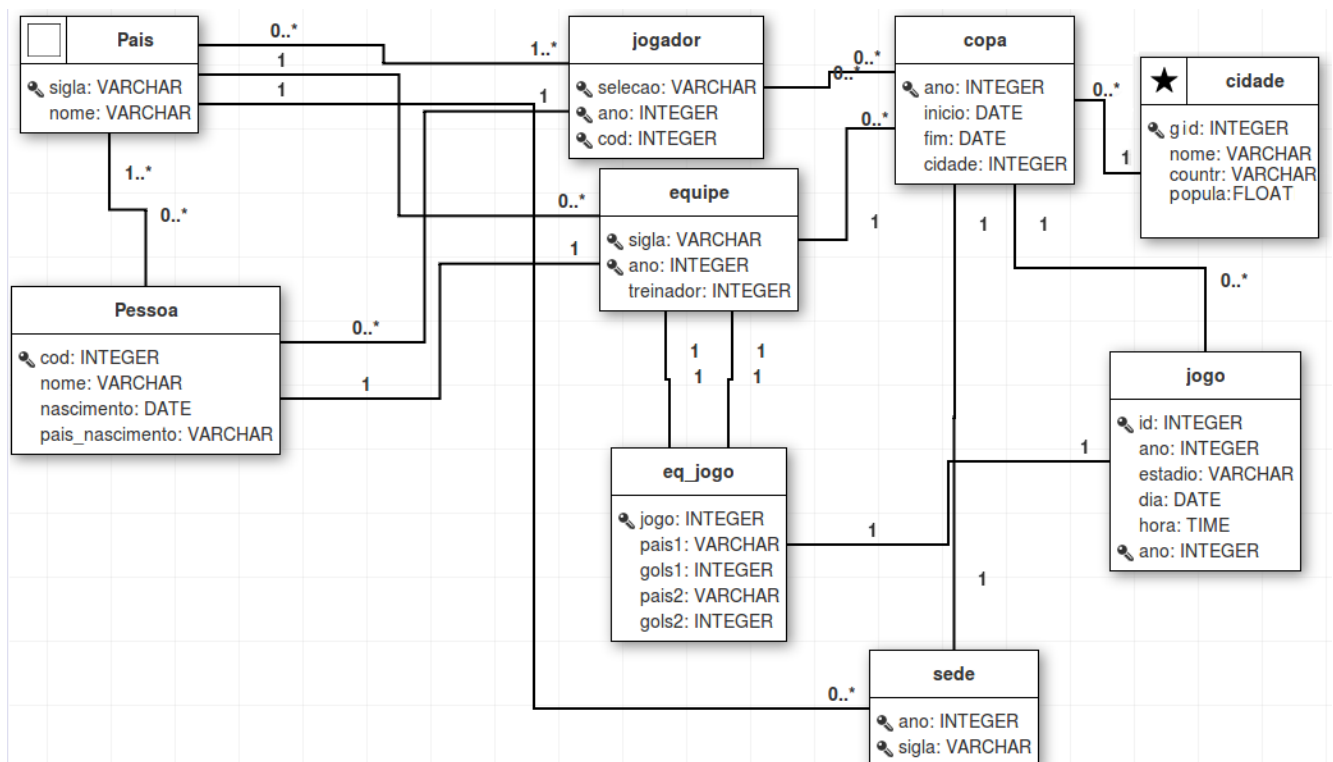


Trabalho 2 de Bancos de Dados Avançados

Ingrid Santana Lopes – 14/0083065

Modelo OMT-G usando OMT-G Designer

Country e population foram apenas acrescentados a tabela cidade pois já estavam presentes no ShapeFile usado para inserir os dados. Por não pertencerem ao original modelo da Copa do Mundo, eles não foram usados nas queries.

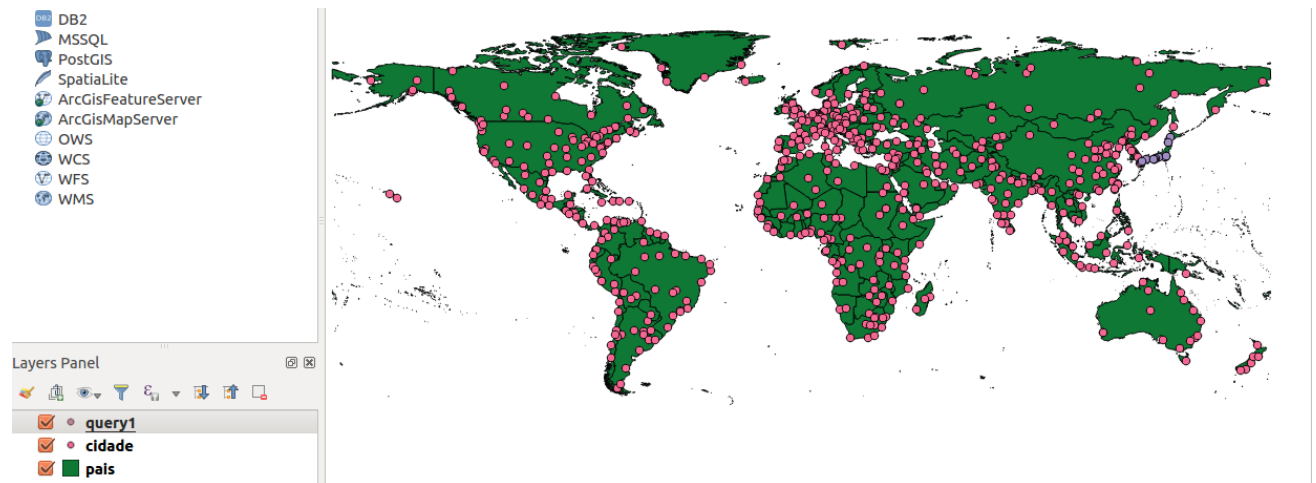


Queries realizadas:

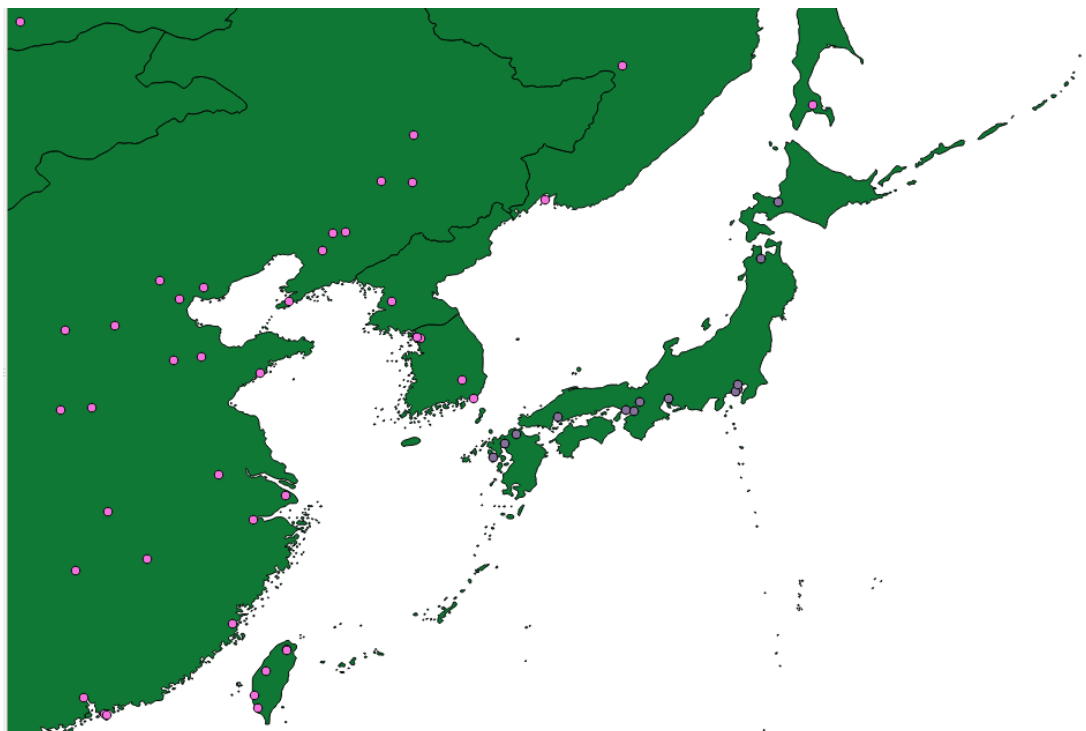
- 1) Mostrar o nome de todas as cidades pertencentes ao Japão e mostrar no mapa quais são elas.

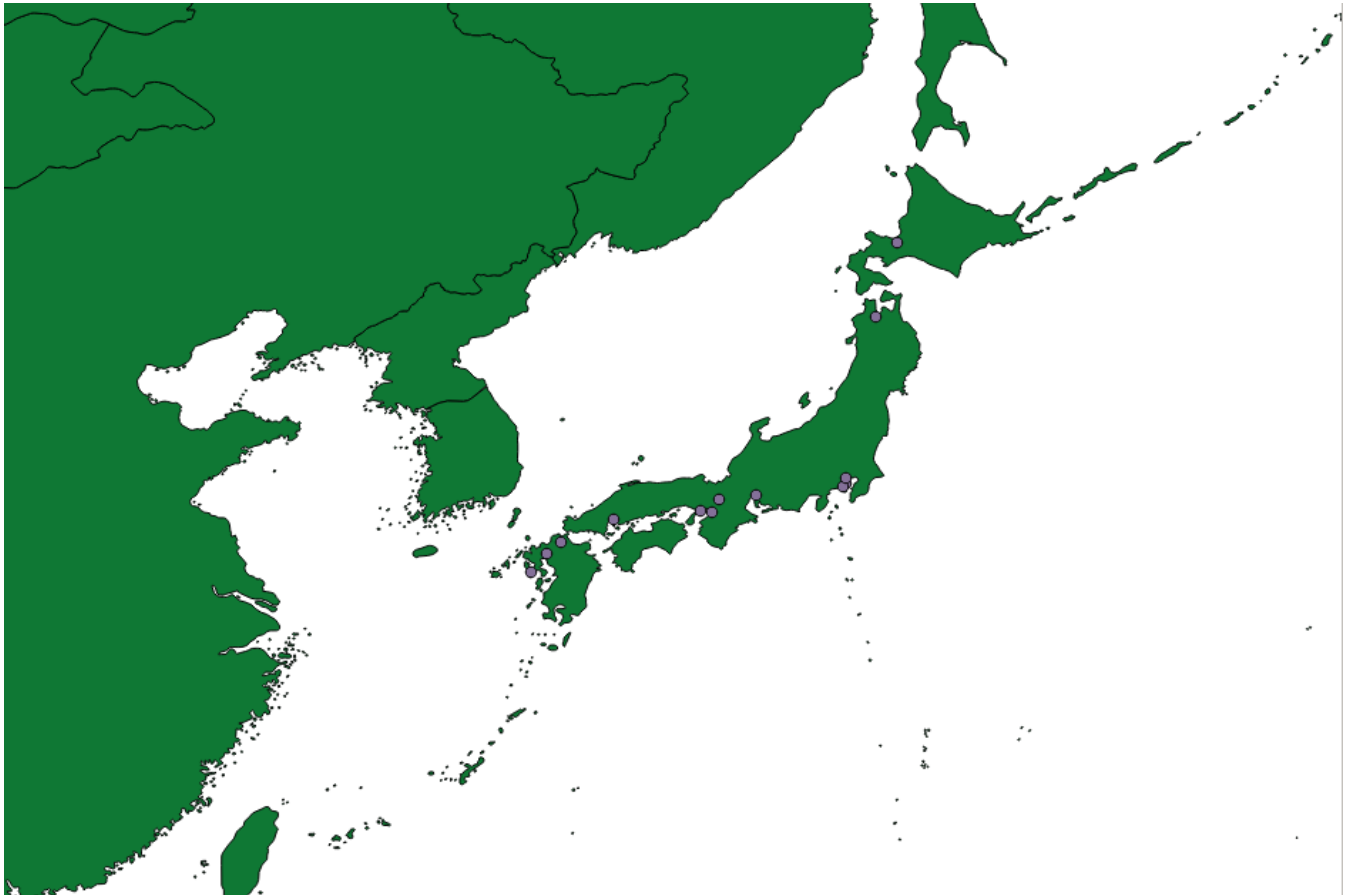
```
CREATE VIEW query1 AS
SELECT c.gid, c.nome, c.geom
FROM cidade as c, pais as p
where st_contains (p.geom,c.geom) and p.nome = 'Japan';
```

