

# Transforming the Business of Government

The Weather Company  
An IBM Business

**Steve Wysmuller, Sr. Meteorologist**  
**IBM Services**

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# The Weather Company

# EMBRACED

## THE COMPLEXITY OF BIG DATA

Processing more weather-based info than any other company



deliver **25B**  
forecasts  
every day

process  
**400 TB**  
every day

**250K** personal WS  
**20M** smartphones  
**50K** flights a day

**2.2B**  
locations mapped  
every **15 minutes**,  
**5.7B** alerts per year





# Weather can be used in analytical models to help determine patterns and relationships with other datasets

## Understand

### 1 Weather Historical Analysis

Understand positive/ negative weather drivers of business performance over a particular timeframe and processes

**Relevant data sources:**

*Historical weather actuals, historical weather forecasts, customer data*

## Act

### 2 Streamline your Operations

Use model output and local current weather conditions to adjust daily operations

**Relevant data sources:**

*Historical weather, 15-days Forecast-on-Demand, current conditions, Severe weather, alerts*

## Anticipate

### 3 Forecast the Weather Effects

Predict and communicate scenarios based on model output, forecast and seasonal weather.

**Relevant data sources:**

*Historical weather actuals, historical weather forecasts, seasonal forecasts, forecast on demand, alerts*

# Leveraging the right weather data set from the full set of packages

## HISTORICAL

### Historical Weather

Historic weather observations from stations and crowd-sourced sensors including proprietary radar-derived severe weather data sets (i.e. hail, temperature, wind, humidity, pressure, dew point, visibility, and UV Index).

### Location Data

TWC proprietary data tracking movement patterns for tens of millions of mobile application users for use in analytics.

## CURRENT

### Current Conditions

Current weather observations from stations and crowd-sourced sensors, including proprietary, interpolated 500 meter grids.

### Severe Weather Disaster

Hail, tornado, wind, snow, rain, ice, and lightning reports in real-time and previous 24-hour observations.

### Lifestyle

Air quality, pollen, and flu data.

### Weather Imagery

Radar, Doppler, and global satellite imagery updated every 5-60 minutes.

### Alerts & Notification Package

Severe weather, wildfire, and earthquake alerts notification in real-time and immediate future (1-5 days).

## FUTURE

### Seasonal Forecast

Comprehensive long-range forecast beyond traditional 15-day forecast. Temperature and precipitation anomaly predictions extend 4 months into the future.

### Tropical Weather Forecast Package

Probabilistic, global hurricane forecasts up to 15 days in the future; water levels, surges, and wave height levels up to 48 hours in the future.

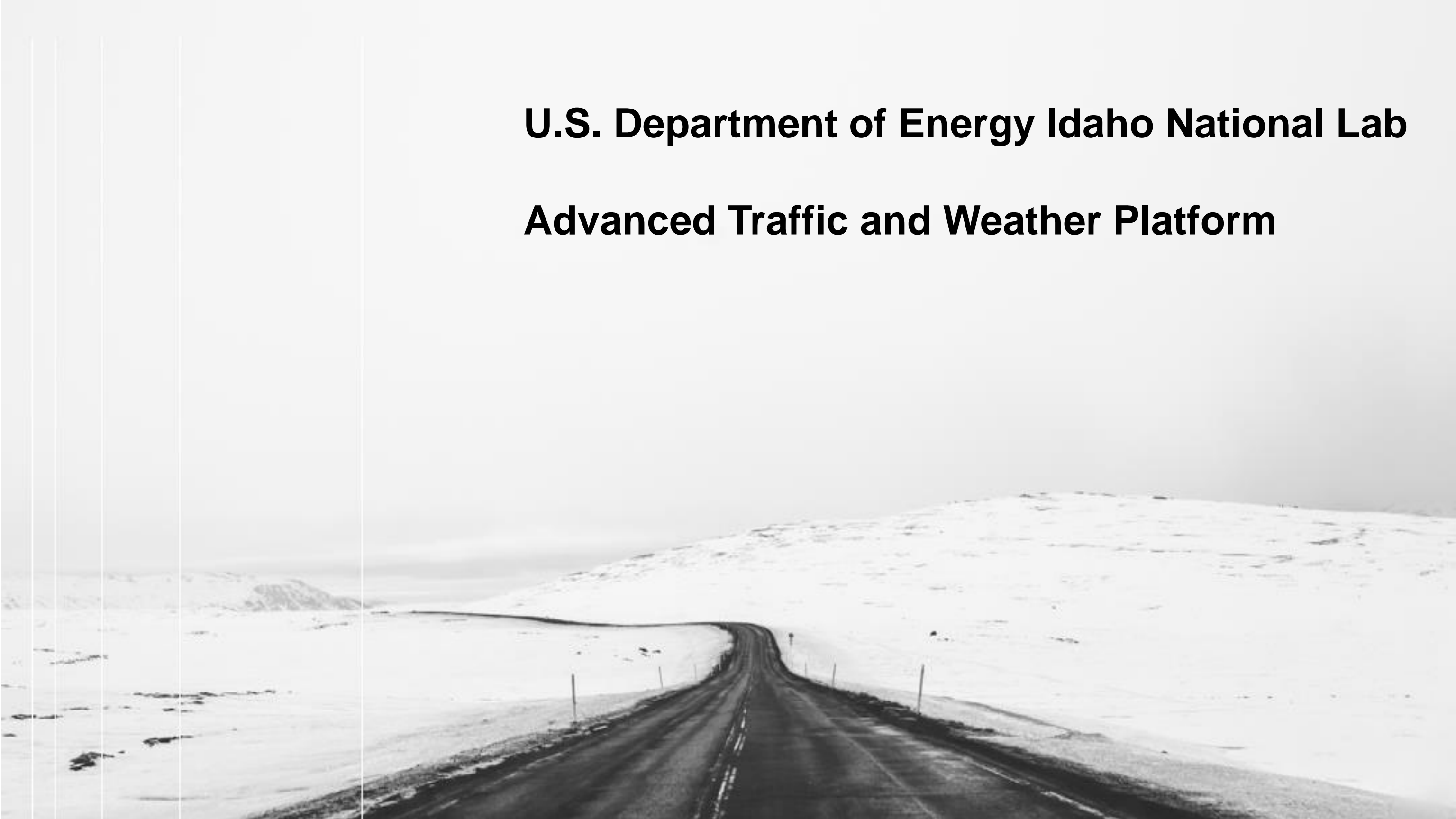
### Enhanced Forecast

Global forecast visualization and polygon data for integration into any GIS platforms, including 15-day hourly forecasts.



**U.S. Department of Energy Idaho National Lab**

**Advanced Traffic and Weather Platform**



# Challenge: Increase road safety and efficiency of INL bus operations for all passengers and drivers on site



## Results:

**Saves up to \$1M/day in operational costs and reduces the risk of accidents to employees.**



### **IBM Advanced Analytics**

Shifting focus from Descriptive to Advanced Analytics, through an Integrated Visual Board for Route Optimization



### **Weather Data**

Past, current, and forecasted weather data at a hyper-local level



### **Improved Fleet Efficiency**

For bus operations, to the benefit of all INL's passengers



Steve  
Wysmuller

IBM Weather  
Services Global  
Leader  
Sr. Meteorologist

# Thank You

IBM Services

The  
Weather  
Company  
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A dramatic landscape featuring a dark, stormy sky with heavy, dark clouds. A bright, ethereal light beam descends from the upper left corner, illuminating the scene. The horizon shows a mix of dark and light clouds, with a hint of a sunset or sunrise. The foreground is a dark, grassy field with a winding road visible on the left side.

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