ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA

CRISP DB INGV 2024 - API

This document reports the Application Programming Interface (API) list for data extraction from CRISP database (http://crisp.ingv.it/).

Note: all the parameters reported on DB are to be considered as indicative, the values actually used depend on the available data and the analyst experience.

1. General Information

The APIs extract the content of CRISP grouped by the different sections of the database. They are named after the main grouping argument (NAME_API) and may return the contents in json or text format (TYPE_FORMAT).

All the APIs may be run with selection of *format*, *station, channel, network* fields:

http://crisp.ingv.it/api/<NAME_API>?network=<NET>&station=<NAME_STATION>&channel=<CH>&format=<TYPE_FORMAT>

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where NAME_API is the name of the selected API (see chapter 2), NET is the network name, NAME_STATION is the station name, CH is the sensor channel, TYPE_FORMAT is the output format (text or jason)

Here some examples:

- Extract the information of ACER station on text format
  http://crisp.ingv.it/api/Station_list?station=ACER&format=text

- Extract the information of ACER station on json format
  http://crisp.ingv.it/api/Station_list?station=ACER&format=json

- Extract the information of all stations belonging to MN network
  http://crisp.ingv.it/api/Station_list?network=MN&format=text

- Extract the information of all stations with channel HHN
  http://crisp.ingv.it/api/Station_list?channel=HHN

All APIs contain the following ordered fields, hereinafter referred to as common fields

- site_name: site name
- site_latitude: site latitude
- site_longitude: site longitude
- site_elevation: site elevation
- site_srid: Coordinates Spatial reference System
- site_id: site identifier
- [...]
- timestamp_revision: last revision/insert date

Some APIs can return multiple lines if multiple information is present, each multiple piece of information has its own id, present in the extraction. The content is logically recognizable by the field name. For the meaning of the field names, when not sufficiently clear, please refer to the users manual:

http://crisp.ingv.it/documents/0/info_attachments/7_allegato.pdf?65db0c243b580

2. List Of the API

In the following the description of the contents extracted by the APIs. The output examples are related to a few stations, but they work for all the stations

1. Station_list

List of all the stations in the DB:
http://crisp.ingv.it/api/Station_list?format=text

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OUTPUT fields:
- station_code: Network and station name
- location_code: 00 for superficial sensors, 01 or more for on depth sensors
- [common fields]
- start_time
- end_time
- site_type: Permanent or temporary station
- description: Country and district
- sensors: sensor and digitizer name
- q_final: Value of Q indicator
- q_final_monography: address of Q monograph
- note
- is_online

output example:

station_code,location_code,site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,start_time,end_time,site_type,description,sensors,q_final,q_final_monography,note,is_online,timestamp_revision
IV.ACER,,ACER,40.786657,15.942361,761,GCS_WGS_1984,1,"2007-07-05 12:00:00",,PERMANENT,"Acerenza, Potenza",,,,,PUBLISHED,"2023-05-18 14:03:48"

2. InstrumentHousing

List the information on housing of the station:
http://crisp.ingv.it/api/InstrumentHousing?format=text

OUTPUT fields:
- [common fields]
- picture_sensor
- picture_site
- picture_panorama
- coupling
- insulating
- housing
- note
- c_thickness_of_upper_rock
- c_lateral_thickness_of_rock
- c_distance_from_outside
- building_type
- b_installation_floor
- b_number_of_storeys
- b_frequency_of_building
- b_tansversal_frequency
- b_longitudinal_frequency
- b_building_orientation
- vulnerability_class
- internal_location
- noise_source_type
- persistence_of_noise
- start_time
- end_time
- distance_from_seismometer
- latitude_of_noise_source
- longitude_of_noise_source
- elevation_of_noise_source
- note_noise

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,picture_sensor,picture_site,picture_panorama,coupling,insulating,housing,note,c_thickness_of_upper_rock,c_lateral_thickness_of_rock,c_distance_from_outside,building_type,b_installation_floor,b_number_of_storeys,b_frequency_of_building,b_tansversal_frequency,b_longitudinal_frequency,b_building_orientation,vunelnarability_class,internal_location,noise_source_type,persistence_of_noise,start_time,end_time,distance_from_seismometer,latitude_of_noise_source,longitude_of_noise_source,elevetation_of_noise_source,note_noise,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,http://crisp.ingv.it/documents/1/instrument_housing/227_picture_sensor.jpg,http://crisp.ingv.it/documents/1/instrument_housing/227_picture_site.JPG,http://crisp.ingv.it/documents/1/instrument_housing/227_picture_panorama.jpg,PILLAR,GOOD,VAULT,,,,,ENEL_BOX,,,,,,A,CENTER,,,,,,,,,,"2023-08-09 10:27:04" AGST,37.256637,15.227715,56,GCS_WGS_1984,2,,,,,,,,,,,,,,,,,,,,,

3. DataQuality
List the information on data quality of the station:
http://crisp.ingv.it/api/DataQuality?format=text

OUTPUT fields:
- [common fields]
- components
- band_instrument
- season_noise_figure
- annual_noise_figure

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,components,band_instrument,season_noise_figure,annual_noise_figure,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,E,"HH",http://crisp.ingv.it/documents/1/data_quality/IV.ACER.--.HHE.4.Year-1.png,http://crisp.ingv.it/documents/1/data_quality/IV.ACER.--.HHE.1E.LYEAR.png,"2022-01-13 13:53:45"
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,N,"HH",http://crisp.ingv.it/documents/1/data_quality/IV.ACER.--.HHN.4.Year-1.png,http://crisp.ingv.it/documents/1/data_quality/IV.ACER.--.HHN.1E.LYEAR.png,"2022-01-13 13:53:45"
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Z,"HH",http://crisp.ingv.it/documents/1/data_quality/IV.ACER.--.HHZ.4.Year-1.png,http://crisp.ingv.it/documents/1/data_quality/IV.ACER.--.HHZ.1E.LYEAR.png,"2022-01-13 13:53:45"

4. Stratigraphy
List the information on stratigraphy below the station:
http://crisp.ingv.it/api/Stratigraphy?format=text

OUTPUT fields:
- [common fields]
- drilling_id: drilling identifier
- source: source of drilling information
- stratigraphy_latitude
- stratigraphy_longitude
- stratigraphy_elevation
- stratigraphy_srid: Stratigraphy Coordinates Spatial reference System
- station_distance: Distance site - drilling
- depth: drilling depth
- picture1
- picture2
- picture3
- drilling_date
- monography
- stras_value: Layers number

output example:

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site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,drilling_id,source,stratigraphy_latitude,stratigraphy_longitude,stratigraphy_elevation,stratigraphy_srid,station_distance,depth,picture1,picture2,picture3,drilling_date,monography,stras_value,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,,,,,,,,,,,,,,,, AGST,37.256637,15.227715,56,GCS_WGS_1984,2,,,,,,,,,,,,,,,

5. GeologicalReview

List the information on geological review and the conceptual model below the station:
http://crisp.ingv.it/api/GeologicalReview?format=text

OUTPUT fields:
- [common fields]
- preferred
- monography
- range_of_interest
- layer_number
- lithology
- lithology_class
- maximum_thickness
- minimum_thickness
- real_thickness
- rock_mass_structure_class
- fractured
- strata_orientantions_strike
- strata_orientations_dip
- strata_orientations_slip
- age_of_deposit_min
- age_of_deposit_max
- consistency
- environmental_setting
- compactness_degree

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,preferred,monography,range_of_interest,layer_number,lythology,lithology_class,maximum_thickness,minimum_thickness,real_thickness,rock_mass_structure_class,fracuterd,strata_orientantions_strike,strata_orientations_dip,strata_orientations_slip,age_of_deposit_min,age_of_deposit_max,consistency,environmental_setting,compactness_degree,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,http://crisp.ingv.it/documents/1/geological_review/1050_geological_review.pdf,10.00000,1,"Sandstones and sands deposits","Sandstone and sand",80.00000,50.00000,,"Bedding lamination",yes,,,,Pliocene,Pliocene,Lithoid-incoherent,"Other environment",None,"2023-01-12 13:45:19"
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,http://crisp.ingv.it/documents/1/geological_review/1050_geological_review.pdf,10.00000,2,"Sandstones with interbedding siltitic, clays and marls","Pelite-sandstone alternance",,500.00000,,"Undefined layering",yes,,,,Miocene,Miocene,Lithoid-incoherent-cohesive,Scarp,None,"2023-01-12 13:45:19"

6. MorphologicalClassification

List the morphological information around the station:
http://crisp.ingv.it/api/MorphologicalClassification?format=text

OUTPUT fields:
- [common fields]
- preferred
- cartography_code
- note
- demresolution

- slope
- sloperange
- slope_range_figure
- type
- basin_position
- hl
- wl
- hb
- wb
- aspect_ratio
- relief_position
- height_vertical_drop
- width
- length
- direction

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,preferred,cartography_code,note,demresolution,slope,sloperange,slope_range_figure,type,basin_position,hl,wl,hb,wb,aspect_ratio,relief_position,height_vertical_drop,width,length,direction,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,N,,,30.00000,18.57000,ANGLE_GT15_LE30,http://crisp.ingv.it/documents/1/morphological_classification/ACER.jpg,RELIEF,,,,,,,NONE,,,,"2023-01-12 13:47:36"
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,,,10.00000,8.67000,ANGLE_LE15,http://crisp.ingv.it/documents/1/morphological_classification/ACER_10.jpg,BASIN,NONE,,,,,,,,,,,"2023-01-12 13:47:53"

