



# Antelope usage @ OGS

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QAUG Prague March 2010

# Nice to be back since 1998!

ORFEUS Newsletter - January 1999 - Windows Internet Explorer

http://www.orfeus-eu.org/Organization/Newsletter/vol1no1/index.html

ORFEUS Newsletter - January 1999

**Observatories and Research Facilities for European Seismology**  
**Volume 1, no 1**      **January 1999**      **Orfeus Newsletter**

**ORFEUS Electronic Newsletter**

This is the first issue of the Orfeus Electronic Newsletter following an initiative of the [Board of Directors](#) of Orfeus at the 1998 ESC meeting in Tel Aviv. The goal of this Newsletter is to disseminate rapidly and with minimal costs information relevant to the Orfeus community within the European-Mediterranean area. Orfeus invites contributions. Please, do not hesitate to vent your opinion, comments, ideas, etc. to Orfeus ([Torild van Eck](#)).

<b>Articles and News</b>	<b>Short notes</b>
<a href="#">ORFEUS Electronic Newsletter: Scope and authors guidelines:</a> 2 (7 kB)	<a href="#">Orfeus workshop:</a> 8 (10 kB) Nov 9-12, 1998 Prague. "Installation and operation of broad-band seismograph stations"
<a href="#">Why an ORFEUS Electronic Newsletter?:</a> 3 (6 kB) <i>Torild van Eck, Bernard Dost, Ota Kuhlhanek and Winfried Hanka</i>	<a href="#">First European Quanterra Users Group meeting:</a> 9 (10kB) Nov 12-13, 1998 Prague. Discussions on technical aspects, users applications, etc
<a href="#">The GEOFON Program:</a> 4 (130 kB) <i>Winfried Hanka</i> A European BB network with global ambitions: station distribution and data access.	<a href="#">Instrumentation: ED&amp;N working group? workshop at IUGG99?:</a> 10 (5kB)
<a href="#">New temporary broadband stations in the larger Mediterranean region:</a> 5 (310 kB) <i>Suzan van der Lee, Domenico Giardini, Charles Estabrook, Anne Deschamps and Claudio Chiarabba</i> Project MIDSEA	<b>Announcements</b> <a href="#">ORFEUS announcements:</a> 11 (5 kB) <b>ODC-Volumes for 1993</b> published and will be mailed ASAP to participants. <b>Near Real Time (NRT) SEED</b> format waveform data for 1998 and 1999. <b>1998:</b> 2 new corporate founders and 5 new participants.
<a href="#">ORFEUS Working group 1: BB siting and station standards:</a> 6 (6 kB) <i>Jan Zednik</i> The status and plans. Presentation of a.o. the station inventory and station book for the European-Mediterranean area.	
<a href="#">Inventory of Data from Seismographic Networks of the World:</a> 7 (7 kB) <i>John Lahr, Willie Lee and Torild van Eck</i> Call for European/Mediterranean Seismic Network Contributors	

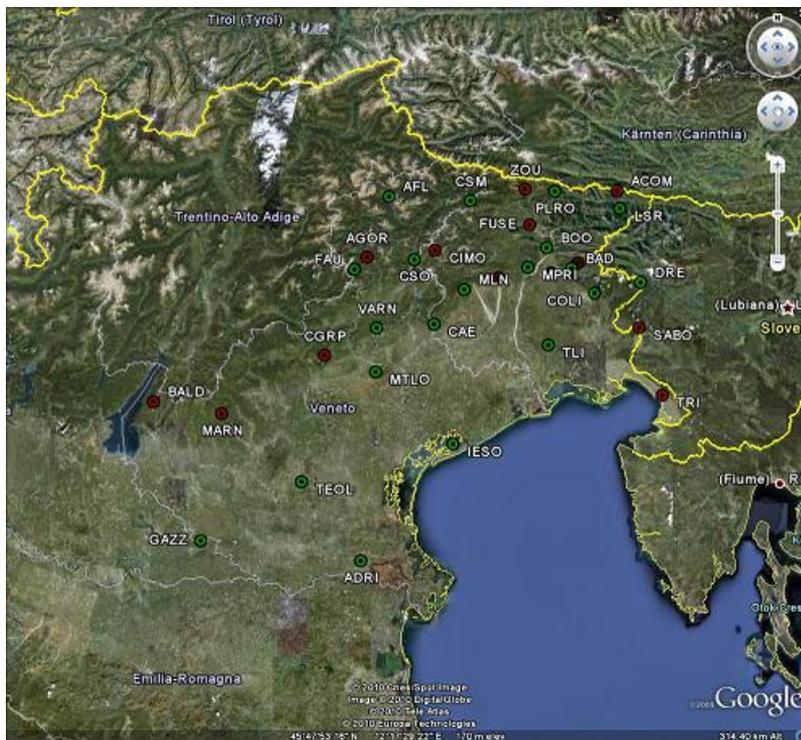
**page 1**

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Please contact [Torild van Eck](#) to (un)subscribe to the Orfeus Newsletter or request printed copies (only participants).

