

# "SLICING" A VOLUME – PROGRAM slice

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## Overview

In order to efficiently display or process a volume one time- or depth-slice at a time, you need to change the structure of the volume using program **slice**.

Most 3D data volumes are stored with time (or depth), CDP no, and Line no as its 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> axes. If you want to efficiently compute the wave-number transformation of a time slice, the order of the axes should be CDP no., Line No, and time, respectively. Program slice is commonly invoked by the **aaspi\_util** *AASPI QC Plotting* tab and by the footprint suppression workflows.

#### **Computation flow chart**

Program slice has a single input and output file:

#### Other Utilities: Program slice



Program slice will also slice 4D and 5D gathers.

## Output file naming convention

Program **slice** will always generate the following output files:

Output file description	File name syntax					
Sliced data volume	<pre>sliced_input_filename+unique_project_name_suffix.H</pre>					
Program log information	slice_unique_project_name_suffix.log					
Program error/completion information	slice_unique_project_name_suffix.err					

where the *input\_filename* is defined by the program GUI and the *unique\_project\_name* and suffix are read from the *input\_filename*. The errors we anticipated will be written to the \*.*err* file and be displayed in a pop-up window upon program termination. These errors, much of the input information, a description of intermediate variables, and any software trace-back errors will be contained in the \*.*log* file.

#### Invoking the slice GUI

Program **slice** is found under the **aaspi\_util** GUI Other Utilities tab:

#### Other Utilities: Program slice

	X aaspi_util GUI - Post Stack Util	lities (Release Date:	: 4_July_2022)						-	- 🗆	$\times$
1	<u>F</u> ile Single Trace Calcula	tions Spectra	l Attributes	Geometric Attri	butes Form	ation Attributes	s Volum	netric Classificati	on Data Co	nditioning	Help a
	Attribute Correlation Tools	Display Tools	Machine L	earning Toolbox	Surface Uti	lities Well Log	Utilities	Other Utilities	Set AASPI D	efault Par	ameters
ſ	SEGY to AASPI format conversion	AASPI to format co (multipl	SEGY nversion e files)	AASPI to format co (single	SEGY nversion e file)	AASPI QC	Plotting	<u>c</u> onvert_stra <u>c</u> rop3d <u>c</u> onvolutiona	ital_slice_to_a al_modeling	ascii_surfa	ce 🔺
	SEGY to AASPI - Convert Poststack seismic volumes from SEGY to AASPI format						<u>r</u> andom_nois <u>i</u> nterpolate	e			
	2D SEG-Y Line rather than a 3D survey ? 「						slice				
	SEGY-format input file nam	ie				SI	lice a 3D	or greater volum	ne and output	t time or d	epth slic
	(*.segy,*.sgy,*.SEGY,*.SG	Y):						<u>d</u> isplay_aasp	neaders		
	SEGY header utilities:	View SEGY line header content			2D seismic utilities			•			
AASPI binary file datapath: Absolute file name followed by a '/'						- <u>A</u> ASPI Cleanup					
			-1					<u>K</u> ill MPI job			
	Unique project name:							<u>G</u> adgets-De	veloper		

#### The following GUI appears:

🗙 aaspi_slice GUI (Release Date: 27 May 2021)	_		×
]] <u>F</u> ile			<u>H</u> elp
Slice - convert an inline volume into a time-slice volume			
Input file (*.H): /ouhomes6/marf2925/projects/vacuum3d/d_mig_vacuum3d.H			
(c) 2008-2021 AASPI for Linux - authors at Univ. Oklahoma, Univ. Alabama, Univ. Texas Permian Basi	n, and SI	SMC E	xecute

Browse to the \*.H file of the volume to be sliced, then hit *Execute*. The output will have the name "sliced"+*input\_filename*, which in this case will be *sliced\_d\_mig\_vacuum3d*.H.