

2011/2012 Snow Removal & Ice Control Preparedness



Executive Summary

11/8/2011

Presented by

Mark Thiel

Assistant Director Public Works

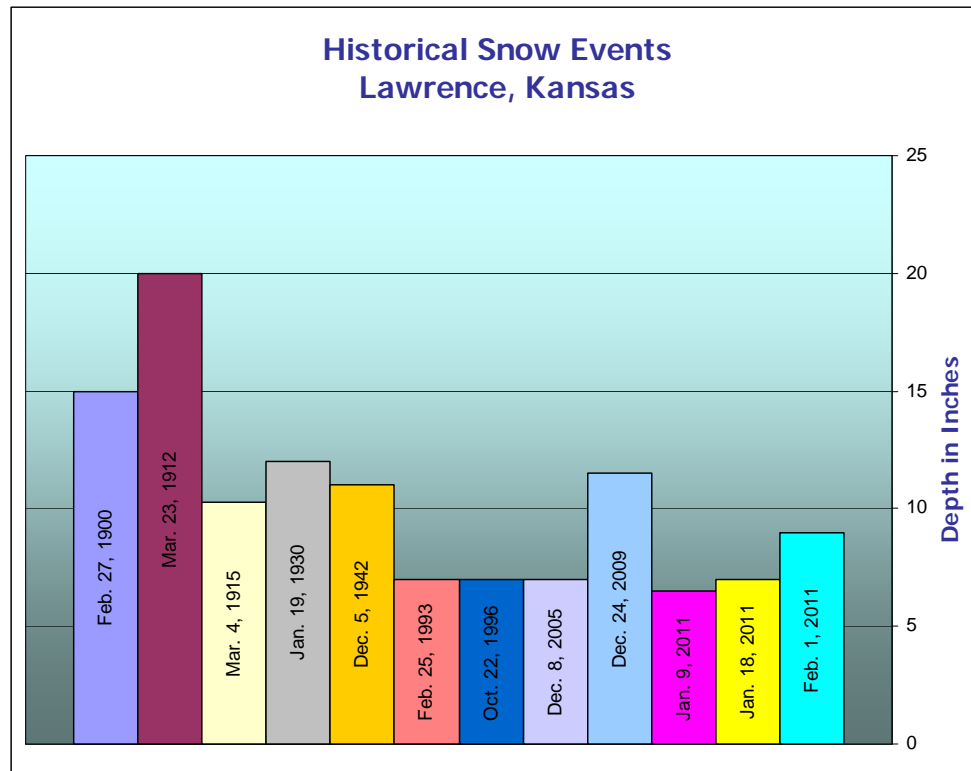
Typical Numbers for Lawrence

- Average Snowfall per year = 21"
- Average number of snow events = 7
- Record monthly snowfall = 21.9" in January 1985
- Record single event = March 23rd 1912 – 20"
- Typical snow months December thru March



Major Snow Event History

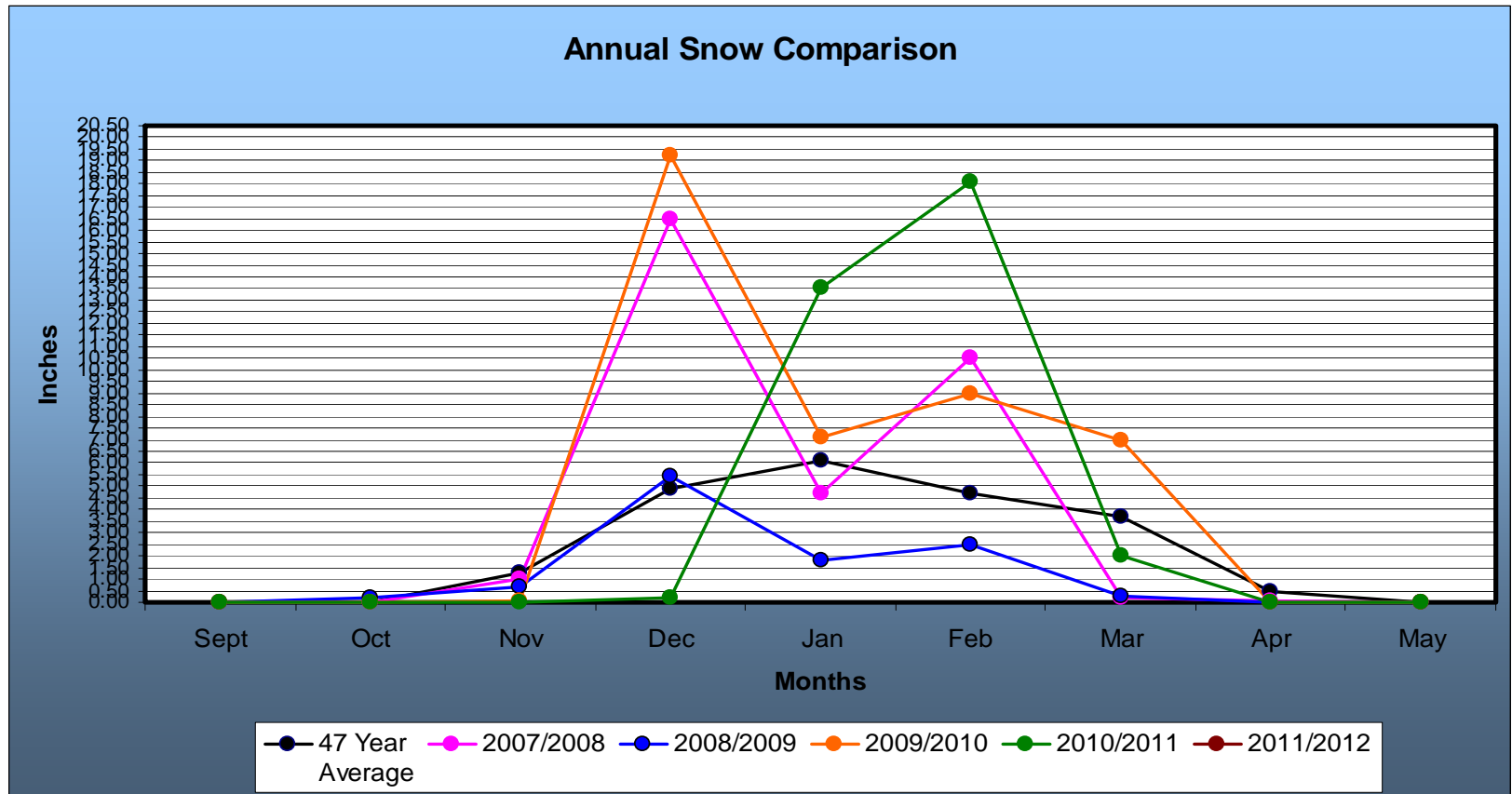
Events are a minimum of 6" of snow



Comparison Last Two Seasons

	<u>2009/2010</u>	<u>2010/2011</u>
● Snowfall	42.45"	33.8"
● Number of events	12	11
● Salt consumption	4,907 tons	3,362 tons
● Sand consumption	3,714 tons	2,997 tons
● Man-hours	\$231,076	\$196,093
● Equipment	\$165,161	\$179,336
● Materials	<u>\$304,075</u>	<u>\$250,240</u>
● Total cost	\$700,312	\$625,670

