

## Zad. 1

osdatahub.os.uk/downloads/open/250KScaleColourRaster

Kalendarz UniTime 4.5j Curric... Notion Learn R, Python &... LeetCode - The Wo... (219) I Made a Gam... Markdown for Jupy... (327) CREATE SMO... Grupowanie iteracyj... Kodowanie zmienn... SROCZY

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OS OpenData downloads

Data structure: Raster  
Supply format: TIFF-LZW  
Version Date: 2022-06

**Documentation**

[Product information](#)

**Download 1:250 000 Scale Colour Raster™**

All OS OpenData can be freely downloaded under the [Open Government Licence](#).

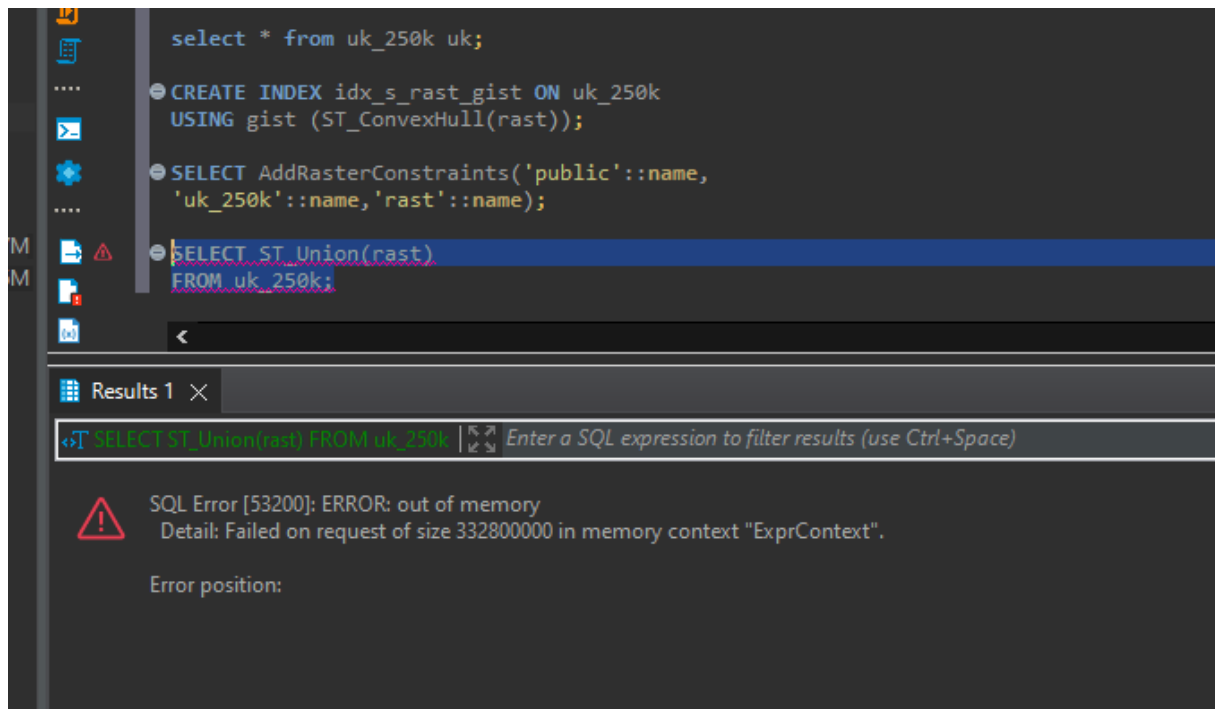
- 1 Specify an area All of Great Britain
- 2 Data format TIFF-LZW  
Size: 135.12 MB
- 3 Download [1:250 000 Scale Colour Raster™ - TIFF-LZW GB \(135.12 MB\)](#)

