Eastern Montana Water and Drought: Overview and how NWS can Help you!

NOAA/NWS Glasgow, MT
Types of Issues

- Ice Jams
- River
- Small Stream
- Flash Flood
- Areal Flooding
- Snowmelt
- Dam Break
- Prolonged Heavy Rain
- Urban (underpasses!)
- Mountain Snowmelt
- Drought
Dam Failure
Malkuch Dam
March 2013 Failure
Ice Jams

- Curves, Oxbows and Sandbars/Islands, and bridges are the worst areas for jamming
- **No two events are alike, the river changes with each event**
- Water can rise very high in a VERY short time
- Can’t predict how it will take for ice to finally move through or rot in place
June 19, 1938
Terry Train Derailment
March 1939 Flood in Glasgow
Here is an aerial view taken by Gene Etchart, Glasgow flier, of the Midway dam on Big Porcupine after its failure which sent a wall of water down the creek valley, inundating ranch homes and flooding Nashua's north side 30 miles below. Built by the Indian reclamation service, it was used to store water for irrigation which extended to the Wiota flat. Of earth fill, covered by concrete slabs, residents of the territory said it had shown some damage before the spring breakup which sent huge chunks of ice against the spillway, in the washed out section, and finally caused its collapse. The gap in the dam is about 300 feet wide. The Etchart ranch is located about a mile below it, where there was a heavy loss in buildings, corrals and equipment. Other ranchers also suffered.
1952 Flood Frenchman Dam Failure
1952 Flood

Nashua

Glasgow

Hinsdale
June 23, 2002: Garfield County Dam Failure
2003/2006/2012: Drought Caused Wildfires
$43.5M in Repairs for Fort Peck

2011 Flood
2nd Lowest Flow on the Yellowstone River at Sidney:
1.86 feet on Dec 12, 2013
Record lowest is 1.5’ on Aug 12, 1961
Mean Annual Streamflow: Sidney

06329500
Yellowstone River near Sidney MT
Mar 10, 2014 Ice Jam: Glendive

YELLOWSTONE RIVER AT GLENDIVE

Universal Time (UTC)

Latest observed value: 51.81 ft at 10:00 PM MDT 11-Mar-2014. Flood Stage is 53.5 ft.

Moderate: 60.0'

Minor: 52.5

Action: 51.5

Site Time (MDT)

Graph Created (11:20PM Mar 11, 2014) - Observed - Forecast (issued 6:31PM Mar 11)

Observations courtesy of US Geological Survey

Photos of flooding on the Yellowstone River on Mar 10, 2014.
Two Savage men rescued from flood by helicopter

Two Savage men, Jason Nelson and Elenina Schmierer, were rescued by helicopter due to flood conditions in Savage during the late Monday evening, early Tuesday morning hours.

Nelson explained he and Schmierer were checking the river's levels about two miles south of Savage at about 8:50 p.m. Monday. "We just watched it for 10-15 minutes," Nelson said. "You could hear noise from upstream."

The men were then alerted to danger when a vehicle on higher ground honked to them. Nelson's pickup made it through one slough but not the second. "The river was there," Nelson explained.

The Richland County Sheriff's Office received a call at 9:45 p.m. about the situation. Sheriff Brad Baisch said the vehicle was more than 500 yards from dry land with water and ice chunks going by. First responders from the Savage Fire Department determined that a boat rescue was not an option because of the huge ice chunks.
August 21-25 Rainfall Event Totals

This map is an interpolation of reported values from various observers and automated sites across the region. Precipitation (in)

1 - 2
2 - 3
3 - 4
4 - 5
5 - 6
6 - 7
7 - 8

Data Sources:
National Weather Service COOP Observers
CoCoRaHS Observers
Local Storm Reports

Maps created by the National Weather Service Forecast Office in Glasgow, Montana

2014 Flood
2015: Poplar Oil Pipeline Break on Yellowstone River

- Ice covered
- Weather impacted recovery
- 83 days of NWS support to incident
- Consulted with CREEL
NWS Offices in the State

Great Falls:
Don Britton-MIC
Megan Syner-WCM

Glasgow:
Tanja Fransen-MIC
Patrick Gilchrist-WCM

Billings:
Keith Meier-MIC
Tom Frieders-WCM

Missoula
Bruce Bauck-MIC
Marty Whitmore-WCM

NWS Hydrologists:
East of the Divide: Filled Soon!
West of the Divide: Ray Nickless

Map showing locations of offices and hydrologists.
What will you experience next?