



ENGO 641 - Design and Implementation of Geospatial Information Systems

Assignment 3 part 2

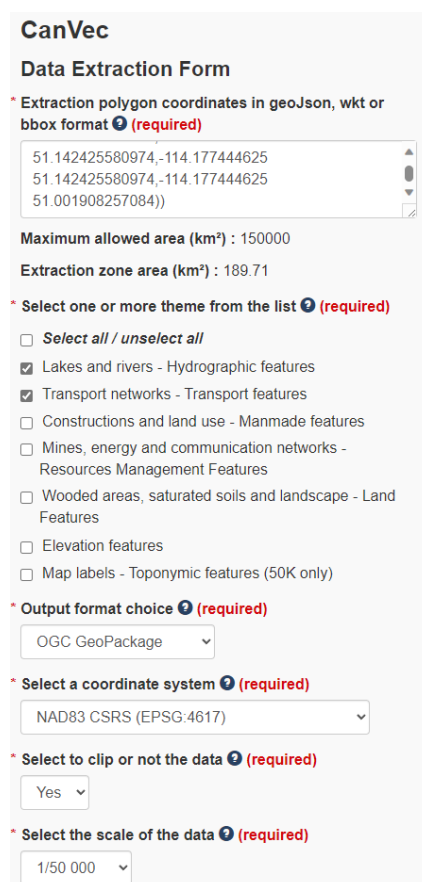
COURSE INSTRUCTOR: DR. EMMANUEL STEFANAKIS

DATE OF SUBMISSION: 2023 – 10 – 31

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Information of Geopackage

We utilized the CanVec feature from the Government of Canada's Geospatial Data Extraction Tool <https://maps.canada.ca/czs/index-en.html> to extract GeoPackage (.gpkg) data. The extracted data(canvec_231031_433813.gpkg) covers a geographic region of approximately 100 x 100 km, centred around Calgary. We specifically selected hydrographic and transport characteristics for extraction. The hydrographic layer is composed of the network of Canadian surface waters this includes entities such as watercourse, water linear flow, hydro obstacles (falls, rapids...), waterbody (lake, watercourse...), permanent snow and ice, water well, and spring. The transport layer is composed of, among others, the National Road Network (NRN), and the National Railway Network (NRWN) which includes entities such as Nautical Facility, Track Segment, Track Junction, Railway Station, Track Crossing, Track Marker Post, Track Structure, Rail Ferry, Road Segment, Road Ferry, Road Junction, Blocked Passage, Toll Point, Aerial Cableway, Footbridge, Trail, Navigational Aid, Marina, and Runway. The GeoPackage data contains multiple layers, but we are focusing on three key layers: road_junction_0(POINT), road_segment_1(LINESTRING), and water_body_2(POLYGON). These layers are essential for visualization and attribute analysis. The road_segment_1(LINESTRING) is particularly used in queries. For detailed geographic information, we have chosen a 1:5000 scale and utilized the NAD83 CSRS projection (EPSG:4617) for the GeoPackage settings. These settings allow us to examine the data in-depth and facilitate visualization and analysis:



CanVec
Data Extraction Form

* Extraction polygon coordinates in geoJson, wkt or bbox format ⓘ (required)

51.142425580974,-114.177444625
51.142425580974,-114.177444625
51.001908257084))

Maximum allowed area (km²) : 150000
Extraction zone area (km²) : 189.71

* Select one or more theme from the list ⓘ (required)

☐ Select all / unselect all

☒ Lakes and rivers - Hydrographic features

☒ Transport networks - Transport features

☐ Constructions and land use - Manmade features

☐ Mines, energy and communication networks - Resources Management Features

☐ Wooded areas, saturated soils and landscape - Land Features

☐ Elevation features

☐ Map labels - Toponymic features (50K only)

* Output format choice ⓘ (required)

OGC GeoPackage

* Select a coordinate system ⓘ (required)

NAD83 CSRS (EPSG:4617)

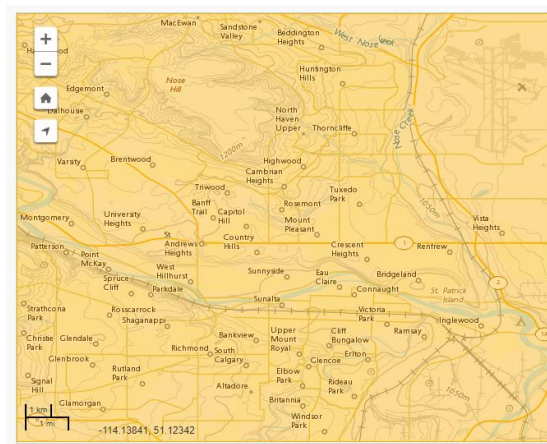
* Select to clip or not the data ⓘ (required)