ras250\_gb.zip  
98.0/129 MB, Pozostało 6 s

## Zad. 2

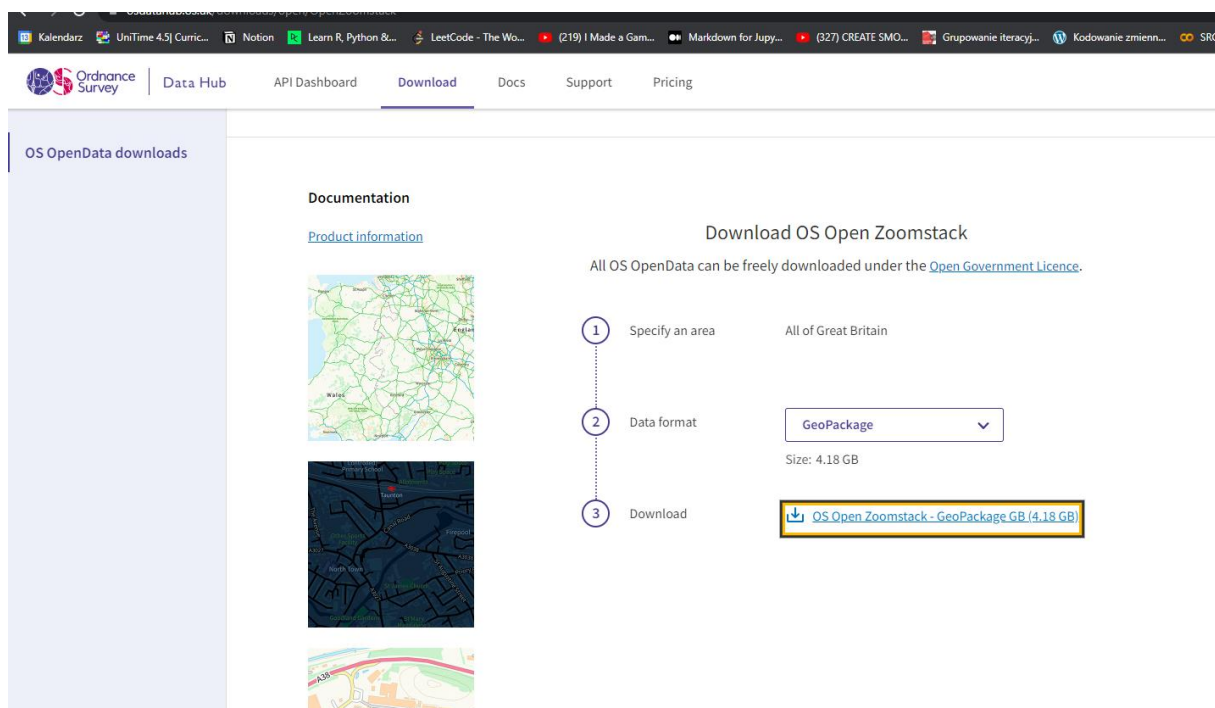
```
raster2pgsql.exe -s 3763 -N -32767 -t 100x100 -l -C -M -d "C:\Program  
Files\PostgreSQL\14\bin\ras250_gb\data\*.tif" uk_250k | psql -d cw_7 -h localhost -U postgres -p  
5432
```



