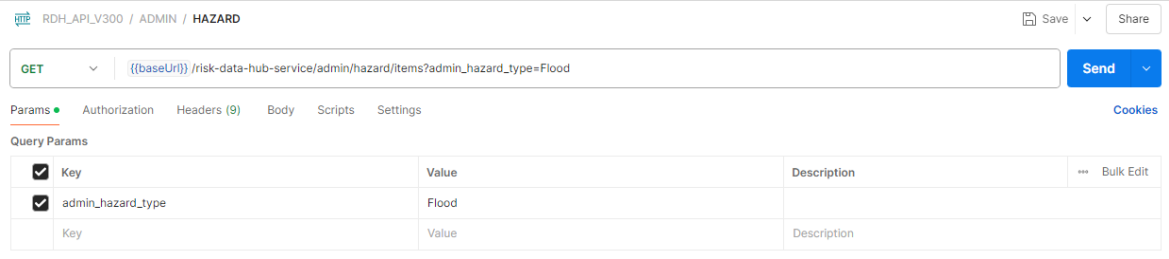
For more information on the hazard categories, see https://drmkc.jrc.ec.europa.eu/risk-data-hub#/methodologies/hazard_categories

13.2.2 How to get all the hazard codes related to Flood

Box 4: Example using Postman to get the hazard codes related to the flood type

GET Hazard

Figure 39: Example in Postman for querying the GET Hazard endpoint (example 2)



Source: Postman API Platform, 2025.

Used parameters:

- admin_hazard_type= Flood

CURL command example

```
curl                --location                {{baseURL}}                /risk-data-hub-service/admin/hazard/items?admin_hazard_type=Flood'

-H "Authorization: Bearer Token"
```

For more information on the hazard categories, see https://drmkc.jrc.ec.europa.eu/risk-data-hub#/methodologies/hazard_categories

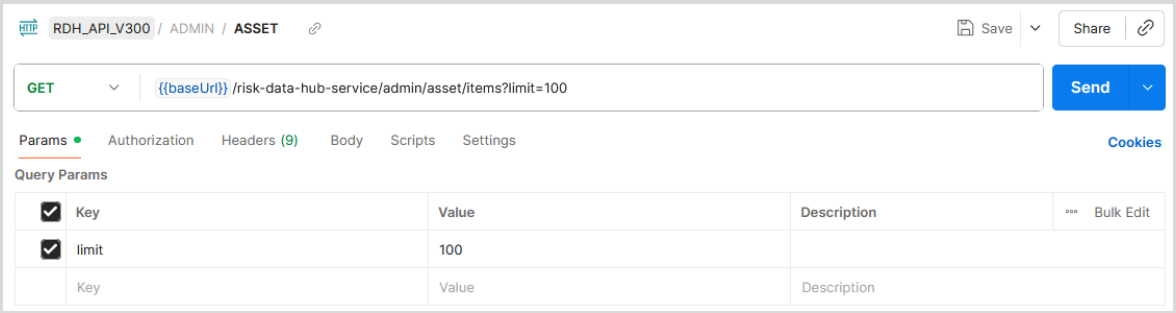
13.3 Examples using GET Asset

13.3.1 How to get Asset

Box 5: Example using Postman to get the asset

GET Asset

Figure 40: Example in Postman for querying the GET Asset endpoint (example 1)



Source: Postman API Platform, 2025.

Used parameters:

- limit = 100
  (The query returned 54 results. Setting the limit to 100 ensures all results are included in the JSON response.)

CURL command example

```
curl --location '{{baseURL}}/risk-data-hub-service/admin/asset/items?limit=100'
-H "Authorization: Bearer Token"
```

