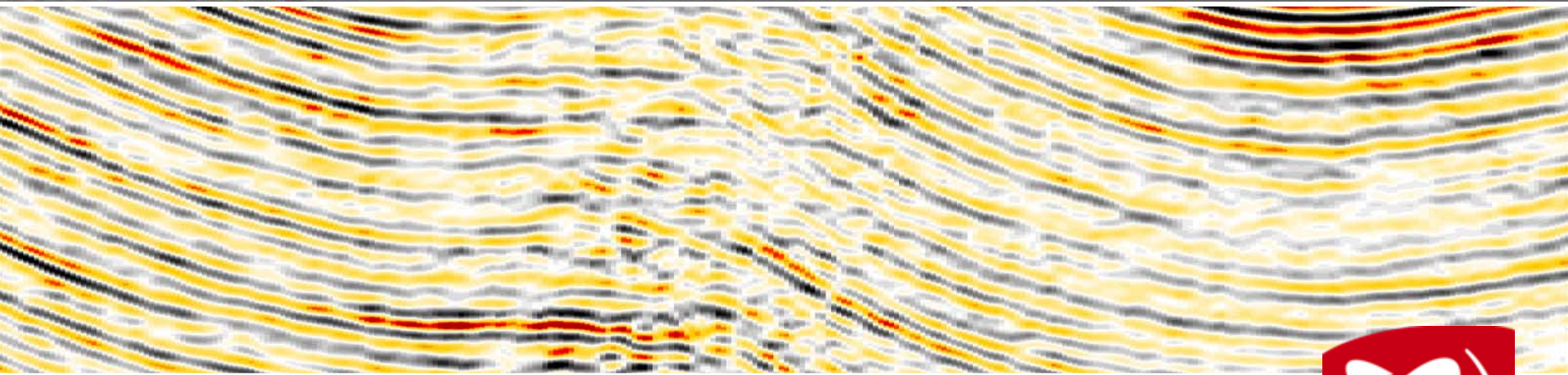


GLOBE Claritas™

What's new in Version 5.2



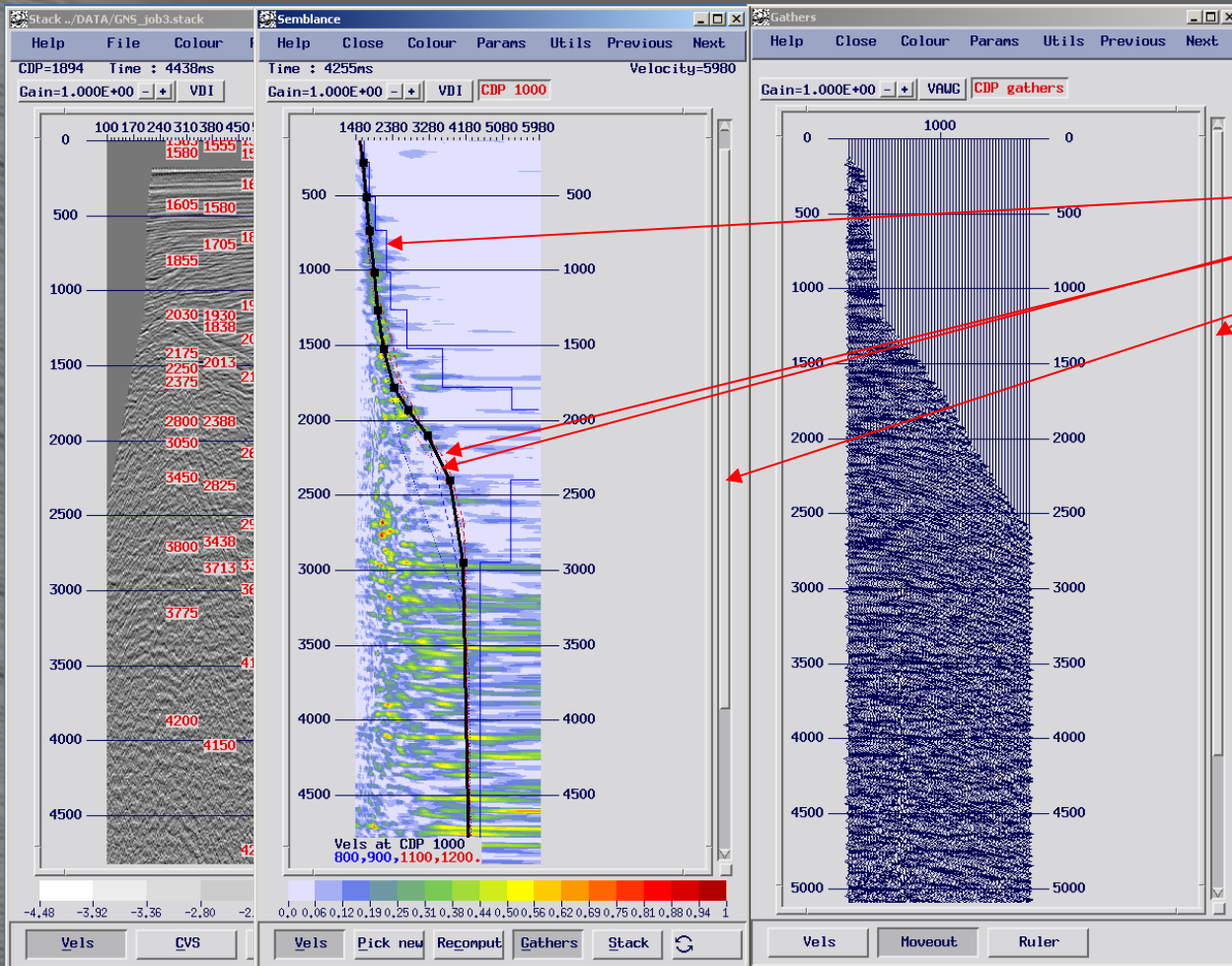
GLOBE *Claritas*
seismic processing system



Key Features in Version 5.2

