

The Leibniz Institute for Applied Geosciences or ,GGA-Institute' ...

... is part of the **GeoZentrum Hannover (GZH)**

- hosting
- **BGR** (*Federal Institute for Geosciences and Natural Resources*)
 - **LBEG** (*State Authority for Mining, Energy and Geology*)
 - **GGA** INSTITUTE (*Leibniz Institute for Applied Geosciences*)

Main Research Objectives of GGA Institute/ Key Figures

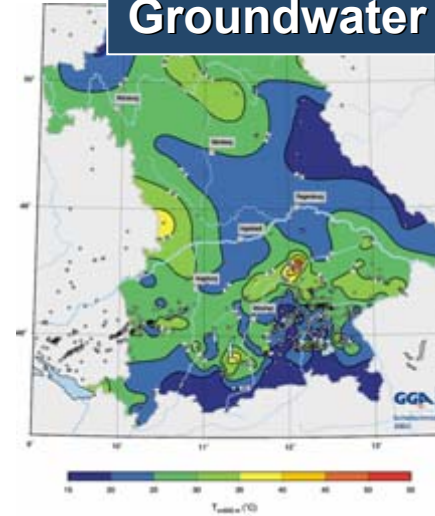
- study of **subsurface structures** to improve understanding of geo-processes
- research of **processes** in the earth system, their evolutions, interactions, impacts on the environment
- development and optimization of **methods, equipment,** and interpretation **techniques** to accomplish these objectives
- 55 regular employees
 - 25 scientists
 - 30 non-scientists
- ca. 20 employees on projects (mostly scientists)
- more than 6 million € (budget and third party funds)

Sections

Seismics, Gravity, Magnetics



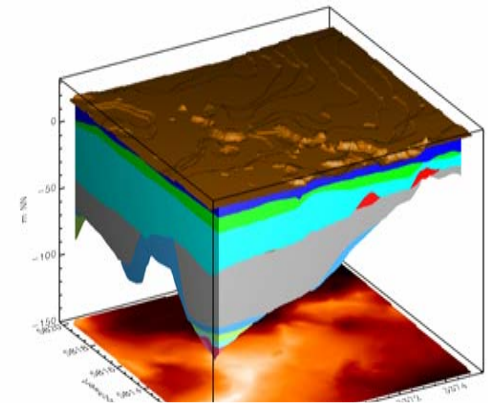
Geothermics & Groundwater Hydraulics



Goelectrics & Borehole Logging Methods



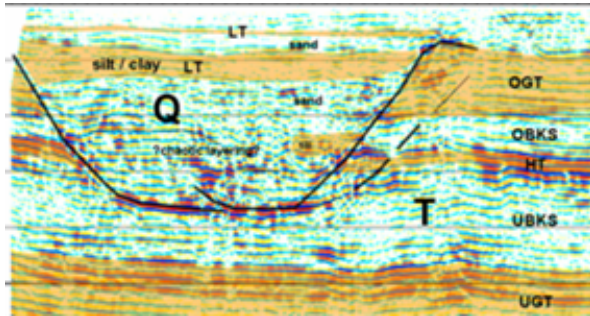
Geochronology & Isotope Hydrology



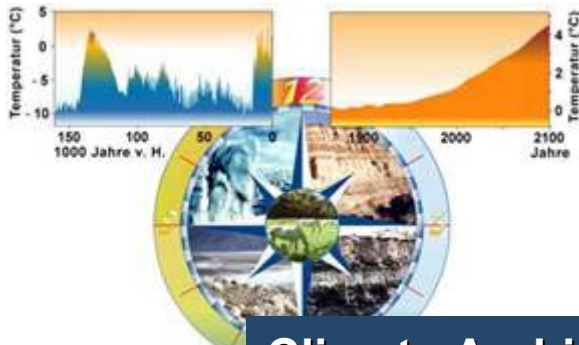
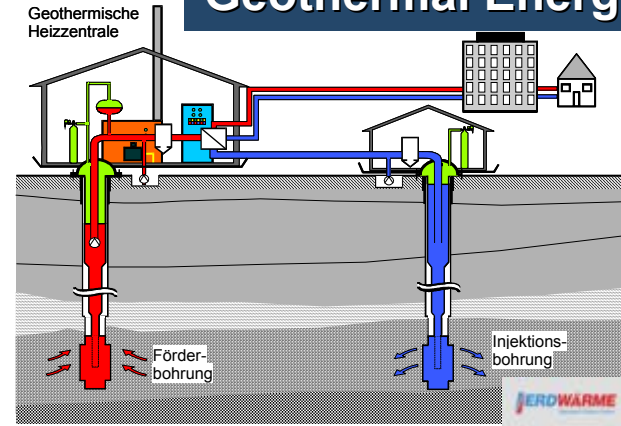
Geodatabases

