

PROJECT DESCRIPTION

Overall Project Goals

The Global Ecology Research Center at Stanford University is an extremely low-energy laboratory and office building for the Carnegie Institution of Washington. The mission of the new Department of Global Ecology is to conduct basic research on the interactions between the earth's ecosystems, land, atmosphere, and oceans. From the researcher's perspective the most pressing environmental issue is global climate change. Rather than follow the more diffuse focus of LEED, the client encouraged the design team to drastically reduce carbon impacts while providing laboratory and research spaces that meet the highest standards of comfort and performance. This unique focus allowed the design team to reduce carbon emissions associated with the building operation and materials by over 60%, while aggressively pursuing habitat and water conservation goals.

A January 2005 post-occupancy study for the Center for the Built Environment at Berkeley (CBE) documents high occupant satisfaction across a wide range of categories as compared to the 158-building CBE database (see diagram). On a scale of -3 to 3, Overall Building Satisfaction scored at 2.39 (vs. .91 average), Thermal Comfort at 1.43 (vs. -0.20 average) and Air quality at 2.61 (vs. .22 average). Occupants are responding to unusually high levels of thermal, visual and acoustic comfort which are integral to the energy strategies. Proper orientation, great daylighting, sunshading, and natural ventilation set the stage for innovative mechanical systems which add more to the project than low-energy cooling. The Night Sky radiant system demonstrates the same principles of radiant heat loss to deep space that researchers are investigating while a Cool Tower serves as an iconic focal point that draws visitors to the Center and anchors the indoor/outdoor lobby.

Size

10,890 SF (research building)

14,420 SF (including storage/workshop)

Program

The building program describes five primary functions: laboratory, office, storage, workshop, and greenhouse. Approximately 45 full-time researchers and staff occupy the buildings year round conducting research in the labs, preparing computer simulations, or in support of fieldwork. The department hosts occasional lectures, conferences and distinguished international visitors and collaborates with researchers working in other departments at Stanford.

Construction Cost

The research building cost \$4,050,673 or \$372/sf

Building Occupancy and Type

B occupancy (office/research); S-2 (storage/workshop)

Type V non rated.

Completion

Spring 2004