

Websites and Sources of Geothermal Information

Tonya “Toni” Boyd
Geo-Heat Center



Informational Geothermal Websites



Oregon Department of Energy

Department of Energy Oregon Department of Energy Home - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://www.oregon.gov/ENERGY/index.shtml>

Text-Only Site State Directory Agencies A-Z Accessibility SEARCH Advanced Help

OREGON Business Education Human Services Natural Resources Public Safety Recreation Transportation

Department of Energy

Departments Divisions

menu

About Us
Contact Us
Publications
Jobs and RFPs
Meetings
Inside the Office
Staff Directory
Renewable Energy
Energy Facility Siting
Nuclear Safety
Energy Loan Program

Oregon Department of Energy Home

What We Do

- Conservation**
Assistance for schools, businesses and residents;
- Renewable Energy**
Information on solar, wind, biomass....
- Facility Siting**
Process of siting large energy facilities and pipelines
- Energy Loans**
Promoting energy conservation and renewable energy
- Nuclear Safety**
Hanford cleanup, emergency preparedness and more
- Inside the Office**
About the office, news releases, staff directory, publications, meetings, and more

What's New

- Gas Price Information**
- Siting Council Considers Wind Project Draft Order**
- Notice Regarding 2006 US DOE Clean Cities Transportation & 2006 US DOE Industrial Energy Efficiency Solicitations**
- Governor Kulongoski's Action Plan for Energy**
- Recent Renewable Energy Initiatives in Oregon**
- Energy Policy Act of 2005: New Federal Tax Credits**
- Need Help Paying Your Energy**

Favorites!

- Program list**
- Jobs and RFPs**
- Business Energy Tax Credits**
- Residential Energy Tax Credits**
- Heating and Air Conditioning Systems**
- Building Codes / Compliance Forms**
- Hybrid Vehicles**
- Alternative Fuels**
- Transportation**
- Fun Links for Kids**

Done

Start Department of Ener... websites Oregon.PPT America Online 9.0 Op... 10:33 PM

<http://www.oregon.gov/ENERGY/index.shtml>

Oregon Department of Energy – Geothermal Energy

The screenshot shows a Microsoft Internet Explorer browser window displaying the Oregon Department of Energy's Geothermal Energy website. The address bar shows the URL: http://www.oregon.gov/ENERGY/RENEW/Geothermal/geo_index.shtml. The website features a navigation menu with links for Text-Only Site, State Directory, Agencies A-Z, Accessibility, and a search bar. The main content area is titled "Geothermal Energy" and includes a "menu" sidebar with links for About Us, Contact Us, Renewable Resource Home, Wind, Renewables Working Group, Solar, Biomass, Geothermal, Geothermal Working Group, Hydropower, Glossary, and ODOE Home. The main content area contains sections for "Geothermal Energy Information" with links to "How Geothermal Works", "An Overview of Geothermal Information", "Oregon Geothermal Resource Map", "Where are Geothermal Resources Located?", "Oregon Geothermal Working Group", "Ground-Source Heat Pump Information", and "Outside Links". Below this is a section titled "How Geothermal Works" which explains that geothermal energy comes from the Greek words meaning earth heat and that it is used to generate electricity in power plants. The final section is "Overview of Geothermal Energy", which states that the city of Klamath Falls uses geothermal energy directly for district heating, and that there is no generation of electricity from geothermal sources within the state of Oregon.

Geothermal Energy

Departments Divisions

menu

- About Us
- Contact Us
- Renewable Resource Home
- Wind
- Renewables Working Group
- Solar
- Biomass
- Geothermal
- Geothermal Working Group
- Hydropower
- Glossary
- ODOE Home

Geothermal Energy Information

- [How Geothermal Works](#)
- [An Overview of Geothermal Information](#)
- [Oregon Geothermal Resource Map](#)
- [Where are Geothermal Resources Located?](#)
- [Oregon Geothermal Working Group](#)
- [Ground-Source Heat Pump Information](#)
- [Outside Links](#)

How Geothermal Works

Geothermal comes from the Greek words meaning earth heat. From earliest times, people have used geothermal water that flowed freely from the earth's surface as hot springs. Today we drill wells into geothermal reservoirs to bring the hot water to the surface. Once the hot water travels up the wells to the surface, they can be used directly to heat buildings or to generate electricity in power plants.

Overview of Geothermal Energy

The city of Klamath Falls uses geothermal energy directly to supply heat for a district heating system. Geothermal heat sources in several other Oregon counties supply heat to buildings, swimming pools and resorts and industrial uses.

There is no generation of electricity from geothermal sources within the state of Oregon. However, there are several sites where geological data suggest a resource sufficient for power generation may exist. The potential for production of electricity from Oregon's geothermal resources has been

http://www.oregon.gov/ENERGY/RENEW/Geothermal/geo_index.shtml

Energy Trust of Oregon

The screenshot shows the Energy Trust of Oregon website as viewed in Microsoft Internet Explorer. The browser window title is "Energy Trust Home Page - Microsoft Internet Explorer". The address bar shows "http://www.energytrust.org/". The website features the Energy Trust of Oregon logo, a navigation menu with links for CONTACT, CALENDAR, LIBRARY, SEARCH, SITE HELP, and EN ESPAÑOL, and a "What's New" section. A central banner contains the text: "Energy Trust is a public-purpose organization dedicated to energy efficiency and renewable energy generation. We help Oregonians save energy, increase the comfort of their homes and businesses, and move toward energy self-reliance." Below this banner are five colored boxes with images and labels: "For Businesses" (blue), "For Homes" (yellow), "Renewable Energy" (green), "For Trade Allies" (red), and "About Energy Trust" (teal). The footer includes the copyright notice "© 2006 Energy Trust of Oregon, Inc." and a "Contact the Webmaster" link. The Windows taskbar at the bottom shows the Start button, several open applications, and the system clock at 10:40 PM.

Energy Trust
of Oregon, Inc.™

At Work for Oregonians

CONTACT | CALENDAR | LIBRARY | SEARCH | SITE HELP | EN ESPAÑOL

Energy Trust is a public-purpose organization dedicated to energy efficiency and renewable energy generation. We help Oregonians save energy, increase the comfort of their homes and businesses, and move toward energy self-reliance.

What's New

For Businesses

For Homes

Renewable Energy

For Trade Allies

About Energy Trust

© 2006 Energy Trust of Oregon, Inc.

Contact the Webmaster

<http://www.energytrust.org/>

3E Strategies

3E STRATEGIES
ECOLOGY · ECONOMY · EQUITY

Home About 3EStrategies Board & Staff Contact Us

Mission/Vision
Planned Giving
The Challenge
Projects
Publications
Articles & Reports
3E in the News
Event Calendar
A Tale of Sustainable Cities
Links
Partners

HOT TOPICS!
JOIN OUR MAILING LIST
TESTIMONIALS
BECOME A MEMBER

BuildingGreen
COUNCIL OF CENTRAL OREGON
Find what you need fast

3E STRATEGIES
Sustainability News

WELCOME TO 3EStrategies

The staff and Board of 3EStrategies believes the single most important step in safeguarding our regional and global environment is to develop ways of living, traveling and doing business that increase economic and community well-being without degrading our natural environment. Therefore, our work focuses on sustainability. Our primary program areas are: Green Building, Renewable Energy and Energy Policy and Sustainable Economic Development.

Sustainability means using, developing and protecting our social, economic and environmental resources in a way, and at a rate, that enables people to meet their current needs without compromising the ability of future generations to meet their needs.

SAVE THE DATE!

Join us on Monday, July 3rd, for a very special new event spotlighting the energy choices we have here in Central Oregon and the energy changes we can make *today!*

2006 ENERGY

CURRENT NEWS

3EStrategies Now Offers Sustainable Design Consulting Services
Due to popular demand 3EStrategies is now offering sustainable design services.

Our current clients include the Madras Aquatic Center and the Redmond Airport. We provide assistance in many areas and can create a proposal to fit your needs.

