



# Boundaries and Sovereignty Encyclopedia (BASE)

***SpaceTimeIDs***: A novel approach for tracking boundary changes over time

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U.S. Department of State

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# Office of the Geographer and Global Issues (GGI)

- 100<sup>th</sup> year of the Office's founding
- Cartographic Production and Place Names
- Large Scale International Boundaries (LSIB)
- Boundaries and Sovereignty Encyclopedia (BASE)
- Senior Agency Official for Geospatial Information (SAOGI) and responsibilities under the Geospatial Data Act of November, 2018

# Office of the Geographer and Global Issues (GGI)

- *Critical Questions...*

- How to move LSIB data production and GIS workflows forward in terms of sophistication, scalability, and dissemination?
- How to leverage the massive amount of modern and historical information on boundary lines and associated documents?
- How to increase value and accessibility for consumers of boundary information?

## Large Scale International Boundaries (LSIB)

- These data and their derivatives are the only international boundary lines approved for U.S. Government use. They reflect U.S. Government policy, and not necessarily de facto limits of control.
- Sources for these data include treaties, relevant maps, and data from boundary commissions and national mapping agencies. Where available, the dataset incorporates information from courts, tribunals, and international arbitrations.
- The research and recovery of the data involves analysis of satellite imagery and elevation data.

# Large Scale International Boundaries (LSIB)

- The LSIB are a US National Geospatial Data Asset (NGDA) and are a core layer of the National Spatial Data Infrastructure
- The LSIB data are publicly released as open data on the State Department geospatial data portal:
  - Webpage: <https://geonode.state.gov/layers/catalog:geonode:LSIB>
  - Data download: <https://data.geonode.state.gov/LSIB.zip>

# Large Scale International Boundaries



**i** Info

≡ Attributes

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★ Ratings

💬 Comments

**Title** Large Scale International Boundaries

**License** Public Domain / USG (PD/USG) **i**

**Abstract** **Overview**  
The Office of the Geographer and Global Issues at the U.S. Department of State produces the Large Scale International Boundaries (LSIB) dataset, currently at Version 11.1 (published 22 August 2022). The 11.1 release is primarily a data refinement release, further updating the line pairs described below in the Supplemental Information section. These data and their derivatives are the only international boundary lines approved for U.S. Government use. They reflect U.S. Government policy, and not necessarily de facto limits of control. This dataset is a National Geospatial Data Asset.

Download Layer

Metadata Detail

View Layer

Download Metadata

## Legend

Boundary Status

- ↗ International Boundary (Rank 1)
- ↗ Other Line of International Separation (Rank 2)
- ↗ Special Line (Rank 3)

## Maps using this layer

This layer is not currently used in any maps.

## Styles

The following styles are associated with this layer. Choose a style to view it in the preview map.

(default style) Boundary Status

## About

Responsible, Point of Contact, Metadata Author

# Elements of Boundary Data

- Bilateral agreements
  - Negotiated between two entities
  - Entities change...(appear, disappear, change names)
- Grounded in legal agreements
  - Each boundary has any number of treaties and maps associated with it
  - Additionally, analysis documents and news reports may also be relevant
- Lines change over time (for several reasons)
  - New agreements
  - Better mapping data and technology
  - Entities change
- Lines are composed of smaller segments
  - Segments governed by different legal agreements
  - Status and recognition of a segment may be different
  - Multiple contrasting claims may be made over the same geographic area



LSIB 11.1



LSIB 10.2

Original Source: Soviet General Staff maps  
Updated Source: State boundaries of Finland  
(<https://www.maanmittauslaitos.fi/en/stateboundaries>)

Finland

Russia

1:25000







# Boundary Data Archive

A digital boundary data archive must accomplish **four** fundamental tasks:

1. Manage changes in the boundary alignment / spatial geometry and attributes associated with boundary lines and segments through space and time
2. Manage the hierarchical assembly of constituent line segments into international boundaries boundaries
3. Maintain the linkages between the line segments and the various kinds of relevant documents (artifacts)
4. Provide visualization, search, and access functions for both boundary lines and segments and documents

# Boundaries and Sovereignty Encyclopedia (BASE)

- Official US government boundary repository
- New Version [2.0] is a fully interactive encyclopedia of officially recognized USG boundaries, policy narrative, artifacts, and geospatial data
- Cloud-hosted, internet accessible at <https://statetoday.net/base>
- Open to anyone in the USG with an official email
- Built to manage the entirety of the boundary and document repository in space and time
- Introduces new challenges when lines are managed as **data**, and not just as cartography
- Revised production, GIS, and dissemination workflows
- Required a new model of data management and a new concept of ***SpaceTimeIDs***

# Challenges: LSIB, BASE, GIS, and SpaceTimeIDs

- Tracking change over time in the boundary data, both in terms of spatial alignment and attributes, requires specific geospatial workflows and versioning.
- Building a digital repository of associated documents, with the appropriate data tagging and organizational schema.
- Building a web application that unifies the spatial data with the document repository and provides visualization, search, and access at all levels of boundary data
- **Maintaining links between changing boundary lines and document library**