Yearly Comparison



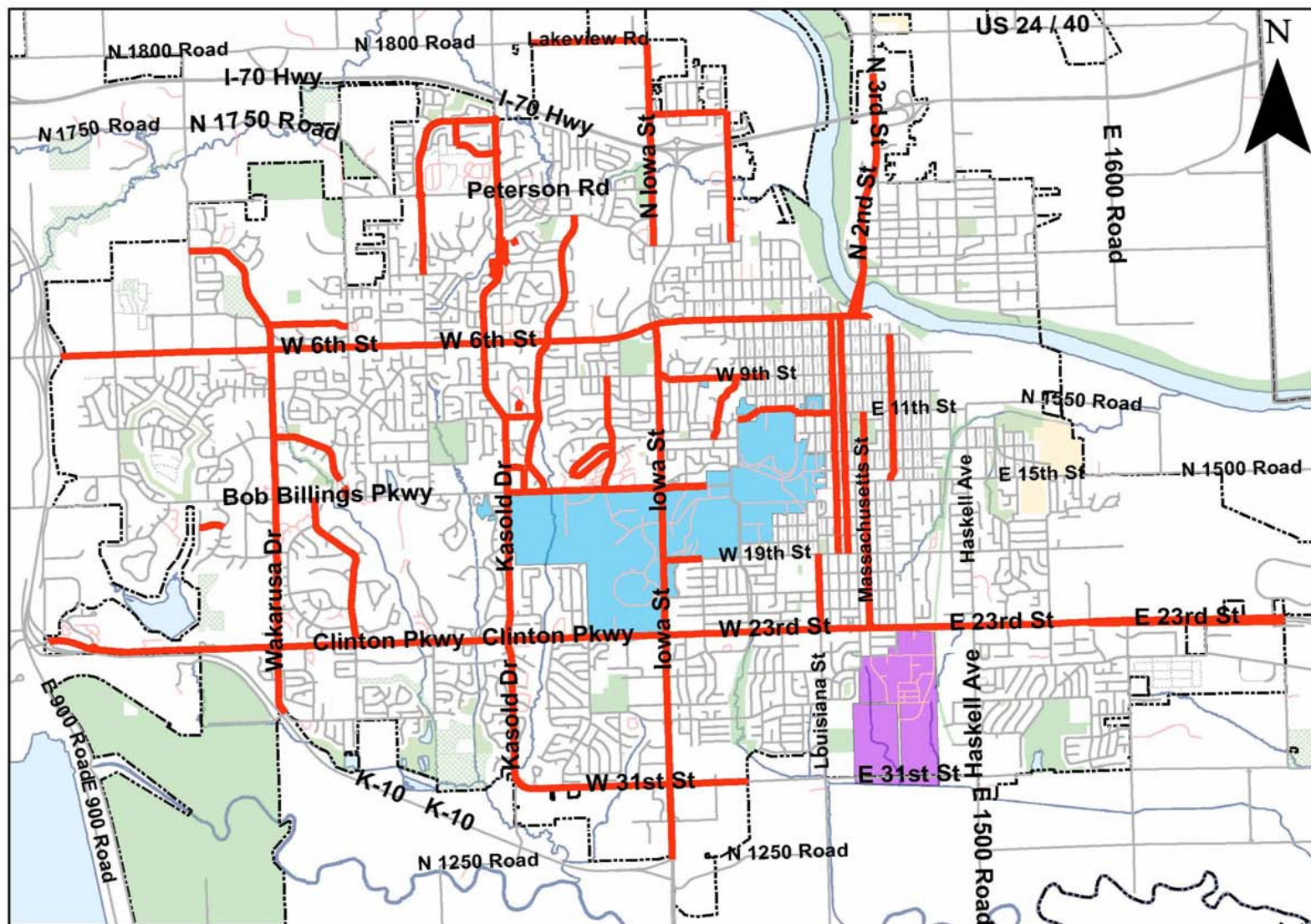
Snow / Ice Control Plan

- The city is divided into 5 areas
 - Using Iowa St. & Bob Billings Pkwy. as the dividing line
 - There are 16 specific routes
 - Routes follow priority order from most traveled to least traveled
 - Criteria
 - Traffic counts, bus routes, schools, major employment centers, and hospitals.
 - Plowing begins at a snow depth of 3"
 - Treatment begins prior to event