[read more >>](#)

CURRENT EVENTS

Energy Independence: Declaring A New American Dream
Sunday, July 02, 2006

Energy Independence Day
Monday, July 03, 2006

SolWest Fair
Friday, July 28, 2006

[All Events >>](#)

<http://www.3estrategies.org/>

Geothermal Resources Council

Geothermal Resources Council - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print Mail News RSS Feeds

Address <http://www.geothermal.org> Go Links

Geothermal Resources Council

[SEARCH THE GRC LIBRARY](#)

2006 ANNUAL MEETING
CALL FOR PAPERS!

The GRC • GRC Goals • Membership • Governance and Funding • GRC Foundation • Education Program • Annual Meeting • Publications • GRC Library • Staff

The Geothermal Resources Council

With the experience and dedication of its diverse, international membership bolstering a 30-year track record, the Geothermal Resources Council (GRC) has built a solid reputation as one of the world's premier geothermal associations. The GRC serves as a focal point for continuing professional development for its members through its outreach, information transfer and education services.

GRC Goals

The GRC is a tax-exempt, non-profit, educational association (501(c)(3). Formed in 1970, the GRC was incorporated in the state of Washington in 1972, and in California in 1981. With members in 30 countries, the GRC actively seeks to expand its role as a primary professional educational association for the international geothermal community. The goals of the GRC are to:

- What is Geothermal?
- Annual Meeting
- GRC Yellow Pages
- Membership
- Publications
- Advertising
- Bulletin Articles
- Contacts & Links
- Calendar
- Workshops
- U.S. DOE
- Geotermlia
- Solicitations
- Virtual Geothermal
- IGA
- U.S. Military

Done Internet

Start | Inbox ... | Micros... | Compl... | Search... | Utah-w... | Geoth... | 1:11 PM

<http://www.geothermal.org>

Geothermal-Biz.Com

Geothermal
biz.com
development information for the geothermal entrepreneur

FAQs News State Info Contact Us

Calendar of Events

Current Solicitations

Subscribe to Newsletter

Financing Information

Leasing & Permitting

Why Geothermal?

Click on the map below to go directly to the webpage for your state.

WA OR NT ND MN

7 March Social and Economic Development Strategies for Native Americans — Responses due 4 April 2006.

Done Internet

Start Inboxes Micros... Compl... Search... Utah-w... Geoth... 1:12 PM


<http://geothermal-biz.com/home.htm>

Geothermal Energy Association

Geothermal Energy Association - Microsoft Internet Explorer

File Edit View Favorites Tools Help

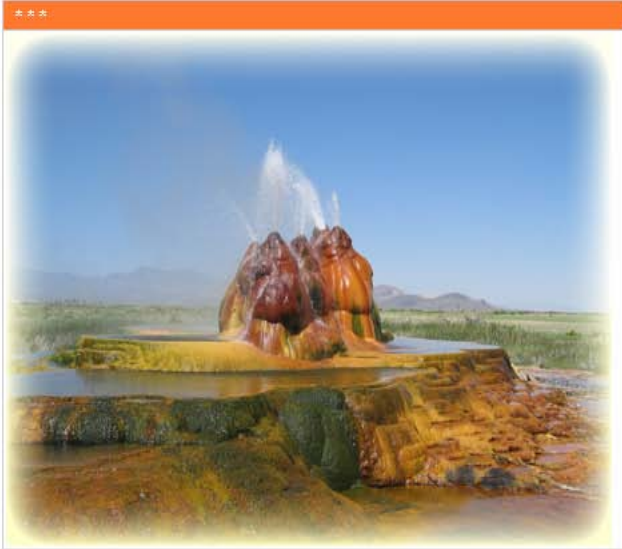
Address <http://www.geo-energy.org>



GEOHERMAL ENERGY ASSOCIATION

[GEA](#) [MEMBERSHIP](#) [DATABASE](#) [TRADE SHOW](#) [GEA PUBLICATIONS](#) [INFORMATION](#)

About GEA
Office Location
Staff
Geothermal Basics ▾
Industry Priorities




QUICK LINKS

- [GEA Update](#)
- [Press Releases](#)
- [2006 Trade Show](#)
- [Workshops](#)
- [Geothermal Basics](#)
- [Industry Priorities](#)


[Washington, DC](#)

[Get the 10 day forecast](#)

 **59°F**
Partly Cloudy

Feels Like: 59°F
Humidity: 24%
Wind: W at 17 mph

Enter city/zip [GO!](#)

 [Airport Delays](#)
[Sporting Events](#)
[Pollen Reports](#)

[weather.com](#)

[Download Desktop Weather](#)

Done

Start | Internet

Inbox ... | Micros... | Compl... | Search... | Utah-w... | Geoth...

1:12 PM

<http://www.geo-energy.org>



GEOTHERMAL ENERGY ASSOCIATION

[GEA](#) [MEMBERSHIP](#) [DATABASE](#) [TRADE SHOW](#) [GEA PUBLICATIONS](#) [INFORMATION](#)

[Updates](#)
[Reports](#)
[Press Releases](#)
[Public Policy](#)

GEA REPORTS

- [2006 Update on US Geothermal Power Production and Development](#)
- [Geothermal Industry Employment Survey Results and Analysis September 2005](#)
- [Factors Affecting Cost of Geothermal Power Development](#)
- [A Guide to Geothermal Energy & The Environment](#)
- [La Geotermia](#)
- [Preliminary Report Geothermal Energy, The Potential For Clean Power From The Earth](#)

To obtain a hard copy of any of the above reports, please email research@geo-energy.org

QUICK LINKS

- [GEA Update](#)
- [Press Releases](#)
- [2006 Trade Show](#)
- [Workshops](#)
- [Geothermal Basics](#)
- [Industry Priorities](#)

Washington, DC

Get the 10 day forecast



52°F
Fair

Feels Like: 52°F
Humidity: 20%
Wind: W at 19 mph

Enter city/zip



Severe Weather

[Airport Delays](#)
[Sporting Events](#)
[Pollen Reports](#)

weather.com

[Download Desktop Weather](#)

Southern Methodist University Geothermal Laboratory

SMU Geothermal Lab - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address <http://www.smu.edu/geothermal/> Go Links

Southern Methodist University
Geothermal Laboratory
"Bringing The Earth's Energy Into Your Community"

P.O. Box 750395
Dallas, TX 75275
Voice: 214-768-2749
Fax: 214-768-2701

Site Map
(Click on plus sign or words.)

- o [Databases \(US Geothermal\)](#)
- + [Geothermal Resources](#)
- + [Informative Links](#)
- + [Oil & Gas](#)
- + [SMU Geothermal Degree](#)

New!

Conference on:
[Geothermal Energy Generation in Oil & Gas Settings](#)
March 13-14, 2006

The SMU Geothermal Lab Research:

- * Exploration of Geothermal Resources,
- * Resource Assessment of Geothermal fields,
- * Expansion and Maintenance of Thermal Databases,
- * Mapping of Geophysical data,
- * Modeling of Geothermal Systems,
- * Thermal Modeling of Oil and Gas fields,
- * Examination of Plate Tectonic

Done Internet

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<http://www.smu.edu/geothermal/>

Energy & Geoscience Institute

EGI - Geothermal Research Homepage - Microsoft Internet Explorer

File Edit View Favorites Tools Help


Address <http://egi-geothermal.org/>

Geothermal Research Program

Geothermal Homepage | Geologic Studies | Chemical Tracer Development | Geospatial Data Systems | Geophysical Studies | Electronics Lab

Geothermal Brochure

The Geothermal Energy Unit, formerly UURI (University of Utah Research Institute) performs basic and applied research in geothermal exploration, reservoir delineation, drilling and logging, and production. The U.S. Department of Energy has funded this work for more than 20 years. EGI staff work closely with the geothermal industry to improve geothermal technology.



The emphasis is on integrated interpretation of geological, geochemical, geophysical, and engineering data sets. EGI scientists have worked in many of the major geothermal systems worldwide, and maintain a unique collection of drill core and chip samples from many of these locations.

