

SURFACE WATER SUPPLIES

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Abstract: Surface water is often the only source of water in continuous permafrost areas because ground water is expensive to obtain and often very high in salinity and/or total dissolved solids. Limitations, with solutions, are presented for utilizing surface water, especially the many small lakes that are present in Northern Alaska and Canada. Precipitation is low and watersheds are seldom much larger than the lakes themselves. Ice formation considerably restricts the amount and quality of the water which can be obtained from the shallow lakes. Other sources are defined with their limitations and possibilities.

INTRODUCTION

Water sources in cold regions contain many development possibilities, but have more limitations than those in more temperate climates. This paper will briefly discuss the possible restrictions necessitated by cold temperatures and ice formation. The type of supplies most often encountered include lakes and reservoirs, streams and rivers, wells, snow and ice, and seawater.