

No. 105

A Science Service Feature

Sept. 11

? WHY THE WEATHER ?

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

SUMMER ICE CAVES.

About this time of year the last of the accumulations of ice in some caves, mines, and wells are melting. In a few the ice will not disappear before a new crop begins to form. Caves, mines, or cracks in which ice is to be found in summer are those in which in winter either a very great depth of snow and ice collected, or cold air entered to such an extent that the walls were chilled so that they froze the inpouring water from spring thaws. A reversal of the seasons seems to result: the succession of cold inpourings of air in winter though making very low temperatures, may not form icicles till spring when the water comes. Then the ice melts so slowly that it is present most of the summer, for the warm air cannot enter to displace the heavier cold air in the hole, and the conduction of heat through the rocks is so slow that it takes half a year for the summer heat to be felt at a depth of 30 to 50 feet. By the end of summer, however, the last of the ice is disappearing, and if as usual there is no further inflow of water after the cold weather sets in then no more icicles form till spring. In some places ice caves have been used as natural refrigerators.

At Port Henry, N.Y., an iron mine noted for its summer ice was investigated by the Weather Bureau. While the temperature outside one August day was 66°F., that in the mine was 36°F. beside an enormous ice mass called the "iceberg". The mine roof had been opened by a great blast of dynamite so that entrance was at the apex of a conical hole 500 feet deep. Cold air collecting in this cone funneled down into the mine and kept it cold, while warm air being lighter did not blow away the cold. Once in January a thermometer showed 38°F. below zero in the mine. Before the top was blown off thereby allowing the entry of the cold air, the mine had been too warm for comfort.

-----  
(Tomorrow: The Lids of the Air)  
All rights reserved by Science Service.

Science Service, Washington, D.C.  
-----