Zentralanstalt für Meteorologie und Geodynamik

Antelope @ ZAMG

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Bucharest, Romania

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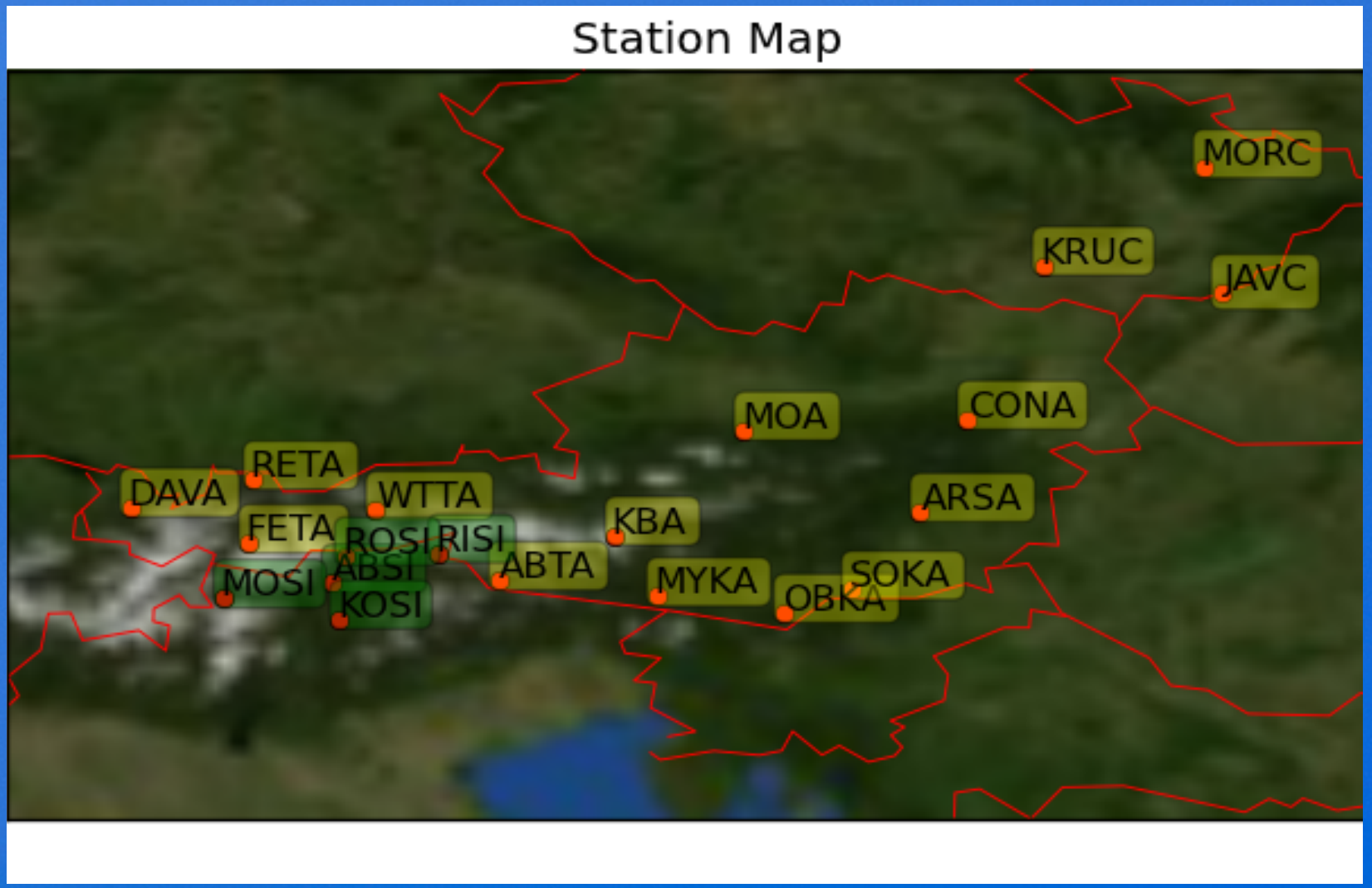
ZAMG / Vienna

