
Update and Improve LTPPBind

Binder ETG Meeting

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U.S. Department of Transportation
Federal Highway Administration



LONG TERM
Pavement
PERFORMANCE

LTPPBind Project Status

- ◆ Task I - Literature/Background Review Completed
- ◆ Task II - