



EPSG Geodetic Parameter Registry

User manual

Version 6.2



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1 Home page

GeoRepository is a cloud-based web application and API for storing, searching, and displaying geodetic parameters. The application is used for hosting the EPSG Geodetic Parameter Dataset, which is a collection of definitions of coordinate reference systems and coordinate operations which may be global, regional, national, or local in application.

This is the latest generation of the site which includes an enhanced data model compliant with the ISO 19111:2019 revision which replaces the ISO 19111:2007 version. The new data model includes the ability to describe dynamic coordinate reference systems, which are now differentiated from static coordinate reference systems. Furthermore, it includes the ability to describe geoid-based vertical coordinate reference systems, point motion models, derived coordinate reference systems and datum ensembles.

Exports of the dataset include the EPSG MS Access, Oracle SQL Scripts, MySQL Scripts, PostgreSQL Scripts and WKT compliant with the ISO 19162:2019 standard. Exports can only be made by registered users.

The EPSG Geodetic Parameter Dataset is maintained by the Geodesy Subcommittee of the IOGP Geomatics Committee. For more information about the Geomatics Committee please visit <https://epsg.org> and click on the Geomatic Home button shown in Figure 1.

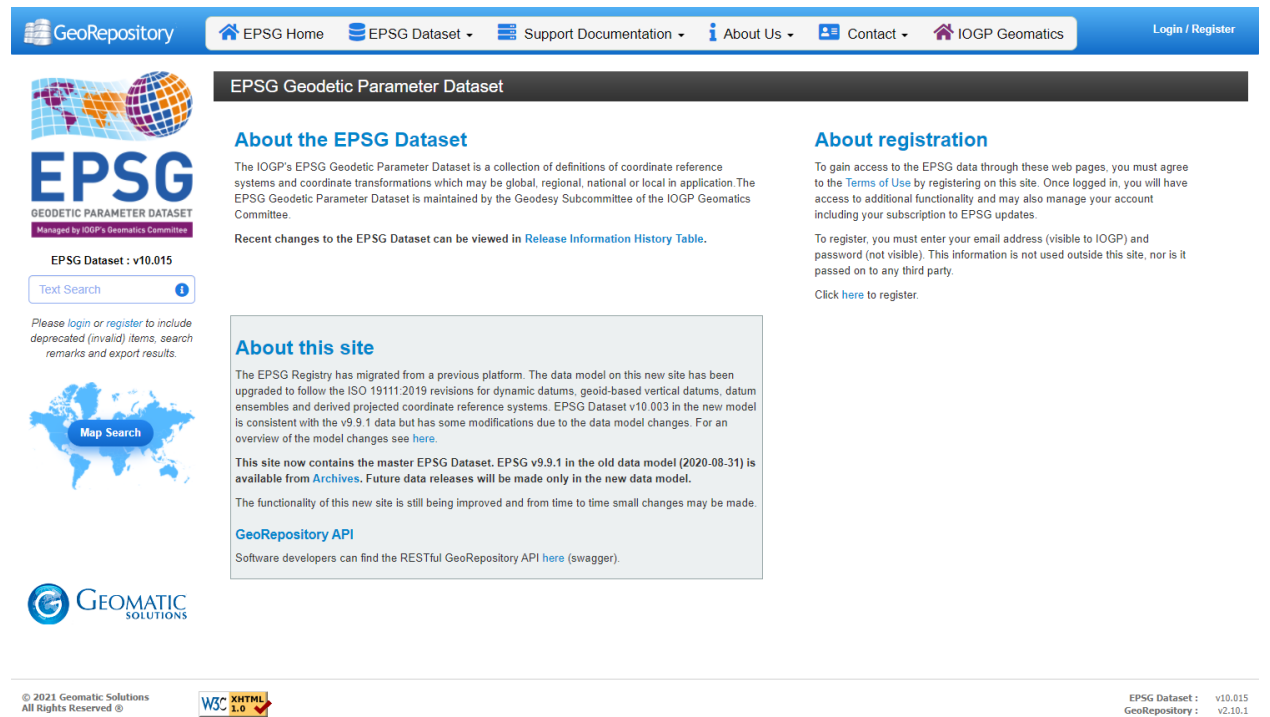


Figure 1: GeoRepository home page

The application can be used without registration, but with functionality limited to basic searching and reporting only. Registration gives the user access to export functions, once logged in.

This document can be downloaded from the site using the 'Support Documentation' menu option.

1.1 Online Registration

To gain full access to the EPSG Geodetic Parameter Dataset registry functionality through these web pages, you must register on this site. Once registered, you may also subscribe to updates and make change requests.

To register, click on the **Register** link shown in the upper right-hand corner of the home page (see Figure 1). Next, a registration form will appear like the one shown in Figure 2.

FREE Membership form

Please fill out the registration form below to complete your membership.
 If you already have an account, click [here](#) to login.

Given Name
 Enter your given name

Family Name
 Enter your family name

Your Email
 Enter your email address

Password
 Enter your password

Retype Password
 Retype your password

Industry
 [Dropdown menu]

Subscribe to EPSG News
 Agree to T&C and EPSG ToU:

You must provide a valid email address and agree to the [Terms and Conditions](#) and [EPSG Terms of Use](#).
 Your privacy is protected by the IOGP [privacy policy](#).

Register

EPSSG
 GEODETIC PARAMETER DATASET
 Managed by IOGP's Geomatics Committee

EPSSG Dataset : v9.8.9

Text Search [Search icon]

Please [login](#) or [register](#) to include deprecated (invalid) items, search remarks and export results.

Map Search [Map icon]

GEOMATIC SOLUTIONS

Figure 2: Membership registration form

Enter your details into the boxes shown. All boxes displayed are mandatory. Details provided (except for your password) will be visible only to IOGP and will be protected under the General Data Protection Regulations (EU) 2016/679 to which IOGP is fully compliant. This information is not used externally to this site, nor will it be passed on to any third parties.

FREE Membership form

Please fill out the registration form below to complete your membership.
 If you already have an account, [click here](#) to login.

Given Name

Family Name

Your Email

Password

Retype Password

Industry

Subscribe to EPSG News
 Agree to T&C and EPSG ToU:

You must provide a valid email address and agree to the [Terms and Conditions](#) and [EPSG Terms of Use](#).
 Your privacy is protected by the [IOGP privacy policy](#).

Register

Figure 3: Populate the boxes indicated with an asterisk

Your password must be at least 8 characters long and must contain at least one upper case letter, one lower case letter, one number and one special character.

Once details have been entered, click on **Register** button at the bottom of the form and an email will be automatically sent to the email address you supply.

Email Activation

Dont forget to activate your account!

Thank you for registering. An activation email has been sent to martinrayson80@gmail.com

To activate your account please click on the activation link in this email.

Figure 4: Activate the account

To activate your account, open the email sent and follow the instructions.

You've registered for an account with IOGP GeoRepository

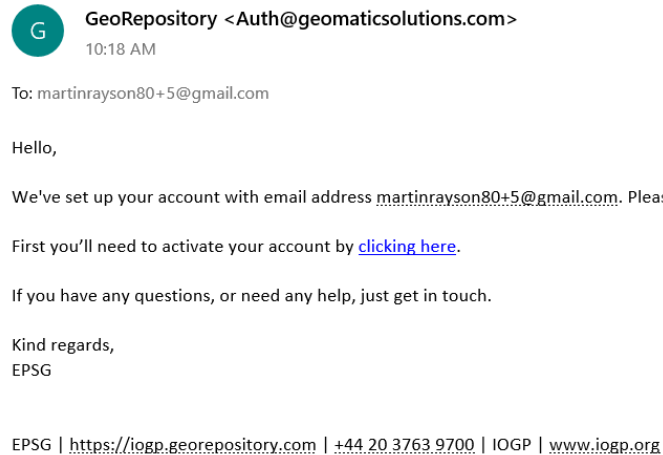


Figure 5: Confirm account registration

If your account is successfully activated a message like the one shown in Figure 6 will appear.

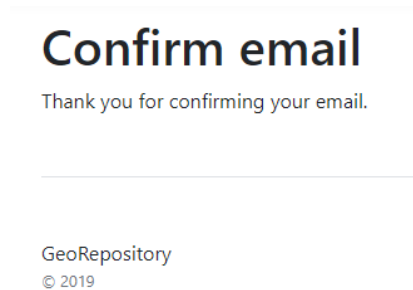


Figure 6: Confirmation accepted; account live

1.2 User roles and privileges

Four categories of users are defined:

- Guest User
- Registry User
- Reviewer
- Registry Manager (Geo Admin, CMS Admin and User Admin)

Which have the following definitions and privileges:

- **Guest user** is the default setting. This constitutes any user who is accessing the registry without having logged into the application.
- **Registered user** is the role assigned to anyone that has created a user account on the registry and has logged into the application.

- **Reviewer** is assigned the role by the **Site Admin**. A Reviewer is part of the internal data QC process, and the role can be assigned to any registered user at the discretion of the Registry Manager.
- **Geo Admin** has access to all systems and functionality of the site excluding editing the static pages and accessing user accounts.
- **User Admin** has access to manage all existing user accounts and create a new user account.
- **CMS Admin** edit all existing static pages and create a new static pages.

This manual will address the privileges provided to **Registered Users and Guest Users**. Table 1 describes the functionality assigned to each category of user:

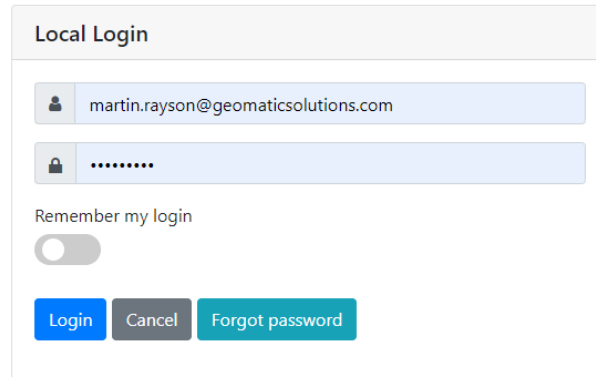
Table 1 : User group privileges

Functionality	Guest User	Registered User (logged in)	Geo Admin	Reviewer	User Admin	CMS Admin
Search / View / Report valid (including superseded) objects	✓	✓	✓	✓		
Submit proposals for change requests	✓	✓	✓	✓		
Search / View / Report invalid (including deprecated) objects		✓	✓	✓		
Use registry export functions		✓	✓	✓		
Create change requests, add new objects, amend existing objects			✓			
View objects in pending change requests			✓	✓		
QC and comment on pending change requests			✓	✓		
Approve change request for release			✓			
View and comment on approved change requests			✓	✓		
Make registry release (makes public all approved change requests)			✓			
Manage user accounts					✓	
Update static pages						✓

2 Registered user login

After completing online registration, follow this procedure to log into the application. Click on the **Login button** shown in the top right-hand corner of Figure 2. Next, a panel like the one shown in Figure 7 will appear.

Login



Local Login

Remember my login

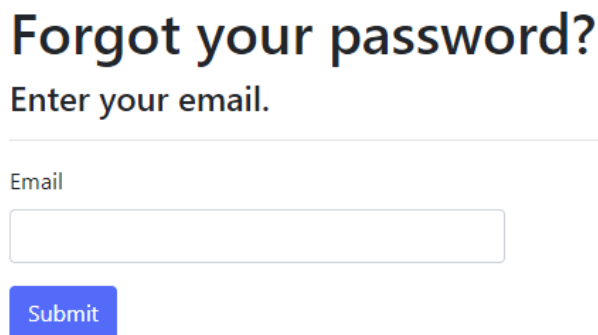
GeoRepository
© 2019

Figure 7: Login panel

Enter your username and password into the boxes provided and click the **blue Login button**. If all details are successfully recognized, you will be redirected to the main home page of the site. If your details are not recognized, you will be invited to re-enter your login details.

2.1 Forgot password

In the event you have forgotten your password click on the green '**Forgot password**' button and you will be re-directed to the following page:



Forgot your password?

Enter your email.

Email

Figure 8: Forgot password panel

Enter your email into the text box provided and click **the Submit** button.

Forgot password confirmation

Please check your email to reset your password.

Figure 9: Reset password option

Follow the instructions; check your email *inbox*, and follow the link provided. A panel like the one shown in Figure 10 will appear. Enter the new password details into the boxes provided and click Reset button to confirm the new password.

Reset password

Reset your password.

Email

Password

Confirm Password

[Reset](#)

Figure 10: Confirm new password

2.2 Viewing user details

Users who have logged in can view their own account details by clicking on the **Menu** button shown in the top right-hand corner of Figure 11. The **Menu** option will only become available after you have successfully logged in to the application; it automatically replaces the Login/Register button (see previous Figure 2).

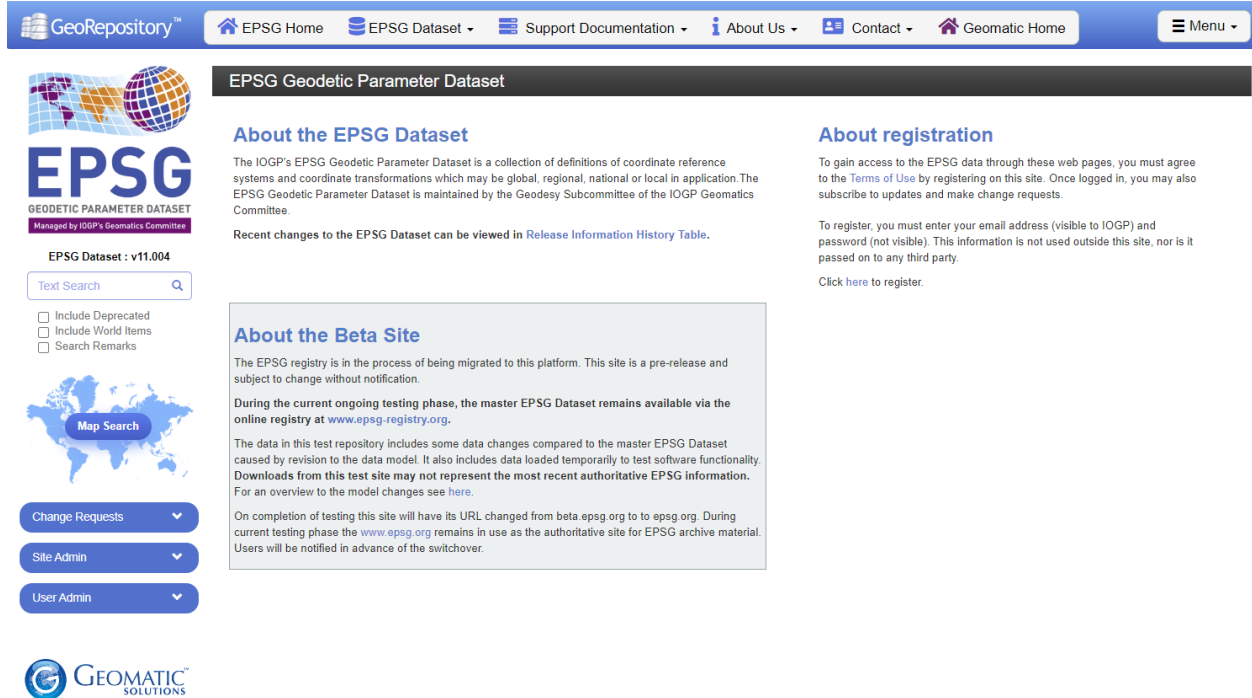


Figure 11: User menu option

Place the cursor over the menu option and click once with the left-hand mouse button. A sub-menu will automatically appear like the one shown in Figure 12.

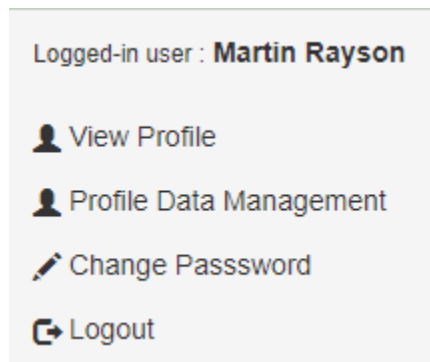


Figure 12: View user details menu

2.2.1 View profile

To view your own profile details, click on **View Profile** option and a panel like the one shown in Figure 13 will be displayed.

User Details	
GIVEN NAME	Martin
FAMILY NAME	Rayson
USERNAME	martin.rayson@geomaticsolutions.com
EMAIL	martin.rayson@geomaticsolutions.com
ROLE	User
INDUSTRY	GIS
REGISTERED	15 Oct 2019
STATUS	Confirmed

Figure 13: View own profile

To change your details, click on the **Edit Profile** button shown in Figure 13. As a Registered User you are permitted to change your Username and industry as shown in Figure 14. Once changes have been made click on **Save Changes** button.

Edit Profile

Given Name:
 Family Name:
 Email:
 Industry:
 Subscribe to EPSG News:

Figure 14: Edit profile

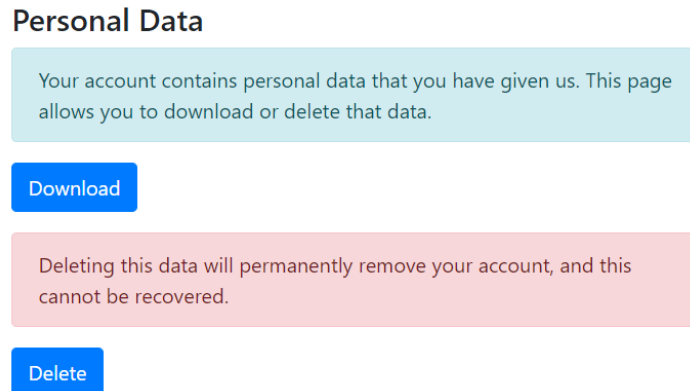
You will be unable to change any other details about your account such as your email address. If you require any details to be changed, you have two options:

1. Contact the system administrator
2. Set up a new account – in the event you want to change your email address.

2.2.2 Profile Data Management

The General Data Protection Regulations (GDPR) enable you to have access to what personal data is stored by this application. This allows such data to be either downloaded and viewed or deleted

permanently. Use either of the options on this panel to perform these operations. Should you delete your account you can create a new one with the same details.



Personal Data

Your account contains personal data that you have given us. This page allows you to download or delete that data.

Download

Deleting this data will permanently remove your account, and this cannot be recovered.

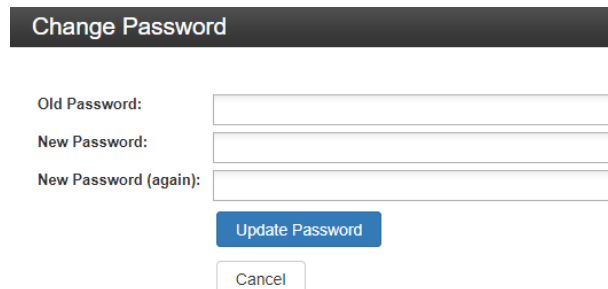
Delete

Figure 15: Personal Data

Select the required option from those illustrated in Figure 15. To return to the application click on the black back arrow in the upper left-hand corner.

2.2.3 Change Password

You do have the privilege to change your password without intervention of system administrator. To change your password, click on the **Change Password** button and a panel like to the one shown in Figure 16 will appear.



Change Password

Old Password:

New Password:

New Password (again):

Update Password

Cancel

Figure 16: Change password

To change the password associated with your account enter the details into the panel shown in Figure 16. Enter your existing password in to 'Old Password' text box. Next, enter your new password into the box below. Confirm your new password in the lower box. Once completed click on the **Update Password** button to confirm your details. Click on the **Cancel** button to cancel all this action.

2.2.4 Logout

To log out of the application click on the Logout menu option. Confirmation that you have been successfully logged out will be shown by the screen shot captured in Figure 17.

Logout You are now logged out

Click [here](#) to return to the GeoRepository Dev Client.

Figure 17: Confirm logout

3 Home page menu ribbon

From the home page the following menu options are provided.

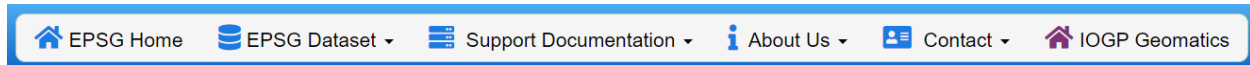


Figure 18: Menu ribbon options

3.1 EPSG Home

Click on the Home menu option to return to the home page of the site as shown in Figure 1. This can be activated from any page of the site.

3.2 EPSG Dataset

Click on this EPSG Dataset menu option and a sub-menu like the one shown in Figure 19 will appear.

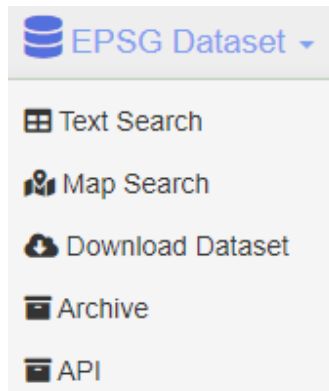


Figure 19: EPSG Dataset menu options

3.2.1 Text Search

The **Text Search** menu option enables you to initiate non-spatial textual searches. By default, when this is first selected the search text box will be displayed along with a 'results' panel which will show all objects contained within EPSG geodetic parameter dataset in a series of tabbed pages: e.g., CRSs, Transformations, Point Motion Operations, etc. Further details of this menu item are described in section 4.1.

3.2.2 Map Search

The **Map Search** menu option activates the map search utility enabling you to create a search query using the graphical user interface of the map. Pan and zoom functions are offered to help specify the geographic area of interest using either a single point, bounding box, or polygon area before selecting the query. Further details on how the map search function operates are described in section 4.2.

3.2.3 Download Dataset

The **Download Dataset** menu will provide you with a series of options to download the contents of the entire dataset or sub-sections of the dataset to an external data file: e.g. EPSG MS Access file, or Oracle

SQL scripts. Further details of all the file formats supported by the download option are described in section 6.