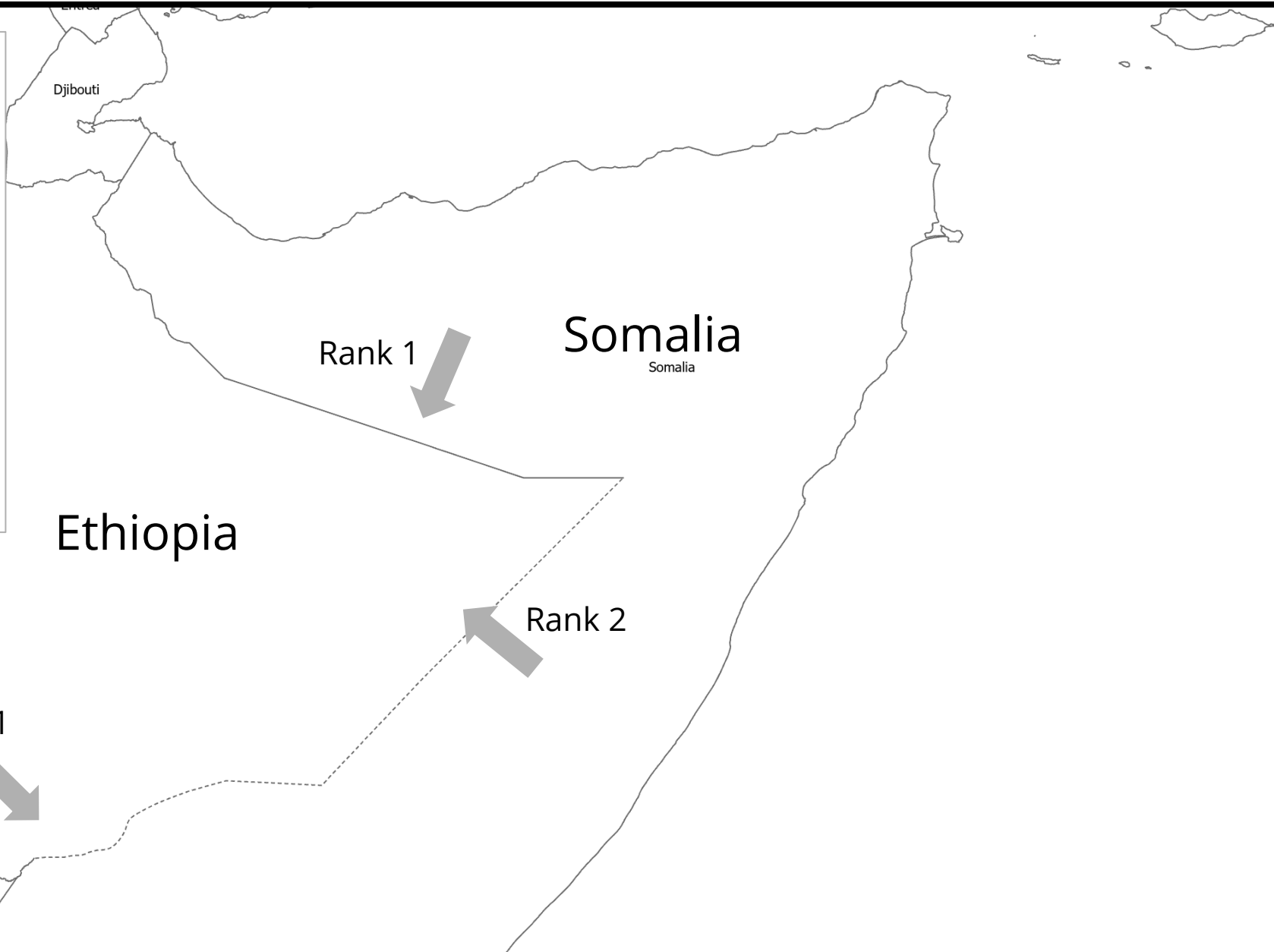
# SpaceTimeIDs

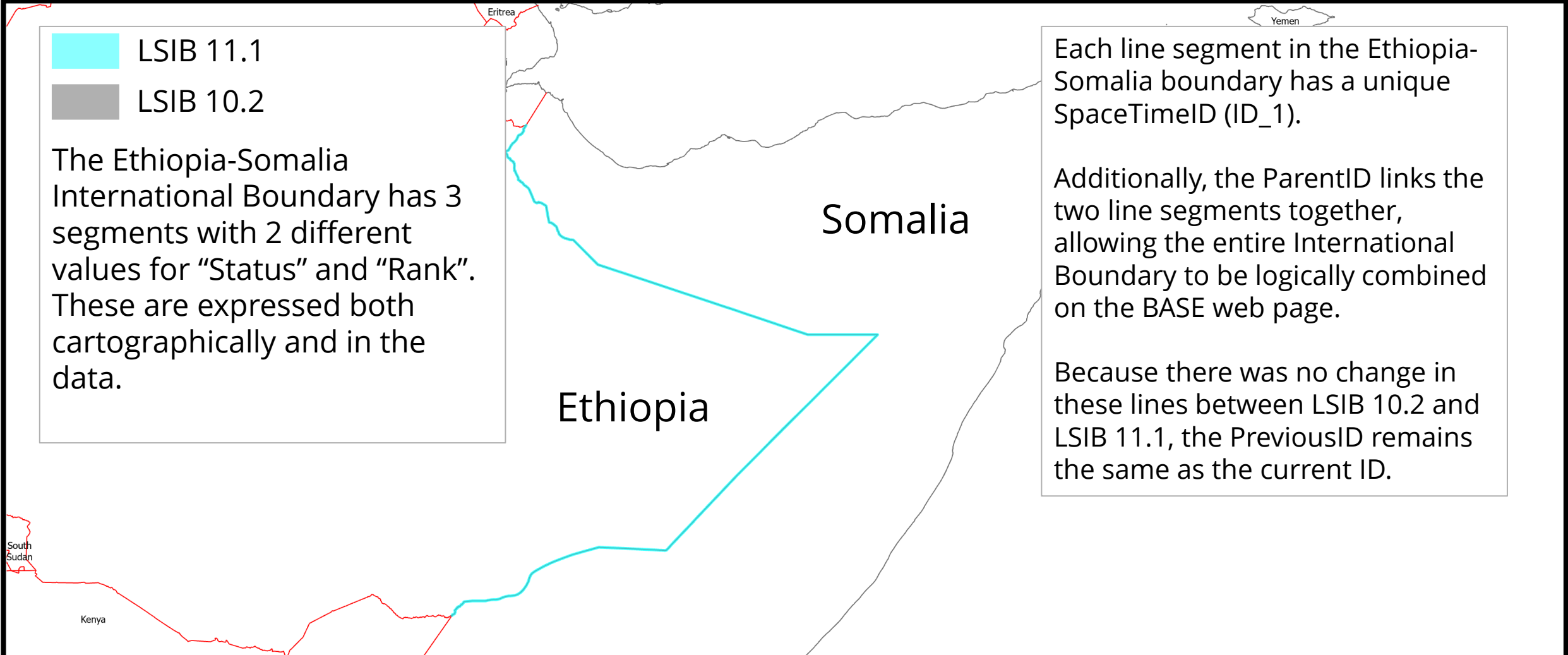
- Developed to solve the problem of linking changing boundaries to relevant documents
- Adapted from distributed version control systems used to manage software code (Git) and geospatial data (GeoGig)
- Leverages Universally Unique Identifiers (UUIDs) to encode the spatial and attribute configuration of a line segment at a point in time
  - Example: 123e4567-e89b-12d3-a456-426614174000
  - Citation - [https://en.wikipedia.org/wiki/Universally\\_unique\\_identifier#Version\\_4\\_\(random\)](https://en.wikipedia.org/wiki/Universally_unique_identifier#Version_4_(random))
  - Citation - <https://www.iso.org/standard/53416.html>

■ LSIB 11.1

■ LSIB 10.2

The Ethiopia-Somalia International Boundary has 3 segments with 2 different values for "Status" and "Rank". These are expressed both cartographically and in the data.





LSIB 11.1  
 LSIB 10.2

The Ethiopia-Somalia International Boundary has 3 segments with 2 different values for "Status" and "Rank". These are expressed both cartographically and in the data.

Each line segment in the Ethiopia-Somalia boundary has a unique SpaceTimeID (ID\_1).

Additionally, the ParentID links the two line segments together, allowing the entire International Boundary to be logically combined on the BASE web page.

Because there was no change in these lines between LSIB 10.2 and LSIB 11.1, the PreviousID remains the same as the current ID.

1:4,267,001 | 43.8057993°E 6.6394961°N | Selected Features: 2

Field: Add Calculate Selection: Select By Attributes Zoom To Switch Clear Delete Copy Highlighted: Unselect Reselect Zoom To Switch Clear Delete

OBJECTID *	Shape *	CC1	COUNTRY1	CC2	COUNTRY2	RANK	LABEL	STATUS	NOTES	ID_1	ANTECIDS_1	PREVIDS_1	100a2d4c-1223-4d79-8453-22d24f341909	PARENTSEG_	Reviewflag
1	184	Polyline	ET	ETHIOPIA	SO	SOMALIA	1	International Boundary		100a2d4c-1223-4d79-8453-22d24f341909		100a2d4c-1223-4d79-8453-22d24f341909	100a2d4c-1223-4d79-8453-22d24f341909		
2	355	Polyline	ET	ETHIOPIA	SO	SOMALIA	2	Provisional Administrative Line	Other Line of Internatio	994ee7a5-32a7-4054-b978-2428577dcd52		994ee7a5-32a7-4054-b978-2428577dcd52			

Click to add new row.



RANK	LABEL	STATUS	NOTES	ID_1
1		International Boundary		100a2d4c-1223-4d79-8453-22d24f341909
2	Provisional Administrative Line	Other Line of Internatio		994ee7a5-32a7-4054-b978-2428577dcd52

1:4,267,001 | 43.8057993°E 6.6394961°N | Selected Features: 2

Field: Add Calculate Selection: Select By Attributes Zoom To Switch Clear Delete Copy Highlighted: Unselect Reselect Zoom To Switch Clear Delete

OBJECTID*	Shape*	CC1	COUNTRY1	CC2	COUNTRY2	RANK	LABEL	STATUS	NOTES	ID_1	ANTECIDS_1	PREVIDS_1	PARENTID_1	PARENTSEG_	Reviewflag
1	184	Polyline	ET	ETHIOPIA	SO	SOMALIA	1	International Boundary		100a2d4c-1223-4d79-8453-22d24f341909		100a2d4c-1223-4d79-8453-22d24f341909	100a2d4c-1223-4d79-8453-22d24f341909		
2	355	Polyline	ET	ETHIOPIA	SO	SOMALIA	2	Provisional Administrative Line	Other Line of Internatio	994ee7a5-32a7-4054-b978-2428577dcd52		994ee7a5-32a7-4054-b978-2428577dcd52	100a2d4c-1223-4d79-8453-22d24f341909		

Click to add new row.



# SpaceTimeIDs and Search

- SpaceTimeIDs allow a linkage between a document and a specific instance of a boundary line.
- The collection of SpaceTimeIDs (in the form of the PreviousID field) allows the database to understand that a document tagged as relevant to a specific boundary line (SpaceTimeID) is also relevant to a later version of that even...even if every other variable changed.
- For example, how would a treaty between Yugoslavia and Hungary be discovered in a search for relevant documents between Croatia and Hungary?