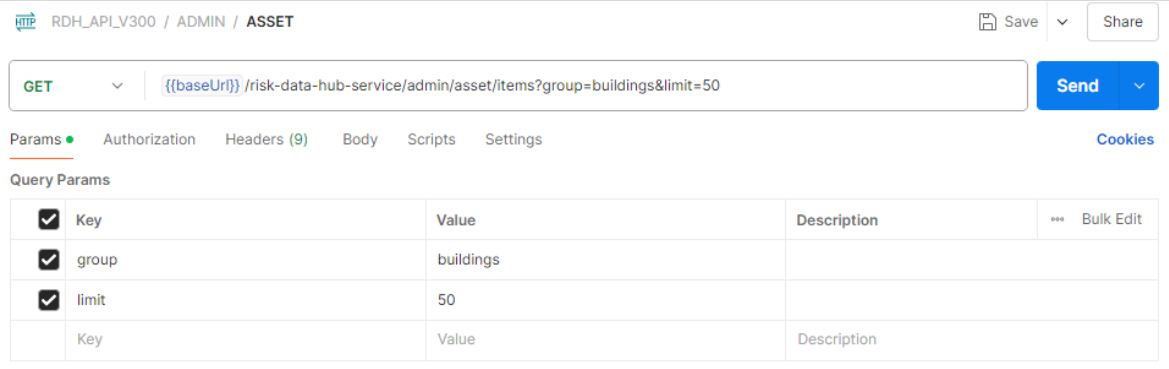
For more information on the asset categories, see https://drmkc.jrc.ec.europa.eu/risk-data-hub#/methodologies/asset_categories

13.3.2 How to get assets related to the buildings category

Box 6: Example using Postman to get the asset related to the buildings category

GET Asset

Figure 41: Example in Postman for querying the GET Asset endpoint (example 2)



Source: Postman API Platform, 2025.

Used parameters:

- group = buildings
- limit = 50
  (The query returned 32 results. Setting the limit to 50 ensures all results are included in the JSON response.)

CURL command example

```
curl --location '{{baseURL}}/risk-data-hub-service/admin/asset/items?group=buildings&limit=50'
-H "Authorization: Bearer Token"
```

For more information on the asset categories, see https://drmkc.jrc.ec.europa.eu/risk-data-hub#/methodologies/asset_categories

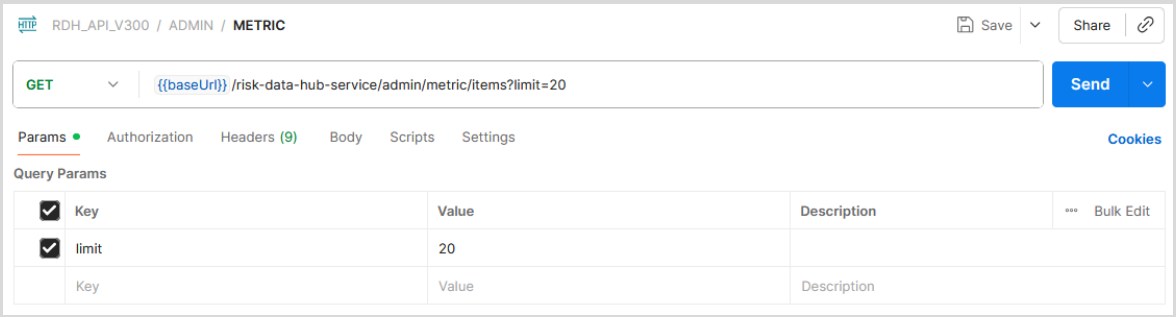
13.4 Examples using GET Metric

13.4.1 How to get Metric

Box 7: Example using Postman to get the metric

GET Metric

Figure 42: Example in Postman for querying the GET Metric endpoint (example 1)



Source: Postman API Platform, 2025.

Used parameters:

- limit = 20
  (The query returned 15 results. Setting the limit to 20 ensures all results are included in the JSON response.)

CURL command example

```
curl --location '{{baseURL}}/risk-data-hub-service/admin/metric/items?limit=20'

-H "Authorization: Bearer Token"
```

For more information on the metric categories, see https://drmkc.jrc.ec.europa.eu/risk-data-hub#/methodologies/metric_categories

