

Maintenance Decision Support System



MDSS FP Technology Transfer June 2002

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MDSS Technology Transfer

- The MDSS components that will be part of Release-1 are intended to be used as guidance (template) for the design of future MDSS capabilities.
- There is no requirement to use any code or algorithm associated with this release. Because the MDSS is a prototype, caution should be used if one is considering using any code in whole or in part.

MDSS Functional Prototype Components

Seven primary components

Mesoscale Weather Models
FSL



Maintenance Decision Support System

Road Weather Forecast System - NCAR

Road Chemical Concentration - CRREL

Road Mobility Index - CRREL

Road Surface Temperature - CRREL

Rules of Practice Module – CRREL & LL

Precipitation Type - NSSL

An aerial photograph of a highway interchange, overlaid with a semi-transparent blue filter. A large semi-truck is visible on the right side of the road, and a car is on the left. The text is centered over the image.

MDSS Technology Transfer

Intellectual Property Issues

General IP Restrictions

<u>Technology</u>	<u>Restriction</u>	<u>Cost</u>
FSL: Ensemble Model System	Public Domain	Free
¹ NCAR: Road Weather Forecast system	License Needed	Free to US Gov. & Research \$15,000 per VAM
NSSL: Precipitation Type Algorithm(s)	Public domain	Free
LL: Rules of Practice - Coded	License Agreement will be required	Free to US Gov. Free to VAMS for Government applications
CRREL: Road Temperature Algorithm	Public Domain	Free
LL: Coded Chemical Conc. Algorithms.	License Agreement may be required	Free to US Gov. Free to VAMS for Government applications
CRREL: Road Mobility Index Algorithm	Public Domain	Free
NOAA: Mesoscale Weather Models (general)	Public Domain	Free

¹NCAR's Road Weather Forecast System uses core technology that was developed with private funds.

Road Weather Forecast System

UCAR License Restrictions

- Commercial License
 - Cost is \$15,000 per VAM
 - Restricted to surface transportation applications
 - Object code only
- Government License
 - Cost is free (Federal, State, Local Government)
 - Restricted to surface transportation applications
 - Object code only
- Research License
 - Cost is free
 - Use restricted to research applications
 - Object code only

Road Weather Forecast System UCAR License Restrictions

- Trial License

- One year period
- Free
- Restricted to surface transportation applications
- Object code only

An aerial photograph of a multi-lane highway with a large truck in the foreground. In the background, a large commercial airplane is visible in flight. The entire image is overlaid with a semi-transparent blue filter.

Rules of Practice (Coded) Chemical Concentration Algorithms (Coded) Lincoln Lab License Restrictions

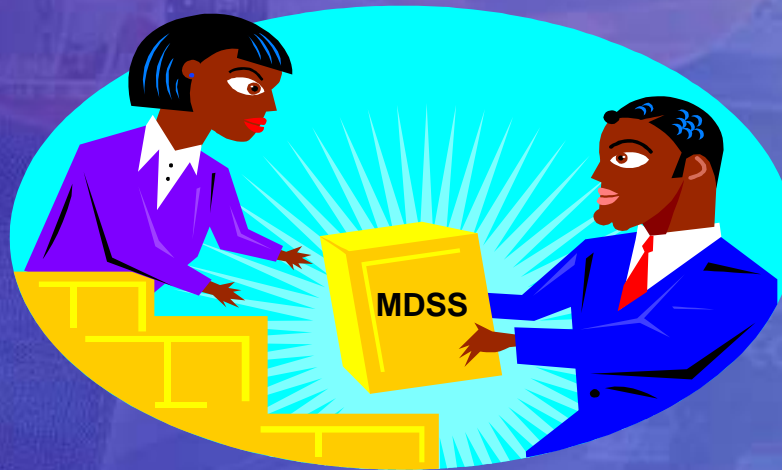
- License required
- Free to Government (local, state and Federal)
- Free to VAMS for Government (local, state, and Federal) applications
- Fee may be required for non-Government uses

Technology Transfer Materials

Technology	Source Lab	Technical Description	Interface Specification	Installation Guide	Publication(s)	Object Code	Source Code
Road Weather Forecast System (RWFS)	NCAR	X	X	X		X	
Rules of Practice (Standard)	LL	X	X			X	X
Road Temperature Model SNTHERM-RT	CRREL	X	X		X	X	X
Chemical Concentration Algorithms	LL & CRREL	X	X			X	X
Road Mobility Algorithm	CRREL & NCAR	X	X			X	X
MDSS FP Display	NCAR	X	X	X		X	X
Road Condition & Treatment Module	NCAR	X	X			X	X
Precipitation Type Algorithms	NSSL	X	X		X	X	X
Mesoscale Modeling Ensemble System	FSL	X H/W Spec					

Technology Transfer Process

Goal – To make the technology transfer process simple for stakeholders to acquire MDSS components!



Proposal – To create a web page with selectable items (menu) and registration.

Technology Transfer Process

Steps:

- 1) Interested party identifies components through the MDSS web page.
- 2) If licensed components are involved, license agreements will be available on the web (.pdf).
- 3) Once Agreements are signed and sent to the UCAR Foundation and/or LL, a CD will be shipped.

Technology Transfer Process

Other Options:

a) Create a CD that contains everything and only distribute to those who sign license agreements.

**b) Create a CD with all open materials.
Create second CD with selected (licensed) materials.**

Preferred Approach

Technology Transfer Process

Thoughts?

Ideas?