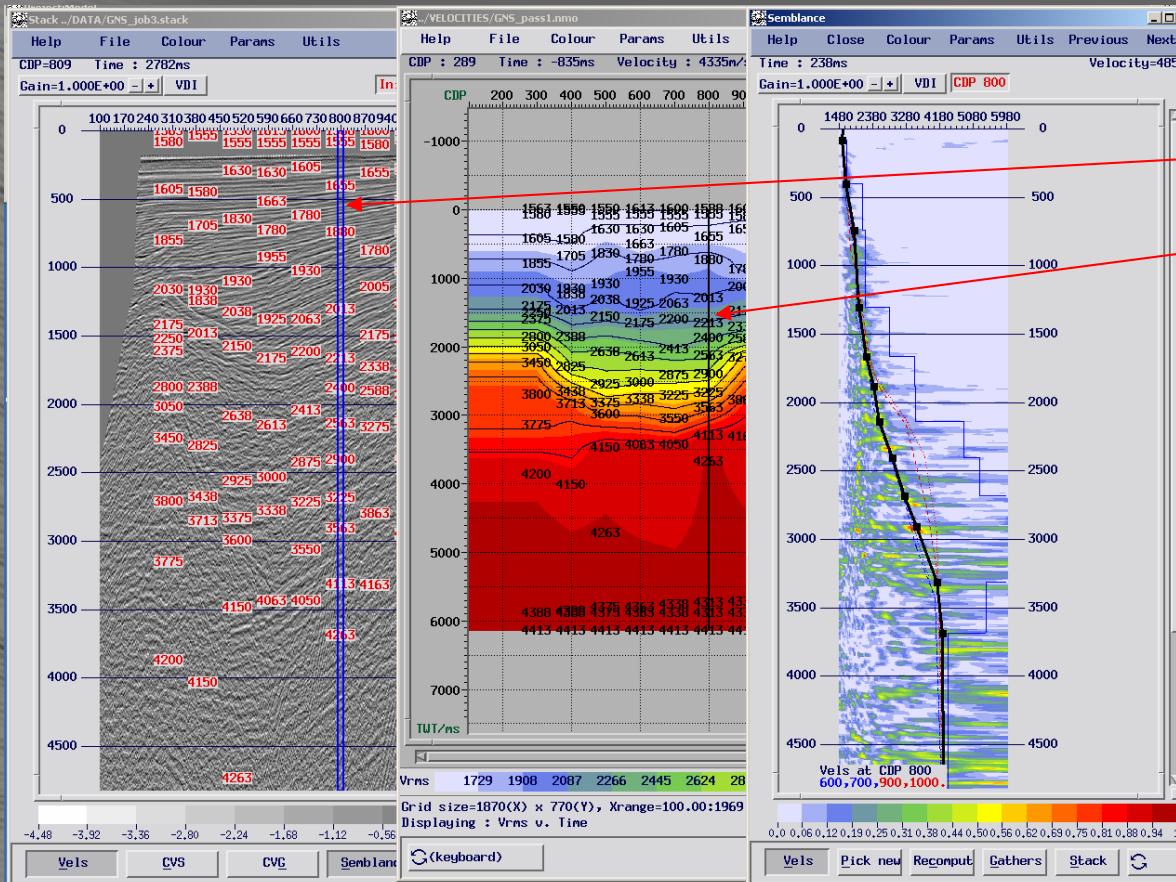
- Enhancements to CVA Velocity analysis
- New RunPython module
- XVIEW changes
- Bug fixes
- Some Version 5.1 functionality you might have missed
- Plans for V5.3 (due July 2009)