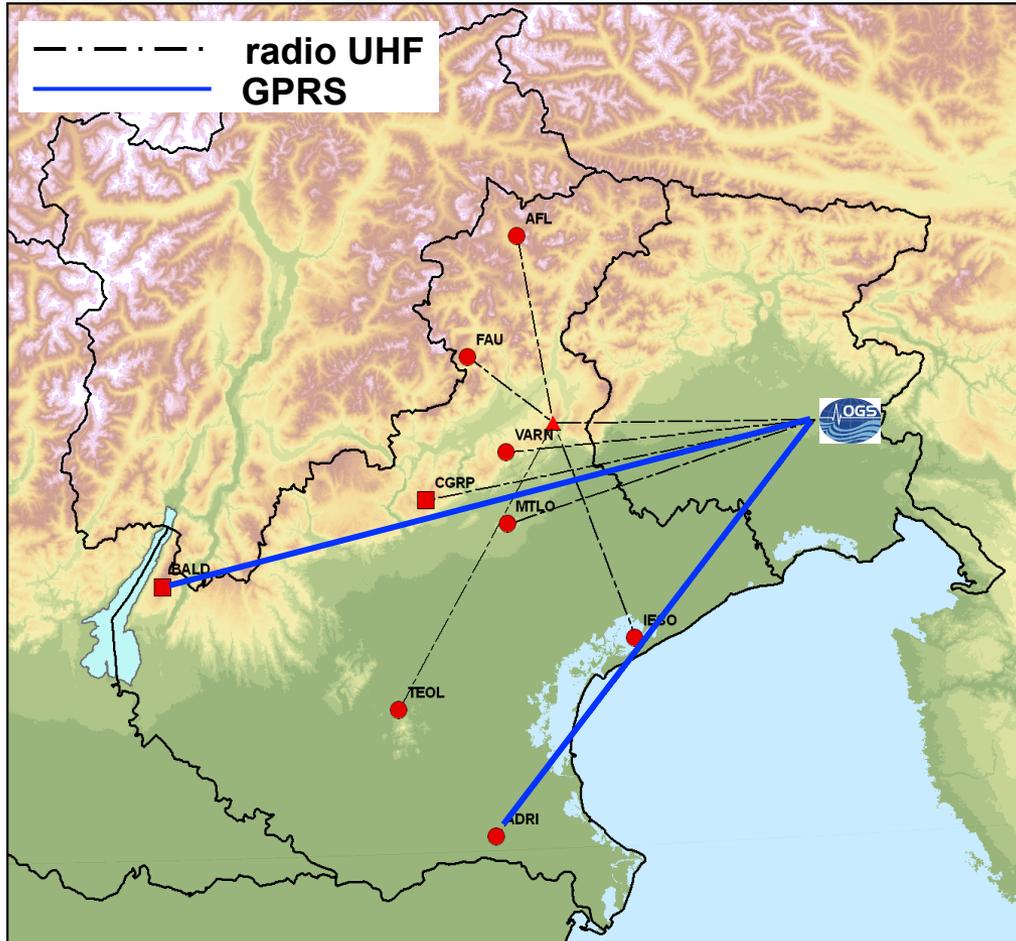
Internet 90%

# NE Italy Seismic Network - OGS



- 12 BB stations
  - mostly Q330 + STS-2
  - real time, continuous
- 22 SP stations
  - Mars88 + Lennartz  
1sec
  - real time, on trigger

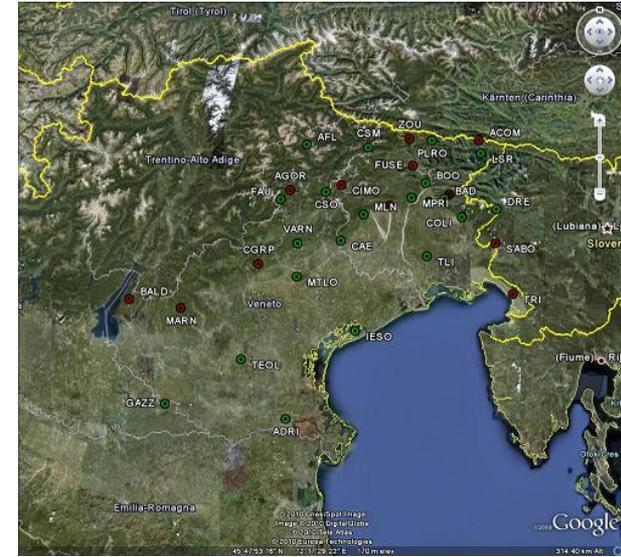
# How is data transmitted?



