

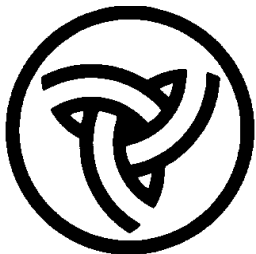
Illinois DOT MDSS Demonstration



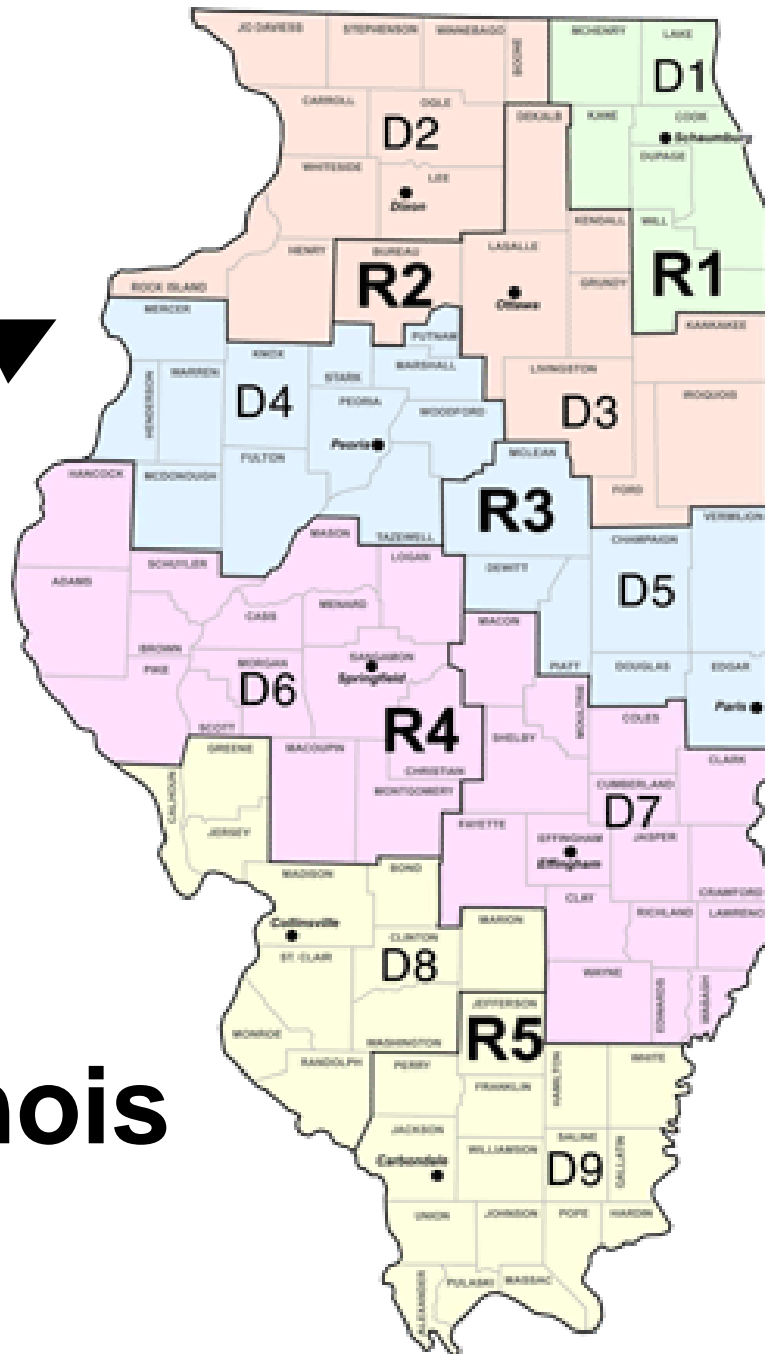
August 6, 2008
Reno



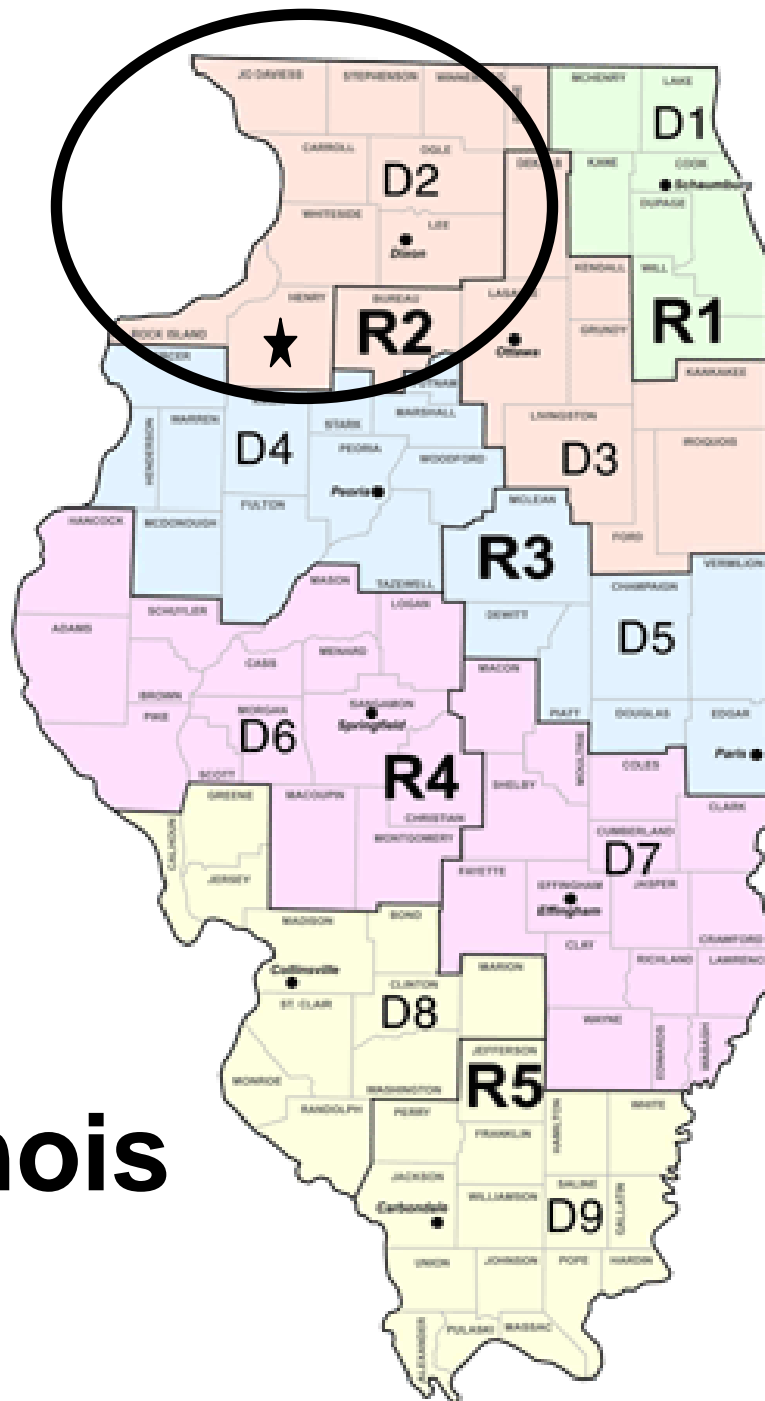
(Paul) Dean Kernan
Illinois DOT Field Technician,
unofficial state RWIS coordinator