3.2.4 Archive

The archive menu enables all previous versions of the Dataset that are still publicly available to be downloaded in the following formats: MS Access database, MySQL, Oracle SQL, and PostgreSQL. The current version of the Dataset contains all significant changes and there should be no necessity to go back to the archive. It is maintained as an assurance to users that old data may be recovered.

3.2.5 API

The API menu option provides details of how developers and expert users can interface with the EPSG Dataset by interrogating objects it contains using the RESTful GeoRepository API swagger commands.

3.3 Support Documentation

This menu contains a series of documents that support / describe the functionality of the application database and web site. The options offered by this menu are shown in Figure 20.

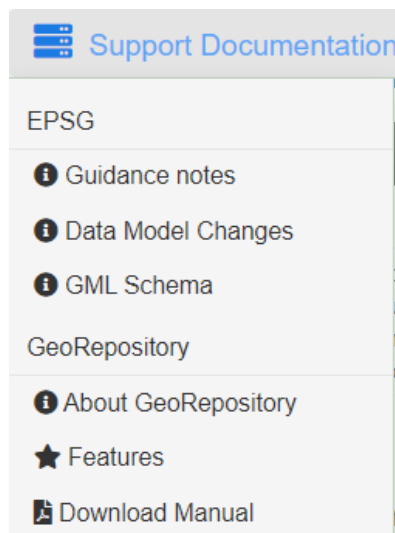


Figure 20: Support documentation menu

3.3.1 Guidance Notes

The **Guidance Notes** menu item provides you with a series of hyperlinks allowing additional IOGP EPSG support documentation to be downloaded by you. For example, these include Guidance Note 7-1 and Guidance Note 7-2 which describe the EPSG Geodetic Parameter Dataset and Conversions and Transformation formulas, respectively. Documents available from this page may change from time to time as decided by IOGP Geomatics Committee, geodesy subcommittee. Most IOGP Geomatics Guidance Notes are not solely supporting the EPSG Dataset, and these others are available through the Geomatics Home menu item (see 3.6).

Guidance Notes

EPSG Dataset Supporting Documentation

Using the EPSG geodetic parameter dataset (Guidance Note 7-1)

This document gives detailed information about the Dataset contents and its maintenance. It includes annexes covering Data Naming Conventions and Rules for Deprecation. *New updated version of the Guidance Note will be available soon.*

Coordinate Conversions and Transformations including Formulas (Guidance Note 7-2)

This document provides the formulas for executing coordinate conversions and coordinate transformations using the coordinate operation methods supported in the EPSG dataset. Geodetic parameters in the Dataset are consistent with these formulas.

EPSG Geodetic Parameter Registry – Developer Guide (Guidance Note 7-3)

This document has no relevance to GeoRepository and it has been withdrawn.

EPSG Geodetic Parameter Relational Database – Developers Guide (Guidance Note 7-4)

This document is intended to assist computer application developers in using the EPSG geodetic parameter relational database and SQL scripts. It may also be useful to other users of the data. Readers are recommended to have read Part 1 of the guidance note before this part. *New updated version of the Guidance Note will be available soon.*

Geomatics Guidance Notes

For all IOGP's Geomatics Committee reports, please go to [IOGP Bookstore](#).

Download:

- [Guidance Note 7-1 \(ver 8, Aug 2012\)](#) *New updated version coming soon*
- [Guidance Note 7-2 \(ver 59, Oct 2020\)](#)
- [Guidance Note 7-3 \(ver 3.2, Sep 2016\)](#) *No longer available*
- [Guidance Note 7-4 \(ver 4, Apr 2009\)](#) *New updated version coming soon*

Note: Parts 7-1 and 7-4 of the series support the old data model. New updated version of these Guidance Notes will be available soon. Part 7-3 is no longer available. Part 7-2 is not impacted by data model changes. For an overview to the model changes see [here](#).

[News from Geodesy Subcommittee](#)

Dynamic Coordinate Reference Systems

Following the release of updated GN25 Dynamic versus static CRSs and use of the ITRF and new GN26 Coordinate Transformations in the US Gulf of Mexico OCS, the Geomatics Committee has now delivered [a video](#) introducing the concept of dynamic coordinate reference systems.

The video is shared under the same T&C as other IOGP Publications and can be reproduced in whole or in part provided (i) that the copyright of IOGP and (ii) the sources are acknowledged.

Figure 21: EPSG support documentation

3.3.2 GML Schema

This page gives access to the EPSG GML schema.

GML Schema

EPSG GML Schema

The EPSG GML schema have been updated to allow for the [data model changes](#) in the new Dataset. The revisions minimise changes from the previous v1 schema. They remain based on GML v3.2.1. In GeoRepository the schema are used only to support GML export. Summary of changes:

- Additions for datum Conventional Reference System, Datum Ensemble, Derived Projected CRS, Dynamic Reference Frame, Frame Reference Epoch, CRSs associated Geoid Model, Ordinal Coordinate System, Point Motion Operation, datum Realization Method and CRSs associated Velocity Model.

- EPSG v1 schema supporting the epsg_area table have been removed, except for EPSG attributes extending 19115 EX_Extent for ISO country codes, and replaced by gmd:Extent. This is combined with Scope to define the ISO 19111:2019 Usage class.

- 19111:2019 deprecated realization epoch and replaced it with publication date. They have the same data type and cardinality. This EPSG implementation uses GML v3.2.1 gml:realizationEpoch to hold publicationDate data.

Download:

- [Details of data model changes to GML Schema](#)
- [EPSG v2.2 XML schema](#)

See [here](#) for changes to relational tables.

Figure 22: EPSG GML Schema

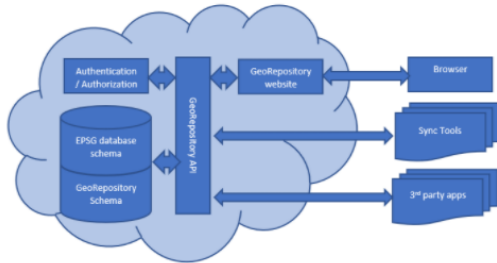
3.3.3 About GeoRepository

This panel provides some basic background details to the application and the development team. The team welcomes any constructive feedback on any functionality matters that may be encountered or requests for any new features that would be considered beneficial to the application. Use the feedback link provided.

About the Georepository - Geodetic Parameter Repository

GeoRepository Web Application

GeoRepository is a powerful web application and geodetic API for searching and displaying geodetic parameters gathered together and hosted within an extendible version of the EPSG geodetic parameter dataset released by International Oil and Gas Producers (IOGP). It comprises the website GUI, geodetic database and application server.



Access to all parameters in the GeoRepository is available through RESTful geodetic API application server, which provides access to all parameters within the registry and includes advanced search methods, textual and graphical. It can be consumed by any programming language supporting the RESTful protocol. For more information about the web service please contact our team [here](#).

The Developers

GeoRepository is developed, maintained and supported by WX Geo Services Sdn Bhd, trading as Geomatic Solutions. The company is located in Malaysia and United Kingdom. The company offers consultancy services and software development in areas of geo-spatial data associated with seismic and well bore positioning surveys and establishing geodetic frameworks within exploration and production companies. For more information please visit the [Geomatic Solutions corporate website](#).



IOGP

This version of GeoRepository has been specifically developed for IOGP as a platform to maintain and distribute versions of the EPSG geodetic parameter registry to the world wide user base as well as provide a geodetic API to third party software developers.

Team feedback

Any constructive feedback on current functionality or requested functionality is welcomed. Please contact the team via the [contact page](#).

Figure 23: About GeoRepository

3.3.4 Features

This panel provides some high-level details of the application and its links to partners and other application providers.

Overview

GeoRepository is a powerful web application and tool for searching and displaying geodetic parameters contained within the IOGP EPSG geodetic parameter registry.

All parameters available in the database can be used in geodetic calculations with a high precision *Geodetic Calculator*.

Parameters can be accessed via the web site or through the Geodetic API.

Powerful Search Functions

GeoRepository provides a powerful suite of search tools. These search functions are designed to provide fast access to relevant data by using one of several search modes.

Search Database By Location

Click on the map to select coordinates or use the [GeoLocation service](#)

Latitude: N Longitude: W Search EPSG Dataset: Select by:

41° 47' 15.2\"/> N 100° 13' 20.9\"/> W

Tabbed Search Results

The geodetic parameter database contains a plethora of parameters, parameter values and metadata about various classification of geodetic objects that include Coordinate Reference Systems, Conversions, Transformations, Datums, Units of Measure, Extents and Coordinate Operation Methods to name a few. Results returned from the user defined queries are displayed in a series of tabbed pages that enable users to quickly and seamlessly navigate to an object whose details are required. Data mining functions provide users with additional methods of obtaining data about an object to level of their own choosing.

Exporting

GeoRepository offers a number of different export functions that enables the entire contents of the database or sub-sections of it to be exported to a variety of formats including, MS Access Database, Oracle SQL Scripts, MySQL Scripts, PostgreSQL scripts, GML and WKT.

EPSG Database

The GeoRepository database is based on the EPSG database recently modified to comply with many of the new features of the ISO 19111:2019 data model. This replaces the previous ISO 19111:2007 data model and extends the EPSG dataset.

The EPSG dataset is maintained by the IOGP Geomatics Committee Geodesy Subcommittee. It provides and maintains the only definitive collection of geodetic parameters in existence.

The IOGP enforces strict policies on the inclusion and deprecation of records and maintains full metadata for each record, including a revision date, data source, description, versioning and deprecation.

Map search with satellite imagery

Coordinate reference systems and other geodetic objects are designed to be used within a specified area of the earth's surface. Map Search allows you to pan and zoom around a map of the world and select a specific location on which to base your filtered search. The search results will display only the coordinate reference systems, map projections and coordinate transformations which can be used at the specified location.

GeoLocation API

Map search also supports the GeoLocation API allowing searches for geodetic records that are relevant to your current location with a single click of a button. This feature works on most browsers and mobile devices equipped with GPS.

Name, code, alias and wildcard search

Various data sources often refer to geodetic parameters by abbreviation and alternate notation. GeoRepository includes a smart search algorithm that considers aliases, object names, abbreviations, EPSG codes and wildcards.

Search Database

Search Results for (411 Objects Found)

CRSs (201) Conversions (42) Transformations (106) Datums (62) More...

NAME	CODE	TYPE
EGM2008 height	3855	vertical
EGM84 height	5700	vertical
EGM99 height	5773	vertical

Figure 24: Features panel

3.3.5 Download manual

Select this option to download a pdf version of this user manual.

3.4 About Us

This menu option contains two links to further information about IOGP and Geomatic Solutions:

<https://iogp.org/about-us/>

<https://geomaticsolutions.com/about-us>

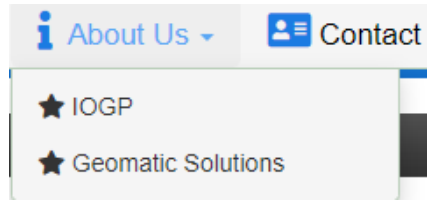


Figure 25: About Us menu

Click on either link to switch to the IOGP or Geomatic Solutions web sites, respectively.

3.5 Contact

The contact menu options are shown in Figure 26.

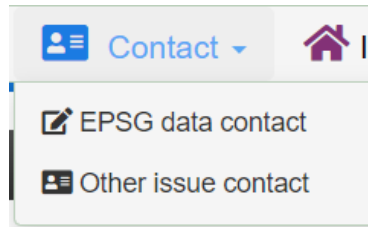


Figure 26: Contacts menu

3.5.1 EPSG data contact

The data submission template is available to all categories of users and can be accessed from the web site by selecting **Contact** menu option off the top home page menu ribbon.

Next, select **EPSG data contact** option and a page will appear titled **EPSG Dataset Change Request Help**. From this page you will find two places where hyperlinks are embedded to the 'Template for data submission' and another two to the 'Example of data submission'. Follow these links to access the Excel spreadsheets. The spreadsheet contains a series of tabbed pages for the submission of different categories of geodetic object. These currently include:

- Geodetic CRS
- Projected CRS
- Vertical CRS
- Compound CRS
- Transformation
- Point Motion

On each page there are both mandatory and non-mandatory fields that require population. Complete the form as required and email it to the address shown, i.e., feedback@epsg.org

EPSG Dataset Change Request Help

Frequently Asked Questions

Who can request data additions or modification of existing EPSG data?

Change requests are accepted from any interested party.

How to successfully request data additions or modification of existing EPSG data?

- i) Requests should clearly state what is being proposed using the [template for data submission](#).
- ii) If the change is to existing Dataset content then the code for the entity in question must be stated, preferably along with its name.
- iii) If the request is to add new data then as a minimum the information highlighted in red in the template for data submission shall be submitted, either through completing the template and including in a message to feedback@epsg.org, or given indirectly by providing the URL for a publicly-available web site which contains the information.

How will I know that my data submission was successful?

Requests received will be acknowledged by the IOGP Geodesy Subcommittee, normally within one working week of receipt. If they are within scope, they will be allocated a change request number and then reviewed by the Subcommittee.

What if the information provided is not complete or contains errors?

Incomplete and erroneous submissions will be acknowledged however the Subcommittee may require the proposer to provide supplementary information before reaching a decision. We encourage the use of [template for data submission](#) as it provides guidance on the information required for a specific type of entry. Correctly filled template would typically accelerate processing a valid request (see [example of data submission](#)).

Changes that are accepted are first made in an unpublished copy of the Dataset and are put through a quality control check. Correspondents may be asked to comment on draft entries.

When will the changes requested be published via EPSG.ORG?

The Subcommittee aim to process all complete and within the scope requests within one release cycle of the Dataset. Correspondents will be advised of the decision reached as soon as it has been made.

To suggest data additions or modification of existing EPSG data, please see [template for data submission](#) and contact:

feedback@epsg.org

Download:

[Template for data submission \(Mar 2020\)](#)
[Example of data submission \(Mar 2014\)](#)

Figure 27: Change Request instructions

Requests can be made to modify existing database objects or for the creation of new objects. A template (Excel spreadsheet) showing the minimum information required in a submission may be accessed.

3.5.2 Other issue contact

To send a message to the GeoRepository Team about anything other than an EPSG data change request, fill in the contact form shown in Figure 28.

Contact Us

To suggest changes to the EPSG Dataset press [here](#). For other enquires please fill out the contact form below and one of our team will get back to you.

Your Name

Your Company

Your Email

Topic

Subject

Your Message


I'm not a robot  reCAPTCHA
Privacy - Terms

Figure 28: Contact panel

Fill in the details to the text boxes provided and select the appropriate option from the drop box. Once completed click on the tick box to confirm you are not a robot and click the **Send Message** button to submit the information.

3.6 IOGP Geomatics

Clicking this menu option will redirect you to the home page of the IOGP Geomatics Committee:

<https://iogp.org/geomatics/>

Follow any of the links on this page to access news, projects, and guidance documents.

4 Query Capabilities

Two main query capabilities are offered to perform searches (query) of the geodetic parameter database. The two modes offered are:

- Text search
- Map search

In either instance the search filter will return one or more objects based on the query submitted. This section describes how to generate the queries, which may be one mode or a nested combination of the two modes:

Either mode is accessible through the left panel of the main home page of the application as is indicated in Figure 29 (the check boxes are visible only after registered users have logged in).



Figure 29: Query functionality

4.1 Text Search (Non-spatial)

To invoke a text query (non-spatial query) use the text box as shown in the middle of Figure 29. Enter a text query into the box based upon one of the following search criteria:

- An EPSG object code, e.g., 4326
- An object name using a text string, e.g., Timbalai 1948
- Text from an extent description, e.g., Angola.

For all the above, wild cards are automatically prefixed and suffixed to the string entered, so Oman will return data for both Oman and Romania.

- An object type or sub-type e.g. [type]=geographic (see 4.1.4 below)

In each instance the text string(s) can be made more general by using wild cards in the text string syntax. Wild card details are described in 4.1.3 below. General rules applied to text searches include:

- Search expressions are not case-sensitive. They accept both upper- and lower-case letters in the search field.
- A search can be done for an entity name ending in 2 or more digits with or without the space in the name, for example SIRGAS 2000 or SIRGAS2000.
- Guest users can search for valid objects only. It precludes them from searching for deprecated objects and searching within object remarks. The option to exclude World items is also not available. However, a Registered user who has logged in can modify these filters:
- Referring to Figure 29, a registered users who is logged-in will see the tick boxes in Figure 29, which are labelled: Include Deprecated, Include World Items and Search Remarks.
 - Place a tick in the box to the left of the text label if you wish the search to retrieve objects that include deprecated items.
 - If you do not wish objects with an extent of world to be retrieved, uncheck the World Items tick box.
 - A further option is also provided to include searching through all the Remarks associated with each of the metadata fields for the database objects. For example:

META DATA			
REMARKS:	National system replacing AGD 66 but officially adopted only in Queensland, South Australia and Western Australia. Replaced by GDA94.		
INFORMATION SOURCE:	"GDA technical manual v2_2", Intergovernmental Committee on Surveying and Mapping. www.anzlic.org.au/icsm/gdtm/		
DATA SOURCE:	EPSG		
REVISION DATE:	September 17, 2019		
CHANGE ID:	[2003.29] [2003.37] [2009.106] [2019.033]		
ALIAS:	Alias	Naming System	Remarks
	350	ISO Geodetic Register code	
	AGD84 - LatLon	ISO Geodetic Register name	

Figure 30: Remarks field within geodetic object metadata

Selecting the **Search Remarks** (Figure 29) tick box option will increase the number of objects returned from the search function. For the remainder of this chapter the examples shown will be for the search option invoked from the EPSG database menu item.

4.1.1 Retrieve objects by specifying object codes

Enter an object code into the text box. The object code number must adhere to the following criteria:

- Object code must be strictly numerical
- Object code must be within the EPSG code range



Figure 31: Enter EPSG code

Enter the object code into the text box provided and then press the **Enter** key.

4.1.2 Retrieve objects by specifying an object name


Enter a text string into the text box provided that describes the object name (see Figure 29). General rule is:

- Object name can be alphanumeric, e.g., ETRS89

Enter the object name into the text box provided and then either press the carriage return key or click on the blue GO button to commence object retrieval.






Note: Misspelling the object name will affect the objects retrieved from the query.

4.1.3 Using wildcards to retrieve objects

Wildcards are provided to enhance the text query created to retrieve objects. The wildcard options that are supported can be displayed by clicking on the blue information button  shown to the right of the text box (Figure 31).

Descriptions of the wildcard options supported are shown in Table 2. Note, when wildcards are included within the search string it will invariably increase the number of objects retrieved from the database as the filter parameters are more general and less specific.

Table 2: Wildcard features

Wildcard	Example
<p>% or *</p>	<p>Search Database</p> <p><input type="text" value="Ba%"/>  <input type="button" value="GO"/></p> <p>Using the % or * symbol as a postfix will return all objects that have text starting with 'ba', 'Ba' or 'BA' within the name or alias fields of the objects followed by any other multiple letters and numbers.</p> <p>Alternatively, the symbol can be used as a prefix as shown:</p> <p>Search Database</p> <p><input type="text" value="%ba"/>  <input type="button" value="GO"/></p> <p>Using the symbol in this fashion will return all objects whose name or alias commences with any letters and numbers but will also end in 'ba', 'Ba' or 'BA'.</p> <p>Finally, the symbols can be used as prefix and postfix simultaneously to give a combined solution from the previous descriptions.</p>
<p>? or _</p>	<p>Search Database</p> <p><input type="text" value="A?D "/>  <input type="button" value="GO"/></p> <p>Using either ? or _ symbol performs a search by assuming there is only one missing letter or number represented by the wildcard symbol. For example, in this instance the filter will return results with a text string containing any combination of alphanumeric strings that contains in part a sub-string that starts with A and ends with D, with other letter or number between. E.g., AGD84, Ain el Abd.</p>
<p>[-]</p>	<p>Search Database</p> <p><input type="text" value="N[a-c]"/>  <input type="button" value="GO"/></p> <p>Using the syntax provided: The search filter will return all geodetic objects that start with the letter 'N' or 'n' followed by any of the letters contained within the range within the square bracket, e.g., letters a, b and c.</p>
<p> </p>	<p>Search Database</p> <p><input type="text" value="E[a]e M"/>  <input type="button" value="GO"/></p> <p>Using the syntax provided: The search filter will return all geodetic objects that start with the letter E(e), ends with the letter M(m) and also contain either the letter a or letter e.</p>

Conditioning the search string

When the wildcard search has been created the text string is automatically prefixed and suffixed by the % wildcard. For example, ba* will become %ba*% (except when % is entered by the user).

4.1.4 Retrieving objects by specifying object type

A search string can be created to retrieve objects by specifying object type or sub-type, based on the following:

- Name
- Code
- Type

What follows are the syntax required for their use along with some examples of how they are expected to operate.

4.1.4.1 Name

An object type of **name** must be entered into the text box using the following syntax:

[name]=xxxxxxxx...n

Where xxxxxxxx...n is a text string that will become the search parameter upon which objects are retrieved.

With this object type the following basic rules apply:

- The text string can be alphanumeric
- There is no limit to the length of the text string that can be submitted to the search
- The text string is not case sensitive

For example:

[name]=Hartebeesthoek94

4.1.4.2 Code

An object type of **code** can be used in three modes:

- = (equals)
- > (greater than)
- < (less than)

The syntax for each is as follows:

[code]=yyyyy

[code]<yyyyy

[code]>yyyyy

Where yyyyy is an integer number with a minimum length of one digit and a maximum length of five digits.

