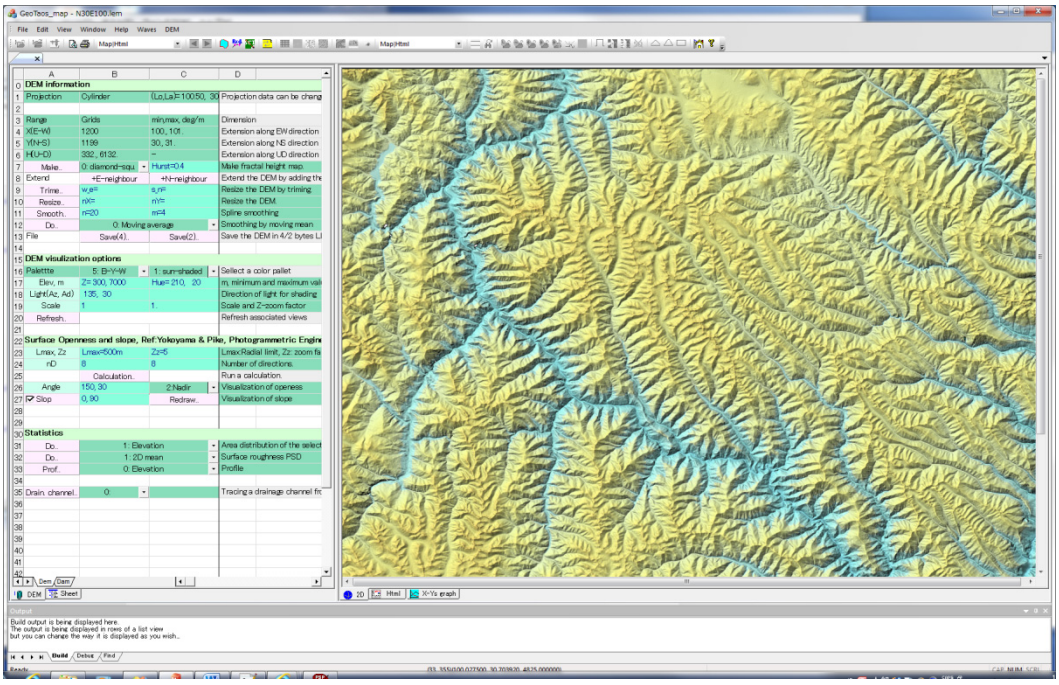
1. File formats supported by GeoTaos

1.1 时间数据的时区问题

对于时间数据，GeoTaos默认为国际时。如果数据文件提供的是地方时，则有必要标注其时间区。所有与天文计算的功能均要求把时间转化为Julian Day（即从国际时公元前4713年1月1日正午起算的天数）。一般在文件第一行加“time zone:+/-##.##”指定地方时的时区。如“time zone:08.00”表示文件里的数据时间为北京时。也可以在文件名或者文件所在的任何上级文件目录名里包含诸如“timezone+0800”的标注指定其所有下属文件的默认时间区，便可以不对具体文件标注了。但是文件第一行的标注具有最大优先权，其所在文件目录名的标注次之，以此类推。

1.2. DEM (Digital Elevation Model) data

GeoTaos can read DEM data from GeoTiff, asc, hgt, dem, lem formatted files. The lem format is in binary format and can by compressed by a simple algorithm for quick accessing. In the full package, SIRTM3 data and other DEM data have been converted to LEM format. One can drag and drop a DEM file in one of the supported format to GeoTaos_Map for visualization/analyzing or for using it as a terrain layer of an opened GeoTaos_Map data base. The following figure shows GeoTaos_Map interface when a single DEM file has been loaded.



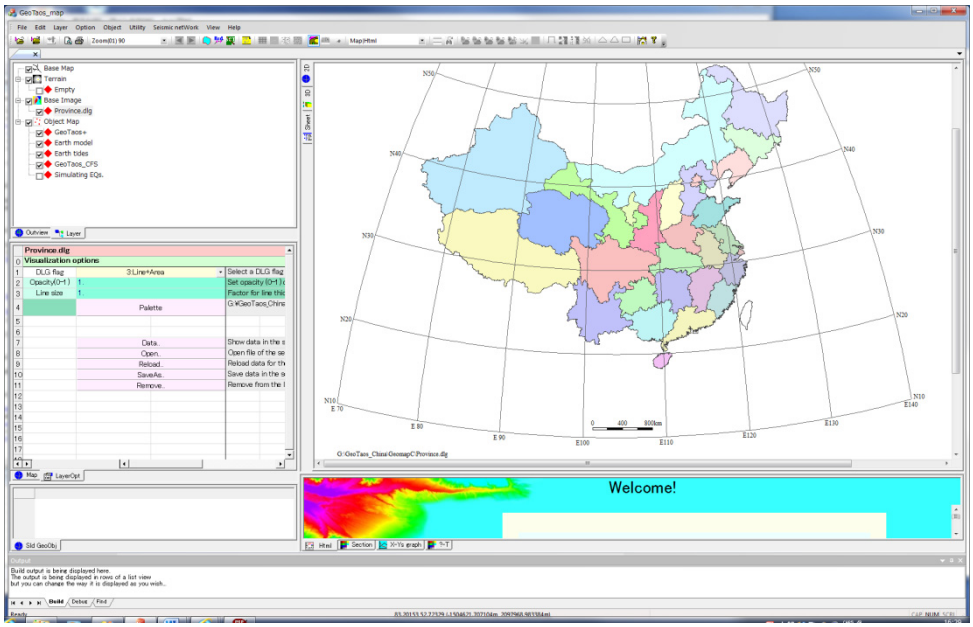
1.3. DLG (Digital Elevation Model) file

DLG-formatted data are suitable to an intact use with an attribute file, which describes the meaning and expression styles (including colors and others) of the attribute numbers attached with line segments and

domains in DLG-formatted data files. When users view their own DLG-data files by GeoTaos_Map alone, they have to prepare an attribute file in the format of geo-legend files. A number of geoscience data can be digitized in DLG format, including such as geoclinal map and evacuation map. Every time GeoTaos_Map load a new DLG file, a binary data file with extension of "BLG" will be created automatically for fasten later loading. The full package of GeoTaos contains some DLG files.

```
GeoTaos_China/GeomapC/
          Boundary.plg        for natural boundaries
          County.dlg          for county boundaries of China
          Lake.dlg            for major lake boundaries in China
          Province.dlg        for province boundaries of China
          River.dlg           for major river systems in China
```