Illinois Department of Transportation



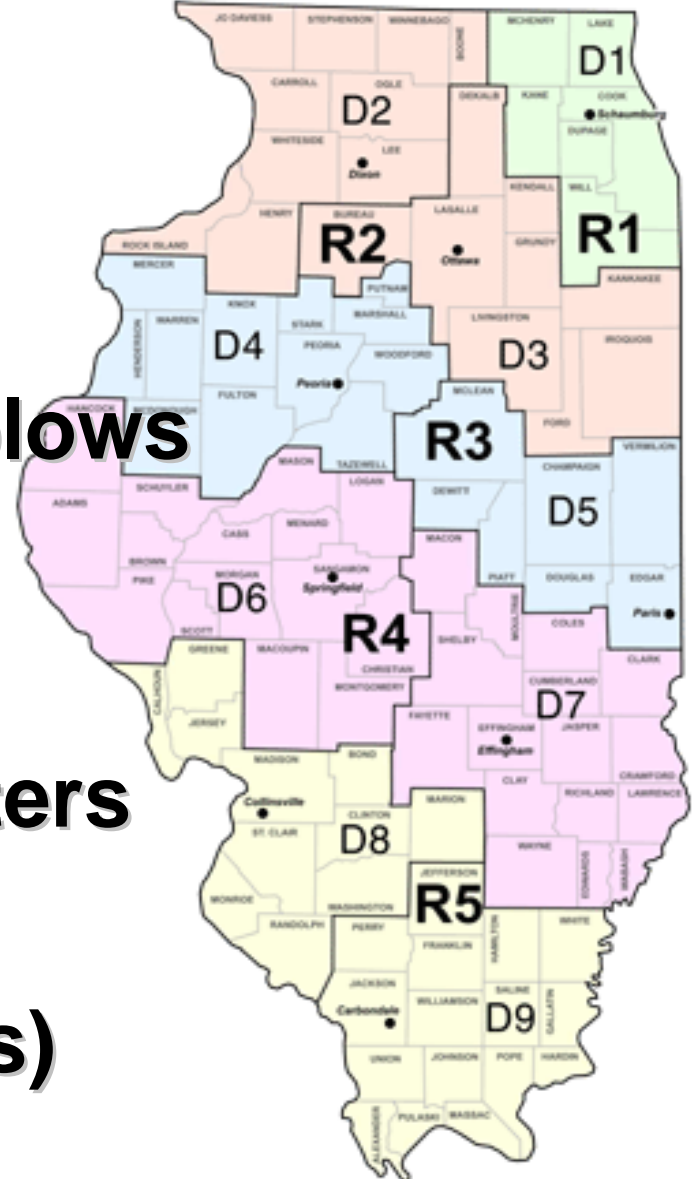
About Illinois DOT



About Illinois DOT

About Illinois DOT

- **Statistics:**
 - 42,871 lane miles
 - 1,153 routes & > 1700 plows
 - 9 Districts / 5 Regions
 - 165 garages
 - Maintainers are Teamsters
 - 60 RWIS sites (DOT)
 - 40 RWIS sites (Tollways)



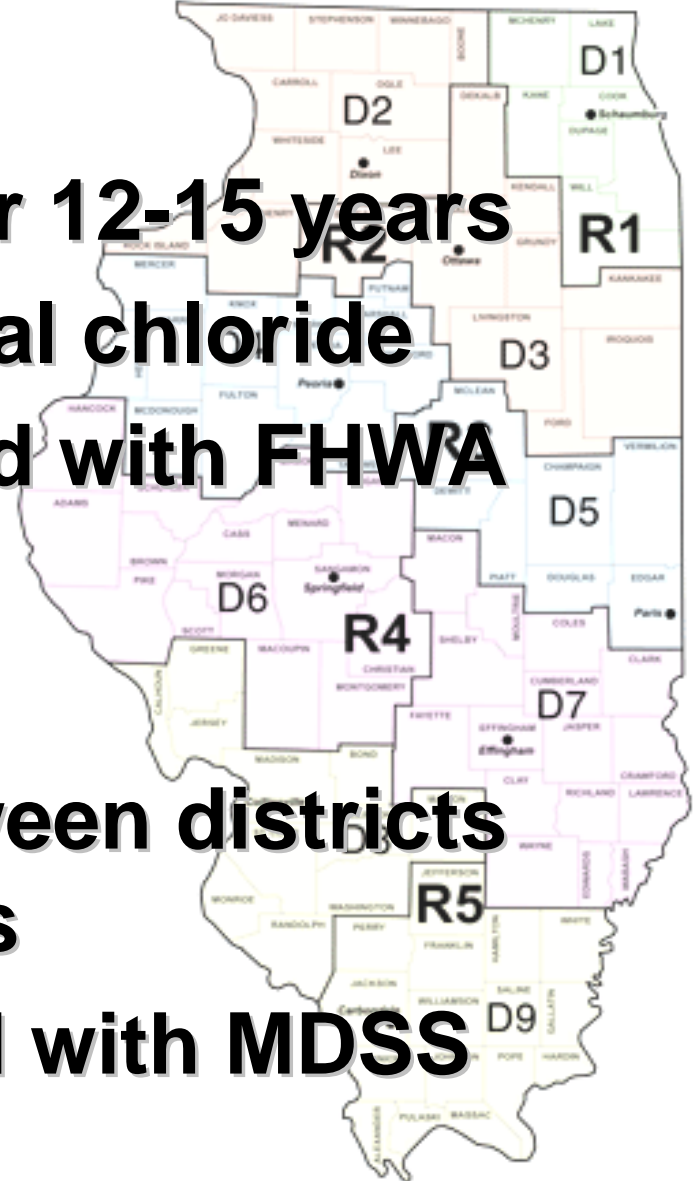
More about Illinois DOT

- **Practices:**

- Anti-icing employed for 12-15 years
- Chemical: Salt/brine, cal chloride
- Treatment rules aligned with FHWA rules of practice

- **Vision/direction**

- More info sharing between districts and surrounding states
- Become more involved with MDSS
- Add AVL to MDSS



About The Event

- **The Event (Number 31!)**
 - Moderate snow event Feb. 28-29, 2008
 - District 2 (NW Illinois)
 - Decisions District 2 made -- how our Weather/MDSS Provider was used
- **Benefits**
 - District in this storm
 - State in general

- Briefing
- Dashboard
- Local Radar
- Local Forecast
- Summary
- 10 Day
- Hourly
- Graphs
- Animations
- Regional Graphics
- National Graphics
- International Graphics
- Hurricane Weather
- NWS Weather Reports
- Historical Weather
- My Favorites