The following basic rules apply:

- The string must be numeric only
- The objects returned will only be for objects whose codes match the query and not a subsection thereof
- Wildcards cannot be used

For example:

[code]=1024

[code]<23030

4.1.4.3 Type

An object type of **Type** is used to search and retrieve objects that matches one of the specific object types recognized within the EPSG geodetic parameter dataset. The object **types** recognized include:

- 3D
- 2D
- Geographic
- Geodetic
- Projected
- Geocentric
- Dynamic
- Concatenated
- Transformation
- Vertical
- Derived
- Engineering
- Compound

The following basic rules apply:

- The text is not case sensitive
- The type must be spelt correctly for the search to operate as expected

4.1.5 Combined searches

Combinations of wildcards and types can be used to create a more advanced text search.

For example:

[name]=NAD??

This will retrieve all objects that contain the name NAD with two additional characters added to the end of the text string. Any combination of types and wildcards can be submitted to generate a search. However, when wildcards are used the text string is automatically prefixed and suffixed by the % wildcard.

4.2 Graphical queries (Spatial searches)

Map Search retrieves database objects associated with a bounding box (BBOX). Only CRS, datum, and coordinate operations (transformations and conversions, including map projections) have this association. Other items, such as ellipsoids and units of measure cannot be found through the map search, although when they are included as part of a CRS, datum, or coordinate operation their descriptions will be provided. To activate the map search, two options are provided. First, click on the search button shown in Figure 32.

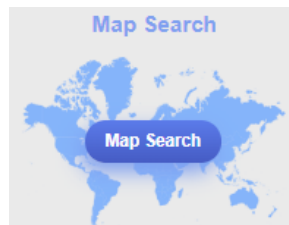


Figure 32: Activate map search

Second, click on the EPSG Dataset from the main menu and select **Map Search** from the sub-menu.

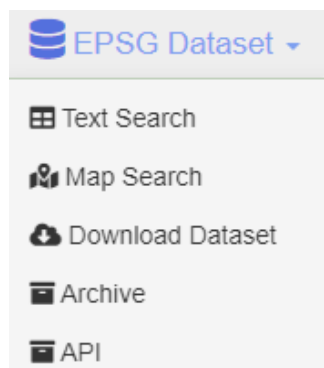


Figure 33: Active map search from main menu

In either case a user interface like the one shown in Figure 34 will be displayed.

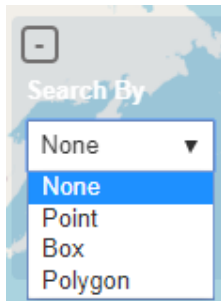
Search Database by Location

Click on the map to select coordinates or use the GeoLocation service



Figure 34: Map interface

The main features of the user interface are as follows:



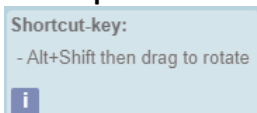
The map interface can be used to create three categories of spatial searches, namely: Point, Box or Polygon. To select a search mode, click on the down arrow within the drop box and a series of options will appear like the ones shown in box opposite. By default, **None** is the setting, which allows you to pan and zoom the map interface.

Pan and Zoom



Prior to conducting a spatial query, it is often more convenient to narrow the geographic window within the user interface to a more localized area, rather than showing a world view. The pan and zoom features enable these changes to be made.

Map rotation



By default, the map is orientated to geographic north. However, the map orientation can be modified to a reference other than north by using the map rotation option.


Reset rotation



If the map rotation has changed the default orientation of the map this icon will appear in the top right corner of the map interface. To return the orientation of the map to geographic north click on this icon.

Toggle full screen



Click on the icon shown on the left to change the map view to a full screen view. To return to the default view panel click on  icon in the top right corner.

4.2.1 Geo-spatial search by Box and Polygon

Spatial searches based upon the use of a rectangular box, or an irregular polygon form an integral part of the search criteria when using the map interface. Although the creation of these entities will be described in later sections some important aspects of their definitions and usage are addressed here.

Box is a simple geometric shape specified by **two** corner points: upper left-hand corner and lower right-hand corner (shown by the blue circle) to create the regular blue rectangle as shown in Figure 35.

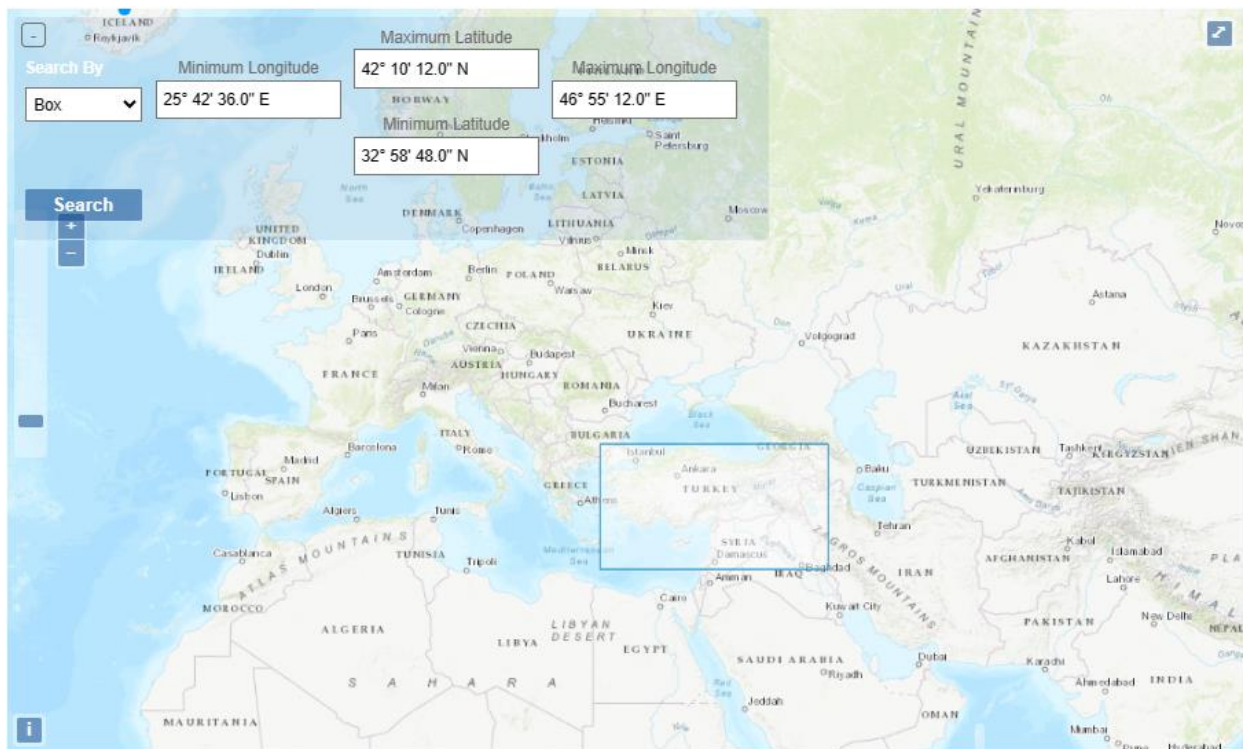


Figure 35: Bounding box and bounding polygon

The upper left-hand corner will always be labelled as Maximum Latitude and Minimum Longitude, and the coordinates of the lower right-hand corner will always be known as Minimum Latitude and Maximum Longitude. This will be regardless of whether the box is contained exclusively within one quadrant, or the box crosses the equator and / or the 180° meridian (see Figure 36 and Figure 37).

For the example shown in Figure 35 the upper left hand will be given by:

- Maximum Latitude 42° 10' 12.0" N
- Minimum Longitude 25° 42' 36.0" E

And the lower right-hand corner will be given by:

- Minimum Latitude 33° 58' 48.0" N
- Maximum Longitude 46° 55' 12.0" E

When specifying the coordinate of the box they will always be quoted to two decimal places in the decimal degree format.

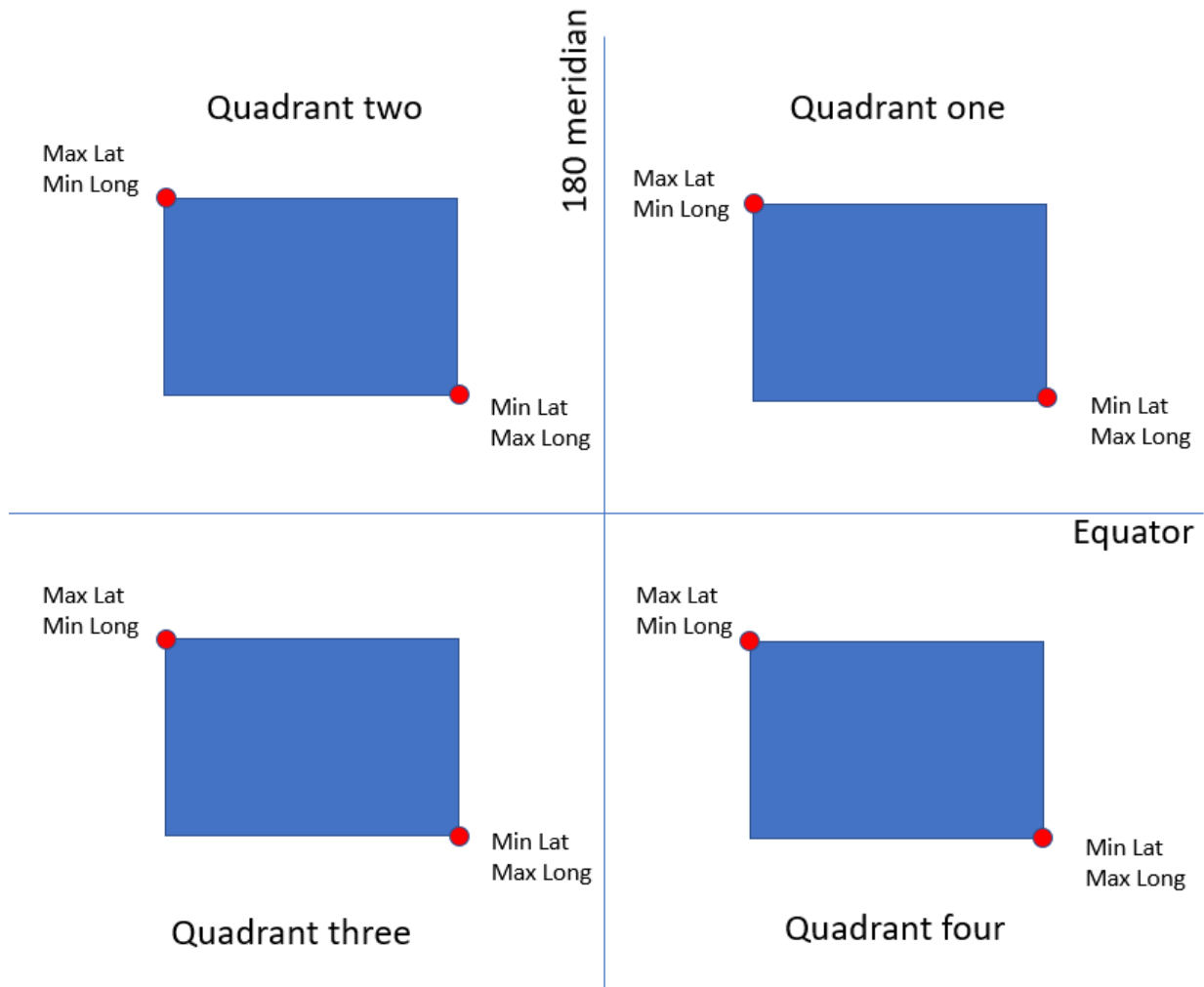


Figure 36: Box in different quadrants

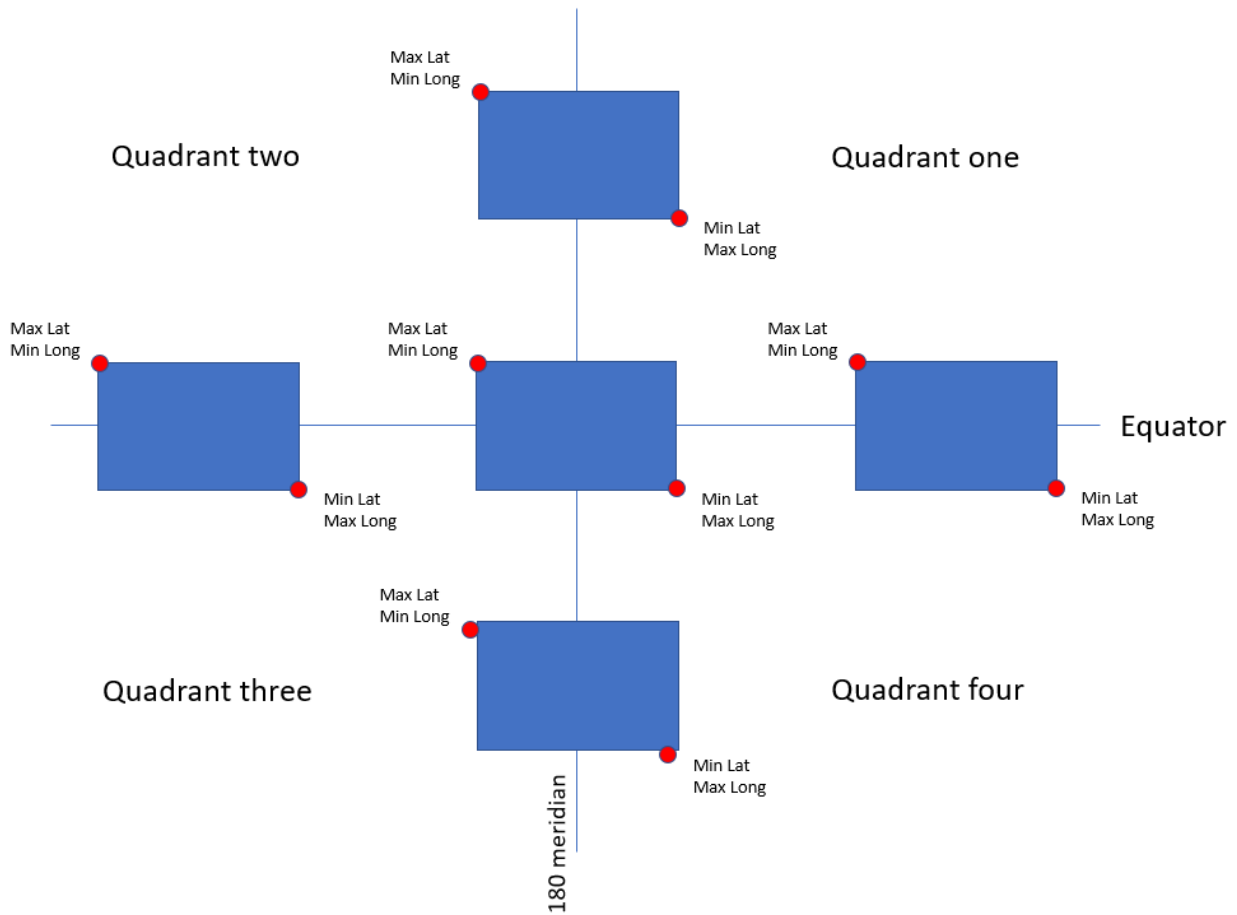


Figure 37: Box overlapping equator and 180 meridian

For each scenario shown in Figure 36 and Figure 37 the same relationship holds, whereby $\text{Max Lat} > \text{Min Lat}$ and $\text{Max Long} > \text{Min Long}$.

Two other definitions required for geo-spatial queries include:

A **Point** is defined as an entity where the two corners of the BBOX are equivalent. Therefore, the search geometry acts as a single point.

A **Polygon** is a geometric shape comprising a minimum of three straight line segments (a triangle) connected to form a closed polygonal circuit. The bounding polygon can have any number of sides and can perform an irregular shape.

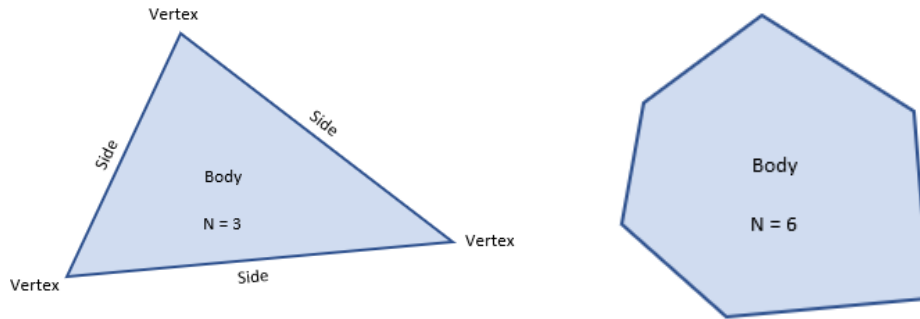


Figure 38: Bounding polygons

Intersecting polygons such as the one shown in Figure 39 will not be accepted as a search filter.

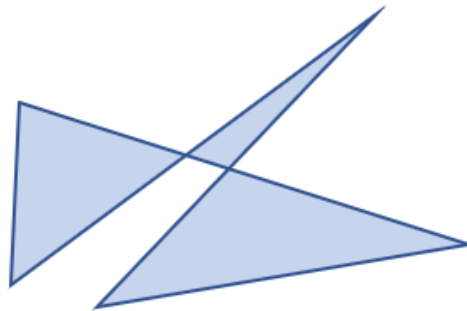


Figure 39: Intersecting polygons are not accepted

4.2.2 Zooming and panning


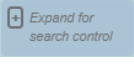
Before any zooming or panning can be applied to the map the Search mode must be set to **None** as shown within Figure 34. To change the scale of the map the following functions are provided:

- Use the scale bar displayed on the left-hand side of the map. To either increase or decrease the scale of the map place the cursor on + or – button and click once with the left-hand mouse button.
- Place the cursor over blue button on the scale bar. Click and hold down the left-hand mouse button. Move the cursor up the scale bar to decrease map scale and down the scale bar to increase map scale.
- Place the cursor over the map. If your mouse contains a wheel push the wheel forward to decrease the map scale or pull the wheel backwards to increase the map scale.

To pan around the map the following option is provided:

- Place the cursor over the map. Click the left-hand mouse button and keep it pressed down. Move the mouse up, down, right, and left to move the map north, south, east, and west respectively.

Once the map view has been modified to the geographic area required select one of the three search modes that are shown in Figure 34, e.g., Point, Box or Polygon.

The drop box can be hidden clicking the  icon shown above the menu box. To redisplay the menu box, click on the  icon and it will reappear.

4.2.3 Query with a point

Querying with a Point will generate a database query comprising the coordinates of a single point (Latitude and Longitude) and it will retrieve all objects whose bounding boxes contain the user-defined point. Three methods are provided to select a single point coordinate:

- Placing the cursor on the map interface and click with the left-hand mouse button
- Enter coordinates in the text boxes provided
- Using the Geo Location service

4.2.3.1 Select single point from map

To select a single point from the map interface, place the cursor over the map and click once with the left-hand mouse button.

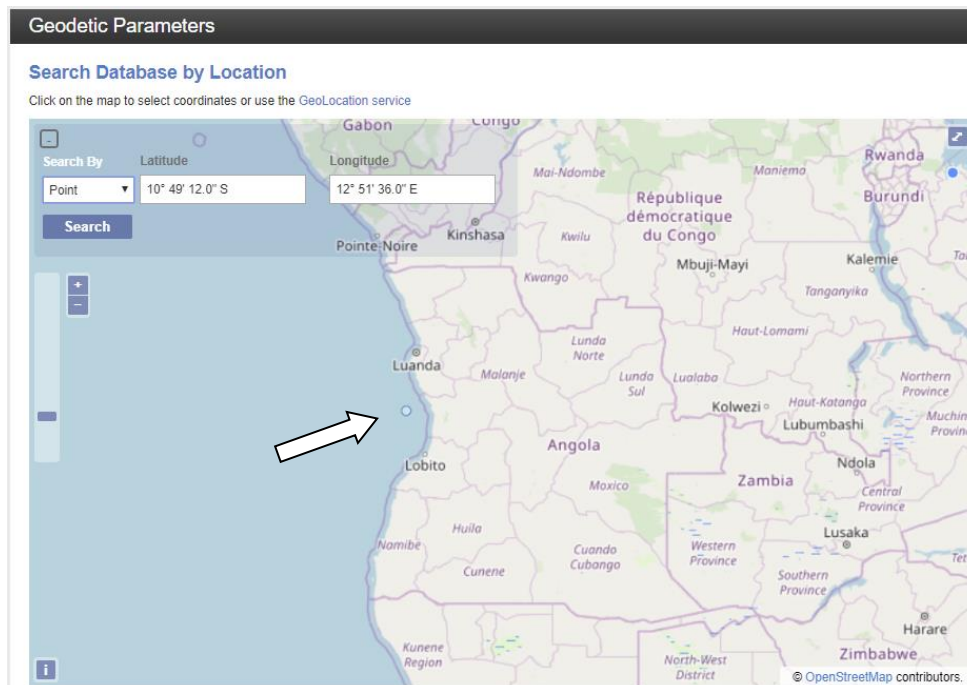


Figure 40: Single point selection from map

Next, a light blue circle will appear on the map interface where the point selection was made. The coordinates of that point will also be displayed in the latitude and longitude text boxes shown above the

map view. Using this option, the coordinates will be displayed in the degrees, minutes and seconds format with the seconds given in one decimal place. The coordinates can be manually edited before submitting the query and the number of decimal places for seconds is unlimited.

If the values of latitude and longitude are dramatically altered the modification will be reflected as a new search circle will be drawn on the map interface.

Click on the **Search** button to activate the query.