GeoTaos_China/GeomapC/Province.dlg

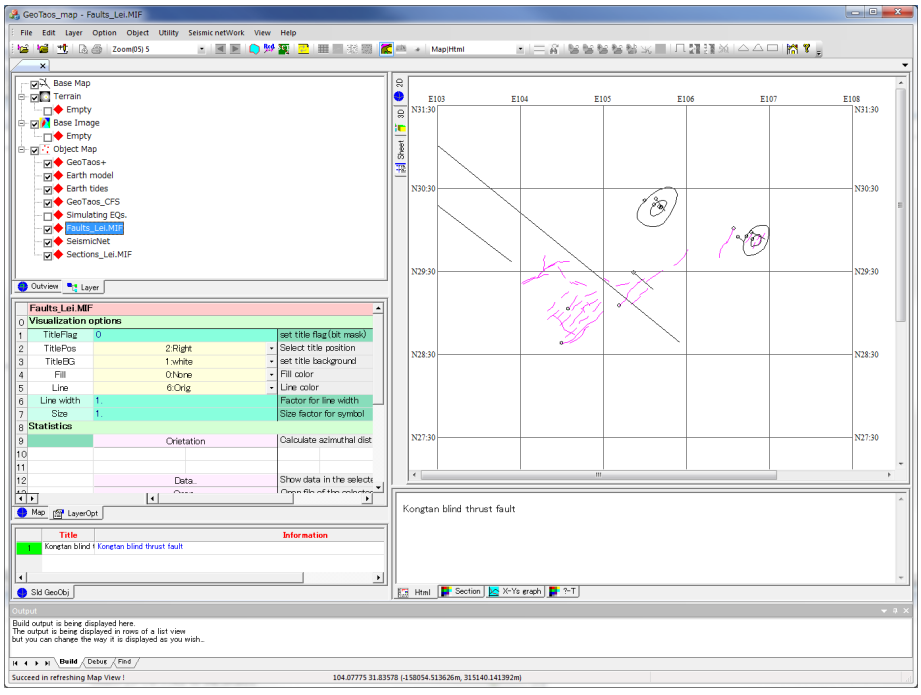


1.4. MIF (MapInfo Interchange Format)

GeoTaos support MIF (MapInfo Interchange Format) for geological objects such as fault traces, boundary of a region defining a given seismic intensity, position of a geological section, and so on. Follows show some examples data. Data with "?=?" is GeoTaos extended, and thus not supported by other GIS software such as MapInfo.

```
Version 300
Charset "WindowsJapanese"
Delimiter ","
CoordSys Earth Projection 1, 0
Columns 1
  Elevation Float
Data

Line 104.357285 23.88772 104.356294 23.844353
    Pen (1,2,0)

Pline 4
```

```
103.7 28.71
103.72 28.59
103.72 28.56
103.76 28.46
    Pen (1,2,0)

Pline Multiple 2
  11
100.44 27.14
…
100.66 26.15
  2
100.65 26.1
100.63 25.94
    Pen (1,2,0)

Rect 98.723049 24.711185 98.733732 24.720935
    Pen (1,2,0)
    Brush (2,16777215,16777215)

Pline  13 !name="Yanziyan fault"
105 11 34.12 29  5  7.76 H=292.000000
……
105 25  8.31 29 21  1.97 H=424.000000
105 26 48.34 29 22 21.90 H=422.000000
        Pen (2,2,16711935)

Pline   5 !strike=225, dip=27, rake=90
105 31 11.19 29 22 17.65 H=319.000000
……
105 43 45.38 29 30 57.55 H=373.000000
        Pen (2,2,16711935)

Region  1 !name="M5.1 V||"
12
105.68051 30.27338 H=303.000000
…
105.68294 30.27461 H=299.000000
        Pen (2,2,0)
```



Faults_Lei.mif, Sections_Lei.mif

1.5. 地震目录

GeoTaos直接支持从国家地震科学数据共享中心(http://data.earthquake.cn/data/)下载的地震目录。将文件扩展子改为“eqt”即可。注意地震目录必须按地震发生时间升序或降序排列。另外，可以在文件第一行加“time zone:08.00”将北京时转化为世界标准时，以便进行有关天文计算。也可以在文件名或者文件所在的任何上级文件目录名里包含“timezone+0800”。这样的文件目录的所有下属地震目录的默认发震时间均为北京时，便可以不对具体文件作标注了。但是文件第一行标注的时间带具有最大优先权，其所在文件目录名的标注次之，以此类推。

中国地震台网统一地震目录下载文件

```
! time zone:08.00
中国地震台网统一地震目录

日期       时间       纬度(°) 经度(°) 深度(km) 震级类型 震级值    事件类型 参考地名
2013-10-24 17:12:38.9 35.46   77.28   7   Ms 4.2 eq   中国、克什米尔地区交界
2013-10-24 05:09:02.4 36.87   95.04   7   Ms 3.1 eq   青海省海西蒙古族藏族自治州格尔木市
2013-10-24 00:17:07.4 23.80 107.46   5   Ms 3.0 eq   广西壮族自治区百色市平果县
2013-10-23 23:53:39.3 28.22   99.47   9   ML 2.1 eq   云南香格里拉
……
```

① Click 4 to download all data.

② Unfrozen the file.