The experience gained over the group's long history is brought to bear on projects worldwide, including:

Done

Start | Internet | 3:41 PM

<http://egi-geothermal.org/>

Geothermal Red Brochure

The image shows a screenshot of a Microsoft Internet Explorer browser window displaying a PDF brochure. The browser's address bar shows the URL <http://egi-geothermal.org/GeothermalBrochure.pdf>. The PDF content is on a red background and features the text "Geothermal Energy" at the top. Below this, the words "Clean" and "Sustainable" are stacked vertically, followed by "Energy" at the bottom. Two photographs are included: the top one shows a geyser erupting, and the bottom one shows a geothermal power plant facility. The browser interface includes a menu bar (File, Edit, Go To, Favorites, Help), a toolbar with navigation and utility icons, and a status bar at the bottom showing "Done" and "Unknown Zone". The Windows taskbar at the very bottom displays the Start button and several open applications, including "Inbox...", "Micros...", "Compl...", "Utah...", "EGI - ...", and "http://...", along with the system clock showing 3:42 PM.

<http://egi-geothermal.org/GeothermalBrochure.pdf>

Great Basin Center

Explore for High-Temperature Geothermal Systems! - Microsoft Internet Explorer

Address <http://www.unr.edu/geothermal/>

Great Basin Center for Geothermal Energy

Geothermal Exploration and Spatial Data
Interactive Maps
Geothermal Lease and Incentive Information
Recent Great Basin Exploration Activity
Links to Other Geothermal and Energy Sites

Great Basin Center Information

Center Research Projects
Papers and Presentations
Renewable Energy Center/Redfield Campus
Personnel and Contact Information

News Releases

- 1/19/06** - Raser Technologies announces acquisition of Amp Resources
- 1/6/06** - DOE's Geothermal Technologies program loses funding
- JANUARY, 2006** - Geothermal rated most successful renewable technology
- 12/20/05** - Calpine files for Chapter 11 protection
- 11/14/05** - Drmat commissions first new geothermal power plant under Nevada RPS legislation at Steamboat Springs
- 10/03/05** - UNR and Great Basin Center receive annual "Community Excellence" Award at GRC 2005 Meeting
- 9/17/05** - Nevada Geothermal announces plans for 30 MW power plant at Blue Mountain
- 8/18/05** - Litigation stalling Calpine's Glass Mtn. geothermal project may be resolved by year's end.

NEW!
Google Earth
Interactive Map!
CLICK HERE!

CLICK HERE
TO DOWNLOAD A FREE COPY
OF OUR GEOTHERMAL
FAVORABILITY MAP! (JPEG
FORMAT, 27 MB)

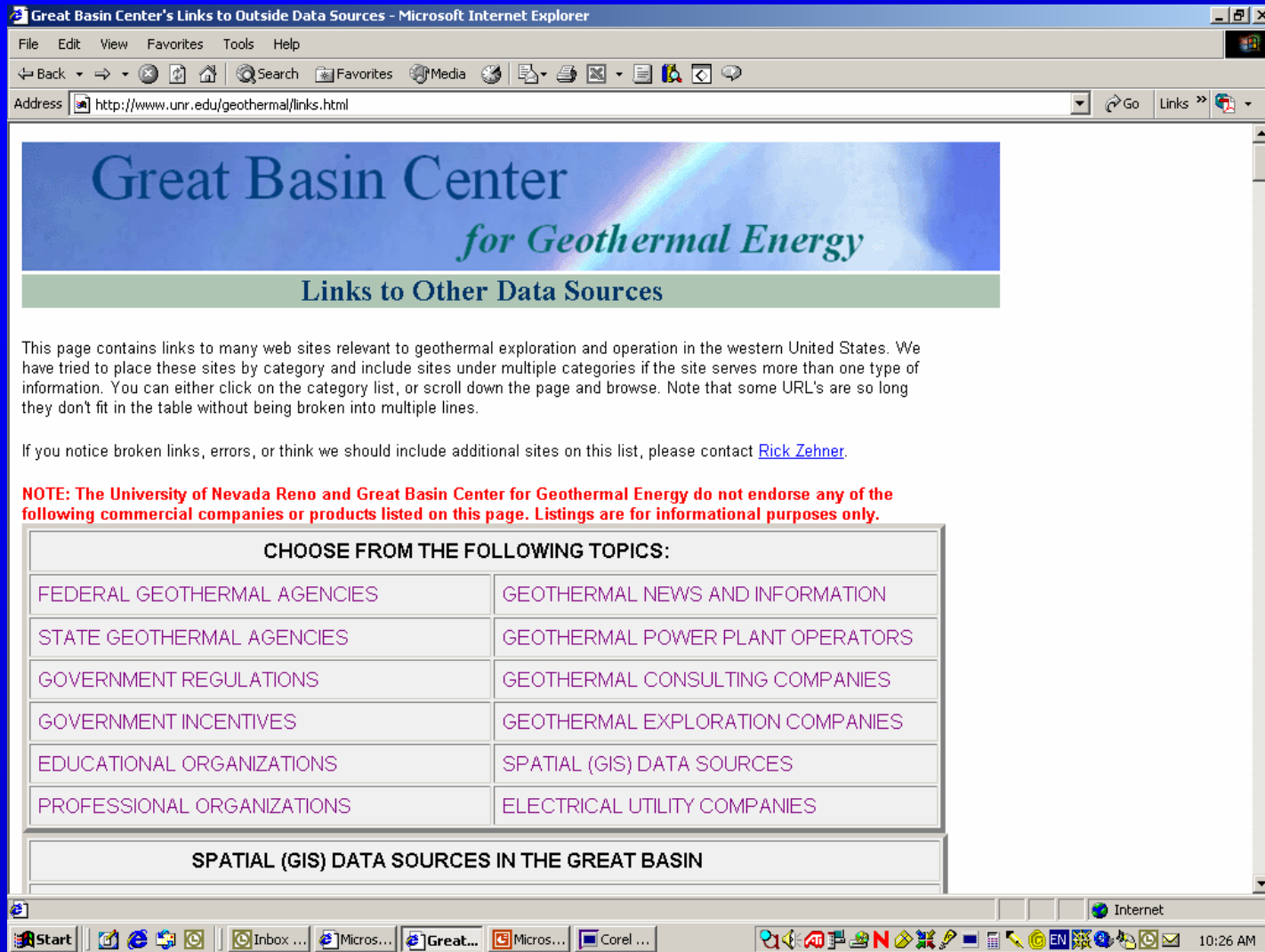
**GEOPOWERING
THE WEST**

COMMITTED TO DRAMATICALLY INCREASE
THE USE OF GEOTHERMAL POWER IN THE
WESTERN UNITED STATES

Start | Internet | 3:43 PM

<http://www.unr.edu/geothermal/>

Other Links



Great Basin Center
for Geothermal Energy

Links to Other Data Sources

This page contains links to many web sites relevant to geothermal exploration and operation in the western United States. We have tried to place these sites by category and include sites under multiple categories if the site serves more than one type of information. You can either click on the category list, or scroll down the page and browse. Note that some URL's are so long they don't fit in the table without being broken into multiple lines.

If you notice broken links, errors, or think we should include additional sites on this list, please contact [Rick Zehner](mailto:Rick.Zehner@unr.edu).

NOTE: The University of Nevada Reno and Great Basin Center for Geothermal Energy do not endorse any of the following commercial companies or products listed on this page. Listings are for informational purposes only.

CHOOSE FROM THE FOLLOWING TOPICS:	
FEDERAL GEOTHERMAL AGENCIES	GEOHERMAL NEWS AND INFORMATION
STATE GEOTHERMAL AGENCIES	GEOHERMAL POWER PLANT OPERATORS
GOVERNMENT REGULATIONS	GEOHERMAL CONSULTING COMPANIES
GOVERNMENT INCENTIVES	GEOHERMAL EXPLORATION COMPANIES
EDUCATIONAL ORGANIZATIONS	SPATIAL (GIS) DATA SOURCES
PROFESSIONAL ORGANIZATIONS	ELECTRICAL UTILITY COMPANIES

SPATIAL (GIS) DATA SOURCES IN THE GREAT BASIN

<http://www.unr.edu/geothermal/links.html>

Farm Bill Initiative

U.S. Department of Agriculture: USDA Farm Bill Section 9006 - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://www.rurdev.usda.gov/rbs/farmbill/> Print

USDA Rural Development Committed to the future of rural communities Business and Cooperative Programs

2002 Farm Bill Initiative: The Renewable Energy and Energy Efficiency Program

USDA Farm Bill Section 9006

FARM BILL SECTION 9006


Solicitations
What is the Section 9006 Program?
How Do I Apply?
Tools & Resources
Other Information

Coordinators

Section 9006: Renewable Energy and Energy Efficiency Program

The [Farm Security and Rural Investment Act of 2002](#) (the Farm Bill) established the **Renewable Energy Systems and Energy Efficiency Improvements Program** under Title IX, Section 9006. This program currently funds grants and loan guarantees to agricultural producers and rural small business for assistance with purchasing renewable energy systems and making energy efficiency improvements.