4.2.3.2 Enter coordinates in text box

Using the two text boxes provided type coordinates for latitude and longitude as shown in Figure 41. The format for the coordinates can be either:

- Decimal degrees
- Degrees, minutes, and seconds

A screenshot of a web application's search interface. It features a map background with labels for 'Göteborg' and 'København'. Overlaid on the map is a search form. The form has a 'Search By' dropdown menu set to 'Point'. To the right of the dropdown are two text input fields. The first field is labeled 'Latitude' and contains the text '51° 40' 12.0" N'. The second field is labeled 'Longitude' and contains the text '20° 51' 36.0" E'. Below these fields is a blue 'Search' button.

Figure 41: Coordinates in text box

The format for **decimal degrees** must comply as follows:

- Latitudes north of equator will be assigned a positive number, e.g., 4.2376823
- Latitudes south of equator will be assigned a negative number, e.g., -34.2672345
- Longitudes east of Greenwich meridian will be assigned a positive number, e.g., 113.4672374
- Longitudes west of Greenwich meridian will be assigned a negative number, e.g., -93.4672341

The input format for decimal degrees does not permit the submission of a letter to designate the hemisphere. Therefore, E, W, N and S are not recognized. The format for **degrees, minutes and seconds** must comply as follows:

A screenshot of a web application's search interface, similar to Figure 41. It features a map background with labels for '海南省' and '三亚市'. Overlaid on the map is a search form. The form has a 'Search By' dropdown menu set to 'Point'. To the right of the dropdown are two text input fields. The first field is labeled 'Latitude' and contains the text '04 30 45.23 N'. The second field is labeled 'Longitude' and contains the text '113 45 25.34 E'. Below these fields is a blue 'Search' button.

Figure 42: Degrees, Minutes and Seconds format

There must be a space between degrees and minutes, minutes and seconds, and seconds and hemisphere.

- Latitudes north of the equator must have the letter N after seconds
- Latitudes south of the equator must have the letter S after seconds
- Longitudes east of Greenwich meridian must have the letter E after seconds
- Longitudes west of Greenwich meridian must have the letter W after seconds



Figure 43: Invalid coordinates format

Where the entry of either format has been performed incorrectly a warning message will be displayed indicating the coordinates are invalid. When the coordinates are invalid the Search button will be disabled until the entries have been corrected.

The **precision** (number of decimal places) to which the coordinates are quoted is the decision of the user and the coordinate values will only be used within the query at the precision with which they were quoted. Once entered click on the Search button to activate the query. Alternatively, if the point was selected by first clicking on the map interface the latitude and longitude displayed within these two text boxes can be manually edited as shown in Figure 44.

Search Database by Location

Click on the map to select coordinates or use the [GeoLocation service](#)

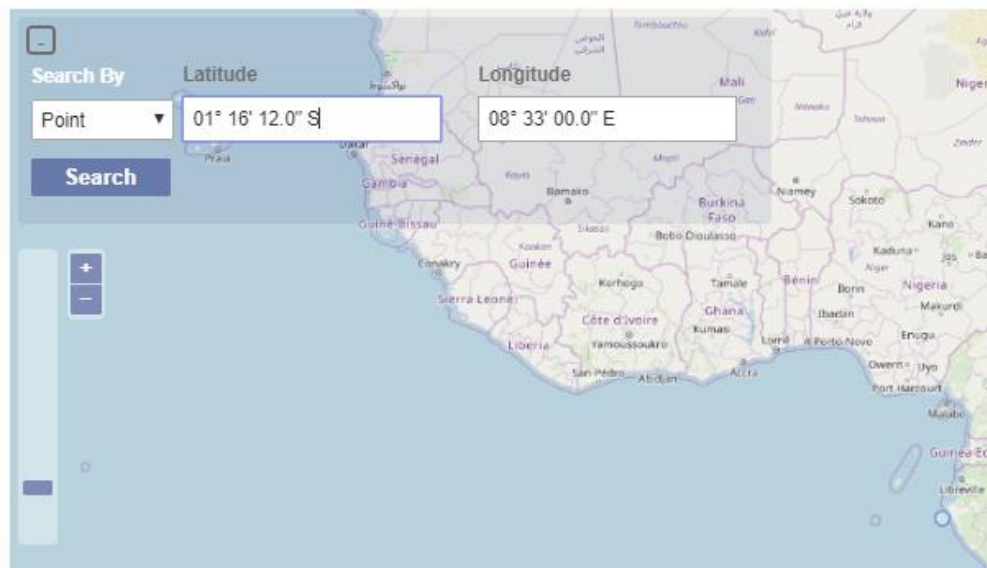


Figure 44: Edit the coordinates manually

4.2.3.3 GeoLocation Service

This option will only work if the location of the user can be identified. The Geo Location Services (controlled within the Windows environment) will automatically assign coordinates to the latitude and longitude text boxes based upon the current location of the user. The coordinates that appear on these boxes represent the central location of the map view shown (See Figure 45).

Search Database by Location

Click on the map to select coordinates or use the [GeoLocation service](#)

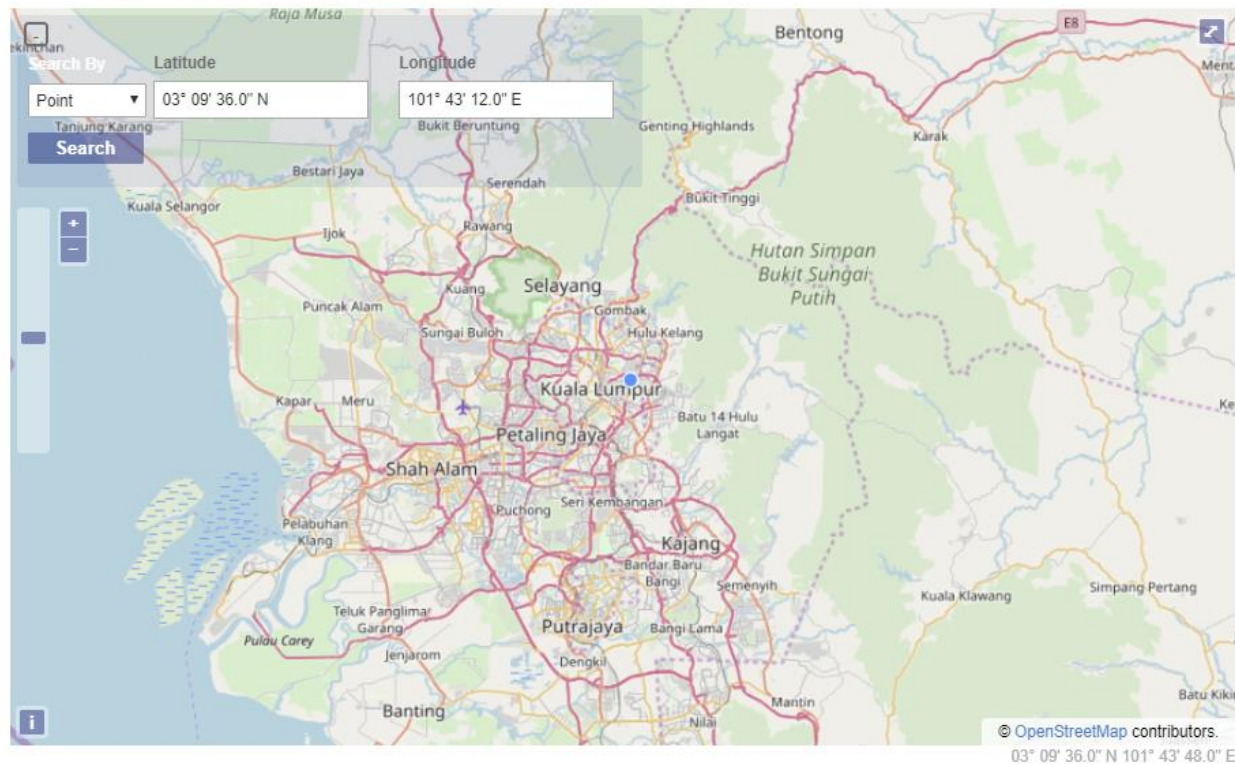


Figure 45: Geo Location Service

Note, the coordinates shown in the lower right side of the panel represent those of the cursor and will not necessarily coincide with the GeoLocation service. The coordinates taken from the GeoLocation Service will be shown in the two text boxes provided. The format of the coordinates will always be Degrees, Minutes and Seconds. To activate the search, click once on the blue Search button.

4.2.4 Query with a rectangular box

To create a query with a rectangular box, click on the drop-down menu shown in Figure 34 and click the Box option. This will allow you to draw a rectangular box directly on the map interface.

To create the box, place the cursor at the upper left corner of the required box and click once on the left-hand mouse button. Drag the cursor to the lower right-hand corner of the box and click once with the left-hand mouse button (do not keep the mouse button depressed whilst dragging). A rectangle like the one shown in Figure 46 will be superimposed on top of the map interface.

The coordinates for upper left and lower right points will be displayed in the latitude and longitude boxes in the top left of the user interface. If required, the coordinates shown within the text boxes can be manually edited to change the coordinate values.

Once completed, click on the **Search** button on map interface to search the registry for all objects whose bounding boxes and shape polygons fall within or intersect the box specified.

Search Database by Location

Click on the map to select coordinates or use the [GeoLocation service](#)

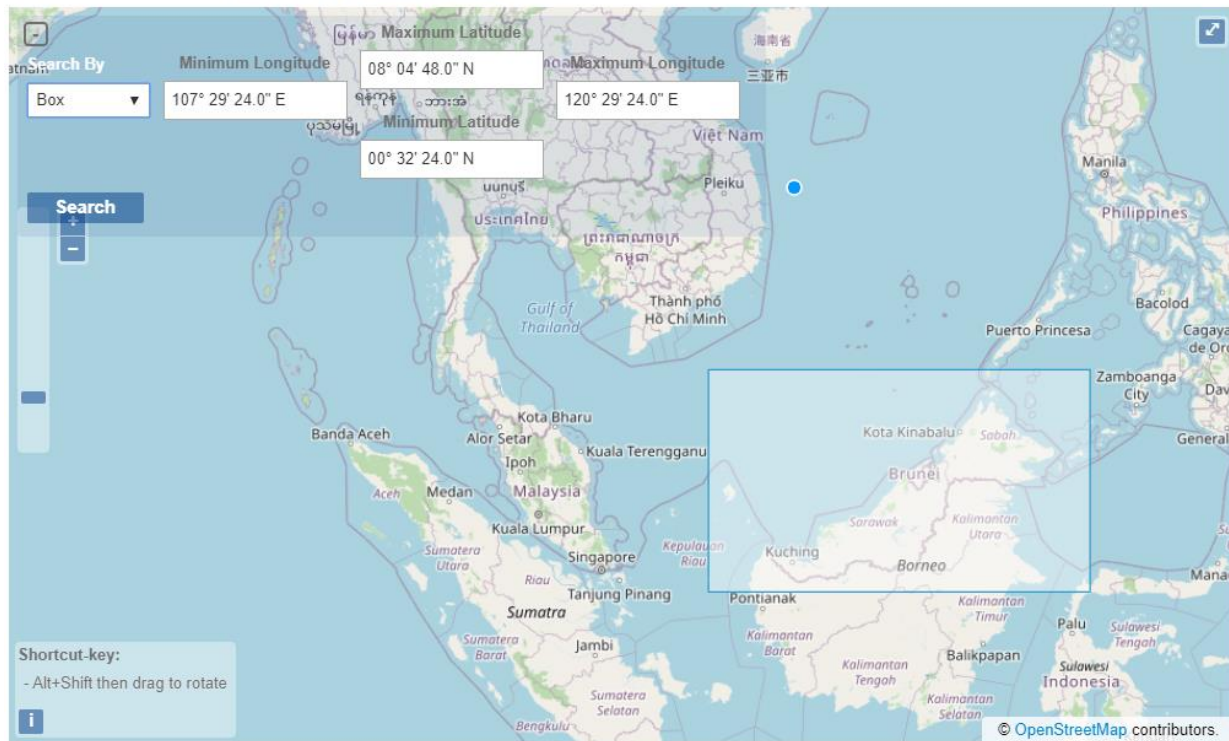


Figure 46: Query by box

4.2.5 Query with a polygon

To create a query with a polygon first click on the drop menu shown in Figure 34 and click polygon option from the menu. This will enable a multi-sided (multi-segmented) polygon to be drawn on the map interface.

To draw the bounding polygon, place the cursor at the first point (vertex) of the polygon and click once with the left-hand mouse button. Drag the cursor to the next point and repeat the left-hand mouse click. Repeat the process for all points that define the polygon. To complete the polygon, place the cursor back over the first point of the polygon and click once with the left-hand mouse button. These steps are shown graphically in Figure 47.

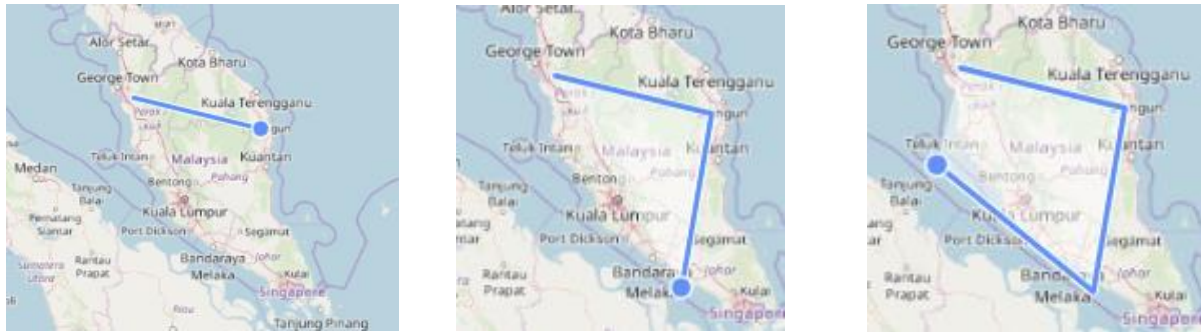


Figure 47: Creating the polygon search figure

The final polygon is shown in Figure 48. In this example, the polygon will comprise five points, where the first and the last point are repeated.

Search Database by Location

Click on the map to select coordinates or use the [GeoLocation service](#)

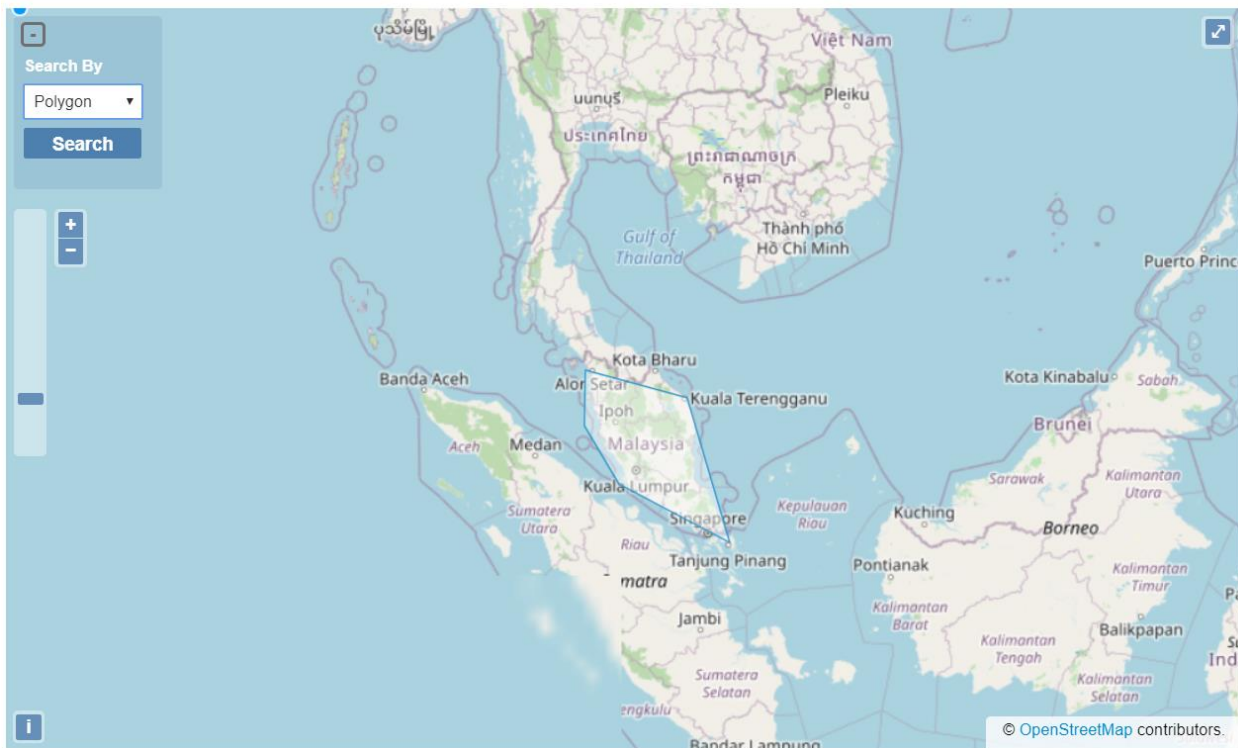


Figure 48: Completed polygon

Figure 49 shows another more complex example for a bounding polygon representing the approximate outline of the US State of Texas. During the construction, the vertices are selected to represent the key turning points defining the polygon, which again appears with a blue outline with a light blue fill colour.

Search Database by Location

Click on the map to select coordinates or use the [GeoLocation service](#)

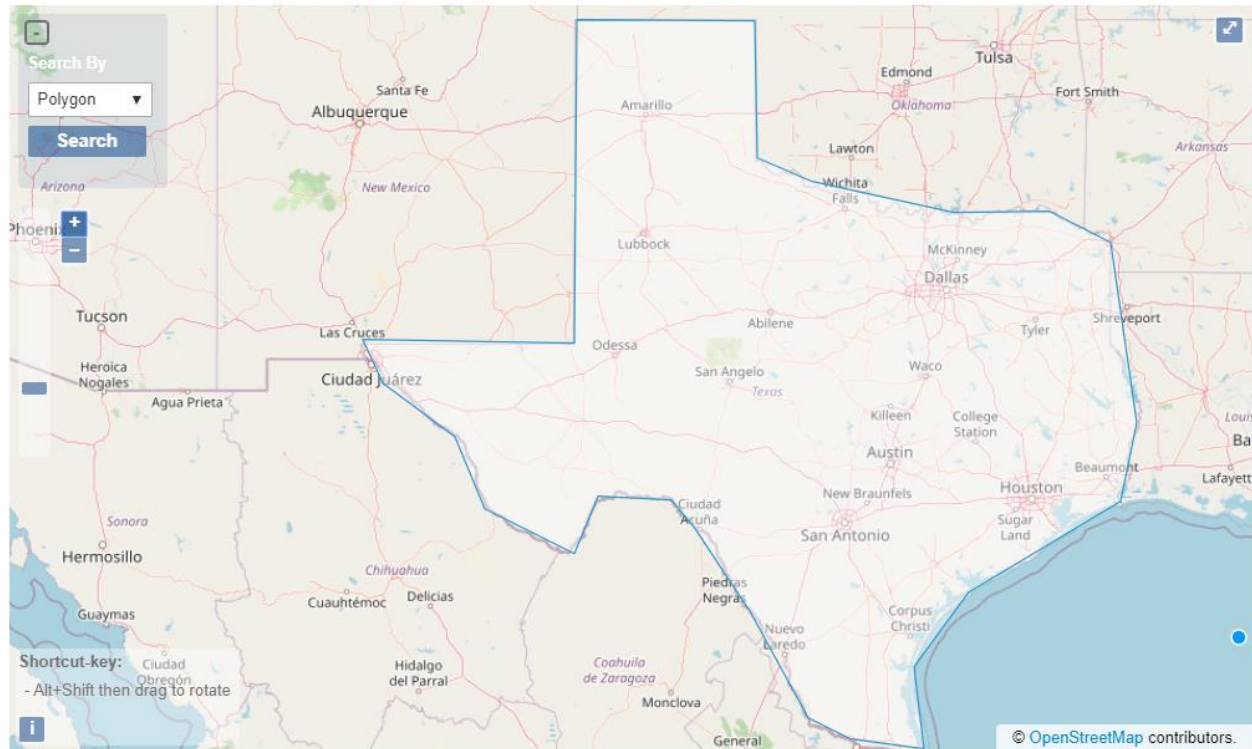


Figure 49: Specify the polygon on the map

To redraw the polygon, place the cursor at the new starting point of the polygon and click with left-hand mouse button. This will automatically delete the previous polygon from the screen. Once the polygon is drawn to your satisfaction the query can be performed. Click on the blue **Search** button to activate the search. What will be retrieved from the database will be all objects whose bounding boxes are contained within or overlap the user-defined polygon.

4.3 Nested Searches

Upon completing the first non-spatial (text) or spatial (map) search the results of the query will appear in the results panel (see Figure 50). The lower part of the panel shows the table of objects that were returned from the initial search query submitted. However, to add further power to the search function a search can be created that comprises multiple elements. These we refer to as nested searches, where nested searches comprise a group of search commands linked together in a chain. This creates a series of AND links, which can be a combination of both spatial and non-spatial entities, for example:

Here the search comprises two components. The first was text search using the name: Timbalai 1948 and the second was a non-spatial text string UTM. Each time another element is added the number of objects returned from the search will in theory get lesser and lesser, which helps target the desired object(s) which is being sought. The results of this query are shown within the lower panel of Figure 50 and comprise two objects returned from the database.

Geodetic Parameters

Search Database

Text Search

Include Deprecated Include World Items Search Remarks

Timbalai 1948 **UTM**

Search Results (2 Objects Found)

CRSs (2) Transformations (0) Point Motion Operations (0) Concatenated Operations (0) Conversions (0) Datums (0) Coordinate Systems (0)

Ellipsoids (0) Prime Meridians (0) Extent (0) Units (0) More...