## BASE Organization / Web Application

- **Lines and geospatial data** in LSIB, global maritime limits and boundaries format
- **Boundary pages** with narrative information about each boundary, linked artifacts, and map of the boundary
- **Country pages** that show boundaries for a country or territory
- **Artifact files** like treaties, pictures, and articles that provide context to geospatial and narrative data

# BASE Home Page

- Explore BASE by country
  - Clickable map with links to country pages
- Discover boundary type navigation hubs
  - Global land boundaries
  - Global maritime boundaries
  - Global maritime limits

The screenshot displays the BASE Home Page interface. At the top left, the text "BASE by Country" is followed by a "PORTAL MEMBERS" button. Below this is a "Content" section with a "Contribute" button and a thumbs-up/down icon. The main feature is a world map with a search box over China containing the text "China" and a close button. Below the map is another section titled "Discover by Boundary Type" with a "PORTAL MEMBERS" button. This section also has a "Content" header and "Contribute" button with thumbs-up/down icons. It features three map thumbnails: "Global Land Boundaries" (Sep 22, 2021), "Global Maritime Limits" (Sep 22, 2021), and "Global Maritime Boundaries" (Sep 22, 2021).

# BASE by Country

PORTAL MEMBERS

Content

 Contribute



# Country Pages

- Find all boundary information for each country in the world.
- Interactive map to discover individual boundaries
- Tables of all a country's boundaries
- Country-level boundary narratives

The image displays a collection of web pages from the GGI Country Pages for Brazil. The main page is titled "Brazil" and includes a "Content" section with a "Contribute" button. Below the title is an interactive map showing the outline of Brazil with a blue border. A tooltip over the map reads "Brazil - Colombia - Land Boundary Pair" and "land boundary pair".

Below the map are several smaller panels:

- Land Boundary Pairs**: A table listing land boundaries:
 

Argentina - Brazil	effective	--
Brazil - French Guiana	effective	--
Brazil - Suriname	effective	--
- Maritime Boundary Pairs**: A table listing maritime boundaries:
 

Brazil - Uruguay	extent	--
	purpose	--
	source	--
	category	--
	year	--
	effective	--
- Maritime Limits**: A grid of tables for maritime limits:
 

<b>Brazil (Straight Baseline; Decree)</b>	<b>Brazil (Straight Baseline; Decree)</b>	<b>Brazil (Straight Baseline; Decree)</b>
type: --	type: --	type: --
feature code: Straight Baseline	feature code: Straight Baseline	feature code: Straight Baseline
subtype: Decree	subtype: Decree	subtype: Decree
source: --	source: --	source: --
category: --	category: --	category: --
year: --	year: --	year: --
effective: --	effective: --	effective: --

The Overview page contains the following text:

**MAP OF BRAZIL'S FIRST-ORDER ADMINISTRATIVE BOUNDARIES**

The Office of the Geographer and Global Information Systems believes it reflects the current administrative boundaries for use in small-scale cartographic applications.

Names shown are those approved by the US Board on Geographic Names and may not be current. Please consult the BGN database to verify toponymic changes (BGN Server).

**Unresolved administrative boundaries:** Brazilian maps at larger scales have shown remote areas of Amazonas states <sup>[3]</sup> and Ceara and Piaui states <sup>[4], [5]</sup> in a manner indicating that portions of these states are unresolved. The official state maps at <sup>[6]</sup>, however, do not show any gap between Para and Ceara states. Pending official evidence, the Office of the Geographer depicts only the three section of unresolved boundary between Ceará and Piauí states.

Brazil **PORTAL MEMBERS**

Content

Contribute



Overview **PORTAL MEMBERS**

Content

Contribute

MAP OF BRAZIL'S FIRST-ORDER ADMINISTRATIVE DIVISIONS: <sup>[1]</sup>

The Office of the Geographer and Global Issues has reviewed the attached first-order division map produced by the CIA and believes it reflects the current administrative structure of this political entity. This map is to be used solely for reference and small-scale cartographic applications.

Names shown are those approved by the US Board on Geographic Names (BGN) at the date of the map's publication but may not be current. Please consult the BGN database to verify toponymic changes (<sup>[2]</sup> --> Products and Services --> GeoNet Names Server).

**Unresolved administrative boundaries:** Brazilian maps at larger scales have shown remote areas between Para and Amazonas states (<sup>[3]</sup>) and Ceara and Piaui states (<sup>[4]</sup>, <sup>[5]</sup>) in a manner indicating that portions of these administrative boundaries are unresolved. The official state maps at <sup>[6]</sup>, however, do not show any gap between Para and Amazonas, while still showing an unresolved area between Ceara and Piaui states. Pending official evidence, the Office of the Geographer recommends depiction of only the three section of unresolved boundary between Ceará and Piauí states.

Maritime Limits **PORTAL MEMBERS**

Content

Contribute

[Brazil \(Straight Baseline; Decree\)](#)

type --  
feature Straight Baseline  
code  
subtype  
Decree  
source  
category  
y  
effective --

[Brazil \(Straight Baseline; Decree\)](#)

type --  
feature Straight Baseline  
code  
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Decree  
source  
category  
y  
effective --

[Brazil \(Straight Baseline; Decree\)](#)

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code  
subtype  
Decree  
source  
category  
y  
effective --

[Brazil \(Straight Baseline; Decree\)](#)

type --  
feature Straight Baseline  
code  
subtype  
Decree  
source

[Brazil \(Straight Baseline; Decree\)](#)

type --  
feature Straight Baseline  
code  
subtype  
Decree  
source

[Brazil \(Extended Continental Shelf Limit; Submission\)](#)

type --  
feature Extended Continental Shelf Limit  
code  
subtype

Land Boundary Pairs **PORTAL MEMBERS**

Content

Contribute

[Argentina - Brazil](#)

effective --

[Bolivia - Brazil](#)

effective --

[Brazil - Colombia](#)

effective --

[Brazil - French Guiana](#)

effective --

[Brazil - Paraguay](#)

effective --

[Brazil - Peru](#)

effective --

[Brazil - Suriname](#)

effective --

[Brazil - Uruguay](#)

