

THE GEO-HEAT CENTER

The Geo-Heat Center, established in 1974, is unique in its expertise and information services. The staff consists of innovative experts in the field of geothermal direct-use and small-scale power production. Engineering and economic assistance has been provided to a broad range of clients, from the homeowner interested in geothermal space heating and municipalities engaged in geothermal district heating projects, to industrial concerns adapting geothermal resources to meet the energy needs processes.

Aside from offering a unique array of information and technical services unavailable elsewhere in the U.S., the Geo-Heat Center is located on the Oregon Institute of Technology campus, a showcase of geothermal energy use. The campus system provides the opportunity to view a geothermal direct-use system, operational since 1964. It demonstrates the reliability, practicality, and efficiency of geothermal space heating applications as a viable alternative to fossil fuel use. There are also residential, commercial, and industrial applications in and near the city of Klamath Falls available for inspection.

The Center specializes in:

- *Informational Services
- *Engineering & Economic Feasibility Studies
- *Life Cycle Cost Analysis
- *Resource/Application Evaluation

The Center's areas of experience include:

TECHNICAL ASSISTANCE

Direct Use

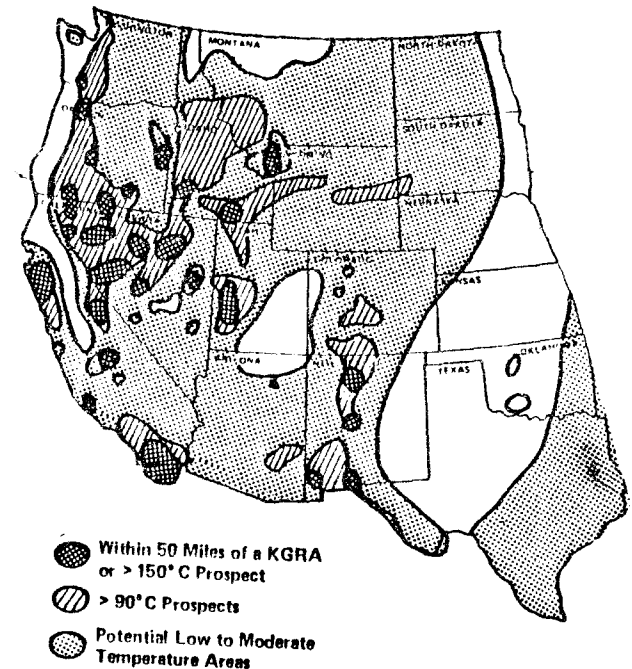
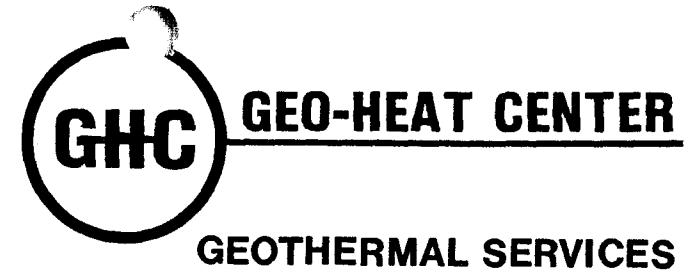
- *Space heating & domestic hot water for schools, hospitals, colleges, motels/hotels, office buildings
- *Space cooling for hotels, commercial buildings, district cooling
- *Refrigeration--commercial refrigeration facility
- *District heating
- *Heat pump applications-- buildings
- *Greenhouses--with resource temperatures as low as 81°F, radiant and forced-air systems
- *Aquaculture--prawns, shrimp, fish farming
- *Industrial processes--crop drying, lumber drying, food processing
- *Swimming pool/spa heating
- *Waste heat
- *Ethanol Production

Binary Power Production

- *Various site applications

RESEARCH

- *Binary cycle analysis
- *Performance of downhole heat exchangers
- *Hydrology and geochemistry of the Klamath Basin
- *Fresh water prawn raising
- *Greenhouse heating systems



OREGON INSTITUTE OF TECHNOLOGY

KLAMATH FALLS, OREGON

GEOTHERMAL TECHNOLOGY

TRANSFER

The transfer of technological information to consultants, developers, potential users, and the general public is an important element in the development of geothermal energy. The DOE Federal Assistance Program provides a means to use the Geo-Heat Center's resources to transfer its knowledge of geothermal energy use. Information developed from academic and government research as well as firsthand knowledge of actual projects is provided to potential users. This program provides the following services to the public.

SERVICES OFFERED

APPLICATIONS ANALYSIS - The Geo-Heat Center, with aid from outside consultants, provides technical/economic feasibility analyses for those actively involved in geothermal development. Geothermal projects involving direct and heat pump space heating, industrial processes, and low-temperature wellhead electric power generation, will be allocated up to 64 man-hours of analysis (based on merit) per project. A site analysis may involve: site visit to gather information, resource evaluation based on published information and/or well profiling and water testing, application of engineering principles to determine development options and costs, economic analysis, flow diagrams, and explanation of proposed system.

TRAINING SESSIONS - Sessions will consist of problem solving related to site development including reservoir evaluation, well drilling and design, pump selection, distribution system design, heating system design, economics, etc. Training sessions will be arranged through state energy offices.

SPEAKER'S BUREAU - Center staff are available to make presentations on topics such as system design, economic considerations, and project examples to both lay and technical audiences.

TOURS - The Center will arrange individual and group tours of Klamath Falls district heating system, campus geothermal heating/cooling system, residential and local greenhouse applications.

PUBLICATIONS - A quarterly bulletin featuring domestic and foreign research and development is available. Technical material on resources, direct-use equipment and design schemes, and feasibility studies may be obtained by writing for the GHC Publication Request Form.

LIBRARY - The Center maintains a geothermal library of over 2,200 volumes for lay and technical readers. Volumes are available for loan by writing the GHC librarian, and you may request a GHC library subject matter listing.

HOW TO OBTAIN INFO/ASSISTANCE

For general information, publications, and to arrange tours and talks contact PAUL J. LIENAU, Director.

For assistance and/or analysis of your geothermal project contact GENE CULVER, Associate Director.

All staff at the Geo-Heat Center should be contacted at:



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ORETECH BRANCH POST OFFICE

KLAMATH FALLS, OREGON 97601

(503) 882-6321, ext. 267