TASKS – 01.07.2020 – v.3.0

The development to do concerns the refinement and modification of the previously developed API.

Here are the tasks:

<table>
<tr><td>TASK 1</td><td>API CREATE</td></tr>
<tr><td>API Name</td><td>readDataByArea</td></tr>
<tr><td>Parameters</td><td>o latU
o lonU
o latD
o latD
o tipoDati</td></tr>
<tr><td colspan="2"></td></tr>
<tr><td colspan="2">PARAMETERS DESCRRIPTION</td></tr>
<tr><td>latU</td><td>latitude of the point at the top left</td></tr>
<tr><td>lonU</td><td>longitude of the point at the top left</td></tr>
<tr><td>latD</td><td>latitude of the point at the bottom right</td></tr>
<tr><td>lonD</td><td>longitude of the point at the bottom right</td></tr>
<tr><td>tipoDati</td><td>These are possible values:
• attivita
• superficieEdificato
• superficieAreeServizio
• struttureVarie
• tutti

Here are the specifications regarding the "tipoDati" parameter:

<table>
<tr><td>attivita</td><td>Tables:
• ist_localita: this is the table where to apply the query
Output:
• a GeoTIFF file (one level): with the selected area
• a JSON file with the structure defined in the file "01_attivita.json"
• For output data use these queries
o Get “MUNICIPALITIES”

select com.pro_com,
com.comune,
sum(loc.popres) popres,
sum(loc.shape_area) shape_area
from ist_localita loc
inner join ist_comuni com on loc.pro_com = com.pro_com
--where loc.pro_com = 72006
group by com.pro_com,
com.comune

o Get “ACTIVITIES”</td></tr>
</table>
</td></tr>
</table>

	select ate.cod_ateco3, *ate.des_ateco3,* *att.num_unita,* *att.addetti* *from ist_attecon att* *inner join ist_ateco3 ate on att.ateco3 = ate.cod_ateco3* *where att.pro_com = 72006* • In the JSON file there are 2 fields o "comune_area" for saving area selected o "comune_pop" for saving the population proportionated to area
superficieEdificato	Tables: • search the list of tables in table: "ws_datatype_tables" (osm_buildings) Output: • a GeoTIFF file (multilevel): with the levels grouped according to the data stored in the table "ws_datatype_groups" • a JSON file with the structure defined in the file "02_superficieEdificato.json" • In the JSON file there are 2 fields for saving totale area: o "layer_area": with the area of a single layer o "totale_area": with the are of all layers
superficieAreeServizio	Tables: • search the list of tables in table: "ws_datatype_tables" (osm_landuse) Output to be produced: • a GeoTIFF file (multilevel): with the levels grouped according to the data stored in the table "ws_datatype_groups" • a JSON file with the structure defined in the file "03_superficieAreeServizio.json" • In the JSON file there are 2 fields for saving totale area: o "layer_area": with the area of a single layer • "totale_area": with the are of all layers
struttureVarie	Tables: • search the list of tables in table: "ws_datatype_tables" (osm_pois) Output: • a JSON file with the structure defined in the file "04_struttureVarie.json"
tutti	Selecting this parameter you will have to produce all the outputs previously described

DATA SOURCE

- Download data from http://download.geofabrik.de/europe/italy/sud.html
- Load these shapefile:
  - "gis_osm_buildings_a_free_1.shp" into table "osm_buildings"

- “gis_osm_landuse_a_free_1.shp” into table “osm_landuse”
- “gis_osm_pois_a_free_1.shp” into table “osm_pois”