One should rename the unfrozen file with a file name started with "CSI_" and ended with ".eqt" extension. For example rename "EQ09_ChineML2.CSV" to "CSI_China_1965-201709_timezone+0800.eqt". It is recommended but not required to include a the time span and time zone information of the data in the file name.

③ Rename the file.

④ Place name in a record is not essentially required.

Catalog file downloaded from China Seismic Information (CSI) is ASCII text in the following format.

```
年月日,时分秒,纬度,经度,深度,震级,震中参考地名
1965-01-02,08:24:00.00,  26.800,  100.900,999,  2.5,
1965-01-03,18:00:00.00,  27.000,  100.800,999,  3.2,
```

1.5.1 Other EQT formats of earthquake catalog

EQT file is a group of ASCII text format for earthquake catalog. Basic rules for EQT file are listed in follows.

① At least one headline at the beginning, otherwise the 1st record would be skipped.

② A EQT file may contain any number of headlines, it is better to start a headline with “!”.

③ Don't start a headline with a valid year number such as 2008.

④ Place name in a record is not essentially required.

⑤ Only one magnitude (generally the 1st one) is used in data processes.

⑥ It is better to list events in ascending order, otherwise, including word "NEW->OLDER" in the 1st headline

⑦ The standard format orders data as year, month, day, hour, minute, second, latitude, longitude, depth, magnitude. Fields are separated by either space or tab.

The follows show an example of EQT file in recommended format.

```
! time zone: +08.00,
! Earthquake hypocenter data downloaded from CEDC
!
yyyy mm dd hh MM ss.ss +nn.nnnn +eee.eeee ddd.dd m.mm
1970     01       01       12       55       16.00     026.0500  0103.9800 000.00    5.70
1970     01       04       20       50       37.00     047.0000  0117.0000 000.00    4.50
1970     01       05       01       00       34.00     024.1000  0102.6000 013.00    7.80
1970     01       05       05       44       27.00     024.1000  0102.8000 000.00    5.80
1970     01       05       19       49       06.00     023.9000  0103.0000 000.00    5.80
1970     01       05       01       32       40.00     024.2000  0102.4500 000.00    5.60
```

One can download earthquake hypocenter data from China Earthquake Data Center (http://data.earthquake.cn/data/) to a text file and rename it with the extension ".eqt". Then add a new line "! time zone:08.00 NEW->OLDER" at the head to indicate time zone and order of earthquake catalog.

Following formats of record are also acceptable

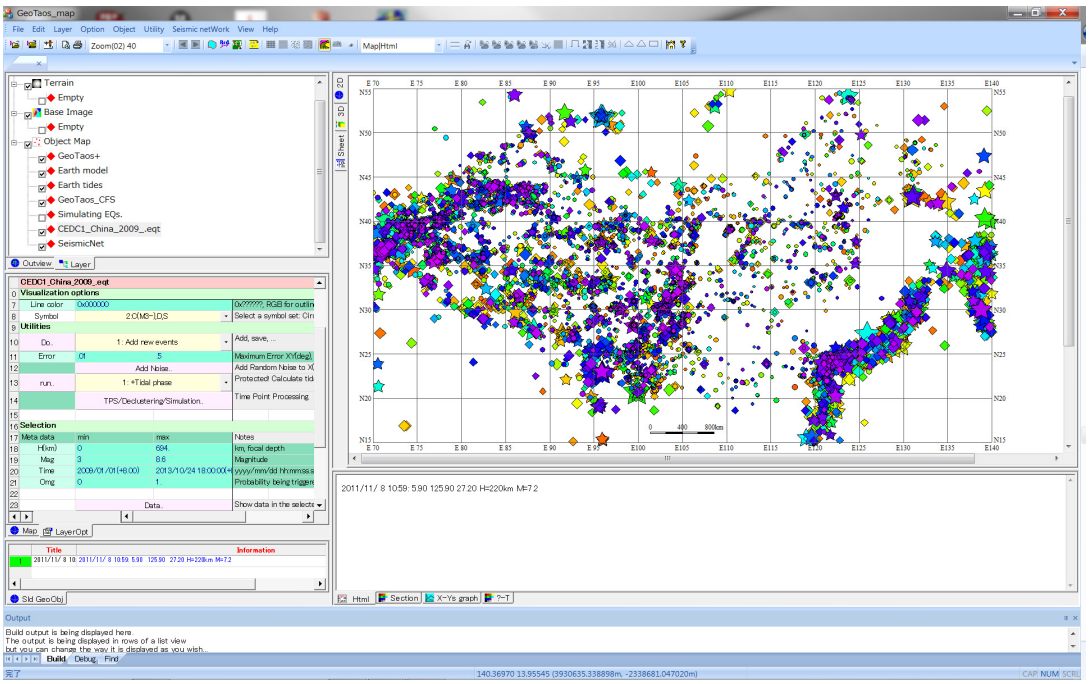
```
yyyy/mm/dd hh:mm:ss.s nn.nn eee.ee hhh m/m Place
2008/01/01 06:57:33.9 39.50 118.08  10 1.3 FengNan
2008/01/01 09:40:55.8 39.98 114.68     1.2 WeiXian
2008/01/02 08:54:19.8 39.60 118.21  13 1.0ML Tangshan
2008/01/02 08:54:19.8 39.60 118.21  13 ML1.0 Tangshan
2008/01/01 06:57:33.9 39.50N 118.08E  10 1.3 FengNan
```