- UHF radio system with digital transmission
  - bandwidth 19.2kb/s
  - shared frequencies
- GPRS modem
- *Satellite currently under test*

# OGS-CRS: monitoring NE Italy seismicity

- 2 people on call duty H24 (seismologist + technician)
- Intervention in office for events with  $M > 3.5$
- OGS staff intervention at Civil Protection headquarters for events with  $M > 4.5$



*CRS headquarters in Udine (Italy)*

Intervention at CRS headquarters for:

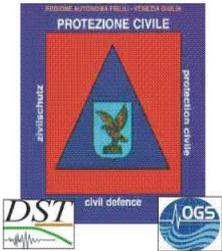
- operations checking
- review / confirmation of the location and magnitude (picking of S waves)
- control over any replicas of earthquake
- maintain the link with the regional structures of the Civil Protection

# Data acquisition with Antelope @ OGS: how it all started

*INTERREG III A Italia-Austria*

*2000-2006*

*"SEISMOLOGICAL NETWORKS WITHOUT FRONTIERS IN THE  
SOUTH EASTERN ALPS"*

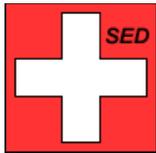


Participants:

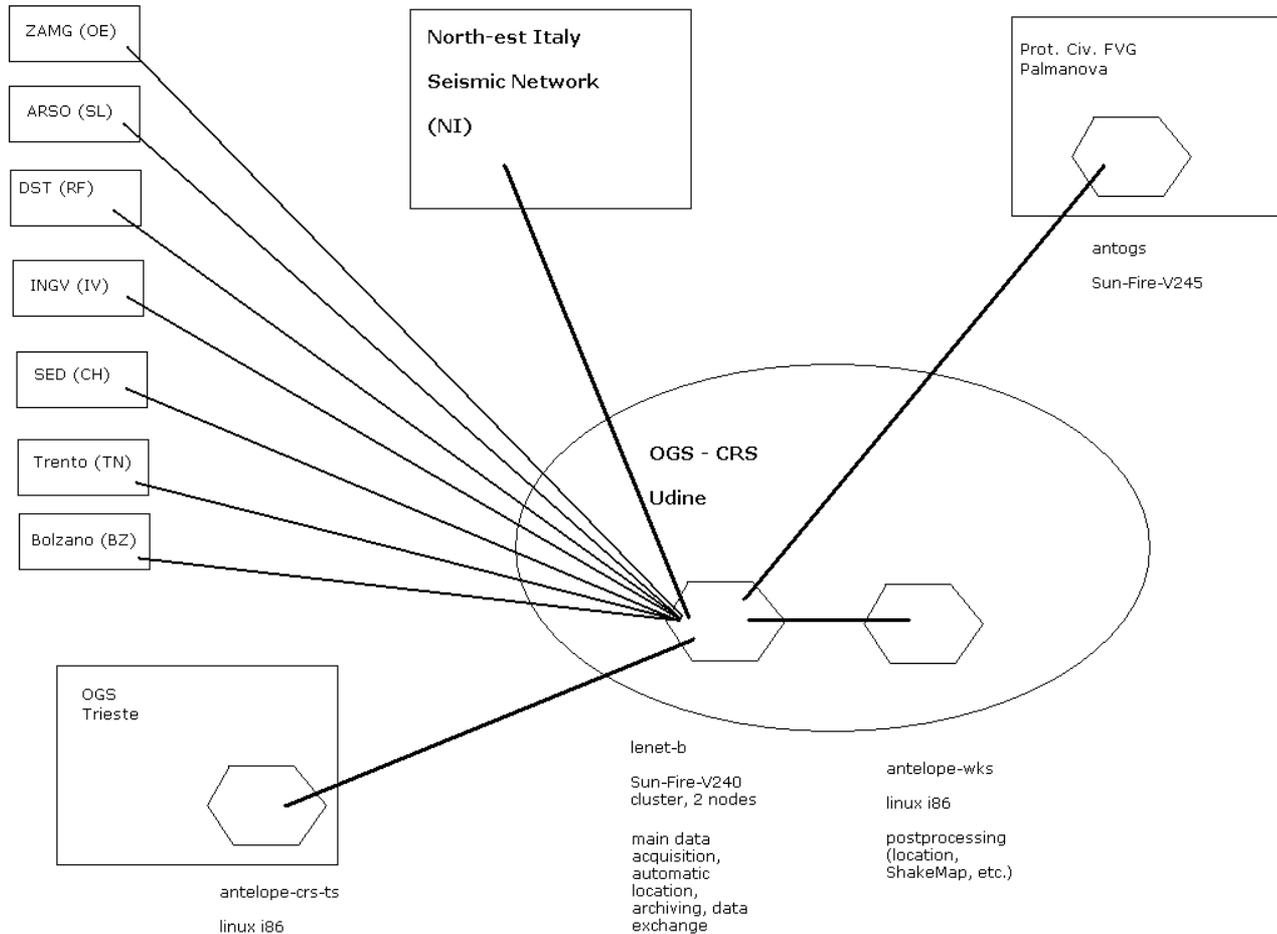
- ZAMG (Vienna, Austria)
  - OGS (Udine, Italy)
  - DST (Trieste, Italy)
- ARSO (Ljubljana, Slovenia), external



