

Insulating a Cold Room under a cottage

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Gary from Thunder Bay, Ontario, wants to dig a relatively small storage space under his cottage, through the crawl space, although he plans to make it about 8 feet deep, and wants to know just how to insulate it to keep the contents from freezing. Aside from putting about 4 inches of foam insulation on the walls of this 8 foot by 8 foot room, my recommendation is to insulate right up to the floor of the house, but put an un-insulated trap door on this room. That will allow heat from the house above to move into the storage space. In addition, do not insulate the floor, because deep in the ground, the soil will be above freezing and letting that geothermal heat into the room will also help to keep it from freezing in the cold climate of Thunder Bay. If it would be practical to do, I would even recommend putting some foam insulation in the soil going out horizontally like a skirt along the red lines I drew on the bottom of the blue room, which would just help to trap more heat from below and block heat losses to the surface. Now if this cottage is not heated all winter long, you will probably want an insulated cap on the top and a very small heater inside the room as this could then be the only thing you keep above freezing during winter absences. It won't be very expensive to keep it warm because of all the insulating soil, and it should even survive fairly long power black-outs. Also, it would be a good idea to have the plumbing run through this room, while you are at it. The key is to block heat loss to cold areas and allow heat entry from anywhere that is above freezing all winter long, and use the soil as both a form of insulation and as a heat source.

Keywords:

Heat Loss, Crawl Space, Cold Room, Soil, Insulation, Techniques