SounDFi v1.2

Quick Start Guide

Installing the software

System Requirements

Operating System: MS Windows 7 / MS Windows 10

Free hard-disk space: at least 2MiB

.NET Framework: v4.6.1 or newer

Setup

- Download SounDFiSetup.msi from:

    http://users.auth.gr/nezos/#Software

    https://github.com/stavkamp/SounDFi

- Execute SounDFiSetup.msi

- Follow the on-screen instructions and select installation folder

- Close the installer after installation is complete

Step 1: Data Preparation

Data Preparation

In order for SounDFi to process your data, it is necessary to place them in a tab-delimeted text file consisting of 6 data columns without headers in the following order:

Identification Time Easting Northing EllipsoidalHeight Depth

| 176 | 75346 | 480743.303 | 4439096.477 | 40.5489 | 1.296 |

✓ Last four columns should contain numerical values only.

✓ Depth data should be positive.

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Loading Data

- Start SounDFi (a shortcut was installed in the Start Menu)

- Please read and accept the disclaimer and license agreement

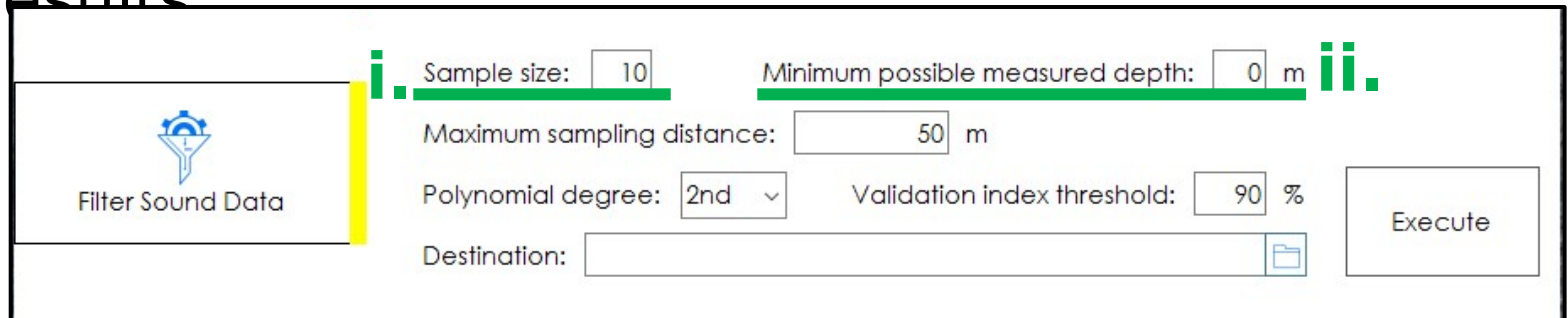- Select file by clicking the folder icon and click
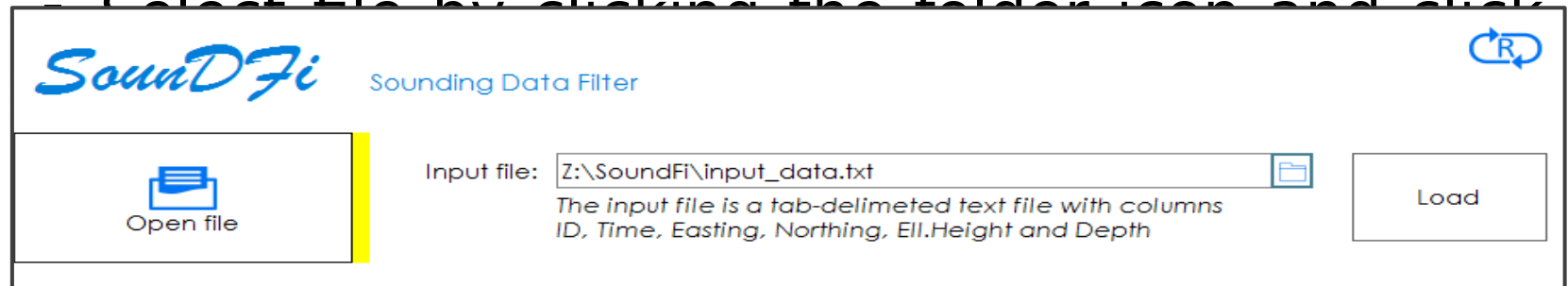
- Check the Status message whether the file was successfully loaded. SounDFi reports the

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SounDFi provides a set of parameters in order to control the evaluation process and thus the final results.

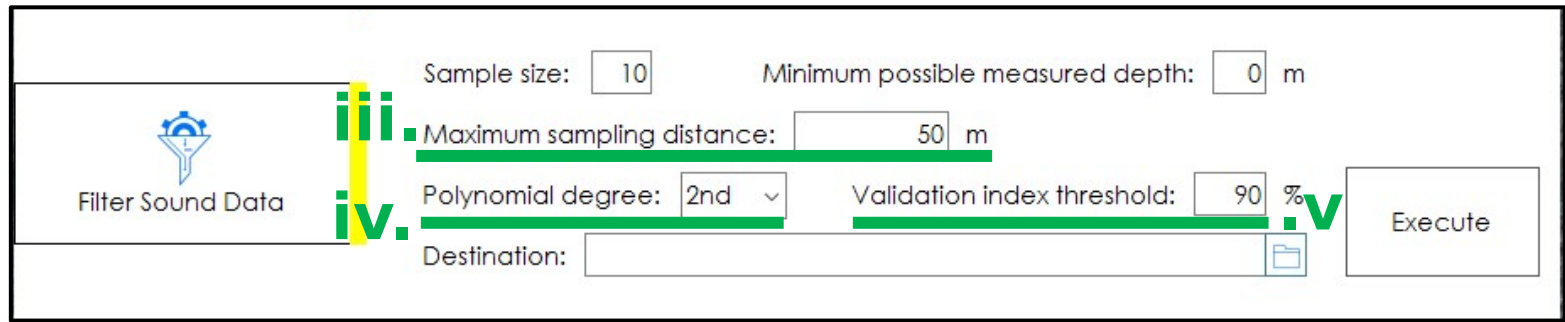i. Sample size: Controls the sample size for the regression. It should be a positive value and greater than the selected polynomial degree plus one.