Yes

* Select the scale of the data ⓘ (required)

1/50 000

Figure 1: Attributes of selected Geopackage



Metadata of Selected Layers

The Metadata along with visualization of layers road_junction_0(POINT), road_segment_1(LINESTRING), and water_body_2(POLYGON) is shown below:

1. road junction 0(POINT):

General

Name

road_junction_0

Path

C:\Users\UCALGARV\Downloads\canvec_231029_433567 (1).gpkg

Size

7.00 MB

Last modified

31 October 2023 04:03:00

Source

C:\Users\UCALGARV\Downloads\canvec_231029_433567 (1).gpkg | layername=road_junction_0

Provider

ogr

Information from provider

Storage

GPKG

Encoding

UTF-8

Geometry

Point (Point)

Extent

-114.28100000000000000059,51.099600000000000000024 ; -114.128000000000000000007,51.1843000000000000004

Feature count

4,782

Coordinate Reference System (CRS)

Name

EPSG:4617 - NAD83(CRS)

Units

Geographic (uses latitude and longitude for coordinates)

Method

Lat/long (Geodetic alias)

Celestial body

Earth

Reference

Static (relies on a datum which is plate-fixed)

Identification

Identifier

Parent Identifier

Title

Type

dataset

Language

Abstract

Categories

Keywords

Extent

CRS

EPSG:4617 - NAD83(CRS) - Geographic

Spatial Extent

Temporal Extent

Access

Fees

Licenses

Rights

Constraints

Fields

Primary key attributes

id

Count

10

Field	Type	Length	Precision	Comment
id	integer64	0	0	
feature_id	String	64	0	
ind_temporal_extent_date_min	String	20	0	
ind_temporal_extent_date_max	String	20	0	
ind_horiz_position_accuracy_min	Real	0	0	
ind_horiz_position_accuracy_max	Real	0	0	
geobase_nid	String	64	0	
exit_number	String	10	0	
road_junction_detector	int16	0	0	
political_division	int16	0	0	

Contents

No content yet.

Links

No links yet.

History

No history yet.

	id	feature_id	md_temporal_extent_date_min	md_temporal_extent_date_max	md_horiz_position_accuracy_min	md_horiz_position_accuracy_max	geobase_nid	exit_number	road_junction_descriptor	political_division
1		1	20120831	20120831	5	5	5 c3e19dbf24b94d518c26...	NULL	361	92
2		2	20120831	20120831	5	5	5 f7e501e4e3a24eddb81b0...	NULL	361	92
3		3	20120831	20120831	5	5	5 dbb82b2f9c4dfab9249...	NULL	361	92
4		4	20120831	20120831	5	5	5 ee81dd7e994b41a3a8a8...	NULL	361	92
5		5	20120831	20120831	5	5	5 ae5d3f28ea1e4a259078...	NULL	361	92
6		6	20120831	20120831	5	5	5 1feb50a6e4d140009fa4d...	NULL	361	92
7		7	20120831	20120831	5	5	5 953c1298d0b444b4bb36...	NULL	361	92
8		8	20120831	20120831	5	5	5 1a507d355a9f457daf570...	NULL	361	92
9		9	20120831	20120831	5	5	5 094852beba0d499195b7...	NULL	361	92
10		10	20120831	20120831	5	5	5 d758977c429e408a402...	NULL	361	92
11		11	20120831	20120831	5	5	5 f74e77320dde4659ae93...	NULL	361	92
12		12	20140204	20140204	5	5	5 13653158e5ac4e94812b...	NULL	361	92
13		13	20140204	20140204	5	5	5 23dec143ef994786b6d4...	NULL	361	92
14		14	20120831	20120831	5	5	5 55d78c7f3cda4dfad32...	NULL	361	92
15		15	20141213	20141213	5	5	5 aa5948f8677d46a4a6409...	NULL	361	92
16		16	20141213	20141213	5	5	5 b96cc382b55749ac3e3...	NULL	361	92
17		17	20120831	20120831	5	5	5 d6d2fcc75c894b48b5b3...	NULL	361	92
18		18	20120831	20120831	5	5	5 453d77c553ec4fc3ad62...	NULL	361	92
19		19	20120831	20120831	5	5	5 d64f95b62ff24b0ea6958...	NULL	361	92
20		20	20120831	20120831	5	5	5 1476f95c628e4e1e9896...	NULL	361	92
21		21	20120831	20120831	5	5	5 47d17e629fa8420cb313...	NULL	361	92
22		22	20120831	20120831	5	5	5 9151438041c14be8819c...	NULL	361	92
23		23	20120831	20120831	5	5	5 a2fea84aaf8a43cc973e...	NULL	361	92
24		24	20120831	20120831	5	5	5 47b93391dd3b48bb8abf...	NULL	361	92
25		25	20120831	20120831	5	5	5 549569e5f8074479a34c...	NULL	361	92
26		26	20120831	20120831	5	5	5 0ce7a6095554c989eb79...	NULL	361	92
27		27	20120831	20120831	5	5	5 6fc0989967af456fbcf116...	NULL	361	92
28		28	20120831	20120831	5	5	5 0018cffff9b5a459ab277b...	NULL	361	92
29		29	20120831	20120831	5	5	5 cb783cd6c32a4332a238...	NULL	361	92
30		30	20160823	20160823	5	5	5 84200c37bdc84d7284a3...	NULL	361	92
31		31	20120831	20120831	5	5	5 db18241cc57b48e8a352...	NULL	361	92