effective --

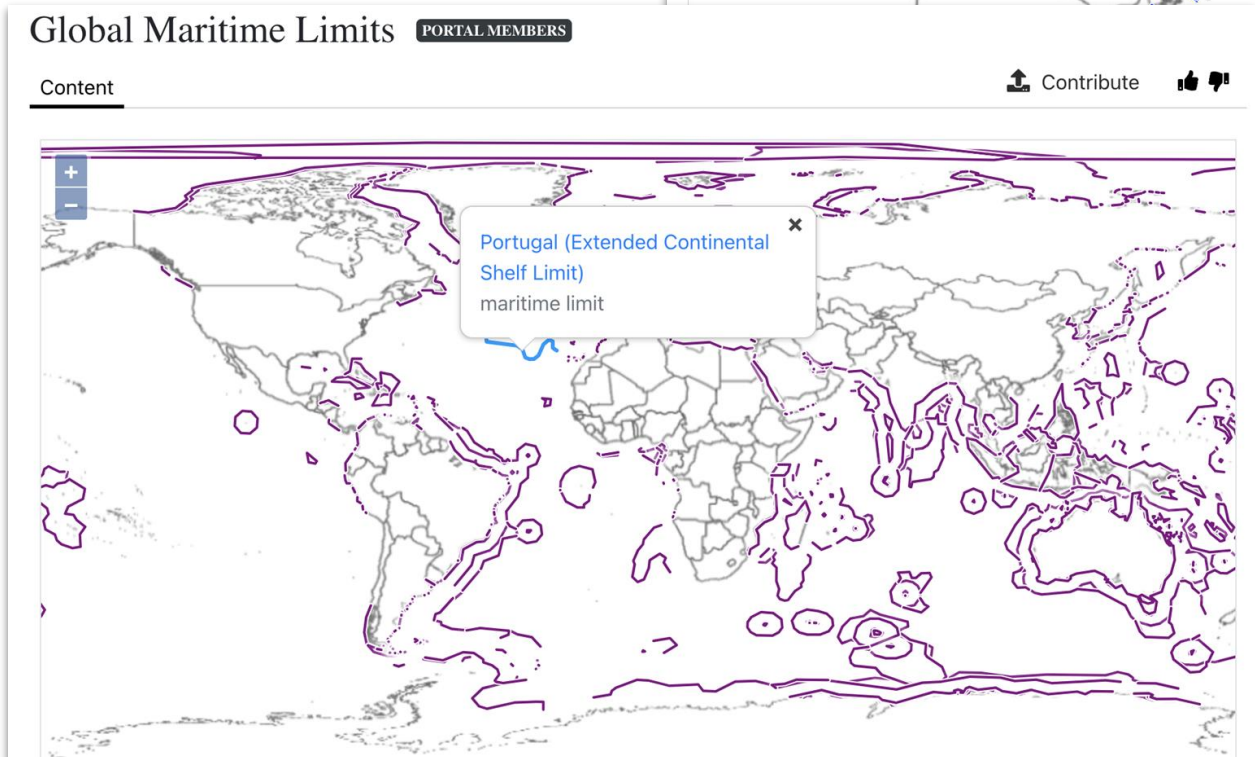
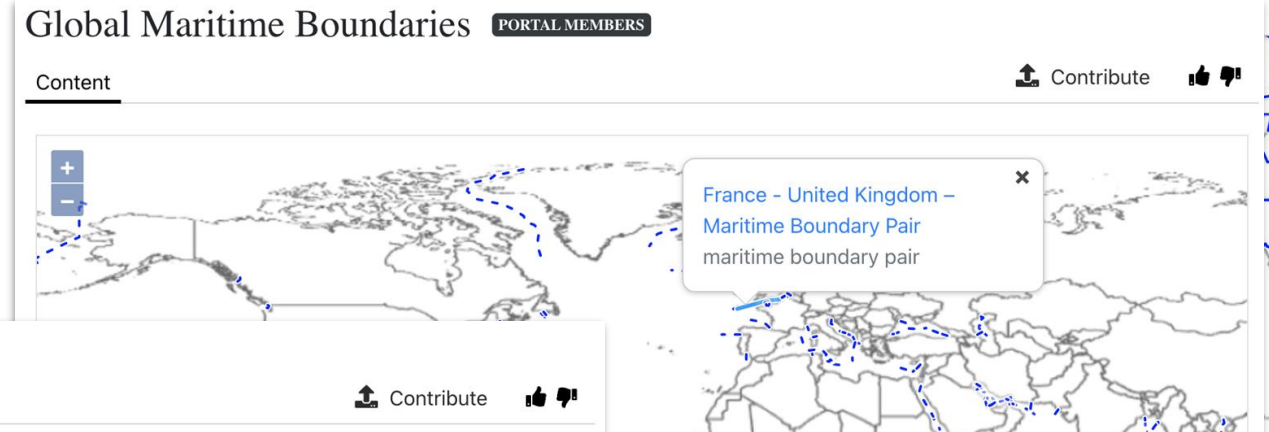
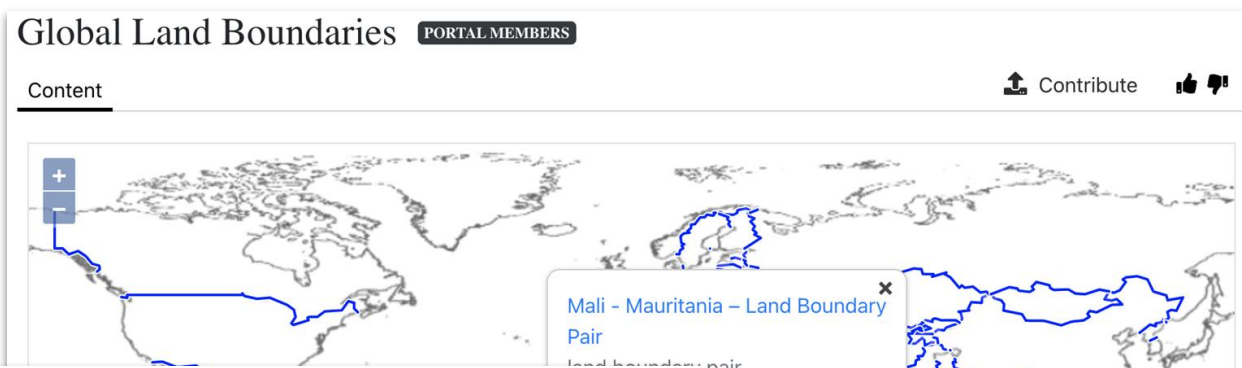
[Brazil - Venezuela](#)

effective --



# BASE by Boundary Type (Pages)

- View *land boundaries*, *maritime boundaries*, and *maritime limits* across the globe



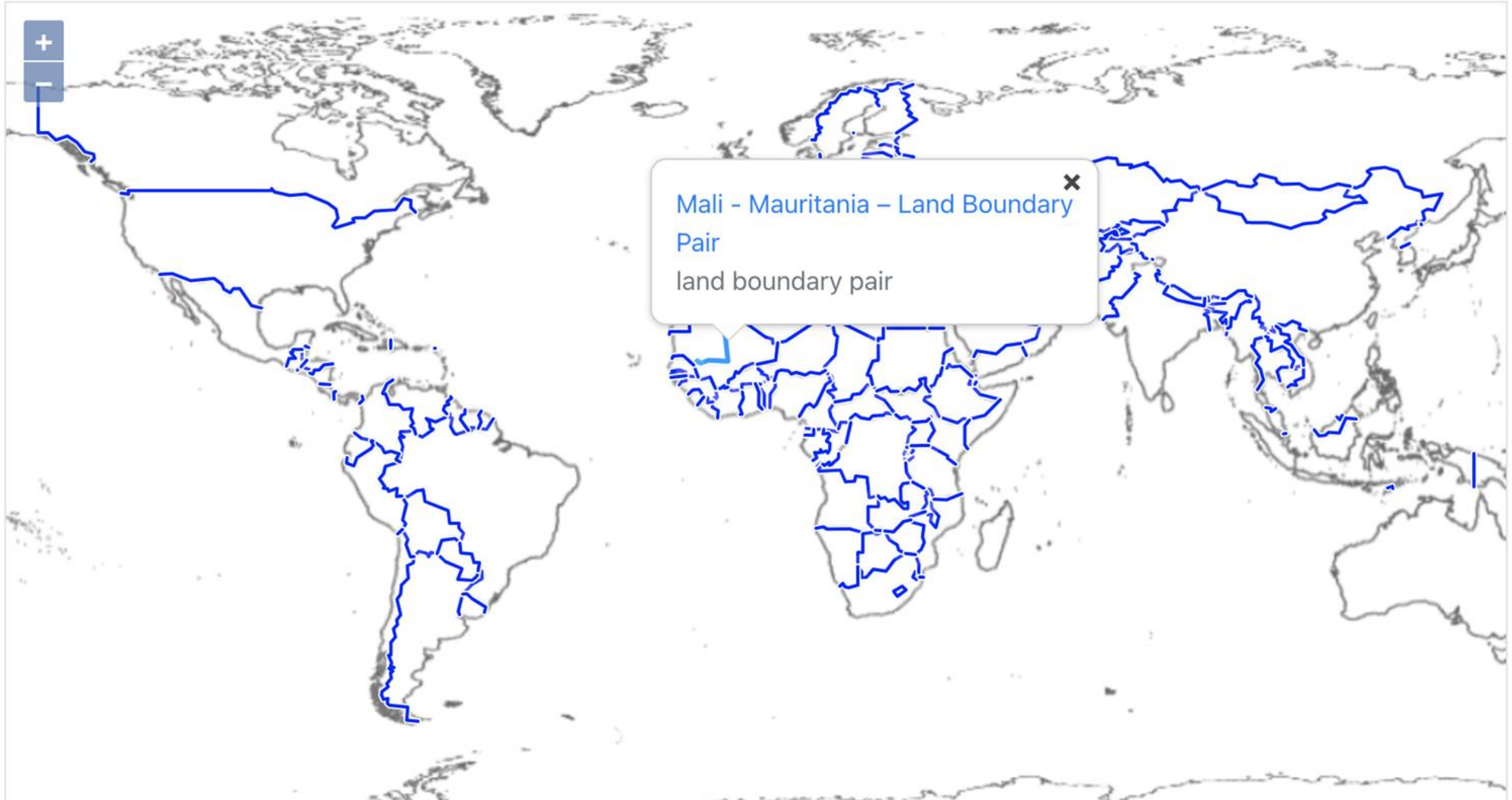
- *Discover and navigate to pages for specific boundaries*