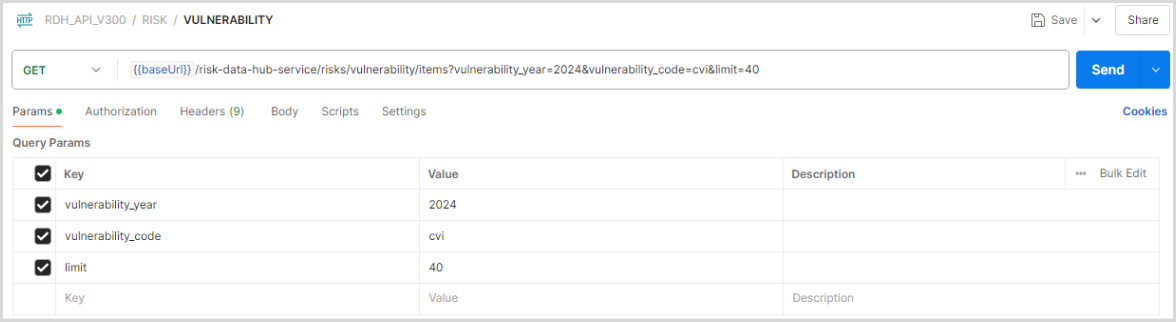
13.5 Examples using GET VULNERABILITY

13.5.1 GET VULNERABILITY - How to get the vulnerability data at country level for a specific year

Box 8: Example using Postman to get the vulnerability values for 2024 at country level

GET VULNERABILITY

Figure 43: Example in Postman for querying the GET Vulnerability endpoint (example 1)



Source: Postman API Platform, 2025.

Used parameters:

- vulnerability_year = 2024 (year of interest)
- vulnerability_code = 'cvi' (to get the Country Vulnerability Index (NUTS0))
- limit = 40

CURL command example

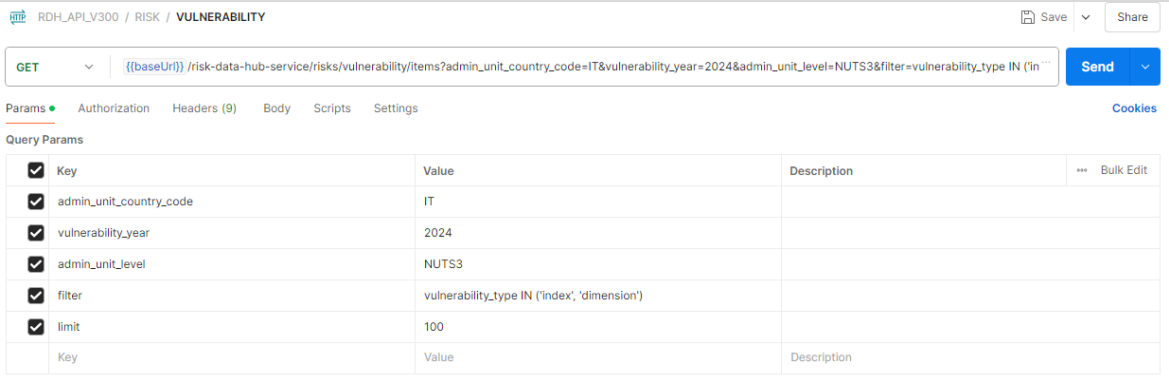
```
curl -X GET "{{baseURL}}/risk-data-hub-service/risks/vulnerability/items?vulnerability_year=2024&vulnerability_code=cvi&limit=40" \

-H "Authorization: Bearer Token"
```

13.5.2 GET VULNERABILITY - How to get the index and dimension related to the vulnerability data at NUTS level for a specific year and country of interest

Box 9: Example using Postman to get the vulnerability values for 2024 at country level

GET VULNERABILITY

Figure 44: Example in Postman for querying the GET Vulnerability endpoint (example 2)



Source: Postman API Platform, 2025.