7. LithologicalClassification

List the information on lithological subdivision under the station:
http://crisp.ingv.it/api/LithologicalClassification?format=text

OUTPUT fields:
- [common fields]
- preferred
- cartography_code
- coding_type
- litological_unit_code
- volumetric_join_count
- consolidation_degree
- number_of_lithology_subdivision
- lithological_class
- lithological_description
- item_count
- proportion
- lithological_subdivision_role
- lithological_subdivision_material

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,preferred,cartography_code,coding_type,litological_unit_code,volumetric_join_count,consolidation_degree,number_of_lithology_subdivision,lithological_class,lithological_description,item_count,proportion,lithological_subdivision_role,lithological_subdivision_material,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,"Foglio Carta Litologica d'Italia 1:100,000 - Foglio MELFI","ISPRA 2010",A11,,consolidated,3,"Limestone-sandstone alternance","complesso calcareo (dolomitico) - arenaceo, calcareo (dolomitico)-marnoso-arenaceo",1,"Part of",Major,sandstone,"2023-01-12 13:45:24"
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,"Foglio Carta Litologica d'Italia 1:100,000 - Foglio MELFI","ISPRA 2010",A11,,consolidated,3,"Limestone-sandstone alternance","complesso calcareo (dolomitico) - arenaceo, calcareo (dolomitico)-marnoso-arenaceo",2,"Part of",Subordinate,impureCarbonateSedimentaryRock,"2023-01-12 13:45:24"

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ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,"Foglio Carta Litologica d'Italia 1:100,000 - Foglio MELFI","ISPRA 2010",A11,,consolidated,3,"Limestone-sandstone alternance","complesso calcareo (dolomitico) - arenaceo, calcareo (dolomitico)-marnoso-arenaceo",3,"Part of",Subordinate,sandstone,"2023-01-12 13:45:24"

8. GeologicalClassification

List the geological information under the station:
http://crisp.ingv.it/api/GeologicalClassification?format=text

OUTPUT fields:
- [common fields]
- preferred
- cartography_code
- coding_type
- geological_unit_code
- geological_unit_extended_name
- younger_age
- older_age
- event_process
- environmental_setting
- rock_mass_structure

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,preferred,cartography_code,coding_type,geological_unit_code,geological_unit_extended_name,younger_age,older_age,event_process,environmental_setting,rock_mass_structure,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,"Foglio Carta Geolitologica d'Italia 1:100,000 - Foglio MELFI",INSPIRE,125207,"Formazione Marnoso - Arenacea",Tortonian,Langhian,depositionFromWater,marine_setting,sedimentary_layering,"2023-01-21 17:31:12"

9. Cartography

List the cartography available at each station:
http://crisp.ingv.it/api/Cartography?format=text

OUTPUT fields:
- [common fields]
- type: maps type
- spatial_reference_system: Map Spatial reference System
- scale: Maps scale
- sheet: number of sheet in the Italian coding
- cartography_title
- note
- map
- legend

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,type,spatial_reference_system,scale,sheet,cartography_title,note,map,legend,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,GEOLITHOLOGICAL,GCS_WGS_1984,"1:100,000",187,"Foglio Carta Geolitologica d'Italia 1:100,000 - Foglio MELFI",,"https://sinacloud.isprambiente.it/arcgisgeo/services/servizi/litologia_ita/MapServer/WMSServer?VERSION=1.1.1&REQUEST=getMap&SRS=EPSG:4326&BBOX=15.912197,40.7641799,15.972525,40.809134&LAYERS=0&FORMAT=image/png&WIDTH=1000&HEIGHT=790&STYLES=default",https://sinacloud.isprambiente.it/arcgisgeo/services/servizi/litologia_ita/MapServer/WMSServer?REQUEST=GetLegendGraphic&VERSION=1.0.0&FORMAT=image/png&WIDTH=200&HEIGHT=20&LAYER=0,
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,GEOLOGIC,GCS_WGS_1984,"1:100,000",187,"Foglio MELFI - Carta Geologica d'Italia

