

2013 Breakup Flooding

May 17- June 10, 2013

Overview

The 2013 breakup season is remembered for the catastrophic flooding along the Yukon River, and less extreme flooding along the Copper River. Galena was severely impacted, 90% of the buildings flooded. In addition, communities as far east as Eagle and west as Emmonak were damaged by the Yukon River floodwaters. The emergency response was complicated since most Yukon River communities are not connected by a road system. In addition, the state was attempting to respond to many communities simultaneously. This made safely transporting people and supplies challenging.

Spring Breakup

The Yukon River breaks up every spring when the River ice begins to thaw and the snow starts to melt. The severity of the breakup season in 2013 was enhanced by a few factors. First, April and early May were exceptionally cold in the Interior. This allowed the ice to remain strong late into the spring. Then, temperatures rose rapidly into the 70s kickstarting breakup which began on May 17. The thick, late ice, combined with high temperatures, created a mismatch that exacerbated ice jams and caused rapid snowmelt runoff and flooding on the Yukon.

Disaster Declared:

May 30 Governor Parnell declared State Disaster Emergency

Jun 25 President Obama signed Federal Disaster Declaration

FEMA disaster assessment team determined that critical infrastructure, power, healthcare, water, wastewater facilities sustained damage. Galena received **\$2.7 million** (in 2017 dollars) four years later to aid in disaster recovery



Galena, Alaska, photo by Ed Plumb NWS



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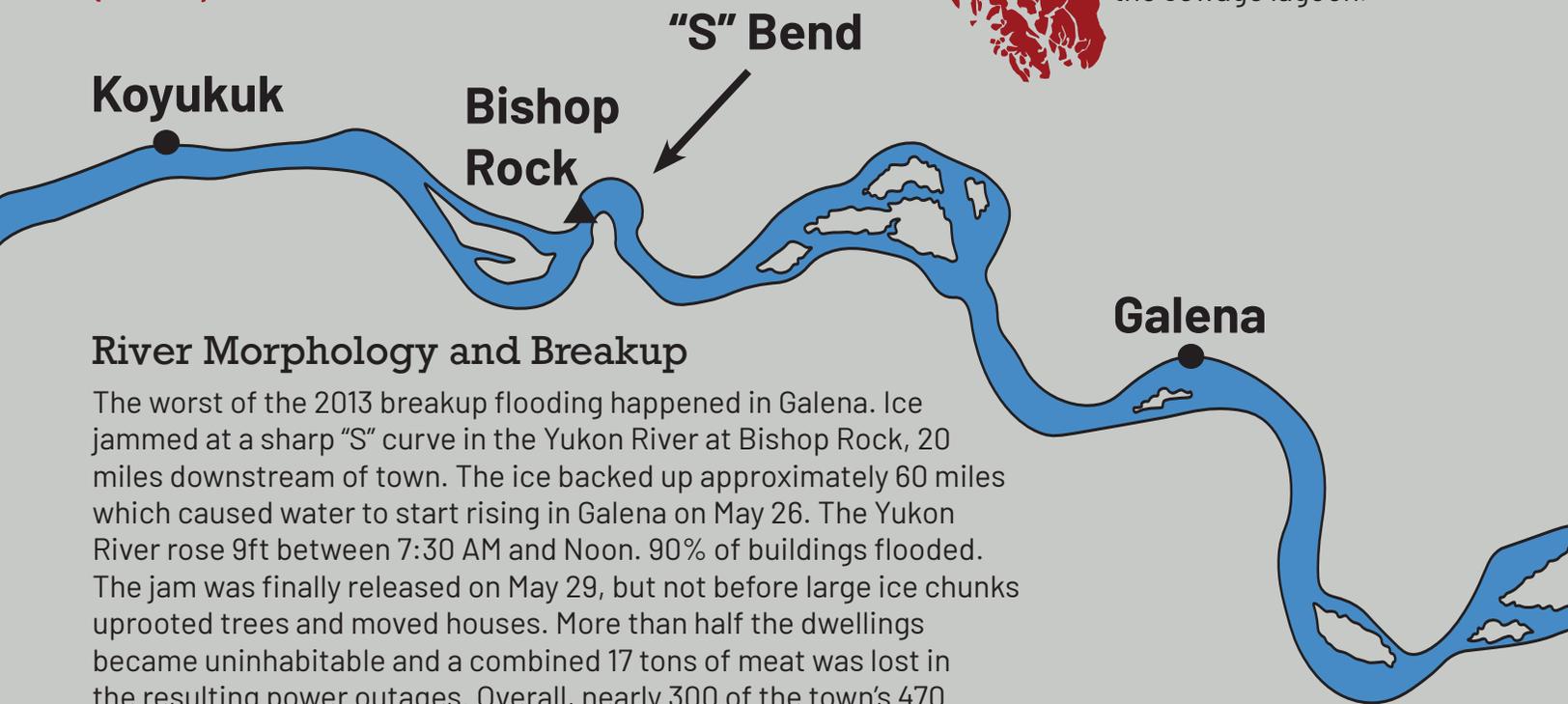


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Community Specific Impacts

Life Along Alaska Rivers

For those living along the Yukon River, the yearly breakup and occasional flooding comes as no surprise. However, the 2013 breakup was especially destructive. Numerous communities were impacted. Among those were Eagle, Chisotchina, Gulkana, Circle, Fort Yukon, Galena, Emmonak and Alakanuk. In Eagle, flooding occurred in a few homes on May 17th due to a small jam. In Circle, flooding occurred in nearly every building on May 19th due to a jam below town. On the other hand, in Fort Yukon, the jam was above town and more porous allowing water to pass through and preventing severe flooding. In addition to property damage, the 2013 breakup destroyed fuel tanks, water and sewage systems, electrical systems, roads and bridges. In Galena, where flooding was severe, there was concern of contamination from fuel spills and raw sewage due to floodwaters overtopping the sewage lagoon.



River Morphology and Breakup

The worst of the 2013 breakup flooding happened in Galena. Ice jammed at a sharp "S" curve in the Yukon River at Bishop Rock, 20 miles downstream of town. The ice backed up approximately 60 miles which caused water to start rising in Galena on May 26. The Yukon River rose 9ft between 7:30 AM and Noon. 90% of buildings flooded. The jam was finally released on May 29, but not before large ice chunks uprooted trees and moved houses. More than half the dwellings became uninhabitable and a combined 17 tons of meat was lost in the resulting power outages. Overall, nearly 300 of the town's 470 residents evacuated.

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Sources: Alaska State Disaster List, Anchorage Daily News, Alaska Department of Environmental Conservation, FEMA Interagency Recovery Case Study, Alaska Public Media, Knom Radio Mission, Weather.gov, FEMA Disaster Response Report, Daily News Miner, Alaska DOT&PF, Edward Plumb National Weather Service - Personal Communication

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