New for 2006, the program offers both grants and guaranteed loans for eligible projects. In addition, projects with total eligible costs under \$200,000 can apply under a Simplified Application Process designed to

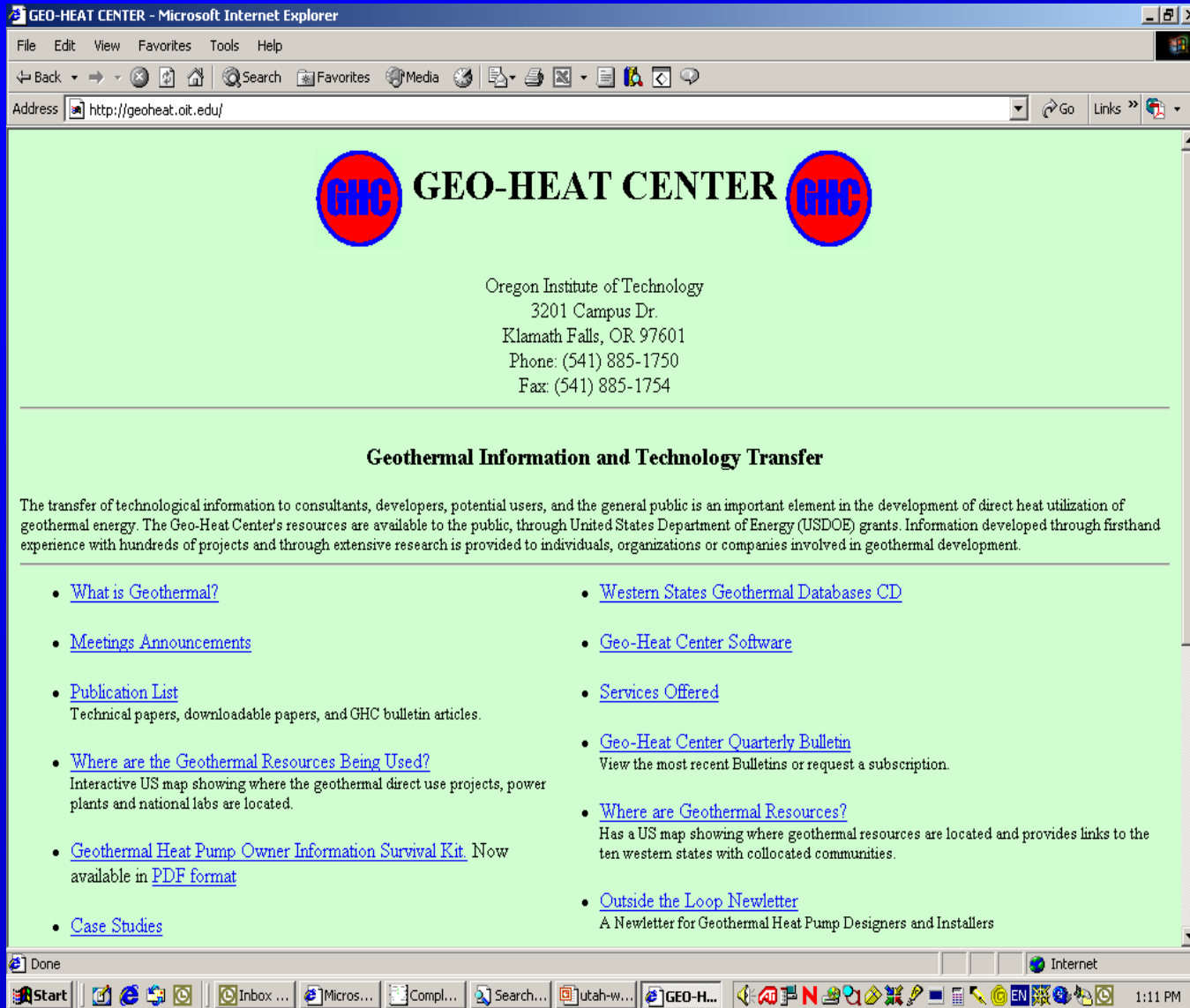


Done Internet

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<http://www.rurdev.usda.gov/rbs/farmbill/>

Geo-Heat Center



GHC GEO-HEAT CENTER GHC

Oregon Institute of Technology
3201 Campus Dr.
Klamath Falls, OR 97601
Phone: (541) 885-1750
Fax: (541) 885-1754

Geothermal Information and Technology Transfer

The transfer of technological information to consultants, developers, potential users, and the general public is an important element in the development of direct heat utilization of geothermal energy. The Geo-Heat Center's resources are available to the public, through United States Department of Energy (USDOE) grants. Information developed through firsthand experience with hundreds of projects and through extensive research is provided to individuals, organizations or companies involved in geothermal development.

- [What is Geothermal?](#)
- [Meetings Announcements](#)
- [Publication List](#)
Technical papers, downloadable papers, and GHC bulletin articles.
- [Where are the Geothermal Resources Being Used?](#)
Interactive US map showing where the geothermal direct use projects, power plants and national labs are located.
- [Geothermal Heat Pump Owner Information Survival Kit](#). Now available in [PDF format](#)
- [Case Studies](#)
- [Western States Geothermal Databases CD](#)
- [Geo-Heat Center Software](#)
- [Services Offered](#)
- [Geo-Heat Center Quarterly Bulletin](#)
View the most recent Bulletins or request a subscription.
- [Where are Geothermal Resources?](#)
Has a US map showing where geothermal resources are located and provides links to the ten western states with collocated communities.
- [Outside the Loop Newsletter](#)
A Newsletter for Geothermal Heat Pump Designers and Installers

Done Internet

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<http://geoheat.oit.edu>

Geothermal Heat Pump Websites



Geo-Heat Center

GEO-HEAT CENTER - Microsoft Internet Explorer

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Address <http://geoheat.oit.edu/> Go Links

GHC GEO-HEAT CENTER GHC

Oregon Institute of Technology
3201 Campus Dr.
Klamath Falls, OR 97601
Phone: (541) 885-1750
Fax: (541) 885-1754

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Interactive US map showing where the geothermal direct use projects, power plants and national labs are located.
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- [Geo-Heat Center Software](#)
- [Services Offered](#)
- [Geo-Heat Center Quarterly Bulletin](#)
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Has a US map showing where geothermal resources are located and provides links to the ten western states with ~~collocated communities~~.
- [Outside the Loop Newsletter](#)
A Newsletter for Geothermal Heat Pump Designers and Installers

Done Internet

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<http://geoheat.oit.edu>

Geothermal Heat Pump Consortium

Geothermal Heat Pump Consortium, Inc. - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://www.geoexchange.org>

site map | contact us | home | search

GEOEXCHANGE
GEO THERMAL HEAT PUMP CONSORTIUM

Geothermal Heat Pump Consortium
1050 Connecticut Avenue, NW
Suite 1000
Washington, DC 20036

- What is Geoexchange?
- Federal & State Incentives
- Newsroom
- Publications
- Press Kits
- Illustrations
- GHPC Membership
- Members Only Area
- Designer Certification
- Residential
- Commercial
- Schools
- Government Facilities
- Local Industry Contacts
- About GHPC
- Contact Us
- California Program
- Illinois Program
- New York Program
- Oklahoma Program

Savings From the Ground Up

Welcome to the Geothermal Heat Pump Consortium's Web site!

Incentives For Geoexchange Systems by State

Modern Heating & Cooling For Historic Structures Slide Show presentation

Find a local contractor!

