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# Superstation file

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# What's that?

 .mat file containing all static station-dependent data

 TRF

 Loading data

 Discontinuities

 Eccentricities

 Antenna information

 ...






```
Command Window
K>> superstations(100)

ans =

           code: 'Ma'
           name: 'MATERA '
           domes: '12734S005'
             CDP: '7243'
           comments: [1x50 char]
           antenna_info: [1x1 struct]
           antennadat: [1x1 struct]
             ecc: [1x1 struct]
             blokq: [1x1 struct]
           ocean_loading: [1x1 struct]
             equip: [1x1 struct]
           mask_vector: []
             itr2005: [1x1 struct]
             itr2008: [1x1 struct]
             vtr2008: [1x1 struct]
           VieTRF10a: [1x1 struct]
           atmosphere_tidal_loading: [1x1 struct]
           vlbiDiscont: [1x1 struct]
             vievsTrf: [1x1 struct]
           oceanPoleTideLoading: [1x6 double]
```

# Reference frames

 Following frames can be chosen in VieVS








-  ITRF2005
-  ITRF2008
-  VTRF2008
-  VieTRF10a
-  viewsTrf (+ as backup)



# Loading


- 📌 Ocean tidal loading:
  - 📌 FES2004, GOT00, EOT08a, TPXO72, AG06
- 📌 Ocean pole tide loading
- 📌 Atmosphere tide loading
  - 📌 L. Petrov
  - 📌 T. Van Dam

# Additional information

-  Antenna.dat
-  Antenna-info.txt
-  Eccentricities
-  Blokq.dat
-  Equipment
-  Horizon mask
-  Discontinuities




# Create superstation file


 Click „create“ in reference frames

 Define files

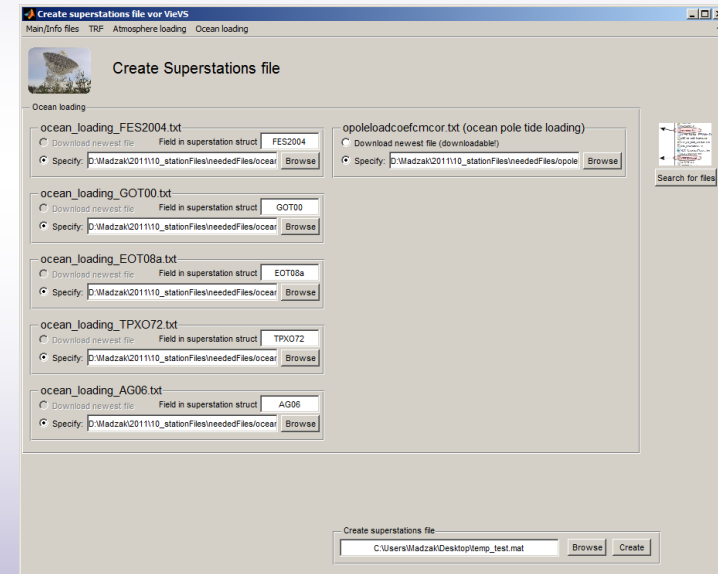
 „Search for files“ button

 Download automatically

 Define manually

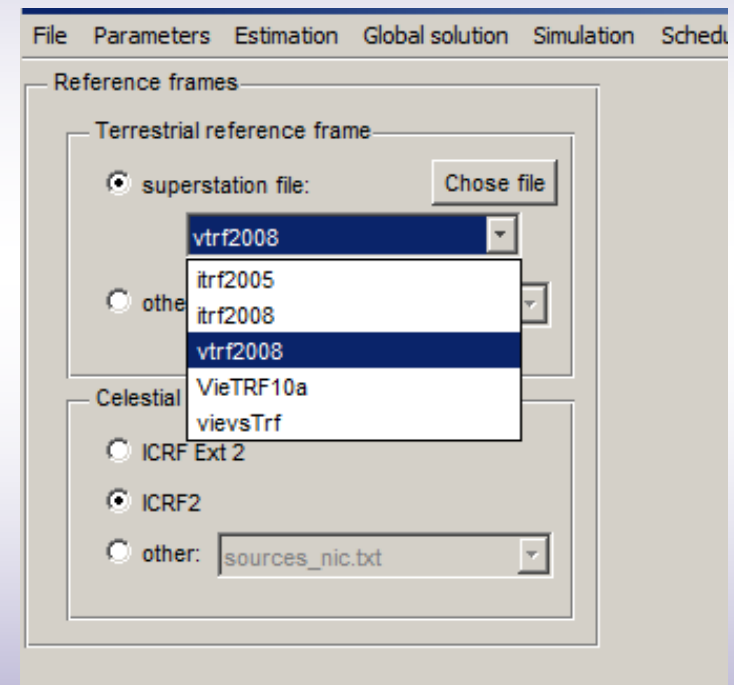
 Define output („Browse“ or manually)