R & D Topical Research Fields

Groundwater Systems

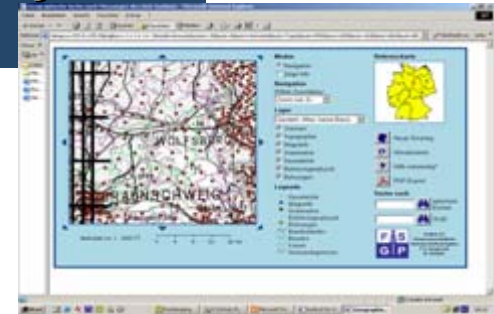


Geothermal Energy



Terrestrial Climate Archives

Information System Geophysics



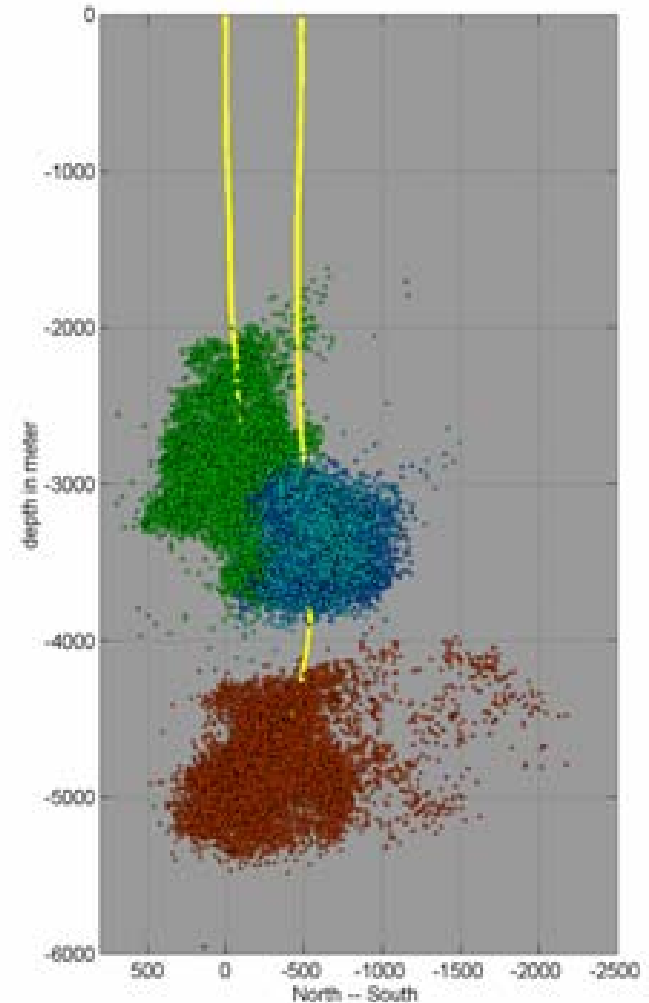
Geothermics and Geothermal Energy

- geothermal energy
- flow and transport in ground water
- heat transport in the crust and paleo climate

Decades of HDR/hydraulic-experience:

Initiation and participation in the

- Falkenberg-project
- KTB-project
- Soultz-project
- GeneSys-project



Geothermics and Geothermal Energy

- Logging equipment for deep wells (P, T, GR, fluid conductivity, flowmeter)
- Memory equipment for deep wells for longterm PT observation
- Hydraulic test equipment
- thermal rock properties laboratory
- data base of subsurface temperatures from more than 10.000 wells in Germany
- maps of heat flow density in Germany
- specialised seismic exploration for geothermal projects

Geothermics and Geothermal Energy

- Atlas of Geothermal Resources in Europe
- Development of a Geothermal Information System (web-based)
- together with BGR operation of a 4100 m deep research well for hydraulic testing and development of methods and concepts
- long experience in large scale hydraulic testing and development of stimulation technology
- numerical modelling for the prediction of longterm behaviour of geothermal systems
- cooperation with national and international partners