This is Your Planet Speaking," 30-second TV ad

Geoexchange Technology

Home and business owners across the United States are enjoying a high level of comfort, while significantly reducing their energy use with geoexchange (geothermal, ground source) heating and cooling systems.

Geoexchange is the most energy-efficient, environmentally clean, and cost-effective space conditioning system available, according to the Environmental Protection Agency.

Search Our Site

Rebuild America

Done

Start In... Mic... Co... Se... Tut... Ge... 12...

Internet 1:45 PM

<http://www.geoexchange.org>

International Ground Source Heat Pump Association

INTERNATIONAL GROUND SOURCE HEAT PUMP ASSOCIATION

DOWN TO EARTH ENERGY

home about us what is geothermal? conferences training membership publications business directory

WEB SITE SUPPORTERS

Geo-Enterprises, Inc.

[Geo-Enterprises, Inc.](#) [WaterFurnace](#)

LATEST NEWS

NEW!
[IGSHPA Newsletter - Feb. 2006 Issue](#)

About Us

The International Ground Source Heat Pump Association (IGSHPA) is a non-profit, member driven organization established in 1987 to advance geothermal heat pump (GHP) technology on local, state, national and international levels.

[read more...](#)

What is a ground source heat pump (GSHP)?

Ground source heat pumps (GSHPs) are electrically powered systems that tap the stored energy of the greatest solar collector in existence: the earth. These systems use the earth's relatively constant temperature to provide heating, cooling, and hot water for ...

[read more >](#)

RESOURCES

- [Search Accredited Installers](#)
- [Training Events](#)
- [Advertising Opportunities](#)

Google

Search: GO

Web igshpa.okstate.edu

Done

Internet

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1:45 PM

<http://www.igshpa.okstate.edu>

GeoExchange BC

GeoExchange BC - geothermal bc - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://geoexchangebc.ca/>



From the Sun... To the Earth... To the Community



The Sustainable Alternative

- About Us
- What Is It? & How it Works
- Service Directory
- Reports, Publications & Resources
- BC Installations & Case Studies
- Financial Assistance
- Business Opportunities
- Industry News
- Articles
- Press Releases
- Events Calendar
- Careers & Training
- Membership
- Industry Links
- Contact Us
- GeoExchange 2005 Conference**

Clean, Green and Renewable.

GeoExchange systems, more commonly known as ground or water source coupled heat pumps, are recognized as the most energy efficient means of heating and cooling a building and providing domestic hot water.

GeoExchange BC and this web site are dedicated to the education, promotion and responsible design and installation of these systems.



Place mouse over image for caption / details

You are visitor number 16220 to view the GeoExchangeBC web site!

What's New

- RFP for Residential Highrises !!!**
- RFP for Trainers & Delivery Agents**
- GeoExchange BC at Buildex!**
- Input Magazine Article**
- May 17th ASHRAE Trade Show**
- IGSHPA Installer Training**
- IGSHPA Conference Announced**
- Ice Rinks Workshop**
- IGSHPA Course**
- DESIGN GUIDELINES FOR BC**

more...

Done

Microsoft Outlo... Complete Lists ... Microsoft Powe... GeoExchange... Internet

2:57 PM

<http://geoexchangebc.ca/>

IEA Heat Pump Centre

Heat Pump Centre - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address <http://www.heatpumpcentre.org> Go Links

IEA Heat Pump Centre

Home

Projects

Publications

HPP Workshops

Upcoming Events

Links

FAQs

About heat pumps

Organisation

Contact us

Site search

**The International Energy Agency's Information Centre
at the heart of the IEA Heat Pump Programme**

Introduction

Welcome to the IEA Heat Pump Centre (HPC), an international information service for heat pumping technologies, applications and markets. The goal is to accelerate the implementation of heat pumps and related heat pumping technologies.

[More about HPC](#)

HPC is the central information activity of the IEA Heat Pump Programme (HPP). HPP operates under the International Energy Agency (IEA) and its participants in different countries cooperate in projects.

[More about HPP](#)

Annual Report 2004
(PDF file)

Newsletter - December 2005

The December 2005 issue of the IEA Heat Pump Centre Newsletter "Ground source heat pump systems" is now available on-line.

[Full version](#) (PDF file)

[Short version](#) (HTML format)

[Subscription](#) **free** (e-mail)

Publication policy for the HPC Newsletter [>>>](#)

For more information on how to submit articles to this quarterly journal, [contact HPC](#)

News

7th IIR-Gustav Lorentzen Conference

May 2006 in Trondheim, Norway
Preliminary Program now available [>>>](#) (PDF file)
For more information visit
<http://www.energy.sintef.no/arr/GL2006/>

Workshop on "Natural refrigerant heat pump systems - the emerging technology"
within the frame of the Sherpha project
(conducted by Greth and EHPA)

(1 item remaining) Downloading picture http://www.heatpumpcentre.org/Organisation/IEA_flyer_IAs_FAQs.jpg...

Start In... Mic... Co... Se... ut... He... 12... Internet

1:46 PM

<http://www.heatpumpcentre.org>

US National Labs Websites



US Department of Energy – Geothermal Energy Program

EERE: Geothermal Technologies Program Home Page - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://www1.eere.energy.gov/geothermal/>

U.S. Department of Energy
Energy Efficiency and Renewable Energy *Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable*

Geothermal Technologies Program

[About the Program](#) [Program Areas](#) [Information Resources](#) [Financial Opportunities](#) [Technologies](#) [Deployment](#)

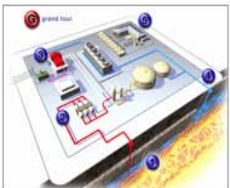
EERE's Geothermal Technologies Program works in partnership with U.S. industry to establish geothermal energy as an economically competitive contributor to the U.S. energy supply. For more information on the Geothermal Technologies Program's key activities, see the Program Fact Sheet (PDF 298 KB) [Download Adobe Reader](#).

Selected Topics

- [Geothermal basics & educational resources](#)
- [Calendar of Events](#)
- [U.S. geothermal history](#)
- [Geothermal resource maps & data](#)
- [Geothermal photos](#)
- [Geothermal energy uses/applications](#)
- [Power plants/electricity production](#)
- [Geothermal heat pumps](#)
- [Geothermal Energy Technology Subject Portal \(OSTI\)](#)
- [Environmental & economic impacts](#)
- [Research & development](#)

How a Geothermal Power Plant Works

Take a geothermal energy field trip—from the depths of the Earth through the turbine of a modern geothermal



NEWS

- [PG&E Adds More Renewable Geothermal Energy to Electric Mix](#) ▶
March 6, 2006
- [Scientists Charged Up by Oil Wells' Latent Power](#) ▶
January 17, 2006
- [LA Utility to Accelerate Goal of 20% from Renewables by 2010](#) ▶
January 11, 2006
- [Geothermal Power Plants Moving Ahead in Idaho and Utah](#) ▶
December 14, 2005
- [Ormat Commissions 20-Megawatt Geothermal Power Plant in Nevada](#) ▶
November 23, 2005

[More News ▶](#)

EVENTS

- [Power-Gen](#) ▶
April 10-12, 2006

[More Events ▶](#)

FEATURES

[Why Geothermal? Utilities](#)

<http://www1.eere.energy.gov/geothermal/>

US Department of Energy Idaho National Engineering and Environmental Laboratory

Idaho National Laboratory - Geothermal Energy

File Edit View Favorites Tools Help

Address <http://geothermal.id.doe.gov>

INL Idaho National Laboratory

Geothermal Energy

Geothermal Energy

The mission of the Idaho National Laboratory (INL) Geothermal Program is to work in partnership with U.S. industry to establish geothermal energy as an economically competitive contributor to the U.S. energy supply. Since 1974, the INL has been a key laboratory in executing the Department of Energy's Geothermal Program, investigating and developing geothermal resource technologies for both direct use and electricity generation, particularly those resources considered marginally economical. Working closely with the National Renewable Energy Laboratory (NREL) and other national laboratories, the INL ensures availability of nationally recognized geothermal leadership to implement a successful national program. Working with both the states and the DOE, INL has assumed leadership in optimizing the region's geothermal resources. INL is the lead laboratory for the DOE Geothermal Energy Program's geoscience research, focused on characterization and management of geothermal reservoirs. INL also coordinates the international geothermal program for DOE as well as both managing and performing research and development activities on many of the other major activities in DOE's Geothermal Program, including the Heat Cycle, Enhanced Geothermal Systems, and Exploration programs.

