

Abstract

A stream water temperature monitoring project has been initiated by the U.S. Fish and Wildlife Service, Office of Subsistence Management, at 29 stream locations throughout Alaska. Temperature monitoring will augment fisheries studies currently being conducted at these locations. The temperature monitoring project is being developed to provide consistent temperature data, from standard collection and reporting methods, for subsistence fishery management and to evaluate climate influence on stream temperatures and fish habitat. Stream water and air temperature loggers were checked for accuracy and distributed along with deployment instructions and data sheets to 29 sampling locations in 2008 and 2009. Sampling sites are located at fish weirs operated by native corporations, and state and federal agencies. Loggers were deployed by field crews under the supervision of a Principal Investigator. Stream water and air temperatures were obtained from 22 and 20 locations in 2008 and 2009, respectively. Sites ranged in latitude from 57.5° to 66.7° north. Maximum seasonal water temperatures ranged from 5.6° to 16.8° C in 2008 and from 12.3 to 22.3°C in 2009. August degree days ranged from 285 to 435 among sites in 2008 and from 257 to 520 in 2009. Streams near lake outlets and at lower latitudes were generally warmer. Water temperatures at some locations were strongly related to air temperatures with R squared values from 0.7 to 0.9 and are more likely to be influenced by the regional climate. Stream temperatures at some locations were not obtained due to equipment lost during floods or from ice; however, some sites failed to deploy, download, or submit data. The project can be improved by increasing communication with Principal Investigators and training of field technicians.