# Global Land Boundaries

PORTAL MEMBERS

Content

 Contribute



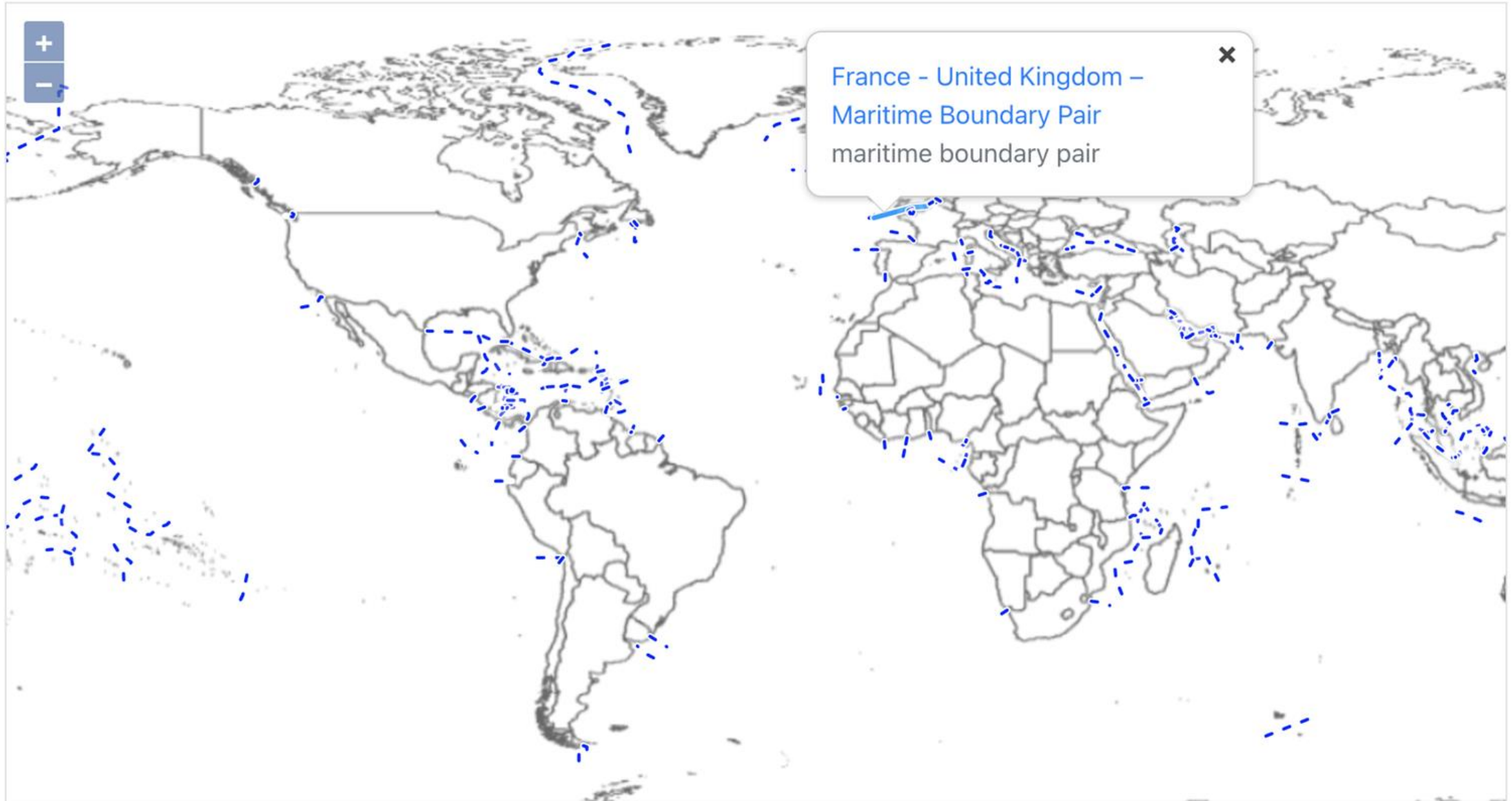


# Global Maritime Boundaries

PORTAL MEMBERS

Content


 Contribute

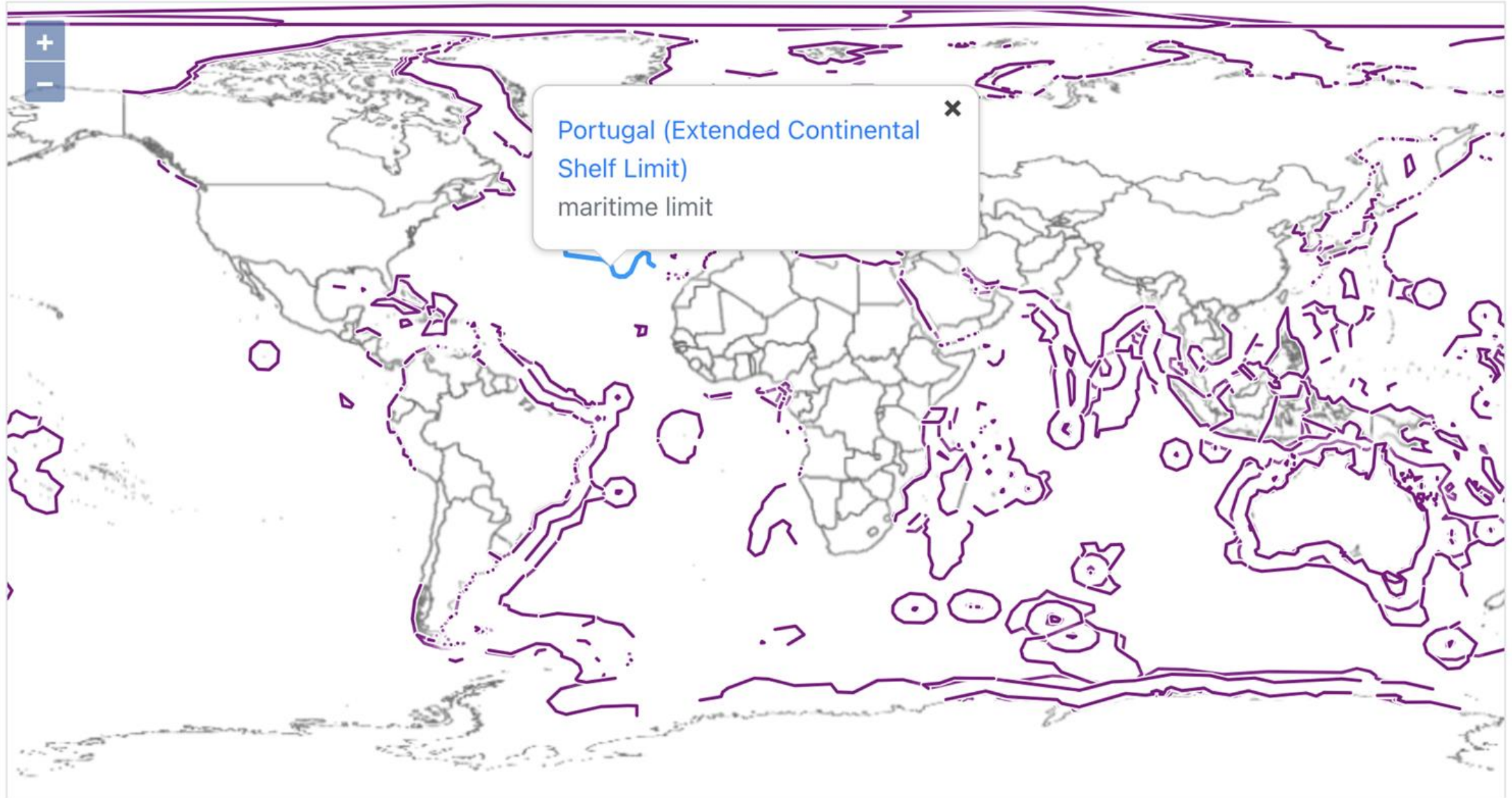


# Global Maritime Limits

PORTAL MEMBERS

Content

 Contribute

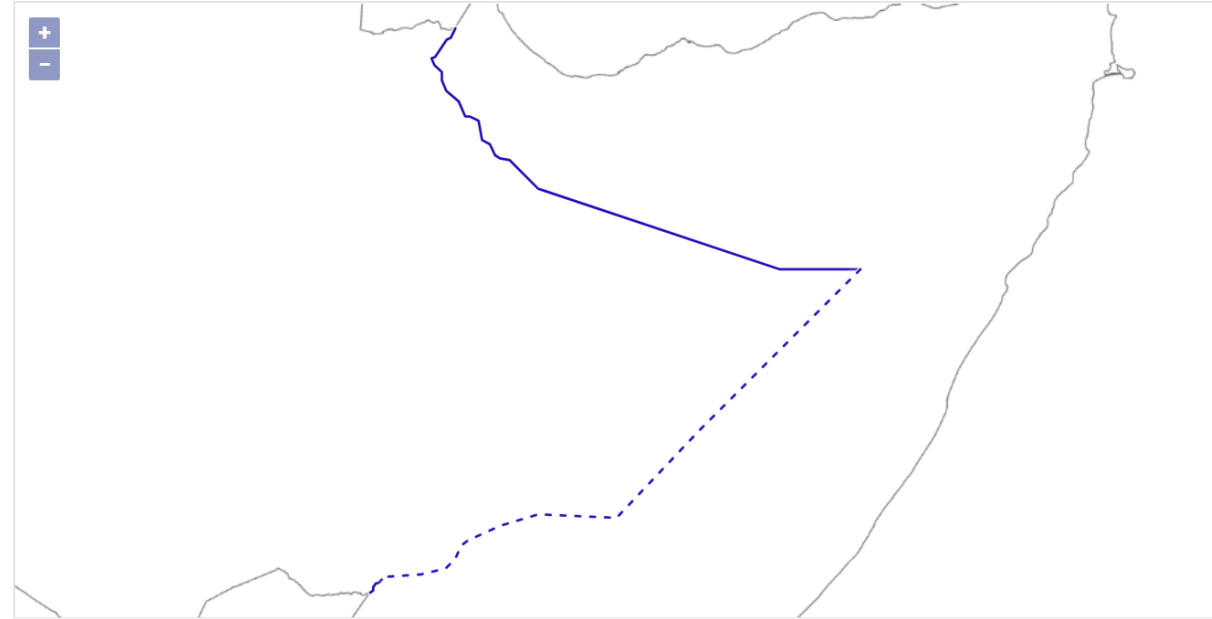


# Boundary and Segment Pages

- Dedicated pages for each land and maritime boundary, maritime limit, and segment
- Sourced narrative information describing the boundary and history
- Discover all “artifact” documents that provide historical context for a boundary
- “Child” segments of a boundary shown geospatially and in clickable table

## Ethiopia - Somalia – Land Boundary Pair

USG [Contribute](#) [Share](#) [Like](#) [Open](#) [Feedback](#)



## Segments

USG [Contribute](#) [Share](#) [Like](#) [Open](#) [Feedback](#)

### Ethiopia - Somalia (Provisional Administrative Line; Other Line of International Separation)

effective --

## Overview

USG [Contribute](#) [Share](#) [Like](#) [Open](#) [Feedback](#)

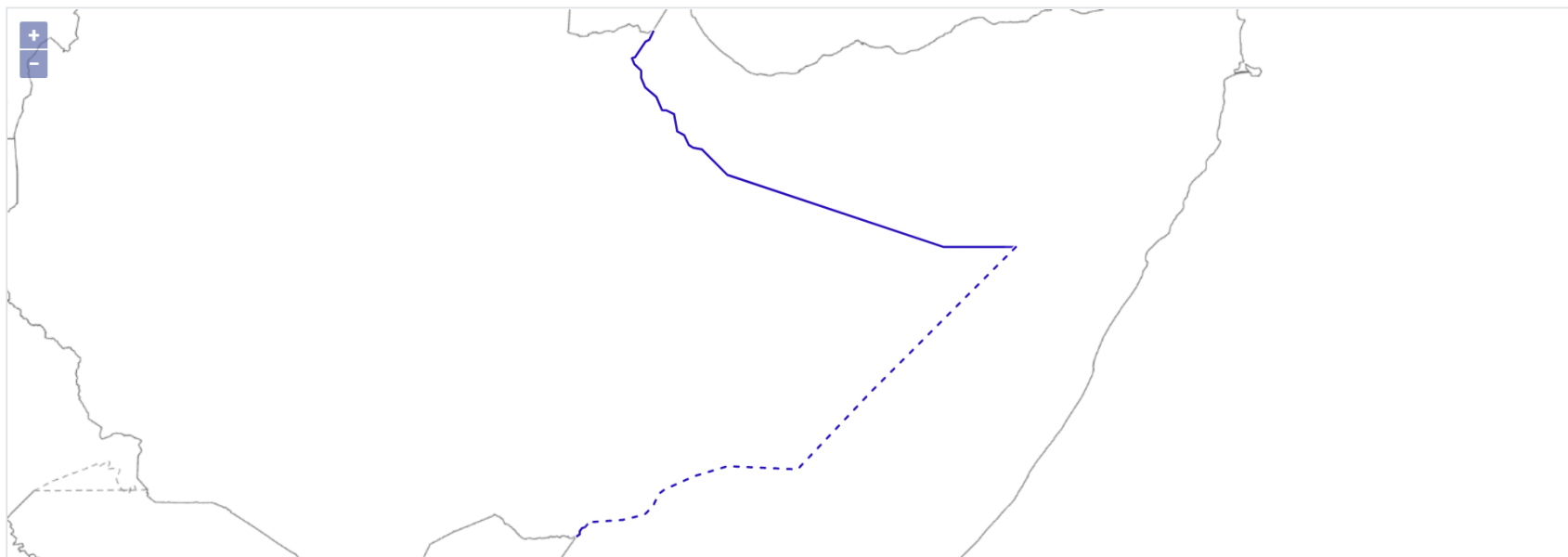
### PHYSICAL DESCRIPTION:

- **Segment 1 [NORTHERN SEGMENT]:** Beginning at the Djibouti tripoint on Madaha Djalelo hill at approx. 105955N 0425805E, the boundary connects to hilltops until 9N 044E, where it extends in a straight line to 8N 047E, and then along the parallel to 048E. This section was demarcated between 1929 and 1934.
- **Segment 2 [CENTRAL SEGMENT]:** Beginning at 8N 48E, the provisional administrative line runs SW in largely straight line segments connected to points associated with primarily populated places until the town of Dolo Odo (Dolo).
- **Segment 3 [SOUTHERN SEGMENT]:** Boundary follows the thalweg of the Daua/Dawa Wenz (Dewa) river from its confluence with the Genale Wenz (Ganale-Dorya) at the town of Dolo Odo to the Kenya tripoint (cf: ET-KE treaty of 9Jun1970).