	gid integer	nome character varying(40)	geom geometry(Point,4326)
1	73	Sapporo	0101000020E6100000000000200EAB61400000008012874540
2	127	Kawasaki	0101000020E61000000000006045776140000000C095C04140
3	129	Yokohama	0101000020E610000000000040D473614000000040FCB74140
4	132	Nagoya	0101000020E610000000000080751D614000000080D4934140
5	134	Kyoto	0101000020E61000000000008027F86040000000202B814140
6	138	Osaka	0101000020E6100000000000A09CF060400000000059514140
7	140	Hiroshima	0101000020E6100000000000A03B8E6040000000C053304140
8	282	Kobe	0101000020E6100000000000A0D1E56040000000C0F8544140
9	289	Fukuoka	0101000020E610000000000060264A604000000000ABA74040
10	290	Kita Kyushu	0101000020E6100000000000C0845960400000006047D74040
11	399	Aomori	0101000020E6100000000000A070956140000000000604440
12	589	Tokyo	0101000020E6100000000000607577614000000070FED74140
13	602	Nagasaki	0101000020E610000000000060703B604000000060745F4040



Os pontos em rosa são todas as cidades e em cinza, as cidades resultantes da primeira query enquanto o mapa em verde escuro é o mapa representando todos os polígonos de países





- 2) Mostrar a lista de países que fazem fronteira com a Alemanha, mostrando seus nomes numa lista e a forma no mapa.

```
CREATE VIEW query2 AS
SELECT p1.nome, p1.sigla, p1.geom
from pais as p1, pais as p2
where st_touches(p1.geom, p2.geom) and p2.nome = 'Germany' and p1.nome <> 'Germany';
```

	nome character varying(50)	sigla character(3)	geom geometry(MultiPolygon,4326)
1	Belgium	BLG	0106000020E610000001000000010300000001000000AE000000F7065F984C1504405C1C959BA88F4940E8D9ACFA5C2D054099D9E731CA9549404D840D
2	Luxembourg	LUX	0106000020E61000000100000001030000000100000020000000BADA8AFD65771740ED2B0FD253C648401E166A4DF3AE1740BDC5C37B0ED24840BE3099
3	Czech	CZE	0106000020E6100000010000000103000000010000000010000431CEBE2364A284035EB8CEF8B254940933A014D847D2840D9B0A6B2282249404772F9
4	Austria	AUT	0106000020E610000001000000010300000001000000D0100001361C3D32BF522407B832F4CA6C24740ADF5A5C6DC50E2340923EADA23FC24740C442AD
5	France	FRA	0106000020E61000007D010000010300000001000000D503000067D5E76A2BF6F53F75931804564E4540A9A44E401361F53F7364E597C152454024B9FC
6	Poland	POL	0106000020E610000002000000010300000001000000E020000174850FC18832C403A747ADE8DE34A40F5B9DA8AFD852C40B30C71AC8BE34A40DFE00B
7	Netherlands	NED	0106000020E61000000E0000000103000000010000001901000014AE47E17A540E40C51C041DADB4494017B7D100DEC20D401A4D2EC6C0B44940917EFB
8	Denmark	DEN	0106000020E61000000140000000103000000010000003F010000F0164850FC082040BEC1172653454C406F8104C58F2120406E52D158FB554C4052B81E
9	Switzerland	SWT	0106000020E610000001000000010300000001000000B2000000068195438B3C2340DC68006F8184474036AB3E575B6123408B6CE7FBA9814740DE718A

