

# Austrian Seismic Network

## FDSN Report 2005

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The Department of Geophysics of the Central Institute for Meteorology and Geodynamics (ZAMG) operates and maintains the seismological network of Austria. The ZAMG belongs to the Federal Ministry for Education, Science and Culture of Austria.

The Department of Geophysics also operates the Austrian National Data Center to the CTBTO.

### Current Network

ZAMG operates 7 Broadband stations in Austria: DAVA, WTTA, KBA, OBKA, MOA, ARSA, CONA. The Stations JAVC and KRUC in Czech Republic are operated in cooperation with the Institute of Physics of the Earth of the Masaryk University in Brno (IPE). The Station MORC in Czech Republic is operated in cooperation with Geofon / GFZ-Potsdam and IPE.

Three stations in Tyrol are equipped with short-period instruments. These stations will be upgraded to broadband instruments in the near future.

Data from broadband and short-period sites are transmitted in real-time through private WAN.

ZAMG also operates 20 strong-motion stations in Austria in triggered mode. 14 of these stations are connected over the public telephone network.

Fig. 1 shows the stations on Austrian territory with automated data transmission (real-time or automatic dial-up).

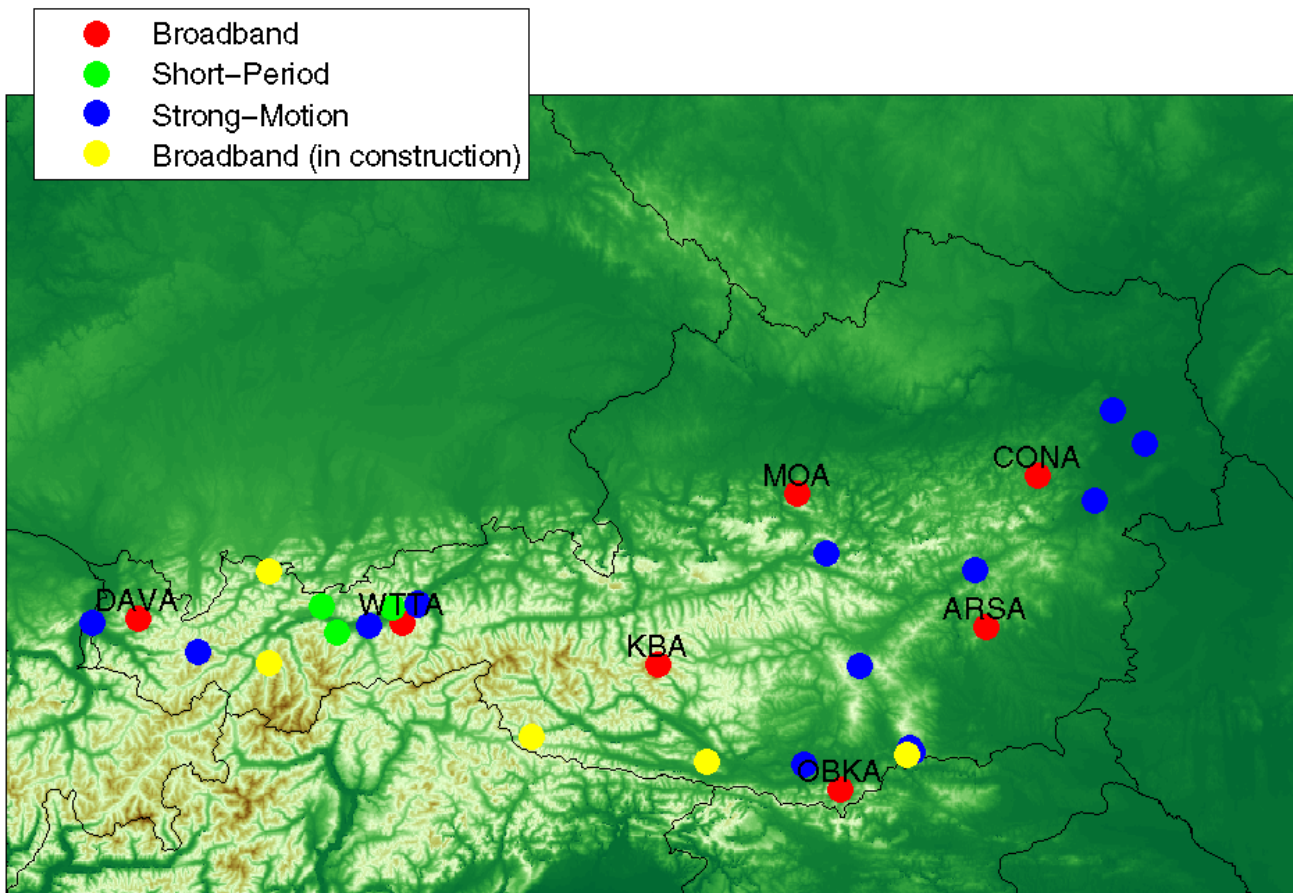


Figure 1: Seismic stations in Austria with automated data transmission. Broadband stations are labeled.

Two Interreg IIIa projects, one concerning South Tyrol (Northern Italy) and one involving Friuli/Venezia/Guillia Romana (Northeastern Italy) provide the funding for the installation of five new stations on Austrian territory. The construction of these broadband stations, marked yellow in Figure 1, will be completed in 2006.

With the exemption of the Conrad Observatory, waveform data from all the stations listed in Table 1 can be accessed via AutoDRM and the data are available upon request via orb2orb (Antelope) or SeedLink.

	<b>Code</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Elevation</b>	<b>Instrument</b>
<b>Broadband</b>					
Arzberg	ARSA	47.2505	15.5232	577	STS-2, Quanterra Q380
Conrad Observatory*	CONA	47.9297	15.8611	1044	STS-2, Quanterra Q380