## Ethiopia – Somalia – Land Boundary Pair

USG [Contribute](#) [✕](#) [👍](#) [👎](#)



entities  
[Ethiopia - Somalia](#)  
 effective  
 --  
 length  
 --  
 physical configuration  
 --  
 political status  
 mixed  
 legal status  
 mixed  
 dispute status  
 hostile, segment(s)

[View Related Documents](#)

[View Metadata](#)

## Segments

USG [Contribute](#) [✕](#) [👍](#) [👎](#)

### [Ethiopia – Somalia \(Provisional Administrative Line; Other Line of International Separation\)](#)

effective --

## Overview

USG [Contribute](#) [✕](#) [👍](#) [👎](#)

### PHYSICAL DESCRIPTION:

- **Segment 1 [NORTHERN SEGMENT]:** Beginning at the Djibouti tripoint on Madaha Djalelo hill at approx. 105955N 0425805E, the boundary connects to hilltops until 9N 044E, where it extends in a straight line to 8N 047E, and then along the parallel to 048E. This section was demarcated between 1929 and 1934.
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[Ethiopia - Somalia – Land Boundary Pair](#)

[Segments](#)

[Overview](#)

[Treaties And Other International Acts](#)

[Reference Works](#)

[Maps](#)

[Current Issues](#)

tags

[Ethiopia](#) [Ethiopia - Somalia Land Boundary Pair](#)

[Somalia](#)




# SpaceTimeIDs

- Access historical versions of boundaries
- View key metadata of historical boundaries
- Discover artifacts associated with historical boundaries

Congo (Kinshasa) - Congo (Brazzaville) – Land Boundary Pair POR TAL MEMBERS

Content Contribute Like Dislike



entities  
[Congo \(Kinshasa\) - Congo \(Brazzaville\)](#)  
 effective  
 --  
 length  
 --  
 physical configuration  
 physical  
 political status  
 international boundary  
 legal status  
 de jure, historical  
 dispute status  
 managed, segment(s)