10 Day Forecast



IL DOT US 30 Clinton

+ Add to Favorites

IL DOT US 30 Clinton

| Date | Wed 2/27 | Thu 2/28 | Fri 2/29 | Sat 3/1 | Sun 3/2 | Mon 3/3 | Tue 3/4 | Wed 3/5 | Thu 3/6 | Fri 3/7 |
|---------------------------------|---------------|-------------------|-------------------------|-----------------------|--------------|---------------|---------------|--------------------|--------------------|--------------------|
| Weather Condition | | | | | | | | | | |
| Weather | Partly Cloudy | Snow Possible | Overnight Snow Possible | Evening Snow Possible | Rain Likely | Partly Cloudy | Partly Cloudy | Snow Possible | Snow Possible | Snow Possible |
| Temperature (°F) Low/High | 7/24 | 9/32 | 26/32 | 16/38 | 34/45 | 26/35 | 17/34 | 23/37 | 19/34 | 18/32 |
| Feels Like (°F) Low/High | -5/13 | 4/22 | 8/21 | 6/30 | 19/39 | 9/25 | 3/25 | 12/29 | 7/26 | 7/24 |
| Dew Point (°F) | 6 | 16 | 22 | 15 | 27 | 20 | 17 | 19 | 23 | 13 |
| Humidity (%) | 64 | 77 | 82 | 57 | 60 | 63 | 61 | 56 | 82 | 57 |
| Wind Speed (mph) | 9 | 10 | 16 | 11 | 14 | 15 | 13 | 10 | 10 | 10 |
| Precipitation Chance (%) | - | 50 | 20 | 47 | 60 | - | - | 22 | 22 | 23 |
| Precipitation Amount | None | S: 1-2 R: 0.15 | S: <1.0 R: 0.01 | S: <1.0 R: 0.01 | Rain 0.45 | None | None | S: <1.0 R: 0.05 | S: <1.0 R: 0.03 | S: <1.0 R: 0.03 |
| Evapotranspiration (inches/day) | 0.03 | 0.03 | 0.03 | 0.06 | 0.08 | 0.06 | 0.05 | 0.06 | 0.03 | 0.05 |