1:100,000",,"http://sgi2.isprambiente.it/arcgis/services/servizi/geologia100k/MapServer/WMSServer?VERSION=1.1.1&REQUEST=getMap&SRS=EPSG:4326&BBOX=15.912197,40.7641799,15.972525,40.809134&LAYERS=0&FORMAT=image/png&WIDTH=1000&HEIGHT=790&STYLES=default",http://sgi2.isprambiente.it/arcgis/services/servizi/geologia100k/MapServer/WMSServer?REQUEST=GetLegendGraphic&VERSION=1.0.0&FORMAT=image/png&WIDTH=200&HEIGHT=20&LAYER=0,"2022-01-13 13:53:45"
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,GEOLOGIC,GCS_WGS_1984,"1:50,000",470,"Foglio POTENZA - Carta Geologica d'Italia
1:50,000",,"http://sgi2.isprambiente.it/arcgis/services/raster/geo_50k_italia/ImageServer/WMSServer?VERSION=1.1.1&REQUEST=getMap&SRS=EPSG:4326&BBOX=15.912197,40.76418,15.972525,40.809134&LAYERS=0&FORMAT=image/png&WIDTH=1000&HEIGHT=760&STYLES=default",http://sgi2.isprambiente.it/arcgis/services/servizi/geologia100k/MapServer/WMSServer?REQUEST=GetLegendGraphic&VERSION=1.0.0&FORMAT=image/png&WIDTH=200&HEIGHT=20&LAYER=0,"2022-02-17 10:12:26"

10. FaultClassification

List the presence of faults in the proximity of the station:
http://crisp.ingv.it/api/FaultClassification?format=text

OUTPUT fields:

- [common fields]
- cartography_code
- distance

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,cartography_code,distance,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,,,

11. LandslideClassification

List the presence of landslides in the proximity of the station:
http://crisp.ingv.it/api/LandslideClassification?format=text

OUTPUT fields:

- [common fields]
- cartography_code
- distance
- land_slide_activity

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,cartography_code,distance,land_slide_activity,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,,,,

12. GeologicalCrossSection

List information on cross sections under or in proximity of the station:
http://crisp.ingv.it/api/GeologicalCrossSection?format=text

OUTPUT fields:

- [common fields]
- cartography_code
- geological_cross_section
- latitude_1
- longitude_1
- latitude_2

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- longitude_2
- cross_section_srdid

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,cartography_code,geological_cross_section,latitude_1,longitude_1,latitude_2,longitude_2,cross_section_srdid,timestamp_revision
AQT1,42.772804,13.294395,745,GCS_WGS_1984,8,"Foglio NORCIA - Carta Geologica d'Italia 1:50,000",http://crisp.ingv.it/documents/cross_section/41_geological_cross_section.png,42.79685,13.29379,42.79409,13.30871,GCS_WGS_1984,"2023-06-15 16:46:28" AQT1,42.772804,13.294395,745,GCS_WGS_1984,8,"Foglio NORCIA - Carta Geologica d'Italia 1:50,000",http://crisp.ingv.it/documents/cross_section/42_geological_cross_section.png,42.78952,13.29349,42.78736,13.30886,GCS_WGS_1984,"2023-06-15 16:46:30"

13. HVNoise

List information of noise analysis performed on the station records:

http://crisp.ingv.it/api/HVNoise?format=text

OUTPUT fields:
- [common fields]
- preferred
- hvnoise_id
- start_time
- end_time
- noisevariabilitytype
- frequency_range_min
- frequency_range_max
- site_band_instrument
- note
- picture_of_ratio
- picture_of_rotated_ratio
- file_ratio
- file_rotated_ratio
- number_of_peaks
- numpeak
- peakfrequency
- peakamplitude
- frequency_band_min
- frequency_band_max
- direction_of_max_amplification

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,preferred,hvnoise_id,start_time,end_time,noisevariabilitytype,frequency_range_min,frequency_range_max,site_band_instrument,note,picture_of_ratio,picture_of_rotated_ratio,file_ratio,file_rotated_ratio,number_of_peaks,numpeak,peakfrequency,peakamplitude,frequency_band_min,frequency_band_max,direction_of_max_amplification,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,170,"2015-07-23 23:59:06","2015-07-24 23:00:01",RANDOM;,0.1,15,"HH ","Random minumum value at f0=3Hz",http://crisp.ingv.it/documents/1/hvnoise/170_file_ratio.jpg,http://crisp.ingv.it/documents/1/hvnoise/170_file_rotated_ratio.jpg,http://crisp.ingv.it/documents/1/hvnoise/170.hv,http://crisp.ingv.it/documents/1/hvnoise/170.rot,1,1,1.32000,2.50000,1,1.9,,"2023-01-12 07:48:18"

Note that if station has more peaks, it returns more lines

14. Hveq

List information of earthquake analysis performed on the station records:
http://crisp.ingv.it/api/HVeq?format=text

OUTPUT fields:
- [common fields]
- preferred
- hveq_id
- frequency_range_min
- frequency_range_max
- site_band_instrument
- note
- pictureofratio
- pictureofrotatedratio
- file_ratio
- file_rotated_ratio
- file_earthquake
- number_of_earthquake
- number_of_peaks
- numpeak
- peakfrequency
- peakamplitude
- frequencybandmin
- frequencybandmax
- directionofmaxamplification

