

SurfSeis[©]

Surface Wave Processing Software

for use with Microsoft[®] Windows[™]

SurfSeis[©] software has developed as a product of our research at the Kansas Geological Survey (KGS). It was written to process both active and passive seismic data to obtain shear-wave velocity (V_s) models, using the multichannel analysis of surface waves (MASW) method, which was also originally conceived and developed at the KGS.

Surface waves have historically been the bane of near-surface reflection seismologists. With the development of MASW has come a global explosion in research and use of the MASW method for application to engineering, groundwater, and environmental problems. Our fourth generation (SurfSeis[©] 4.0 / 4.2) provides industry-leading features and capabilities.

Active and Passive MASW

Dispersion Curve Imaging

- Phase-shift method
- Advanced
- HLRT

Inversion of the surface waves for V_s

- Fundamental mode
- Higher modes

2-D V_s Imaging

SurfSeis[©] Capabilities

Research Tools

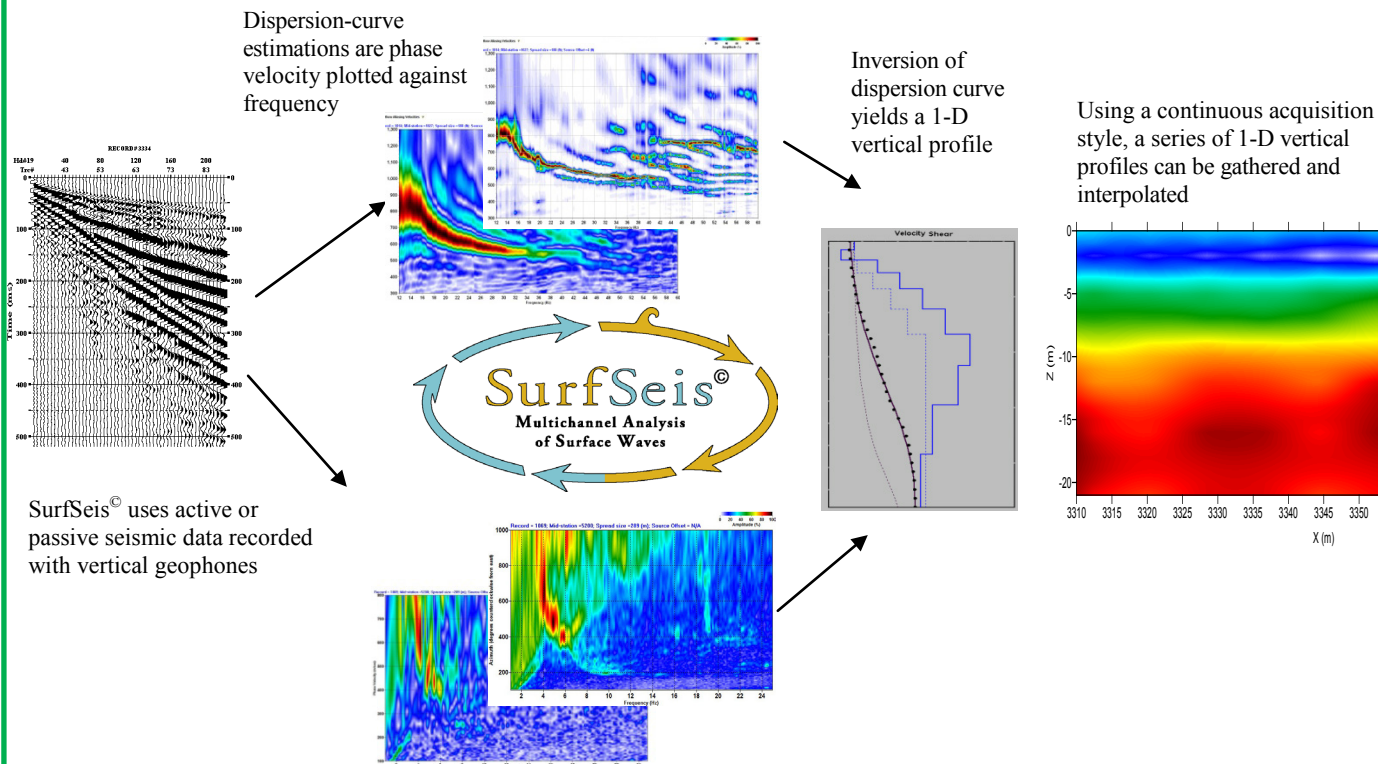
- Modeling
 - Dispersion-curve estimations from layer models (check if V_p matters)
 - Comparison of calculated dispersion-curve values to dispersion-curve images
- Monte-Carlo Inversion
 - Maximum energy models

