

## SedUtil.exe version 1.0

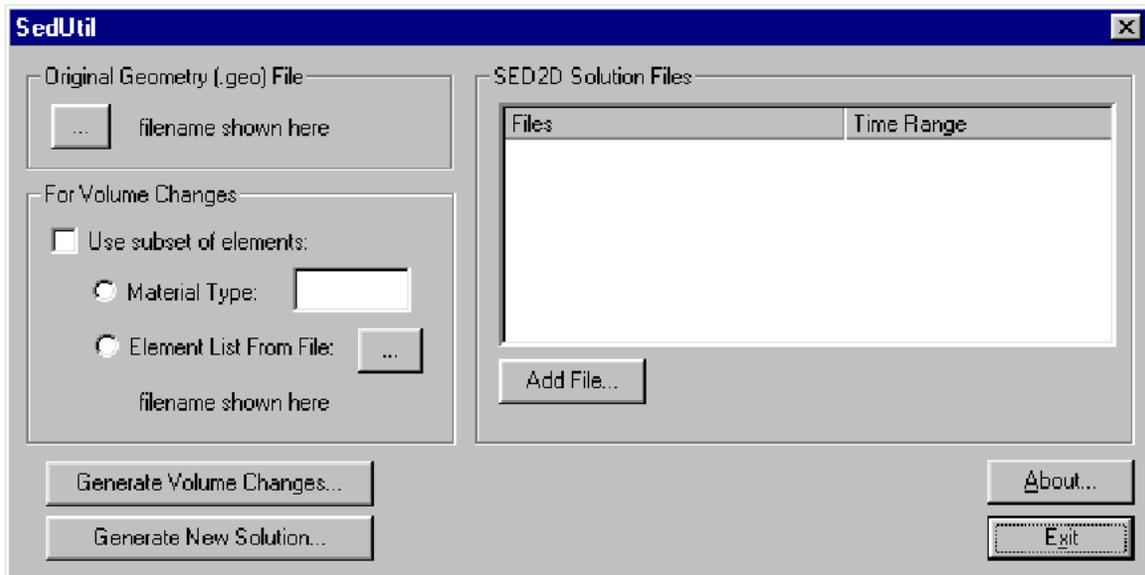
The SedUtil program is a utility used to generate a single cumulative solution file from a series of separate sequenced SED2D solution files. The utility will also determine bed volume changes by RMA2 material type identifiers or a list of RMA2 element numbers from a separate file.

## Computer Requirements

The SedUtil application will operate on any current (2000) PC system running Windows 95/98, Windows NT, or Windows 2000. As such, it will be a native 32-bit application and will not run on 16-bit Windows 3.x systems.

## Software Interface

After launching SedUtil an interface will appear similar to that shown below.



## Required Inputs

The SedUtil application will require a \*.geo file, which should be the original RMA2 geometry file before any deposition or erosion took place. SedUtil needs the solution files for the entire time range for which the output are to be computed. When generating the volume changes these solution files are actually the full print files that were written by SED2D while it was running. These files contain a table of the volume changes for each element that were computed by SED2D. When generating a new solution, these solution files are the \*.delbed solution files that were written by SED2D. An optional input can be defined when generating the volume changes for specific elements. A subset of elements can be defined for which the total volume change should be computed. This subset of elements can either be generated by the SedUtil from a RMA2 material

type, or a file can be defined that contains the subset list. The format of the subset list is simply lines of a space-delimited list of elements as shown below

```
1 2 3 4 5 6 7 8 9 10
11 12 13
14 15 16 17 18 19 20
```

### **Output-Volume Changes**

After all the inputs are set up, the user can specify a “Volume Changes” output file name and click the *Generate Output* button. SedUtil will read the SED2D full print files and extract the total volume change and the total for the absolute values of volume change for the subset of elements, if defined, or for all elements in the mesh. The output file will be in the tabular ASCII format shown below.

```
Time   Volume_Change   Running_Total   Absolute_Value_Change   Absolute_Value_Total
```

### **Output-Generate Joined Solution**

After all the inputs are defined the user can specify a “Joined Solution” output file name and click on the *Generate Output* button. SedUtil will read the SED2D \*.delbed solution files and generate an output file that contains the total cumulative solution over the entire time range. The new solution will be in the surface water modeling system (SMS) ASCII dataset format, not the SED2D native format. The combined solution will contain the four nodal datasets--bed change, suspended sediment concentration, water depth, and bed shear stress. The final data file can be viewed in a text editor or spreadsheet application.