USGS Screen File Format (80 columns) is acceptable. However, the word "USGS" must be included in the 1st head line and the extension should be renamed as ".eqt"

```
!USGS Screen File Format (80 columns)
!FILE CREATED:  Sat Jun  7 23:46:40 2008
!Global Search   Earthquakes=      5275
!Catalog Used: PDE
!Date Range: Year:    2008  -   2008   Month: 01/Day: 01   Month: 06/Day: 08
!Magnitude Range:   4.0  -  10.0
!Data Selection: Historical & Preliminary Data
!CAT   YEAR   MO DA ORIG TIME   LAT    LONG  DEP  MAGNITUDE   IEFM DTSVNWG DIST
!                                                             NFPO          km
!                                                            TFS
 PDE-Q 2008   05 12 022147.02  46.55  152.78  35 4.90 mb GS   .. . .......
 PDE-Q 2008   05 12 024306     21.62  122.27  10 4.50 mb GS   .. . .......
 PDE-Q 2008   05 12 045848.19  -4.49  102.03  35 4.60 mb GS   .. . .......
 PDE-Q 2008   05 12 062801.55  30.99  103.32  19 8.00 Ms GS   7C M F.....S
 PDE-Q 2008   05 12 064314.87  31.24  103.77  10 6.00 mb GS   .F . .......
```

The CSV format of ComCat downloaded from http://earthquake.usgs.gov/earthquakes/search/ is also supported. The first head line cannot be removed because it is used for identifying the format. The file extension should be ".eqt".

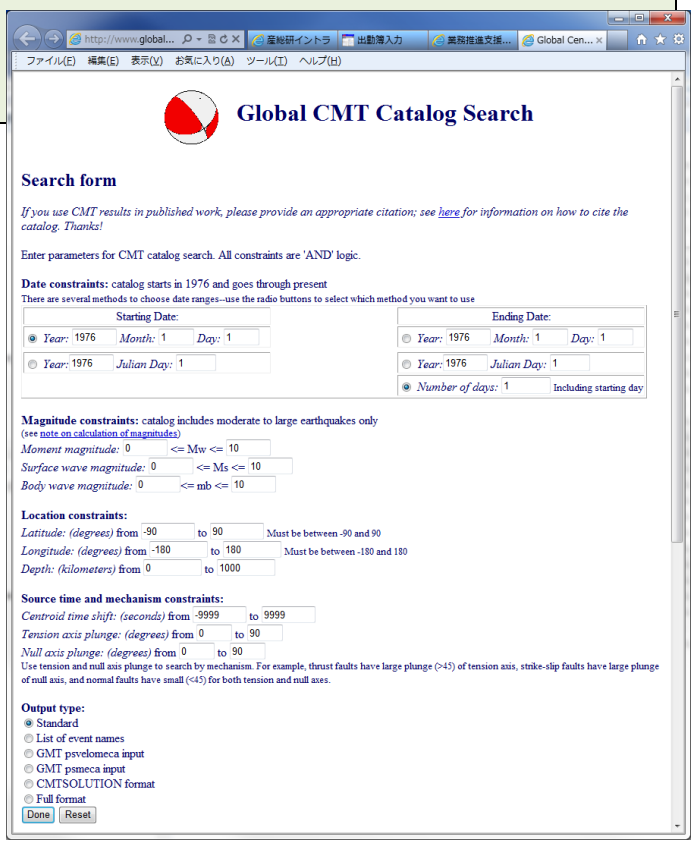
```
time,latitude,longitude,depth,mag,magType,nst,gap,dmin,rms,net,id,updated,place,type
2001-12-31T22:40:58.030Z,-2.951,139.297,33,4.2,mb,15,,,0.98,pde,…
2001-12-31T22:21:09.250Z,36.37,71.24,134.1,4.5,mb,59,,,1.02,pde,…
2001-12-31T20:15:12.700Z,-17.368,-72.777,33,4.5,mb,12,,,1.43,pde,…
……
```



GeoTaos/Data_EQ/EQ_China_timezone+0800/CEDC1_China_2009_.eqt

1.5.2 CMT file

```
Global CMT Catalog
Search criteria:
Start date: 2010/1/1   End date: 2010/1/1
-90 <=lat<= 90          -180 <=lon<= 180
0 <=depth<= 1000          -9999 <=time shift<= 9999
0 <=mb<= 10        0<=Ms<= 10           0<=Mw<= 10
0 <=tension plunge<= 90         0 <=null plunge<= 90

Results

------------------------------------------------------------------------------
010176A KERMADEC ISLANDS REGION


  Date: 1976/ 1/ 1   Centroid Time:  1:29:53.4 GMT
  Lat= -29.25  Lon=-176.96
  Depth= 47.8   Half duration= 9.4
  Centroid time minus hypocenter time: 13.8
  Moment Tensor: Expo=26  7.680 0.090 -7.770 1.390 4.520 -3.260
  Mw = 7.3     mb = 6.2     Ms = 0.0   Scalar Moment = 9.56e+26
  Fault plane:  strike=202    dip=30   slip=93
  Fault plane:  strike=18    dip=60   slip=88
```



Global CMT Catalog Search

Search form

If you use CMT results in published work, please provide an appropriate citation; see here for information on how to cite the catalog. Thanks!

Enter parameters for CMT catalog search. All constraints are 'AND' logic.

Date constraints: catalog starts in 1976 and goes through present

There are several methods to choose date ranges--use the radio buttons to select which method you want to use

Starting Date: Year: 1976 Month: 1 Day: 1 / Year: 1976 Julian Day: 1

Ending Date: Year: 1976 Month: 1 Day: 1 / Year: 1976 Julian Day: 1 / Number of days: 1 Including starting day

Magnitude constraints: catalog includes moderate to large earthquakes only (see note on calculation of magnitudes)

Moment magnitude: 0 <= Mw <= 10

Surface wave magnitude: 0 <= Ms <= 10

Body wave magnitude: 0 <= mb <= 10

Location constraints:

Latitude: (degrees) from -90 to 90 Must be between -90 and 90

Longitude: (degrees) from -180 to 180 Must be between -180 and 180

Depth: (kilometers) from 0 to 1000

Source time and mechanism constraints:

Centroid time shift: (seconds) from -9999 to 9999

Tension axis plunge: (degrees) from 0 to 90

Null axis plunge: (degrees) from 0 to 90

Use tension and null axis plunge to search by mechanism. For example, thrust faults have large plunge (>45) of tension axis, strike-slip faults have large plunge of null axis, and normal faults have small (<45) for both tension and null axes.

