MDSS Functional Prototype Display Preview

Presented by

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MTS™ MitreTek Systems

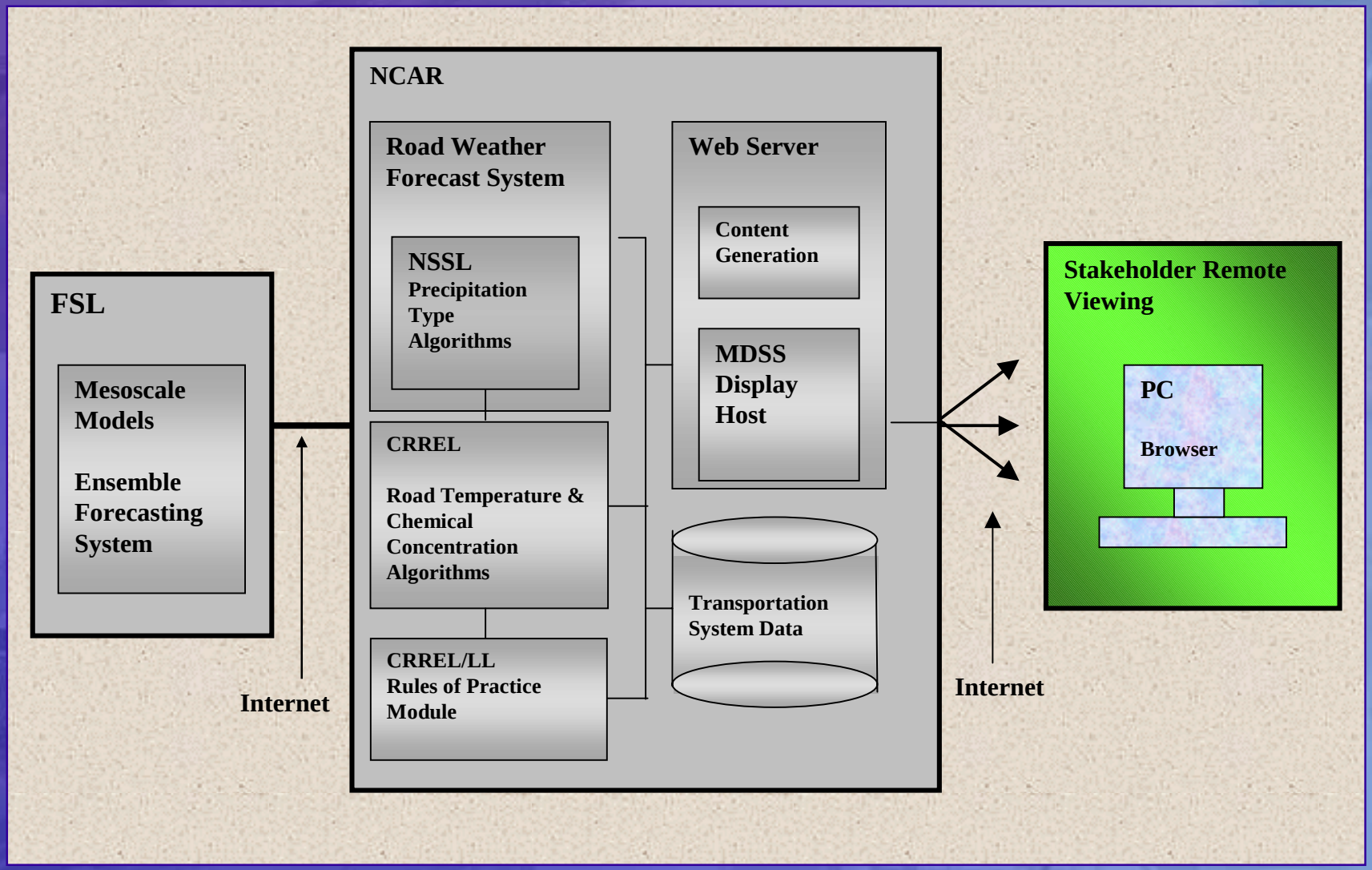
ETL

National Severe Storms Laboratory

FSL

NCAR

MDSS Functional Prototype Structure – FY2002



MDSS Functional Prototype Display Capabilities

Browser based (HTML & Java)
Output available for 3 cycles (do nothing, auto, edited)
Ability to compare results from each solution