Seismic Data General Processing

- Bandpass filter
- Fk filter
- Mute
- AGC
- Trace-by-trace frequency spectra

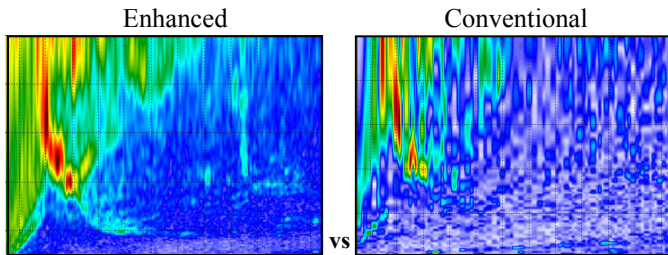
Seismic Data Utilities

- Data conversion
 - SEG2 to KGS
 - SEG Y to KGS
 - KGS to SEG Y
- Geometry Assignment
- Extract/Resample records/traces
 - Roll-along from a fixed spread
- Assemble walkaway records into one
- Seismic data display (b/w & color)

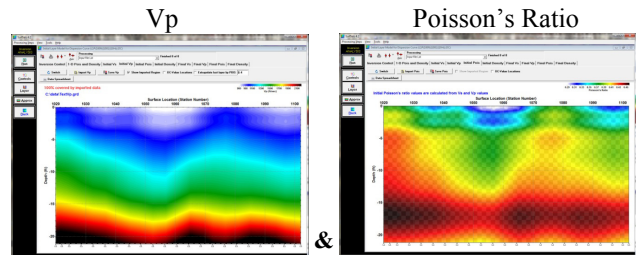


SurfSeis[®] 4

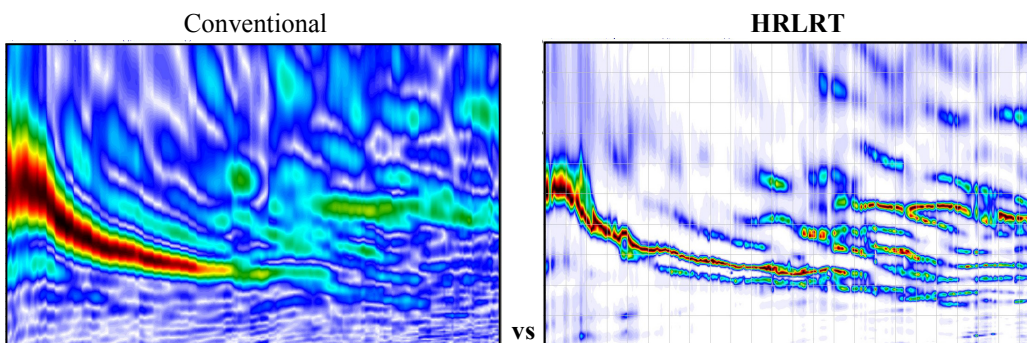
Enhanced **passive** data dispersion-curve imaging
(New with SurfSeis 4.0)



Friendly MASW **a-priori** information input
(New with SurfSeis 4.0)



High-resolution Linear Radon Transform (**HRLRT**)
(New with SurfSeis 4.2)



New to SurfSeis[®] 4

- Enhanced passive MASW data dispersion-curve imaging in the presence of passive multi-source environments such as road traffic and trains.
- Inversion using friendly 1-D and 2-D *a priori* information input.
- HRLRT better (sharper) dispersion-curve imaging and mode separation (and interpretation) (optional in v.4.2), can be useful with multi-mode inversion (available since v.3.0).
- Ongoing-inversion 2-D Vs monitoring and 2-D imaging of final derivable from *a priori* information and Vs results (such as Vp or Poisson's ratio).
- New menus and friendly dialogs complementing existing interface; smoother operation; faster code.
- Improved compatibility with other KGS seismic software (i.e., WinSeis, SeisUtil, seismodeler).

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SurfSeis[®] 4.0 / SurfSeis[®] 4.2

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Contact us for pricing and visit our webpage for more information (email and web address below).
Upgrade pricing available with current serial number.



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SurfSeis[®] 5 (coming soon)

- varying Topography,
- passive-data **HRLRT**,
- Love-wave inversion,
- Scholte-wave inversion, and more
scheduled release – March 1, 2016