In addition, the INL is a key participant in GeoPowering the West. This DOE activity is targeted at reducing cost and increasing deployment of geothermal electric and direct-use applications in the western United States.

Old Faithful Geyser in Yellowstone National Park

Contact:
Joel Renner, (208) 526-9824, [Send E-mail](#)

Last Updated: Thursday, June 23, 2005

Start Inbo... Micr... Com... Sear... Utah... Idah... 123 ... 1:23 PM

<http://geothermal.id.doe.gov>

National Renewable Energy Laboratory Geothermal Technologies Program

The screenshot shows a Microsoft Internet Explorer browser window displaying the NREL Geothermal Technologies Program website. The address bar shows the URL <http://www.nrel.gov/geothermal/>. The website has a yellow background and features a central banner with the text "National Renewable Energy Laboratory" and "Geothermal Technologies PROGRAM". Below the banner is a navigation menu with links: "About Geothermal Electricity", "Research and Development", "Publications", "NREL Staff", "Awards", "Solicitations", and "More Information". The "Publications" link is circled in red. To the right of the navigation menu is a text block describing the DOE Geothermal Energy Program's focus areas: energy systems research and testing, drilling technologies research, and geoscience and supporting technologies research. Below this text is a circular image of a geothermal well and a "FEATURE" section titled "New coating reduces capital and maintenance costs in heat exchangers." At the bottom of the page, there are links for "Webmaster" and "Security and Privacy". The browser's taskbar at the bottom shows various icons and the system clock indicating 1:42 PM.

<http://www.nrel.gov/geothermal/>

Oakridge National Lab

OAK RIDGE NATIONAL LABORATORY
Managed by UT Battelle for the Department of Energy

Find People - Contacts - Site Index - Comments Sunday, March 19, 2008

Location ▶ ORNL Home

Home

News ▶

About ORNL ▶

ORNL Video

Science & Technology ▶

Spallation Neutron Source ▶

User Facilities

Technology Transfer ▶

Working with ORNL ▶

Community Outreach ▶

Jobs ▶

Visitor Information ▶

Calendar of Events

University Partners

Contact Us ▶

Featured Sites

Catalysts

Taking the *high* road

ORNL researchers are working with Ford, General Motors and DaimlerChrysler to fill tomorrow's roads with lighter, cleaner and more fuel-efficient automobiles made in part from carbon fiber composites.

Latest News | Archive

Major Research Areas Additional Research Areas

Oak Ridge is home to the nation's strongest and broadest materials science programs.

Neutron Science	Biological Systems	Energy
Advanced Materials	National Security	Supercomputing

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Oak Ridge National Laboratory

Search

geothermal heat pump **Go!**
Advanced Search · Search Tools
Find People · Library · Site Index

News Releases

- Veterans related firms honored at Small Business luncheon
- Carbon fiber cars could put U.S. on highway to efficiency
- ORNL researchers, supercomputer earn big roles in new DOE projects
- Audio Spot: ORNL contributes to developing fuel cell technology
- [XML](#) RSS News Feed
- [XML](#) Podcast of Audio News

ORNL Review

Science for Security
Managing the Soviet Legacy
In Tune with the Russians
Telltale Evidence
One Threat at a Time
[XML](#) RSS News Feed

<http://www.ornl.gov/>

Publications Available Online



International Geothermal Association

The screenshot shows a Netscape browser window displaying the homepage of the International Geothermal Association (IGA). The browser's address bar shows the URL <http://iga.igg.cnr.it/index.php>. The website features a red logo with the letters 'IGA' inside a diamond shape, surrounded by a globe. To the right of the logo, the text 'International Geothermal Association' is written in a large, red, stylized font. Below the logo and text, there is a navigation menu with buttons for 'Home', 'Geothermal energy', 'Geothermal in the World', 'IGA services', 'Geothermal events', 'About IGA', and 'Ballot 20'. On the left side, there is a vertical menu with a yellow background and a red border, containing the following items: 'Geothermal energy', 'Geothermal in the World, data, photo and links', 'IGA Publications, conferences and courses' (which is circled in red), 'Geothermal events', and 'About IGA'. The main content area of the page has a white background and contains the following text: 'Welcome to our page on geothermal energy around the world', 'Future News', a list of two news items with blue links, 'Past News', and a list of two news items with blue links. The browser's status bar at the bottom shows the time as 10:18 AM and the text 'IGA International Geo...'. The Windows taskbar at the very bottom shows the Start button and several application icons.

IGA International Geothermal Association - Netscape

File Edit View Go Bookmarks Tools Window Help

IGA <http://iga.igg.cnr.it/index.php> Search

Mail AIM Home Radio My Netscape Search Bookmarks

IGA IGA International Geothermal Association

Home Geothermal energy Geothermal in the World IGA services Geothermal events About IGA Ballot 20

▶ Geothermal energy
▶ Geothermal in the World, data, photo and links
▶ IGA Publications, conferences and courses
▶ Geothermal events
▶ About IGA

Welcome to our page on geothermal energy around the world

Future News

- The IGA BoD election process started. [Click here for details](#)
- Visit the 'Day of Geothermal Power' at the international Conference for Renewable Energies, June 2, Bonn, Germany [Click here to access its URL](#)

Past News

- New documents can be accessed in About IGA/Documents. What is geothermal potential? [Click here to directly access it](#)
- New documents can be accessed in About IGA/Documents. Running capacity [Click here to directly access it](#)

Start Done IGA International Geo... 10:18 AM

<http://iga.igg.cnr.it/index.php>



International Geothermal Association

[home](#)

[geothermal energy](#)

[geothermal in the world](#)

[iga services](#)

[geothermal events](#)

[about iga](#)

- ▶ IGA Events
- ▶ IGA Newsletter
- ▶ IGA Newsletter search engine
- ▶ Geothermal conferences papers search engine
- ▶ Proceedings of World Geothermal Congresses

Future Events

Past Events

- **24/4/2005** [World Geothermal Congress, 24-29 April 2005, Antalya, Turkey](#)
- **13/9/2004** [International Geothermal Days "Poland 2004", 13-17 September 2004, Zakopane, Poland.](#)
Contact: [Dr. Beata Kepinska](#)

Last update of this page on **Monday 6th of March 2006**

Maintenance: [Eduardo R. Iglesias](#) and [Zbigniew Malolepszy](#)

Produced with the support of the Data Processing, Distribution and Protection Department (RECSI) of the CNR Institute for Telematic Applications, Pisa, Italy