Used parameters:

- admin_unit_country_code = IT (country of interest)
- vulnerability_year = 2024 (year of interest)
- admin_unit_level = NUTS3 (administrative level of interest)
- filter = vulnerability_type IN ('index', 'dimension') (to get the obtain the only the data related to the vulnerability index and vulnerability dimension)
- limit = 100
  (The query returned multiple results. Setting the limit to 100)

CURL command example

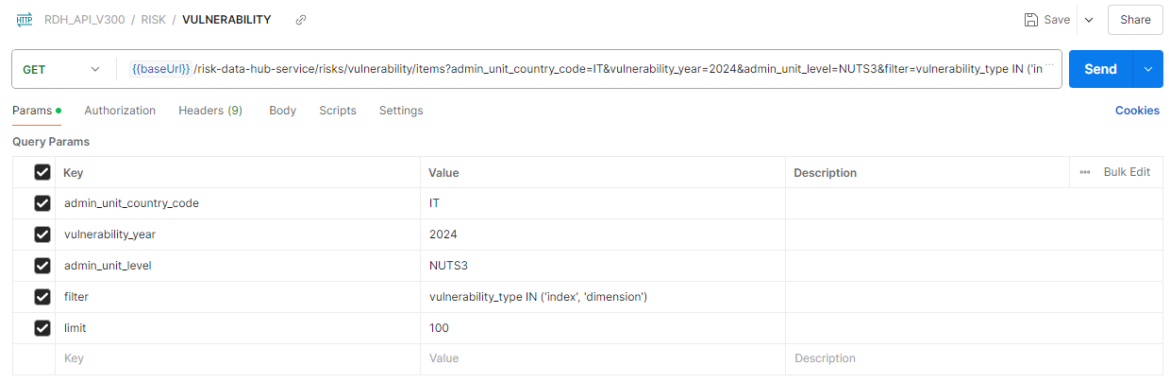
```
curl                    -X                    GET                    "{{baseURL}}/risk-data-hub-
service/risks/vulnerability/items?admin unit country code=IT&
vulnerability_year=2024&admin_unit_level=NUTS3&
filter=vulnerability_type IN ('index', 'dimension')&limit=100” \

-H "Authorization: Bearer Token"
```

13.5.3 GET VULNERABILITY - How to retrieve all the indicators belonging to a dimension for a single area and from a certain date

Box 10: Example using Postman to get the vulnerability values for 2024 at NUTS3 level

GET VULNERABILITY

Figure 45: Example in Postman for querying the GET Vulnerability endpoint (example 3)



Source: Postman API Platform, 2025.

Used parameters:

- admin_unit_country_code = 'IT' (country of interest)
- vulnerability_year = 2024 (year of interest)
- admin_unit_level = NUTS3
- filter = vulnerability_type IN ('index', 'dimension') (to get the obtain the only the data related to the vulnerability index and vulnerability dimension)
- limit = 100
  (The query returned 320 results. Setting the limit to 100 to not have too JSON response.)

CURL command example

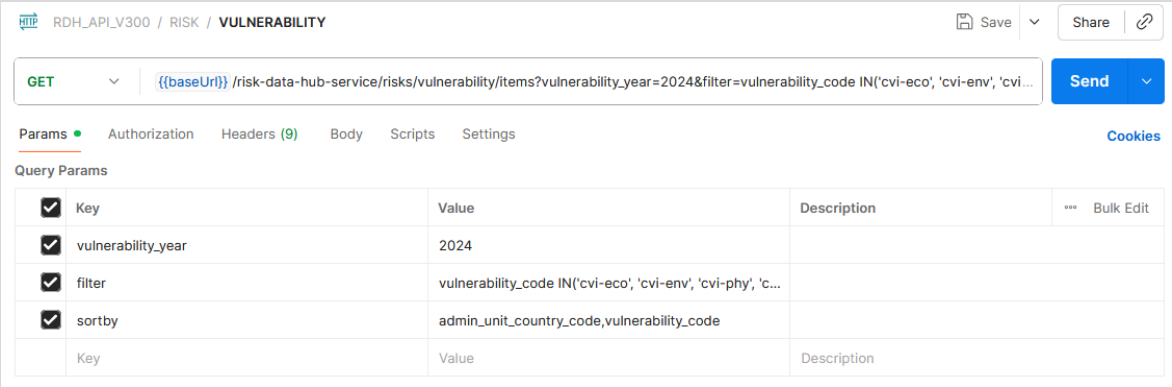
```
curl -X GET "{{baseURL}}/risk-data-hub-service/risks/vulnerability/items?admin_unit_country_code=IT&
vulnerability_year=2024&admin_unit_level=NUTS3&
filter=vulnerability_type IN ('index', 'dimension')&limit=100" \

-H "Authorization: Bearer Token" \
```

13.5.4 GET VULNERABILITY - How to get the vulnerability data the main dimensions for a specific year for all countries in Europe

Box 11: Example using Postman to get the vulnerability values for 2024, for the five main dimensions, for all countries in Europe

GET VULNERABILITY - ADVANCED FILTER (PARMA CQL)

Figure 46: Example in Postman for querying the GET Vulnerability endpoint (example 4)



Source: Postman API Platform, 2025.

