Clarus Initiative Update

2007 MDSS Annual Meeting
Session 8

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Clarus

- Research initiative funded & directed by FHWA Road Weather Management Program & JPO
- Nationwide* data management system for all surface transportation weather data (in situ & mobile, weather & pavement condition)
- Repository for the uniform collection of metadata

*Also able to accept Canadian RWIN data.
ESS Owned by State DOTs

An Environmental Sensor Station (ESS) is any site with sensors measuring atmospheric conditions, pavement conditions, and/or water level conditions.
Why connect to *Clarus*?

- Better manage your ESS network
  - Access entire network(s) via one portal
  - Ability to monitor network health (communication status, sensor status)
  - Receive quality checked observations
- Increased availability of road weather information leading to improved:
  - transportation system management
  - road weather forecasts, and
  - products from service providers
Why connect to *Clarus*?

- Maximize your ESS ROI
- Open the door to new applications
- Help grow the *Clarus* system database since in this case, BIGGER is BETTER...So get connected!!!
Clarus Initiative Milestones

2004
- Begin Clarus Initiative
- "Where the Weather Meets the Road"

2005
- Begin Clarus Concept of Operations
- Hi Level Req Task Force
- Critical Design Review
- System Design Description
- Hi Level Requirements Document
- Proof of Concept Evaluation

2006
- ICC #1 Oklahoma City
- Quality Checking Task Force
- System Design Published
- ICC #2 Las Vegas
- Proof of Concept State Selection
- Proof of Concept Site Visits

2007
- ICC #3 Salt Lake City
- Metadata Task Force
- Phases 1 & 2: RFP Solicitation
- Proof of Concept Evaluation
- ICC #4 Washington DC
- RFA Solicitation
- Connection Incentive Program
- Award RFA for ConOps

2008
- ICC #5 Kansas City
- Phase 3: RFP Solicitation
- Next Generation Algorithm RFP

2009
- Begin Transition to NOAA
- Now
- ConOps → Sys Design → PoC → Regional Demo → NOAA
Regional Demonstration Phases

• Phase 1: Request for Applications (RFA)
  - Team-based approach
  - Creating *Clarus* ConOps & examples of solutions
  - Making ESS data available to the *Clarus* System

• Phase 2: Connection Incentive Program (CIP)
  - Expansion of the *Clarus* system database and public agency participation in the initiative
  - Offset costs associated with the collection of metadata & ensuring data availability/accessibility

• Phase 3: Request for Proposals (RFP)
  - Private sector build out & testing of ConOps solutions
  - Independent evaluation of the *Clarus* System
Participants in the *Clarus* Multi-State Regional Demonstration Concept of Operations Development

Note: Underlined State IDs represent team leads
The Clarus System

The Clarus System is an experimental product and is being used for evaluation and demonstration purposes only.
ESS in Minnesota

MnDOT operates 96 ESS across the state
Clarus: Quality Checking
Combined ESS Coverage

Coverage Benefits
• Access data from 149 ESS through a single portal
• State borders disappear
• Reducing/eliminating redundant sensors & accessing data from your neighbors can result in cost savings
• Increased data density creates more effective quality checking algorithms
Imagine Nationwide Coverage!
So...Get connected!

ASOS/AWOS (Airport), OCS (Oklahoma Climate Survey) & Clarus ESS