Output type:

- Standard
- List of event names
- GMT psvelomeca input
- GMT psmeca input
- CMTSOLUTION format
- Full format

Done Reset

http://www.globalcmt.org/CMTsearch.html

1.5.3 CSV-formatted CMT catalog file

Example-1

```
!ref="Note open yet"
!lnk="Note open yet"!lnk="??"
!time zone: 8.0
!Date      La(deg) La(deg) Depth(m) Mw strike1 dip1 slip1 strike2 dip2 slip2 ...
2000/01/06/ 20:05:00 24.38 97.53 9.0 5.6 228 68 4 136 85 158 184 12 90 18 306 67
20000106200500 24.38 97.53 9.0 5.6 228 68 4 136 85 158 184 12 90 18 306 67
              ^space(s) or tab
```

Example-2

```
!ref="Xu et al., Seism. Res. Lett., 2020"
!lnk="https://doi.org/10.31905/JKFAM21R"
!time zone: 0.0
!Date            Lo(deg)    La(deg)   Depth（km）      Mw       strike1   dip1     slip1    Ns
2000-01-01 18:49:07  28.370  102.420 16.0 4.44  35.0 70.0  -55.0  6 12 estimated
2000-01-06 14:25:29  23.220  103.390  8.0 4.02  40.0 60.0   70.0 10 20 estimated
              ^space(s) or tab
```

1.6 Format of phase data file

1.6.1 Standard CEDC (CSF_Ver 1.0) format

One should name a phase data file in China Earthquake Data Center format as "CEDC1_?.pha" or "CSF10_?.pha" for automatic identification. The following shows an example of records.

File name: CEDC1-???.pha

```
VIO Volume_type Catalog_full CSF_Ver 1.0
VI1 Net_code CC Net_cname 中国数字测震台网 2007-08-01 00:00:00.00 2016-02-01 00:00:00.00
HSB Net_code Sta_code Sta_cname Sta_type Chan_num Sta_lat Sta_lon Sta_elev Local_depth sensor Record Rock_type Sensi-NS Sensi-EW Sensi-UD
HBO Net_code date time Epi_lat Epi_lon Epi_depth Mag_name Mag_value Rms Qloc Sum_stn Loc_stn Epic_id Source_id Eq_type Location_cname
HEO Auto_flag Event_id Sequen_name Depfix_flag M M_source SPmin Dmin Gap_azi Erh Erz Qnet Qcom Sum_pha Loc_pha FE_num FE_sname
HMB Mag_name Mag_val Mag_gap Mag_stn Mag_error
HPB Source_net Net_code Sta_code Chn_code Clarity Wsign Phase_name Weight Rec_type Phase_time Phase_time Resi Distance Azi Amp Period Mag_name Mag_val
DBO SD 2008-01-07 13:38:58.70  36.598  118.877   5 ML    2.0  0.293 1   0   7 37 37 eq 山东昌乐
DEO C SD.200801071338.0003                    0  1.2 ML      0.0                          2 2   0  35    0
DMB ML     2.0 -99999.0   7
DPB SD SD   ANQ BHZ I U      Pg 1  V 2008-01-07 13:39:06.15    0.31   39.0 311.6
DPB SD SD   ANQ BHN          Sg 1  V 2008-01-07 13:39:10.07   -0.47   39.0
DPB SD SD   ANQ BHE         SME 1  V 2008-01-07 13:39:11.10           39.4             8.7   0.17 ML     2.0
DPB SD SD   ANQ BHN         SMN 1  V 2008-01-07 13:39:11.35           39.4             6.0   0.11 ML     2.0
DPB SD SD   ANQ BHZ         SMZ 1  V 2008-01-07 13:39:11.21           39.4             2.3   0.10 ML     2.0
DPB SD SD   HAH SHZ I C      Pg 1  V 2008-01-07 13:39:09.30   -0.10   59.0 245.4
DPB SD SD   HAH SHE          Sg 1  V 2008-01-07 13:39:16.44    0.01   59.0
DPB SD SD   HAH SHE         SME 1  V 2008-01-07 13:39:21.91           59.3             3.4   0.09 ML     2.0
DPB SD SD   HAH SHN         SMN 1  V 2008-01-07 13:39:21.93           59.3             4.9   0.10 ML     2.0
```

File name: CEDC-???.pha

```
!         1         2         3         4         5         5
!12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789
DBO SC 2009-01-09 23:45:17.75  29.412  104.991  35 ML    2.3  0.810 2   0   9 51 51 eq 四川自?市市?区
DEO C SC.200901092345.0001                    0  1.5 M                248.6   9.4  18.1      21  17
DMB Ml     2.3          9
```

```
DPB SC   FPO SHE          SME 1    2009-01-09 23:46:18.00          194.6              0.1   0.28 Ml      2.6
DPB SC   FPO SHN          SMN 1    2009-01-09 23:46:18.00          194.6              0.1   0.46 Ml      2.6
DPB SC   FPO SHN           Sg 1  V 2009-01-09 23:46:14.15   -1.18  194.6
DPB SC   FPO SHZ           Pg 1  V 2009-01-09 23:45:51.09   -0.13  194.6
……
!Following formats is also supported (最近从CEDC下载的格式)
DBO  JL  2013-09-20  10:10:00.64  43.96  125.70  0  ML  2.5  1.561  1  0  20  22  22  ss  ｼｪﾁﾖｾﾅﾌｨ
DEO  C  JL.201309201010.0004       1  1.7  ML                5.1       0  0       80  658
DMB  ML  2.5
DPB  HL  WUC   BHN            SMN  1  D  2013-09-20  10:10:51.08         169.7         0.0  0.52  ML   2.0
DPB  HL  WUC   BHZ  E         Pg   1  V  2013-09-20  10:10:28.22  0.18   169.7  227.9
……
```