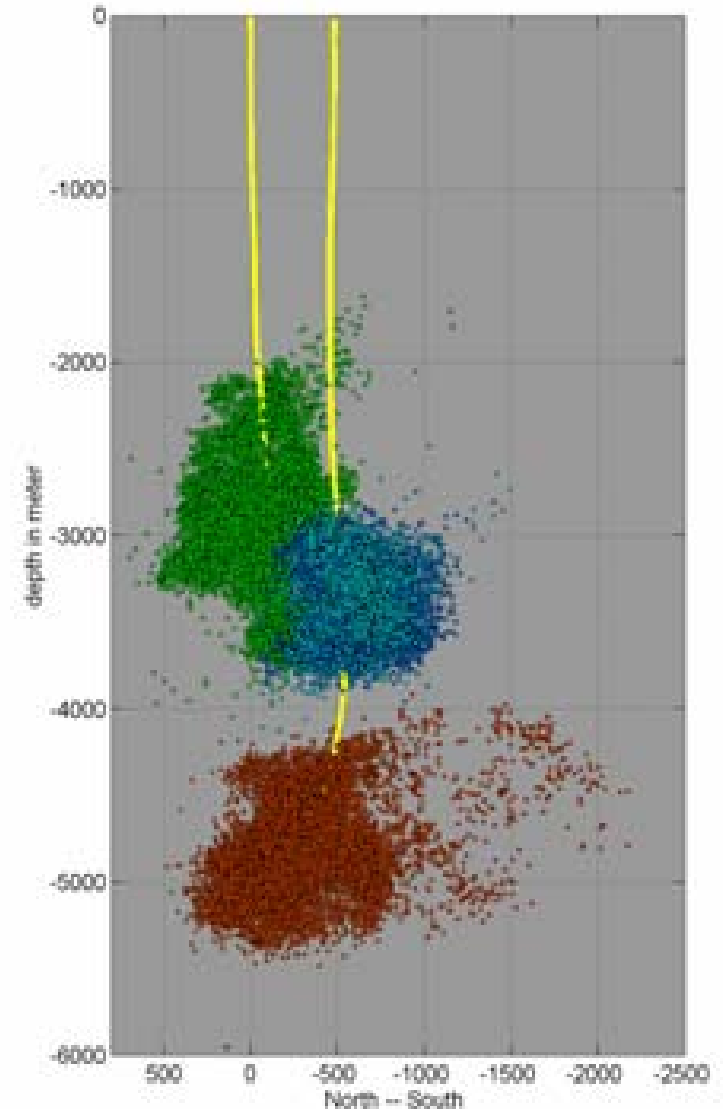
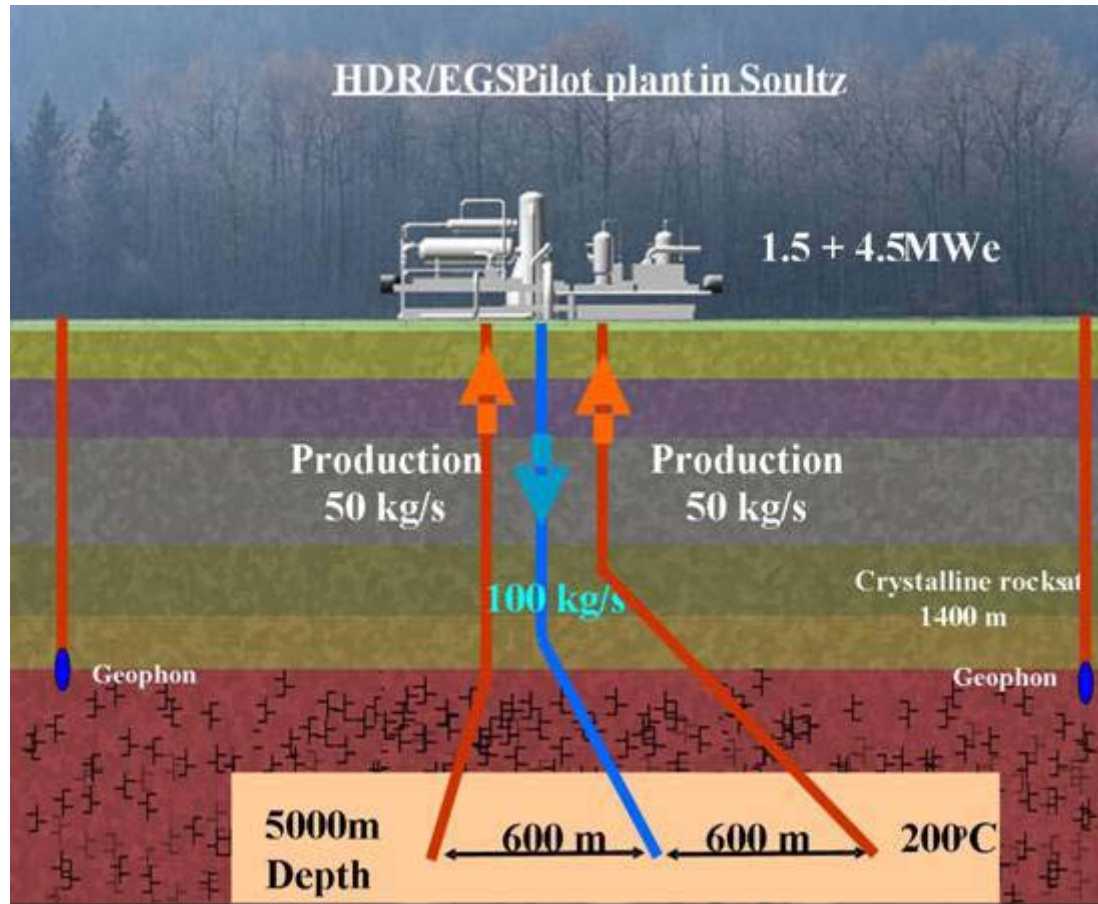