REPORT	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input type="checkbox"/>	Timbalai 1948 / UTM zone 49N	29849	projected	Asia - Brunei and East Malaysi...	EPSG		June 2, 1995
<input type="checkbox"/>	Timbalai 1948 / UTM zone 50N	29850	projected	Asia - Brunei and East Malaysi...	EPSG		June 2, 1995

First < Previous 1 Next > Last

Items per page: 50

Figure 50: Nested searches

To clear any of the components of the nested search, place the cursor over that search object and click once with the left-handed mouse button. That item will be removed from the list, e.g., the UTM object was removed. Notice that the number of returned objects now increases from the previous list.

Geodetic Parameters

Search Database

Text Search

Include Deprecated Include World Items Search Remarks

Timbalai 1948

Search Results (14 Objects Found)

CRSs (6) Transformations (7) Point Motion Operations (0) Concatenated Operations (0) Conversions (0) Datums (1) Coordinate Systems (0) Ellipsoids (0)

Prime Meridians (0) Extent (0) Units (0) More...

REPORT	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input type="checkbox"/>	Timbalai 1948	4298	geographic 2D	Asia - Brunei and East Malaysi...	EPSG	Adopts metric conversion of 39...	September 24, 2010
<input type="checkbox"/>	Timbalai 1948 / RSO Borneo (ch)	29871	projected	Asia - Brunei and East Malaysi...	EPSG	Adopts ellipsoid metric conver...	September 21, 2006
<input type="checkbox"/>	Timbalai 1948 / RSO Borneo (ftSe)	29872	projected	Malaysia - East Malaysia	EPSG	Used by Shell in East Malaysia...	July 24, 2020
<input type="checkbox"/>	Timbalai 1948 / RSO Borneo (m)	29873	projected	Asia - Brunei and East Malaysi...	EPSG	Original projection definition...	September 24, 2010
<input type="checkbox"/>	Timbalai 1948 / UTM zone 49N	29849	projected	Asia - Brunei and East Malaysi...	EPSG		June 2, 1995
<input type="checkbox"/>	Timbalai 1948 / UTM zone 50N	29850	projected	Asia - Brunei and East Malaysi...	EPSG		June 2, 1995

First < Previous 1 Next > Last

Items per page: 50

Figure 51: Removal of search component

To remove all components of the nested search, click on the **Clear All** button and all items will be deleted within the adjacent blue boxes.

4.3.1 Example One

The following example uses the text string search criteria only.

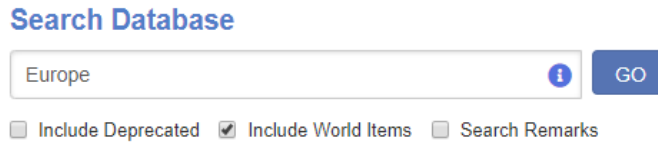


Figure 52: Enter the first search criteria

Enter the string into the box provided and click the **Go** button to commence the first part of the search. The first search request will appear in the blue box as shown in Figure 53.

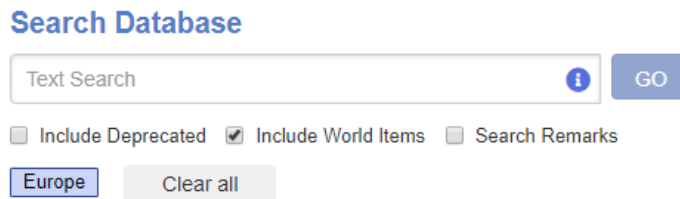


Figure 53: First search criteria shown in blue box

Enter a second text string into the box provided as is shown in Figure 54, e.g., UTM.

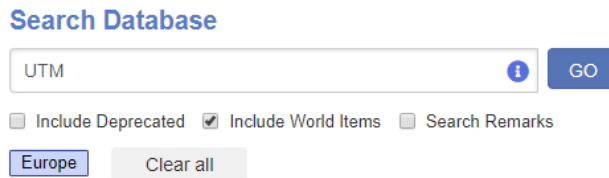


Figure 54: Second search criteria entered

After entering the second part of the search criteria click the **Go** button again and a search of the database will be conducted to find objects that match both parts of the search. Finally, the second search criteria will be added to the search list, e.g., Europe and UTM.

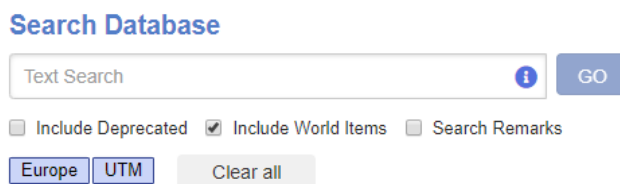


Figure 55: Second search criteria added to the list

If required a third search criterion can be added to complement the two existing parameters. The example shown here uses the [code] search option.

Search Database

[code]<23030 i GO

Include Deprecated Include World Items Search Remarks

Europe UTM Clear all

Figure 56: Third search criteria

In this instance EPSG codes that are less than 23030.

Search Database

Text Search i GO

Include Deprecated Include World Items Search Remarks

Europe UTM [code]<23030 Clear all

Figure 57: Three search criteria used simultaneously

In this example the geodetic objects returned from the search criteria are shown in Figure 58.

Geodetic Parameters

Search Database

Text Search i GO

Include Deprecated Include World Items Search Remarks

Europe UTM [code]<23030 Clear all

Search Results (14 Objects Found) Export

Report Selected Results

REPORT	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input type="checkbox"/>	ED50 / UTM zone 28N	23028	projected	Europe - 18°W to 12°W and ED50...	EPSG		June 2, 1995
<input type="checkbox"/>	ED50 / UTM zone 29N	23029	projected	Europe - 12°W to 6°W and ED50...	EPSG		June 2, 1995
<input type="checkbox"/>	ETRS89 / UTM zone 28N (N-E)	3040	projected	Europe - 18°W to 12°W and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 30, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 29N (N-E)	3041	projected	Europe - 12°W to 6°W and ETRS8...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 30, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 30N (N-E)	3042	projected	Europe - 6°W to 0°W and ETRS89...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 30, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 31N (N-E)	3043	projected	Europe - 0°E to 6°E and ETRS89...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 30, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 32N (N-E)	3044	projected	Europe - 6°E to 12°E and ETRS8...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 30, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 33N (N-E)	3045	projected	Europe - 12°E to 18°E and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 30, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 34N (N-E)	3046	projected	Europe - 18°E to 24°E and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 30, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 35N (N-E)	3047	projected	Europe - 24°E to 30°E and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 30, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 36N (N-E)	3048	projected	Europe - 30°E to 36°E and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 30, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 37N (N-E)	3049	projected	Europe - 36°E to 42°E and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 30, 2020
<input type="checkbox"/>	IRENET95 / UTM zone 29N	2158	projected	Europe - Ireland (Republic and...	EPSG		January 25, 2011

Figure 58: Returned results

4.3.2 Example Two

This example will combine both the graphical search criteria and text criteria. First, select the **Map Search** function and then select from the point, box, or polygon search options. In this instance the polygon option is selected. Pan and zoom to the geographic area required and draw the polygon on to the background map as shown in Figure 59. When zooming and panning the search option must be set to None.



Figure 59: First criteria, select polygon using map interface

Once the polygon has been drawn click on the **Search** button shown in upper left had part of user interface. The results of the search will be shown and at the same time notice that the first search option (polygon) will be displayed within the nested search list as shown in Figure 60.

Search Database

Text Search GO

Include Deprecated Include World Items Search Remarks

polygon Clear all

Figure 60: First criteria listed as polygon

Next, a text search will be added to the map search already defined. Into the text search box is added the second search criteria, e.g., India Zone.

Search Database

India zone i GO

Include Deprecated Include World Items Search Remarks

polygon
Clear all

Figure 61: Enter second search criteria

To activate the search, click on the GO button once the text has been entered. The second search criteria will then be added to the search list as is shown in Figure 62.

Search Database

Text Search i GO

Include Deprecated Include World Items Search Remarks

polygon
India zone
Clear all

Figure 62: Search criteria list extended to two items

Finally, a third search criteria is added as is shown in Figure 63, e.g., Illa.

Search Database

Illa i GO

Include Deprecated Include World Items Search Remarks

polygon
India zone
Clear all

Figure 63: Enter third search criteria

As previously, click the GO button after entering the required text and the third search criteria will be added to the list as shown in Figure 64.

Search Database

Text Search i GO

Include Deprecated Include World Items Search Remarks

polygon
India zone
Illa
Clear all

Figure 64: Third search criteria added to the list

Once the search criteria have been run with the three items submitted the following results will be displayed in this instance.

Geodetic Parameters

Search Database

Text Search

Include Deprecated Include World Items Search Remarks

Search Results (4 Objects Found)

CRSs (2) Transformations (0) Point Motion Operations (0) Concatenated Operations (0) Conversions (2) Datums (0) Coordinate Systems (0) Ellipsoids (0) Prime Meridians (0) Extent (0) Units (0)

Coordinate Operation Methods (0) Coordinate Operation Parameters (0) Coordinate Axis Name (0) Scope (0) Naming Systems (0) Change Requests (0) Version History (0) Fewer...

REPORT	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input type="checkbox"/>	Kallanpur 1880 / India zone Illa	24373	projected	India - onshore 15°N to 21°N	EPSG		May 8, 2012
<input type="checkbox"/>	Kallanpur 1975 / India zone Illa	24381	projected	India - onshore 15°N to 21°N	EPSG	Used by India since metricatio...	May 8, 2012

Items per page:

Figure 65: Result of the search

4.3.3 Reset search criteria

The search criteria shown within the search database list can be reset in two ways:

Search Database

Text Search

Include Deprecated Include World Items Search Remarks

Figure 66: Deleting any search criteria

1. To clear any of the individual items, click on that item with left hand mouse button and it will be deleted from the list, leaving the other two remaining. When an item is deleted the search criteria will be re-run using just the items that remain.

Search Database

Text Search

Include Deprecated Include World Items Search Remarks

Figure 67: Search item deleted

2. To clear all items within the list, click on the **Clear all** button shown in any of the recent figures and the cookie list will be deleted leaving no items in the search criteria.

5 Query results panels

Once the query is performed all objects that match the criteria of the search query will be retrieved from the geodetic parameter database and displayed within the tables of the results panel. In a point search was performed, with the coordinates of the point shown in the text boxes provided.

Search Database by Location

Click on the map to select coordinates or use the [GeoLocation service](#)



Figure 68: Conduct a point search

For this point query the results panel is shown on Figure 70. The basic layout of the results panel will comprise, from top to bottom and left to right, the following:

The top part of the panel will display the query that was made. In this instance a query of type = point. This is shown in Figure 69.

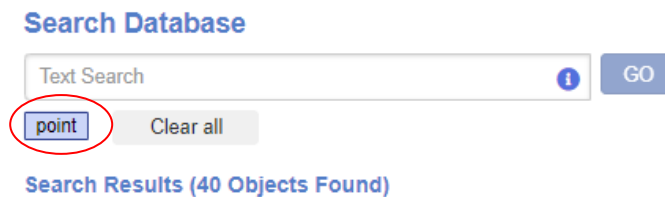


Figure 69: Search criteria

When nested searches are conducted the number of entries shown within the blue boxes under the Search Database text box will increase (see Figure 69). See section 5.4 for further details.

Figure 70: Results panel

The results panel will comprise a series of tabbed pages, which are shown above the main table. By default, the first six tabbed pages displayed will be:

- CRS
- Transformations
- Point Motion Operations
- Concatenated Operations
- Conversions
- Datums
- More...

Note that the tabbed page shown with a red background is the one currently displayed, in this instance the Conversions tabbed page. The number shown to the right of each tab label indicated the number of objects associated with each category, e.g., 10 objects returned for CRS category. The total number of objects returned for the six tabbed pages combined is shown by the number to the right of the label Search Results (881 objects found). This value excludes objects on other currently hidden tabs.

For each tabbed page, the following eight columns are displayed:

Report	Select an object(s) whose details will be presented within a report.
Name	The name of the CRS as stored in the registry.
Code	The EPSG code associated with the CRS specified in the name column.
Type	The list of 'Types' shown will vary depending upon which tabbed page is being viewed. For example, for the CRS tabbed page the following types are displayed: <ul style="list-style-type: none"> • Geodetic (Geocentric, Geographic 3D, Geographic 2D)



	<ul style="list-style-type: none"> • • Projected • Derived projected • Vertical • Engineering • Compound
Extent	Describes the geographic extent (area) of each object listed. Note: this is the extent name field which may be highly cryptic, not the extent description which gives a more complete text description of the geographic extent.
Data Source	Authority from where definition is derived (e.g., EPSG)
Remarks	Part of the metadata used to describe any general remarks which are associated with the object.
Revision Date	The date on which the definition was published or last revised.

To display additional geodetic object categories, click on the More tab and the following five tabbed pages will be displayed:

- Coordinate Systems
- Ellipsoids
- Prime Meridians
- Extent
- Units

This is further expanded, see section 5.3.

In summary, the user interface features on the Results panel include:

Feature	Description
Search Results (565 Objects Found)  Export	Total number of objects returned from the submitted query for those object tabs displayed. To the right of it is an Export option to export all the objects listed within the results panel to an Excel spreadsheet that replicates the tabbed pages as individual Sheets.
Report Selected Results	In the left most column of each results page is a check box. If a tick is placed in a box it enables a report to be generated for these objects.
Transformations (72)	The number in brackets within each tabbed page name refer to the number of objects found for each of these categories.
Items per page: 50 	This refers to the number of objects displayed on one page. To increase or decrease the number of objects included click on the drop box and select one of numbers listed. Where the number of objects exceeds the Item per page number the results will be spread over multiple pages. The following functions are used to navigate between these pages.
First	Display objects on page 1 of the list.

< Previous	Display objects on the previous page, e.g., 2 to 1.
2	The current page number is highlighted blue with white number.
Next >	Advance to the next page in the list, e.g., 2 to 3.
Last	Display objects on the last page in the list.

5.1 Search examples

Consider some of the examples shown in section 4, for searches by name, code, and type:

For example, submit the following search text string:

[name]=Hartebeesthoek94

This search should retrieve the following objects and display them in the results table as follows:

Search Database

Text Search

Include Deprecated Include World Items Search Remarks

Search Results (18 Objects Found)

CRSs (15) Transformations (2) Point Motion Operations (0) Concatenated Operations (0) Conversions (0) Datums (1) Coordinate Systems (0) Ellipsoids (0)

Prime Meridians (0) Extent (0) Units (0) More...

REPORT	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input type="checkbox"/>	Hartebeesthoek94	4941	geographic 3D	Africa - South Africa, Lesotho...	EPSG		January 14, 2019
<input type="checkbox"/>	Hartebeesthoek94	4148	geographic 2D	Africa - South Africa, Lesotho...	EPSG	Replaces Cape (code 4222) from...	January 14, 2019
<input type="checkbox"/>	Hartebeesthoek94	4940	geocentric	Africa - South Africa, Lesotho...	EPSG		January 14, 2019
<input type="checkbox"/>	Hartebeesthoek94 / Lo15	2046	projected	Namibia - Walvis Bay	EPSG		March 7, 2000
<input type="checkbox"/>	Hartebeesthoek94 / Lo17	2047	projected	South Africa - west of 18°E	EPSG		March 7, 2000
<input type="checkbox"/>	Hartebeesthoek94 / Lo19	2048	projected	South Africa - 18°E to 20°E	EPSG		March 7, 2000
<input type="checkbox"/>	Hartebeesthoek94 / Lo21	2049	projected	South Africa - 20°E to 22°E	EPSG		March 7, 2000
<input type="checkbox"/>	Hartebeesthoek94 / Lo23	2050	projected	South Africa - 22°E to 24°E	EPSG		March 7, 2000
<input type="checkbox"/>	Hartebeesthoek94 / Lo25	2051	projected	South Africa - 24°E to 26°E	EPSG		March 7, 2000
<input type="checkbox"/>	Hartebeesthoek94 / Lo27	2052	projected	South Africa - 26°E to 28°E	EPSG		March 7, 2000
<input type="checkbox"/>	Hartebeesthoek94 / Lo29	2053	projected	South Africa - 28°E to 30°E	EPSG		March 7, 2000
<input type="checkbox"/>	Hartebeesthoek94 / Lo31	2054	projected	South Africa - 30°E to 32°E	EPSG		March 7, 2000
<input type="checkbox"/>	Hartebeesthoek94 / ZAF BSU Albers 25E	9221	projected	South Africa - mainland - onsh...	EPSG	Used for construction of the B...	September 6, 2019
<input type="checkbox"/>	Hartebeesthoek94 / ZAF BSU Albers 44E	9222	projected	South Africa - Prince Edward i...	EPSG		September 6, 2019

Figure 71: Search results for [name]=

The results panel shows all objects that met the query criteria by categorized objects. The one coloured red is the one currently being viewed. Click on any of the other tabbed pages to show details of other retrieved object types listed.

For example, enter code 1024 as the search string:

[code]=1024

This search should retrieve the following results pages:

Geodetic Parameters

Search Database

Text Search

Include Deprecated Include World Items Search Remarks

Search Results (6 Objects Found)

CRSs (0) Transformations (1) Point Motion Operations (0) Concatenated Operations (0) Conversions (0) **Datums (1)** Coordinate Systems (1) Ellipsoids (1) Prime Meridians (0)

Extent (1) Units (1) More...

REPORT	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input type="checkbox"/>	Hungarian Datum 1909	1024	geodetic	Hungary	EPSG	Replaced earlier HD1863 adjust...	August 2, 2008

First < Previous 1 Next > Last

Items per page: 50

Figure 72: Search results for [code]=

Likewise, if a search is made as follows:

[code]<5000

This search filter will retrieve the following objects to populate the results pages:

Geodetic Parameters

Search Database

Text Search

Include Deprecated Include World Items Search Remarks

Search Results (7239 Objects Found)

CRSs (2496) Transformations (814) Point Motion Operations (0) Concatenated Operations (4) Conversions (70) Datums (268) Coordinate Systems (81) Ellipsoids (3)

Prime Meridians (0) Extent (3486) Units (17) More...

REPORT	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input type="checkbox"/>	Abidjan 1987	4143	geographic 2D	Cote d'Ivoire (Ivory Coast)	EPSG	Replaces Locodjo 1965 (EPSG co...	December 15, 2016
<input type="checkbox"/>	Abidjan 1987 / TM 5 NW	2165	projected	Cote d'Ivoire (Ivory Coast) -...	EPSG		June 5, 2001
<input type="checkbox"/>	Abidjan 1987 / UTM zone 29N	2043	projected	Cote d'Ivoire (Ivory Coast) -...	EPSG	Replaces Locodjo 65 / UTM 29N...	March 7, 2000
<input type="checkbox"/>	Abidjan 1987 / UTM zone 30N	2041	projected	Cote d'Ivoire (Ivory Coast) -...	EPSG	Replaces Locodjo 65 / UTM 30N...	March 7, 2000
<input type="checkbox"/>	Accra	4168	geographic 2D	Ghana	EPSG	Ellipsoid semi-major axis (a)=...	January 6, 2004
<input type="checkbox"/>	Accra / Ghana National Grid	2136	projected	Ghana - onshore	EPSG	Ellipsoid semi-major axis (a)=...	October 19, 2000
<input type="checkbox"/>	Accra / TM 1 NW	2137	projected	Ghana - offshore	EPSG		October 19, 2000
<input type="checkbox"/>	Adindan	4201	geographic 2D	Africa - Eritrea, Ethiopia, So...	EPSG	The 12th parallel traverse of...	April 22, 2015
<input type="checkbox"/>	Afgooye	4205	geographic 2D	Somalia - onshore	EPSG		January 5, 2012
<input type="checkbox"/>	Agadez	4206	geographic 2D	Niger	EPSG		January 6, 2004

Figure 73: Search result for [code]<

For example, submit a query using type equals' compound:

[type]=compound

This search should retrieve the following results pages:

Search Database

Text Search

Include Deprecated Include World Items Search Remarks

[type]=compound

Search Results (3726 Objects Found)

CRSs (272) Transformations (0) Point Motion Operations (0) Concatenated Operations (0) Conversions (0) Datums (0) Coordinate Systems (0) Ellipsoids (50)

Prime Meridians (15) Extent (3303) Units (86) More...

REPORT	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input type="checkbox"/>	Amersfoort / RD New + NAP height	7415	compound	Netherlands - onshore	EPSG		March 14, 2008
<input type="checkbox"/>	Astro DOS 71 / UTM zone 30S + Jamestown 1971 height	7954	compound	St Helena - St Helena Island	EPSG		November 25, 2016
<input type="checkbox"/>	Belge 1972 / Belgian Lambert 72 + Ostend height	6190	compound	Belgium - onshore	EPSG		March 29, 2013
<input type="checkbox"/>	CR-SIRGAS / CRTM05 + DACR52 height	8912	compound	Costa Rica - onshore	EPSG	With geoid model and gravity, ...	March 9, 2019
<input type="checkbox"/>	DB_REF / 3-degree Gauss-Kruger zone 2 (E-N) + DHHN92 height	5832	compound	Germany - West Germany - west...	EPSG		March 25, 2012
<input type="checkbox"/>	DB_REF / 3-degree Gauss-Kruger zone 3 (E-N) + DHHN92 height	5833	compound	Germany - onshore 7.5°E to 10....	EPSG		March 25, 2012
<input type="checkbox"/>	DB_REF / 3-degree Gauss-Kruger zone 4 (E-N) + DHHN92 height	5834	compound	Germany - onshore 10.5°E to 13...	EPSG		March 25, 2012
<input type="checkbox"/>	DB_REF / 3-degree Gauss-Kruger zone 5 (E-N) + DHHN92 height	5835	compound	Germany - onshore east of 13.5...	EPSG		March 25, 2012

Figure 74: Search results for [type]=

5.2 Objects display ordering

The order in which the objects on each tabbed page are shown are (by default) alphabetical based upon the Name column.