DB2

MSSQL

PostGIS

Spatialite

ArcGisFeatureServer

ArcGisMapServer

OWS

WCS

WFS

WMS

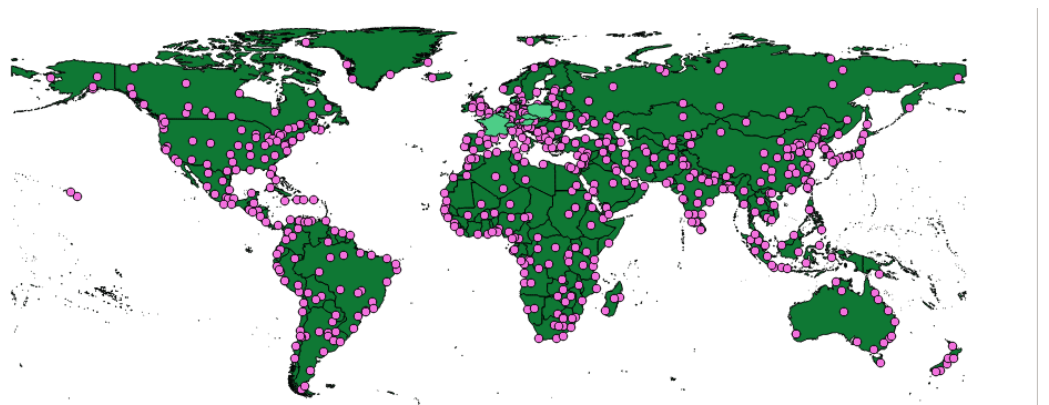
Layers Panel

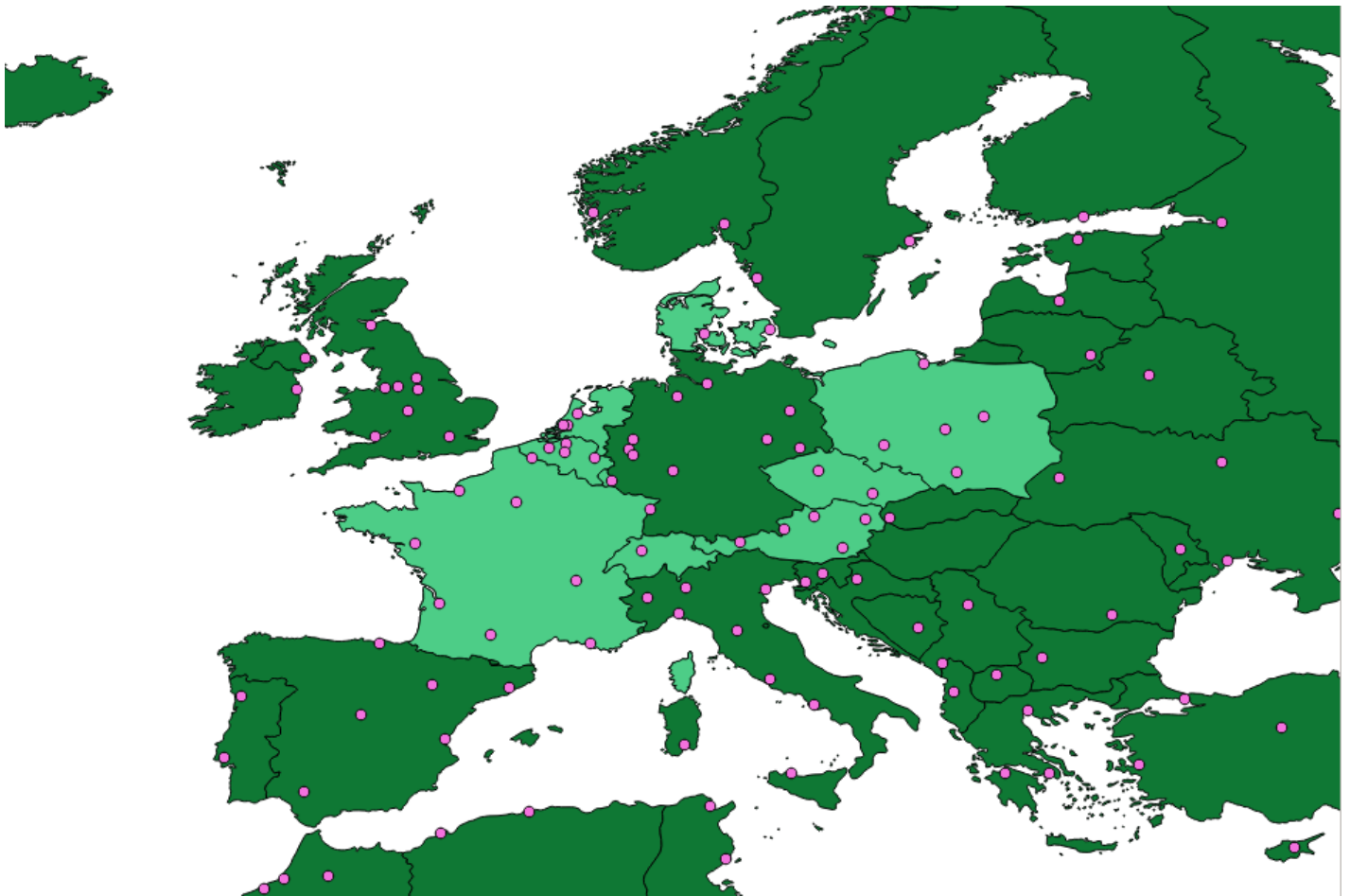
query2

query1

cidade

pais





- 3) Mostrar no mapa e em listagem todas as cidades que ficam num raio de 2000 km de Vancouver

```
CREATE VIEW query3 AS
SELECT c2.nome, c2.gid, c2.geom
from cidade as c1, cidade as c2
where st_dwithin(c1.geom, c2.geom, 2000000, true) and c1.nome = 'Vancouver' and c1.nome <> c2.nome
CREATE VIEW query4 AS
```