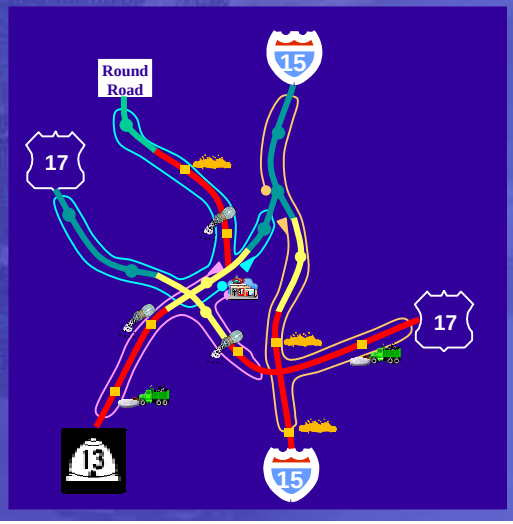
Products

Rules of Practice
- Treatment Time
- Treatment Type
- Application Rate
- Guidance Summary
  auto & edited

Road Beat Views
Text Windows
Tabular Views

Features

Mouse-over
Animation
Time-bar
History
Alert Function
Print



Time series

Road Temp
Air Temp
Wind
Mobility Index
Chem. Conc.
Precip. Type
Precip. Rate
Precip Amount
- Snow Depth
- Liq. Equivalent

Dew Point
Frost Point
Traffic (simulated)
Road Freeze Point
Probability Metrics

Maps

Terrain
Lakes
Roads
Labels
Garages

Preview of MDSS FP Display

- The FP display will be coded as an Java application that will run using browers (Netscape, MS Explorer).
- The features and functions will be determined by considering the conceptual prototype (CRREL storyboards) and feedback from the DOT GUI design group.
- The browser application will be flexible and somewhat easy to change during design iterations.

September 2001 MDSS Prototype Display

- The preview demonstration (September 2001 version) only utilizes data generated by the Road Weather Forecast System. Real road condition and rules of practice integration will occur during early FY2002.

- Treatment recommendations are simulated.

- Road mobility is calculated using weather data only.

- Java applets were used to simplify the demonstration, but will be replaced by much more sophisticated code in FY2002.

September 2001 MDSS Prototype Display

Temporary Road Mobility Calculation:

```
if cprob_ice>.25                          mobility = 0.0

else if cprob_snow>.25 && cprob_rain < .25
    if T < -10                             mobility = 0.4
    else                                   mobility = .4+(.6*(T+10)/12);

else if cprob_snow>0.25 && cprob_rain > 0.25
    if T > 2                               mobility = 0.6
    else if T <= 2 && T > -4                       mobility= .6-.5*((2-temp)/6);
    else                                   not specified -> I set it to 1.

else if cprob_rain > 0.25 && no snow       mobility = 1.0

else if T > 2                              mobility = 1.0

else                                       not specified -> I set it to 1.
```