1.6.2 Short CEDC format

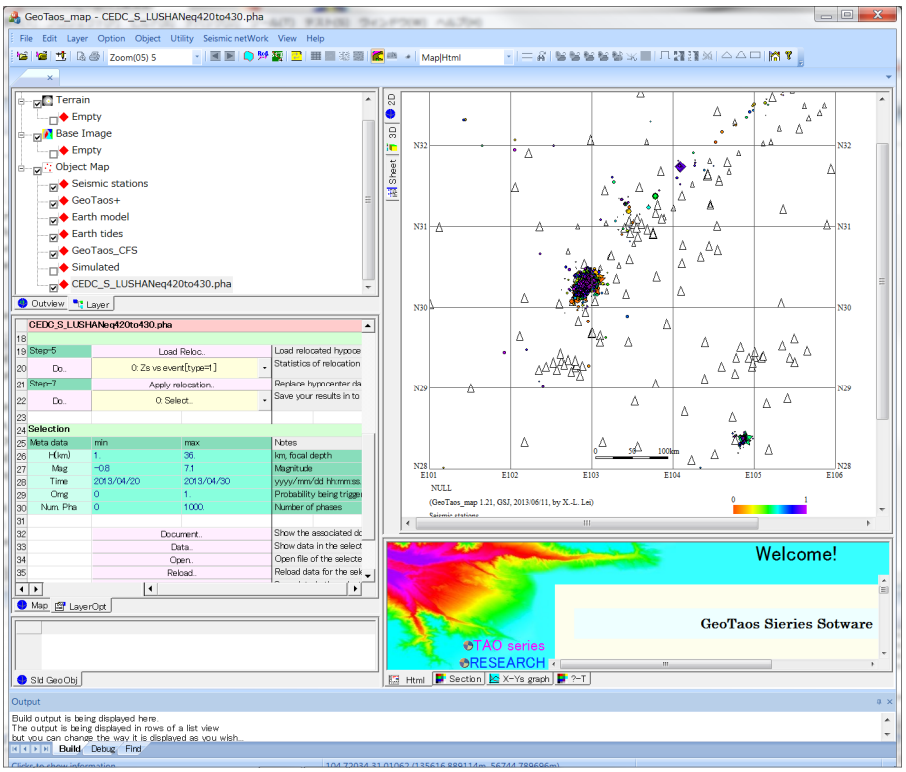
"CDEC_S_" must be included in the file name for short CEDC-formatted phase data.

File name: CEDEC_S-???.pha

```
!12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789
YN 2011/01/01 12:58:43.6  24.720   97.889   7  2.4     3   7 eq 53 堝掴哢臭
YN WaD   BHZ I R Pg       1.0 V  12:58:55.85   0.12   72.0 165.4
         BHE      Sg       1.0 V  12:59:04.68   0.50
         BHE      SME      1.0 D  12:59:05.19                          78.3   0.28
         BHN      SMN      1.0 D  12:59:05.91                         143.4   0.26 ML   2.3
……
```

File name: CEDEC_S1-???.pha

```
!12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789
YN 2007000001 2007 01 01 02 35 27.5 2454  9850     2.8
                          TNC      PG   02:35:33.7    35  2.7  1.1     612  0.5     936  dsp  um
                                   SG   02:35:37.1
                          BST      PG   02:35:33.9    39  2.4  1.0     237  0.6     540  dsp  um
                                   SG   02:35:39.3
                          WDT      PG   02:35:48.3   120  3.0  0.4     210  0.5     448  dsp  um
                                   SG   02:36:01.9
                          YLT      PG   02:35:49.4   121  2.4  1.0      84  0.5      60  dsp  um
                                   SG   02:36:03.8
                          YXT      PB   02:35:52.0   141  3.0  0.9     324  0.5     206  dsp  um
                                   SG   02:36:09.6
                          XGT      PG   02:35:55.7   162  2.9  0.8     151  0.8     184  dsp  um
                                   SG   02:36:16.1
                          EYA      PG   02:35:58.0   174  2.5  0.4      61  1.1      54  dsp  um
                                   SG   02:36:18.1
                          CYT      PN   02:36:01.0   201  3.2  0.7     303  0.4     225  dsp  um
                                   SG   02:36:26.9
YN 2007000002 2007 01 04 14 43 41.8 2557 10115     3.5      4
                          PZH      PG   14:43:56.6    80  3.4  0.2    1279  0.2    1168  dsp  um
                                   SG   14:44:06.4
```



GeoTaos/Data_Yaan_M7/CEDC_S_Yaan_420to430.pha

1.7. User defined GeoTaos geo-object data file

Users can define their own data file for geo-objects. User defined GeoTaos geo-object data file is a ASCI text file with the extension of "txt". The first line must be [GEO_OBJ_FILE_VER1.0]. A user can freely define up to 32 tags and determined how the objected will be drawn in GeoTaos. A GEO_OBJ_FILE contains a head define the tags, visualization parameters, HTM template used for showing information of the object when user clicks the object from GeoTaos map plot. Follows show a GEO_OBJ_FILE file and its HTM template for collecting information at field work stops.

