ESOVNG: Zone Overpass Table Calculation Steps 0-2

0) Select the satellite
Select the mission (File→ New Scenario)

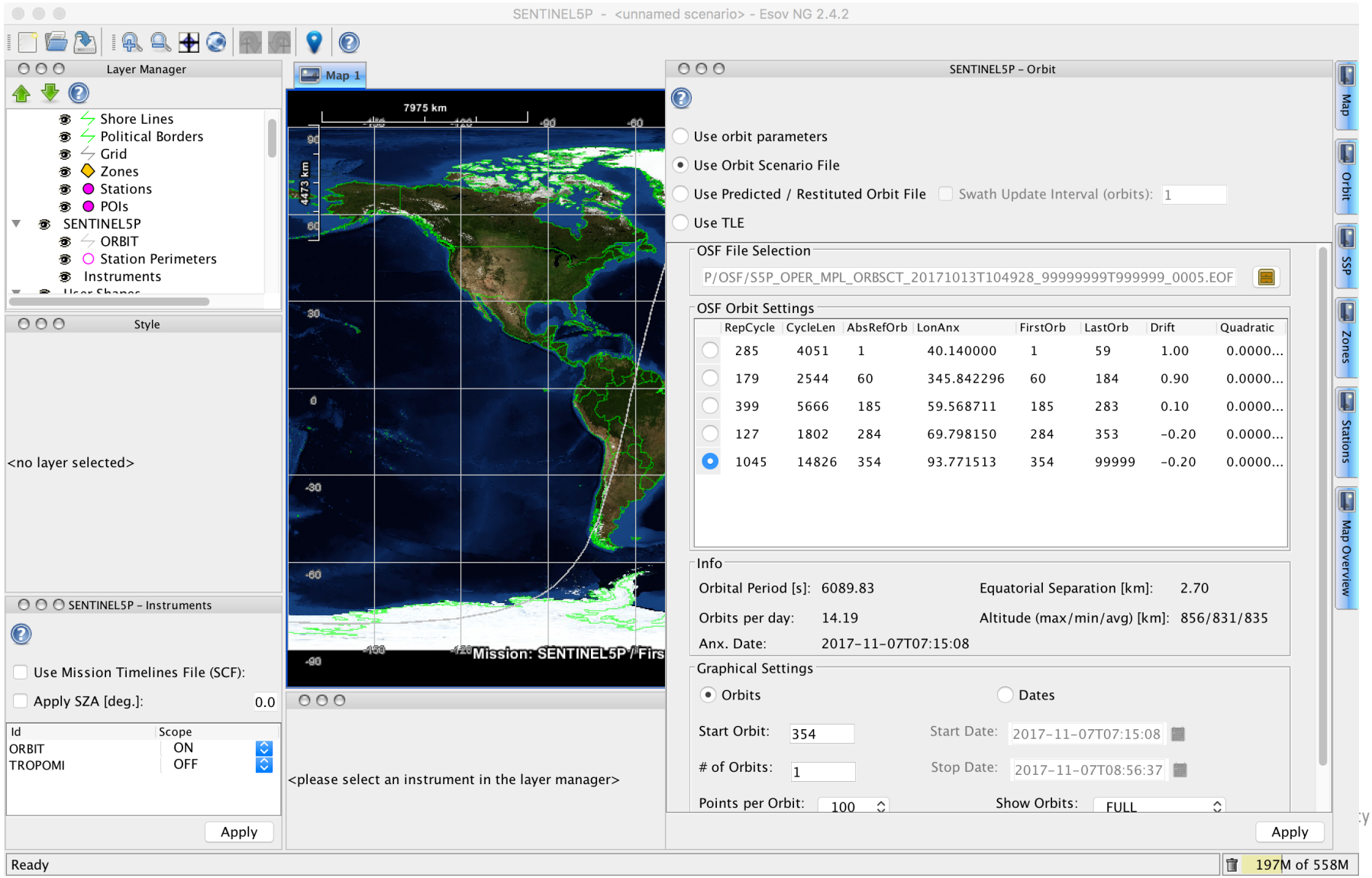
1) Set the orbit
In the Orbit tool window (tab on the right side of main window frame), select the orbit scenario file ('Use Orbit Scenario File' checkbox) or predicted orbit file ('Use Predicted Orbit File' checkbox).
By default, an orbit file may be preloaded, but please check if it is the latest Orbit Scenario File available.