# Data contribution: ~100 stations!



# OGS Antelope configuration



# main rtexec processes table

```
Processes &Tbl{
orbserver          orbserver -p $ORB orbserver
orbexport          orbserver -p $ORBEXPORT orbexport
orbvino            orbserver -p $ORBVINO orbvino
orbsor             orbserver -p $ORBSOR orbsor
orbasain           orbserver -p $ORBASAIN orbasain
qt2orb             qt2orb -dataorb $ORB -cmdorb $ORB -calib_db $DB -v
q3302orb           q3302orb -v -calib_db $DB -S state/q3302orb -v OGS dataorb $ORB
TN2orb             slink2orb -v -dc $DB -dm $DB -S state/TN2orb -pf pf/TN2orb.pf $TNSEISCOMP $ORB
MN2orb             slink2orb -v -dc $DB -dm $DB -S state/MN2orb -pf pf/MN2orb.pf $INGVSC $ORB
DST2orb            orb2orb -m '((NI|RF|IT)_*|MN_TRI_(H|E|S)(H|L|G|N)(Z|N|E).*) -r 'NI_(ACOM|AGOR|BALD|CGRP|CIMO|CUSI|FUSE|MPR2|SABO|VINO|ZOU2)_*' -S state/
DST2orb            DST2orb $DSTORB $ORB
ARSO2orb           orb2orb -m 'SL_(ROBS|CADS|VOJS|GORS|SKDS|JAVS|KNDS|CEY|GBAS|MOZS|LJU|VNDS).*(H|E|S)(H|L|G|N)(Z|N|E).*' -S state/ARSO2orb $ARSOORB
ARSO2orb           $ORB
ZAMG2orb           orb2orb -m 'OE_(ABTA|ARSA|DAVA|FETA|KBA|MOA|MYKA|RETA|SOKA|WTTA)_*(H|E|S)(H|L|G|N)(Z|N|E).*' -S state/ZAMG2orb $ZAMGORB $ORB
SI2orb            orb2orb -S state/SI2orb -m 'SI_.*_(H|E|S)(H|L|G|N)(Z|N|E).*' $SIORB $ORB
CH2orb            slink2orb -v -dc $DB -dm $DB -S state/CH2orb -pf pf/CH2orb.pf $SSEDSC $ORB
orb2db            orb2db -v -S state/orb2db -r 'FV_.*' $ORB $DB
orb2db_FV         orb2db -v -S state/orb2db_FV -m 'FV_.*' -p pf/orb2db_FV.pf $ORB $DB
orb2dbt           orb2dbt -v -state state/orb2dbt -overwrite $ORB $DB
orbdetect         orbdetect -v -onlypicks -out $ORB $ORB $DB
orbassoc          orbassoc -v -select /db/detection $ORB $ORB dbmaster/ttgrid
orbmb             orbampmag -pf pf/orbmb -v -state state/orbmb -use_if_not_defining -auth_expr mb -next_target_orbmag orbml -make_magtables $ORB $ORB $DB
orbml             orbampmag -pf pf/orbml_Bragato_Tento_Gasperini -v -state state/orbml -use_if_not_defining -auth_expr ml -target_orbmag orbml -next_target_orbmag orbms -
orbms             make_magtables $ORB $ORB $DB
orbms             orbampmag -pf pf/orbms -v -state state/orbms -use_if_not_defining -auth_expr ms -target_orbmag orbms -make_magtables $ORB $ORB $DB
orb2export        orb2orb -m 'FV_.*|NI_(ACOM|CGRP|CIMO|CUSI|FUSE|MPR2|SABO|ZOU2)_*(H|E|S)(H|L|G|N)(Z|N|E).*' -S state/orb2export -r '/*.*|pf.*' $ORB $ORBEXPORT
exportVINO        orb2orb -m 'NI_VINO_.*|qt2orb.*' -S state/exportVINO $ORB $ORBVINO
orb2sor           orb2orb -S state/orb2sor -m '((FV|NI|RF|IT|SI|SL|OE)_*|MN_TRI_(H|E|S)(H|L|G|N)(Z|N|E).*) -r 'NI_(AGOR|BALD)_*' $ORB $ORBSOR
orb_alert_friuli  orbpttrigger -background -select "/pf/orbmag" -state state/orbpttrigger_friuli $ORB /database/AlertFriuli/alert_friuli @origin.evid@ @origin.oid@
orb_alert_veneto  orbpttrigger -background -select "/pf/orbmag" -state state/orbpttrigger_veneto $ORB /database/AlertVeneto/alert_veneto @origin.evid@ @origin.oid@
orb_alert_TN      orbpttrigger -background -select "/pf/orbmag" -state state/orbpttrigger_TN $ORB /database/AlertTrentino/alert_trentino @origin.evid@ @origin.oid@
orbtrigger_topkserver
%lon% %depth% %ml% %lddate% orbpttrigger -background -select "/db/origin" -state state/orbpttrigger_topkserver $ORB /database/topkserver/orbtrigger_topkserver %evid% %oid% %time% %lat%
orbtrigger_orb2db_evid
%lon% %depth% %ml% %lddate% orbpttrigger -background -select "/db/origin" -state state/orbpttrigger_orb2db_evid $ORB /database/evdb/orb2db_evid %evid%
orbtrigger_towebpcfv
%lon% %depth% %ml% %lddate% orbpttrigger -background -select "/pf/orbmag" -state state/orbpttrigger_towebpcfv $ORB /database/towebpcfv/towebpcfv.pl @origin.evid@ @origin.oid@
orbtrigger_toShakeMap
%time% %lat% %lon% %depth% %ml% %lddate% orbpttrigger -background -select "/db/origin" -state state/orbpttrigger_toShakeMap $ORB /database/toShakeMap/orbtrigger_toShakeMap %evid% %oid% %auth%
}
}
```