CVA Upgrades : Semblance Picking



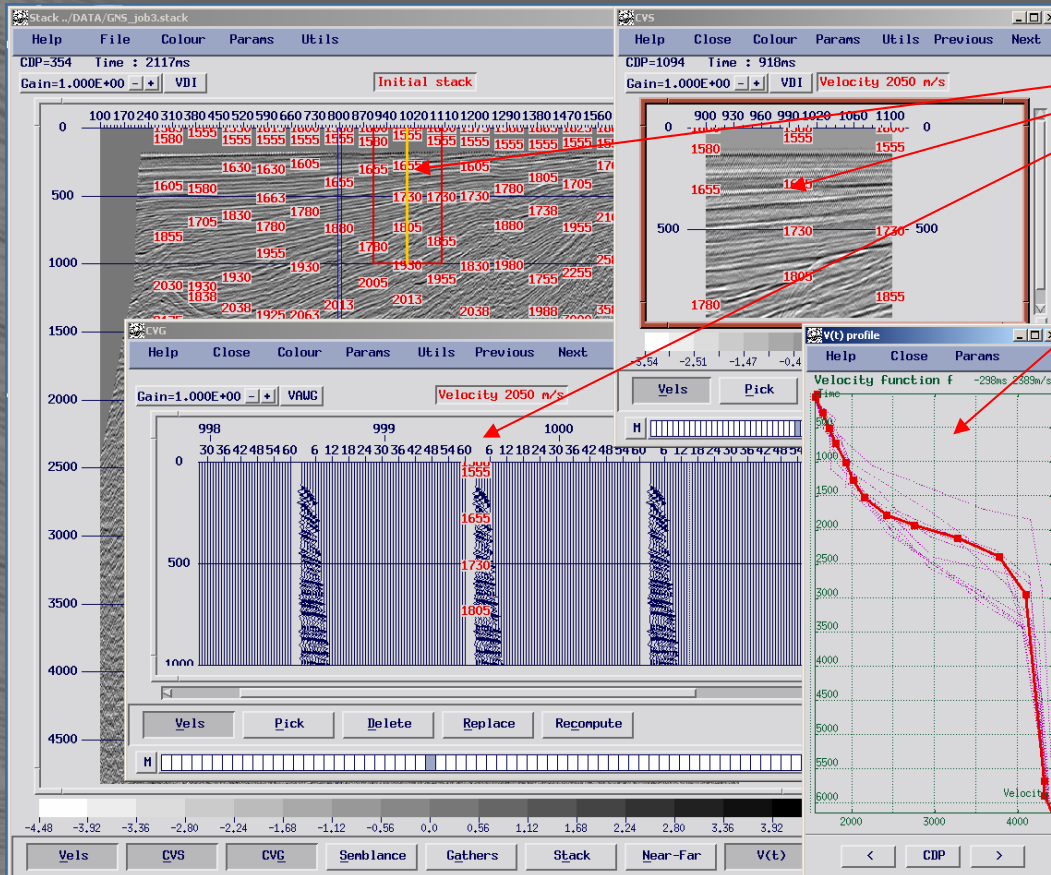
- Interval velocities displayed
- Adjacent functions displayed
- Scroll-bars now linked
- Resize via + - < > linked
- New Picking Option : Left Button
 - LMB on existing pick deletes
 - LMB away from an existing pick adds a new pick
 - LMB drag-and-drop moves
 - Intuitive and easy to use
- Picking automatically active
- New functions appear automatically