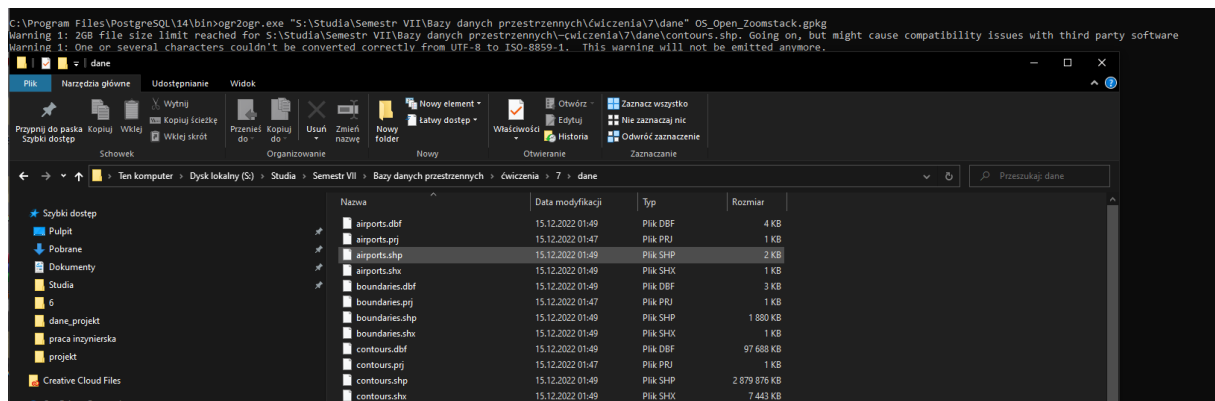


Z powodu błędu nie dało się dokończyć zadania.

#### Zad. 4



Zad. 5



```
shp2pgsql -s 27700 "S:\Studia\Semestr VII\Bazy danych  
przestrzennych\ćwiczenia\7\dane\national_parks.shp" national_parks | psql -U postgres -h localhost  
-p 5432 -d cw_7
```

[illegible]

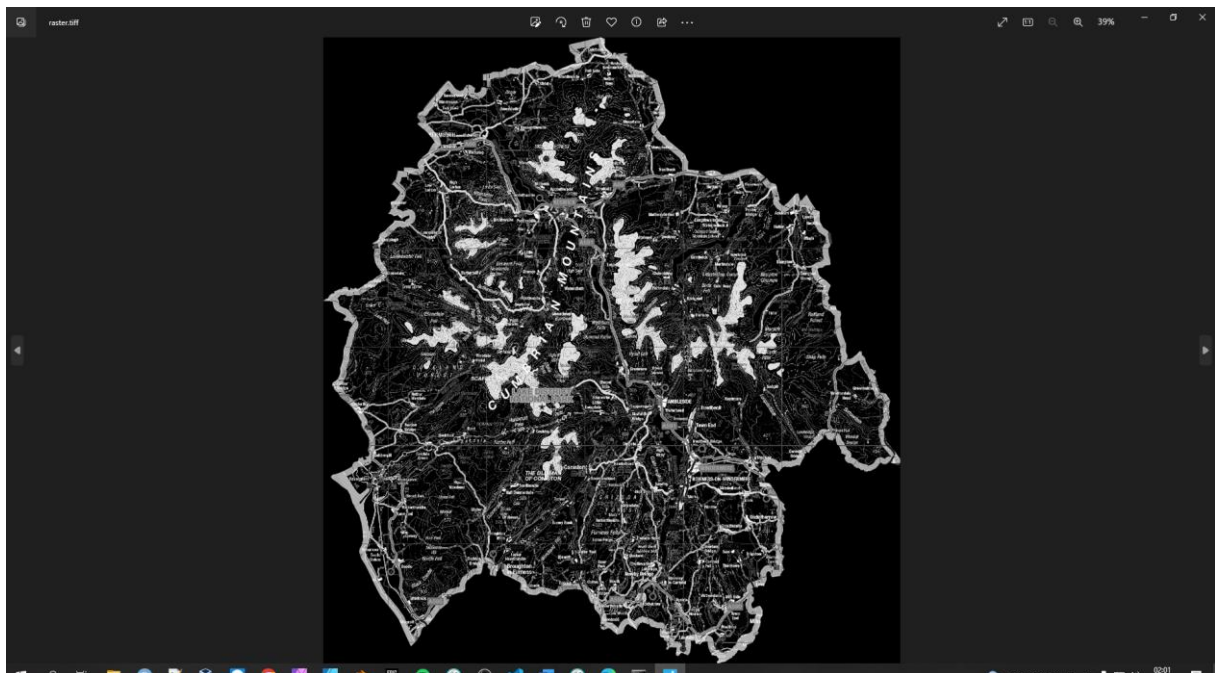
The screenshot shows the QGIS interface with the 'national\_parks' layer selected in the Layers panel. The attribute table for 'national\_parks' is displayed, showing columns for 'gid', 'fid', and 'geom'. The table contains 26 rows of data, each representing a polygon feature. The 'geom' column contains the Well-Known Text (WKT) representation of each polygon, which are mostly MULTIPOLYGONs with multiple rings of coordinates.