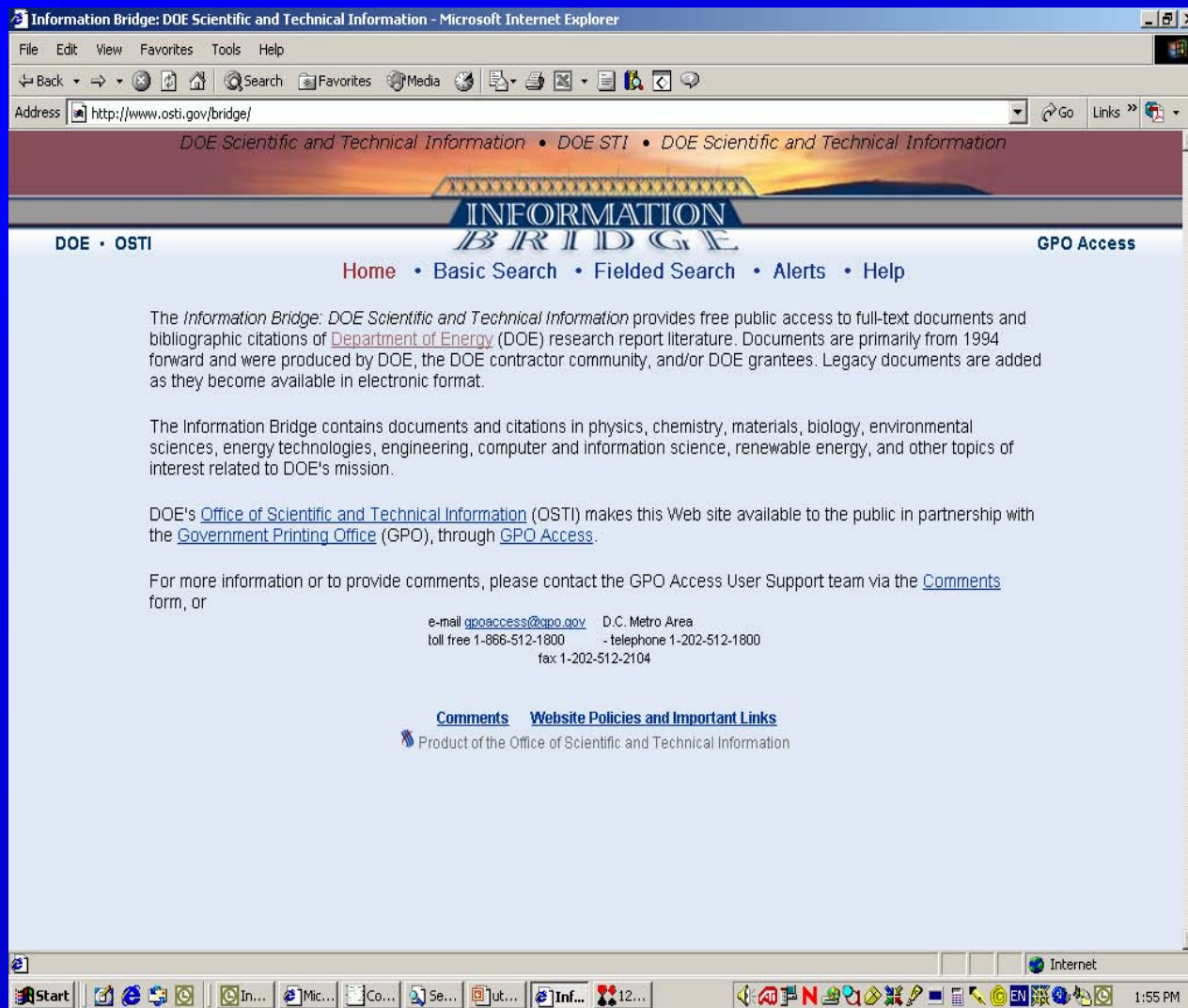
IGA Geothermal Conference Papers



The screenshot shows a Microsoft Internet Explorer browser window with the address bar containing <http://geothermal.stanford.edu/standard/>. The page features the IGA logo (International Geothermal Association) on both sides of the main heading, which reads "IGA Geothermal Conference Papers Database". Below the heading, there is a link: [Click here to search the database](#). A note at the bottom of the page states: "Organizations who wish to add their conference proceedings to this collection, please see the information [here](#)." The browser's taskbar at the bottom shows the Start button, several open applications, and the system clock displaying 1:47 PM.

<http://geothermal.stanford.edu/standard/>

DOE's Scientific and Technical Information Information Bridge



The screenshot shows a Microsoft Internet Explorer browser window displaying the DOE Information Bridge website. The address bar shows <http://www.osti.gov/bridge/>. The page features a navigation menu with links for Home, Basic Search, Fielded Search, Alerts, and Help. The main content area provides information about the bridge's purpose, the types of documents it contains, and contact information for the Office of Scientific and Technical Information (OSTI) and the Government Printing Office (GPO).

Information Bridge: DOE Scientific and Technical Information - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print

Address <http://www.osti.gov/bridge/> Go Links

DOE Scientific and Technical Information • DOE STI • DOE Scientific and Technical Information

INFORMATION BRIDGE

DOE • OSTI GPO Access

[Home](#) • [Basic Search](#) • [Fielded Search](#) • [Alerts](#) • [Help](#)

The *Information Bridge: DOE Scientific and Technical Information* provides free public access to full-text documents and bibliographic citations of [Department of Energy](#) (DOE) research report literature. Documents are primarily from 1994 forward and were produced by DOE, the DOE contractor community, and/or DOE grantees. Legacy documents are added as they become available in electronic format.

The Information Bridge contains documents and citations in physics, chemistry, materials, biology, environmental sciences, energy technologies, engineering, computer and information science, renewable energy, and other topics of interest related to DOE's mission.

DOE's [Office of Scientific and Technical Information](#) (OSTI) makes this Web site available to the public in partnership with the [Government Printing Office](#) (GPO), through [GPO Access](#).

For more information or to provide comments, please contact the GPO Access User Support team via the [Comments](#) form, or

e-mail gpoaccess@gpo.gov D.C. Metro Area
toll free 1-866-512-1800 - telephone 1-202-512-1800
fax: 1-202-512-2104

[Comments](#) [Website Policies and Important Links](#)