CVA Upgrades : selection and configuration



- Double click on the stacked section to jump to that velocity location
- Double click on the isovels display to jump to that velocity analysis location
- The display configuration (windows, scales, AGC etc.) is saved on exit
- On restart you can optionally select to have the same configuration restored automatically

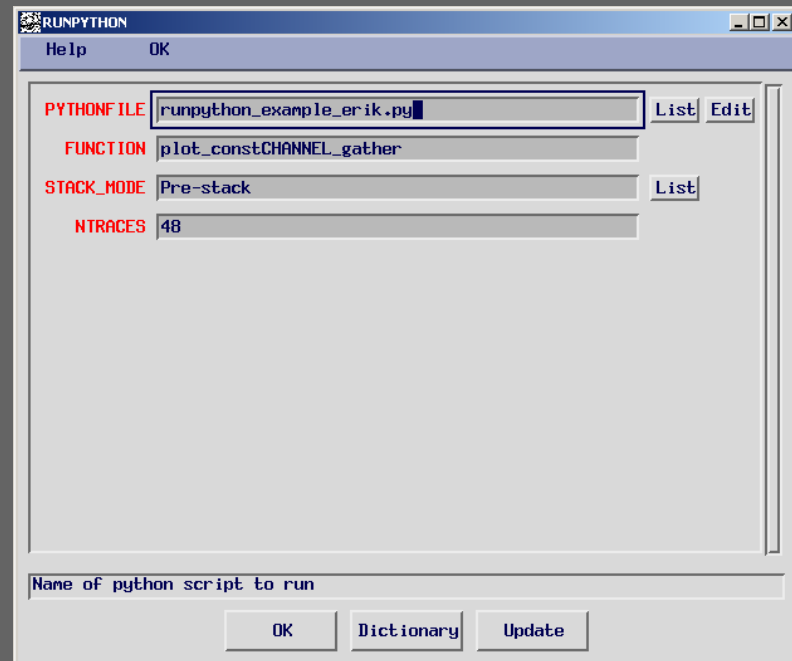
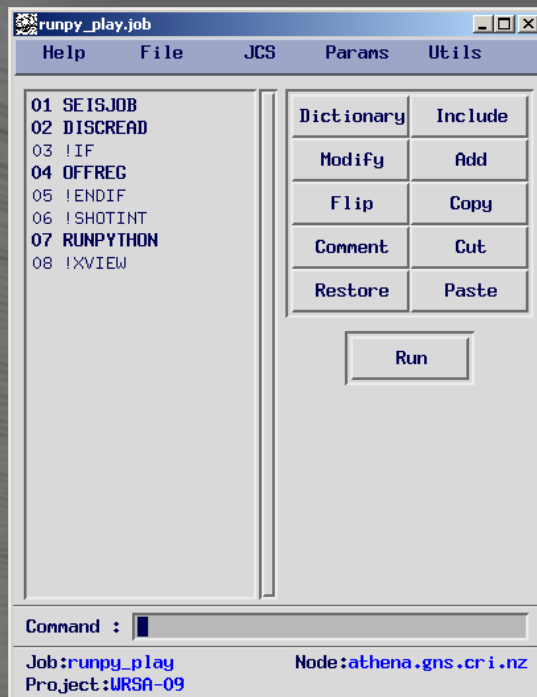
CVA Upgrades : VT Profiles, CVG/CVS locations