# main OGS Antelope load averages

load averages: 1.59, 1.50, 1.45; up 162+03:36:56  
14:38:25

138 processes: 136 sleeping, 2 on cpu

CPU states: 26.9% idle, 67.3% user, 5.9% kernel, 0.0% iowait, 0.0% swap

Memory: 4096M phys mem, 241M free mem, 20G total swap, 19G free swap

PID	USERNAME	LWP	PRI	NICE	SIZE	RES	STATE	TIME	CPU	COMMAND
7754	rt	1	0	40M	31M	cpu/0	0:13	45.20%		perl
3829	rt	95	59	0	1042M	498M	sleep	42.9H	18.21%	orbserver
1268	root	27	59	0	874M	746M	sleep	860:45	2.37%	java
4013	rt	1	49	0	133M	34M	sleep	615:14	1.67%	orbdetect
3937	rt	1	59	0	107M	39M	sleep	211:35	1.28%	orb2db
6852	rt	1	59	0	16M	9136K	sleep	0:00	0.75%	dtterm
3867	rt	35	59	0	57M	8720K	sleep	150:22	0.46%	q3302orb
3859	rt	4	59	0	108M	94M	sleep	99:00	0.25%	orbserver
3879	rt	1	59	0	49M	2680K	sleep	34:43	0.17%	slink2orb
7843	rt	1	59	0	3088K	1888K	cpu/1	0:00	0.15%	top
4054	rt	1	59	0	5248K	1768K	sleep	51:51	0.12%	orb2orb
3838	rt	8	59	0	108M	54M	sleep	31:43	0.11%	orbserver
1410	sysop	1	59	0	3968K	2240K	sleep	318:27	0.09%	seedlink
3825	rt	1	59	0	25M	5120K	sleep	20:21	0.07%	perl
3877	rt	1	59	0	49M	2600K	sleep	14:44	0.06%	slink2orb

# main OGS orb sources & clients

orbserver 3/19/2010 (078) 13:59:17.697

Version 'Release 4.10 SunOS 5.10 2008-05-02 '