Figure 4: Attribute Table of road_junction_0

Visualization:

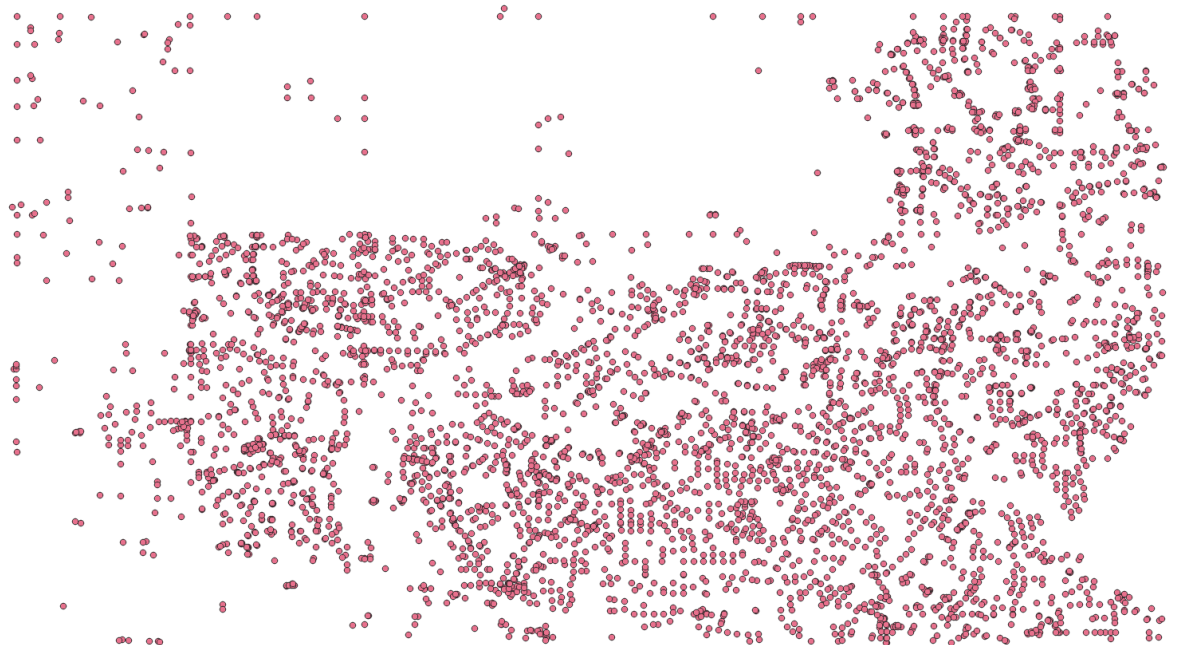


Figure 5: Visualization of road_junction_0

2. road_segment_1(POINT):

General

Name

road_segment_1

Path

C:\Users\UCALGARY\Downloads\canvec_231029_433567 (1).ogr

Size

7.00 MB

Last modified

31 October 2023 04:03:00

Source

C:\Users\UCALGARY\Downloads\canvec_231029_433567 (1).gpkg|layername=road_segment_1

Provider

ogr

Information from provider

Storage

GPKG

Encoding

UTF-8

Geometry

Line (LineString)

Extent

-114.281999999999995,51.099499999999999 - -114.126999999999995,51.184699999999999

Feature count

7,349

Coordinate Reference System (CRS)

Name

EPSG:4617 - NAD83(CRS)

Units

Geographic (uses latitude and longitude for coordinates)

Method

LatLong (Geodetic alias)

Celestial body

Earth

Reference

Static (relies on a datum which is plate-fixed)

Identification

Identifier

Parent Identifier

Title

Type

dataset

Language

Abstract

Categories

Keywords

Extent

CRS

EPSG:4617 - NAD83(CRS) - Geographic

Spatial Extent

Temporal Extent

Fields

Primary key attributes

id

Count

78

Field	Type	Length	Precision	Comment
id	Integer64	0	0	
feature_id	String	64	0	
md_temporal_extent_date_min	String	20	0	
md_temporal_extent_date_max	String	20	0	
md_hortic_position_accuracy_min	Real	0	0	
md_hortic_position_accuracy_max	Real	0	0	
closing_period	Int16	0	0	
exit_number	String	10	0	
political_division	Int16	0	0	
road_jurisdiction_en	String	100	0	
road_jurisdiction_fr	String	100	0	
is_national_highway_system	Int16	0	0	
is_trans_canada_highway	Int16	0	0	
number_of_lanes	Int16	0	0	
road_class	Int16	0	0	
geobase_nid	String	64	0	
route_name_1_en	String	100	0	
route_name_2_en	String	100	0	
route_name_3_en	String	100	0	
route_name_4_en	String	100	0	
route_name_1_fr	String	100	0	
route_name_2_fr	String	100	0	
route_name_3_fr	String	100	0	
route_name_4_fr	String	100	0	
road_segment_name_en	String	100	0	
road_segment_name_fr	String	100	0	
route_number_1	String	10	0	
route_number_2	String	10	0	
route_number_3	String	10	0	
speed_restriction	Int16	0	0	
road_surface_descriptor	Int16	0	0	
is_paved	Int16	0	0	
traffic_direction	Int16	0	0	
of_municipal_quadrant_left	String	10	0	
of_municipal_quadrant_right	String	10	0	
official_place_name_left	String	100	0	
official_place_name_right	String	100	0	
official_place_type_left	String	100	0	
official_place_type_right	String	100	0	
of_directional_prefix_left	String	10	0	
of_directional_prefix_right	String	10	0	
of_directional_suffix_left	String	10	0	