gid	fid	geom
1	0	MULTIPOLYGON (((356612.4129999997 508769.34410000034, 356827.09399999996 508804.46900000005, 356900 508780, 357052.78100000004 508862.15599999995, 357279.4689...
2	1	MULTIPOLYGON (((400000 453080, 399940 453020, 399829.875 453042.812000000085, 399594.875 453070.437999999915, 399470.56199999999 453070.437999999915, 399373.65...
3	2	MULTIPOLYGON (((300000 204770, 299817 207948, 299548 207822, 299350 207721, 299181 207379, 299067 206844, 298936 206477, 298991 206279, 299000 206123, 298911...
4	33	MULTIPOLYGON (((171212 210301, 172135 210303, 172096 210308, 172065 210316, 172040 210342, 172028 210346, 172023 210408, 172020 210432, 172021 210448, 172030...
5	4	MULTIPOLYGON (((317635 770725, 317078 770424, 316659 769938, 316887 769352, 317164 769174, 317194 768925, 317061 768533, 316881 768443, 316694 768097, 316592...
6	5	MULTIPOLYGON (((249830 73470, 249590 73690, 249483 73958, 249790 74040, 249933 74122, 250000 74160, 250204 74549, 250000 74950, 249900 74890, 249900 74990, 249...
7	13	MULTIPOLYGON (((200000 204073, 199787 204312, 199673 204391, 199567 204453, 199436 204497, 199418 204567, 199401 204620, 199365 204655, 199295 204699, 199312...
8	14	MULTIPOLYGON (((174620 208864, 174514 208914, 174430 208960, 174414 208994, 174421 209032, 174452 209113, 174495 209169, 174551 209225, 174588 209262, 174607...
9	15	MULTIPOLYGON (((170429 222401, 170490 222430, 170535 222479, 170559 222442, 170552 222326, 170558 222261, 170498 222263, 170460 222240, 170450 222251, 170410...
10	16	MULTIPOLYGON (((170313 222420, 170278 222015, 170270 221910, 170182 221850, 170105 221882, 170000 221860, 169892 221745, 169990 221930, 170102 222014, 170064...
11	6	MULTIPOLYGON (((300000 132806, 299600 132600, 299700 132450, 299710 132170, 299690 132030, 299620 131680, 299510 131310, 299320 130910, 299290 130820, 299360...
12	7	MULTIPOLYGON (((209870 70000, 209940 700330, 210090 700570, 210190 700720, 210460 700790, 210660 700860, 210679 700872, 210903 701006, 210910 701010, 210921...
13	17	MULTIPOLYGON (((166520 225380, 166580 225490, 166608 225541, 166684 225572, 166775 225587, 166852 225557, 166852 225481, 166806 225420, 166730 225389, 166520...
14	34	MULTIPOLYGON (((172782 222896, 172764 222896, 172753 222929, 172743 222954, 172717 222965, 172695 222947, 172670 222914, 172652 222914, 172645 222936, 172659...
15	36	MULTIPOLYGON (((184320 203750, 184390 203840, 184510 203830, 184500 203720, 184420 203720, 184320 203750))
16	37	MULTIPOLYGON (((259611 300000, 259763 300398, 259672 300761, 259741 301385, 259544 301575, 258844 301994, 258706 301896, 258628 301666, 258421 302774, 258312...
17	38	MULTIPOLYGON (((550228 100000, 550138 100695, 550000 100587, 549930 100460, 549799 100604, 549592 100654, 549270 100580, 549206 100775, 548890 100756, 548586...
18	39	MULTIPOLYGON (((637924 300000, 637885 300247, 638202 300130, 638726 300347, 638749 300582, 638550 300750, 638550 300830, 638530 300910, 638520 300970, 638430...
19	8	MULTIPOLYGON (((416177 99662, 416070 99770, 416020 99840, 415980 99930, 416000 100000, 415980 100120, 415983 100173, 415780 100540, 415650 100610, 415530 1005...
20	9	MULTIPOLYGON (((500000 487140, 499650 486440, 499410 486010, 499280 485610, 499230 485210, 499120 484880, 498850 484630, 498460 484450, 498130 484220, 497890...
21	10	MULTIPOLYGON (((400000 594660, 399230 594230, 399900 594140, 398550 594120, 398260 594220, 398120 594090, 398080 593850, 398126 593800, 398320 593800, 398470...
22	11	MULTIPOLYGON (((400000 360330, 399330 360460, 399790 360510, 399660 360530, 399490 360530, 399310 360580, 399310 360710, 399000 360780, 399000 360850, 398550...
23	12	MULTIPOLYGON (((159766 209585, 159838 209609, 159862 209537, 159934 2