An example of user defined GeoTaos geo-object data file. "GeoTaos/Stops_2010/Stops.txt"

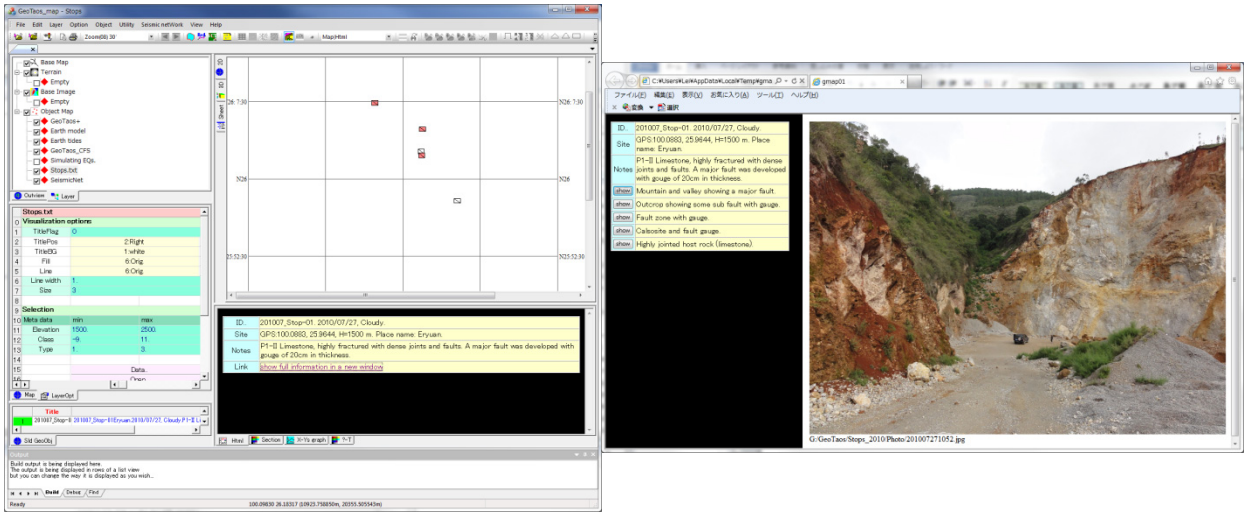
```
[GEO_OBJ_FILE_VER1.0]
Field investigation: 2010/07/27-2010/08/05, Xinglin Lei, Bihong Fu, Shuo Deng, Ming Liu
RANGE= 80 20 120 45
TAGS=9
00 P. Coord.
01 N  Elevation
02 Ns Class
03 Nc Type
04 S. IDno
05 S. Place name
06 S. Date and conditions
07 S. Notes
08 Sl Link List

[SYMBOL]
SIZE= 3
00 0.000000 2.000000  75.000000
01 3.000000 5.000000 100.000000
```

```
02 6.000000 9.000000 150.000000
COLOR= 5
0 0 1.9   0   0   0   0 255 255 255
1 2 2.9   0   0   0   0 255 128 128
2 3 3.9   0   0   0   0 128 128 255
3 4 4.9   0   0   0   0 255 255   0
4 5 5.9   0   0   0   0 255   0 255
POLYLINE= 6
-100  75
 100  75
 100 -75
-100 -75
-100  75
 100 -75
TITLE= 0

[FORM]
Stops.htm

[DATA-LARGE]
[Coor]    103 10 27.0 27 27 37.8
[Elev]    2100
[Clss]    1
[Type]    3
[ID]      201007_Stay-01
[Plac]    Cuansi service area of Zi-Kun high way.
[Date]    2010/07/25, Rain.
[Note]    Tad luch here.
[LL-1]    Photo/201007251421a.jpg@River after hevy rain.
[LL-1]    Photo/201007251421b.jpg@Kitching room.
[LL-2]    Photo/201007251425.jpg@New countryside on a sliding slop?!

[Coor]    103 17 42.9 26 25 34.7
[Elev]    1500
[Clss]    1
[Type]    3
[ID]      201007_Stay-01
[Plac]    Huize.
[Date]    2010/07/26, Cloudy.
[Note]    Wolking in Huize park.
[LL-1]    Photo/201007251958.jpg@View from hotem.
[LL-1]    Photo/201007260809.jpg@Huize park.
[LL-2]    Photo/201007260814.jpg@Huize county.
```

An example of HTML template for user defined GeoTaos geo-object data file. "GeoTaos/Stops_2010/Stops.htm".

```
<HTML>
<HEAD>
<TITLE>Stops::template</TITLE>
</HEAD>
<BODY BGCOLOR=#000000>
<CENTER>

<TABLE BORDER=1 BGCOLOR=#FFFFCC CELLPADDING=2 WIDTH=100% units=EN CELLSPACING=0>
 <TR>
  <TD WIDTH=10% ALIGN=CENTER BGCOLOR=#ccffff>ID..</TD>
  <TD WIDTH=90%>[@@04]. [@@06]</TD>
 </TR>
 <TR>
  <TD WIDTH=10% ALIGN=CENTER BGCOLOR=#ccffff>Site</TD>
  <TD WIDTH=90%>GPS:[@@00], H=[@@01]m. Place name: [@@05] </TD>
 </TR>
 <TR>
  <TD WIDTH=10% ALIGN=CENTER BGCOLOR=#ccffff>Notes</TD>
  <TD WIDTH=90%>[@@07] </TD>
```

```
 </TR>
</TABLE>


</CENTER>
</BODY>
</HTML>
```



1.8. Text file for organize a group of meshed DEM files of multi-resolution

In general, many kinds of geo-science data are prepared for regular meshes, such as DEM, geological data. In GeoTaos_Map, such kind of data is organized by a text file. The following example organizes the SRTM 90m DEM data. The original DEM data have been converted to LEM format and resample into 5 different resolutions. GeoTaos_Map automatically loads proper files for visualization.