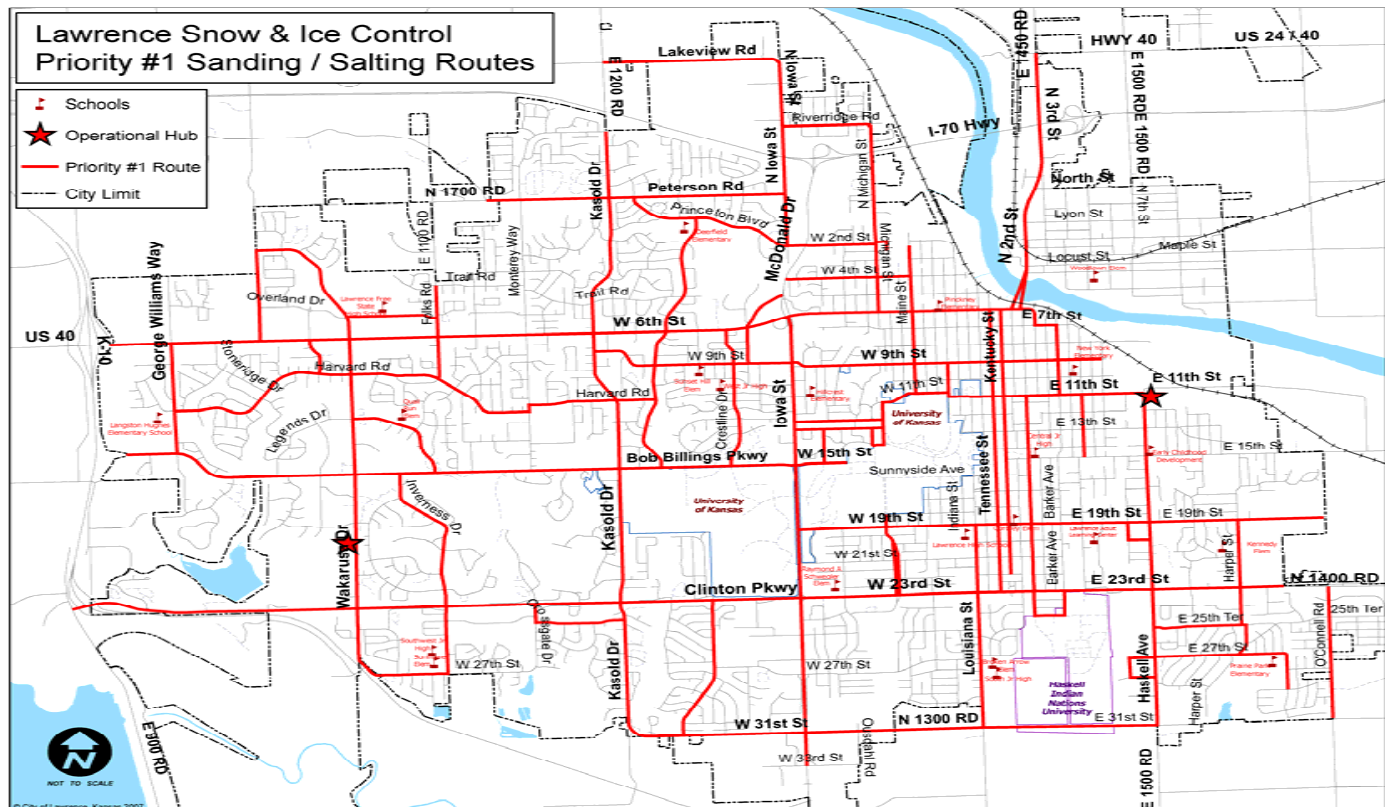
Pretreatment Plan

- Crews will go out ahead of the storm forecast during normal hours and pre-treat street.
 - Rain will eliminate the ability to do this
- Start out in select areas
- Goals
 - Shorting the clean up time
 - Reduce cost
 - Quicker response times

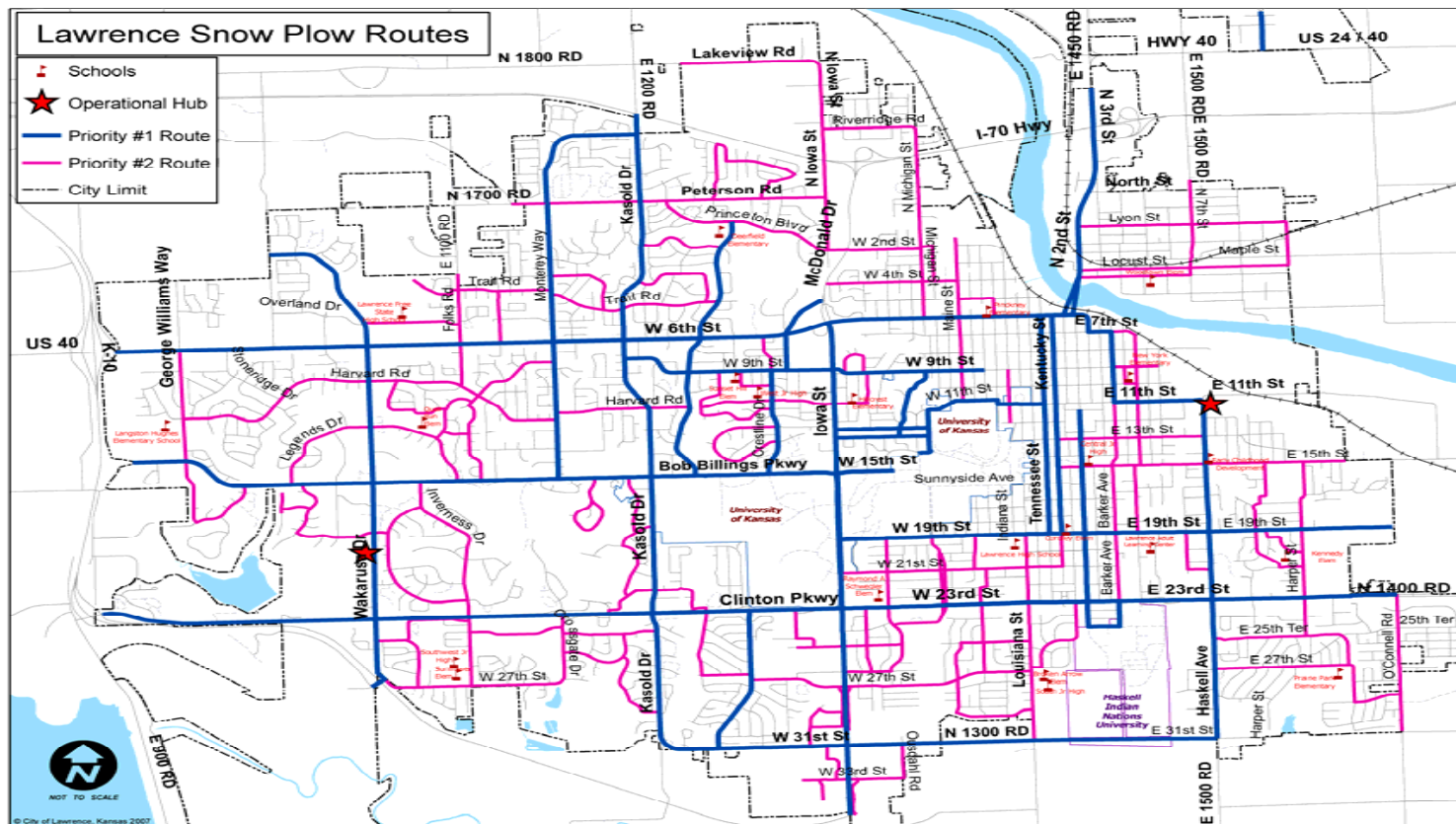
Liquid Pre-Treatment



Snow & Ice Control Sanding / Salting Routes



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Snow / Ice Control Plan

- Crews are divided equally and assigned one of two shifts
 - They generally work 12 hours shifts
 - Progress until snow and ice are cleared
- Two operational hubs are utilized for staging
 - 11th & Haskell
 - Wakarusa Drive

Materials



- We will start this season
 - 4,000 tons of salt
 - 1,000 tons of sand
 - 2,500 tons of salt sand mix
 - 10,000 gallons Brine
 - 1,000 tons of salt on hold order



Equipment

- 4 - Tandem axle dump trucks
- 7 - Single axle dump trucks
- 9 – 1 ton 4x4 trucks
- 1 – Wheel loader
- 2 – Motor graders
- 3 – Back-hoe
- 2 – Farm tractors
- 1 – Liquid tank spreader



Personnel

- 39 equipment operators
- 4 supervisors
- Division manger
- Administrative support
- Other
 - Communications Manager
 - Asst. Public Works Dir.
 - Police & Fire
 - Utilities
 - Parks & Recreation
 - Contractor's



