Montana Drought Status

Troy Blandford

Prepared for the Montana Governor’s Drought and Water Supply Advisory Committee, July 8, 2021
June is the largest precipitation month for 44 Counties (approx. 17% of annual total; >2.5 inches)

The above average May followed by an above average June could deter major widespread crop/pasture losses.
June 2021 precipitation ...

**abysmal**
/əˈbizməl/
adjective
1. extremely bad; appalling.
June 2021 temperature ...

abysmal
/əˈbizməl/
adjective
1. extremely bad; appalling.
Montana Drought Status by County - July 7, 2021

Map based on climate data through July 3. Produced by the Montana Governor’s Drought and Water Supply Advisory Committee.

Start of July comparisons

2017

2018

2019

2020

2021
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Possible Impacts</th>
</tr>
</thead>
</table>
| **D0**  | Abnormally Dry | Going into drought:  
- short-term dryness slowing planting, growth of crops or pastures  
Coming out of drought:  
- some lingering water deficits  
- pastures or crops not fully recovered  |
| **D1**  | Moderate Drought |  
- Some damage to crops, pastures  
- Streams, reservoirs, or wells low, some water shortages developing or imminent  
- Voluntary water-use restrictions requested |
| **D2**  | Severe Drought |  
- Crop or pasture losses likely  
- Water shortages common  
- Water restrictions imposed |
| **D3**  | Extreme Drought |  
- Major crop/pasture losses  
- Widespread water shortages or restrictions |
| **D4**  | Exceptional Drought |  
- Exceptional and widespread crop/pasture losses  
- Shortages of water in reservoirs, streams, and wells creating water emergencies |

<table>
<thead>
<tr>
<th>Category</th>
<th>Historically observed impacts</th>
</tr>
</thead>
</table>
| **D0**  | Soil moisture is low, dryland crop germination is poor, pastures are dry  
Fire danger increases  
Streamflow is low, affecting recreation fishing |
| **D1**  | Producers feed livestock supplemental hay; crops are stressed and growth is poor  
Fire restrictions are implemented |
| **D2**  | Hay and crop yields are low; hay quality is poor; subsoil moisture is nonexistent  
Fire count and danger are high; air quality is poor, with dust and smoke  
Trees and landscaping show signs of stress and lose leaves  
Livestock ponds are low or dry; water quality is monitored; wells are stressed |
| **D3**  | Crops are not harvestable; winter pasture is opened for grazing; producers are hauling water and buying expensive supplemental feed, culling cattle and selling early; soil has large cracks; fields are bare  
Fire restrictions increase  
Agriculture and local business face economic loss  
Cattle have very little water; water quality is toxic |
| **D4**  | Pasture loss is widespread; crops are destroyed  
Property is closed for hunting  
Drought hotlines are in place  
Fire risk is extremely high; fires are widespread |
Northeast
- Production is at best ½ of what it should be
- Dams are dry
- Swarms of grasshoppers
- Rain around June 10th was not widespread enough for county-wide improvement

Southeast
- No water in reservoirs
- Selling cows
- Poor first cutting; no second cutting
- Grasshoppers major problem
- Nitrate concerns

Southwest
- Yields at 25%
- Municipal water cut back
- Plants aren’t germinating
- Critical low flows

Southcentral
- Plants went dormant (cool spring > freeze > heat)
- Barley hay didn’t even start
- Nitrate issues with forage
- Either no water or water quality issues

Northcentral
- Grazing crops
- Testing for nitrates
- Spring crops will be single digits to unharvestable
- Little to no growth in pastures
- Reports of irrigation being shutoff soon
- Selling cows
- Crops to forage/grazing
- Nitrate concerns

Northcentral
- Testing for nitrates
- Spring crops will be single digits to unharvestable
Montana Drought Impact Reporter
https://nris.mt.gov/droughtimpacts
“Barley seeded the first of May” Didn’t do anything.
• “.....the hay field pictured had 115 bales last year 23 bales this year......wheat is burning up quickly not all heads are filled on winter wheat......”
“Extremely dry and crispy. Going to be a long summer. That is picture of hayfield - we have had zero growth this year.”
6/30/2021 - Musselshell County

“I am a producer of livestock, alfalfa and corn. This is worst drought I have been through. Less than an inch of moisture all year. Even irrigated crops are struggling. No dryland hay and the pasture grass never even greened up. Pivot corners of the fields are dead.”
6/24/2021- Petroleum County

“...ponds are dry or bad water...Kept one group of cows at the home place south of Grass Range and didn't even trail them out, as there is not enough forage due to grasshoppers and drought last year. The photo is showing just that, no grass to speak of. If there is, it's a grass they won't graze.”
Discussion/Questions

Thank You.

tblandford@mt.gov
nris.mt.gov/drought