Product of the Office of Scientific and Technical Information

Start In... Mic... Co... Se... ut... Inf... 12... Internet 1:55 PM

<http://www.osti.gov/bridge/>

Websites with Pictures or Slides

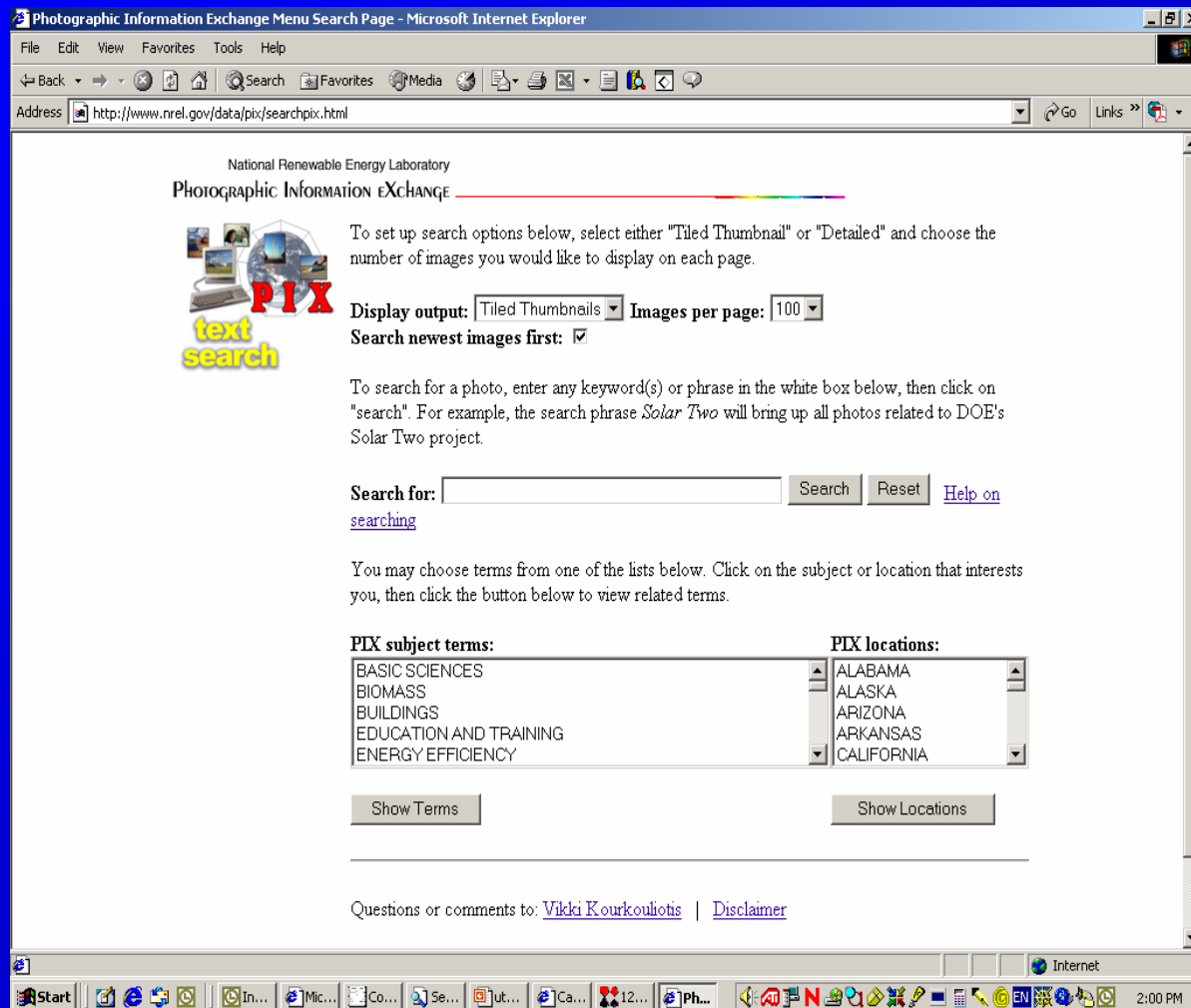


Geothermal Education Office

The screenshot shows a Netscape browser window displaying the Geothermal Education Office website. The browser's address bar shows the URL <http://geothermal.marin.org/>. The website features a large logo at the top center that reads "GEO" in a stylized font with a red and blue triangle, and "GEOTHERMAL EDUCATION OFFICE" below it. Underneath the logo is a link for "Latest News From GEO". The main content area is a circular graphic with a central image of a geothermal well. The text "GEOTHERMAL ENERGY" is written across the center of the circle. Surrounding this central image are several menu items: "Geothermal Facts" (with sub-links for "Introductory / Advanced / Glossary"), "Worldwide Data and Map", "Geothermal Slide Show" (highlighted with a red circle), "Ask an Expert", "More Hot Websites", "More About Energy", "About GEO", and "Classroom & Public Information Materials". The browser's taskbar at the bottom shows the Start button, several open applications including "Geothermal Education..." and "Adobe Photoshop", and the system clock showing 12:34 PM.


<http://geothermal.marin.org>

National Renewable Energy Laboratory Photographic Information Exchange



The screenshot shows a web browser window titled "Photographic Information Exchange Menu Search Page - Microsoft Internet Explorer". The address bar contains the URL "http://www.nrel.gov/data/pix/searchpix.html". The page content includes the NREL logo and the title "PHOTOGRAPHIC INFORMATION EXCHANGE". Below the title, there is a "text search" icon and instructions for setting search options. The search options include "Display output" set to "Tiled Thumbnails" and "Images per page" set to "100". There is a checkbox for "Search newest images first" which is checked. A search input field is labeled "Search for:" and contains a search button, a "Reset" button, and a link to "Help on searching". Below the search field, there are two lists of terms: "PIX subject terms" and "PIX locations". The "PIX subject terms" list includes: BASIC SCIENCES, BIOMASS, BUILDINGS, EDUCATION AND TRAINING, and ENERGY EFFICIENCY. The "PIX locations" list includes: ALABAMA, ALASKA, ARIZONA, ARKANSAS, and CALIFORNIA. There are "Show Terms" and "Show Locations" buttons below each list. At the bottom of the page, there is a link for "Questions or comments to: Vikki Kourkoulotis" and a "Disclaimer" link. The Windows taskbar at the bottom shows the Start button, several application icons, and the system tray with the time "2:00 PM".

National Renewable Energy Laboratory
PHOTOGRAPHIC INFORMATION EXCHANGE

 To set up search options below, select either "Tiled Thumbnail" or "Detailed" and choose the number of images you would like to display on each page.

Display output: Tiled Thumbnails **Images per page:** 100
Search newest images first:

To search for a photo, enter any keyword(s) or phrase in the white box below, then click on "search". For example, the search phrase *Solar Two* will bring up all photos related to DOE's Solar Two project.

Search for: [Help on searching](#)

You may choose terms from one of the lists below. Click on the subject or location that interests you, then click the button below to view related terms.

PIX subject terms:	PIX locations:
BASIC SCIENCES	ALABAMA
BIOMASS	ALASKA
BUILDINGS	ARIZONA
EDUCATION AND TRAINING	ARKANSAS
ENERGY EFFICIENCY	CALIFORNIA

Questions or comments to: [Vikki Kourkoulotis](#) | [Disclaimer](#)

<http://www.nrel.gov/data/pix/searchpix.html>

Geo-Heat Center Website

<http://geoheat.oit.edu>



Geo-Heat Center Website

- ◆ **What is Geothermal?**
- ◆ **Services Offered**
- ◆ **Publications List**
- ◆ **Bulletin**
- ◆ **Where are Geothermal Direct Use Project Sites?**



Geo-Heat Center Website (cont.)

- ◆ **Where are Geothermal Resources?**
- ◆ **The Prospective Geothermal Heat Pump Owner Information Survival Kit**
- ◆ **Directory of Consultants & Equipment Manufacturers**
- ◆ **Other Places of Interest**



Services Offered

- ◆ **Technical Assistance**
- ◆ **Resource Information**
- ◆ **Publications**
- ◆ **Tours**
- ◆ **Library**



Publications List

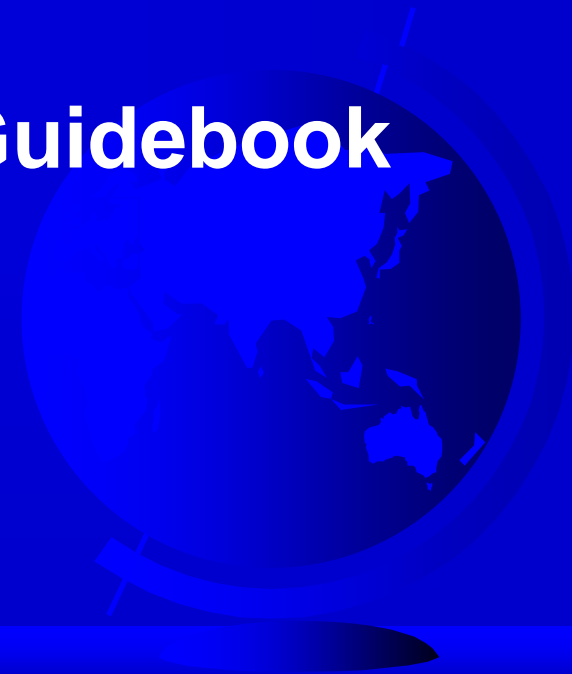
- ◆ **Technical Papers / Reports**

 - ◆ 99 publications

- ◆ **Bulletin Articles**

 - ◆ 269 articles

- ◆ **Geothermal Direct Use Guidebook**



Bulletin

- ◆ 1800 subscribers
- ◆ Mailed out quarterly
- ◆ Placed on the website
 - ◆ Vol 16, No 4 to Vol 26 No. 3
 - ◆ Formatted for printing
 - ◆ Vol 18, No. 3 to Vol. 26, No. 3



Where are Geothermal Direct Use Projects?

- ◆ Direct Use Database
- ◆ Interactive map
- ◆ General information for each site
- ◆ Coming soon
 - ◆ Pictures of the site
 - ◆ Related links (Publications, websites)



Where are Geothermal Resources?

- ◆ **Collocated Study completed**
 - ◆ Over 404 communities identified (10 western states)
 - ◆ A resource with a temp over 50 C and located within 5 miles of a community
- ◆ **Includes general information**
 - ◆ Location
 - ◆ Temperature
 - ◆ Typical depth
 - ◆ Flow
 - ◆ TDS



The Prospective Geothermal Heat Pump Owner information Survival Kit

- ◆ Introduction
- ◆ Terminology
- ◆ Heat Pump - Fundamentals
- ◆ Equipment
- ◆ Performance Rating
- ◆ FAQ (Frequently Asked Questions)



Directory of Consultants & Equipment Manufacturers

- ◆ Professional Services
- ◆ Well Pumps
- ◆ Plate Heat Exchanger
- ◆ Piping
- ◆ Chiller, Absorption
- ◆ Space Heating Equipment
- ◆ Commercial GSHP Design Info



Other Places of Interest

- ◆ **US Department of Energy / Geothermal**
- ◆ **Geothermal Associations**
- ◆ **Geothermal Heat Pump**
- ◆ **Aquaculture**

