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A Science Service Feature

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? WHY THE WEATHER ?

Dr. Charles F. Brooks,  
Secretary, American Meteorological Society,  
tells why:

GROUND DOES NOT FREEZE AT 32 DEGREES

Though we commonly think the ground freezes as soon as the temperature reaches 32 degrees Fahr., the freezing point of pure water under ordinary conditions, observations of the temperature at which the soil actually freezes show temperatures from 2 to 9 degrees below 32. This reduced freezing point is essentially the result of salts in solution in ground water. This reduced freezing point of the soil is a factor which prevents the ground from freezing to greater depths than those we are used to.

In the coldest regions, however, mostly where the mean annual temperature is 28 or lower, the ground freezes to depths limited only by the interior heat of the earth. In mine tunnels in Spitzbergen, under surfaces swept bare of snow, frozen ground has been found to a depth of 1,000 feet, and out to some distance under the ocean bottom. Such depths never thaw. Enormous areas in northern North America and northern Eurasia have such frozen soil.

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(Tomorrow: Coast Is Warmer than Inland)

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