Print

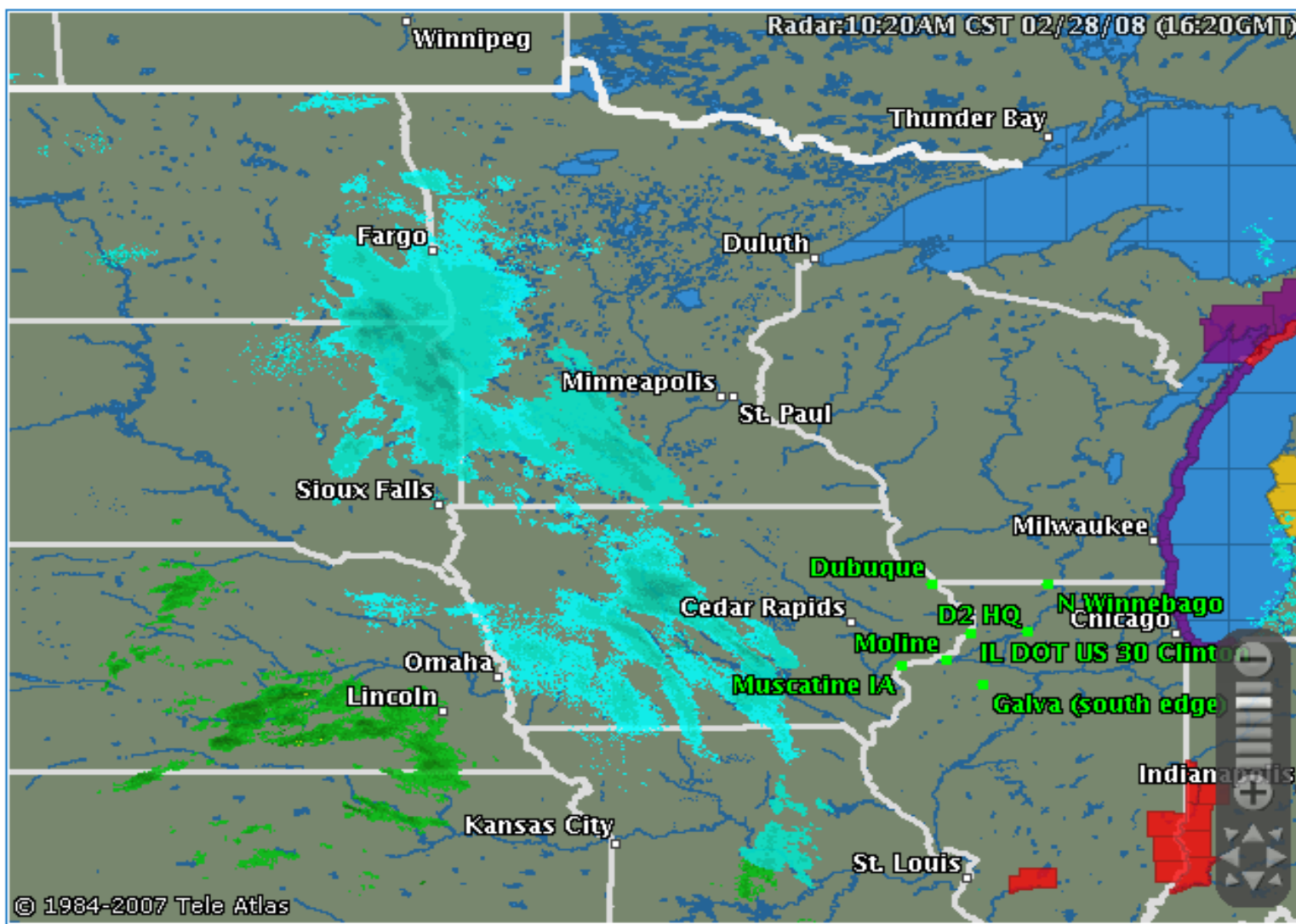
Wednesday, February 27th

- Briefing
- Dashboard
- Local Radar
- Local Forecast
- Regional Graphics
- National Graphics
- International Graphics
- Hurricane Weather
- NWS Weather Reports
- Historical Weather
- My Favorites



The Official Forecaster of the PGA TOUR & Champions Tour

meteorlogix



© 1984-2007 Tele Atlas