5.2.1 Sort by Name

Modifications to the object ordering can be made by clicking on the column labels shown in the blue bar of Figure 75. For example:

Search Results (22 Objects Found)

CRSs (12) Transformations (1) Point Motion Operations (0) Conca

REPORT	NAME	CODE
--------	------	------

Figure 75: Change object ordering

To re-order the CRS names place the cursor over the **Name** column label and a label will be underlined. Click once with the left-hand mouse button and the CRS names will be re-ordered reverse alphabetically.

5.2.2 Sort by Code

Similar modifications can be made to the other column header labels. For example, click on the Code header label. This will re-order all the entries from smallest EPSG code to largest EPSG code. Clicking on the Code header label a second time will reverse the order from largest EPSG code to smallest EPSG code.

5.2.3 Sort by Type

Likewise, to re-order the objects based upon Type place the cursor over Type column label and click once with the left-hand mouse button.

Geodetic Parameters

Search Database

Text Search GO

Include Deprecated Include World Items Search Remarks

[code]<5000 Clear all

Search Results (7239 Objects Found) Export

Report Selected Results

CRSs (2496) Transformations (814) Point Motion Operations (0) Concatenated Operations (4) Conversions (70) Datums (268) Coordinate Systems (81) Ellipsoids (3) Prime Meridians (0)

Extent (3486) Units (17) More...

REPORT	NAME	CODE	▲ TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input type="checkbox"/>	KKJ / Finland Uniform Coordinate System + N60 height	3901	compound	Finland - onshore	EPSG	Replaced by ETRS89 / TM35FIN(N...	April 23, 2010
<input type="checkbox"/>	ETRS89 / TM35FIN(N,E) + N60 height	3902	compound	Finland - onshore	EPSG	Replaces YKJ/N60 (CRS code 390...	March 14, 2020
<input type="checkbox"/>	ETRS89 / TM35FIN(N,E) + N2000 height	3903	compound	Finland - onshore	EPSG	Replaces ETRS89 / TM35FIN(N,E)...	March 14, 2020
<input type="checkbox"/>	ETRS89 / DKTM1 + DVR90 height	4097	compound	Denmark - onshore Jutland west...	EPSG		March 30, 2020
<input type="checkbox"/>	ETRS89 / DKTM2 + DVR90 height	4098	compound	Denmark - onshore Jutland east...	EPSG		March 30, 2020
<input type="checkbox"/>	ETRS89 / DKTM3 + DVR90 height	4099	compound	Denmark - onshore Zealand and...	EPSG		March 30, 2020
<input type="checkbox"/>	ETRS89 / DKTM4 + DVR90 height	4100	compound	Denmark - onshore Bornholm	EPSG		March 30, 2020
<input type="checkbox"/>	TWD97	3822	geocentric	Taiwan	EPSG		August 11, 2008
<input type="checkbox"/>	IGRS	3887	geocentric	Iraq	EPSG		February 3, 2009
<input type="checkbox"/>	MOLDFEF99	4000	geocentric	Moldova	EPSG		May 11, 2009
<input type="checkbox"/>	RGRDC 2005	4039	geocentric	Congo DR (Zaire) - south	EPSG		April 16, 2009
<input type="checkbox"/>	SREF98	4073	geocentric	Serbia	EPSG	Replaced by SRB_ETRS89 (STRS00...	July 17, 2019

Figure 76: Re-ordering based on Type

The re-ordering is also nested in its approach. In the example shown in Figure 76, the objects were first re-ordered by **Code** and then by **Type**. Hence, within the Type column each object is grouped by CRS type (e.g., geocentric, geographic 2D, geographic 3D and projected), but also within each type the ordering is also determined by their EPSG Codes, with the smallest EPSG code number first within each group. In this example, those of type = compound are clearly ordered according to EPSG code number from smallest to largest.

5.2.4 Sort by Extents

This re-orders the objects alphabetically or reverse alphabetically if clicked again.

5.2.5 Sort by Data Source

To re-order the objects based upon Data Source place the cursor over the Data Source column header and click once with the left-hand mouse button. The objects will be listed by the data authority in alphabetical order, e.g., IOGP and then OGP. At the same time, the order in which the objects are listed within each 'group' will be based upon EPSG Code number, ranging from smallest code to largest code.

5.2.6 Sort by Revision Date

To re-order the objects based upon Revision Date place the cursor over the Revision Date column header and click once with the left-hand mouse button. The objects will be listed by their release date or revision date from oldest to newest. At the same time, the order in which the objects are listed also takes into account the EPSG code, being written from smallest to largest on the date of their release / revision.

5.3 Displaying 'more' tabbed pages

A twelfth tab label – 'More' is also shown in Figure 77. Clicking on this tab will expand the number of tabbed pages available for viewing to that shown in Figure 77. These additional pages include:



Figure 77: Additional tabbed pages

- Coordinate Operation Methods
- Coordinate Operation Parameters
- Coordinate Axis Name
- Scope
- Naming System
- Change Requests
- Version History

To view the contents of any of the additional tabbed pages click on the text of the tabbed page. It will turn red, and the contents will be displayed within the table below (see Figure 78).

Geodetic Parameters

Search Database

Text Search

Include Deprecated Include World Items Search Remarks

Search Results (10094 Objects Found)

CRSs (2496) Transformations (814) Point Motion Operations (0) Concatenated Operations (4) Conversions (70) Datums (268) Coordinate Systems (81) Ellipsoids (3) Prime Meridians (0) Extent (3486)

Units (17) Coordinate Operation Methods (65) Coordinate Operation Parameters (39) **Coordinate Axis Name (7)** Scope (244) Naming Systems (27) Change Requests (2251) Version History (222) Fewer...

REPORT	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input type="checkbox"/>	Forward	1024			EPSG	Aligned to the body of the mov...	February 13, 2016
<input type="checkbox"/>	Local depth	1030			EPSG		February 16, 2019
<input type="checkbox"/>	Local easting	1028			EPSG		February 16, 2019
<input type="checkbox"/>	Local northing	1029			EPSG		February 16, 2019
<input type="checkbox"/>	Platform Down	1027			EPSG	For a moving platform, aligned...	February 13, 2016
<input type="checkbox"/>	Platform Up	1026			EPSG	For a moving platform, aligned...	February 13, 2016
<input type="checkbox"/>	Starboard	1025			EPSG	Aligned to the body of the mov...	February 12, 2016

First < Previous 1 Next > Last

Items per page: 50

Figure 78: Coordinate Axis Name tabbed page


The order in which the objects are displayed is initially shown alphabetically, from A to Z. This is against the trend applied to many of the other pages where the initial object ordering is given alphabetically. The special case of the ordering in this instance is because of the number of objects within the category is less than one reporting page (e.g., items per page <50).

5.3.1 Fewer tabbed pages

To reduce the number of tabbed pages displayed click on the 'Fewer' button and the tabs displayed will be reduced back to the original six.

5.4 Data mining

All the objects listed in the name column of the results panel act as hyperlinks and can be expanded to reveal further details of any of the retrieved objects in the table. An example is given for CRS Kalianpur 1880 / India zone IIIa. The details can be viewed in one of two ways:

1. In Figure 65 there is the following icon to the right of the object name:  - if you click on this icon it will open the details of that object in a new window.
2. Alternatively, clicking on the object name the details of the object will be displayed in the current window,

In both cases further details are displayed as shown in Figure 79.

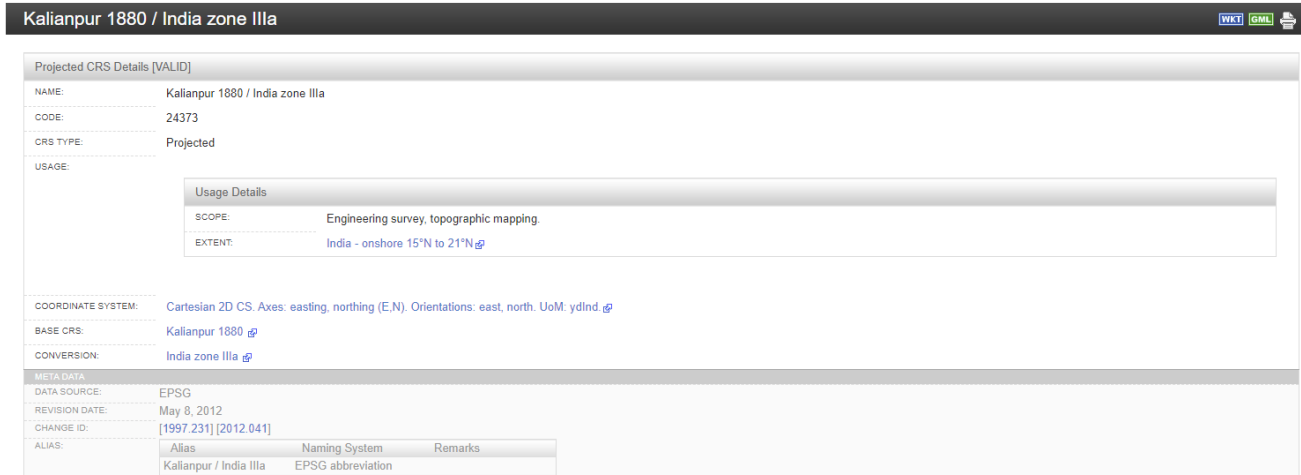


Figure 79: Open the object to view parameters and metadata

The viewing panel has several key features:

- All text shown in blue can be further expanded to display additional parameters and parameter values associated with the sub-objects, e.g., Extent, Coordinate System, etc.
- Direct access to Change Request ID used to create or modify the object.
- Metadata including Alias details.
- The provision of an on-line calculator, not available to Guest users (temporarily disabled).
- Export options to WKT and GML (see section 7 for further details).
- Print a summary report (see 6.6 for further report options)

To expand any of the data links place cursor over the blue underlined text and click once with the left-hand mouse key. For example, select the Base Geographic CRS, Kalianpur 1880.

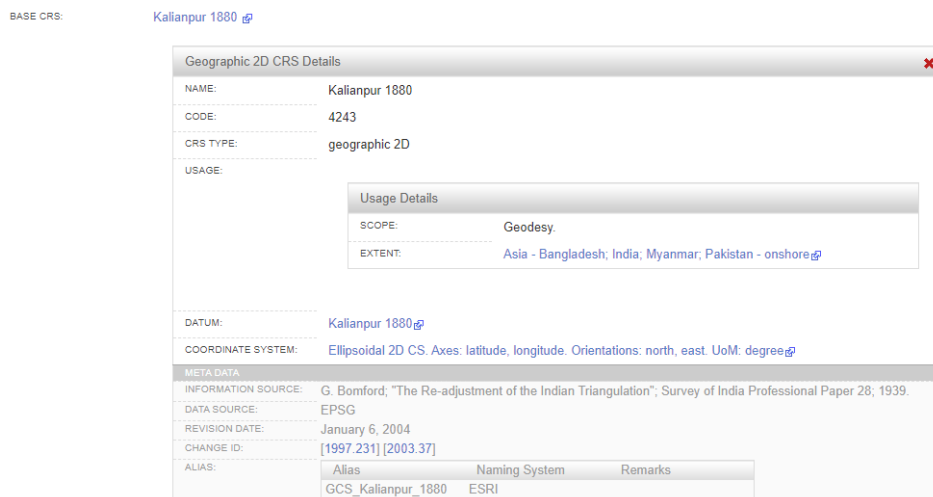


Figure 80: Base Geographic CRS

As is shown in Figure 80 the expansion process with the various sub-objects can be continued as desired. Figure 81 displays the expanded details for the geodetic datum.

DATUM: [Kalianpur 1880](#)

Datum Details [VALID]							
NAME:	Kalianpur 1880						
CODE:	6243						
TYPE:	geodetic						
USAGE:	<table border="1"> <thead> <tr> <th colspan="2">Usage Details</th> </tr> </thead> <tbody> <tr> <td>SCOPE:</td> <td>Topographic mapping.</td> </tr> <tr> <td>EXTENT:</td> <td>Asia - Bangladesh; India, Myanmar, Pakistan - onshore</td> </tr> </tbody> </table>	Usage Details		SCOPE:	Topographic mapping.	EXTENT:	Asia - Bangladesh; India, Myanmar, Pakistan - onshore
Usage Details							
SCOPE:	Topographic mapping.						
EXTENT:	Asia - Bangladesh; India, Myanmar, Pakistan - onshore						
ORIGIN:	Fundamental point: Kalianpur. Latitude: 24°07'11.260"N, longitude: 77°39'17.570"E (of Greenwich).						
ELLIPSOID:	Everest (1830 Definition)						
PRIME MERIDIAN:	Greenwich						
PUBLICATION DATE:	1880						
META DATA							
REMARKS:	Includes 1916 extension into Burma (Myanmar). Replaced by 1937 adjustment.						
INFORMATION SOURCE:	G. Bomford, "The Re-adjustment of the Indian Triangulation"; Survey of India Professional Paper 28; 1939.						
DATA SOURCE:	EPSG						
REVISION DATE:	June 24, 2008						
CHANGE ID:	[1997.231] [2004.29] [2008.045]						

Figure 81: Geodetic datum parameters

The Usage link is the new term introduced within the ISO 19111:2019 data model which now combines scope and extent. Scope is used to describe the expected usage of CRS. In this instance, it is Topographic mapping. Extent (formerly Area) is displayed using two polygons. The first, shown in dark blue in Figure 82, is known as the geographic bounding box and is simply a four-point arc-rectangle. Its latitude and longitude coordinates are displayed around the borders of the map in decimal degrees, latitude positive north and longitude positive east. The second is a more complex polygon shown by the orange area. Each extent contained within the database is given an EPSG code which is shown adjacent to the code label: 1307.

Usage Details

SCOPE: Engineering survey, topographic mapping.

EXTENT: [India - onshore 15°N to 21°N](#)

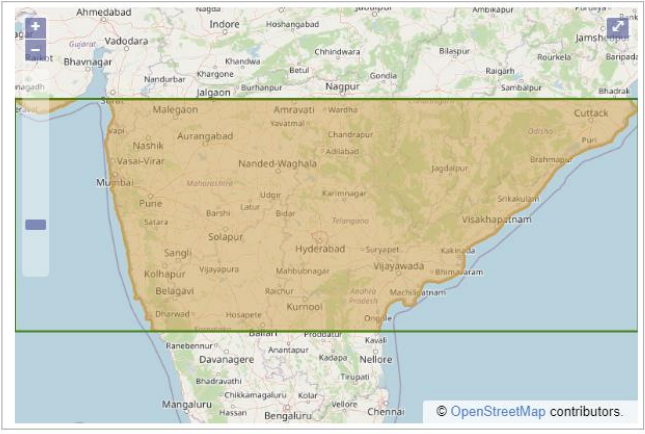
Extent Details [VALID] ✖

NAME: India - onshore 15°N to 21°N

CODE: 1672

DESCRIPTION: India - onshore between 15°N and 21°N.

EXTENTS:



21.01 °

70.14 °

87.15 °

15 °

META DATA

INFORMATION SOURCE: OGP

DATA SOURCE: EPSG

REVISION DATE: March 19, 2017

CHANGE ID: [2008.045] [2012.041] [2014.022] [2017.008]

Figure 82: Usage: scope and extent

Finally, expand the Ellipsoid definition to show the parameters of the ellipsoid, as shown in Figure 83.

ELLIPSOID: [Everest \(1830 Definition\)](#)

Ellipsoid Details [VALID] ✖

NAME: Everest (1830 Definition)

CODE: 7042

SHAPE: Ellipsoid

SEMI-MAJOR AXIS: 20922931.8 [Indian foot](#)

SEMI MINOR AXIS: 20853374.58 [Indian foot](#)

META DATA

REMARKS: Everest gave a and b to 2 decimal places and also $1/f=300.8017$ (to 4 decimal places exactly). In the 19th century b was normally given as the second defining parameter.

INFORMATION SOURCE: "Ellipsoidisch Parameter der Erdfigur (1800-1950)" by Georg Strasser

DATA SOURCE: EPSG

REVISION DATE: June 26, 2008

CHANGE ID: [1997.231] [2008.057]

Figure 83: Ellipsoid parameters

- To hide / collapse any of the sub-object definitions click on the red cross in the right-hand corner of the expanded panel.
- Also note that the metadata that accompanies each data level is displayed at the base of each of the panels.

Conversion Details ✖

NAME: **India zone IIIa**

CODE: **18114**

USAGE:

Usage Details

SCOPE: **Engineering survey, topographic mapping.**

EXTENT: **India - onshore 15°N to 21°N**

CONVERSION METHOD: **Lambert Conic Conformal (1SP)**

CONVERSION PARAMETERS:

Parameter	Value	Reversible	Unit
Latitude of natural origin	19	NO	degree
Longitude of natural origin	80	NO	degree
Scale factor at natural origin	0.99878641	NO	unity
False easting	3000000	NO	Indian yard
False northing	1000000	NO	Indian yard

APPLICABLE CRS-S: **The following CRS are based on this conversion:
[Kalianpur 1880 / India zone IIIa]**

META DATA

REMARKS: **BEWARE ! Different yard to metre conversion values have been used in different parts of south Asia. Some areas have changed conversion value with time.**

INFORMATION SOURCE: **US Army Map Service projection tables; 1943.**

DATA SOURCE: **EPSG**

REVISION DATE: **March 7, 2000**

CHANGE ID: **[1995.28] [1996.02] [1997.231] [2000.094]**

Figure 84: Projection parameter definition, India zone IIIa

One further example is given for the projection parameters associated with this projected 2D CRS. To view these parameters and parameter values click on the conversion link shown in Figure 84.

Likewise, the details can be expanded to show information concerning the conversion method and units of measure associated with the parameter values. The Change ID link describes details of the changes of modifications made to the objects contained within the geodetic parameter registry.

GML
Change Request

Change Request Details

CHANGE ID: 2008.045

REPORT DATE: June 9, 2008

DATE CLOSED: June 24, 2008

REPORTER: Dave Waddell

REQUEST: Correct dms abbreviations

ACTION: Changed text character representation of degree minute second units to symbols "°" for Areas (in area name and/or area description fields), CRSs (in remarks), CSs (in name and axis orientation), Datums (in origin and remarks), Prime Meridians (in remarks) and Coordinate Operations (in scope or remarks). Removed inconsistencies in style for records in these fields. Approximately 2000 records are impacted, too numerous to list. Additionally, for datum 6726, in datum origin, corrected minute value of longitude value, for areas 3357, 3359 and 3360, in area of use corrected spelling of Galveston.

TABLES AFFECTED: Area, Coordinate Operation, Coordinate Reference System, Coordinate System, Datum, Prime Meridian

CODES AFFECTED: Numerous - see actions.

Figure 85: Change ID details

The details within the Change Request are defined as follows:

Parameter	Parameter details
Change ID	Unique identification given to the Change Request. Syntax is year number followed by the sequential Change Request made that calendar year. Therefore, this is the 18 th request made in 2019.
Report Date	Date the request was made
Date Closed	Date the Change Request was completed
Reporter	Which person or entity reported the request
Request	Details of the request – what needs to be done in this Change Request
Action	What actions were conducted as part of the Change Request
Tables Affected	EPSG table names given as semi-colon separated list for those objects in the Codes Affected field
Codes Affected	The EPSG codes of previously-existing objects modified through the Change Request. (New objects are not listed here). Codes are given as semi-colon separated blocks by table. The blocks are identified through the order of entries in the Tables Affected field

6 Export functionality

Export functions are available for both individual objects and collection of objects.

6.1 Individual objects

To export data at an individual object level two file formats can be used,

- WKT adhering to the ISO 19162:2019 specification
- GML v3.2.1 using the EPSG schema extensions (see section 3.3).

WKT export is available only for CRSs, Transformations, Point Motion Operations and Concatenated Operations. GML export is available for all object types.

In Figure 86 there are three icons in the upper right-hand corner.

Timbalai 1948 / RSO Borneo (ftSe) WKT GML Print

Projected CRS Details [VALID]							
NAME:	Timbalai 1948 / RSO Borneo (ftSe)						
CODE:	29872						
CRS TYPE:	Projected						
USAGE:	<table border="1"> <thead> <tr> <th colspan="2">Usage Details</th> </tr> </thead> <tbody> <tr> <td>SCOPE:</td> <td>Oil and gas exploration and production.</td> </tr> <tr> <td>EXTENT:</td> <td>Malaysia - East Malaysia onshore</td> </tr> </tbody> </table>	Usage Details		SCOPE:	Oil and gas exploration and production.	EXTENT:	Malaysia - East Malaysia onshore
Usage Details							
SCOPE:	Oil and gas exploration and production.						
EXTENT:	Malaysia - East Malaysia onshore						
COORDINATE SYSTEM:	Cartesian 2D CS. Axes: easting, northing (E,N). Orientations: east, north. UoM: ftSe.						
BASE CRS:	Timbalai 1948						
CONVERSION:	Rectified Skew Orthomorphic Borneo Grid (feet)						
META DATA							
REMARKS:	Used by Shell in East Malaysia. Original projection definition in chains (1 chain = 66 feet) - see CRS code 29871. See also CRS code 29873 for metric version.						
INFORMATION SOURCE:	Shell						
DATA SOURCE:	EPSG						
REVISION DATE:	July 13, 2016						
CHANGE ID:	[1997.231] [2000.6] [2002.47] [2006.252] [2016.004]						
ALIAS:	<table border="1"> <thead> <tr> <th>Alias</th> <th>Naming System</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>Timbalai / Borneo (ftSe)</td> <td>EPSG abbreviation</td> <td></td> </tr> </tbody> </table>	Alias	Naming System	Remarks	Timbalai / Borneo (ftSe)	EPSG abbreviation	
Alias	Naming System	Remarks					
Timbalai / Borneo (ftSe)	EPSG abbreviation						

Figure 86: Export for individual objects

Select the appropriate icon to export either the WKT or GML file formats. Examples of these file formats are given in Figure 87 and Figure 82, respectively.

