

```
Data Source: postgis
Database: lab6
Schema: vectors
Table: porto_parishes
Column: geom

alter table porto_parishes
add geom geometry(MultiPolygon, 3763);
```

[illegible]

[illegible]

```
127767)), width: 128, height: 128, nodataval: true, nodataval: -32767) AS rast
127 FROM vectors.porto_parishes AS a,
128 r
129 WHERE a.municipality ilike 'porto';
130 -- 15
131 -- But not able to run - used over 50 GB of RAM
132 SELECT w.tif,
133 (ST_Intersection(rast.geom, a.geom)).geom,
134 (ST_Intersection(rast.geom, a.geom)).geom,
135 ...
136 FROM rast, rast AS a,
137 vectors.porto_parishes AS b
138 WHERE b.municipality ilike 'porto'
139 AND ST_Intersection(rast.geom, a.geom) IS NOT NULL;
140 -- 16
141 SELECT w.tif,
142 (ST_Intersection(rast.geom, a.geom)).geom,
143 (ST_Intersection(rast.geom, a.geom)).geom,
144 FROM rast, rast AS a,
145 vectors.porto_parishes AS b
146 WHERE b.municipality ilike 'porto'
147 AND ST_Intersection(rast.geom, a.geom) IS NOT NULL;
148 -- 17
149 CREATE TABLE lyskawinski.paranhos_sar AS
150 SELECT rast, ST_Area(rast.geom) AS area
151 FROM rast, rast AS a;
152 -- 18
153 CREATE TABLE lyskawinski.paranhos_dem AS
```

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151 FROM rast, rast AS a;
152 -- 18
153 CREATE TABLE lyskawinski.paranhos_dem AS
154 WITH t AS (SELECT st_summarystats(rast.ST_Union(a.rast)) AS stats
155 FROM lyskawinski.paranhos_dem AS a)
156 SELECT (stats).min, (stats).max, (stats).mean
157 FROM t;
158 -- 19
159 WITH t AS (SELECT b.parish
160 st_summarystats(rast.ST_Union(ST_Clip(rast.geom, b.geom, 'crop: true')) AS stats
161 FROM rast, rast AS a,
162 vectors.porto_parishes AS b
163 WHERE b.municipality ilike 'porto'
164 AND ST_Intersection(rast.geom, b.geom) IS NOT NULL)
```

| | min | max | mean |
|---|-----|-----|-------------------|
| 1 | 87 | 158 | 122.5271281948482 |

```

145 WHERE b.municipality ilike 'porto'
146       and ST_Intersects(geom1 b.geom, geom2 a.rast)
147       group by b.parish)
148 SELECT parish, (stats.min, (stats).max, (stats).mean
149 FROM t;
150
151 -- 20
152
153 SELECT b.name, st_value(rast a.rast, pt(ST_Dump(b.geom)).geom)
154 FROM rasters.den a,
155      vectors.places AS b
156 WHERE ST_Intersects(geom1 a.rast, geom2 b.geom)
157 ORDER BY b.name;
158
159 -- 21
160 create table lyskawinski.tpi30 as
161 select ST_TPI(rast a.rast, @band=1) as rast
162 from rasters.den a
163      inner join vectors.porto_parishes b on st_intersects(geom1 a.rast, geom2 b.geom)
164 where b.municipality ilike 'porto';
165
166 -- 22
167
168 CREATE TABLE lyskawinski.porto.ndvi AS
169 WITH r AS (SELECT a.rid, ST_Clip(rast a.rast, geom1 b.geom, isrop=true) AS rast
170           FROM rasters Landsat AS a,
171                vectors.porto_parishes AS b
172           WHERE b.municipality ilike 'porto'
173                and ST_Intersects(geom1 b.geom, geom2 a.rast))
174 SELECT r.rid,
175        ST_MapAlgebra(
176          rastbandarg1: r.rast, rastbandarg1: 1,
177          geomtype: r.rast, nummappe: 4,
178          customtext: '([rast2.val] - [rast1.val]) / ([rast2.val] +
179          [rast1.val]);:float', distance: '32BP'

```

Output 20

44 rows

| | name | st_value |
|----|---------------------|----------|
| 1 | Aldeia São Miguel | 96 |
| 2 | Alpendurada e Matos | 145 |
| 3 | Amarante | 71 |
| 4 | Baião | 581 |
| 5 | Cabeceiras de Basto | <null> |
| 6 | Castelo de Paiva | 284 |
| 7 | Celorico de Basto | 227 |
| 8 | Cinfães | 405 |
| 9 | Espinho | 14 |
| 10 | Fafe | 338 |
| 11 | Fajozes | 63 |
| 12 | Felgueiras | 320 |
| 13 | Gondomar | 123 |

fetching:15 ms

