Wise Roads

Weather Information System to Effectively Reduce Oilfield Delays and Disruption
PROBLEM:

WHEN INCLEMENT WEATHER STRIKES, LOCAL GOVERNMENTS IMPOSE WEIGHT RESTRICTIONS ON GRAVEL ROADS THAT PROHIBIT THE MOVEMENT OF OILFIELD TRUCK TRAFFIC UNTIL ROAD CONDITIONS IMPROVE.
SOLUTION:

PROVIDE ACCURATE WEATHER INFORMATION, SPECIFICALLY PRECIPITATION DATA, TO ASSIST ROAD MANAGERS IN MORE PRECISELY IDENTIFYING ROADS THAT REQUIRE TEMPORARY WEIGHT RESTRICTIONS AND EXCLUDE THOSE THAT DO NOT.

PROVIDE MORE DETAILED WEATHER FORECASTING DATA FOR INDUSTRY TO ASSIST IN PLANNING OPERATIONS.
WISE ROADS PROJECT

- Work with research partners to maximize benefit
- Install research-grade weather stations in areas with heavy oilfield traffic
- Make data publicly available through NDAWN, LoadPass and other sites
- Provide training to road managers through LTAP
EXPECTED BENEFITS OF THE PROJECT

- More narrowly defined local road restrictions and more geographic zones established

- Significant savings to oil industry thru improved productivity and reduced revenue loss due to shut-in wells

- Use of weather data for research to evaluate the performance of road building materials

- Benefits to agriculture producers, i.e., soil temperature, precipitation, wind speed, etc.
PHASE 1
LOCATIONS

Installed June 2019
PHASE 2
LOCATIONS

Installation In Progress

Blue Locations Installed
Fall 2019

Locations Approximate
PRE-2019 NDAWN STATIONS

Existing NDAWN Stations Shown in Green
CURRENT AND PHASE 2 LOCATIONS

Existing NDAWN Stations Shown in Green
CHALLENGES INSTALLING STATIONS

- Finding Locations on “Target” Roads
- Cellular Service (Verizon Wireless)
- Contacting Landowners
WEATHER DATA UTILIZATION

- WDEA in partnership with OGRC contracted meteorologist services

- Services and tasks
  - Installation, maintenance, and support of weather stations
  - Data utilization
  - Forecasting
  - Training and Support
WEATHER DATA RESOURCES

- NDAWN.ORG
  - NDAWN current weather webpage
- stationname.ndawn.org
  - Example: hawkeye.ndawn.org
- Pictures.ndawn.org
  - Recent images from new stations
- More to come in the future
CURRENT WEATHER DATA ON NDAWN WEBSITE

- NDAWN.org or ndawn.ndsu.nodak.edu/current.html
CURRENT WEATHER DATA ON NDAWN WEBSITE

NDAWN.org or ndawn.ndsu.nodak.edu/current.html

![Current Weather Data on NDAWN Website](image)
CURRENT WEATHER DATA ON NDAWN WEBSITE

» NDAWN.org or ndawn.ndsu.nodak.edu/current.html
CURRENT WEATHER DATA

- stationname.ndawn.org (Ex. Arnegard.ndawn.org)

Current Weather

Daily High/Low/Rain

Camera Image

Soil Temperature