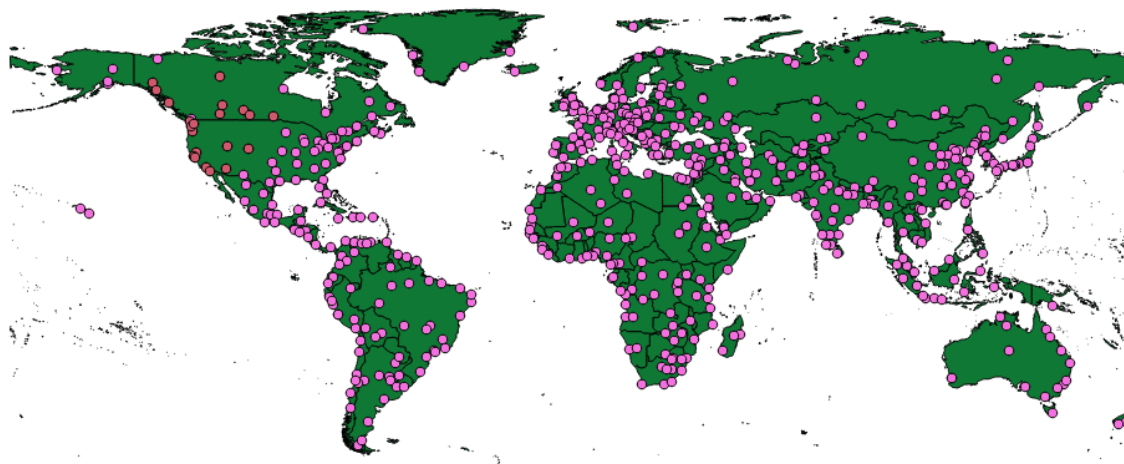
	nome character varying(40)	gid integer	geom geometry(Point,4326)
1	Calgary	26	0101000020E61000000000004033835CC000000000D7834940
2	Winnipeg	36	0101000020E6100000000000E0F64758C0000000E0E8F54840
3	Salt Lake City	87	0101000020E61000000000006019F95BC000000060D2584440
4	Sacramento	108	0101000020E6100000000000A00D5B5EC0000000094484340
5	Phoenix	147	0101000020E6100000000000800E075CC0000000A027C14040
6	San Francisco	286	0101000020E6100000000000A0C3935EC0000000201FDD4240
7	Saskatoon	312	0101000020E6100000000000E051A85AC000000080140E4A40
8	Regina	313	0101000020E6100000000000A099295AC0000000E07A344940
9	Victoria	353	0101000020E6100000000000406CE45EC0000000E0C8534840
10	Portland	360	0101000020E61000000000004011A95EC0000000C097B84640
11	Whitehorse	377	0101000020E6100000000000E051E060C00000004033534E40
12	Olympia	434	0101000020E6100000000000E051B85EC000000080C2754740
13	Prince Rupert	442	0101000020E6100000000000E0894160C0000000C0CB354B40
14	Denver	486	0101000020E6100000000000E07A445AC0000000000E04340
15	Edmonton	488	0101000020E6100000000000A047515CC0000000C0F5C84A40
16	Los Angeles	514	0101000020E6100000000000000905DC0000000000004140
17	Seattle	565	0101000020E61000000000000044945EC0000000C055CB4740
18	San Diego	566	0101000020E61000000000002008485DC00000008077614040
19	Yellowknife	573	0101000020E610000000000060ED835CC000000080A3424F40
20	Juneau	578	0101000020E6100000000000403DC460C0000000800C324D40
21	San Jose	579	0101000020E6100000000000C03C765EC00000000070A74240

Legend:

- MSSQL
- PostGIS
- SpatiaLite
- ArcGisFeatureServer
- ArcGisMapServer
- OWS
- WCS
- WFS
- WMS

Layers Panel

- ☐ query1
- ☒ query3
- ☐ query2
- ☒ cidade
- ☒ pais



- 4) Mostrar o nome e a sigla de Myanmar e Grécia em lista, calcular sua área e contar quantas cidades do banco de dados estão dentro de suas regiões territoriais mostrando os dois países no mapa.