Latest versions of Orbit Scenario Files or Predicted Orbit Files for the supported missions can be found in the EOP System Support web server, under the link (request username/password):
https://eop-cfi.esa.int/index.php/applications/esov/esov-ng-download
The orbit files are available in the sub-folder AUX_DATA/.

Click on the icon to trigger the file selection dialog.

2) Set the absolute orbit or UTC time range of interest
After setting the orbit/time range, click on the "Apply" button

ESOVNG: Zone Overpass Table Result Calculation Steps 1-2



ESOVNG: Zone Overpass Table Calculation Steps 3-4

3) Select zones of interest

a) Use pre-defined zones → skip step 4), go to step 5)

b) To define or import user-defined zones → go to step 4)

4) Create user-defined zones

a) Manually creating the zone using the Zone Database Editor with the menu option Edit --> Zone Database:
   i. Option Default User Database' by inserting a new zone ('+' icon), either circle or polygon. A circle with very small diameter (e.g. 0.01 km) would be a ground point. The coordinates can be entered either manually or by clicking on the map.
   ii. Option 'Other User Database': by loading a zone database file

b) Converting from KML file or shapefile format to Zone Database file format (menu options Tools→Shapefile to Zones or Tools→KML to Zones) and then loading the resulting Zone Database file with the option 'Other User Database'

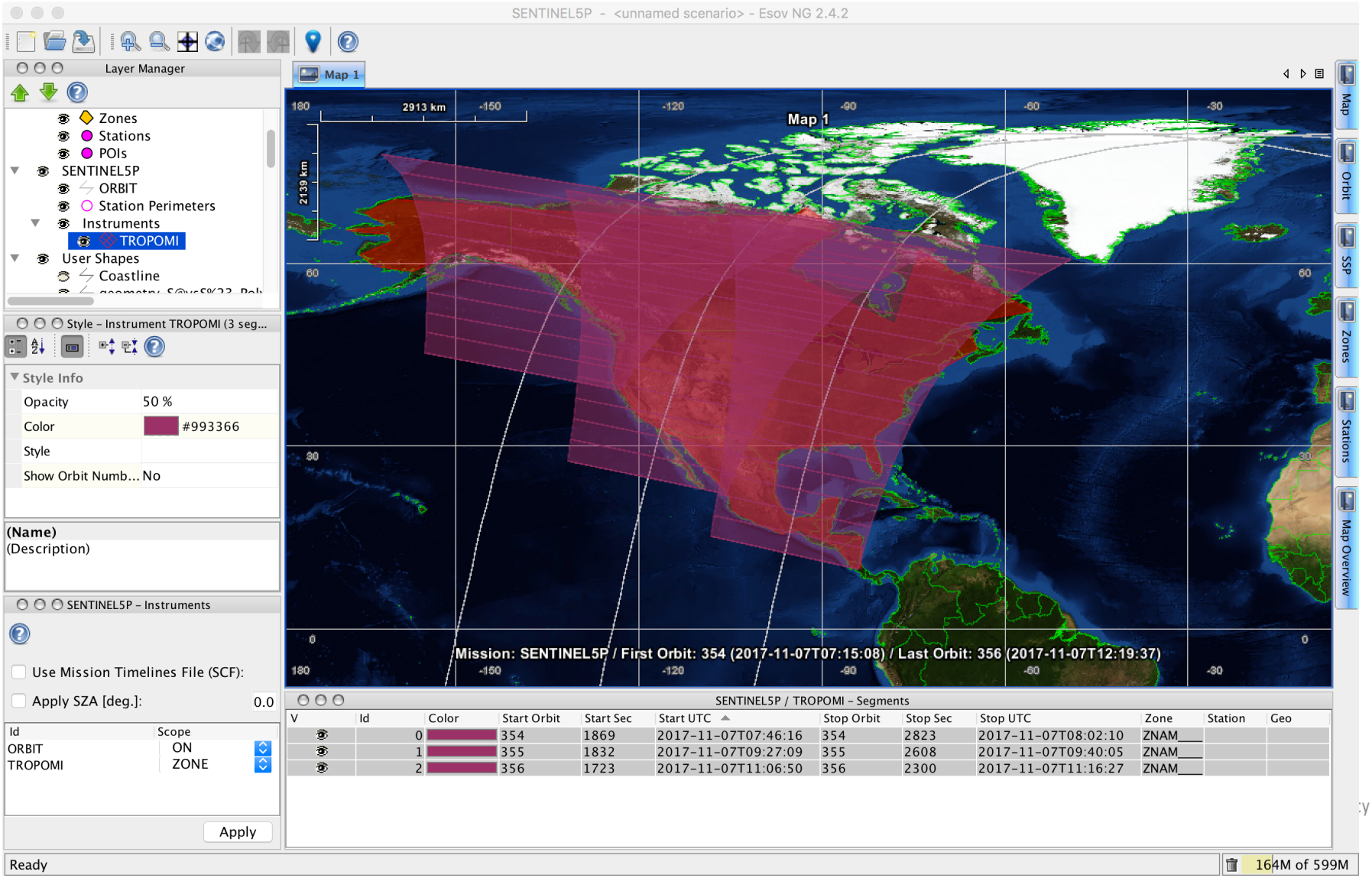
ESOVNG: Zone Overpass Table Calculation Steps 5-7

5) Add the zone to the scenario
Go to Zones tool window, click the '+' icon, 'Add zones to scenario' and select the zone(s) of interest

6) Set the scope of the ground-track (ORBIT) or INSTRUMENT swath to ZONE in the pull-down menu
The calculation is performed. The active instruments (i.e. with the scope not set to OFF) will appear in the Layer Manager, under the node 'Instruments'. Click on the arrow next to it to expand the child elements under the 'Instrument' node.

7) Inspect the resulting visibility time segments
Select the ORBIT or INSTRUMENT swath node in the Layer Manager (top-left panel) and check the contents of 'Segments' tool window. The list of segments is displayed

ESOVNG: Zone Overpass Table Result Calculation Steps 3-7



ESOVNG: Zone Overpass Table
Optional: Calculation Step 8

8) Export of Calculated Time Segments

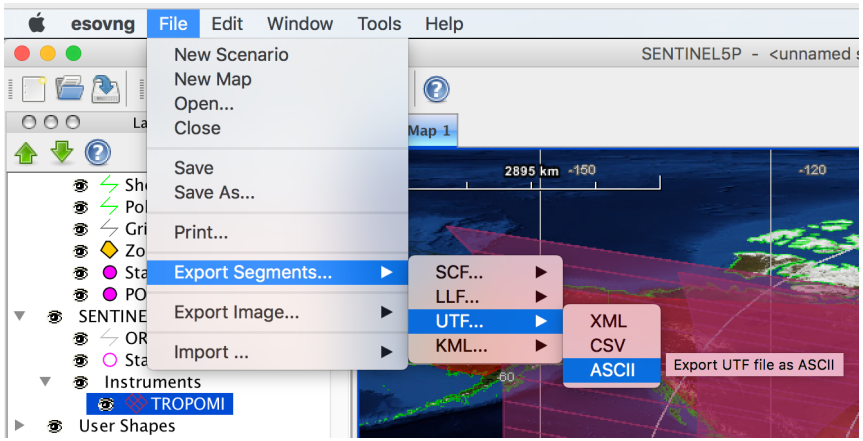
With menu option File --> Export Segments

Several types of output file are available, in different formats (.TXT, .CSV, .XML)

a) UTF (UTC times)

b) LLF (Longitude-Latitude files)

c) SCF (same as UTF, but with segment style associated to each segment).

d) KML (swath on Earth), Google Earth format

The exported data is saved in a folder , containing one file for each ORBIT or INSTRUMENT which is active (i.e. with the scope not set to OFF)