GeoTaos_China/Gmap_Srtm3_chn/Srtm3_CHN.txt

```
SRTM 90m DEM V4, CGIAR-CSI
BASE=.lem
MASK=
Gtopo.pal
72.000000 11.000000 73.000000 10.000000 1200 1200
Pages 4
1200 1200 CHN_01/N10E072.lem
600 600 CHN_02/N10E072.lem
240 300 CHN_04/N10E072.lem
120 150 CHN_08/N10E072.lem
73.000000 11.000000 74.000000 10.000000 1200 1200
Pages 4
1200 1200 CHN_01/N10E073.lem
600 600 CHN_02/N10E073.lem
240 300 CHN_04/N10E073.lem
120 150 CHN_08/N10E073.lem
75.000000 11.000000 76.000000 10.000000 1200 1200
……
```

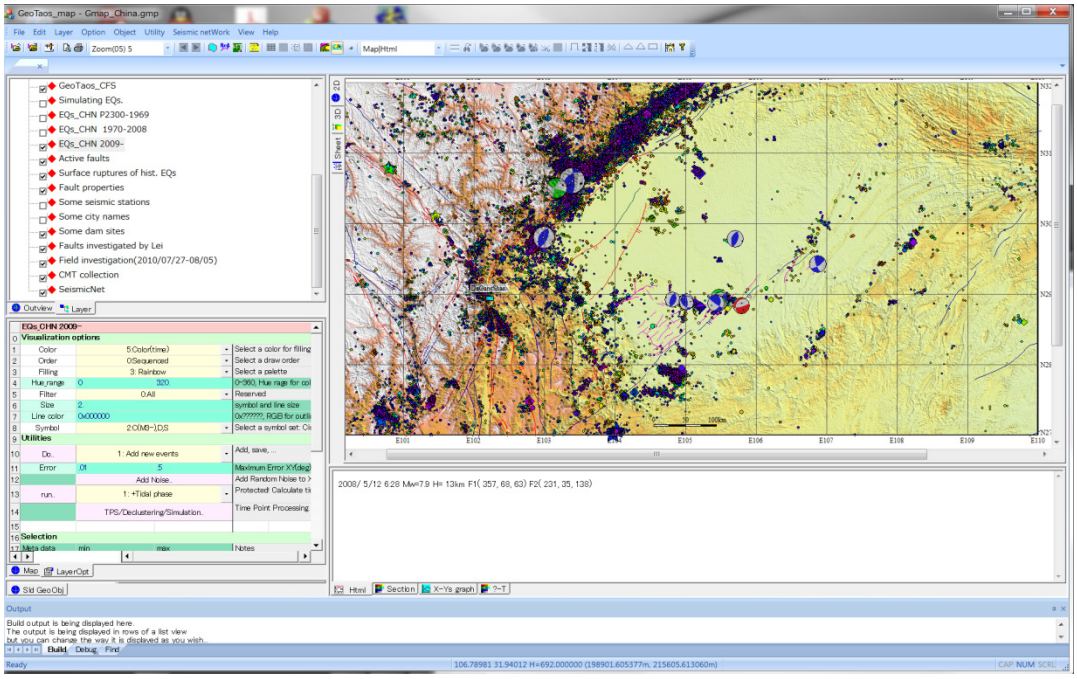
1.9 GeoTaos_Map dataset definition file GMP

A GMP file is used to organize a full set of GeoTaos file to form a multi-layer map. It normally contains four groups of layers which are 1) Base Map, 2) Terrain, 3) Base Image, and 4) Object map. The "Base Map" is null for most case. The "Terrain" group holds layers of meshed DEM data. The "Base Image" is used for gridded geo-information such as geological map, satellite images, and so on. The "Object Map" contains 5 specific layers and additional layers for any kind of geo-objects, such as faults, earthquake hypocenters, routine and stops of field works.

GeoTaos/Gmap_China.gmp

```
[GMAP_FILE_V1.0]
GeoTaos China
GeoTaos_China, 2013

[BASE_MAP]:ON
NULL
65 145 10 60 9 80 4

[OUTVIEW]
../GeoTaos_China/Gmap_Srtm3_CHN/Srtm3_CHN.jpg

[PROJECTION]
Quik
120.0 20.0 105.0 30.0

[MASK_IMG]:OFF
Gmap_GEBCO/Gebco.txt

[MASK_IMG]:ON
../GeoTaos_China/Gmap_Srtm3_CHN/Srtm3_CHN.txt

[OBJ_MAP]:OFF
../GeoTaos_China/GeomapC/Province.dlg

……

[OBJ_MAP]:OFF
……
[OBJ_MAP]:ON
Data_EQ/EQ_China_timezone+0800/CEDC1_China_2009_.eqt
EQs_CHN 2009-

[OBJ_MAP]:ON
Gmap_Obj/Faults_Deng.MIF
Active faults
……
```

GeoTaos_Map::GeoTaos/Gmap_China.gmp


GeoTaos_map - Gmap_China.gmp
File Edit Layer Option Object Utility Seismic netWork View Help
GeoTaos_CFS
Simulating EQs.
EQs_CHN P2300-1969
EQs_CHN 1970-2008
EQs_CHN 2009-
Active faults
Surface ruptures of hist. EQs
Fault properties
Some seismic stations
Some city names
Some dam sites
Faults investigated by Lei
Field investigation(2010/07/27-08/05)
CMT collection
SeismicNet
Outview Layer
EQs CHN 2009-
Visualization options
Color 5:Color(time) Select a color for filling
Order 0:Sequenced Select a draw order
Filling 3: Rainbow Select a palette
Hue range 0 320 0~360, Hue rage for col
Filter 0:All Reserved
Size 2 symbol and line size
Line color 0x000000 0x??????, RGB for outli
Symbol 2:CIRCLE Select a symbol set: Ci
Utilities
Do. 1: Add new events Add, save, ...
Error 01 5 Maximum Error XY(deg)
Add Noise. Add Random Noise to Y
run. 1: +Tidal phase Protected Calculate ta
TPS/Declustering/Simulation. Time Point Processing
Selection
Meta data min max Notes
Map LayerOpt
Std GeoObj
2008/ 5/12 6:28 Mw=7.9 H= 13km F1(357, 68, 63) F2(231, 35, 138)
Html Section X-Ys graph ?-T
Output
Build output is being displayed here.
The output is being displayed in rows of a list view
but you can change the way it is displayed as you wish.
Build Debug Find
Ready
106.78981 31.94012 H=692.000000 (198901.605377m, 215605.613060m)
CAP NUM SCRL

A. Links

Global CMT Catalog Search

Global CMT Catalog Search (http://www.globalcmt.org/CMTsearch.html) for CMT data