- AutoRefresh
- Locations
- Tools
- Map
- Fullscreen
- Play
- Get Details

Access Weather via Your Cell Phone

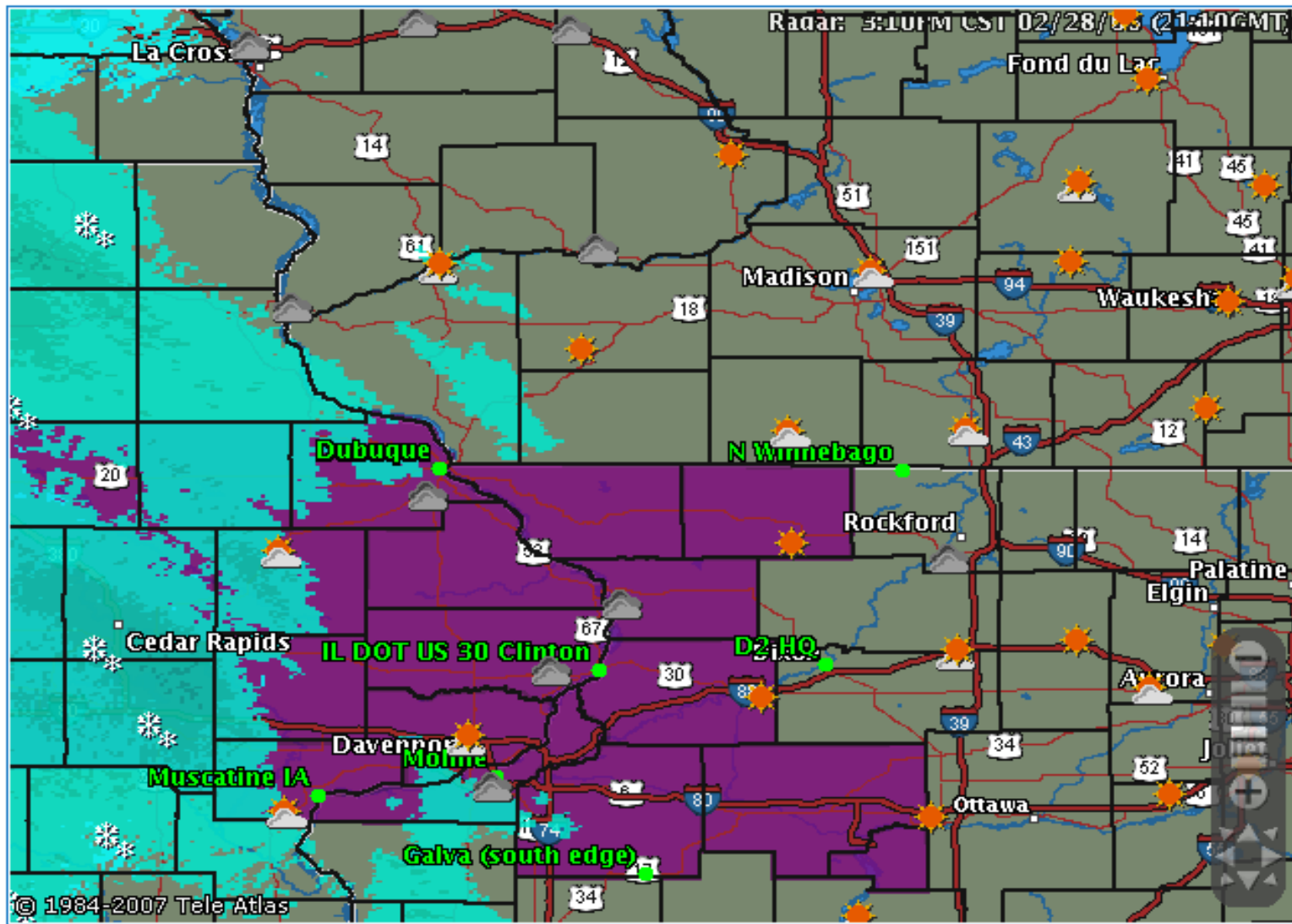
CLICK HERE

Forecast @10 AM

- Briefing
- Dashboard
- Local Radar
- Local Forecast
- Regional Graphics
- National Graphics
- International Graphics
- Hurricane Weather
- NWS Weather Reports
- Historical Weather
- My Favorites