Figure 6: Metadata of road_segment_1

id	feature_id	md_temporal_extent_date_min	md_temporal_extent_date_max	md_hortic_position_accuracy_min	md_hortic_position_accuracy_max	closing_period	exit_number	political_division	road_jurisdiction_en	road_jurisdiction_fr	is_national_highway_system	is_trans_canada_highway	number_of_lanes	road_class	geobase_nid	route_name_1_en	route_name_2_en	route_name_3_en
1	a0e993736894...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	4eccc210eaf743...	NULL	NULL	NULL
2	2 65165735d3b14...	20160712	20160712	5	5	20	NULL	92	Public	Public	13	12	2	313	5324278a0bd743...	NULL	NULL	NULL
3	3 9548047902814...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	b0f26795c5894...	NULL	NULL	NULL
4	4 ecd37b6d9f154f...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	ae047b6eddf54...	NULL	NULL	NULL
5	5 bcb43b2922a94...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	1	313	6533beb9d0214...	NULL	NULL	NULL
6	6 d1f5f52b2c6a41...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	bb177cc06cc4f...	NULL	NULL	NULL
7	7 d9da2ff09a4a4c...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	ce8c7d7066934...	NULL	NULL	NULL
8	8 33970ff2e3f241...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	d295ddec1884...	NULL	NULL	NULL
9	9 1f829c658e1840...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	1	313	14c9a04dc5de4...	NULL	NULL	NULL
10	10 7906532933de4...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	c60134e33f844...	NULL	NULL	NULL
11	11 c243bfc723bb4...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	e9f180bedda4...	NULL	NULL	NULL
12	12 340cbdbde1f14f...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	1	313	06e065d8f144...	NULL	NULL	NULL
13	13 2553f1382044a...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	4	313	2e73f5742cb949...	NULL	NULL	NULL
14	14 62106cf7c4946...	20120727	20120727	5	5	20	NULL	92	Public	Public	13	12	2	312	62677945b6f984...	NULL	NULL	NULL
15	15 f8f62c251eb4f...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	b483c95f9f1840...	NULL	NULL	NULL
16	16 86d8287aeca84...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	1	313	7f9442d3d1f546...	NULL	NULL	NULL
17	17 ee2bd717734e43...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	p443a24ac2544...	NULL	NULL	NULL
18	18 0fa72db43ed04...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	48046c490aac4...	NULL	NULL	NULL
19	19 8dcfc2b7c734a...	20160215	20160215	5	5	20	NULL	92	Public	Public	13	12	2	313	6ea5a7d91b5c4...	NULL	NULL	NULL
20	20 079a26f40b147...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	a7e6308b5bb4f...	NULL	NULL	NULL
21	21 41a692c6410345...	20160215	20160215	5	5	20	NULL	92	Public	Public	13	12	2	313	2288815702ae43...	NULL	NULL	NULL
22	22 627d999c9b374...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	9632028433b64...	NULL	NULL	NULL
23	23 8f93ba814d334...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	309	9061ebc188741...	NULL	NULL	NULL
24	24 8ded38e960b74...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	1	313	d21c257c23c74...	NULL	NULL	NULL
25	25 473ee62ec744...	20160712	20160712	5	5	20	NULL	92	Public	Public	13	12	2	313	a086c3ed2b574...	NULL	NULL	NULL
26	26 c5ef7b0252de4...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	0382c484fe164...	NULL	NULL	NULL
27	27 59d57ef87a4e4...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	312	3c43b214f44644...	NULL	NULL	NULL
28	28 5a94651ba5684f...	20160930	20160930	5	5	20	NULL	92	Public	Public	13	12	2	313	95d1efb332204...	NULL	NULL	NULL
29	29 56c420b0eeb45...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	c39cc7efee574...	NULL	NULL	NULL
30	30 94c2a005f9c4a...	20160630	20160630	5	5	20	NULL	92	Public	Public	13	12	2	313	9d5ee9c9764847...	NULL	NULL	NULL
31	31 69d4b4fe2c2e24...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	313	94f83c77b1a49...	NULL	NULL	NULL
32	32 b87a67d8fe604...	20120831	20120831	5	5	20	NULL	92	Public	Public	13	12	2	312	000c269c6b5b4...	NULL	NULL	NULL

Figure 7: Attribute Table of road_segment_1

General		Access	
Name	waterbody_2	Feas	
Path	C:\Users\UCALGARV\Downloads\canvec_231029_433567 (1).gpkg	Licenses	
Size	7.00 MB	Rights	
Last modified	31 October 2023 04:03:00	Constraints	
Source	C:\Users\UCALGARV\Downloads\canvec_231029_433567 (1).gpkg layename=waterbody_2		
Provider	ogr		
Information from provider			
Storage	GPKG		
Encoding	UTF-8		
Geometry	Polygon (Polygon)		
Extent	-114.281999999999965,51.099499999999990 -114.1370000000000005,51.18390000000000013		
Feature count	67		
Coordinate Reference System (CRS)			
Name	EPSG:4617 - NAD83(CRS)		
Units	Geographic (uses latitude and longitude for coordinates)		
Method	Lat/long (Geodetic alias)		
Celestial body	Earth		
Reference	Static (relies on a datum which is plate-fixed)		
Identification			
Identifier			
Parent Identifier			
Title			
Type	dataset		
Language			
Abstract			
Categories			
Keywords			
Extent			
CRS	EPSG:4617 - NAD83(CRS) - Geographic		
Spatial Extent			
Temporal Extent			

Primary key attributes		id
Count		31

Field	Type	Length	Precision	Comment
id	Integer64	0	0	
feature_id	String	64	0	
md_temporal_extent_date_min	String	20	0	
md_temporal_extent_date_max	String	20	0	
md_horiz_position_accuracy_min	Real	0	0	
md_horiz_position_accuracy_max	Real	0	0	
permanency	Int16	0	0	
shoreline_water_level	Int16	0	0	
water_definition	Int16	0	0	
is_isolated	Int16	0	0	
name_gb	String	100	0	
name_id	String	64	0	
name_en	String	100	0	
name_fr	String	100	0	
name_other	String	100	0	
language_other	String	0	0	
name_ik1_id	String	64	0	
name_ik1_en	String	100	0	
name_ik1_fr	String	100	0	
name_ik2_id	String	64	0	
name_ik2_en	String	100	0	
name_ik2_fr	String	100	0	
name_nv1_id	String	64	0	
name_nv1_en	String	100	0	
name_nv1_fr	String	100	0	
name_nv2_id	String	64	0	
name_nv2_en	String	100	0	
name_nv2_fr	String	100	0	
map_selection	Int16	0	0	
country	Int16	0	0	
md_toponymic_link_quality	Int16	0	0	