- CVG and CVS analysis locations also can also be controlled by double clicking on stack or isovels display
- New V(t) profile button on Stack display shows the current function as well as whole line
- Can display V(rms), interval, smoothed and averaged velocities
- Location linked to semblance display when picking in that mode

New RunPython Module

- Python is a high level programming language
- <http://www.python.org/>
- An “update” to existing TRFUDGE (FORTRAN) capability
- Unlocks user definable graphic capabilities using a widely used software standard



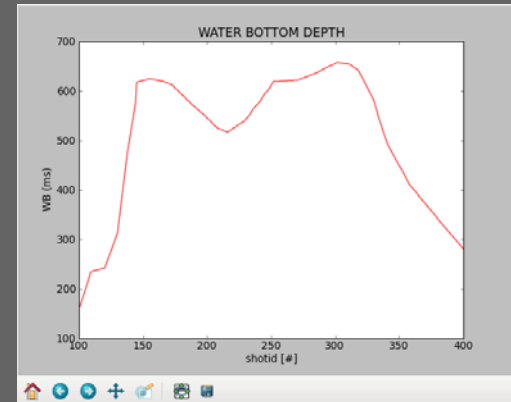
RunPython Simple Examples

```
File Edit View Search Tools Documents Help
New Open Save Print Undo Redo Cut Copy Paste Find Replace
runpython_example_enk.py
# s = numpy.cos(2*pi*numpy.pi*t)
# pylab.plot(t, s)
# pylab.show()

def plot_HEADERS(seismic):
    # define global variable to store data between pycalls
    global b
    # everytime you gather get read in pycall increases by 1
    k=seismic.pycall
    # define size of global array and populate with zeros
    if seismic.pycall == 0:
        b = numpy.zeros((301,2,40))
    #numbers of channels per trace
    indexrange = range(40)
    #populate global array with header information
    for i in indexrange:
        shotidIdx = seismic.trHeaders.index('SHOTID')
        offset = seismic.trHeaders[i,shotidIdx]
        shotidIdx = seismic.trHeaders.index('SOURCE_WATER')
        channel = seismic.trHeaders[i,shotidIdx]
        b[i,0,1] = offset
        b[i,1,1] = channel
    # reduce global array to desired area and print
    if seismic.pycall == 300:
        c = numpy.zeros((7,34))
        c = b[1:1:1]
        print b
        print c
        pylab.plot(c[:,0],c[:,1],'+')
        pylab.xlabel('shotid [#]')
        pylab.ylabel('WB (ms)')
        pylab.title('WATER BOTTOM DEPTH')
        pylab.show()
Ln 101, Col 42 INS
```