The Official Forecaster of the PGA TOUR & Champions Tour



© 1984-2007 Tele Atlas

AutoRefresh Locations Tools Map Fullscreen Play Get Details

Access Weather via Your Cell Phone

CLICK HERE

@2 Hours Prior to the event

- Briefing
- Dashboard
- Local Radar
- Local Forecast
- Summary
- 10 Day
- Hourly
- Graphs
- Animations
- Regional Graphics
- National Graphics
- International Graphics
- Hurricane Weather
- NWS Weather Reports
- Historical Weather
- My Favorites
- Custom Forecast

Hourly Forecast

Choose a Forecast

Map IL DOT D2 US 30 CLINTON

Treatment Plan

FHWA (default)

+ Add to Favorites

<< Back

IL DOT D2 US 30 CLINTON

Change Threshold Settings...

| Hour | Tue 12PM | Tue 01PM | Tue 02PM | Tue 03PM | Tue 04PM | Tue 05PM | Tue 06PM | Tue 07PM | Tue 08PM | Tue 09PM | Tue 10PM | Tue 11PM | Wed 12AM | Wed 01AM |
|-----------------------------|-------------------|-------------------|---------------|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Weather Condition | | | | | | | | | | | | | | |
| Weather | T-Storms Possible | T-Storms Possible | Partly Cloudy | Partly Cloudy | Sunny | Sunny | Sunny | Sunny | Sunny | Clear | Clear | Clear | Clear | Clear |
| Temperature (°F) | 83 | 85 | 86 | 87 | 87 | 88 | 85 | 83 | 80 | 76 | 73 | 71 | 68 | 66 |
| Feels Like (°F) | 88 | 89 | 91 | 92 | 91 | 90 | 89 | 86 | 83 | 79 | 77 | 76 | 68 | 66 |
| Wind Direction | NNW | NNW | NNW | NNW | NW | NW | NW | NW | NNW | NNW | E | E | N | WNW |
| Wind Speed/Gusts (mph) | 9 | 10 | 10 | 9 | 9 | 9 | 8 | 7 | 6 | 5 | 4 | 4 | 4 | 4 |
| Dew Point (°F) | 70 | 69 | 69 | 69 | 68 | 68 | 68 | 67 | 67 | 66 | 66 | 65 | 64 | 63 |
| Humidity (%) | 65 | 59 | 57 | 55 | 53 | 55 | 57 | 59 | 65 | 71 | 79 | 81 | 87 | 90 |
| Precipitation Chance (%) | 20 | 20 | - | - | - | - | - | - | - | - | - | - | - | - |
| Precipitation Type | Rain | Rain | - | - | - | - | - | - | - | - | - | - | - | - |
| Precipitation Amount | | Rain 0.03 | | | None | | | None | | | None | | | None |
| 24Hr Snow Accum (09AM-09AM) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Blowing Snow Potential | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Bridge Temp (°F) | 107 | 111 | 112 | 112 | 110 | 107 | 101 | 94 | 89 | 84 | 78 | 74 | 71 | 68 |
| Road Temp (°F) | 100 | 101 | 102 | 101 | 100 | 98 | 90 | 82 | 76 | 70 | 64 | 59 | 56 | 52 |
| Bridge Frost Likely? | No | No | No | No | No | No | No | No | No | No | No | No | No | No |
| Road Frost Likely? | No | No | No | No | No | No | No | No | No | No | No | No | No | No |
| Treatment Recommendation | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Predicted Road Temperatures



