

NOAA Spring Flood Outlook for Iowa

Safeguard Iowa Partnership
February 21, 2012



Agenda

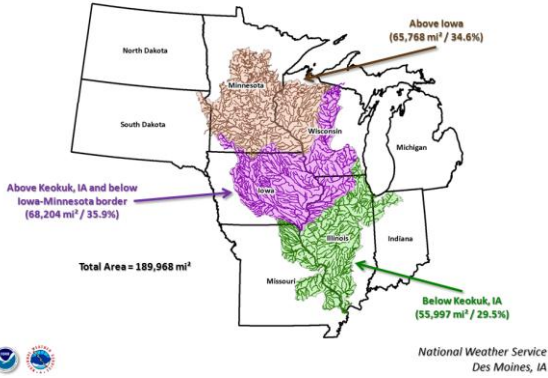
- Orientation Maps
- Current NWS Flood Outlook through mid-May
- Current Conditions
- Weather Outlook
- Changes to Flood Stages & Flood Categories



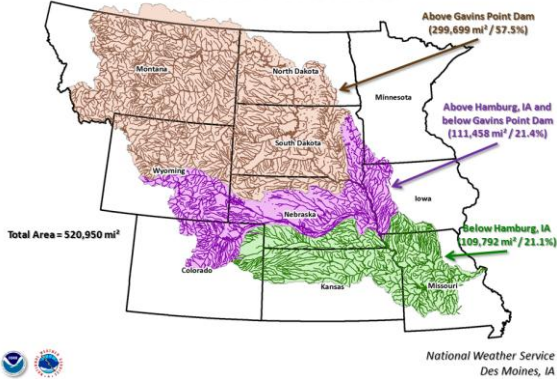
Orientation Maps



Upper Mississippi River Basin



Missouri River Basin



Current NWS Flood Outlook
through mid-May

Building a Weather-Ready Nation



Jeff Zogg
NWS Des Moines, IA

Current Flood Outlook Summary

- Normal or below normal risk of flooding.
- Current conditions are not conducive to major, large-scale flooding.
- Significant spring flooding in Iowa typically needs a heavy rainfall component. Snow pack is typically not enough.
- A considerable amount of winter remains. Continue monitoring conditions.



Current Flood Outlook Summary

- Assumes near normal temperatures and precipitation through mid-May.
- Does not include higher stages produced by ice jams. Ice jams may result in locally higher river stages.



Missouri River Basin Notes

- Average to below average mountain snow pack, and very little snow in the plains.
- Generally dry conditions (soil and precipitation) predominated during late fall and early winter.
- Latest hydrologic projections indicate little chance of significant flooding due to snowmelt alone.



Missouri River Basin Notes

- Spring rains typically result in minor to moderate flooding in southern third of basin.
- Approximately downstream of Omaha, Nebraska.



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90% Chance Level

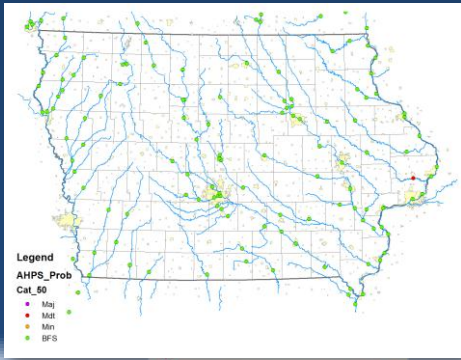


Through mid-May



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50% Chance Level

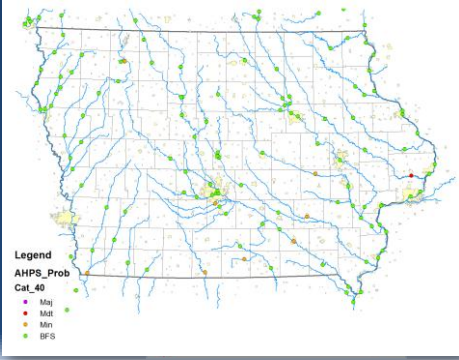


Through mid-May



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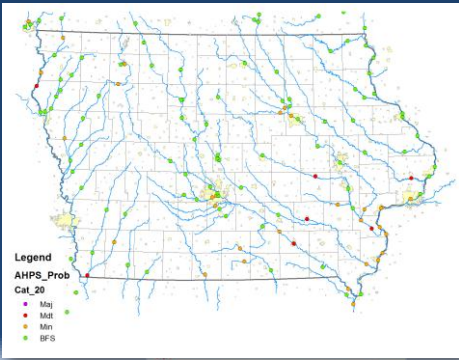
40% Chance Level