ii. Minimum possible measured depth: If a depth measurement is below this positive value, it will

iii. <u>Maximum sampling distance</u>: Sampling of values will stop once the distance between the first and the last value exceeds this maximum distance.

iv. <u>Polynomial degree</u>: Control the polynomial that will be regressed. The lower the degree, the stricter the filter.

v. <u>Validation index threshold</u>: If the index scoring factor is lower than this percentage, then it will be classified as a possible outlier. The closer to

After specifying the previously described parameters:

- Select an output folder for saving the results by clicking the folder icon.

- Click on execute.

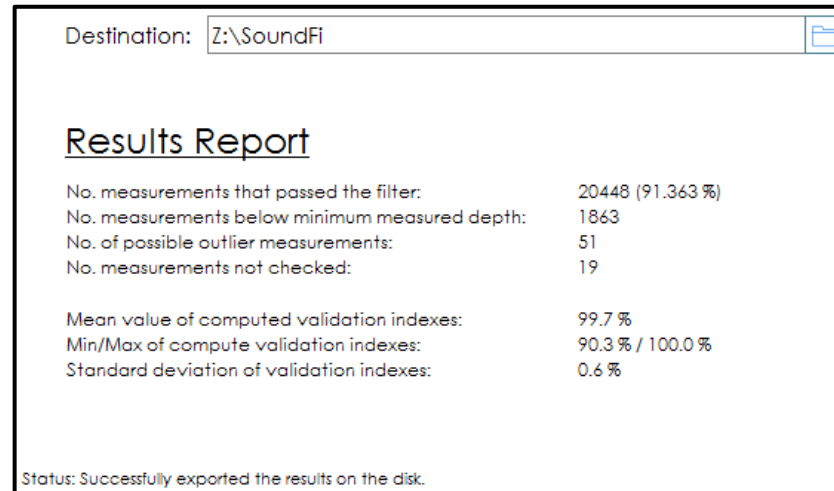✓ SounDFi creates several files. Each file is named after the input filename followed by the current date and time. The last part of the filename may be one of the following:
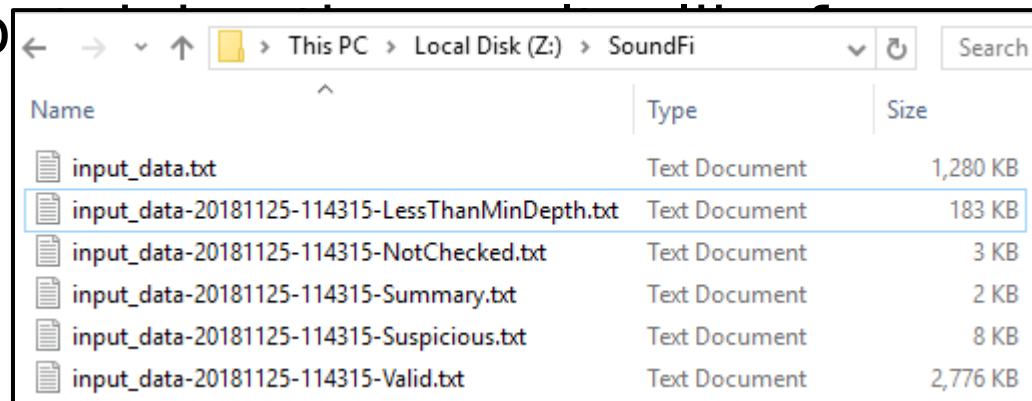
- Summary

- Suspicious

- ▪ LessThanMinDep th

- NotChecked

Step 5: Final Results

SounDFi provides a summary of the filtering process:

Destination: Z:\SoundFi

Results Report

No. measurements that passed the filter:	20448 (91.363 %)
No. measurements below minimum measured depth:	1863
No. of possible outlier measurements:	51
No. measurements not checked:	19
Mean value of computed validation indexes:	99.7 %
Min/Max of compute validation indexes:	90.3 % / 100.0 %
Standard deviation of validation indexes:	0.6 %

Status: Successfully exported the results on the disk.

and outputs to the specified directory a total of 5 files co... mple:

This PC › Local Disk (Z:) › SoundFi   Search S

Name	Type	Size
input_data.txt	Text Document	1,280 KB
input_data-20181125-114315-LessThanMinDepth.txt	Text Document	183 KB
input_data-20181125-114315-NotChecked.txt	Text Document	3 KB
input_data-20181125-114315-Summary.txt	Text Document	2 KB
input_data-20181125-114315-Suspicious.txt	Text Document	8 KB
input_data-20181125-114315-Valid.txt	Text Document	2,776 KB

Citing SounDFi

If you use SounDFi for your research or work please consider citing the software using the following reference:

Kampourakis S, Bantola D-M (2018) Evaluation of global bathymetry models, coastlines and gravity reductions with data obtained from a hydrographic survey in Neos Marmaras in Chalkidiki. Department of Geodesy & Surveying, School of Rural and Surveying Engineering, Aristotle University of Thessaloniki (In Greek).

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