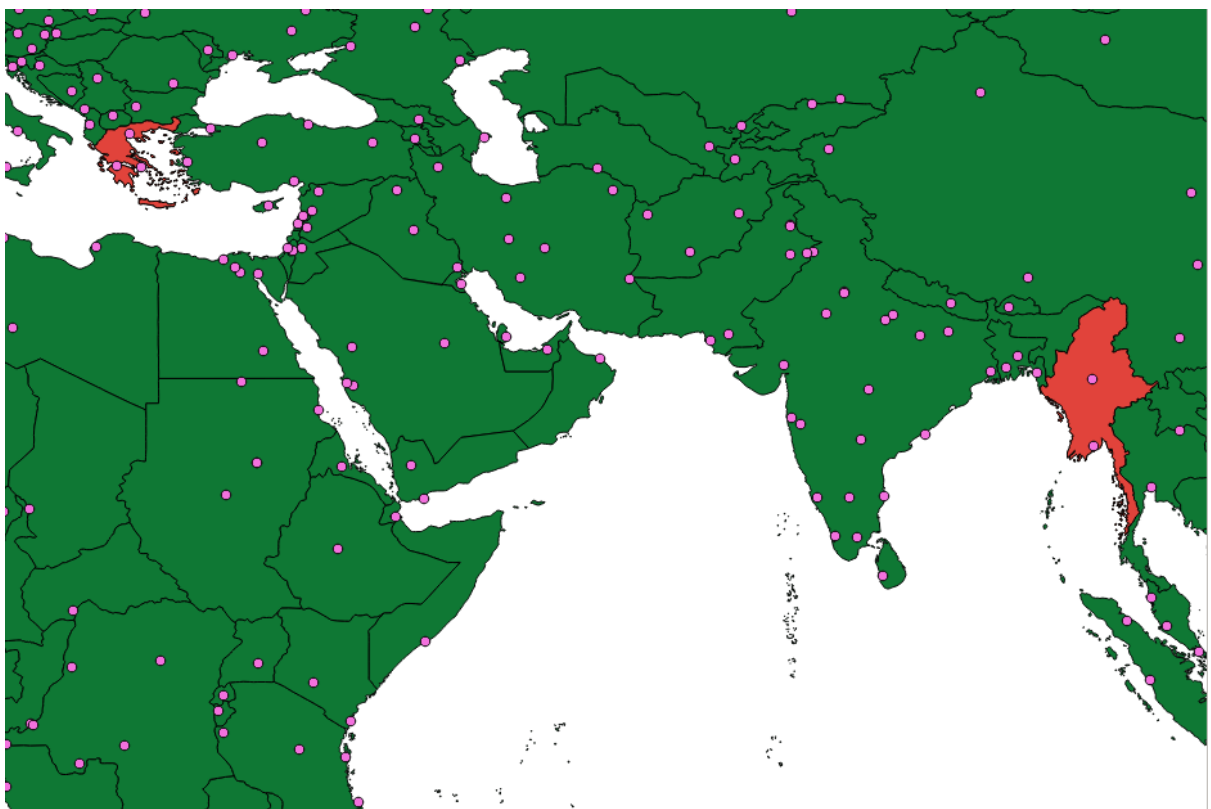
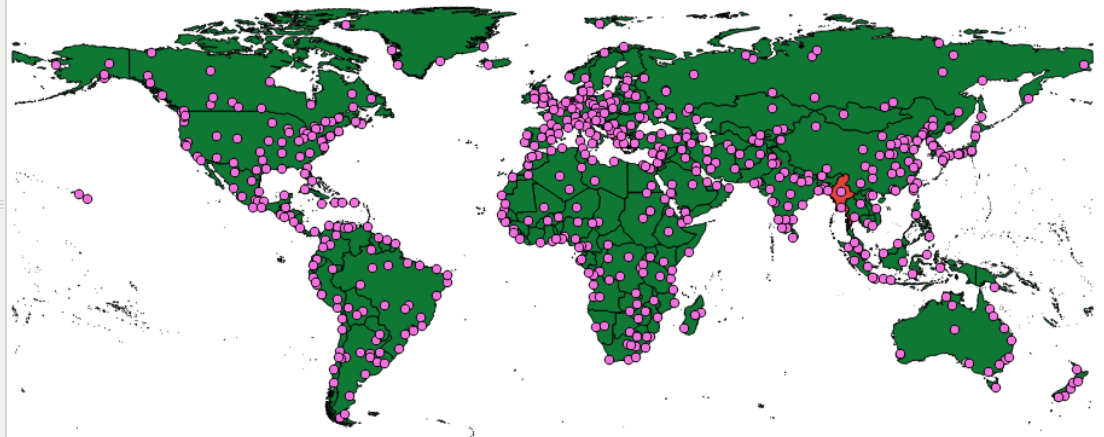
```
CREATE VIEW query4 AS
SELECT p1.nome as pais, p1.sigla, st_area(p1.geom), count(c1.nome), p1.geom
from pais as p1, cidade as c1
where st_contains (p1.geom, c1.geom) and (p1.nome = 'Myanmar' or p1.nome = 'Greece')
group by (p1.sigla);
```

	pais character varying(50)	sigla character(3)	st_area double precision	count bigint	geom geometry(MultiPolygon,4326)
1	Myanmar	MYA	57.0652635974251	2	0106000020E610000039000000010300000001000000680400007E1D386744095740C5CBD3B9A2083540BE30992A18095740B
2	Greece	GRE	14.090557143025	3	0106000020E610000052000000010300000001000000A9010000E9B7AF03E71C3440B9895A9A5BDB43406F1283C0CA293440B

☒ MySQL
☒ PostGIS
☒ Spatialite
☒ ArcGisFeatureServer
☒ ArcGisMapServer
☒ OWS
☒ WCS
☒ WFS
☒ WMS

Layers Panel

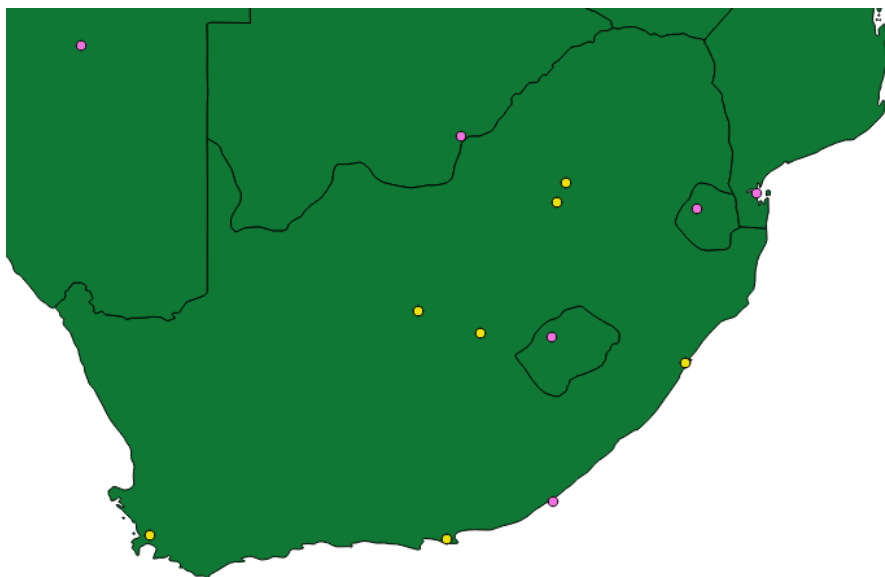
☒ cidade
☒ query4
☐ query1
☐ query3
☐ query2
☒ pais