Through mid-May



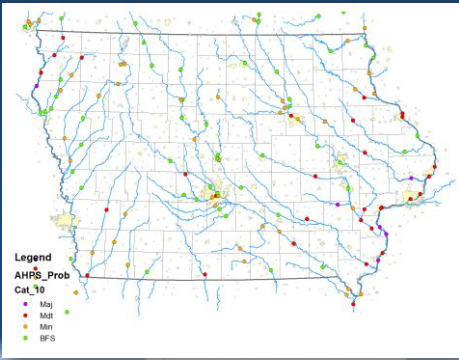
20% Chance Level



Through mid-May





10% Chance Level



Through mid-May

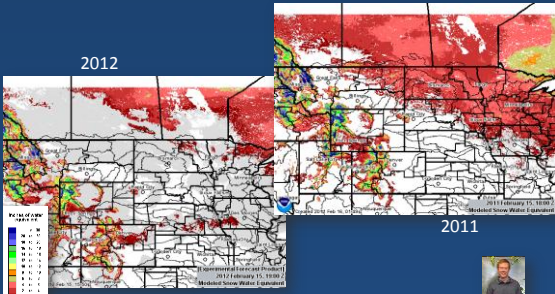


Current Conditions





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Current Snow Water Equivalent — Iowa & Missouri River Basin



2012

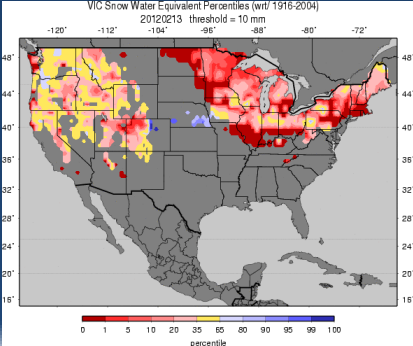
2011




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Current Snow Pack—vs. Normal

VIC Snow Water Equivalent Percentiles (wrt/ 1916-2004)
2012(213 threshold = 10 mm

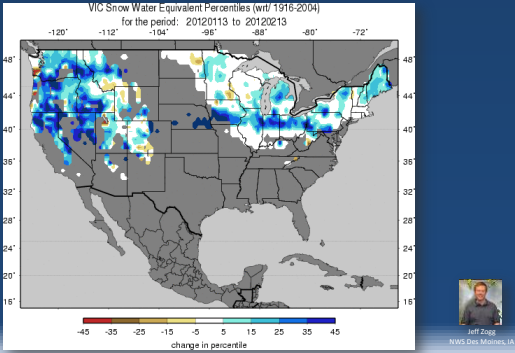


0 1 5 10 20 35 65 90 95 100
percentile

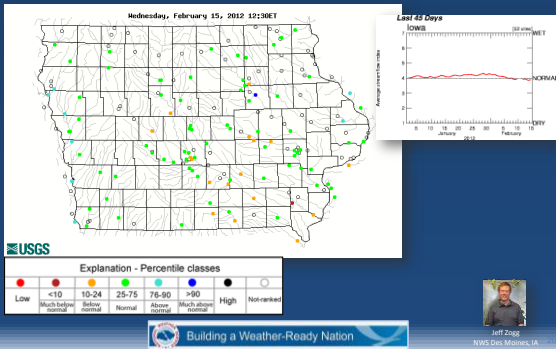


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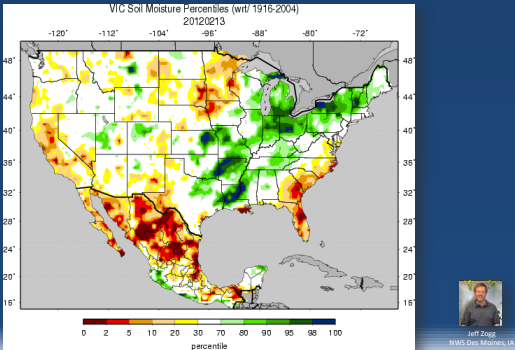
Snow Pack Trends—1 Month