Pid 3829 @ lenet-b:/database (158.110.30.6), port #XXXX

Started Tue 2010-068 Mar 09 13:22:16 by rt, running 10  
days 0.6 hours

ring buffer last initialized Thu 2008-311 Nov 06 11:24:27

Maximum 1000.0 Mbytes packet data

Maximum 2500010 packets

Maximum 1000 sources

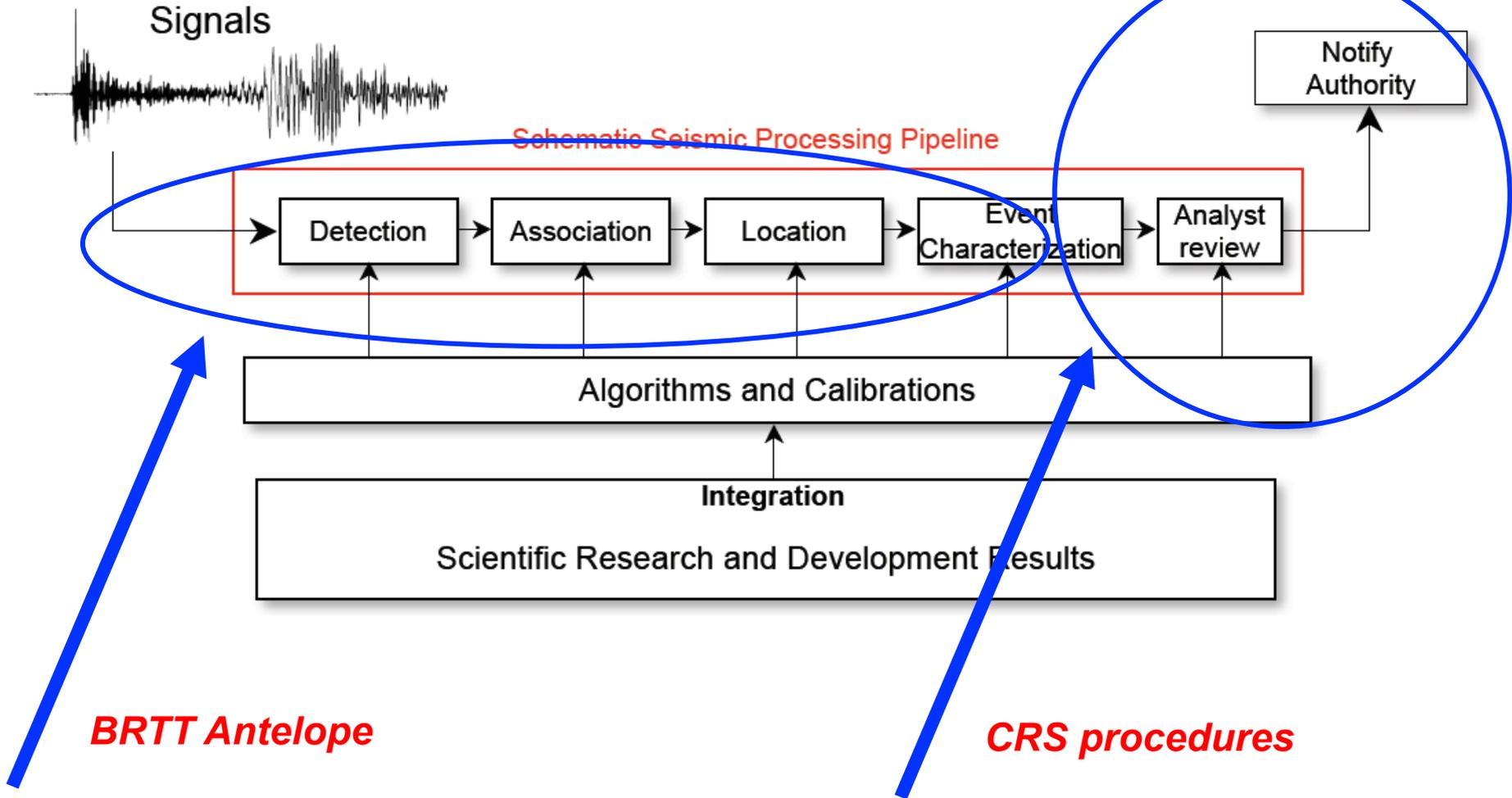
**58 clients**

**376 sources**

291079 opens 291021 closes 0 errors 0 rejections

# Earthquake detection and notification

## Real-time operational monitoring systems



# OGS customized sw for Antelope

- PickServer
- Comprehensive Alarm routines with re-location control
  - Output: email, fax, SMS, web
- M882orb and ORION2orb plugins
- data archive
- drumplot
- *ShakeMap*
- *SeisComP (data exchange)*

# OGS PickServer

The North-Eastern Italy Seismometric Network - ANTELOPE\_15MIN: - Windows Internet Explorer

http://pickserver.crs.inogs.it/PickServer/psShowEventPage?Project=Antelope?dir=antelope\_15min/2010/03/18/22-13-43?cid=m2qdiZSuHhAAgs6RGaAAAC

## The North-Eastern Italy Seismometric Network

### Bulletin revision

ANTELOPE\_15MIN event list : 2010-03-18\_22-13-43

2010-03-18

FY SP_ID		FY SP_3D		NI_BB		TN_SF		AA_BB		INGY_BB		SL_BB		OE_BB	
BUA	84.1	ILI1	N.A.	SABO (2)	44.0	FANI	220.7	RISI	189.4	PTCC (1)	74.8	JAYS (2)	21.5	MIKA	75.7
ILI	82.7	PUSE	N.A.	TRI	81.4	DDS	233.3	KOSI	221.1	PVI	123.4	GORS (2)	31.8	ARTA	148.4
BOO	88.9	DRE (3)	43.9	DST2	84.4	PAG	243.4	BSOI	226.2	SEST	149.7	CADS (1)	29.5	FITA	285.7
IESO	141.3	COLI	83.4	CUSI	72.4	OZOL	244.7	ABSI	232.3	CTI	196.4	CEY (1)	40.4	DAVA	194.2
MTLO	164.4	LSR (2)	68.5	VINO (1)	71.4	VAR	256.3	ROSI	231.7	BRES	201.5	ROBS	56.1		
FAU	172.5	BAD	75.5	ACOM	74.5	CARE	272.2	MOSI	226.4	APPI	232.7	SKDS (1)	59.3		
		MPRI	84.9	GEFF	84.4	RNI	278.1			MAGA	277.8	KNDS	41.4		
		PLRO	86.4	EUSE	86.4					SBFO	278.8				
		ZOU	108.5	PALA	99.9					RAVA	280.8				
		MLN	122.1	TOU2	108.9					MABI	284.1				
		CSM	128.5	PURA	118.9					SALO	288.7				
		CAE	135.7	FOIC	131.9					BRMO	297.4				
		CSO	145.9	CIMO (1)	137.4					VLC	286.3				
		VARS	151.5	AGOR	157.1					TUE	375.9				
		AFI	163.9	CGRP	186.3										
		CGRP	186.3	MARS	236.1										
		ADRI	204.4	BALD	264.9										
		TEOL	210.8												
		GAZZ	263.4												

### Pickings

1155 bytes

```

.picks
JAYS BB Z ? P ? 20100318 2213 47.066 GAU 0.2 0.C
JAYS BB Y ? _CODA ? 20100318 2214 17.854 GAU 0.1
GORS BB Z ? P ? 20100318 2213 48.842 GAU 0.2 0.C
last modified: 2010-03-19 13:00:07.0

```

### Hypocentral Location

1583 bytes

0.G.S. Boll. Friuli-V.Giulie

```

1 1 2010 MAR 18 22h13m42.7s
46 03.9 N 14 11.5 E
EPICENTRAL AREA: ZIRI (SLOVENIA)
h= 12.5km +/- 3.5km MD= 2.2 G
sta phase time res wt