Congo (Kinshasa) - Congo (Brazzaville) – Land Boundary Pair History

[← return to form](#)

**⚠ You're viewing a historical version of this submission.** [View Current Version](#)

Unique Identifier  
 f6610055-1dfc-4cf6-bfce-b3d78451904e

Congo (Kinshasa) - Congo (Brazzaville) – Land Boundary Pair **latest**   
 created 6 days ago

Congo (Brazzaville) - Congo (Kinshasa)   
 created 4 months ago

Congo (Kinshasa) - Congo (Brazzaville) – Land Boundary Pair History

[← return to form](#)

Unique Identifier  
 02cd2b11-2f9c-4b87-bbd4-aa7e3f18bacb

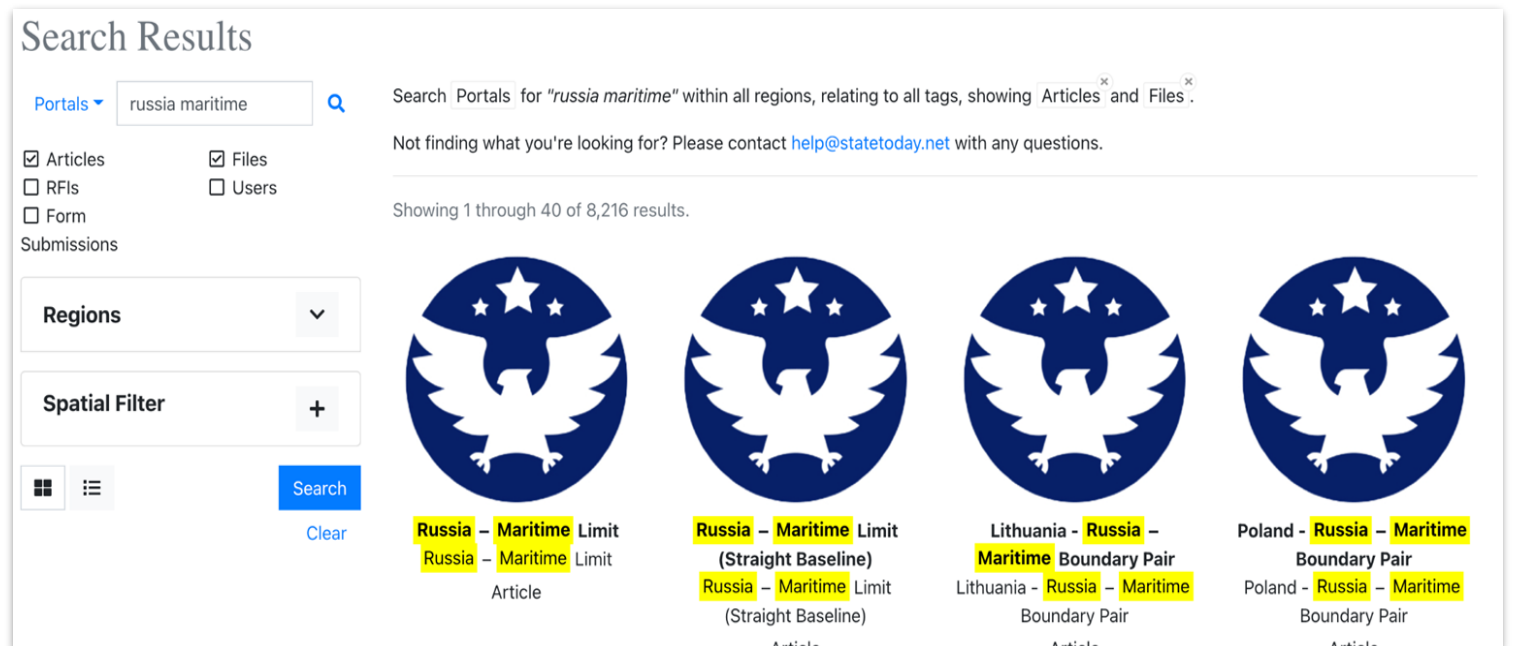
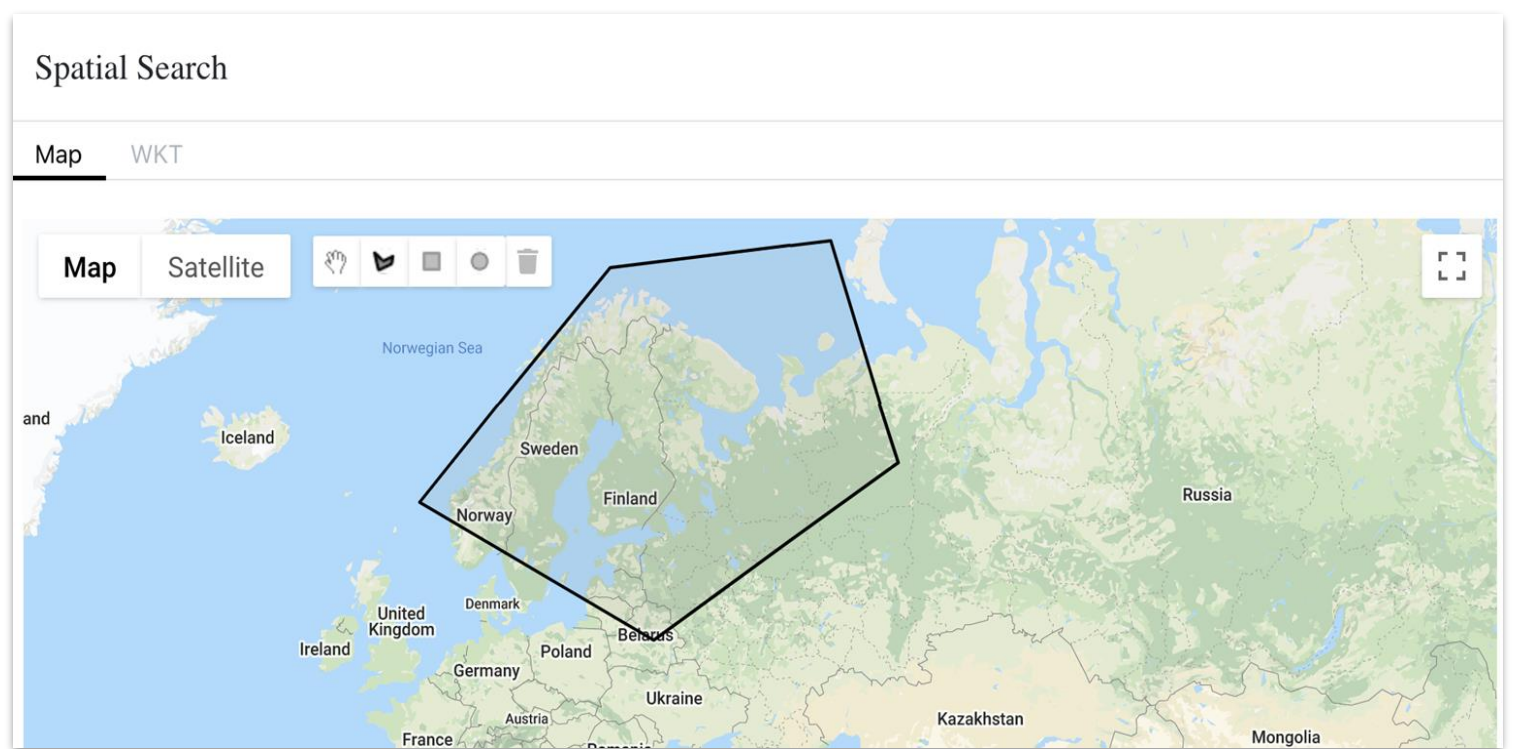
Type

Congo (Kinshasa) - Congo (Brazzaville) – Land Boundary Pair **latest**   
 created 6 days ago

Congo (Brazzaville) - Congo (Kinshasa)   
 created 4 months ago

# Search and Discovery

- Use keyword search to find pages, files, and boundaries that match your search terms
- Use geospatial search to find information within an area you draw on a map



# Artifact File Repository

- View and download artifacts providing source material for boundaries
  - Treaties
  - Maps
  - News articles
  - Government reports
- Filter with keywords
- Search with tags
  - Country
  - Boundary

The screenshot shows the 'File Repository' interface with the 'File Library' tab selected. A search bar contains the keyword 'burundi'. Below the search bar, two file entries are visible:

- LandBoundaries Burundi-Tanzania Maps Burundi-Tanzania\_1966-DoS-Map.jpg**: A thumbnail map of Burundi and Tanzania. Metadata includes 'created Jun 12, 2021', 'updated Jun 12, 2021', and 'size 116.33 KB'. Tags include 'Burundi', 'Burundi - Tanzania Land Bounda...', 'Map', 'OneDrive', 'Tanzania', and 'todo'.
- LandBoundaries Burundi-Tanzania AgreementsTreaties Burundi-Tanzania\_1924-Protocol.pdf**: Metadata includes 'created' and 'published'.