network


Station Map
MORC
KRUC
JAVC
MOA
CONA
RETA
DAVA
WTTA
ARSA
KBA
FETA
ROSI
RISI
ABSI
ABTA
MOSI
MYKA
SOKA
OBKA
KOSI

python is great and simple

Terminal Shell Bearbeiten Ansicht Fenster Hilfe — 4% 3% (Geladen) Di. 22:23

Terminal — screen — 125×32

more | screen | tcsh

```
#!/opt/antelope/5.0-64/local/bin/python

import sys
import os
from mpl_toolkits.basemap import Basemap
import numpy as np
import matplotlib.pyplot as plt
sys.path.append( os.environ['ANTELOPE'] + '/local/data/python' )
from antelope.datascope import *
from antelope.stock import *

m = Basemap( llcrnrlat=45,llcrnrlon=9, urcrnrlat=50.5,urcrnrlon=19,\
            resolution='l',projection='cyl')
m.bluemarble() # nice colours, bit slow
m.drawcountries(color='red',linewidth=0.7) # obvious
ax = plt.gca() # get an axis handle
db=dbopen("/Volumes/Daten/zamg/zagsun17/dbmaster/ags","r")
db=dblookup(db,'','site','','')
dba=dbsubset(db,'sta=~/ARSA|CONA|DAVA|KBA|MOA|OBKA|WTTA|JAVC|KRUC|MORC|ABTA|FETA|RETA|MYKA|SOKA/')
for dba[3] in range(dbquery(dba,dbRECORD_COUNT)):
    [lat,lon,sta]=dbgetv(dba,"lat","lon","sta")
    ax.plot(lon,lat,'or')
    ax.text(lon + 0.01 ,lat +0.01 , sta,bbox=dict(boxstyle='round',facecolor='yellow', alpha=0.3))
dbb=dbsubset(db,'sta=~/ABSI|KOSI|MOSI|RISI|ROSI/')
for dbb[3] in range(dbquery(dbb,dbRECORD_COUNT)):
    [lat,lon,sta]=dbgetv(dbb,"lat","lon","sta")
    ax.plot(lon,lat,'or')
    ax.text(lon + 0.01 ,lat +0.01 , sta,bbox=dict(boxstyle='round',facecolor='green', alpha=0.3))
plt.title("Station Map Demo")
plt.savefig('plotmap.png')
```

1 plotmap.py

strong-motion network

tasks

Data acquisition

- qt2orb (4.11), q3302orb, cs2orb
- altus2orb

- orb2orb, slink2orb, cd2orb

Automated processing

- orbdetect
- orbassoc
- orbampmag, orbevproc
- orb_quake_alarm
- k2evtinfo2detection → orbtrigger → email alerts

- k2evtinfo2db
- send_bulletin to send isf bulletin toEMSC

  modification of orb_quake_alarm

tasks - bulletin

get external databases

- EMSC, USGS, CTBTO, neighbours
  - eventORB ???

dbfix_phase

reassociate to revised solutions

send_bulletin, send_reviewed_bulletin

Specific Bulletins

- kelag2csv – gather k2header information for a site

archiving

- waveforms
  - cdorb2db, db2msd
    - compare to orb2db
  - copy of wf directories to nfs storage
    - might be smarter to use time_slice_db
- events
  - dbsplit into annual volumes
  - db2AEC
  - k2evtinfo2db

storage

hardware

- 3 standard rackmount PCs running Debian
- several external SATA raid with 16 disks each, RAID 5, 2 Hot-Spare

software

- Debian or any other Linux
- DRBD (http://www.linbit.com)
- SAMBA, NFS, IDs from Windows domain controller
  - depending on the data, 2 or 3 way mirroring

metadata

one dbbuild batchfile for each station

append history to file

foreach ff (*-dbb)

dbbuild -b $DB $ff

problem: different IDS after each recreation of dbmaster

try to collect dbbuild batchfiles

rebuilding foreign stations with dbbuild most of the times better than using SEEDfiles

ctbt stations from GeoTools dbmaster

tasks - NDC

cdx2orb

autodrm2db,

some modifications needed for ctbt

- ontime/offtime
- format violations
- displacement/velocity issue with autodrm

autodrm_proxy

mail_parser → reb2db, rr2db, rrx2db

w4u2db – parse swiss waves4u webpage to database

request data based upon availability, server-specific requests

Infrasound?

hydroacoustic??