```

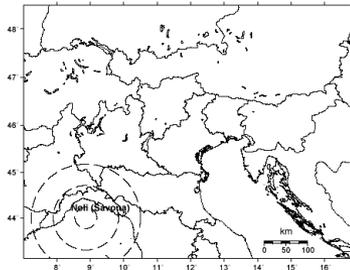
Internet 60%

# Alarms



SEGNALAZIONE DI TERREMOTO  
 Evento n. 7681  
 del 01/02/2009 ore 15:52:01

Fax n.7681\_1  
 Prima Segnalazione



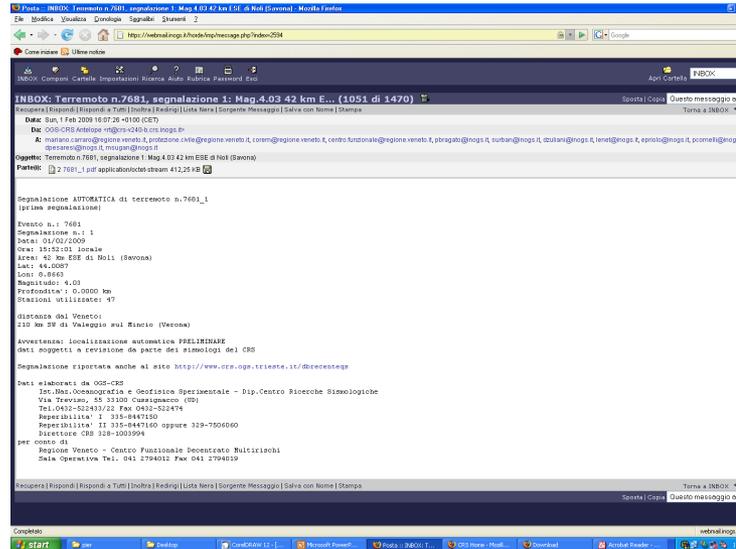
Data: 01/02/2009  
 Ora: 15:52:01 locale  
 Area: 42km ESE di Noli (Savona)

Epicentro: 44.009°lat (44°00'31")  
 8.866°lon(08°51'58")  
 Magnitudo: 4.0 (ML Richter)  
 Profondita': 0.0 km

AVVERTENZA: localizzazione preliminare AUTOMATICA  
 dati soggetti a revisione da parte dei sismologi del CRS

Struttura responsabile dell'elaborazione dell'Avviso: OGS-CRS  
 Ist.Naz. Oceanografia e Geofisica Sperimentale - Dip. Centro Ricerche Sismologiche  
 Tel. 0432-52243/22 Fax 0432 522474  
 Reperibilità 1 3358447150 Reperibilità 2 3358447160 oppure 3297506060  
 Direttore CRS 028 1003964  
 Segnalazione pubblicata sul sito <http://www.crs.inogs.it>

fax



e-mail

sms

**OGS-CRS Terremoto n.7681  
 segnalazione n.1  
 Mag4.03 H15:52:01  
 del 01/02/2009  
 42km ESE di Noli(Savona)  
 lat44.0087 lon8.8663  
 rep 3358447150**



web

# OGS dbheli

OGS-CRS waveform drumplots - Windows Internet Explorer

http://www.crs.ingv.it/antelope/plot/index.htm

Preferiti OGS-CRS waveform drumplots

Google

Pagina Sicurezza Strumenti

**Istituto Nazionale di Oceanografia e di Geofisica Sperimentale**

**Centro di Ricerche Sismologiche**

**OGS-CRS waveform drumplots**

Link to: [OGS-CRS yesterday waveform drumplots](#)

The screenshot shows a web browser window with the title "OGS-CRS waveform drumplots". The address bar contains the URL "http://www.crs.ingv.it/antelope/plot/index.htm". The browser's toolbar includes a search bar with "google" and various navigation icons. The main content area features the logo of the Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (INGV) and the Centro di Ricerche Sismologiche. Below the logo, the text "OGS-CRS waveform drumplots" is displayed in a large, bold font. A link to "OGS-CRS yesterday waveform drumplots" is provided. The main content area contains six waveform drumplots arranged in a 3x2 grid. Each plot is titled with a station name: ACOM, AGOR, BALD, CGRP, CMO, and FUSE. The plots show seismic waveforms over time, with a vertical scale and a horizontal time axis. The plots are arranged in a 3x2 grid. The bottom status bar shows "Internet" and a zoom level of "75%".