This screenshot shows the 'File Repository' interface with the 'File Library' tab selected. A search bar contains the keyword 'morocco'. A dropdown menu is open, displaying a list of tags related to Morocco:

- Morocco
- Morocco - Spain Land Boun...
- Morocco - Spain Maritime B...
- Morocco - Western Sahara ...
- Morocco - Western Sahara Land Boundary Pair
- Morocco Maritime Limit
- Western Sahara - Morocco

Below the tag list, the first file entry is partially visible, showing a document icon, the title 'LSI...', and the date 'Aug 10, 2021'.

# Maps

- Image graphic showing transition from Dawa River to provisional administrative line<sup>[12]</sup>
- Frontier Area between Ethiopia and Trust Territory of Somalia<sup>[13]</sup>
- Southeastern Ethiopia, Status of Boundaries - 1949<sup>[14]</sup>
- Map 1: To Illustrate the Italian and the Ethiopian Interpretations of the Convention of 16 May 1908<sup>[15]</sup>
- Map 2: To Illustrate the Italian and the Ethiopian Compromise Proposals<sup>[16]</sup>
- Ethiopia-Somalia<sup>[17]</sup>
- Ethiopia-Somalia<sup>[18]</sup>
- Ethiopia-Somalia<sup>[19]</sup>
- "Frontiers and Colonial Boundaries, 1891-1960," from *Somalia: A country study*, p. 15<sup>[20]</sup>
- Servizio Cartografico del Ministero delle Colonie, "I territori della Somalia con l'indicazione de luoghi e di limiti politici ad illustrare la Convenzione del 16 maggio 1908, 1:3,000,000 scale (published by the United Nations in Document A/3502, Annex V, January 1957)<sup>[21]</sup>
- Linee Telegrafiche E Telefoniche (Eritrea, Etiopia, Somalia) (Scale 1:500,000; January 1957)<sup>[22]</sup>
- Former Italian Somaliland<sup>[23][24]</sup>

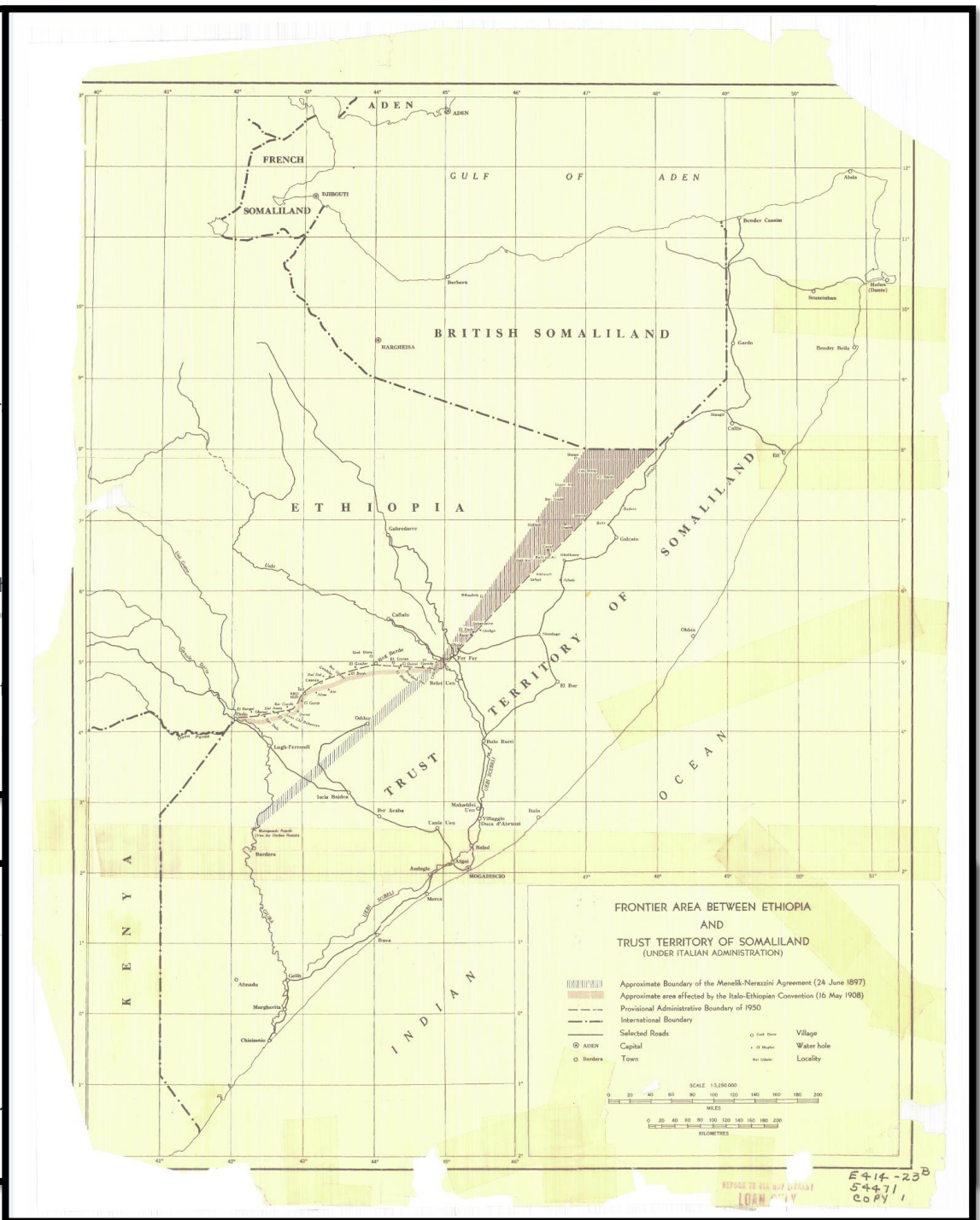
## ADDITIONAL SPECIAL GUIDANCE: DEPICTION OF "PUNTLAND" AND "SOMALILAND" SECESSIONIST REGIONS:

Unlike the southern portion of Somalia, which has been without a functioning government in Mogodishu since 1991, "Puntland," at the northern end of the former British Somaliland in northwest Somalia, have each retained a level of administrative cohesion but clans clash over their common border. The secessionist "Somaliland" seeks international recognition as an independent state.

- These yet-unrecognized entities may be identified on maps intended to show their existence with line symbols and name type to indicate administrative political separation.
- The separation between the two entities, which is in dispute, is unclear and may or may not fall along the former Anglo-Italian border.

# Treaties And Other International Acts

- 1897 Treaty between Great Britain and Ethiopia [1897 Treaty];
- 1908 Agreement between Ethiopia and Italy [1908 Agreement];
- UK letter to UN Trusteeship Council defining 1950 provisional line [1950 letter]
- Anglo-Italian exchange of notes, November 22, 1933
- Exchange of Notes between the United Kingdom and Italy respecting concessions for a barrage at Lake Tsana and a dam at Lake Tana
- Anglo-Italian and Anglo-Ethiopian boundary coordinates from surveys<sup>[2]</sup>





# Roadmap

- Continued refinement and **automation** of the end-to-end geospatial processing for creating and disseminating the LSIB
- SpaceTimeID paper being drafted that formalizes much of the content in this talk
  - **We believe the use of SpaceTimeIDs are broadly applicable to all boundaries (admin 1 and above as well as maritime)**
- Overall goal is to open BASE to the public...
  - but requires a robust content review to remove any information that is limited by copyright or official use caveats



# SpaceTimeIDs and BASE

A novel approach for tracking boundary changes over time

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United Nations World Geospatial Information Congress, Hyderabad, India, 11 October 2022