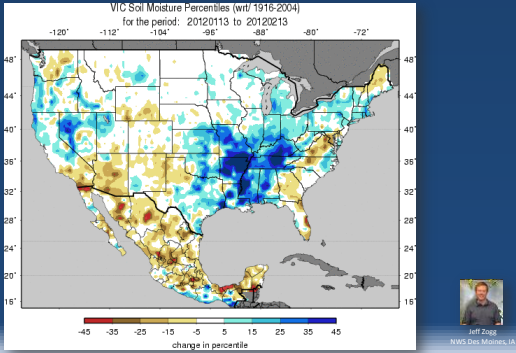
Stream Flows—vs. Normal



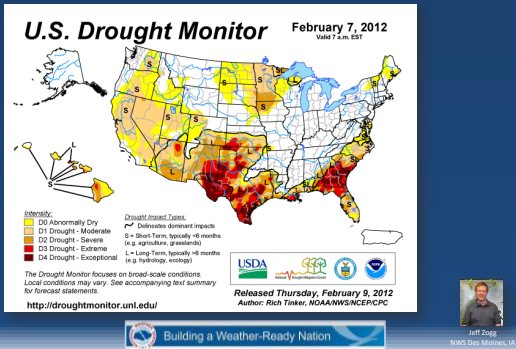
Current Soil Moisture—vs. Normal



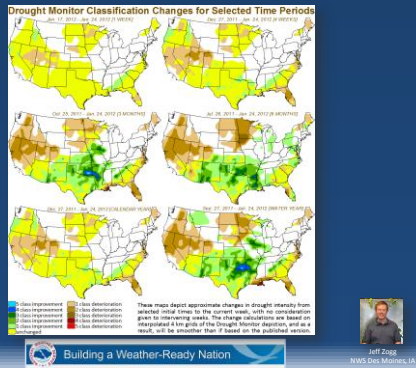
Soil Moisture Trends—1 Month



Drought Monitor

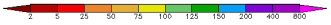
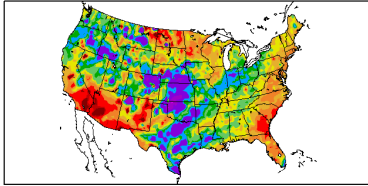


Drought Monitor Change



Precip vs. Normal—past 30 days

Percent of Normal Precipitation (%)
1/16/2012 – 2/14/2012



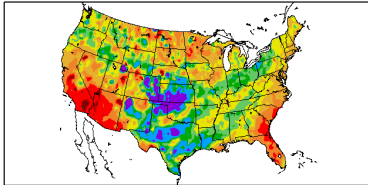
Generated 2/15/2012 at HPRCC using provisional data. Regional Climate Centers



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Precip vs. Normal—past 60 days

Percent of Normal Precipitation (%)
12/17/2011 – 2/14/2012



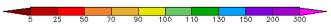
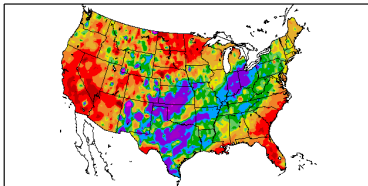
Generated 2/15/2012 at HPRCC using provisional data. Regional Climate Centers



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Precip vs. Normal—past 90 days

Percent of Normal Precipitation (%)
11/17/2011 – 2/14/2012



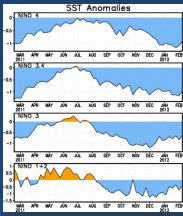
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El Nino—Not the Only Factor

- El Nino existed prior to Flood of 1993
- La Nina existed prior to Flood of 2008



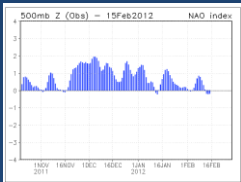
← Currently



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North Atlantic Oscillation— Another Factor

- Negative NAO prior to Floods of 1993 & 2008
- Negative NAO → increased moisture transport from Gulf of Mexico into Iowa region

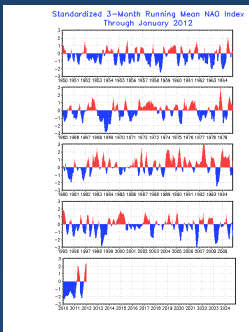


← Currently



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North Atlantic Oscillation




Historical NAO Values





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Review





Review

- Normal or below normal risk of flooding.
- Current conditions are not conducive to major, large-scale flooding.
- Significant spring flooding in Iowa typically needs a heavy rainfall component. Snow pack is typically not enough.
- A considerable amount of winter remains. Continue monitoring conditions.



Changes to Flood Stages & Flood Categories— NWS Des Moines Service Area



Changes to Flood Stages & Flood Categories

- NWS Des Moines service area only
- Will changes on 3/14/2012
- Affects 44 of 47 river forecast points
- New Flood Stage will be several feet higher at several locations
 - Change by 7 feet at 3 locations
 - Change by at least 3 feet at 12 locations

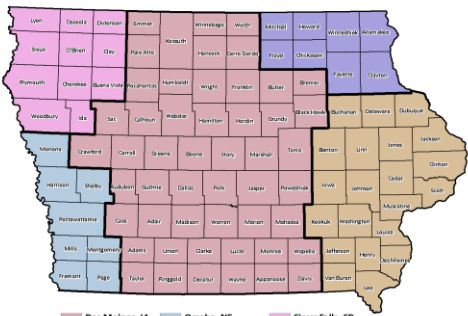


Changes to Flood Stages & Flood Categories

- Significantly less river Flood Warnings
 - Reduce river Flood Warnings by 53%
 - Reduce moderate flooding forecasts by 64%
 - Reduce major flooding forecasts by 56%
- Will not affect flood insurance
- See NWS Des Moines Web site for more info