Damüls	DAVA	47.2867	9.5833	1602	STS-2, Quanterra Q380
Hochobir	OBKA	46.5092	14.5489	1075	STS-2, EpiSensor, Quanterra Q680
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Kölnbreinsperre	KBA	47.0784	13.3447	1721	STS-2, FBA23, Quanterra Q680
Molln	MOA	47.8495	14.2659	572	STS-2, Quanterra Q380
Wattenberg	WTTA	47.2638	11.6363	1764	STS-2, EpiSensor, Quanterra 4120
<b>Short-period</b>					
Moosalm	MOTA	47.3448	11.1037	1575	S13, SPCMU
St.Quirin	SQTA	47.2205	11.2087	1307	S13, SPCMU
Walderalm	WATA	47.3357	11.5763	1492	S13, SPCMU

Table 1: Summary of seismic stations in Austria. Only stations with continuous data transmission are listed here.

\*currently not accessible from the outside world, for internal use only

## Data Exchange in Real-Time

Real-time data from station DAVA, WTTA, KBA, OBKA and MOA are transferred to the ORFEUS data center by ORB-ORB connection and are included in the Virtual European Broadband Seismograph Network (VEBSN).

Table 2 summarizes the real-time data-exchange with neighbouring institutions.

<b>Institution</b>	<b>Country</b>	<b>Protocol</b>
IPE / Brno	Czech Republic	ORB
ARSO / Ljubljana	Slovenia	ORB
UDS / Trieste	Italy	ORB
OGS / Udine	Italy	ORB
Geofon / Potsdam	Germany	SeedLink

Institution	Country	Protocol
ORFEUS / de Bilt	Netherlands	ORB
GPI / Bratislava	Slovakia	SeedLink
ETH / Zürich	Switzerland	SeedLink
Academy of Sciences Budapest	Hungary	SeedLink
MedNet Rome	Italy	SeedLink
Academy of Sciences / Sofia	Bulgaria	ORB
CTBTO / Vienna	UN / Austria	CD1
Academy of Sciences/ Prague	Czech Republic	ORB
GRSN / Erlangen	Germany	SeedLink
GFZ / Zagreb	Croatia	SeedLink

Table 2: Real-time data exchange

## AutoDRM

At the ZAMG an AutoDRM is operational since early 2000 ([autodrm@zamg.ac.at](mailto:autodrm@zamg.ac.at)). Since 2004, lower sample rates (20Hz, 1Hz) are also available, and since 2005 a bulletin in IMS1.0 format can be requested, as well as all waveforms back to 1998.

## Waveform Archive

Continuous waveforms are stored on tapes since 1997. With the EC-funded MEREDIAN-project, these data have reorganized on a disk array and.

All waveforms from Austrian stations since late 1997 are stored on a disk-array with a total capacity of 5TB. The data is mirrored to a backup system.