**“Grid Interpolator v.1.0”: documentation file**

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## Acknowledgments

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## Description and references

“Grid Interpolator v.1.0” (RSE SpA) reads a 3D field of values from an input grid and interpolates them on an output grid with a different spatial resolution. The input file is a xyz file (with two additional ad-hoc lines at the beginning). The output field is available in both the file formats xyz and DEM. This tool is also useful to post-process the 2D fields of the maximum specific height and the maximum water depth as estimated by SPHERA v.8.0 (RSE SpA).

With Copyright 2016 (RSE SpA), “Grid Interpolator v.1.0” is written by Andrea Amicarelli (email address: andrea.amicarelli@rse-web.it).

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## Notes

Two additional lines are reported at the beginning of the xyz input file “input\_field.prn”, as in the following example:

“

n\_points\_in x\_min y\_min z\_min x\_max y\_max z\_max dx\_out dy\_out dz\_out 21822 1152.77000 71.07100 0.00000 25779.70000 9926.20000 1.00000 9.47609 9.47609 1.00000

“

with the following parameter definition:

n\_points\_in: number of points in the input file;

x\_min: minimum x-coordinate;

y\_min: minimum y-coordinate;

z\_min: minimum z-coordinate;

x\_max: maximum x-coordinate;

y\_max: maximum y-coordinate;

z\_max: maximum z-coordinate;

dx\_out: spatial resolution of the output field along the x-axis direction;

dy\_out: spatial resolution of the output field along the y-axis direction;

dz\_out: spatial resolution of the output field along the z-axis direction.

The format of the first additional line does not alter the tool execution.

Fortran format specifier of the second additional line is ‘(i12,9(g12.5))’ .