

Clutter in OHLOSS Interference Calculations

An interference case is deemed to be an OHLOSS case if a direct link between the interfering transmitter and the victim receiver does not exist. An OHLOSS calculation involves generating a path profile between the transmitter and receiver and calculating the combined diffraction and tropospheric scatter loss and the associated time variability.

OHLOSS calculations can be carried out automatically as part of the interference calculation or individually in the case detail report. The latter method shows the detailed results of the OHLOSS calculation and allows the OHLOSS path profile to be saved for subsequent analysis.

Program operation before August 14, 2014

In the automatic calculation, the OHLOSS profile is generated using the standard settings under *Configure - Options - Program options - Terrain data - Profile generation*. Given that most regulatory agencies do not allow clutter to be used in frequency coordination, the clutter selection in the *Profile generation* options is automatically set to *Do not use clutter* for the OHLOSS calculations.

In the case detail report, the user is presented with the profile generation options and the user can select a clutter database.

Generate Path Profile

Primary terrain DEM: BIL projected DEM - 1.00 m

Secondary terrain DEM: [Empty]

Clutter database selection: NLCD-2001 /2006 (CONUS)
 BIL projected clutter - 1.00 m
 Do not use clutter

Datum: World Geodetic System 1984
Global definition

	CH98XC608	BL39
Latitude	41 53 06.07 N	41 52 41.48 N
Longitude	087 37 16.90 W	087 37 55.25 W
Azimuth	229.371	49.364

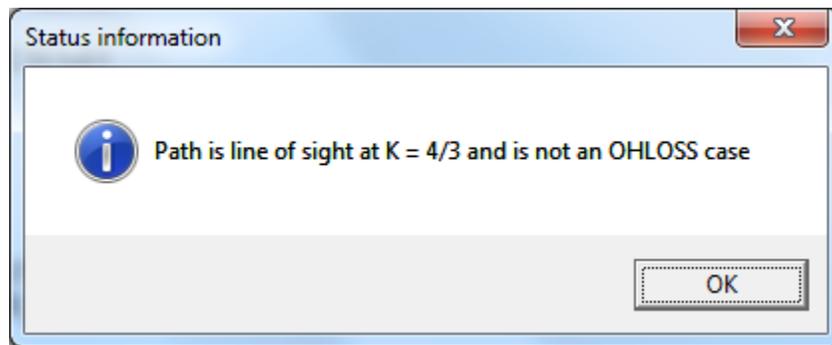
Path length (km): 1.165

Distance increment (m): 1.0

[OK] [Cancel] [Help]

The operation proceeds as follows:

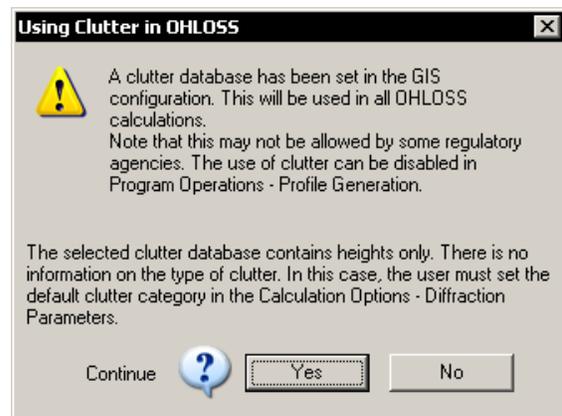
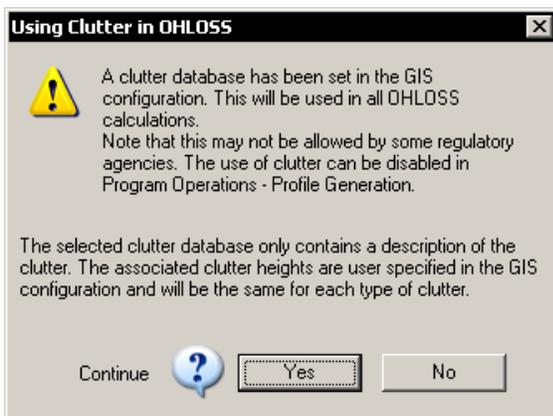
- The OHLOSS profile is generated including clutter.
- A clearance check is carried out at $K = 4/3$ based on terrain only. If the terrain profile is non line of sight, the OHLOSS calculation is carried out and will include the clutter loss; otherwise, the following error occurs:



Therefore it is not possible to include clutter loss on a path which is line of sight at $K = 4/3$

Program operation after August 14, 2014

OHLOSS including clutter loss is now possible using the automatic OHLOSS setting. A warning message appears at the start of the calculation if a clutter database is configured.



Clutter loss and diffraction loss are always calculated. If both the diffraction loss and the clutter loss are zero, then the path is not considered to be an OHLOSS path. If the path is line of sight at $K = 4/3$, then time variability is zero.

If the clutter database contains heights only, it is very important to set the default clutter category. The algorithm for the categories residential, mixed urban / buildings and commercial / industrial produces higher loss than the various tree types.