Being Prepared for Flooding: Roles, Planning, Forecasts, Education

NCR Center for Rural Development & Extension Disaster Educational Network
March 7, 2023

Ken Hellevang, Ph.D., P.E.

NDSU EXTENSION
Disaster Education

• Disaster education IS a role for Extension!
# Extension Roles

<table>
<thead>
<tr>
<th>Position</th>
<th>Preparedness</th>
<th>Response</th>
<th>Recovery</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everyone</td>
<td>Home &amp; Office Plan</td>
<td>Family first</td>
<td>Family first</td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>Roles and Plans established</td>
<td>Engage Plan</td>
<td>Communicate, allocate, support</td>
<td>Support programming</td>
</tr>
<tr>
<td>State specialists</td>
<td>Develop resources</td>
<td>Provide expertise</td>
<td>Provide expertise</td>
<td>Provide expertise</td>
</tr>
<tr>
<td>Local educators/agents</td>
<td>Communicate with local emergency manager</td>
<td>Gather and deliver educational resources</td>
<td>Focus on education and facilitation</td>
<td>Update office plans</td>
</tr>
<tr>
<td>Communications staff</td>
<td>Continually update resources (web, print, etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDEN Team</td>
<td>• Provide plan templates</td>
<td>Facilitate resource identification and development</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NDSU EXTENSION**
Prepare Your Family & Office

• Take care of your family first
  – Disaster supplies kits
  – Communications plans
  – Meeting place & evacuation routes

• Prepare your office
  – Communication plans
  – Alternative locations
  – Resources available in multiple formats
Local Involvement

• Get to know your county emergency manager *now*
  – Is Extension in your the county emergency operations plan?
  – What information and skills do you have to help in preparedness, response or recovery?
Local Involvement

• Take part in county planning discussions
  – Collaborate with others to address local needs
  – Join Community Organizations Active in Disasters
Share & Document

• Let specialists know issues and what content you need
• Record related work, including hours and expenses for possible FEMA documentation
• Take photos of Extension staff in action
NDSU Extension Contacts

• Ken Hellevang
  – Structure preparedness
  – Dike building
  – Repair, Clean-up, including mold removal

• Miranda Meehan
  – Educational resources
  – Connection to state agencies and EDEN
NDSU Extension Contacts

• Tom Scherer
  – Sump pumps, wells and other water issues
• Sean Brotherson
  – Stress
• Miranda Meehan
  – Livestock issues
• Julie Garden-Robinson
  – Food safety
NOAA Flood Risk

- [https://water.weather.gov/ahps/long_range.php](https://water.weather.gov/ahps/long_range.php)
**ALERT!** A Flood Warning and Flood Watch are in effect for portions of the area.

View all valid statements/warnings or choose a specific point or river to get the details for that location.

Weather Forecast Office Quad Cities, IA

North Central River Forecast Center

River Observations River Forecasts Long-Range Flood Risk Precipitation

Auto Refresh: OFF

Print this map Permalink

Hydrograph River at a Glance Download Probability Information

This probabilistic forecast is issued by the North Central River Forecast Center.

Δ = Conditional Simulation  ○ = Historical Simulation

Chance of Exceeding River Stage at Mississippi River at Le Claire - L&G 14 (LEC14) Forecast for the period 02/27/2023 - 02/29/2023

This is a conditional simulation based on the conditions as of 02/26/2023

η = Historical Stage

η = Conditional Stage

50% chance of exceeding river flood levels during Mar-Apr-May

NDSU EXTENSION
NWS Flood Forecast

**Current Flood Outlook**

**Spring 2023 Flood Outlooks**

<table>
<thead>
<tr>
<th>Month</th>
<th>Hydrologic Outlook (ESF)</th>
<th>Graphics</th>
<th>Briefing Packet</th>
<th>Webinar</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>Red River Basin (1/26) Devils Lake Basin (1/26)</td>
<td>Red River Basin Devils Lake Basin</td>
<td>Briefing PDF Slides</td>
<td></td>
</tr>
<tr>
<td>February</td>
<td>Red River Basin (2/9) Devils Lake Basin (2/9)</td>
<td>Red River Basin Devils Lake Basin</td>
<td>Briefing PDF Slides</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Red River Basin (2/23) Devils Lake Basin (2/23)</td>
<td>Red River Basin Devils Lake Basin</td>
<td>Briefing PDF Slides</td>
<td></td>
</tr>
<tr>
<td>March</td>
<td>Red River Basin (3/9) Devils Lake Basin (3/9)</td>
<td>Red River Basin Devils Lake Basin</td>
<td>Briefing PDF Slides</td>
<td></td>
</tr>
</tbody>
</table>
March Forecast

Monthly Temperature Outlook

Monthly Precipitation Outlook

Educate

- Encourage local use of NDSU news releases
- Share social media posts
- Develop your own mass and social media from web content
- Use radio
Snow Melt Management

- Feed
- Cattle Lots
- Roads
Wet Grain

- Assure grain is dry
- Ponding and water flow
Piled Snow Water Content

- Almost 3 gallons per cubic foot of piled snow
- About 24 lbs./cubic foot
Basements

- Drainage
- Water Table
- Sump Pumps
Steps to Reduce Damage

- **Downspouts in place**

  6 inches of compacted snow on 1,000 sq.ft. roof is about 1,200 gallons of water

  Move snow away from the house’s foundation
Saturated Soils

• Moisture moves through concrete into basement in liquid or vapor form.
• Gallons per day
• Mold and physical damage hazard
Check your sump pump
Flooding Preparation Resources

• Preventing Snow Melt Water Problems
• Sump Pump Tips
• Prepare for Flooding in Rural Areas
• Sandbagging for Flood Protection
Preparedness Education

• Be proactive
• Promote our resources
• Media & others are looking for resources

• Search “NDSU Extension flood”
Questions – Comments