Progetto S3 – Scenari di scuotimento in aree di interesse prioritario e/o strategico

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TASK 6 – GUBBIO - DELIVERABLES D22-D23

SHAKING SCENARIOS INCLUDING SITE EFFECTS

D23

A cura di
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GEOGRAPHYCAL INFORMATION SYSTEM

This is an Esri@ArcMap project produced with version 9.0. The project stores *relative path names* to the source data. Just copy the folder **scenari** under any folder in your hard disk and you should be able to open it.

The GIS stores the ground shaking scenarios calculated at bedrock and on soft soil, the latter calculated by using the amplification function produced for the Gubbio basin. The GIS also includes the map of fundamental frequencies and the amplification map at 1HZ and 20 HZ. The original data are presented as point layers (e.g. noise measurements, pga in correspondence of the simulated sites), while interpolated values are represented as rasters in the ESRI grid format. Further the transfer functions for each station of the different transects and the layers of the 3D model are included.

Project data not strictly related with the ground shaking scenarios but important for the general development of the project are included under the heading *Project data.* These include the location of borehole data for the geotechnical 30m model (see D21, section 2.1), the location of the two downholes S1 and S2 (D21, section 2.2) and the P velocity model (D21, section 4.3).

The project is so organised

/baseline	Location of Gubbio town, polygons of villages in the Gubbio area, geology (from 1:100k geological map of Italy, sheets 116 and 123), topography layers (DEM at 40m and its hillshade, 5m DEM and 5 meter contours), faults used in the simulation from the DISS database. N.B only the original itg037 and itg038 have been used in the simulations.
/3Dmodel	Topography layer (cutdem40), surfaces representing the base of each geological unit (base_l1 to base_l4) and thicknesses of each geological unit (thickl1 to thickl4)
/fund_freq	Point files of fundamental frequencies from noise measurements (fo_noise), from earthquakes (fo_earthquakes). and the combined file used for the interpolation in which the records with fo=0 have been excluded. Raster file of the interpolated fundamental frequency (map_fundfr). Point file of fo and corresponding amplification at 1hz and 20hz for the simulated sites (fo_sitidasim).
/famplificazione	Amplification maps at 20HZ and 1HZ (ampf20hz and ampf1hz) obtained from the reclassification of the fundamental frequency map described above according to the amplification function. Files used for the reclassification (remap_amp1HZ.txt and remap_amp20HZ.txt). Original amplification function (ptot.txt)
/Itg037	Ground shaking scenarios for fault itg037 for pga and 1s

	spectral acceleration on rock (itg037_pga_r, itg037_T1s_r) and soil (itg037_pga_s, itg037_T1s_s), provided as point files at the simulated sites. Interpolated values as raster maps (pga_r, sa1s_r, pga_s, sa1s_s). The folder *Original files* stores the original excel files of the simulated results for pga and different spectral acceleration.
/itg038	Same as itg037 for fault itg038
/project_data	Borehole data (Database.shp and its associated Database.xls file), downhole locations (downhole.shp) and associated excel files for S1 and S2, Vp velocity model (velmod_tot2_utm.shp).
/transetti	Seismic stations: array2D, genovaI (geI), genovaII (geII), GFZ and INGV roma (INGVRM). In the attribute table Lat and Lon are the original GPS coordinates in WGS84, X, Y are the projected coordinates in ED50_UTM33N.
transfer_function	Graphs of transfer function for the seismic stations described above. They are accessible as links from the station layers. See the readme file in the DVD.