- Creates a graphical, interactive display of a seismic trace header



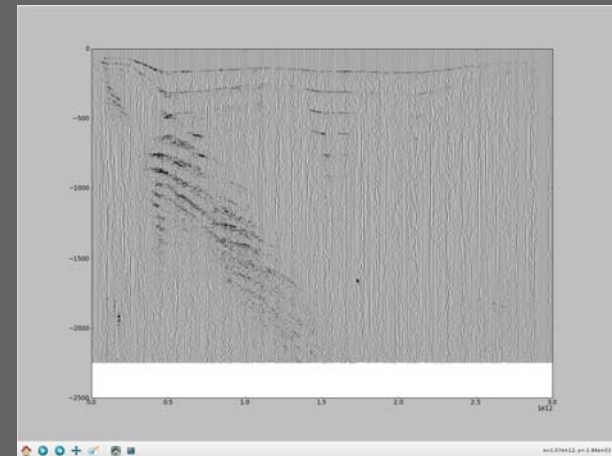
```
File Edit View Search Tools Documents Help
New Open Save Print Undo Redo Cut Copy Paste Find Replace
runpython_example_enk.py
seismic.recHeader[ob_idx] = 430
b = None

def plot_COSTCHANNEL_gather(seismic):
    #print 'CHANNEL', seismic.trHeadersRec['CHANNEL']
    # if seismic.pycall == 0:
    # shotidIdx = seismic.trHeaders.index('SHOTID')
    # a = seismic.trHeaders[i,shotidIdx]
    # a = numpy.rot90(seismic.trHeaders)
    # a = numpy.fliplr(a)
    # print a

    global b
    print "seismic array shape:", seismic.trData.shape
    k=seismic.pycall
    #print "K=====",k
    if seismic.pycall == 0:
        b = numpy.zeros((251,301))
    shotidIdx = seismic.trHeaders.index('CHANNEL')
    indexrange = range(40)
    time = range(251)
    time2 = range(251)
    for i in indexrange:
        #print i
        channel = seismic.trHeaders[i,shotidIdx]
        if channel == 1:
            b[:,i] = seismic.trData[i,0:]+(i*1e10)
    for j in time:
        time2[j]=time[j]*(-1)
    if seismic.pycall == 300:
        print time2
        fig = pylab.figure()
        ax = fig.add_subplot(111)
        ax.plot(b, time2, color='black')
        pylab.xlim(xmin=0, xmax=301, ymin=-250, ymax=0)
        pylab.show()
Ln 143, Col 19 INS
```