September 2001 MDSS Prototype Display

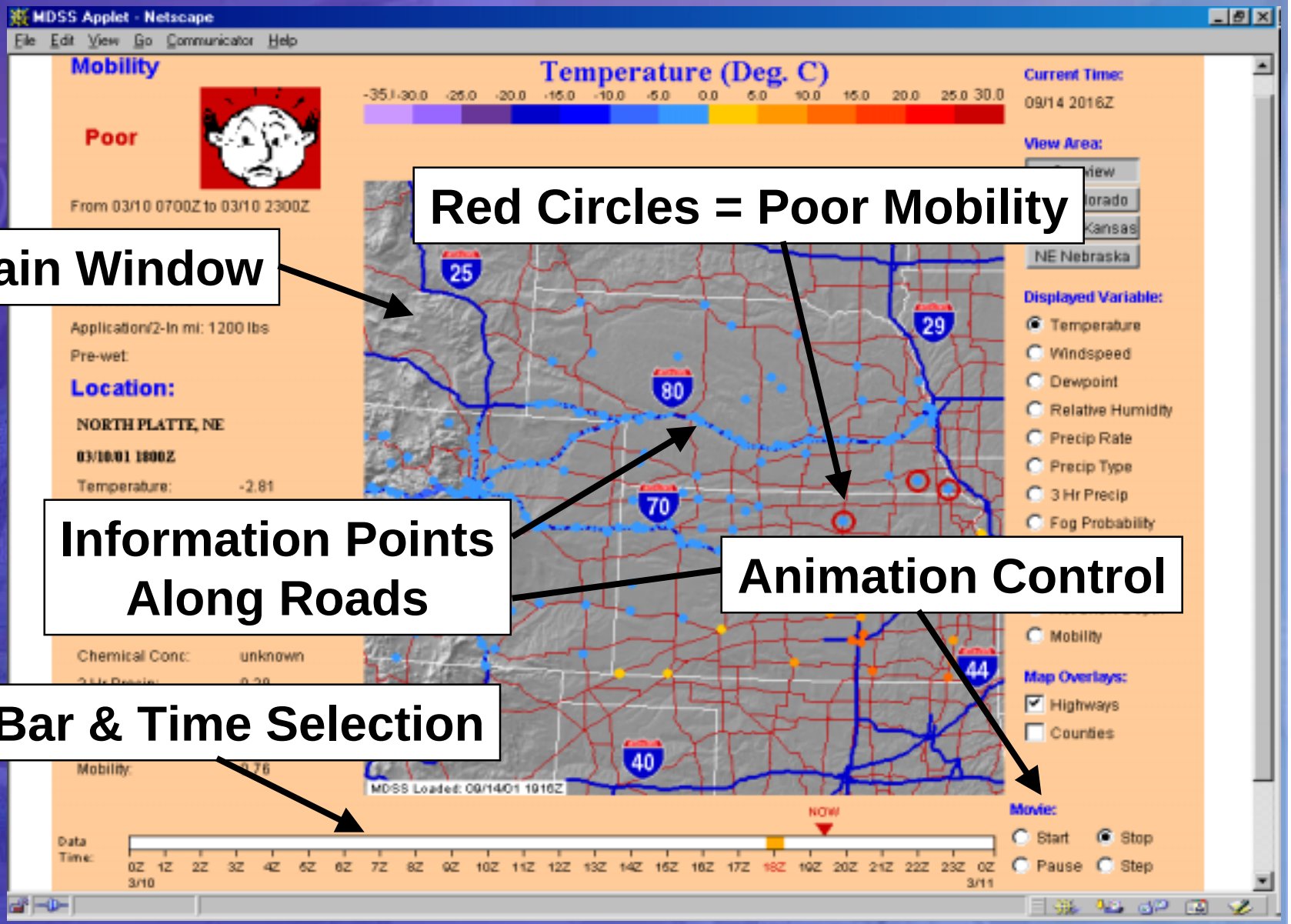
Temporary Road Mobility Calculation:

Good: >.66

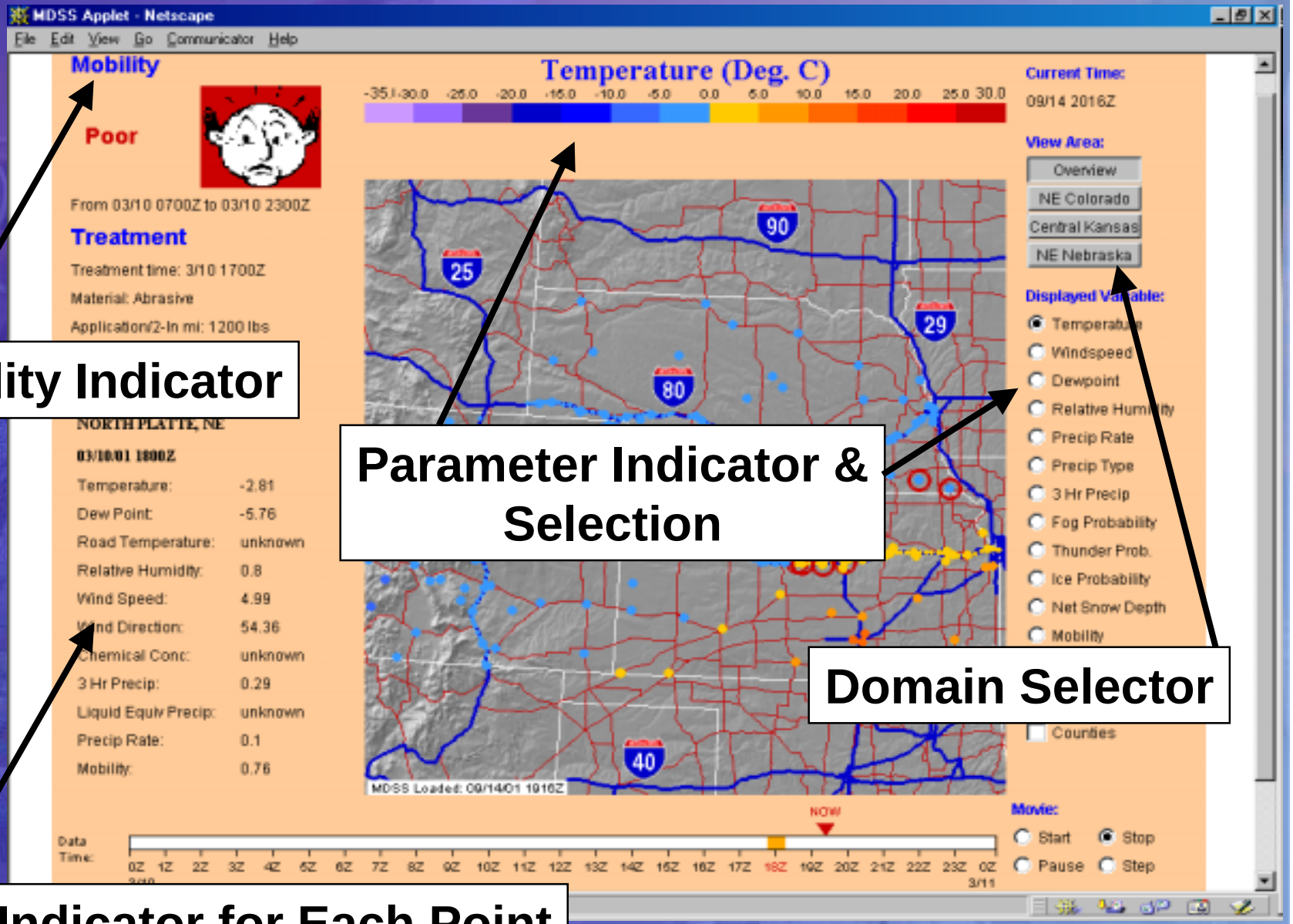
Fair: .33 to .66

Poor: < .33

September 2001 MDSS Prototype Display



September 2001 MDSS Prototype Display



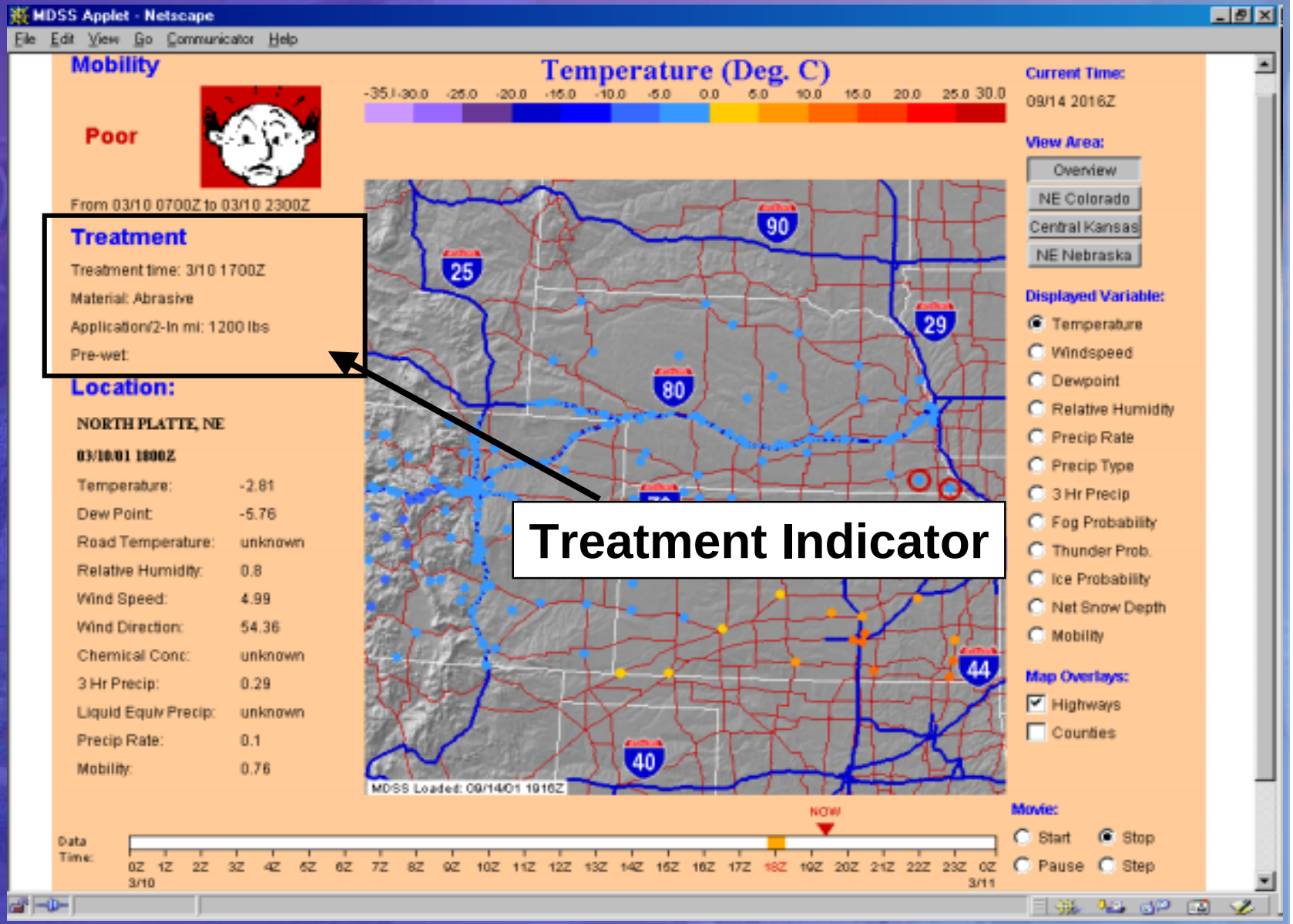
Mobility Indicator

Parameter Indicator & Selection

Domain Selector

Data Indicator for Each Point

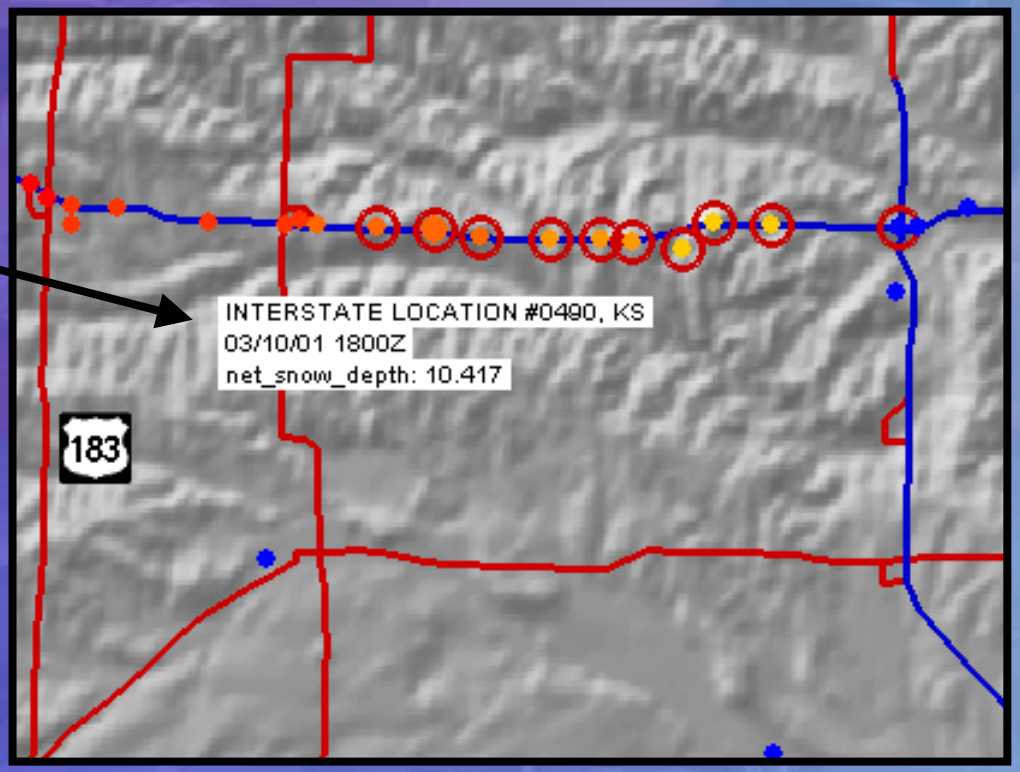
September 2001 MDSS Prototype Display



September 2001 MDSS Prototype Display