Used parameters:

- vulnerability_year = 2024 (year of interest)
- filter = vulnerability_codeIN('cvi-eco', 'cvi-env', 'cvi-phy', 'cvi-pol', 'cvi-soc')
  (to query the data for the 5 dimensions defined at country level Economic, Environment, Physical, Political, Social)
- sortby = 'admin_unit_country_code, vulnerability_code'
  (to order the data by country and dimension)

CURL command example

```
curl --location '{{baseURL}}/risk-data-hub-service/risks/vulnerability/items?vulnerability_year=2024&filter=vulnerability_code IN('cvi-eco', 'cvi-env', 'cvi-phy', 'cvi-pol', 'cvi-soc')&sortby=admin_unit_country_code,vulnerability_code'

-H "Authorization: Bearer Token"
```

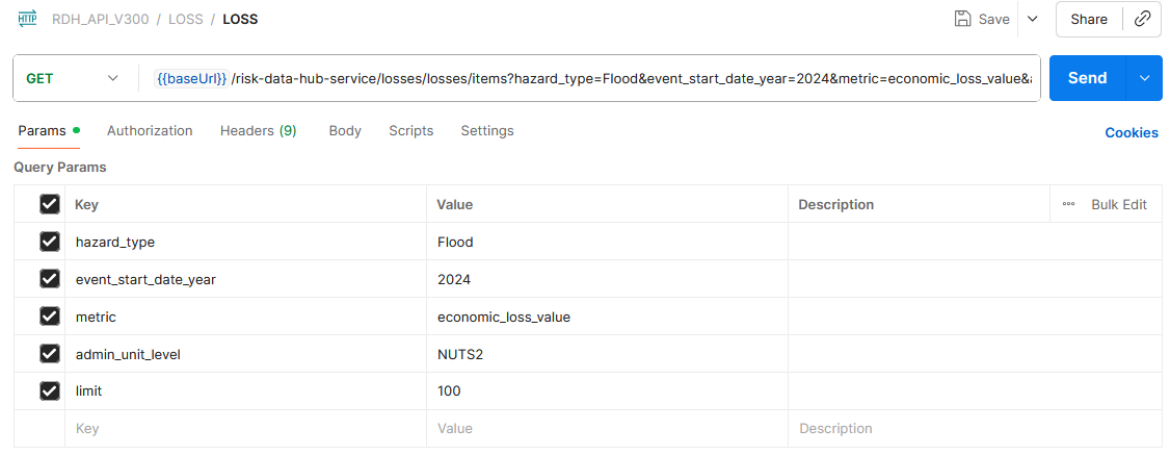
13.6 Examples using GET LOSSES

13.6.1 GET LOSSES – How to get losses records for a specific hazard type, specific metric, and specific administrative level

Box 12: Example using Postman to get the loss records for flood events in 2024

GET LOSSES

Figure 47: Example in Postman for querying the GET Losses endpoint (example 1)



Source: Postman API Platform, 2025.

Used parameters:

- hazard_type = 'Flood'
- event_start_date_year = '2024'
- metric = 'economic_loss_value'
- admin_unit_level = 'NUTS2'
- limit = 100
  (The query returned 47 results. Setting the limit to 100 ensures all results are included in the JSON response.)