 Click create



# Use in VieVS

- 📌 „superstation.mat“ should be in /TRF/ (or „Chose file“)
- 📌 5 TRF can be selected in GUI
- 📌 Other corrections not taken from superstation file yet



# Earthquake – what to do?




1. End break in all TRF for station
2. New line for station in viewsTRF
  1. Good new coordinates → 1 at end of line
  2. No good coordinates → 0 at end of line→ Datum station yes|no (1 only possible when viewsTrf is chosen, if official TRF is chosen (e.g. VTRF2008): never datum station!)
3. Create new superstation file



# New station – what to do?

1. Coordinates in viewsTrf (not official TRF) & ns\_codes
2. Ocean tidal loading

```
//Stations 201 - 214 (if coords available) for tidal ocean loading
// -> http://froste.oso.chalmers.se/loading//
//Name of station _____ Longitude (deg) | Latitude (deg) | Height (m)
//Name of station _____ | X (m) | Y (m) | Z (m)
WHHORSE | -2215213.085000 | -2209260.867000 | 5540290.979000
WARK12M | -5115324.367000 | 477843.317000 | -3767192.871000
WETTZELL | 4075539.757000 | 931735.399000 | 4801629.449000
VLA | -1601185.305000 | -5041977.457000 | 3554875.918000
VLA-N8 | -1601147.743000 | -5041733.502000 | 3555235.768000
YAKATAGA | -2529744.482000 | -1942090.876000 | 5505028.261000
YEBES | 4848780.217000 | -261701.922000 | 4123035.846000
YELLOWKN | -1224124.813000 | -2689530.725000 | 5633555.366000
YARRA12M | -2388896.041000 | 5043349.987000 | -3078591.019000
YLOW7296 | -1224399.733000 | -2689273.292000 | 5633620.272000
YAMAGUCH | -3502544.258000 | 3950966.397000 | 3566381.165000
YEBES40M | 4848762.100000 | -261484.500000 | 4123084.900000
YUMA | -2196778.024000 | -4887336.923000 | 3448425.042000
ZELENCHK | 3451207.709000 | 3060375.296000 | 4391914.973000
```

-  Create superstation file to get station list
-  <http://host.oso.chalmers.se/loading//>
-  Add to text file and select in superstation GUI

Select ocean tide model  
A brief description of the ocean tide models can be found [here](#).  
[GOT002]

What type of loading phenomenon do you consider  
 vertical and horizontal displacements  
 gravity  $\mu\text{m}^2$   
 gravity mgal

If you have selected vertical and horizontal displacements, you can correct for the [centre of mass motion of the tides](#). (NO means your frame origin is in the solid earth centre, YES that it is in the joint mass centre of solid earth.)  
 Do you want to correct your loading values for the motion?  
 NO  
 YES




Want a plot? (New feature of Sep. 4, 2011)  
 The plots show the near-field resolution of the coastline. They are generated for each site that involves the loading OLMPP. Compare with the comment information in the result file.  
 NO  
 YES  
 Fetch it [here](#) after you received the results. Look for your user name: name-olmpp1.png name-olmpp2.png

What kind of output format is required?  
 BLQ (normal)  
 HARPOS (...RECENTLY ADDED FEATURE...)  
 Gravity loading parameters for [TSOFT](#) and [g-Software](#) can be converted from BLQ with [okt2g](#).

Where are your stations?  
 In the following forms up to one hundred stations can be entered but each station should be on a separate line. The above sea level is irrelevant for ocean tide load modelling of displacements: it is not necessary to input this parameter.

Name of station	Longitude (deg)	Latitude (deg)	Height (m)	OR
Name of station	X (m)	Y (m)	Z (m)	
//m1	11.9284	37.3958	0.0000	
//m2	.....	.....	.....	
// Records starting with // are treated as comments				

# Final steps

-  Don't forget to click „Create“!
-  Put into TRF or
-  Select in GUI  
(Parameters – Reference frames