Public Awareness

- Web site
 - www.lawrenceks.org
 - Links to safety and weather
- Media
 - Press releases
 - **“Snow plows hit the streets Tuesday”**
 - Live interviews before and during events
- Education
 - Parking letters

Annual Snow Training Day

The First Tuesday In November Each Year

- The annual practice provides an opportunity to review the plan, incorporate new streets, give equipment one more check and train employees



Snow Day Photos



What's New (Last Year)

- Forecasting Tool (Weather or Not) (successful last year and will continue)
 - Custom forecast and notifications for Lawrence
- Additional Support Staff (successful last year and will continue)
 - Additional Public Works staff assigned to snow operations
- Phase 2 and Phase 3 Snow Operations (successful last year and will continue)
 - Phase 2 will incorporate additional support from other city departments
 - Utilities
 - Parks & Recreation
 - Phase 3 will incorporate additional support through vendors / contractors
- GIS Progress Tracking Program
 - Operational test mode (intranet)
 - Stayed in-house – had some issues

What's New (This Year)

- Web Page – new look, ease of use
- GPS (Net Work Fleet)
 - Internally track operations
 - Spreading and Plowing
- No Parking Request – Specific Locations
- Liquid Pretreatment and Preweting
 - Select areas this year
 - Plan to expand in future years



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Snow and Ice

Winter 2011/2012

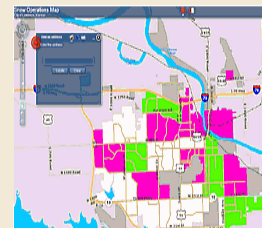
Use this guide as a resource for snow-related topics.

Latest Progress

News Releases

- [Crews working round the clock to clear streets](#)
- [City workers a "salt" roads to prepare for in clement driving conditions](#)
- [Bikers urged not to ride in two feet of snow](#)
- [Temporary igloos being made to save electricity](#)
- [More city news ...](#)

Snow Map



[View Snow Map](#)

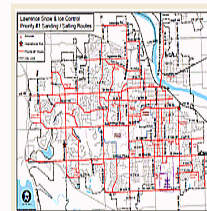
Reviewing the Plan

The [Street Maintenance Division](#) conducts a practice of the snow removal plan annually. For the 2011/2012 winter weather season, review of the plan was Nov. 1. Employees from the Street Maintenance Division inspect equipment, locate required gear, and travel assigned routes streets.

Ready for Snow and Ice Readying the Plan

Routes follow a priority order from most traveled to least traveled streets. In general, winter operations progress from:

1. **Arterials**, high-capacity areas of travel such as Iowa Street or 6th Street
2. **Collectors**, low, to moderate-capacity streets that



[Spreading Routes Map \(PDF, 455 KB\)](#)



City News

[Three local organizations come together to make a child's day special with the 'Birthday Beat'](#)

[Carbon monoxide: a silent killer](#)

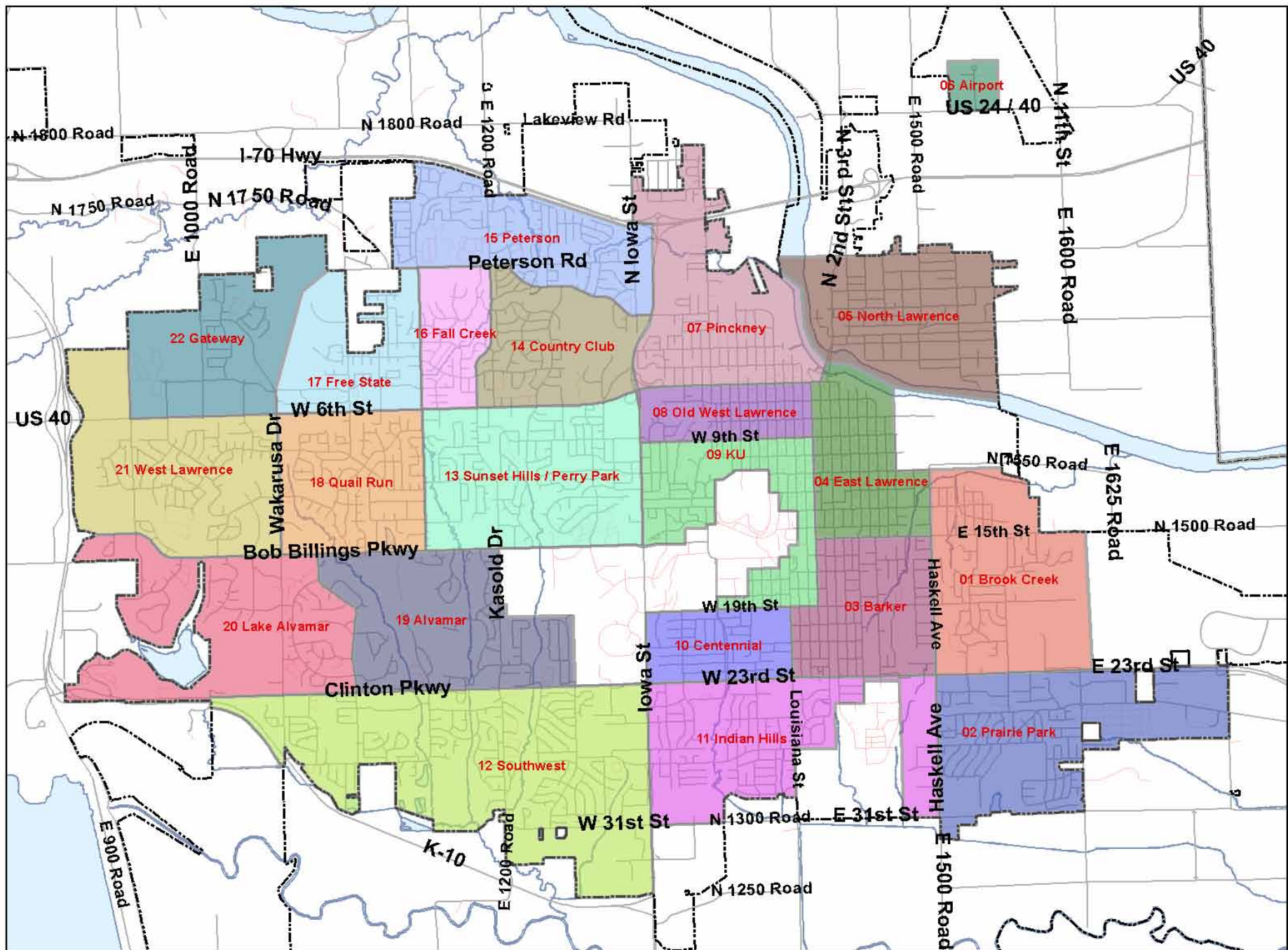
[Take Charge Challenge results released: Lawrence loses to Manhattan](#)

[Parks and Recreation facilities serve as a drop-off locations for coat drive](#)

[Shelters and park restrooms closing for season](#)

[More city news ...](#)





Net Work Fleet / GPS Tracking

Networkfleet - Windows Internet Explorer

http://www.networkfleet.com/portal/map/overview-map?cid=1554310

File Edit View Favorites Tools Help

Networkfleet

My Profile | Help | Logout

Welcome: mbial
Central Daylight Time

MAP VEHICLE FLEET REPORTS ADMIN SUPPORT

Overview Map Location Detail Track Vehicle

Overview Map

Street Hybrid Satellite

MAP CONTROLS

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start Weather - Microsoft ... Microsoft PowerPoint ... Microsoft Excel - Sno ... Networkfleet - Windo ...

