Clarus Regional Demonstrations

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Mixon Hill, Inc.
Road Weather Stakeholder Meeting
Albuquerque, New Mexico
September 8, 2011
Mixon Hill Team

• Subconsultants
  – National Center for Atmospheric Research (NCAR)
  – KMJ Consulting, Inc.
  – Avaya Government Solutions (formally Nortel)
  – Athey Creek Consultants

• Participating Agencies
  – Iowa DOT
  – Illinois DOT
  – Indiana DOT
UC #3: Non-winter Maintenance & Operations Decision Support Tool - Objectives

UC #4: Multi-state Control Strategy Tool - Objectives

Common Elements
Observation Map

- Data Sources
  - Near Real-time Observations
    - Clarus
    - METAR - NWS
    - Earthquake - USGS
    - Alerts - NWS
  - Gridded Forecasts
    - WRF - NCAR
    - NDFD – NWS
  - Site Specific Forecasts
    - RWFS - NCAR
    - Metro - NCAR
Observation Details

- Click on a station or forecast point
  - Observation Type
  - Value
  - Unit
  - Expires
    - The time that the system will no longer use the observation during processing
  - Miscellaneous
    - The station description
Show Observations

- Select one or more data sources
- Select one or more observation types
- Select Show Obs
- Current observations will appear next to the station, if available
NWS Radar
NWS Satellite
NWS Alerts

Watches, Warnings or Advisories for Indiana

This page shows alerts currently in effect for Indiana and is normally updated every two-three minutes. Please see here for other states and listing by county.

Last updated: 12:15 EDT on 08-31-2010

Air Quality Alert
Issued: August 31 at 12:15PM EDT
Expiring: September 01 at 8:00PM EDT
Issued by NWS Indianapolis

Areas affected: Bartholomew; Brown; Jackson; Jennings; Lawrence; Monroe; Scott; Washington
UC #3: Non-winter Maintenance & Operations Decision Support Tool - Objectives

- Expand decision support beyond snow and ice control
- Incorporate *Clarus* data to assist maintenance, operations, and construction-related scheduling decisions
- Provide the framework to bridge the current gap between the road weather information and the proactive decision-making process
Define Weather Related Practice

- Dewpoint Temperature => 30
- Wind Average Speed < 13
- Air Temperature => 50

Activity Duration

1 Hour
2 Hours
3 Hours
Define Weather Related Practice

- Define or select the activity group and activity
- Define the activity description and the default activity message
- Define the evaluation parameters
Plan an Activity

- Define location
- Define activity
- Define the activity duration
- Select “View Times”
- Select “Edit Emails”
- Select “Modify WRP”
- Repeat Activity
Schedule the Activity
Temporarily Modify the WRP
View Active Plans

- Screen shows all of the plans that are active
  - Name of Plan
  - Start time of the plan
  - Description of the plan
- Links
  - view additional times
  - Edit the plan
  - Delete the plan
WRP Forecast

- View the schedules available for a number of activity types at a selected location
  - A specific activity group can be selected to limit the number of schedules displayed
  - All activity types in the system can be evaluated
WRP Forecast Results
Run Report

• Select a location
• Select the source(s)
• Select the observation type(s)
• Select the start and end date
• Create the project name for the report
• Run the report
## Current Reports

<table>
<thead>
<tr>
<th>Name</th>
<th>Start Date</th>
<th>End Date</th>
<th>Status</th>
<th>Size</th>
<th>Download</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boone County Temperatures</td>
<td>08/30/2010</td>
<td>08/31/2010</td>
<td>Completed</td>
<td>2 Mb</td>
<td><a href="#">Download</a></td>
<td><a href="#">Delete</a></td>
</tr>
</tbody>
</table>

Report disk space allocated: 50 Gb, Report disk space used: 1.76 Mb
What did the project team learn from their experience? What were the key findings?

• Selecting a method to establish weather-related practices was difficult
• Training would be crucial and would have to be included in the roll out.
• For inexperienced supervisors, this tool would be invaluable to them.
• It would be nice to have a better weather info/forecast interface.
UC #4: Multi-state Control Strategy Tool - Objectives

• Provide data and strategies which will improve the coordination between agencies with respect to the imposition of controls and dissemination of associated advisories

• This coordination will assist agencies in proactively responding to situations, allow for timely dissemination of safety-related information, and thus mitigate the impact to travelers
Set up a Conference

Location

Title & Description

Subscribers

Strategy Names
Define Strategy

- Verify Location
- Set up evaluation parameters
- Set up Action
- Set as “Active”
- Set as “Continuous” or not
Set Up Evaluation Parameters

- Set up the observation evaluation up the same of use case #3
- Additional observations can be shown outside of the evaluation
Set up Actions

- Set up the messages that you want sent out when the parameters evaluate to true and to false.
### Conference Overview

- Displays all active conferences
- Ability to view all messages
- Ability to post additional messages
- Ability to view observations associated with message, if applicable
Monitor Results

<table>
<thead>
<tr>
<th>High Temperatures</th>
<th>Post</th>
<th>View</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperatures over 85 F, Condition Monitor</td>
<td>09/01/2010 00:10</td>
<td></td>
</tr>
<tr>
<td>Take Curt for a walk around downtown Indianapolis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conference Details

Conference Details

- **Conference**: Clarus/MDSS Stakeholder Meeting
- **Strategy**: High Temperatures

Monitor Configuration

- Monitor Name: Temperatures over 85 F
  - Location
  - Evaluation
  - Action
- Active
- Continuous

Message History

- **default.admin** 09/01/2010 00:22
  - Reschedule the walk for Curt at another time - it is not safe to walk after midnight without additional protection.

- **Temperatures over 85 F, Condition Monitor** 09/01/2010 00:10
  - Take Curt for a walk around downtown Indianapolis

- **default.admin** 09/01/2010 00:07
  - High temperatures strategy was set up at midnight on 9/1/10
Mobile Phone Application

- Preferences
- Logout
- Quad Cities
- default admin
- default_ad
- 2010-06-24 16:52
- Accident on I-80 West outside of Chicago. Post detour instructions to highway signs.
- High Winds
- default_ad
- 2010-06-24 16:17
- High wind advisory has been issued. Notify truckers via HAR to use caution.
- Weather Warnings
- default admin
- default_ad
- 2010-05-13 18:00
- A Weather Warning has been issued from the NWS.
- Marion County Test
- default admin
- Marion County - Test by Bre
- Brenda
- 2010-07-06 18:22
- This is the fourth test.

Page dimensions: 720.0x540.0

Overview

Set page width
- Auto
- 240
- 360
- 480

Conference Overview

4 Strategies Per Page

Show
- Messages newer than 0 minutes
- Most recent 1 messages

Strategy View

4 Messages per page

Save

Indiana Department of Transportation
What did the project team learn from their experience? What were the key findings?

• Coordination between agencies outside the DOTs is very difficult
• New processes (especially a proof-of-concept) becomes somewhat lost during real-time incidents especially in the field
• The accuracy of the real-time warnings were excellent and timely
Contacts

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