Radar

7:35PM CST 02/28/08

IL DOT US 30 Clinton

Sterling

Davenport

Refresh | Animate | Zoom Out

D. Main

Briefing

Dashboard

Local Radar

Local Forecast

Regional Graphics

National Graphics

International Graphics

Hurricane Weather

NWS Weather Reports

Historical Weather

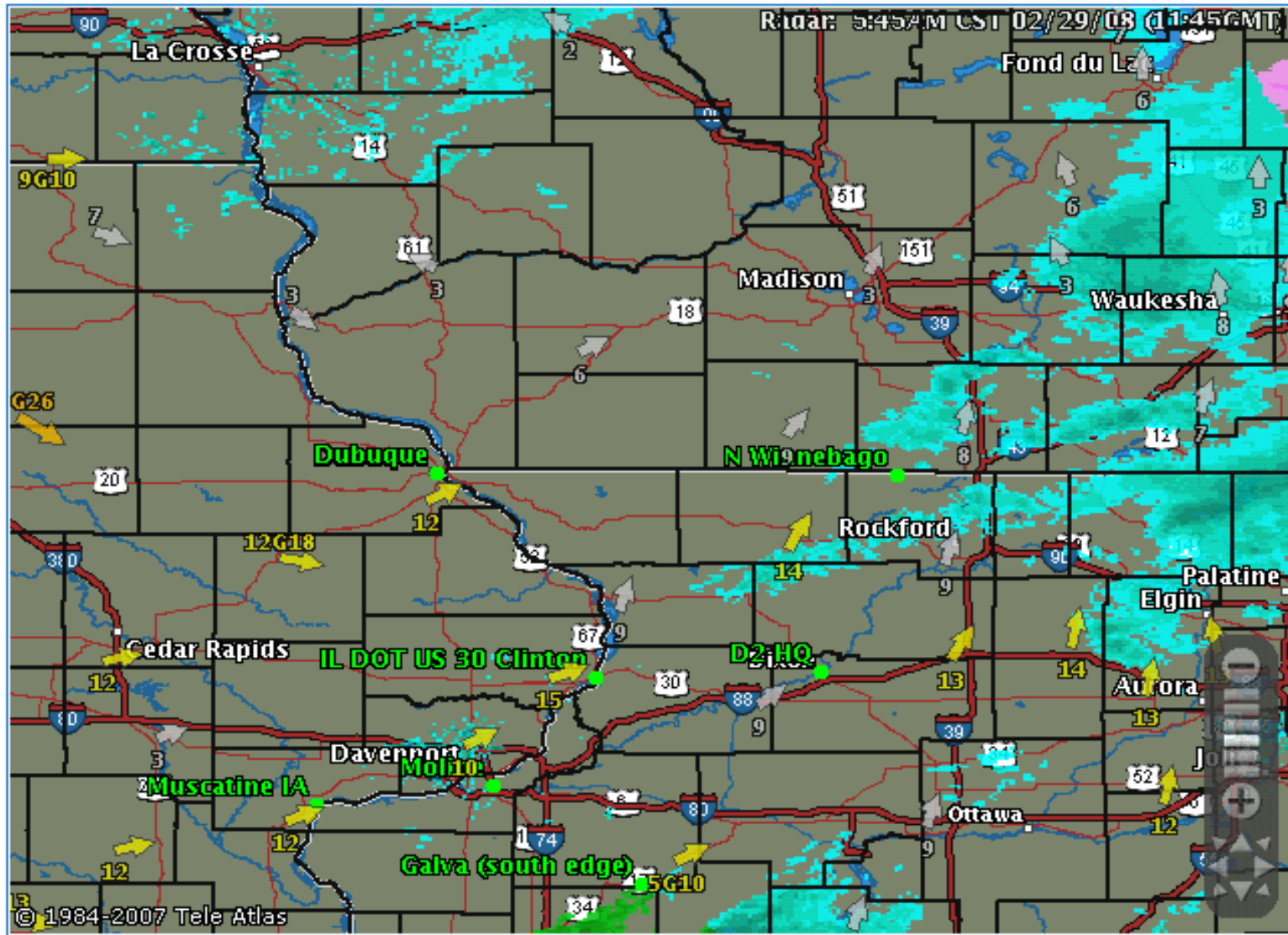
My Favorites



The Official Forecaster of the PGA TOUR & Champions Tour

meteorlogix

Access Weather via Your Cell Phone



Friday morning

MDSS Benefits: District 2 for this Storm

- **Improved safety & level of service**
- **Cost reduction**
 - **Improved crew callout precision:**
 - **\$20,400 (3 hours @ \$6,800/hour)**
 - **Avoided 1 un-needed application**
 - **\$72,325 (Salt costs are jumping)**

MDSS Benefits:

District 2 for this Storm cont'd

- Reduced application rates
(actual savings not calculated)**
 - Crews able to adjust their applications
to lower rates**
 - Only spread bridges/overpasses**
- Total: >\$92,000 +**

MDSS Benefits: for Illinois DOT at large

- **Improved safety & level of service**
- **Cost reduction throughout IL DOT:**
 - **Improved crew callout precision:**
 - **Each hour saved is \$48,000 – 96,000, depending on day of week/time of day**