Research well
Horstberg Z1 (4100 m)
for in-situ testing and
concept development

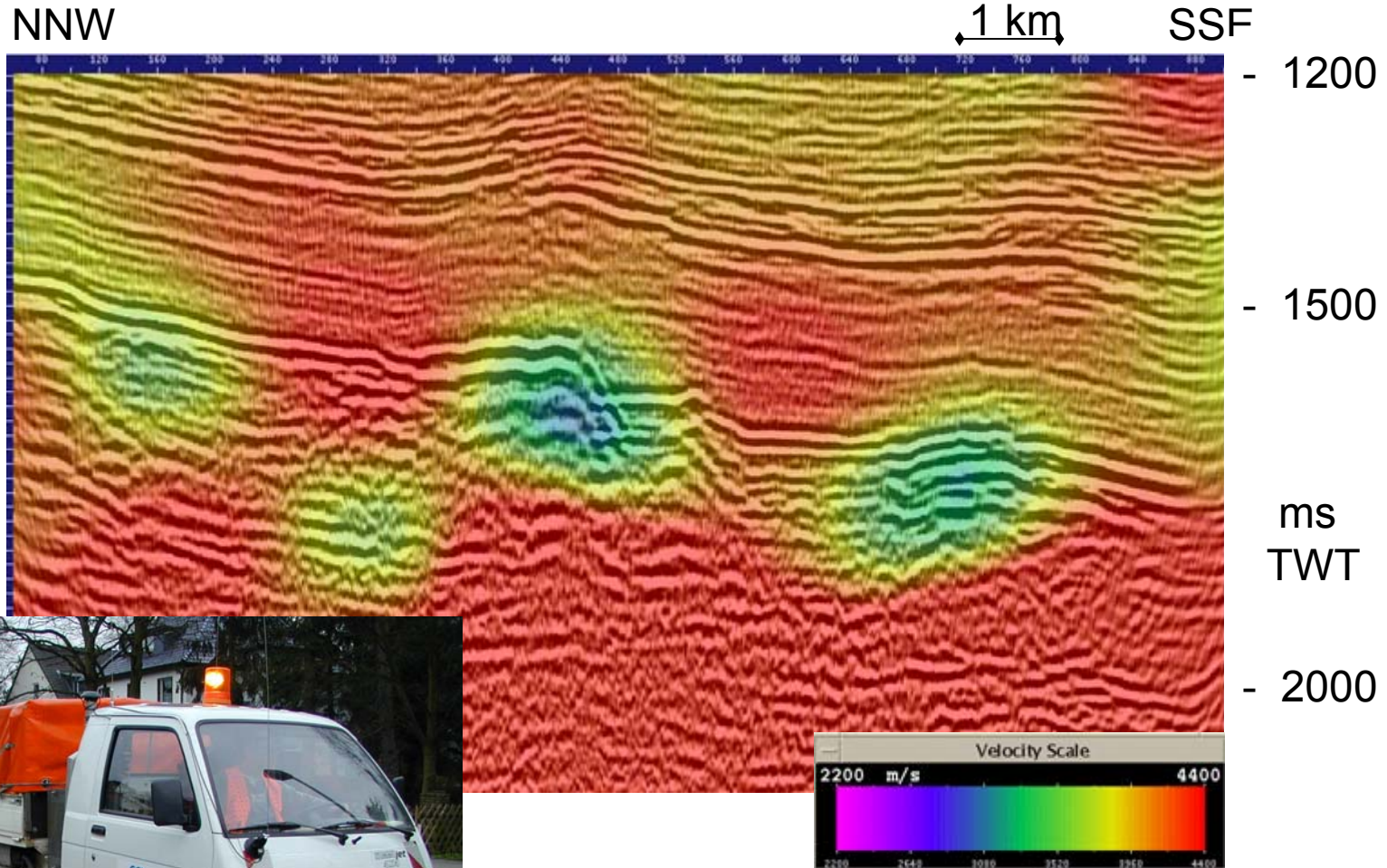
Hannover site:
pilot project for geothermal
supply of GeoCenter



The European HDR/HFR test site Soultz-sous-Forêts



Seismic exploration for geothermal energy projects:



27 kN / 2,7 t

shear wave vibrator