Internet 100% 10:03 AM

VEHICLE LIST

Group: - ALL GROUPS

Attribute: All Attributes

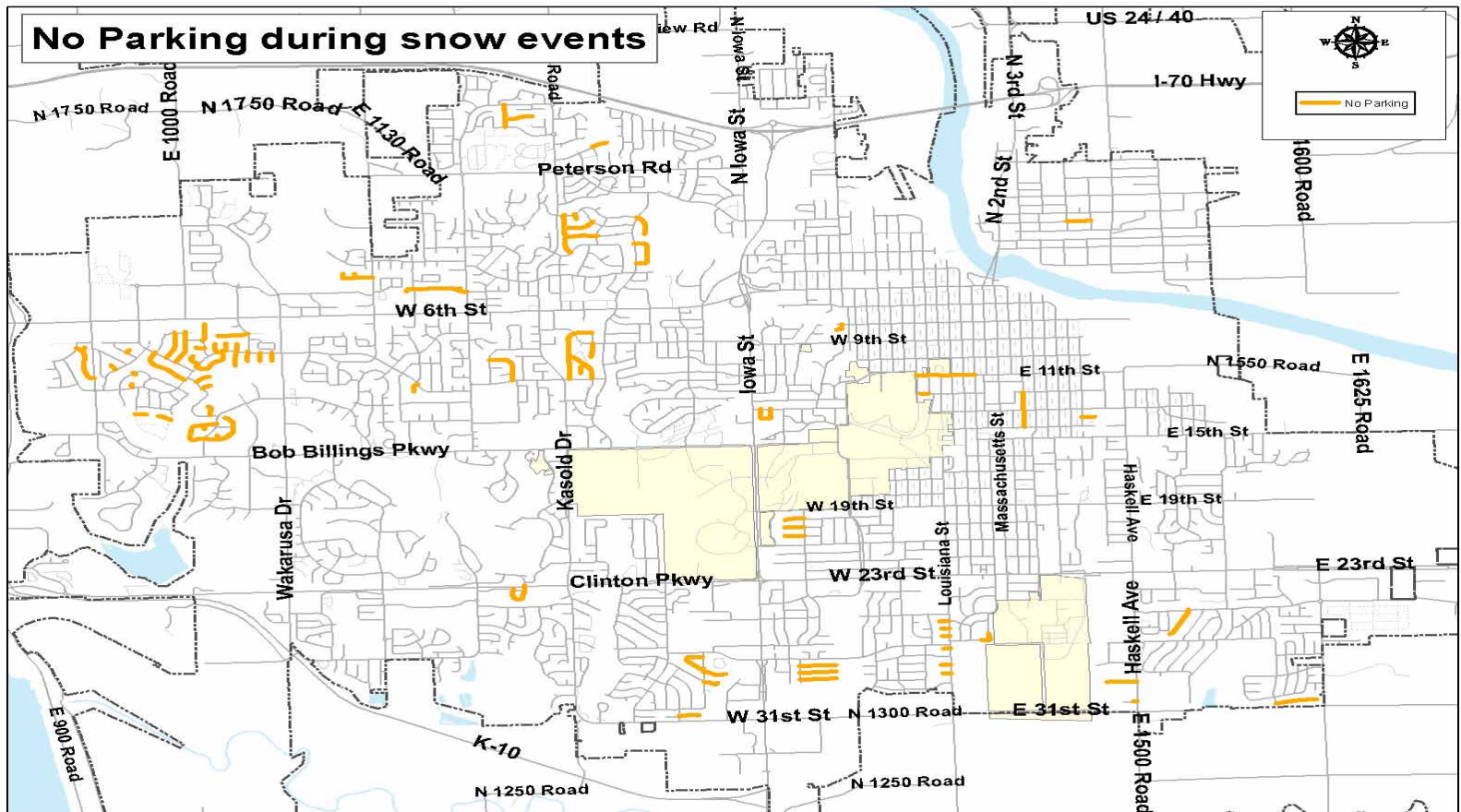
View by: Vehicle Label

Refine:

Select a Vehicle

- 302 - SUPERVISOR PICKUP (TC)
- 304 - SUPERVISOR PICKUP (BN)
- 320 - 1-TON PICKUP
- 323 - SUPERVISOR PICKUP (BC)
- 326 - DUMP TRUCK
- 327 - DUMP TRUCK
- 328 - DUMP TRUCK
- 329 - DUMP TRUCK
- 330 - DUMP TRUCK
- 331 - DUMP TRUCK
- 332 - DUMP TRUCK
- 334 - DUMP TRUCK
- 335 - DUMP TRUCK
- 336 - FLATBED
- 337 - FLATBED
- 343 - FLATBED
- 345 - FLATBED
- 361 - SWEeper
- 364 - SWEeper
- 366 - FLATBED
- 368 - SWEeper
- 377 - PATCH TRUCK
- 396 - FLATBED
- 397 - FLATBED
- 401 C1500 PUSB
- 402 F150 PUSB
- 403 C1500 SB
- 405 F350 FLATBED
- 406 F150 AB
- 407 F150 CP
- 408 C1500 MA
- 409 F150 MG
- 424 SB RL
- 450 SB RL
- 453 SB RL
- 454 SB RL

No Parking Map



Liquid Pretreatment and Prewetting



Benefits

- Pretreatment
 - Performed during normal operation hours in advance of the storm – unless rain is predicted
 - Reduces the total time to complete clean up
 - Save money (material and labor)
- Prewetting
 - Results in 98% of material staying on the road surface vs. 70% without wetting
 - Activates the salt immediately
 - Reduces total time to complete clean up
 - Save money (materials and labor)

Liquid this year

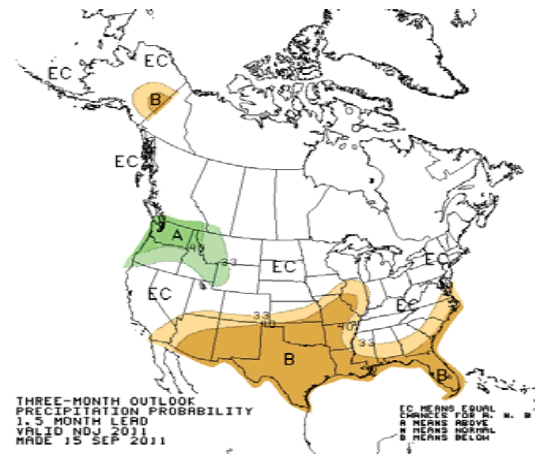
- We will start in select areas while we learn the process
- System was built in-house to reduce cost of implementation
- Will take several year to get up to full speed and incorporate the entire city
- We want this part of our program to be successful

Anyone Ready for Snow?