Zad. 6

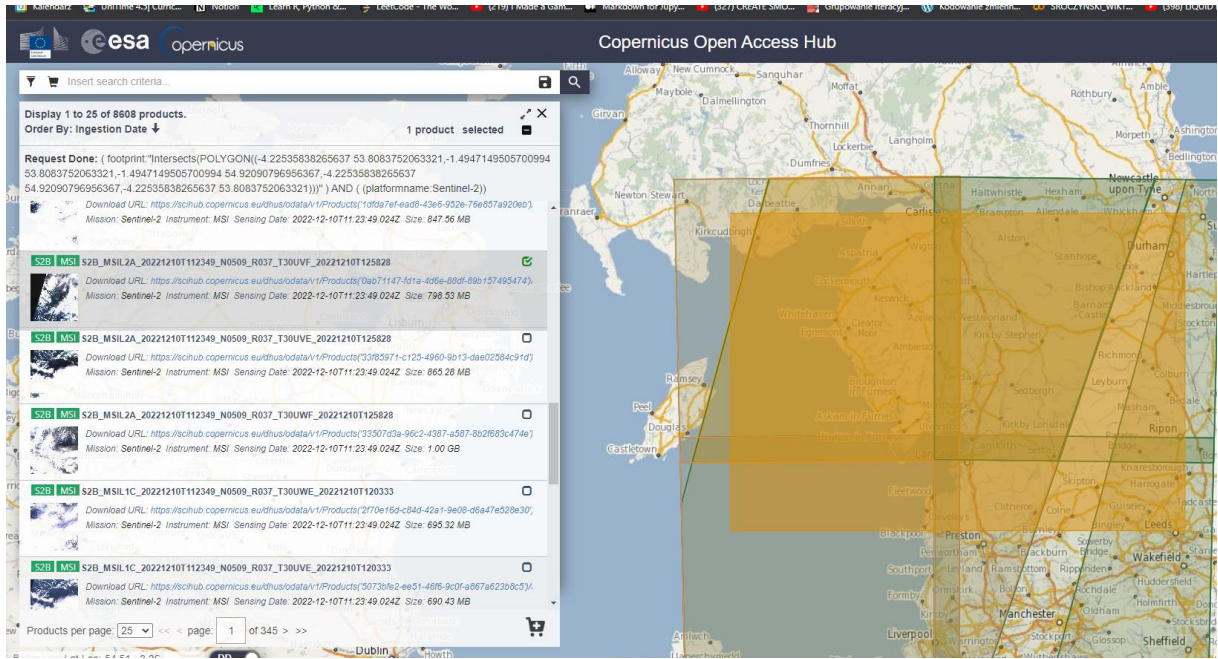
[illegible]

Zad. 7

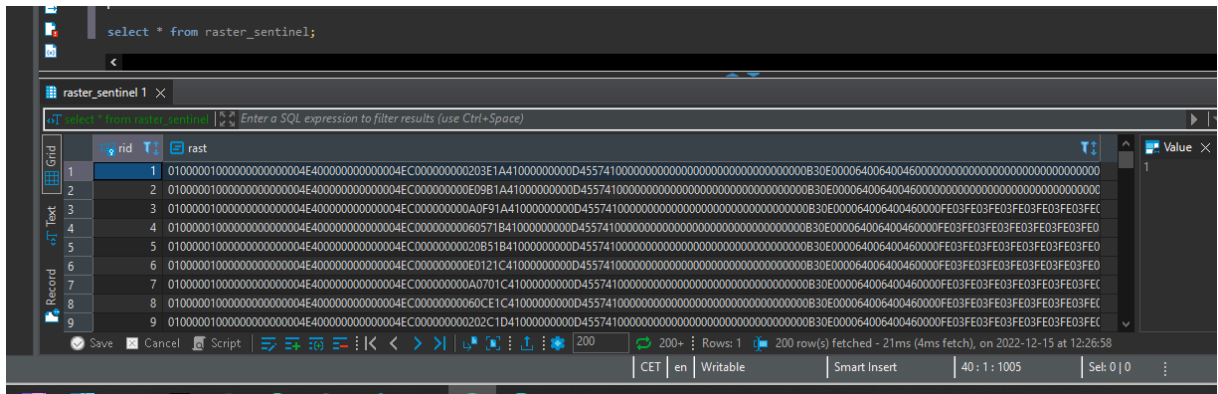




Zad. 8



Zad. 9

[illegible]

```
CREATE INDEX idx_rast_gist ON raster_sentinel
USING gist (ST_ConvexHull(rast));
SELECT AddRasterConstraints('public'::name, 'raster_sentinel'::name, 'rast'::name);
```

```
--SELECT * FROM raster_constructors ('public','raster','raster_seninel','raster_seninel');

--create or replace function ndvi(
value double precision [] []],
pos integer []],
VARIADIC userargs text []
)
RETURNS double precision AS
$$
BEGIN
--RAISE NOTICE 'Pixel Value: %', value [1][1][1];-->For debug purposes
RETURN (value [2][1][1] - value [1][1][1])/(value [2][1][1]+value
[1][1][1]); --> NDVI calculation!
END;
$$
LANGUAGE 'plpgsql' IMMUTABLE COST 1000;

CREATE TABLE ndvi AS
WITH r AS (
SELECT *
FROM raster_seninel
)
SELECT
r.rid,ST_MapAlgebra(
r.rast, ARRAY[1,4],
'ndvi(double precision[],
integer[],text[])':regprocedure, --> This is the function!
'32BF')::text
) AS rast
FROM r;

select * from ndvi;
```

```
CREATE TABLE uk_lake_district_sentinel AS
SELECT a.rid, ST_Clip(a.rast, b.geom, true) as rast
FROM ndvi AS a, national_parks AS b
where b.gid = 1 and ST_Intersects(b.geom,a.rast);

select * from uk_lake_district_sentinel;
```

Brak wspólnej części – powstał pusty obiekt

Zad. 11

```
CREATE TABLE tmp_out_2 AS
SELECT lo_from_bytea(0,
ST_AsGDALRaster(ST_Union(rast), 'GTiff', ARRAY['COMPRESS=DEFLATE',
'PREDICTOR=2', 'PZLEVEL=9']))
) AS loid
FROM uk_lake_district_sentinel;

-----
SELECT lo_export(loid, 'S:\raster.tiff')
FROM tmp_out;

-----
SELECT lo_unlink(loid)
FROM tmp_out; --> Delete the large object.
```

Results 1   Results 1 (2) ×

CREATE TABLE tmp\_out\_2 AS SELECT lo\_from\_bytea(0, ST\_AsG| Data filter is not supported

Grid	123 lo_unlink	
1	1	

raster.tiff   15.12.2022 12:41   Plik TIFF   1 51