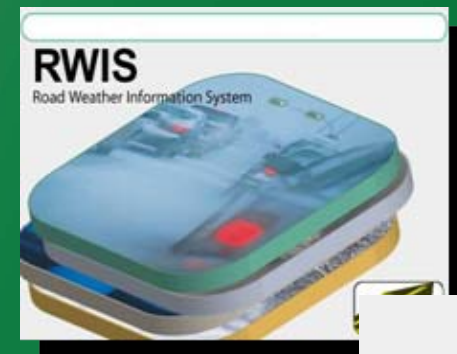
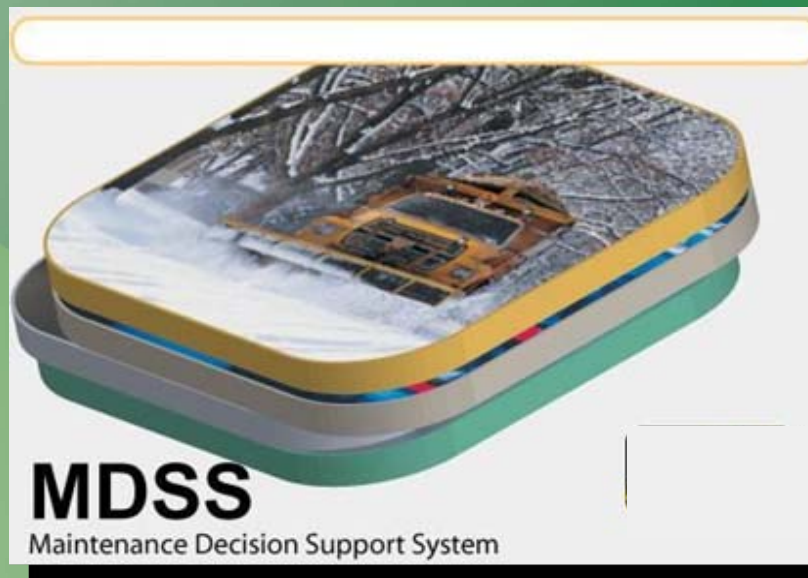
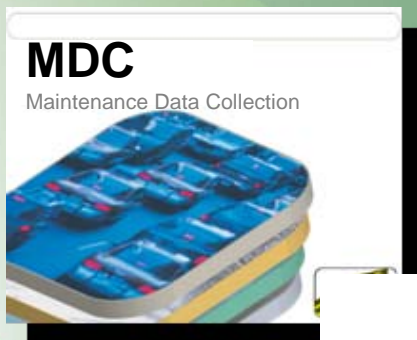
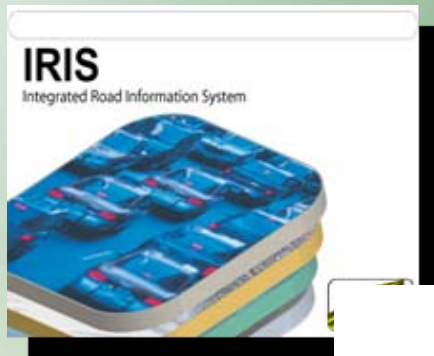


The Meridian Focus on Total Road Weather Solutions



Progress Through New Knowledge



Meridian staff of scientists provide:

- Atmospheric Science Research and Development
 - Mesoscale ensemble weather prediction modeling
 - Advancing technology through on-going R&D
- Supporting Research and Development
 - On-going ATIS and road weather applications development
 - Human factors of road weather cognition

$$\frac{\partial}{\partial t} \iint \left[\frac{1}{2} V^2 + \frac{1}{2\sigma} \left(\frac{\partial \Phi}{\partial p} \right)^2 \right] dSdp = \iint \vec{V} \cdot \vec{F} dSdp - \iint \frac{RQ}{\sigma p c_p} \frac{\partial \Phi}{\partial p} dSdp$$

Solid Scientific Foundation



- MPower™ weather forecast system
 - Ensemble-based
 - Meteorologist managed
- HiCAPS™ pavement forecast system
 - Comprehensive Mass / Energy balance model
- Multi-member high-resolution mesoscale ensemble modeling system
 - With support for nested Large Eddy Simulations (LES)



Meridian Forecasting

Forecast Regions	Issue Times	Model
North_Dakota	5 AM	ETA
South_Dakota	5 PM	AVN
Minnesota		NGM
Montana		
Unified_ND_SD		
MN36		

- Proprietary grid editing forecasting tools
- Forecasting staff trained on road weather management principles
- Optimized man-machine forecasting methods
- Routine 24/7/365 forecasting across North America

Meridian

Environmental Technology Inc.

A Road Weather Commitment



- Industry Leading Expertise in Road Weather Technologies
 - Solid staff with 100+ years of combined experience in road weather operations, research, and applications
 - Staff hold advanced degrees
 - Many have road weather academic education
 - All are active in both applied research and customer support
 - All have a clear understanding of MDSS technologies and solutions

Leading Edge Products



- Maintenance Decision Support System (MDSS)
 - Based upon a collaboration with the Pooled Fund Study MDSS states
- #SAFE™ Advanced Traveler Information Systems and Services (511)
- Integrated Road Information System (IRIS™)

Major New MDSS Features for 2008



Storm Archival System



- Purpose:
 - To permit agency users to perform post-storm reviews and to conduct case studies
- Function:
 - All data are kept automatically for 3 days as part of a running data window
 - MDSS users may request a long-term storage on the Meridian file storage system beyond the running window
 - Includes all MDSS data, weather conditions, and forecasts as they existed during the storm including MDC and treatment actions.

MDSS Event Playback

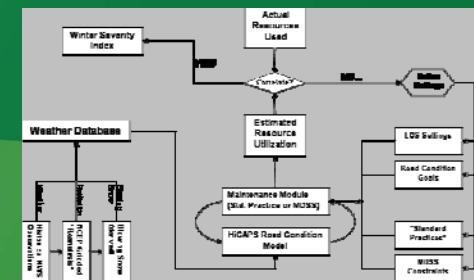


- Purpose:
 - Permits MDSS users to review all maintenance and weather events associated with a past storm to support case studies, training, etc.
- Function:
 - Interacts with current running window data storage or long-term storm data storage files
 - Provides full client-server functionality as though the storm is live

Winter Maintenance Response Index (WMRI)



- Purpose
 - Explore the long-term (seasonal to decadal) impacts of new policies and / or procedures on safety / mobility and agency budgets.
- Function:
 - Uses MDSS simulation capabilities to generate maintenance actions tuned to actual maintenance actions
 - Mechanism to ‘tune’ treatment recommendations to individual routes



Maintenance (Mobile) Data Collection (MDC) Management System



- Purpose:
 - Provide an effective set of tools and algorithms to interpret, apply and manage MDC data within MDSS or similar AVL-related applications
- Function:
 - Apply truck / route configuration rules to better determine when MDC data are applicable to a given route action

Meridian

Providing Tomorrow's Technology Today

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