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,preferred,hveq_id,frequency_range_min,frequency_range_max,site_band_instrument,note,pictureofratio,pictureofrotatedratio,file_ratio,file_rotated_ratio,file_earthquake,number_of_earthquake,number_of_peaks,numpeak,peakfrequency,peakamplitude,frequencybandmin,frequencybandmax,directionofmaxamplification,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,205,0.5,15,"HH
",,http://crisp.ingv.it/documents/1/hveq/205_picture_of_ratio.png,http://crisp.ingv.it,http://crisp.ingv.it/docume
nts/1/hveq/205.hv,http://crisp.ingv.it/documents/1/hveq/205.rot,http://crisp.ingv.it/documents/1/hveq/205.eq,
42,1,1,1.23000,2.66000,0.9,1.8,,"2023-01-12 07:48:17"

Note that if station has more peaks, it returns more lines

15. SSReq

List information of noise and/or earthquake analysis performed on the station records with
a reference station:
http://crisp.ingv.it/api/SSReq?format=text

OUTPUT fields:
- [common fields]
- preferred
- ssreq_id
- reference_station
- reference_station_lat
- reference_station_lon
- frequency_range_min
- frequency_range_max

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- site_band_instrument
- note
- components
- picture_of_ratio
- picture_of_rotated_ratio
- file_ratio
- file_rotated_ratio
- file_earthquake
- file_peaks
- number_of_earthquake
- number_of_peaks,numpeak
- peakfrequency
- peakamplitude
- frequency_band_min
- frequency_band_max
- direction_of_max_amplification

output example:
site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,preferred,ssreq_id,reference_station,reference_station_lat,reference_station_lon,frequency_range_min,frequency_range_max,site_band_instrument,note,components,picture_of_ratio,picture_of_rotated_ratio,file_ratio,file_rotated_ratio,file_earthquake,file_peaks,number_of_earthquake,number_of_peaks,numpeak,peakfrequency,peakamplitude,frequency_band_min,frequency_band_max,direction_of_max_amplification,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,,,,,,,,,,,,,,,,,,,,,,,,,

16. SignalPolarization

List information of noise and/or earthquake polarization analysis performed on the station records:

http://crisp.ingv.it/api/SignalPolarization?format=text

OUTPUT fields:
- [common fields]
- preferred
- signalpolarization_id
- start_time
- end_time
- signalpolarizationtype
- frequency_range_min
- frequency_range_max
- site_band_instrument
- note
- pictureellipticity
- picturedip
- picturestrike
- file_ellipticity
- file_dip
- file_strike
- file_earthquake
- number_of_earthquake
- number_of_peaks
- numpeak
- peakfrequency
- directionofprincipalaxis
- ellipticity

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- dipangle

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,preferred,signalpolarization_id,start_time, end_time,signalpolarizationtype,frequency_range_min,frequency_range_max,site_band_instrument,note,pictur eellipticity,picturedip,picturestrike,file_ellipticity,file_dip,file_strike,file_earthquake,number_of_earthquake,num ber_of_peaks,numpeak,peakfrequency,directionofprincipalaxis,ellipticity,dipangle,timestamp_revision
AGST,37.256637,15.227715,56,GCS_WGS_1984,2,Y,31,"2014-01-01 13:05:06","2014-01-01 17:38:06",Noise,0.1,15,"EH ",,http://crisp.ingv.it/documents/2/signal_polarization/31_file_ellipticity.jpg,http://crisp.ingv.it/documents/2/sig nal_polarization/31_file_dip.jpg,http://crisp.ingv.it/documents/2/signal_polarization/31_file_strike.jpg,http://cr isp.ingv.it/documents/2/signal_polarization/31.pe,http://crisp.ingv.it/documents/2/signal_polarization/31.dip,ht tp://crisp.ingv.it/documents/2/signal_polarization/31.strike,http://crisp.ingv.it/documents/2/signal_polarization /31.eq,0,1,1,6.00000000,180.00000000,0.28000000,95.00000000,"2023-01-12 07:50:06"

Note that if station has more peaks, it returns more lines

17. SeismicCodeSoilClass

List information of soil class under/nearby the station:

http://crisp.ingv.it/api/SeismicCodeSiteClass?format=text

OUTPUT fields:

- [common fields]
- site_class_preferred
- description_seismic_code_type
- seismic_code_note
- description_site_class_type
- site_class_value
- site_class_note