WKT Version 2

```
PROJCRS["Timbalai 1948 / RSO Borneo (ftSe)",BASEGEOGCRS["Timbalai 1948" DATUM["Timbalai 1948", ELLIPSOID["Everest 1830 (1967 Definition)",6377298.556,300.8017, LENGTHUNIT["metre",1, ID["EPSG",9001]], ID["EPSG",7016]], ID["EPSG",6298]], PRIMEM["Greenwich",0, ANGLEUNIT["radian",1, ID["EPSG",9101]], ID["EPSG",8901]], ID["EPSG",4298]], CONVERSION["Rectified Skew Orthomorphic Borneo Grid (feet)",METHOD["Hotine Oblique Mercator (variant B)", ID["EPSG",9815]], PARAMETER["Latitude of projection centre",4, ANGLEUNIT["degree",0.0174532925199433, ID["EPSG",9102]], PARAMETER["Longitude of projection centre",115, ANGLEUNIT["degree",0.0174532925199433, ID["EPSG",9102]], PARAMETER["Azimuth of initial line",53.315820472, ANGLEUNIT["degree",0.0174532925199433, ID["EPSG",9102]], PARAMETER["Angle from Rectified to Skew Grid",53.130102361, ANGLEUNIT["degree",0.0174532925199433, ID["EPSG",9102]], PARAMETER["Scale factor on initial line",0.99984, SCALEUNIT["unity",1, ID["EPSG",9201]], PARAMETER["Easting at projection centre",1937263.44, LENGTHUNIT["British foot (Sears 1922)",0.304799471538676, ID["EPSG",9041]], PARAMETER["Northing at projection centre",1452947.58, LENGTHUNIT["British foot (Sears 1922)",0.304799471538676, ID["EPSG",9041]], ID["EPSG",19957]], CS[Cartesian,2, ID["EPSG",4405]], AXIS["Easting (E)",east], AXIS["Northing (N)",north], LENGTHUNIT["British foot (Sears 1922)",0.304799471538676, ID["EPSG",9041]], USAGE[SCOPE["Oil and gas exploration and production."], AREA["Malaysia - East Malaysia (Sabah, Sarawak), onshore and offshore."], BBOX[0.85, 109.31, 7.67, 119.61]], ID["EPSG",29872]]
```

Figure 87: WKT version 2

GML Document

```
<?xml version="1.0" encoding="utf-8"?>
<gml:ProjectedCRS xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:epsg="urn:x-ogp:spec:schema-xsd:EPSG:2.2:dataset" gml:id="epsg-crs-29872" xmlns:gml="http://www.opengis.net/gml/3.2">
  <gml:metaDataProperty>
    <epsg:CommonMetaData>
      <epsg:type>projected</epsg:type>
      <epsg:alias code="1087" codeSpace="7302" alias="Timbalai / Borneo (ftSe)" />
      <epsg:informationSource>Shell.</epsg:informationSource>
      <epsg:revisionDate>2020-07-24</epsg:revisionDate>
      <epsg:changes>
        <epsg:changeID xlink:href="https://apps.epsg.org/api/v1/Change/1997.231/export?format=gml" />
        <epsg:changeID xlink:href="https://apps.epsg.org/api/v1/Change/2000.600/export?format=gml" />
        <epsg:changeID xlink:href="https://apps.epsg.org/api/v1/Change/2002.470/export?format=gml" />
        <epsg:changeID xlink:href="https://apps.epsg.org/api/v1/Change/2006.252/export?format=gml" />
        <epsg:changeID xlink:href="https://apps.epsg.org/api/v1/Change/2016.004/export?format=gml" />
        <epsg:changeID xlink:href="https://apps.epsg.org/api/v1/Change/2020.069/export?format=gml" />
      </epsg:changes>
      <epsg:show>true</epsg:show>
      <epsg:isDeprecated>false</epsg:isDeprecated>
      <epsg:Usage>
        <epsg:extent xlink:href="https://apps.epsg.org/api/v1/Extent/3977/export?format=gml" />
        <gml:scope>Oil and gas exploration and production.</gml:scope>
      </epsg:Usage>
    </epsg:CommonMetaData>
  </gml:metaDataProperty>
  <gml:identifier codeSpace="EPSG">29872</gml:identifier>
  <gml:name>Timbalai 1948 / RSO Borneo (ftSe)</gml:name>
  <gml:remarks>Used by Shell in East Malaysia. Original projection definition in chains (1 chain = 66 feet) - see CRS code 29871. See also CRS code 29873 for metric version.</gml:remarks>
  <gml:scope />
  <gml:conversion xlink:href="https://apps.epsg.org/api/v1/Conversion/19957/export?format=gml" />
  <gml:baseGeodeticCRS xlink:href="https://apps.epsg.org/api/v1/CoordRefSystem/4298/export?format=gml" />
  <gml:cartesianCS xlink:href="https://apps.epsg.org/api/v1/CoordSystem/4405/export?format=gml" />
</gml:ProjectedCRS>
```

Figure 88: GML file format

6.2 Multiple objects

Data can be exported from the database by Registered Users who have logged in from the following location:

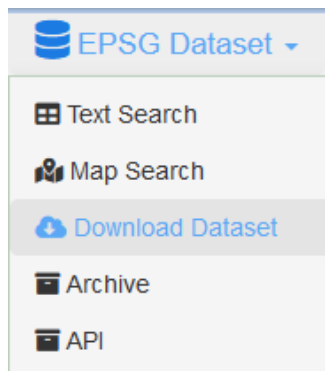


Figure 89: Download Datasets

Select the Download Dataset option from the menu shown in Figure 89.

6.3 Download Dataset

Currently, the entire database can be exported to the following formats. Having clicked on the Export Database button a panel like the one shown in Figure 90 will appear.

Download EPSG Dataset

The datasets downloadable from here are in the updated ISO 19111:2019 data model. Recent but no longer current versions of the EPSG Dataset in the previous data model (incl. SQL files) are available through the [EPSG Dataset Archives](#).

Download:

[EPSG v10.015 \(MS Access database\) \(5 Mb\)](#)
[EPSG v10.015 \(MySQL scripts\) \(2Mb\)](#)
[EPSG v10.015 \(ORACLE scripts\) \(2 Mb\)](#)
[EPSG v10.015 \(PostgreSQL scripts\) \(2 Mb\)](#)
[EPSG v10.015 \(WKT\) \(6 Mb\)](#)

Note:

i) The data in this repository includes some data changes compared to the v9.9 EPSG Dataset caused by revision to the ISO 19111 data model.

ii) The format of the SQL scripts is changed from the format for v9.9 and earlier to explicitly give attribute field names.

iii) Download of the full dataset in GML is no longer supported. GML documents for individual entities may be accessed through [EPSG Dataset / Text Search](#).

iv) WKT download is a consolidated zip file containing individual WKT files for all CRSs, Transformations, Point Motion Operations and Concatenated Operations, including their components, following ISO 19162. WKT for individual entities may be accessed through [EPSG Dataset / Text Search](#).

Recent changes to the EPSG Dataset can be viewed in [Release Information History Table](#).

EPSG supporting files

Area Polygons in Shapefile Format (v10.011)

Previous releases

Previous releases of the EPSG Dataset can be obtained from the [Archives](#) section.

Notes regarding download of zip files

- The files are zipped using WinZIP. If the default decompressor on your computer is WinRAR instead of WinZip, then you may have to manually change the name of the database from "epsg-v8_0" to "epsg-v8_0.zip" in order to subsequently unzip it to an mdb. Or you could right click the "I agree" link on the web page instead of left click, and then to "save target as", and then it will save as a .zip.
- If you use Internet Explorer and are told that the downloaded ZIP file is corrupt, please follow the instructions at <http://kb.winzip.com/kb/entry/150/> to change your internet settings to disable HTTP 1.1 and delete temporary internet files, then download the file again.

Figure 90: Export the database

In each instance the exported file will be compressed into a zipped format.

6.3.1 EPSG MS Access

This download will allow users to work with the EPSG Microsoft Access database. Simply download and open the zipped file to access the database file.

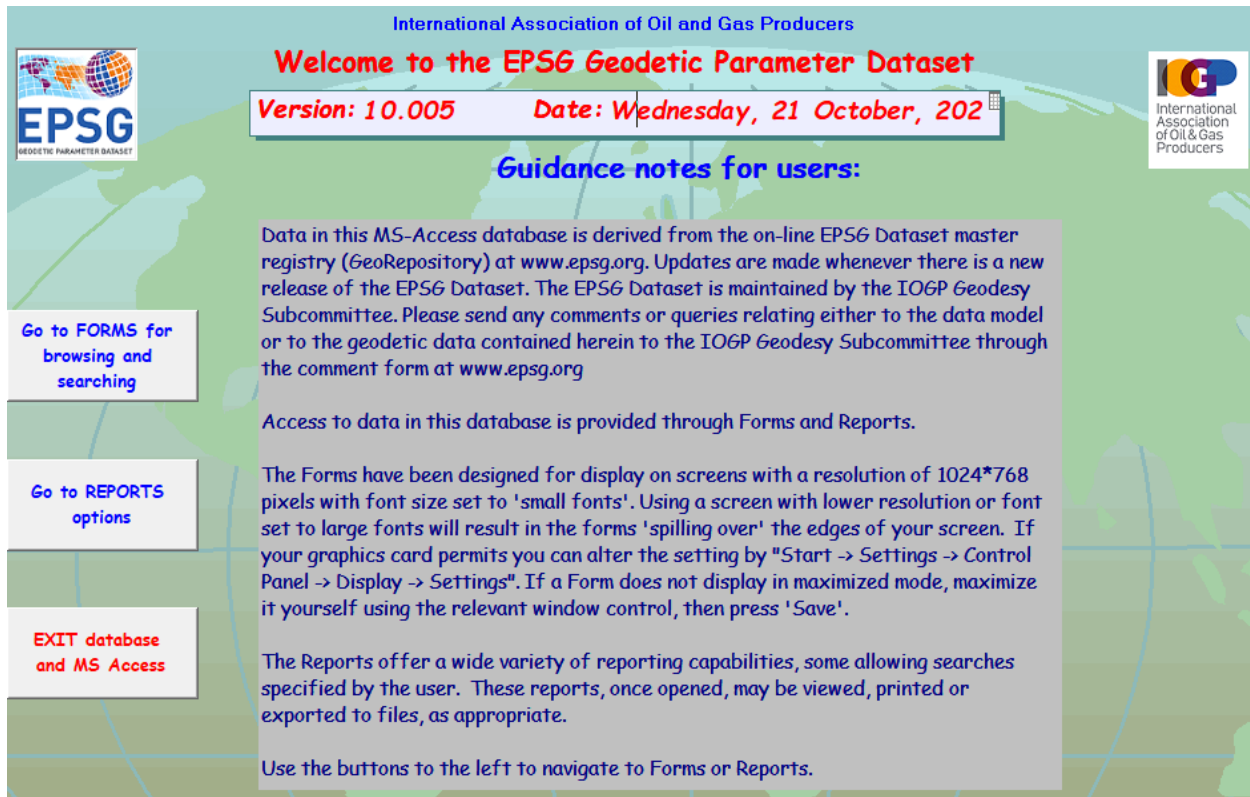


Figure 91: EPSG MS Access database file - example

6.3.2 Oracle export

From the menu provided select the Oracle option (Figure 90). The application will return a zipped file, which when completed will show an icon like the one in Figure 92.

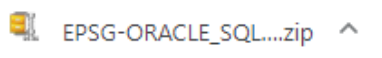


Figure 92: Oracle database zipped file

The downloaded file must be unzipped using one of the standard zipper applications. Once unzipped the following four files should automatically appear within the selected sub-directory. Instructions for installing the data in an Oracle database are given in the Readme file.





Name	Type	Compressed size
 Oracle_Data_Script	SQL File	1,638 KB
 Oracle_FKey_Script	SQL File	1 KB
 Oracle_Readme	Text Document	1 KB
 Oracle_Table_Script	SQL File	3 KB

Figure 93: Oracle database files

6.3.3 MySQL Scripts

From the menu provided select the MySQL Scripts option. The application will return a zipped file to the directory selected. When the zipped file is opened the following four files should be available. Instructions for installing the data in a MySQL database are given in the Readme file.





Name	Type	Compressed size
 MySQL_Data_Script	SQL File	1,631 KB
 MySQL_FKey_Script	SQL File	1 KB
 MySQL_Readme	Text Document	1 KB
 MySQL_Table_Script	SQL File	3 KB

Figure 94: MySQL script files

An example from the top SQL file is shown in Figure 95.

```
INSERT INTO epsg_area VALUES ( 3554,
'New Zealand - Snares and Auckland Islands',

'New Zealand - Snares Island, Auckland Island - onshore.',
-51.13,
    -47.8,
    165.55,
    166.93,
    'urn:ogc:def:extent-polygon:EPSG::3554',
'',
'',
Null,
'',
'LINZ',
'OGP',
'2014-05-01',
'2012.027 2014.015',
0);
```

Figure 95: MySQL script example

6.3.4 PostgreSQL scripts

From the menu provided select the PostgreSQL Scripts option. The application will return a zipped file to the directory selected. When the zipped file is opened the following four files should be available. Instructions for installing the data in a PostgreSQL database are given in the Readme file.





Name	Type	Compressed size
 PostgreSQL_Data_Script	SQL File	1,631 KB
 PostgreSQL_FKey_Script	SQL File	1 KB
 PostgreSQL_Readme	Text Document	1 KB
 PostgreSQL_Table_Script	SQL File	3 KB

Figure 96: PostgreSQL script export

An example of the data file is shown in Figure 97.

```
INSERT INTO epsg_coordoperation VALUES ( 1171,
'NAD27 to WGS 84 (2)',
'transformation',
4267,
4326,
'DMA-Cen Am',
2,
2419,
'For military purposes only. Accuracy 8m, 3m and 5m in X, Y and Z axes.',
10,
9603,
Null,
Null,
'Derived at 19 stations.',
'U.S. Defense Mapping Agency TR8350.2 September 1987.',
'OGP',
'2014-11-19',
'2005.200 2014.058',
1,
0 );
```

Figure 97: PostgreSQL script data file

6.3.5 WKT

From the menu provided select the WKT option. The application will return to the directory selected a zipped file containing well-known text (WKT) compliant with ISO 19162:2019 for all valid CRS, transformations, point motion operations and concatenated operations.

6.3.6 Export to spreadsheet

The results panel provides another export function where the objects returned from searches and shown on the tabbed pages (see section 5) can be exported to an Excel spreadsheet. Click on the **Export** button to the right of Search Results (xx objects found).

Search Database

Text Search

Include Deprecated Include World Items Search Remarks

Europe UTM [code]:23030

Search Results (13 Objects Found)

Report Selected Results

CRSs (13) Conversions (0) Transformations (0) Datums (0) More...

REPORT	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input type="checkbox"/>	ED50 / UTM zone 28N	23028	projected	Europe - 18°W to 12°W and ED50...	EPSG		June 2, 1995
<input type="checkbox"/>	ED50 / UTM zone 29N	23029	projected	Europe - 12°W to 6°W and ED50...	EPSG		June 2, 1995
<input type="checkbox"/>	ETRS89 / UTM zone 28N (N-E)	3040	projected	Europe - 18°W to 12°W and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 14, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 29N (N-E)	3041	projected	Europe - 12°W to 6°W and ETRS8...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 14, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 30N (N-E)	3042	projected	Europe - 6°W to 0°W and ETRS89...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 14, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 31N (N-E)	3043	projected	Europe - 0°E to 6°E and ETRS89...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 14, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 32N (N-E)	3044	projected	Europe - 6°E to 12°E and ETRS8...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 14, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 33N (N-E)	3045	projected	Europe - 12°E to 18°E and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 14, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 34N (N-E)	3046	projected	Europe - 18°E to 24°E and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 14, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 35N (N-E)	3047	projected	Europe - 24°E to 30°E and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 14, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 36N (N-E)	3048	projected	Europe - 30°E to 36°E and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 14, 2020
<input type="checkbox"/>	ETRS89 / UTM zone 37N (N-E)	3049	projected	Europe - 36°E to 42°E and ETRS...	EPSG	ETRS89-LCC (CRS code 3034) use...	March 14, 2020
<input type="checkbox"/>	IRENET95 / UTM zone 29N	2158	projected	Europe - Ireland (Republic and...	EPSG		January 25, 2011

Figure 98: Export results to Excel Spreadsheet

An example of an exported spreadsheet is given in Figure 99. The columns shown in the spreadsheet are identical to those within the application.

	A	B	C	D	E	F	G
1	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
2	GDM2000	4742	geographic 2D	Malaysia	OGP	Replaces all earlier Malaysian geograp	August 27, 2007
3	GDM2000	4920	geocentric	Malaysia	OGP		March 16, 2006
4	GDM2000	4921	geographic 3D	Malaysia	OGP		August 27, 2007
5	GDM2000 / East Malaysia BR50	3376	projected	Malaysia - East Malaysia	OGP	Replaces Timbalai 1948 / RSO Borneo	January 21, 2012
6	IGS08	6934	geocentric	World (by country)	IOGP	Used for products from International	May 17, 2019
7	ITRF2014	7789	geocentric	World (by country)	IOGP	Replaces ITRF2008 (CRS code 5332).	May 17, 2019
8	NSIDC EASE-Grid Global	3410	projected	World - 86°S to 86°N	OGP	Used as basis for Equal-Area Scalable	November 21, 2014
9	NSIDC EASE-Grid North	3408	projected	World - north of 0°N	OGP	Used as basis for Equal-Area Scalable	November 21, 2014
10	Timbalai 1948	4298	geographic 2D	Asia - Brunei and East Malaysia	OGP	Adopts metric conversion of 39.37014	September 24, 2010
11	Timbalai 1948 / RSO Borneo (ch)	29871	projected	Asia - Brunei and East Malaysia	OGP	Adopts ellipsoid metric conversion of	September 21, 2006
12	Timbalai 1948 / RSO Borneo (m)	29873	projected	Asia - Brunei and East Malaysia	OGP	Original projection definition in chain	September 24, 2010
13	Timbalai 1948 / UTM zone 49N	29849	projected	Asia - Brunei and East Malaysia - 108°E to 114°E	OGP		June 2, 1995
14	WGS 72 / UTM zone 49N	32249	projected	World - N hemisphere - 108°E to 114°E	OGP		June 2, 1995
15	WGS 72BE / UTM zone 49N	32449	projected	World - N hemisphere - 108°E to 114°E - by country and WGS 72BE	OGP		June 2, 1995
16	WGS 84	4979	geographic 3D	World (by country)	OGP		August 27, 2007
17	WGS 84 / NSIDC EASE-Grid 2.0 Global	6933	projected	World - 86°S to 86°N	OGP	Supersedes NSIDC EASE-Grid Global,	November 21, 2014
18	WGS 84 / NSIDC EASE-Grid 2.0 North	6931	projected	World - north of 0°N	OGP	Supersedes NSIDC EASE-Grid North,	November 21, 2014
19	WGS 84 / Pseudo-Mercator	3857	projected	World - 85°S to 85°N	IOGP	Not a recognised geodetic system. Us	November 25, 2015
20	WGS 84 / UTM grid system (northern hemisphere)	32600	projected	World - N hemisphere - 0°N to 84°N	OGP	Use WGS 84 / UTM zone xx N (codes 3	June 5, 2001
21	WGS 84 / UTM zone 49N	32649	projected	World - N hemisphere - 108°E to 114°E - by country	OGP		August 25, 2006
22	WGS 84 / World Mercator	3395	projected	World - between 80°S and 84°N	OGP	Euro-centric view of world excluding	June 2, 2006

Figure 99: Exported spreadsheet

6.4 Archive

Previous versions of the EPSG Dataset remain publicly available in the four different formats indicated. MS Access versions are available from EPSG v5.3, My SQL versions from EPSG v6.4, and Oracle and PostgreSQL versions from EPSG v6.7. To download an archived version, click on its link.

Note: there were data model changes beginning with Dataset versions 6 and 10.

Archives

Beginning with Version 5.3 and Version 6.1, all versions of the EPSG Database remain publicly available. These superseded databases may be downloaded below. They are distributed in MS Access 2000 (Access 97 for v6.18 and earlier). SQL scripts are available from version 6.4.

From Dataset version 9.4 Access database and SQL scripts for MySQL, Oracle SQL and PostgreSQL are encoded in UTF-8. Through Dataset version 9.3 the encoding of the Access database and SQL scripts has been CP1252.

Dataset versions 6.1 to 9.9 conform to the ISO 19111:2007 data model. From version 10 the Dataset conforms to the ISO 19111:2019 data model.

Recent changes to the EPSG Dataset can be viewed in [Release Information History Table](#).