# OGS Real Time Seismology

RealTime Seismology - Windows Internet Explorer

http://rts.crsi.inogs.it

Centro Ricerche Sismologiche **RealTime Seismology**

**News**

**Event notification**  
2010-03-19 06:35:40

Notification of a new event: location (lat. 44.7669, lon. 9.9557); mag. 2.4

[→ news archive](#) [→ read more](#)

HOME STATION INFO SHAKEMAP MOMENT TENSORS CONTACTS

last update at 2010-03-19 07:59:20

**Search**

Period from  to

Lat. from  to

Lon. from  to

Mag. from  to

[→ advanced search](#)

OGS is partner of  
DPC-INGV S3 Project (2007-2009)

**event list**

- 2010-03-19 06:35:40 MI: 2.4
- 2010-03-19 05:12:53 MI: 1.6
- 2010-03-18 22:13:43 MI: 1.5
- 2010-03-18 17:07:12 MI: 1.6
- 2010-03-18 10:51:34 MI: 1.4
- 2010-03-17 10:31:31 MI: 2.2
- 2010-03-17 01:04:41 MI: 1.9
- 2010-03-16 19:09:41 MI: 1.4
- 2010-03-16 18:33:38 MI: 1.8
- 2010-03-13 02:09:22 MI: 2.4
- 2010-03-12 06:35:29 MI: 1.3
- 2010-03-12 04:53:14 MI: 1.9
- 2010-03-11 19:31:00 MI: 3.3
- 2010-03-10 19:57:10 MI: 2.4
- 2010-03-10 08:41:41 MI: 1.6
- 2010-03-09 00:26:15 MI: 1.4
- 2010-03-07 19:13:43 MI: 1.6
- 2010-03-07 15:26:30 MI: 2.2
- 2010-03-07 04:27:48 MI: 3.4
- 2010-03-06 23:36:15 MI: 2.0

download static map

**Caption**

M < 3.5   3.5 < M < 4.5   4.5 < M < 5.5   M > 5.5

0-12 hours   12-24 hours   1-3 days   3-7 days   7-14 days

# To do:

- Migration from 4.10 to 4.11 (wait 4.12?)
- Migration from orbampmag to orbevproc
- Archive policy revision (back to rtbackup?)
- dbdetect tuning
  - BB continuous
  - SP trigger
  - S phases?
- orbassoc tuning (grid, windows, etc.)

# EGU2010 SM1.3

## Seismic Centers Data Acquisition

The screenshot shows a web browser window titled "CO Meeting Organizer EGU2010 - Windows Internet Explorer". The address bar shows the URL "http://meetingorganizer.copernicus.org/EGU2010/session/2427". The page header features the European Geosciences Union logo and the text "European Geosciences Union General Assembly 2010 Vienna, Austria, 02 - 07 May 2010". A logo for the Austria Center Vienna is also present. The left sidebar contains a navigation menu with items such as Home, Information, Programme, Special Events, Abstract Management, Guidelines, EGU on Renewables, Registration, Support EGU Outreach, Letter of Invitation, Accommodation, Venue, Floor Plans, Job & Education Market, Exhibition, Photo Competition, and Townhall & Splinter. The main content area displays the session title "SM1.3 Seismic Centers Data Acquisition" with a "[Back]" link. The convener is listed as Damiano Pesaresi and the co-convener as Reinoud Sleeman. There are links for "Convener Login", "Oral Programme", and "Poster Programme". The session description states: "While the number and quality of seismic stations and networks installed is quite satisfactory, the choice of available seismic data acquisition systems for medium size data centers is de facto restricted to two public domain software suites (namely SeisComP and EarthWorm) plus a commercial one (Antelope). With SeisComP version 3.0 starting a licensing program and adding early warning capabilities, experiences in the management of seismic data acquisition centers are welcome." The public information section notes a poster walk-through on Wednesday May 5 starting at 18:00. Related events listed include "SM4.1/NH4.11 - Earthquake and Tsunami Early Warnings (co-organized)", "SM2.6/AS4.8 - Research and Development in Nuclear Explosion Monitoring (co-organized)", and "PSD74 - SM1.3".

CO Meeting Organizer EGU2010 - Windows Internet Explorer

http://meetingorganizer.copernicus.org/EGU2010/session/2427

EGU2010

Preferiti CO Meeting Organizer EGU2010

European Geosciences Union  
General Assembly 2010  
Vienna, Austria, 02 - 07 May 2010

AUSTRIA CENTER  
VIENNA  
Vienna  
Wiss. Virtuell. EGU 2010

| EGU.eu |

Home

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Letter of Invitation

Accommodation

Venue

Floor Plans

Job & Education Market

Exhibition

Photo Competition

Townhall & Splinter

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### SM1.3 Seismic Centers Data Acquisition

Convener: Damiano Pesaresi  
Co-Convener: Reinoud Sleeman

- Convener Login
- Oral Programme
- Poster Programme

While the number and quality of seismic stations and networks installed is quite satisfactory, the choice of available seismic data acquisition systems for medium size data centers is de facto restricted to two public domain software suites (namely SeisComP and EarthWorm) plus a commercial one (Antelope). With SeisComP version 3.0 starting a licensing program and adding early warning capabilities, experiences in the management of seismic data acquisition centers are welcome.

**Public Information:** Poster walk-through on Wednesday May 5 starting at 18:00!

**Related events:** [SM4.1/NH4.11 - Earthquake and Tsunami Early Warnings \(co-organized\)](#)  
[SM2.6/AS4.8 - Research and Development in Nuclear Explosion Monitoring \(co-organized\)](#)  
[PSD74 - SM1.3](#)

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# THANKS!

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