Iowa counties & servicing NWS offices



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NWS Des Moines, IA

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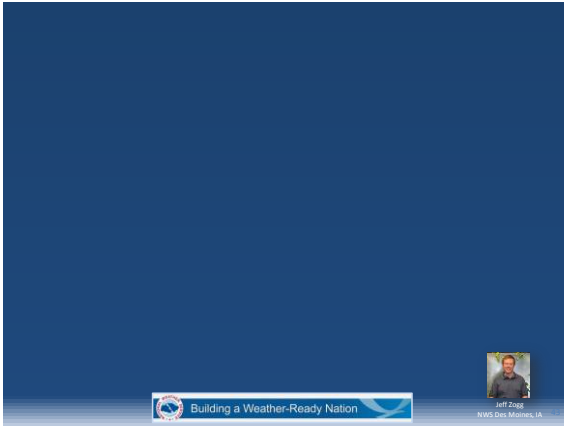


Thank you



The end





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Supplemental Slides

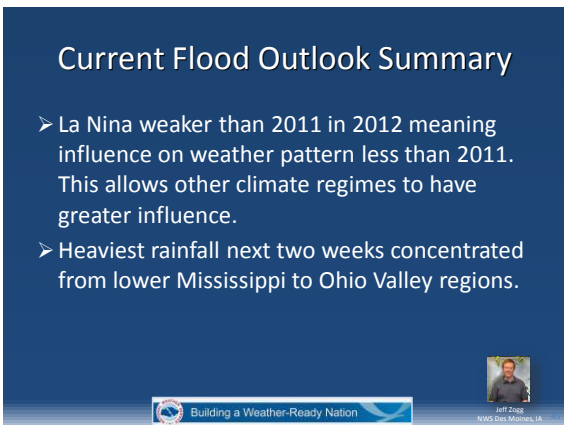


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Current Flood Outlook Summary

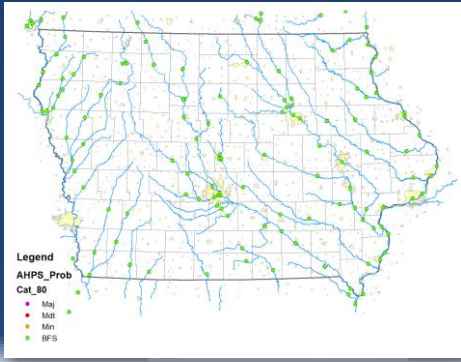
- La Nina weaker than 2011 in 2012 meaning influence on weather pattern less than 2011. This allows other climate regimes to have greater influence.
- Heaviest rainfall next two weeks concentrated from lower Mississippi to Ohio Valley regions.



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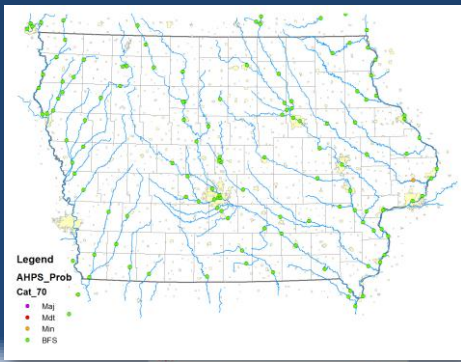
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80% Chance Level



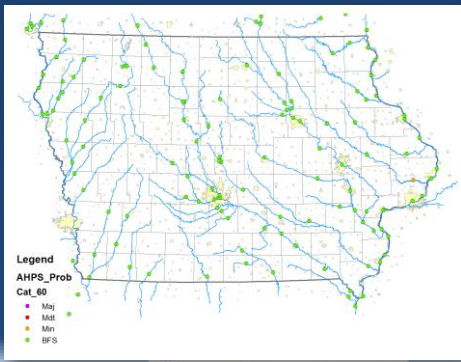
Through mid-May

70% Chance Level

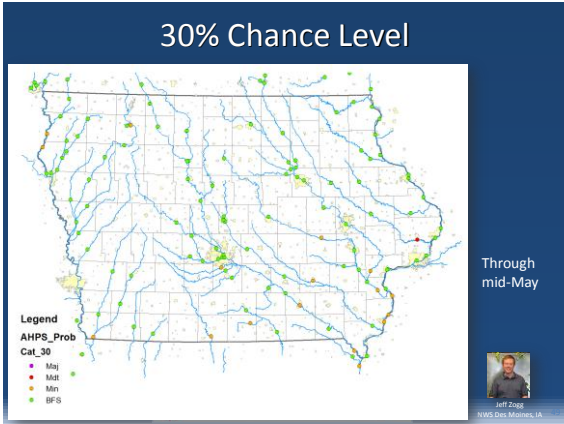


Through mid-May

60% Chance Level




Through mid-May




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NWS Sioux Falls, SD

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