- Creates a near trace wa/va seismic display

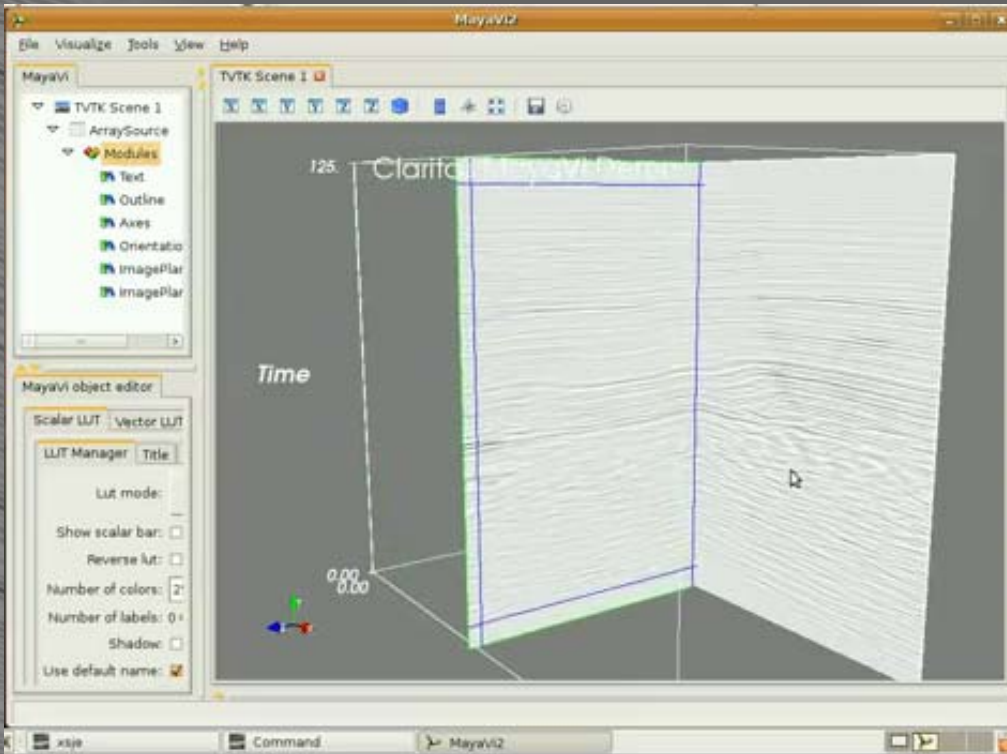


More Complex RunPython Example

Runpython is very flexible – in this example a quick Python function is used to create a 3D seismic array from a collection of 2D ones. It uses the MayaVi software to visualise this data in 3D.

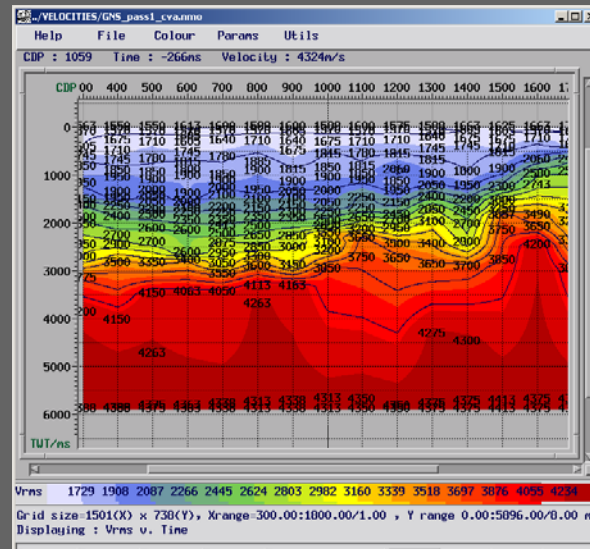
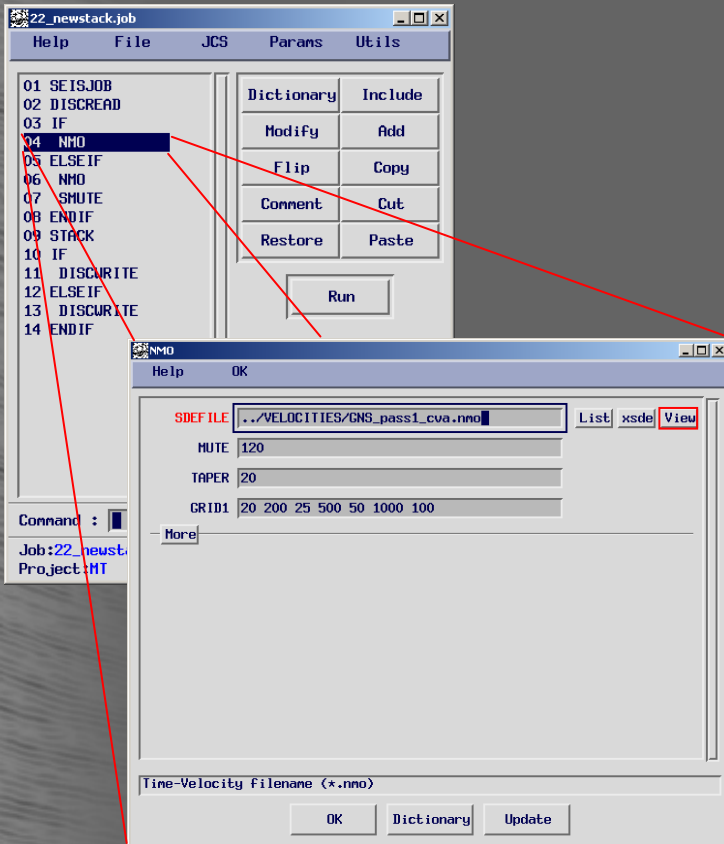
This customised display was developed in a matter of hours. For a full demonstration follow this link:

www.youtube.com/watch?v=s4O0YFAsN-0



XSJE – Option to review NMO files

Where a velocity file is called from within a processing flow, you can now open this directly with the isovels velocity editor as well as the XSDE spreadsheet tool