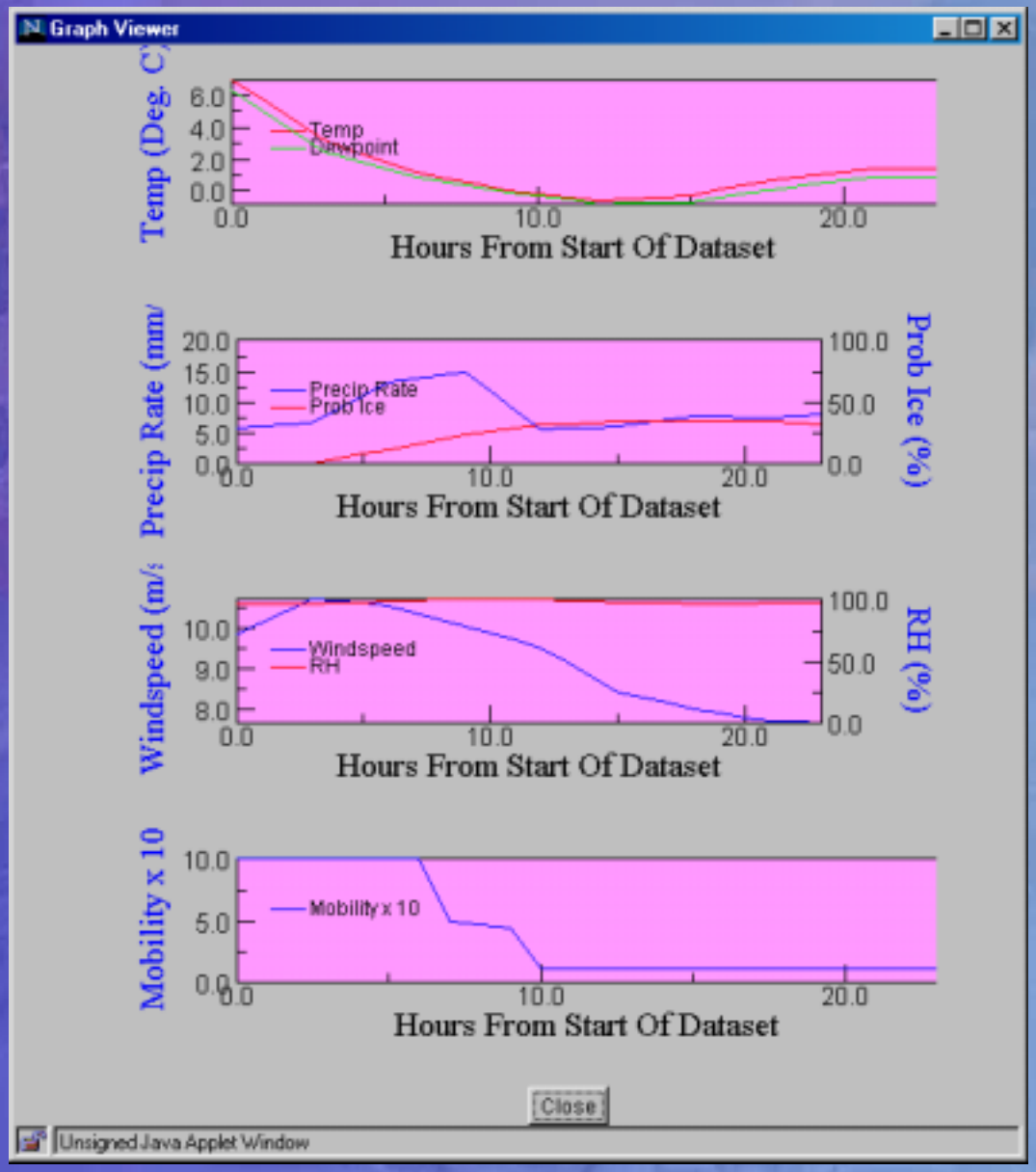
Mouse-over for data Inspection

Circles indicate Poor mobility regions



September 2001 MDSS Prototype Display

Point & click time series information



MDSS Functional Prototype

Road condition and rules of practice integration, and interactive capabilities needed to perform the “what if” scenarios will be developed in FY2002 starting 1 October, 2001.

DOT participants will work with the software design team during the development process.

Two face-to-face DOT meetings are planned before the April 2002 KDP meeting.

Functional Prototype - Cycles

The functional prototype will operate in three primary modes:

1) Provide results with no maintenance actions.

2) Provide results based on automated maintenance recommendations (rules of practice).

3) Allow user to modify maintenance recommendations.

MDSS Functional Prototype System Flow