	id	feature_id	mporal_exten_dat	mporal_exten_dat	iz_position_accura	iz_position_accura	permanency	shoreline_water_level	water_definition	is_isolated	name_db	name_id	name_en	name_fr	name_other	language_other	name_ik1_id	name_ik1_en	name_ik1_fr
1	1	540eb9d270544...	1977	1977	21	21	59	76	83	12	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
2	2	0e919b7049e4a...	1977	1977	21	21	59	76	83	12	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
3	3	c1729fc6d95048...	1977	1977	21	21	59	76	83	12	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
4	4	899ffe4d5a2849...	1977	1977	21	21	59	76	83	12	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
5	5	857b59b460914...	1977	1977	21	21	59	76	83	12	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
6	6	d58b5e6db9f84...	1977	1977	21	21	59	76	83	12	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
7	7	c6b7840209164...	1977	1977	21	21	59	76	83	12	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
8	8	349d0c93b8064...	1977	1977	21	21	59	76	83	12	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
9	9	4837c1c815484...	1977	1977	21	21	59	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
10	10	46566636a7044...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
11	11	dffff3d13c541...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
12	12	21fd9a1affc443...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
13	13	101e45ceee684...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
14	14	611a53c7c6f42...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
15	15	9385b6909afb4...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
16	16	b590f5690a774...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
17	17	e9d32378bc3e4...	1977	1977	21	21	59	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
18	18	544d38933beb4...	1977	1977	21	21	59	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
19	19	f84d5499a664f...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
20	20	d2f0b34c746e4...	1977	1977	21	21	59	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
21	21	070f9f1263384d...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
22	22	5468c75112594...	1977	1977	21	21	59	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
23	23	2613f239569140...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
24	24	b5f22e199ed94...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
25	25	07a804b343714...	1977	1977	21	21	59	76	83	12	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
26	26	1a5de11eba284...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
27	27	6e17178240c4c...	1977	1977	21	21	59	76	84	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
28	28	a37f5261a56541...	1977	1977	21	21	59	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
29	29	7f9daf1d3d404a...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
30	30	558029c7842048...	1977	1977	21	21	59	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
31	31	22dd3f4c87ec4...	1977	1977	21	21	59	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL
32	32	2ab4fb7d558e4...	1977	1977	21	21	60	76	83	11	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Figure 10: Attribute Table of water_body_2

Visualization:

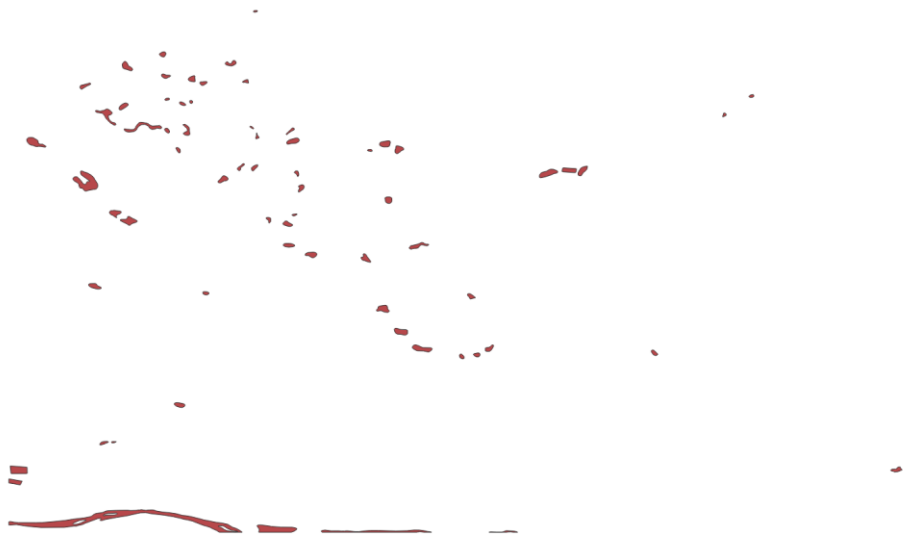


Figure 11: Visualization of water_body_2

Visualization of All three layers:



Figure 12: Visualization of All Three Layers