CURL command example

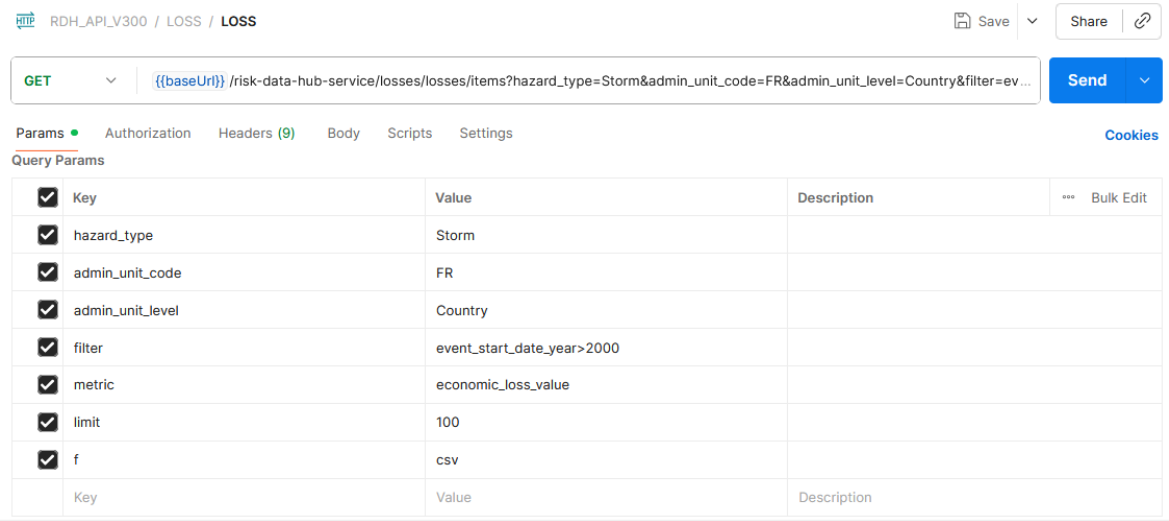
```
curl --location '{{baseURL}}/risk-data-hub-service/losses/losses/items?
hazard_type=Flood &event_start_date_year=2024&metric=economic_loss_value
&admin_unit_level=NUTS2&limit=100'

-H "Authorization: Bearer Token" \
```

13.6.2 GET LOSSES - How to get losses records for a specific country for a time range of interest

Box 13: Example using Postman to get the loss records for storm in France

GET LOSSES

Figure 48: Example in Postman for querying the GET Losses endpoint (example 2)



Source: Postman API Platform, 2025.

Used parameters:

- hazard_type = 'Storm'
- admin_unit_code = 'FR'
  (query the data for the administrative unit with the code FR)
- admin_unit_level = 'Country'
  (get the loss at country level)
- filter = event_start_date_year>2000
  (include all the event which started in 2000 until present)
- metric = 'economic_loss_value'
  (get the economic losses)
- limit = 100
  (The query returned 57 results. Setting the limit to 100 ensures all results are included in the JSON response.)
- f = 'csv'
  (return the result in a csv format instead of json)