Major Bugs : found and fixed

XSJE	<ul style="list-style-type: none">•The FCR button in DISCREAD did nothing if the file name had leading or trailing blanks•Selecting a new project (File-New project) was reverting to working in the local directory•When switching to a new job, the edit lock was left open on the old job
KPRET3D	<ul style="list-style-type: none">• Taken back into beta v5.1 to address some configuration and run issues• Documentation now lists all of the REEL/TRACE headers required for operation• Some parameter combinations could result in zero output as a result of stretch muting• Now out of beta and available
CVA	<ul style="list-style-type: none">• Warnings that used to appear in terminal window now appear as pop-up windows• If an analysis window fails to open the data at a new location, the old data and old location are correctly displayed
READSEGY	<ul style="list-style-type: none">• Amplitude scalar parameter was incorrectly applied; fixed in patch for V5.1
AGC	<ul style="list-style-type: none">• If AGC was followed by some multi-trace modules (GENSORT) then any dynamic scalars used to be lost for the last trace in the flow• also impacted on REREAD etc.
SMAP	<ul style="list-style-type: none">• If you exit the isovels window with CTRL-C, application now keeps running
DISCREAD	<ul style="list-style-type: none">• DISCREAD could not read files larger than 2Gbytes on 32-bit systems, now resolved
SHIFTNMO	<ul style="list-style-type: none">• Now outputs data correctly in 3D NMO format if the input is a 3D NMO file
PRT_DEMULT	<ul style="list-style-type: none">• Now checks for MAXTLEN is provided if running with ADDTIME; used to give incorrect result
IF	<ul style="list-style-type: none">• failed at build if multiple conditions were used; now resolved
DECONW	<ul style="list-style-type: none">• Operator is now correctly output in save mode – was outputting autocorrelation

Some V5.1 functionality you might have missed!

The image shows two overlapping screenshots. The top one is a screenshot of the 'Project:Model' software interface. It has a menu bar with 'Help', 'Exit', 'Setup', 'Project', and 'Directory'. Below that is a tabbed menu with 'Help', 'Flows', 'Geometry', 'Statics', 'Velocities', 'Plotting', 'SEG-Y files', 'Uavelets', 'Projects', 'Miscellaneous', and 'Admin'. A sub-menu is open under 'Help', showing 'Help', 'SEGY header names', 'Report Bug', and 'Module help'. The 'Report Bug' button is highlighted with a red border.

The bottom screenshot is a Windows Internet Explorer browser window displaying the 'Globe Claritas bug report' form. The browser's address bar shows 'http://gns.cri.nz/bin/bug.asp'. The page features the GNS logo and the text 'GLOBE Claritas seismic processing system' with a background image of a seismic wave and a yellow insect. The form is titled 'Globe Claritas bug submission form' and includes instructions: 'Please fill in the form accurately so we can help you with your problem. A valid email address is required.' The form fields are: 'Your mail address *' (text input), 'Type (tick one)' (radio buttons for 'Bug' and 'New feature'), 'Priority (tick one)' (radio buttons for 'Blocker', 'Critical', 'Major', 'Minor', and 'Trivial'), 'Component' (dropdown menu), 'Affects version' (dropdown menu), 'Environment' (dropdown menu), and 'Description' (text area).

The Report Bug button will automatically open your preferred web-browser and take you to a web-page for reporting bugs, issues or requesting updates.

Fields are set up to be compatible with our helpdesk and issue tracking systems

Key Features in Version 5.3

- Version 5.3 is due for completion July 2009
- We currently target 3 releases per year
- Final “hard” release is timed for the SEG conference
- Main theme is new innovation
 - ways to speed up interactive tools on multi-core machines
 - linking of interactive tools (eg smap+sv refstat+sv+geometry)
 - optimisation of workflows (manual and interactive)
 - enhanced data management