The Floods of 2012
District 1 Duluth

Prepared for the Freight and Logistics
December 6, 2019
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Training and Development Specialist
District One – Duluth
This is good.....
This is not good.....
Overview:

- Describe Impacts from the Event
- Describe The D1 District Emergency Operation Center
- Communication Methods
- Lessons Learned
Emergency Declarations

- State of Minnesota
- Carlton County
- Lake County
- City of Duluth
- City of Moose Lake
- City of Wrenshall
Thomson Dam

- Summer: 580 to 1,000 cfs
- Spring Runoff: 10,000 cfs
- Alarms sound: 25,000 cfs
- Spike: 55,000 cfs

Note: during the April 1, 1979, previous high was 39,600 cfs.

For comparison, Niagara Falls carries 100,000 cfs
What happened?

June 19-20, 2012 Flooding Rains

Minnesota Department of Transportation District 1
Torrential rain and flooding turned the southwest corner of Lake Superior a muddy brown, seen here a satellite image from NOAA taken Thursday, June 21, 2012. (Photo courtesy National Oceanic and Atmospheric Administration)
CITY OF THOMPSON
TH 210 NEAR THOMPSON
TH 210 EAST PARK ENTRANCE
Jay Cooke
TH 210 WEST OF POWER CANAL
Jay Cooke
TH 23 SOUTH OF BRIDGE
Fond du lac
TH 23 Fond du Lac near junction of TH 210
TH 23 Fond du Lac
Historic Mission Creek Bridge
Initial Response

- Close roads as safety became compromised.
  - Up to 26 closures at one time
  - Many had no detours
  - Flooding was so widespread that MnDOT and local agencies ran out of signs
  - Personnel at barricades 24/7

- Get roads open
Local Stories
The missing truck.....
Incident Command Structure

- MnDOT EOC
- Local EOC’s
- Tactical Response Teams
  - Individual Emergency Repairs
  - Bridge Assessments
  - Corridor Assessments
  - Detour Signing Crews
  - Engineering Investigations
    - Bridge design
    - Foundation design
    - Environmental assessment
Maintenance Team:

- Close for safety
- Clean up
- Open when safe
Communications

- Media Releases
- Interviews
- Web site
- Phone Calls
- Emails
- Constant Updates for Leadership
- Local Meetings
## Closure List Updated and Distributed Regularly