CURL command example

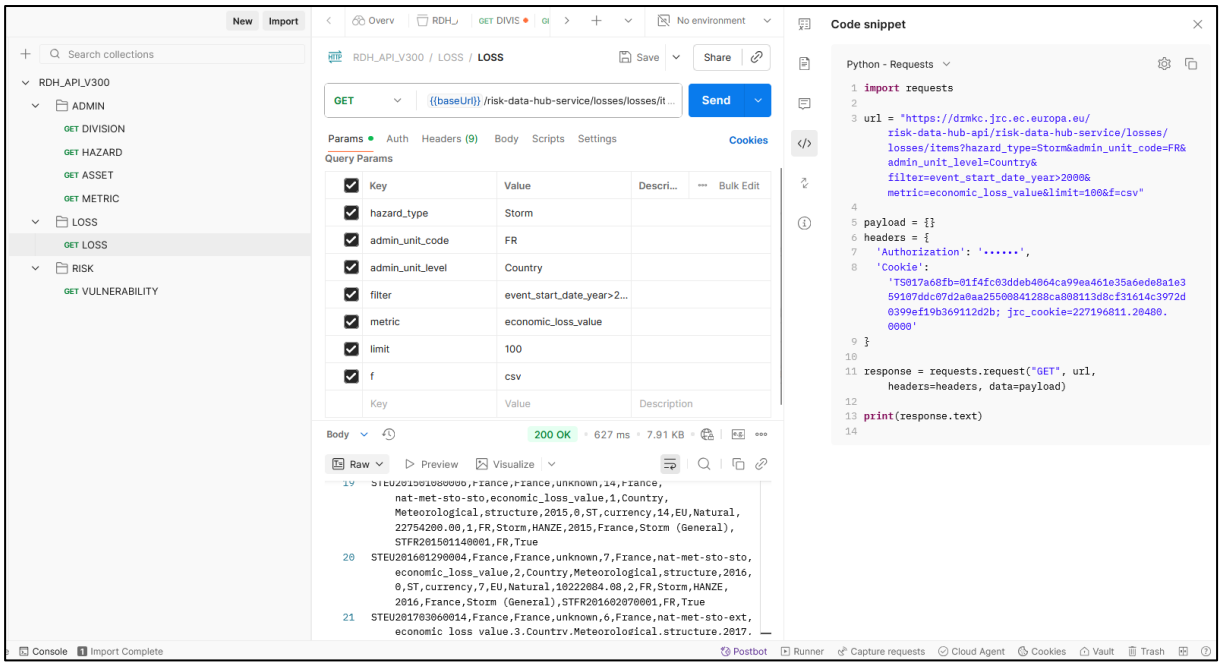
```
curl --location '{{baseURL}}/risk-data-hub-service
/losses/items?hazard_type=Storm&admin_unit_code=FR
&admin_unit_level=Country&filter=event_start_date_year>2000
&metric=economic_loss_value&limit=100&f=csv'

-H "Authorization: Bearer Token" \
```

13.7 Generate code snippets from API requests

Postman provides a built-in feature to generate client code in multiple programming languages. This allows users to easily translate an API query created in Postman into their preferred language.

- The **code snippet button**, located on the right side of the Postman interface (see Figure 36), opens the snippet generator.
- A **dropdown list** lets users select from various programming languages.
- To authenticate, paste the API TOKEN into the **Authorization** field using the format Bearer <token>.
- The **Cookie** field is not required.

Figure 49: Postman code generator – Example of the generation of Python code



Source: JRC, Risk Data Hub, 2025.

14 Conclusions

This report presented the Risk Data Hub (RDH) API documentation in its version 3.0.0 (released in October 2025). It comprehensively covered all available information that can be accessed through the online version of this documentation (https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/docs/). It provided useful information on the various parameters that can be utilized to refine and customize queries, allowing users to retrieve specific data sets based on their requirements. Moreover, the documentation also displayed illustrative examples on how to access both the main API and utility API using Postman, a popular API development tool. Instructions on how to query the main API, specifically pertaining to losses and vulnerability, have been thoughtfully provided. Additionally, information on how to access utility APIs entailing details about the type of hazards, assets, metrics and level of administrative division were given.

In addition to facilitating external stakeholders' access to the core datasets of the RDH, the API enables users to access key data about vulnerability and historical disaster loss for Europe. Having such information is critical for the development of disaster risk reduction (DRR) measures. Sharing loss and vulnerability data with external users is a first step for the RDH API. Future developments of the RDH API will see the addition of more endpoints allowing for instance the access to the risk values computed by the RDH.

References

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Risk Data Hub API (3.0.0) – Online documentation https://drmkc.jrc.ec.europa.eu/risk-data-hub-api/docs/

List of abbreviations and definitions

API	Application programming interface
CoR	European Committee of the Regions
DRM	Disaster Risk Management
DRMKC	Disaster Risk Management Knowledge Centre
DRR	Disaster Risk Reduction
ECB	European Central Bank
EEA	European Environment Agency
EIOPA	European Insurance and Occupational Pensions Authority
EU	European Union
DG	Directorates-General
DG ECHO	Directorate-General for European Civil Protection and Humanitarian Aid Operations
DG ECFIN	Directorate-General for Economic and Financial Affairs
DRMKC	Disaster Risk Management Knowledge Centre
GISCO	Geographic Information System of the Commission
OGC	Open Geospatial Consortium
NUTS	Nomenclature of territorial units for statistics
RDH	Risk Data Hub
UNDRR	United Nations Office for Disaster Risk Reduction

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