- **Weather Underground Email Service for Topeka, KS**
- Record Report as of 4:30 PM CDT on August 02, 2011
- ...Record high temperature set at Topeka KS... a record high temperature of 112 degrees was set at Topeka KS today. This breaks the old record of 106 set in 2010.

Mark's Forecast

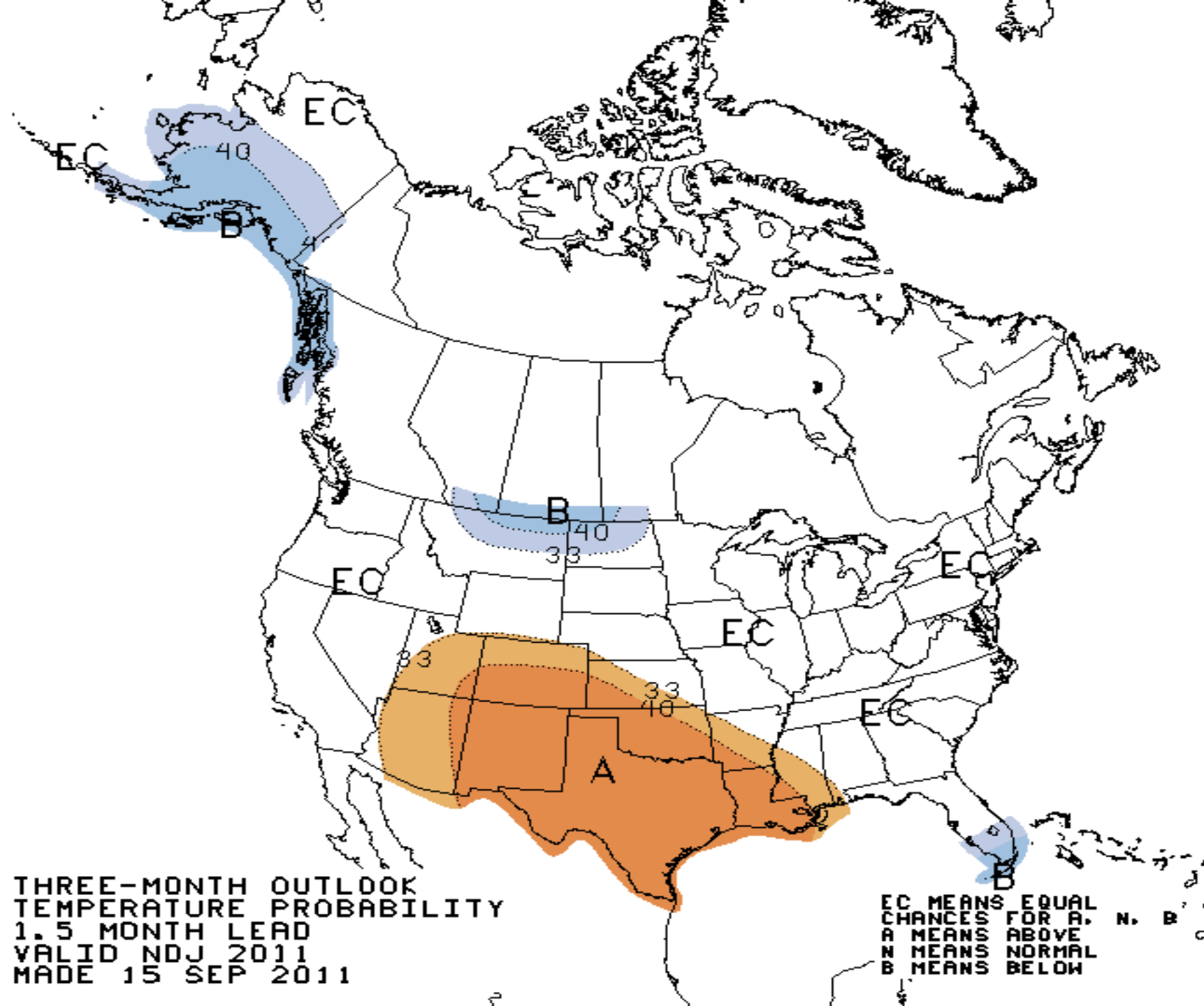
- NOAA Forecast
- Farmers Almanac

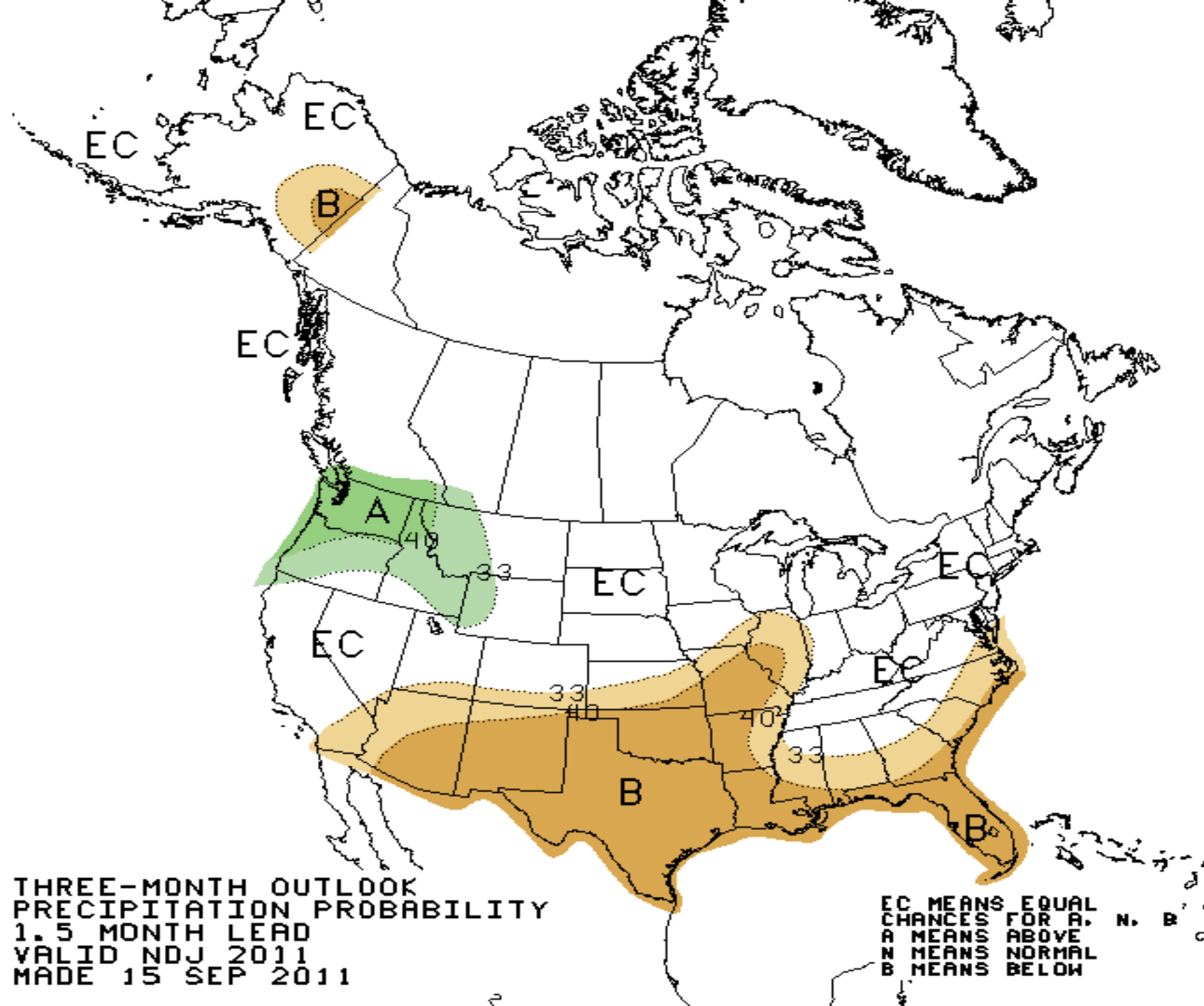


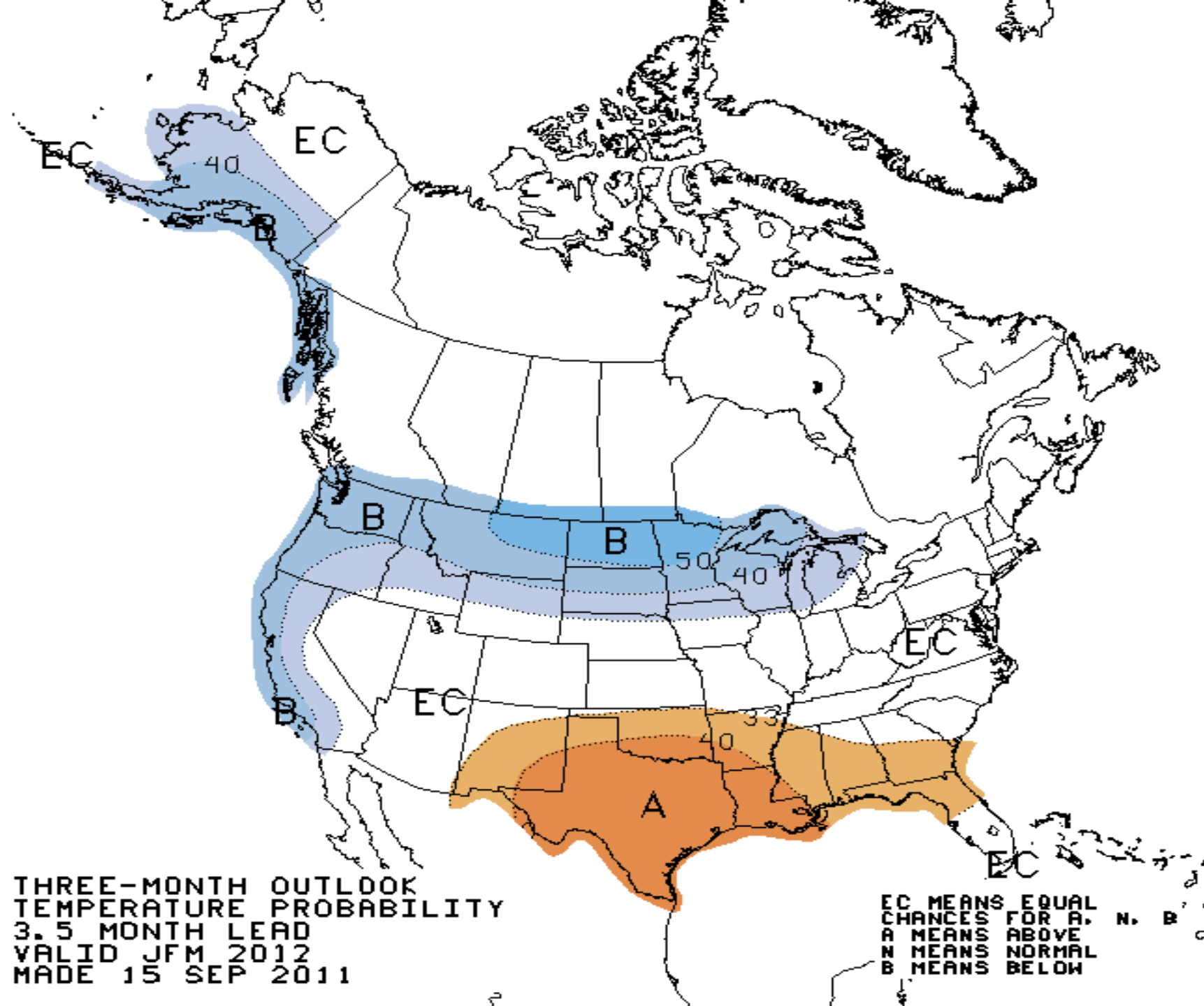
NOAA

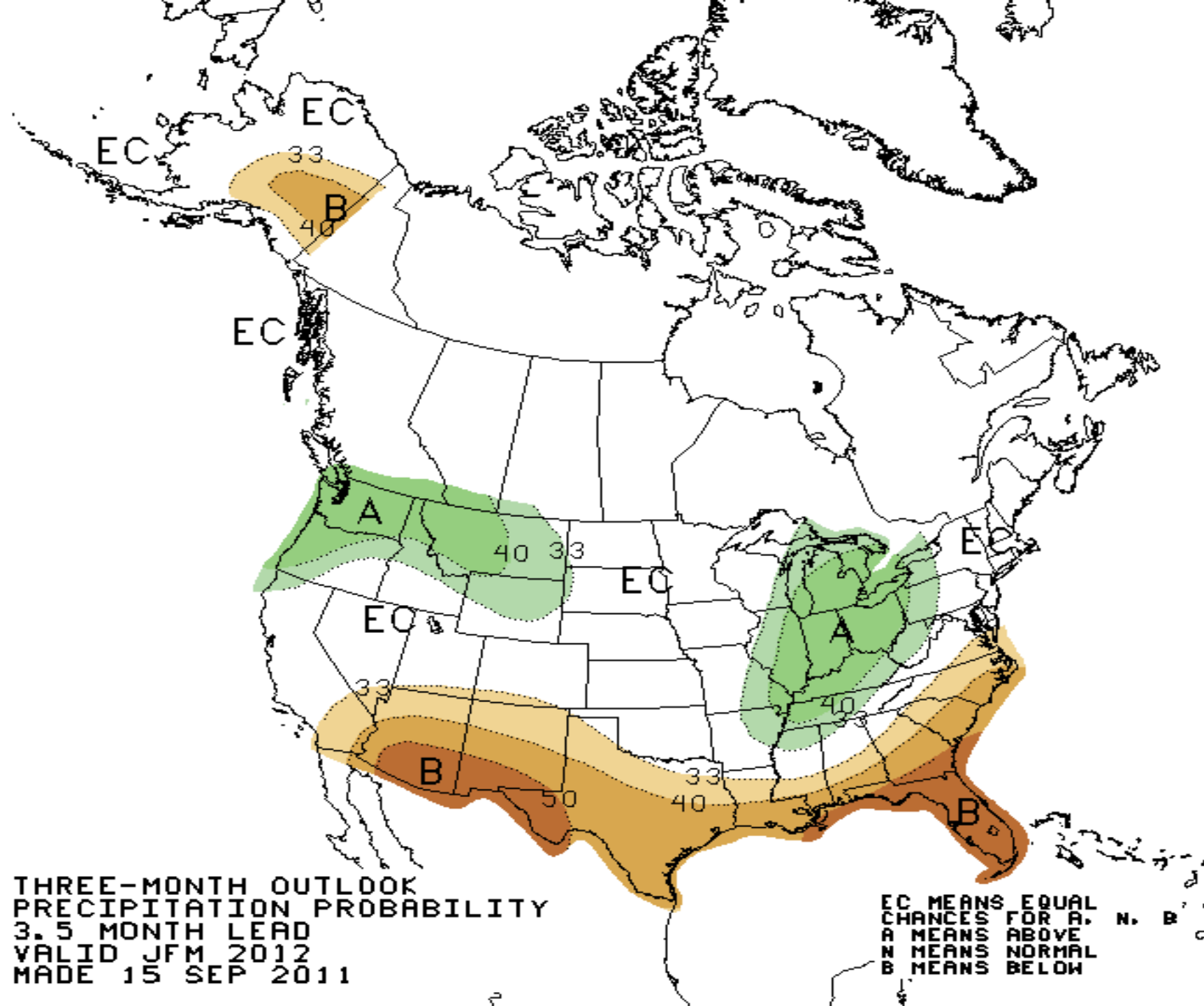
THE SEASONAL OUTLOOK FOR OND 2011 SHOWS ENHANCED CHANCES FOR **ABOVE NORMAL** SEASONAL MEAN **TEMPERATURE** FOR AREAS STRETCHING FROM THE SOUTHWEST, ACROSS THE **CENTRAL PORTION** OF THE CONUS TO PARTS OF THE GREAT LAKES AS WELL AS THE NORTH SLOPE OF ALASKA. BELOW-NORMAL TEMPERATURES ARE FAVORED FOR PARTS OF THE FLORIDA PENINSULA AND MUCH OF SOUTHERN ALASKA. BELOW-MEDIAN SEASONAL TOTAL PRECIPITATION IS FORECAST FOR MUCH OF THE SOUTHERN PORTION OF THE COUNTRY WITH ENHANCED CHANCES FOR ABOVE-MEDIAN PRECIPITATION INDICATED ACROSS PARTS OF THE PACIFIC NORTHWEST. IN LOCATIONS WHERE THE LIKELIHOODS