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,site_class_preferred,description_seismic_ code_type,seismic_code_note,description_site_class_type,site_class_value,site_class_note,timestamp_revisio n
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,N,EC8,,GEOLOGY;,B,"from di Capua et al. 2016","2022-02-14 14:00:46" ACER,40.786657,15.942361,761,GCS_WGS_1984,1,N,EC8,,GEOLOGY;,C,"Obtained by Standalone Software SSC-Italy http://wpage.unina.it/iuniervo/SSC-Italy.zip","2023-05-18 08:25:18"
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,EC8,,GEOLOGY;,B,"Obtained by dataset (ASCII file GR ID) https://data.mendeley.com/datasets/8458tgzc73/1","2023-05-24 12:25:28"
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,NTC18,,GEOLOGY;,C,"Obtained by Standalone Software SSC-Italy http://wpage.unina.it/iuniervo/SSC-Italy.zip","2023-06-08 12:45:35"

Note that ACER, having site classification coming from multiple method, returns multiple lines

18. SeismicCodeTopographyClass

List information of topography class under/nearby the station:

http://crisp.ingv.it/api/SeismicCodeTopographyClass?format=text

OUTPUT fields:

- [common fields]
- topography_class_preferred
- description_seismic_code_type
- seismic_code_note

- description_topography_class_type
- topography_class_value
- topography_class_note

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,topography_class_preferred,description_seismic_code_type,seismic_code_note,description_topography_class_type,topography_class_value,topography_class_note,timestamp_revision
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,N,EC8,,DEM;,NC,dem_10m,"2023-01-21 08:15:19"
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,N,EC8,,DEM;,NC,dem_30m,"2023-01-18 11:25:35"
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,N,EC8,,OTHER;,T2,GoogleEarth,"2023-02-03 12:48:37"
ACER,40.786657,15.942361,761,GCS_WGS_1984,1,Y,NTC18,,DEM;,T3,"Slope: 13.24 °, Vs30: 897 m/s","2023-02-03 13:13:50" AGST,37.256637,15.227715,56,GCS_WGS_1984,2,N,NTC18,,DEM;,T1,"Slope: 4.25°: Vs30: 553 m/s","2023-02-03 13:31:09"

Note that the sites, having topography classification coming from multiple method, may return multiple lines

19. VelocityProfileVelocityMean

List the subsoil model information on Vs 30, Vs Bedrock, Vs equivalent under/nearby the station:

http://crisp.ingv.it/api/VelocityProfileVelocityMean?format=text

OUTPUT fields:

- [common fields]
- preferred
- subsoilmodel_id
- subsoil_model_type
- subsoil_model_latitude
- subsoil_model_longitude
- subsoil_model_elevation
- subsoil_model_note
- subsoil_model_range_of_interest
- subsoil_model_station_distance
- subsoil_model_figure
- monography
- description_velocity_profile_type
- graphic_depth_model
- velocity_mean_type
- velocity_mean_value
- velocity_mean_depth
- velocity_mean_note

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,preferred,subsoilmodel_id,subsoil_model_type,subsoil_model_latitude,subsoil_model_longitude,subsoil_model_elevation,subsoil_model_note,subsoil_model_range_of_interest,subsoil_model_station_distance,subsoil_model_figure,monography,description_velocity_profile_type,graphic_depth_model,velocity_mean_type,velocity_mean_value,velocity_mean_depth,velocity_mean_note,timestamp_revision
BIOG,41.199899,15.132629,623,GCS_WGS_1984,35,Y,36,VELOCITY_PROFILE,41.199899,15.132629,623,"Inverted shear-wave velocity (Vs) profiles using surface-wave analysis from two 2D arrays of seismic stations in passive configuration.",350,40,http://crisp.ingv.it/documents/subsoil_model/36_figure.png,http://crisp.ingv.it/documents/subsoil_model/36_monography.pdf,"SA;
",/documents/subsoil_model/velocity_profile/31_graphic_depth_velocity_crosssection.png,VS30,229.40000,30.00000,"SOIL CLASS C, FROM SURFACE-WAVE INVERSION BASED ON PASSIVE 2d ARRAY","2023-01-26 10:22:50"