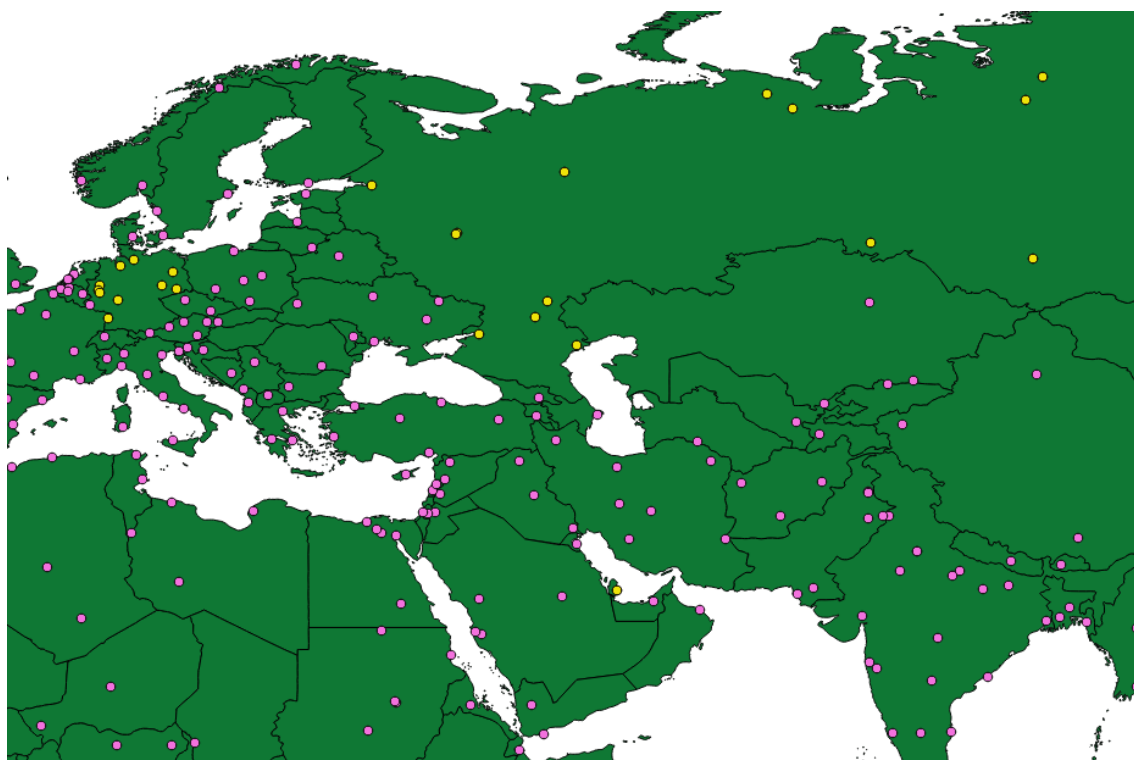
- 5) Mostrar em lista e no mapa as cidades que pertencem aos países que já sediaram copas do mundo indicando a quais países pertencem.

```
CREATE VIEW query5 AS
SELECT c.ano, p.nome as pais, ci.nome as cidade, ci.gid, ci.geom
from pais p, copa c, sede s, cidade ci
where p.sigla = s.sigla and c.ano = s.ano and st_contains (p.geom,ci.geom)
order by c.ano asc;
```