<table>
<thead>
<tr>
<th>Time</th>
<th>HWY</th>
<th>RP start</th>
<th>RP end</th>
<th>From</th>
<th>To</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>220.7</td>
<td>232</td>
<td>Floodwood</td>
<td>Brookston</td>
<td>Completely under water 1-2' MSP has closed</td>
<td>From floodwood to brookston</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Proctor</td>
<td>I-35 (Thompson Hill)</td>
<td>down bound from Proctor into Duluth closed - west also closed 2:44 pm</td>
<td>Up bound is open (East) - now closed 2:44 pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Iron Horse Saloon</td>
<td>To the Train</td>
<td>Proctor from Iron Horse Saloon to golf course (the train) closed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>9</td>
<td>TH39 Gary New Duluth to 1/10th mile south of the St. Louis River in Fond du Lac</td>
<td></td>
<td>completely closed evacuating community completely flooded and St. Louis River bridge closed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>9</td>
<td>White Pine River</td>
<td>North of Cloquet</td>
<td>closed 3' water over the Rd</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>17</td>
<td></td>
<td></td>
<td>Both lanes - 6&quot; deep water</td>
<td>signing water across road markers (open) - 7:00 p.m.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td></td>
<td>west bound by McQuen St.</td>
<td></td>
<td>traffic control devices at washout</td>
<td>single lane</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td></td>
<td>NB &amp; SB @ Maple Grove Rd</td>
<td>Near Miller Mall</td>
<td>Water over road. All lanes closed</td>
<td>Opened at 22:25 on 6-20-12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>26</td>
<td>Hellwig Creek</td>
<td></td>
<td>Open but check</td>
<td>Water up to the bridge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>at Knife River</td>
<td></td>
<td></td>
<td>closed with detour in place</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>at Silver Creek Tunnel</td>
<td></td>
<td></td>
<td>open with shoulder damage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>107</td>
<td>112</td>
<td>8 miles south of McGregor</td>
<td>12 miles south of McGregor</td>
<td>completely shut down 1-3' water over rdwy could see washouts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>145.95</td>
<td>1 mi. s. of Jacobson</td>
<td>12 miles south of McGregor</td>
<td>culvert failed, road collapsed; single lane</td>
<td>one lane open with flagger - 4:48 pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>31.5</td>
<td>6 miles north of Cromwell</td>
<td></td>
<td>1-2' water over rdwy still open undetermined damage - now open - 2:30 p.m.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>46.3</td>
<td>3 miles north of Floodwood</td>
<td></td>
<td>1-2' water over rdwy still open undetermined damage</td>
<td>Combined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>47.4</td>
<td>4 miles north of Floodwood</td>
<td></td>
<td>1-2' water over rdwy still open undetermined damage - in process of closing 2:30 p.m.</td>
<td>Combined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>27.4 SB</td>
<td>2 miles north of Cromwell</td>
<td></td>
<td>shoulder completely gone - passable but no shoulder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>196.2</td>
<td>TH65</td>
<td>Hwy 2</td>
<td>Hwy 65</td>
<td>Completely washed out</td>
<td>Local traffic only</td>
<td></td>
</tr>
<tr>
<td>210</td>
<td>179</td>
<td></td>
<td>4 MILES east of McGregor - in process of closing 2:30 p.m.</td>
<td>closed as of 2:30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>210</td>
<td>179-190</td>
<td>McGregor</td>
<td>Tamarack</td>
<td>water over the road - State Patrol at each end routing traffic - 3:19 p.m. - Va sign shop going to fortify detour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>210</td>
<td>Jay Cook State Park</td>
<td>Jay Cooke Park</td>
<td></td>
<td>completely closed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>15</td>
<td>West of Moose Lake</td>
<td></td>
<td>Closed</td>
<td>Road is washed out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>73 &amp; 27</td>
<td>West of Moose Lake</td>
<td>At the exit</td>
<td></td>
<td>West of Moose Lake, Gillespie Creek under water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>135</td>
<td>236</td>
<td>227</td>
<td>Hwy 210</td>
<td>Mahtowa</td>
<td>closed</td>
<td>change detour sb to Barnum and contact 511</td>
<td></td>
</tr>
<tr>
<td>135</td>
<td>thru downtown Duluth</td>
<td>Duluth near ore dock</td>
<td></td>
<td>South bound only</td>
<td>closed between Central Ave and 26th Ave E/3 different areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>135</td>
<td>thru downtown Duluth</td>
<td>Duluth near ore dock</td>
<td></td>
<td>South bound only</td>
<td>cleared and now open - 3:37 p.m.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Project Development
Mission: Damage Assessment
TH 23 Mission Creek Team Work!
Community response:

- Working with partners – Cities and Counties including Duluth, Thompson, Carlton, Floodwood, Moose Lake, St. Louis County, Carlton County, Lake County, Pine County, Aitkin County.
- DNR (Jay Cooke Park)
- Minnesota Power (Hydro facilities on St. Louis River)
- Support from the top
Community response:

- FHWA and FEMA Training
- Local Meetings with Governor and Legislators
- Community Meetings
- Press Conferences
MnDOT Damage Repair

- MnDOT Forces
  - Focus on reopening roads and making them safe for travel
  - Set and remove road closure signing
  - Have presence at road closures when necessary
  - Replace washed out culverts
  - Remove debris
  - Fill in eroded areas
  - Perform damage assessments
MnDOT Major Damage Areas

- TH 210 in Jay Cooke
- TH 210 in Thomson
- TH 23 in Fond du Lac neighborhood
- TH 2 from Proctor to I–35
The Lessons

- Practice for Emergencies.
- No injuries in the flood response!
- We have an awesome bunch of people that worked together as a team.
- Don’t be afraid to ask for help. People are happy to do it.
- Communication, communication, communication.
- Debrief. Share lessons learned and apply them in the future.