Release 16 dic 2024

CAPR,45.637076,9.934515,217,GCS_WGS_1984,54,Y,65,VELOCITY_PROFILE,45.63691,9.93426,217,,,20,http://crisp.ingv.it/documents/subsoil_model/65_figure.png,http://crisp.ingv.it/documents/subsoil_model/65_monography.pdf,"SA;
",/documents/subsoil_model/velocity_profile/59_graphic_depth_velocity_crosssection.png,VS30,696.00000,30.00000,,"2023-01-11 14:40:44"
CAPR,45.637076,9.934515,217,GCS_WGS_1984,54,Y,65,VELOCITY_PROFILE,45.63691,9.93426,217,,,20,http://crisp.ingv.it/documents/subsoil_model/65_figure.png,http://crisp.ingv.it/documents/subsoil_model/65_monography.pdf,"SA;
",/documents/subsoil_model/velocity_profile/59_graphic_depth_velocity_crosssection.png,VS_BEDROCK,1033.00000,12.60000,"Seismic bedrock","2023-01-11 14:40:44"
CAPR,45.637076,9.934515,217,GCS_WGS_1984,54,Y,65,VELOCITY_PROFILE,45.63691,9.93426,217,,,20,http://crisp.ingv.it/documents/subsoil_model/65_figure.png,http://crisp.ingv.it/documents/subsoil_model/65_monography.pdf,"SA;
",/documents/subsoil_model/velocity_profile/59_graphic_depth_velocity_crosssection.png,VSEQ,480.00000,12.60000,,"2023-01-11 14:40:44"

Note that BIOG, having only VS30, shows one line, while CAPR, having Vs30, VsBedrock, Vseq, shows three lines

20. VelocityProfileDepthVelocity

List the velocity profile model for the station:
http://crisp.ingv.it/api/VelocityProfileDepthVelocity?format=text

OUTPUT fields:

- [common fields]
- subsoilmodel_id
- subsoil_model_type
- subsoil_model_latitude
- subsoil_model_longitude
- subsoil_model_elevation
- subsoil_model_range_of_interest
- subsoil_model_station_distance
- subsoil_model_note
- subsoil_model_figure
- monography
- description_velocity_profile_type
- preferred
- graphic_depth_model
- depth_top
- depth_bottom
- vs
- vp
- vs_error
- vp_error
- depth_top_error
- depth_bottom_error

output example:

site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,subsoilmodel_id,subsoil_model_type,subsoil_model_latitude,subsoil_model_longitude,subsoil_model_elevation,subsoil_model_range_of_interest,subsoil_model_station_distance,subsoil_model_note,subsoil_model_figure,monography,description_velocity_profile_type,preferred,graphic_depth_model,depth_top,depth_bottom,vs,vp,vs_error,vp_error,depth_top_error,depth_bottom_error,timestamp_revision
BIOG,41.199899,15.132629,623,GCS_WGS_1984,35,36,VELOCITY_PROFILE,41.199899,15.132629,623,350,40,"Inverted shear-wave velocity (Vs) profiles using surface-wave analysis from two 2D arrays of seismic stations in passive configuration.",http://crisp.ingv.it/documents/subsoil_model/36_figure.png,http://crisp.ingv.it/documents/subs

oil_model/36_monography.pdf,"SA;
",Y,/documents/subsoil_model/velocity_profile/31_graphic_depth_velocity_crosssection.png,0,7.14,189,1601,,,,"
2023-01-26 10:22:50"
BIOG,41.199899,15.132629,623,GCS_WGS_1984,35,36,VELOCITY_PROFILE,41.199899,15.132629,623,350,40,"Invert
ed shear-wave velocity (Vs) profiles using surface-wave analysis from two 2D arrays of seismic stations in passive
configuration.",http://crisp.ingv.it/documents/subsoil_model/36_figure.png,http://crisp.ingv.it/documents/subs
oil_model/36_monography.pdf,"SA;
",Y,/documents/subsoil_model/velocity_profile/31_graphic_depth_velocity_crosssection.png,7.14,14.28,217,1603,
,,,,"2023-01-26 10:22:50"
 [...]
BIOG,41.199899,15.132629,623,GCS_WGS_1984,35,36,VELOCITY_PROFILE,41.199899,15.132629,623,350,40,"Invert
ed shear-wave velocity (Vs) profiles using surface-wave analysis from two 2D arrays of seismic stations in passive
configuration.",http://crisp.ingv.it/documents/subsoil_model/36_figure.png,http://crisp.ingv.it/documents/subs
oil_model/36_monography.pdf,"SA;
",Y,/documents/subsoil_model/velocity_profile/31_graphic_depth_velocity_crosssection.png,71.26,78.4,441,1615
,,,,"2023-01-26 10:22:50"

Note that BIOG, having a velocity model of eleven layers, shows eleven lines

21. NonLinearCurve

List information on the non linear curves results:
http://crisp.ingv.it/api/NonLinearCurve?format=text

OUTPUT fields:
- [common fields]
- subsoilmodel_id
- subsoil_model_type
- subsoil_model_latitude
- subsoil_model_longitude
- subsoil_model_elevation
- subsoil_model_note
- subsoil_model_range_of_interest
- subsoil_model_station_distance
- subsoil_model_figure
- monography
- non_linear_curve_type
- preferred
- sample_depth
- shear_strain
- stiffness_modulus
- g_g0
- damping_ratio
- pore_pressure

output example:

*site_name,site_latitude,site_longitude,site_elevation,site_srid,site_id,subsoilmodel_id,subsoil_model_type,subs
oil_model_latitude,subsoil_model_longitude,subsoil_model_elevation,subsoil_model_note,subsoil_model_rang
e_of_interest,subsoil_model_station_distance,subsoil_model_figure,monography,non_linear_curve_type,prefe
rred,sample_depth,shear_strain,stiffness_modulus,g_g0,damping_ratio,pore_pressure,timestamp_revision*
ROM9,41.82869,12.51553,50,GCS_WGS_1984,269,5,NON_LINEAR_CURVE,41.828419,12.51553,50,"prove eseguite
da unigeo srl (data ricevimento campione 27 luglio 2017)
",,50,http://crisp.ingv.it/documents/subsoil_model/5_figure.png,http://crisp.ingv.it/documents/subsoil_model/
5_monography.pdf,RC,Y,"67 m",0.00080,182.66000,0.99950,1.87950,0.00167,"2022-01-13 13:53:45"
ROM9,41.82869,12.51553,50,GCS_WGS_1984,269,5,NON_LINEAR_CURVE,41.828419,12.51553,50,"prove eseguite
da unigeo srl (data ricevimento campione 27 luglio 2017)

15

",,50,http://crisp.ingv.it/documents/subsoil_model/5_figure.png,http://crisp.ingv.it/documents/subsoil_model/5_monography.pdf,RC,Y,"67 m",0.00250,182.75000,1.00000,1.78500,0.00667,"2022-01-13 13:53:45"

[...]

ROM9,41.82869,12.51553,50,GCS_WGS_1984,269,5,NON_LINEAR_CURVE,41.828419,12.51553,50,"prove eseguite da unigeo srl (data ricevimento campione 27 luglio 2017)

",,50,http://crisp.ingv.it/documents/subsoil_model/5_figure.png,http://crisp.ingv.it/documents/subsoil_model/5_monography.pdf,RC,Y,"67 m",0.04330,142.54000,0.78000,4.70910,0.28000,"2022-01-13 13:53:45"

Note that ROM9, having 22 test entries, shows 22 lines

Name	Content	Command
Station_list	List of all the stations in the DB	http://crisp.ingv.it/api/Station_list
InstrumentHousing	List the information on housing of the station	http://crisp.ingv.it/api/InstrumentHousing
DataQuality	List the information on data quality of the station	http://crisp.ingv.it/api/DataQuality
Stratigraphy	List the information on stratigraphy below the station:	http://crisp.ingv.it/api/Stratigraphy
GeologicalReview	List the information on geological review and the conceptual model below the station:	http://crisp.ingv.it/api/GeologicalReview
MorphologicalClassification	List the morphological information around the station:	http://crisp.ingv.it/api/MorphologicalClassification
LithologicalClassification	List the information on lithological subdivision under the station:	http://crisp.ingv.it/api/LithologicalClassification
GeologicalClassification	List the geological information under the station:	http://crisp.ingv.it/api/GeologicalClassification
Cartography	List the cartography available at each station:	http://crisp.ingv.it/api/Cartography
FaultClassification	List the presence of faults in the proximity of the station:	http://crisp.ingv.it/api/FaultClassification
LandslideClassification	List the presence of landslides in the proximity of the station:	http://crisp.ingv.it/api/LandslideClassification
GeologicalCrossSection	List information on cross sections under or in proximity of the station:	http://crisp.ingv.it/api/GeologicalCrossSection
HVNoise	List information of noise analysis performed on the station records	http://crisp.ingv.it/api/HVNoise
Hveq	List information of earthquake analysis performed on the station records:	http://crisp.ingv.it/api/HVeq
SSReq	List information of noise and/or earthquake analysis performed on the station records with a reference station:	http://crisp.ingv.it/api/SSReq

SignalPolarization	List information of noise and/or earthquake polarization analysis performed on the station records:	http://crisp.ingv.it/api/SignalPolarization
SeismicCodeSoilClass	List information of soil class under/nearby the station:	http://crisp.ingv.it/api/SeismicCodeSiteClass
SeismicCodeTopographyClass	List information of topography class under/nearby the station:	http://crisp.ingv.it/api/SeismicCodeTopographyClass
VelocityProfileVelocityMean	List the subsoil model information on Vs 30, Vs Bedrock, Vs equivalent under/nearby the station:	http://crisp.ingv.it/api/VelocityProfileVelocityMean
VelocityProfileDepthVelocity	List the velocity profile model for the station:	http://crisp.ingv.it/api/VelocityProfileDepthVelocity
NonLinearCurve	List information on the non linear curves results:	http://crisp.ingv.it/api/NonLinearCurve