EPSG version, Date	Access	MySQL	Oracle	PostgreSQL
EPSG v10.015, 2021-02-11	EPSG-v10_015-Access.zip	EPSG-v10_015-MySQL.zip	EPSG-v10_015-ORACLE.zip	EPSG-v10_015-PostgreSQL.zip
EPSG v10.013, 2021-02-05	EPSG-v10_013-Access.zip	EPSG-v10_013-MySQL.zip	EPSG-v10_013-ORACLE.zip	EPSG-v10_013-PostgreSQL.zip
EPSG v10.012, 2021-01-18	EPSG-v10_012-Access.zip	EPSG-v10_012-MySQL.zip	EPSG-v10_012-ORACLE.zip	EPSG-v10_012-PostgreSQL.zip
EPSG v10.011, 2021-01-13	EPSG-v10_011-Access.zip	EPSG-v10_011-MySQL.zip	EPSG-v10_011-ORACLE.zip	EPSG-v10_011-PostgreSQL.zip
EPSG v10.008, 2020-12-14	EPSG-v10_008-Access.zip	EPSG-v10_008-MySQL.zip	EPSG-v10_008-ORACLE.zip	EPSG-v10_008-PostgreSQL.zip
EPSG v10.007, 2020-11-18	EPSG-v10_007-Access.zip	EPSG-v10_007-MySQL.zip	EPSG-v10_007-ORACLE.zip	EPSG-v10_007-PostgreSQL.zip
EPSG v10.005, 2020-10-21	EPSG-v10_005-Access.zip	EPSG-v10_005-MySQL.zip	EPSG-v10_005-ORACLE.zip	EPSG-v10_005-PostgreSQL.zip
EPSG v10.003, 2020-10-05	EPSG-v10_003-Access.zip	EPSG-v10_003-MySQL.zip	EPSG-v10_003-ORACLE.zip	EPSG-v10_003-PostgreSQL.zip
EPSG v9.9.1, 2020-08-31	EPSG-v9_9_1-Access.zip	EPSG-v9_9_1-MySQL.zip	EPSG-v9_9_1-ORACLE.zip	EPSG-v9_9_1-PostgreSQL.zip
EPSG v9.8.15, 2020-07-26	EPSG-v9_8_15-Access.zip	EPSG-v9_8_15-MySQL.zip	EPSG-v9_8_15-ORACLE.zip	EPSG-v9_8_15-PostgreSQL.zip
EPSG v9.8.13, 2020-07-01	EPSG-v9_8_13-Access.zip	EPSG-v9_8_13-MySQL.zip	EPSG-v9_8_13-ORACLE.zip	EPSG-v9_8_13-PostgreSQL.zip
EPSG v9.8.12, 2020-06-17	EPSG-v9_8_12-Access.zip	EPSG-v9_8_12-MySQL.zip	EPSG-v9_8_12-ORACLE.zip	EPSG-v9_8_12-PostgreSQL.zip
EPSG v9.8.11, 2020-04-30	EPSG-v9_8_11-Access.zip	EPSG-v9_8_11-MySQL.zip	EPSG-v9_8_11-ORACLE.zip	EPSG-v9_8_11-PostgreSQL.zip
EPSG v9.8.9, 2020-03-30	EPSG-v9_8_9-Access.zip	EPSG-v9_8_9-MySQL.zip	EPSG-v9_8_9-ORACLE.zip	EPSG-v9_8_9-PostgreSQL.zip
EPSG v9.8.7, 2020-02-25	EPSG-v9_8_7-Access.zip	EPSG-v9_8_7-MySQL.zip	EPSG-v9_8_7-ORACLE.zip	EPSG-v9_8_7-PostgreSQL.zip
EPSG v9.8.6, 2020-01-16	EPSG-v9_8_6-Access.zip	EPSG-v9_8_6-MySQL.zip	EPSG-v9_8_6-ORACLE.zip	EPSG-v9_8_6-PostgreSQL.zip
EPSG v9.8.3, 2019-10-11	EPSG-v9_8_3-Access.zip	EPSG-v9_8_3-MySQL.zip	EPSG-v9_8_3-ORACLE.zip	EPSG-v9_8_3-PostgreSQL.zip
EPSG v9.8.2, 2019-09-19	EPSG-v9_8_2-Access.zip	EPSG-v9_8_2-MySQL.zip	EPSG-v9_8_2-ORACLE.zip	EPSG-v9_8_2-PostgreSQL.zip
EPSG v9.7, 2019-07-17	EPSG-v9_7-Access.zip	EPSG-v9_7-MySQL.zip	EPSG-v9_7-ORACLE.zip	EPSG-v9_7-PostgreSQL.zip

Figure 100: Archive file available

Each release has associated release notes. To view these, click on the link shown within Figure 100.

EPSG Dataset Release Information History

EPSG v9.8.11, 2020-04-30	New data for Austria, International Bathymetric Chart of the Southern Ocean, New Caledonia and UK. Minor revision to data for American Samoa, Angola, Australia, Canada, France, Greenland, Puerto Rico, United States, US Virgin Islands. Most of these update geoid model supersession information. Update to IGS realization appearing in searches by country name.
EPSG v9.8.9, 2020-03-30	New data for Germany and Oman. Significant revision to data for United States. Minor revision to data for Europe and United Kingdom. Updates to formula for conic map projection methods for southern hemisphere.
EPSG v9.8.8, 2020-03-16 [?]	Change of ellipsoid for POSGAR 2007 data in Argentina. This has no practical consequence (micron level change in coordinate values), but applications using name checks will encounter exceptions. Change of WGS 84 and ETRS89 to be based on datum ensembles. Minor revision to data Israel.
EPSG v9.8.7, 2020-02-25	[?]
EPSG v9.8.6, 2020-01-16	New data for Argentina, Austria, Indonesia, Netherlands, New Zealand, Saudi Arabia and South Africa. Significant revision to data for Argentina, France, Indonesia, Netherlands, New Caledonia and Pakistan. Minor revision to data for American Samoa, Canada, Guam, Northern Mariana Islands.
EPSG v9.8.4, 2019-11-11	Significant revision to data for Canada. Minor revision to geocentric Cartesian coordinate system axis direction description and to geodetic latitude and geodetic longitude (added alias) (to accord with ISO 19162:2019). In GeoRepository, but not in the Galdos registry at www.epsg-registry.org , minor revision to Similarity transformation method (change of name of scale parameter) and to concatenated operations (addition of operation accuracy).
EPSG v9.8.3, 2019-10-11	New data for Iceland, St Pierre et Miquelon and United States. Significant revision to data for Canada and St Helena. Minor revision to data for Australia (correction of remarks) and to areas for Finland and Vietnam.
EPSG v9.8.2, 2019-09-19	New data for Angola, Canada, Chile, New Zealand, South Africa, southern North Sea (Germany/Netherlands), United States and Vietnam. Minor revision to data for Germany (transformation accuracy corrected) and (additional aliases) to data for Australia, Canada and United States.
EPSG v9.7, 2019-07-17	New data for Australia (ACT), Guadeloupe, Israel, Kosovo, Martinique, New Zealand, St Pierre et Miquelon, Europe (EU LAEA and LCC usage extended to Iceland, Portugal (Azores and Madeira), Spain (Canaries) and Turkey), South and Central America (SIRGAS-CON). Minor revision (additional aliases) to data for Japan, New Zealand, WGS 84 G realizations, Europe ETRF realizations.

Figure 101: Release Information History

6.5 API

The GeoRepository API acts as the interface between the user and the database. Commands issued by the user and sent to the database to retrieve parameters and parameter values matching the query submitted. Typically, these commands are automatically generated by selections made using the web site. However, for developers and expert users who wish to interrogate the EPSG Dataset they can do so without using the web site, but instead issue their own scripts that adhere to the syntax required by the Swagger commands. Details of the swagger commands are provided by clicking on the

API

About the GeoRepository API

The IOGP GeoRepository is a native web application built using xhtml and the GeoRepository API. This API has been made publicly available. However, note that the content of the EPSG Dataset is fairly static, being updated only as needed and historically only a few times a year, so in general standalone applications wishing to regularly interrogate the Dataset should use the API to download a copy of the EPSG Dataset and interrogate the local copy. Alternatively the Dataset can be downloaded as zipped SQL scripts or in an Access database through the GUI [here](#).

GeoRepository API

Software developers can find the RESTful GeoRepository API [here \(swagger\)](#).

Figure 102: Access the swagger commands page

Clicking on the link will direct you to the following page. A list of all commands is provided to interrogate the EPSG Dataset and retrieve the parameters and parameter values from the geodetic objects.

GeoRepository API Version 1.0

BoundCoordRefSystem	Show/Hide	List Operations	Expand Operations
Change	Show/Hide	List Operations	Expand Operations
CompoundCoordRefSystem	Show/Hide	List Operations	Expand Operations
ConcatenatedOperation	Show/Hide	List Operations	Expand Operations
ConventionalRS	Show/Hide	List Operations	Expand Operations
Conversion	Show/Hide	List Operations	Expand Operations
CoordinateAxisName	Show/Hide	List Operations	Expand Operations
CoordOperationMethod	Show/Hide	List Operations	Expand Operations
CoordOperationParameter	Show/Hide	List Operations	Expand Operations
CoordRefSystem	Show/Hide	List Operations	Expand Operations
CoordSystem	Show/Hide	List Operations	Expand Operations
Datum	Show/Hide	List Operations	Expand Operations
DatumEnsemble	Show/Hide	List Operations	Expand Operations
DatumRealizationMethod	Show/Hide	List Operations	Expand Operations
DerivedCoordRefSystem	Show/Hide	List Operations	Expand Operations
Ellipsoid	Show/Hide	List Operations	Expand Operations
EngineeringCoordRefSystem	Show/Hide	List Operations	Expand Operations
Export	Show/Hide	List Operations	Expand Operations

Figure 103: Swagger command for GeoRepository API

For any of the commands shown click on the ‘List Operations’ option shown on the right-hand side of the page and the GET operations will be displayed.

Datum	Show/Hide	List Operations	Expand Operations
GET /v1/Datum/{id}/	Fetch a datum from the database as identified by the authority code.		
GET /v1/Datum/{id}/export/	Generates the WKT for a datum identified by the supplied authority code.		
GET /v1/Datum/	Fetches a list of search results that represent the datums that match the provided keywords.		

Figure 104: GET operations for Datum command

Click on any of the GET operations listed to display expanded details of the entry requirements. Users are directed towards a separate manual which describes further details of the API commands.

6.6 Printing reports

To print reports for specific objects shown within the search results panel, place a tick in the box to the left of the object name(s). Next, click on the **Report Selected Results** button (shown in the red ellipse).

Geodetic Parameters

Search Database

Text Search

Search Results (465 Objects Found)

Search results only display valid entries. Please login or register to include deprecated and invalid objects.

Report Selected Results

CRSs (208) Transformations (138) Point Motion Operations (0) Concatenated Operations (5) Conversions (35) Datums (79) More...

REPORT	NAME	CODE	TYPE	EXTENT	DATA SOURCE	REMARKS	REVISION DATE
<input checked="" type="checkbox"/>	ATF (Paris)	4901	geographic 2D	France - mainland onshore	EPSG	ProjCRS covering all mainland...	November 1, 2007
<input checked="" type="checkbox"/>	ED79	4668	geographic 2D	Europe - west	EPSG		May 27, 2005
<input checked="" type="checkbox"/>	ED87	4231	geographic 2D	Europe - west	EPSG		January 6, 2004

Figure 105: Print report for specific object

When completed a panel like the one in Figure 106 will appear.

Report selected results ×

Report Title

Report Options

Summary Report

Detailed Report

Figure 106: Report panel

Two options are provided to create either a summary report or a detailed report. The summary report omits aliases and metadata. Click on the appropriate radial button, e.g., Summary Report. Next, enter a title into the text box provided (an entry is required). Finally click on the **Generate** button to create the report. The report is generated within a separate window to the website.

EPSG Geodetic Parameter Dataset
Version 10.084

Report Title **EPSG Geodetic Parameter Registry**

Report Type: summary
Parameter Count: 1

**** You use the information in this report as agreed to by the terms of use.**

NAD27 / Texas South Central [VALID]						
Type:	Projected Coordinate Reference System				Code:	EPSG:32040
Usage:	Scope:	Engineering survey, topographic mapping.				
	Extent:	United States (USA) - Texas - counties of Aransas; Atascosa; Austin; Bandera; Bee; Bexar; Brazoria; Brewster; Caldwell; Calhoun; Chambers; Colorado; Comal; De Witt; Dimmit; Edwards; Fayette; Fort Bend; Frio; Galveston; Goliad; Gonzales; Guadalupe; Harris; Hays; Jackson; Jefferson; Karnes; Kendall; Kerr; Kinney; La Salle; Lavaca; Live Oak; Matagorda; Maverick; McMullen; Medina; Presidio; Real; Refugio; Terrell; Uvalde; Val Verde; Victoria; Waller; Wharton; Wilson; Zavala. Gulf of Mexico outer continental shelf (GoM OCS) protraction areas: Matagorda Island; Brazos; Galveston; High Island, Sabine Pass (TX).				
Base CRS:	Name:	NAD27				
	Type:	Geographic 2D Coordinate Reference System				
Datum:	Name:	North American Datum 1927				
	Prime Meridian:	Name:	Greenwich			
	Ellipsoid:	Name:	Clarke 1866			
		Semi-Major Axis:	6378206.4 metre = 20925832.164 US survey foot [calculated]			
		Semi-Minor Axis:	6356583.8 metre = 20854892.017 US survey foot [calculated]			
Conversion:	Name:	Texas CS27 South Central zone				
	Conversion Method:	Name:	Lambert Conic Conformal (2SP)			
Conversion Parameters:	Parameter Name		Parameter Value or Parameter File	Unit of Measure	Sign Reversal	
	Latitude of false origin		27° 50' 00" N	sexagesimal DMS	No	
	Longitude of false origin		99° W	sexagesimal DMS	No	
	Latitude of 1st standard parallel		28° 23' 00" N	sexagesimal DMS	No	
	Latitude of 2nd standard parallel		30° 17' 00" N	sexagesimal DMS	No	
	Easting at false origin		2000000	US survey foot	No	
Coordinate System:	Coordinate Axes:	Order	Axis Name	Abbrev	Unit of Measure	Orientation
		1	Easting	X	US survey foot	east
		2	Northing	Y	US survey foot	north

Figure 107: Summary Report Example

Use the standard Windows options to either Save or Print the report. To access this menu right click within the page area.

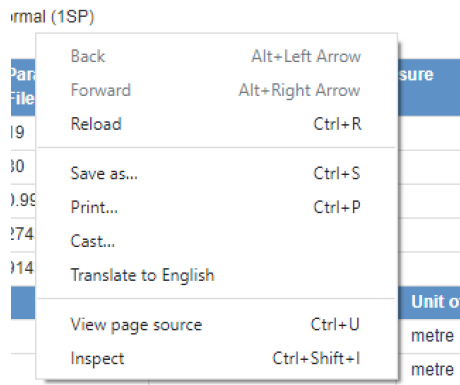


Figure 108: Save and print options

Repeat the process to generate the Detailed Report as required.

EPSG Geodetic Parameter Dataset		Enter the report title here		EPSG Geodetic Parameter Registry				
Version 10.084								
Report Type: detailed								
Parameter Count: 1								
** You see the information in this report as agreed to by the terms of use.								
NAD27 / Texas South Central [VALID]								
Type:	Projected Coordinate Reference System					Code:	EPSG:32040	
Aliases:	Alias:	NAD27 / Texas South Cen.			Naming System:	Remarks:		
		NAD_1927_StatePlane_Texas_South_Central_FPS_4204			EPSG abbreviation			
					ESRI			
Usage:	Scope:	Engineering survey, topographic mapping.				Code:	EPSG:1142	
	Extent:	Description:	United States (USA) - Texas - counties of Adams; Atascosa; Austin; Bandera; Bee; Bexar; Brazoria; Brewster; Caldwell; Calhoun; Chambers; Colorado; Comal; De Witt; Dimmit; Edwards; Fayette; Fort Bend; Frio; Galveston; Goliad; Gonzales; Guadalupe; Harris; Hays; Jackson; Jefferson; Kerr; Kendall; Kerr; Kinney; La Salle; Lavaca; Live Oak; Matagorda; Maverick; McMullen; Medina; Presidio; Real; Refugio; Terrell; Uvalde; Val Verde; Victoria; Walker; Wharton; Wilcox; Zavala. Gulf of Mexico outer continental shelf (GoM OCS) protraction areas: Matagorda Island; Brazos; Galveston; High Island; Sabine Pass (TX).				Code:	EPSG:2256
Base CRS:	Name:	NAD27					Code:	EPSG:4267
	Type:	Geographic 2D Coordinate Reference System						
	Aliases:	Alias:	246			Naming System:	Remarks:	
Datum:	Name:	North American Datum 1927					Code:	EPSG:6267
		Alias:	NAD27			Naming System:	Remarks:	
			D_North_American_1927			ESRI		
Usage:	Scope:	Topographic mapping.						
	Extent:	Description:	North and central America: Antigua and Barbuda - onshore. Bahamas - onshore plus offshore over internal continental shelf only. Belize - onshore. British Virgin Islands - onshore. Canada onshore - Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Quebec, Saskatchewan and Yukon - plus offshore east coast. Cuba - onshore and offshore. El Salvador - onshore. Guatemala - onshore. Honduras - onshore. Panama - onshore. Puerto Rico - onshore. Mexico - onshore plus offshore east coast. Nicaragua - onshore. United States (USA) onshore and offshore - Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin and Wyoming - plus offshore - US Virgin Islands - onshore.				Code:	EPSG:1349
Prime Meridian:	Name:	Greenwich				Code:	EPSG:8901	
	Greenwich Longitude:	0 degree				Code:	EPSG:9102	
Ellipsoid:	Name:	Clarke 1866				Code:	EPSG:7008	
	Semi-Major Axis:	6378206.4 metre = 20925832.164 US survey foot [calculated]				Code:	EPSG:9001	
	Semi-Minor Axis:	6356583.8 metre = 20854892.017 US survey foot [calculated]				Code:	EPSG:9001	
	Inverse Flattening (calculated):	294.9786982						
Datum Origin:	Fundamental point: Meade's Ranch. Latitude: 39°13'26.686"N, longitude: 96°32'30.506"W (of Greenwich).							
Conversion:	Name:	Texas CS27 South Central zone				Code:	EPSG:14204	
	Conversion Method:	Name:	Lambert Conic Conformal (2SP)			Code:	EPSG:9802	
		Aliases:	Lambert_Conformal_Conic_2SP			Naming System:	Remarks:	
Is method reversible:	Yes							
Conversion Parameters:	Parameter Name	Parameter Code	Parameter Value or Parameter File	Unit of Measure	UoM Code	Sign Reversal		
	Latitude of false origin	EPSG:8821	27° 50' 00" N	sexagesimal DMS	9110	No		
	Longitude of false origin	EPSG:8822	99° W	sexagesimal DMS	9110	No		
	Latitude of 1st standard parallel	EPSG:8823	28° 23' 00" N	sexagesimal DMS	9110	No		
	Latitude of 2nd standard parallel	EPSG:8824	30° 17' 00" N	sexagesimal DMS	9110	No		
	Easting at false origin	EPSG:8826	2000000	US survey foot	9003	No		
	Nothing at false origin	EPSG:8827	0	US survey foot	9003	No		
Coordinate System:	Name:	Cartesian 2D CS. Axes: easting, northing (XY). Orientations: east, north. UoM: ftUS.				Code:	EPSG:4497	
	Coordinate Axis:	Order	Axis Name	Abbrev	Unit of Measure	UoM Code	Orientation	
		1	Easting	X	US survey foot	9003	east	
	2	Northing	Y	US survey foot	9003	north		
Life Cycle Status:	Is Valid?	Yes						
	Superseded?	No						
	Deprecated?	No						
Data Source:	EPSG							
Revision Date:	2 juni 1995							

Figure 109: Detailed Report Example

6.6.1 Printing from object view

When viewing the object panel from the results table (e.g. Figure 86) there is another print option shown within the upper right-hand corner of that panel (Figure 110).

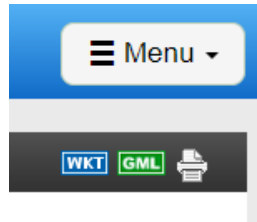


Figure 110: Print from object view

Click on the print icon on the right side and a new panel will appear with the Summary Report being displayed.

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EPSG Geodetic Parameter Dataset **Report Title** **EPSG Geodetic Parameter Registry**

Version 10.015

Report Type: detailed
Parameter Count: 1

** You use the information in this report as agreed to by the terms of use.

Projected CRS [VALID]

Name:	Kallianpur 1975 / India zone IIIa			Code: EPSG:24381		
Aliases:	Alias	Naming System	Remarks			
	Kallianpur 75 / India IIIa	EPSG abbreviation				
Usage:	Scope:	Engineering survey, topographic mapping.	Code: EPSG:1142			
	Extent:	Description:	India - onshore between 15°N and 21°N.	Code: EPSG:1672		
Base CRS:	Name:	Kallianpur 1975		Code: EPSG:4146		
	Type:	geographic 2D				
Conversion:	Name:	India zone IIIa (1975 metres)				
	Conversion Method:	Name:	Lambert Conic Conformal (1SP)			
	Aliases:	Alias	Naming System	Remarks		
		Lambert Conic Conformal (1SP variant A)	EPSG alias			
Is method reversible?:	YES					
Conversion Parameters:	Parameter Name	Parameter Code	Parameter Value or Parameter File	Unit of Measure	Uom Code	Sign Reversal
	Latitude of natural origin	EPSG:8801	19	degree	9102	
	Longitude of natural origin	EPSG:8802	80	degree	9102	
	Scale factor at natural origin	EPSG:8805	0.99878641	unity	9201	
	False easting	EPSG:8806	2743195.5	metre	9001	
	False northing	EPSG:8807	914398.5	metre	9001	

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Print 2 pages

Destination Save as PDF ▾

Pages All ▾

Layout Portrait ▾

More settings ▾

Figure 111: Printing summary report

On the right-hand side of the panel select the parameters required to print the report. This includes file type (e.g. PDF), pages, page lay-out, page size etc.

7 Amendments

Manual version	Software version	Description
6.2	2.35.74	<p>The reporting capability has been altered for projected CRS such that the datum information (semi-major and when applicable, semi-minor axis) as also calculated and given in the coordinate system units used by the CRS. This can be seen in the two examples: Figure 107 and Figure 109.</p> <p>The provider of the background map service used by the application has been switched to ESRI to ensure that labels are always in English and not localised as they were in previous versions of the software. This can be seen in figures: Figure 35 and Figure 59.</p>

END OF DOCUMENT