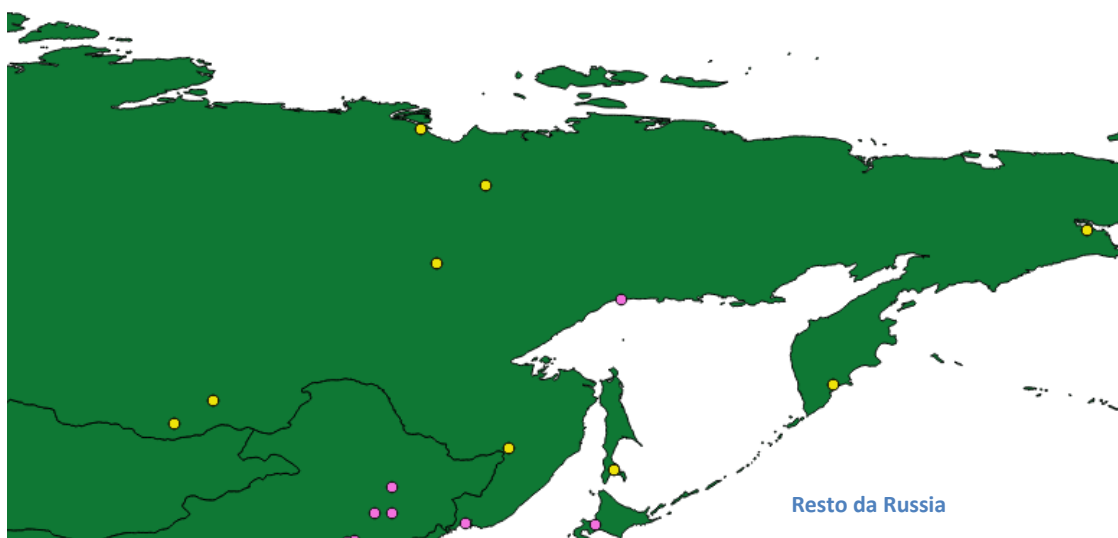
	ano integer	pais character varying(50)	cidade character varying(40)	gid integer	geom geometry(Point,4326)
1	2006	Germany	Hamburg	8	0101000020E610000000000060220E2440000000801AC94A40
2	2006	Germany	Strasbourg	42	0101000020E6100000000000206D121F4000000000AE4A4840
3	2006	Germany	Frankfurt am Main	33	0101000020E6100000000000001A562140000000C0A3104940
4	2006	Germany	Bonn	29	0101000020E6100000000000E036661C400000000065E4940
5	2006	Germany	Koln	27	0101000020E6100000000000004FBD1B40000000C09E784940
6	2006	Germany	Dresden	25	0101000020E6100000000000A024692B40000000E0D8854940
7	2006	Germany	Leipzig	21	0101000020E610000000000060D0CB2840000000E0B6AC4940
8	2006	Germany	Essen	20	0101000020E6100000000000A05F7D1C400000004051AD4940
9	2006	Germany	Berlin	13	0101000020E6100000000000A0B7A72A400000004015424A40
10	2006	Germany	Bremen	12	0101000020E6100000000000C01AB72140000000E0408A4A40
11	2010	South Africa	Johannesburg	263	0101000020E6100000000000601A013C4000000020D02D3AC0
12	2010	South Africa	Cape Town	478	0101000020E610000000000020C0B03240000000C0E9E640C0
13	2010	South Africa	Bloemfontein	366	0101000020E6100000000000608F423A400000006066263DC0
14	2010	South Africa	Kimberley	327	0101000020E6100000000000E07AD43840000000C0F5A83CC0
15	2010	South Africa	Port Elizabeth	272	0101000020E610000000000000FB7B394000000080D7F040C0
16	2010	South Africa	Durban	265	0101000020E61000000000004033F13E40000000801CD63DC0
17	2010	South Africa	Pretoria	261	0101000020E610000000000040E7373C400000008039BB39C0
18	2014	Brazil	Salvador	549	0101000020E6100000000000A0703D43C0000000E0543329C0
19	2014	Brazil	Fortaleza	242	0101000020E610000000000020614B43C0000000403E440EC0
20	2014	Brazil	Recife	247	0101000020E6100000000000E0127541C0000000209B2B20C0
21	2014	Brazil	Brasilia	249	0101000020E610000000000060E9F247C0000000608F952FC0
22	2014	Brazil	Goiania	252	0101000020E6100000000000A09DA048C0000000009BA30C0
23	2014	Brazil	Belo Horizonte	255	0101000020E6100000000000605CF445C0000000600ADA33C0
24	2014	Brazil	Rio de Janeiro	256	0101000020E61000000000004043BA45C000000000B9B836C0
	ano integer	pais character varying(50)	cidade character varying(40)	gid integer	geom geometry(Point,4326)
22	2014	Brazil	Goiania	252	0101000020E6100000000000A09DA048C0000000009BA30C0
23	2014	Brazil	Belo Horizonte	255	0101000020E6100000000000605CF445C0000000600ADA33C0
24	2014	Brazil	Rio de Janeiro	256	0101000020E61000000000004043BA45C000000000B9B836C0
25	2014	Brazil	Sao Paulo	257	0101000020E610000000000020BB4F47C000000060D09437C0
26	2014	Brazil	Santos	258	0101000020E6100000000000809D2747C00000004067F437C0
27	2014	Brazil	Curitiba	260	0101000020E6100000000000C06AA448C0000000E0336E39C0
28	2014	Brazil	Porto Alegre	266	0101000020E6100000000000609F9A49C0000000E01E0A3EC0
29	2014	Brazil	Belem	299	0101000020E6100000000000C07B2848C0000000806DAFF9BF
30	2014	Brazil	Porto Velho	319	0101000020E61000000000004033F34FC00000000008021C0
31	2014	Brazil	Cuiaba	321	0101000020E61000000000006066064CC0000000A099192FC0
32	2014	Brazil	Manaus	361	0101000020E6100000000000DF014EC0000000007BFA08C0
33	2014	Brazil	Santarem	362	0101000020E610000000000080144E4BC00000008014AE03C0
34	2014	Brazil	Boa Vista	402	0101000020E610000000000000404EC0000000000000640
35	2018	Russia	Verkhoyvensk	341	0101000020E6100000000000C01EAD6040000000C01EE55040
36	2018	Russia	Chatanga	339	0101000020E610000000000000B05B40000000803D2A4940
37	2018	Russia	Druzba	333	0101000020E61000000000000000E04240000000E0A3F04B40
38	2018	Russia	Rostov-na-Donu	46	0101000020E6100000000000A011D8434000000060B59D4740
39	2018	Russia	Volgograd	41	0101000020E6100000000000A0E73D464000000060E95A4840
40	2018	Russia	Omsk	2	0101000020E6100000000000C004505240000000601A884B40
41	2018	Russia	Saint Petersburg	1	0101000020E6100000000000400D743E4000000080D7F94D40
42	2018	Russia	Chita	340	0101000020E6100000000000C01E655C400000006066064A40
43	2018	Russia	Salekhard	445	0101000020E6100000000000C01EA55040000000E07AA45040
44	2018	Russia	Tiksi	455	0101000020E610000000000000186040000000C0CCEC5140
45	2018	Russia	Vorkuta	459	0101000020E6100000000000C01E1550400000004033F35040



África do Sul



Qatar, Alemanha e parte da Rússia



Resto da Rússia