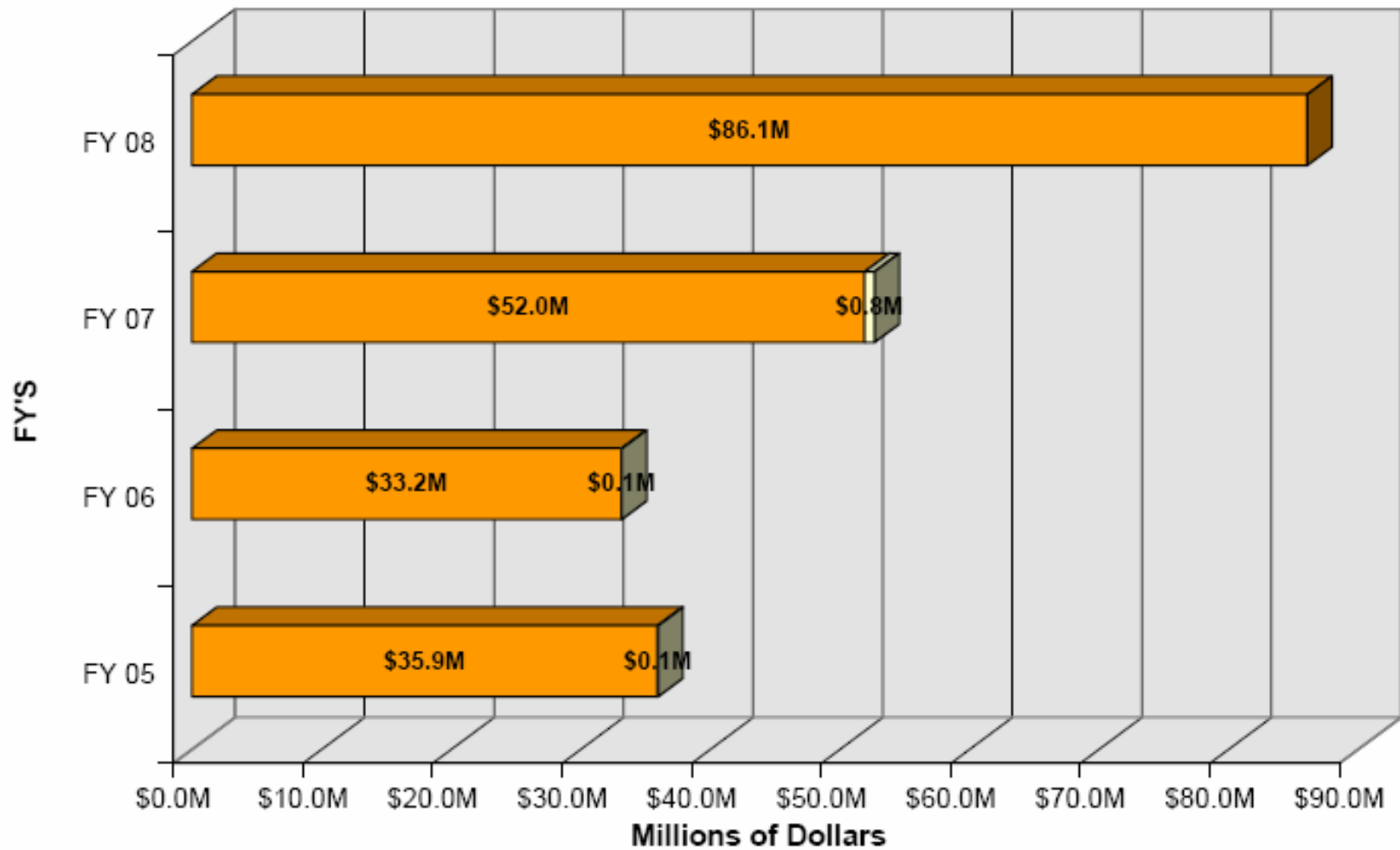
MDSS Benefits: for Illinois DOT at large (cont'd)

- Avoiding un-needed applications**
 - Avoiding one application saves -- in labor, material & equipment: \$710,000**
- Reduced application rates**
 - Each 1% of chemical savings each winter is \$150,000 - \$350,000 (range of past 3 years)**
- Totals are easily in the \$Millions**

Snow and Ice Total Cost

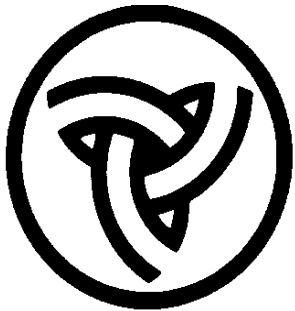
(Includes Snow and Ice Activity Only)

3/31/2008



| | FY 05 | FY 06 | FY 07 | FY 08 |
|---------------------|---------|---------|---------|---------|
| Balance to year end | \$0.1M | \$0.1M | \$0.8M | |
| Year to Date | \$35.9M | \$33.2M | \$52.0M | \$86.1M |

**Thank
You**



Illinois Department of Transportation

828 North College Avenue

Geneseo, Illinois 61254

309-944-4001 (W)

309-945-5015 (C)

Paul.Kernan@illinois.gov