RN???

data exchange

- separate data exchange server
  - backup exchange server
  - redundant exchange scenarios?
- redundant proxies, orbxchange
- my homegrown isfbulletin vs db2ims
- dborigin2orb with archive flag could be helpful

existing hardware

zagsun10	Enterprise 450	Server, old stuff
zaglsmon	PC	Nagios
zagsun19	V240	Webserver
zagsun20	V440	Server
zagsun2	T5220	SunRay
zagsun26	T5220	Webstuff
iscsi raid	Storagetek 2510	
iscsi raid	Storagetek 2510	
zagsun27	M4000	Computing

zagndc1	Netra T1	Data exchange
Zagndc2	V240	
zagsun12	Netra T1	email, proxy
zagsun22	V240	
zagsun14	Netra T1	email, proxy
zagsun24	V240	
zagsun16	V240	main antelope
zagsun15	V240	backup
Zagls01	PC	samba, nfs
Raid	TT6100	waveforms
Raid	TT6100	other archive
Raid	Brownie	

zagmac1	MacPro	
zagsun17	Analysis	
zagsun13	NDC Analysis	
zagsun18	Observatory Server	
zagsun28	Observatory Analysis	
zibk-xlwz	Innsbruck Analysis, Display	

zagls02	PC	backup
Raid	TT6100	waveforms
Raid	TT6100	other archive
zagls03	PC	
Raid	TT6100	waveforms

hardware needed

2 servers for acquisition / processing

2 analysis workstations

1 or 2 data exchange servers

webserver and other commodities

storage

or maybe only some virtual machines?

webstuff we are working on

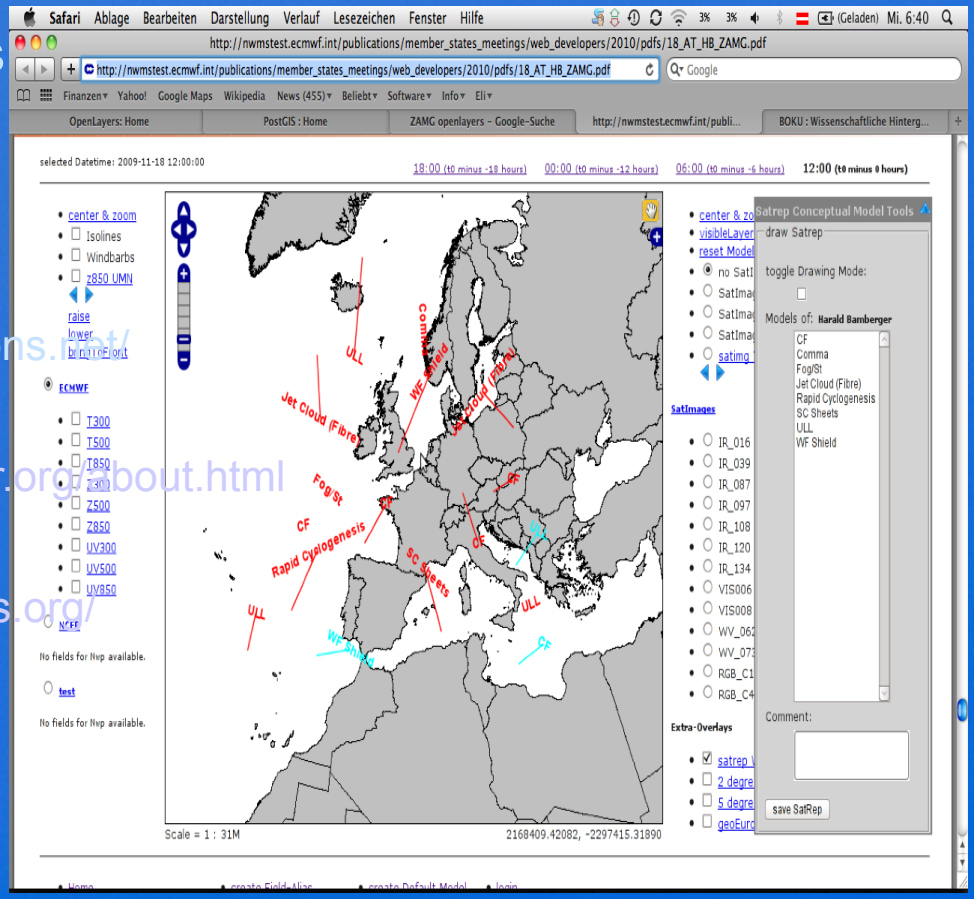
more python plotting

dbrecenteqs, RSS, seismograms

interactive map

- Postgres / PostGIS
  - http://postgis.refractions.net/
- MapServer
  - http://www.mapserver.org/about.html
- OpenLayers
  - http://www.openlayers.org/

db2sql → db2psql, postGIS ?



things to contribute

neicd, emscd

various schemas

dbwf2xy, GMT plotting of waveforms

templated

db2Excel (depends on Spreadsheet::WriteExcel)

evtfile processing

dbbuild batchfiles for our stations

datalogger alerts

Conrad Observatory Homepage

htttp://www.conrad-orbservatory.at – coming soon