OF SEASONAL MEAN TEMPERATURE AND SEASONAL TOTAL PRECIPITATION ARE SIMILAR TO THE CLIMATOLOGICAL PROBABILITIES, EQUAL CHANCES (EC) OF BELOW, NEAR, AND ABOVE ARE INDICATED.

AS WE SHIFT INTO AND THROUGH THE WINTER, ENHANCED ODDS FOR BELOW NORMAL SEASONAL MEAN TEMPERATURE APPEAR FOR SOUTHERN ALASKA, THE WEST COAST AND MUCH OF THE NORTHERN TIER OF THE U.S.. **ABOVE NORMAL TEMPERATURES ARE EXPECTED ACROSS MUCH OF THE SOUTH.** FOR PRECIPITATION, ABOVE MEDIAN SEASONAL TOTAL PRECIPITATION IS INDICATED FOR PORTIONS OF THE PACIFIC NORTHWEST AND NORTHERN ROCKIES AND AREAS OF THE OHIO VALLEY AND GREAT LAKES DURING THIS SAME PERIOD. **ENHANCED ODDS FOR BELOW-MEDIAN PRECIPITATION ARE INDICATED FOR MUCH OF THE SOUTHERN TIER OF THE U.S..**









2011 Farmer's Almanac

Annual Weather Summary: November 2011 to October 2012

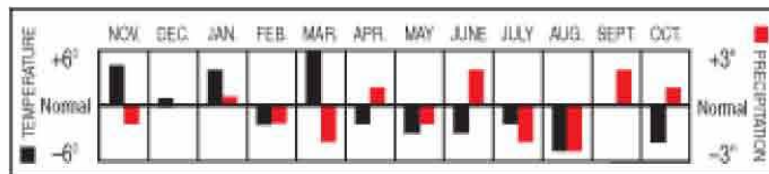
Winter temperatures will be above normal, on average, with below-normal precipitation and snowfall. The coldest periods will be in mid- and late December, mid-January, and mid-February. The snowiest periods will be in mid-December, late February, and early March.

April and May will be much cooler than normal, with near-normal precipitation.

Summer will be drier and cooler than normal, on average, despite hot spells in early and late July. If expected rains do not come in June, drought will be an issue.

September and October will be cooler and rainier than normal, with snow in late October.

Temperature and Precipitation November 2011 to October 2012



Farmer's Almanac

- **NOVEMBER 2011:** temperature 52.5° (1° above avg. northeast, 8° above southwest); precipitation 1.5" (1" below avg.); **Nov 1-7:** Soaking rain, then sunny, chilly; **Nov 8-12:** Sunny, warm, then t-storms, cool; **Nov 13-16:** Sunny, warm; **Nov 17-23:** Rain, then sunny, cool; **Nov 24-27: Flurries, cold;** **Nov 28-30:** Rainy, mild.

These are only predictions



OK, Show of hands...
Who's tired of snow?

Summary

- Plan is updated
- Equipment is ready
- Materials are well supplied
- Staff have been trained
- Press releases are out
- Web site is updated
- We are ready to tackle what ever mother nature throws at us

Questions?

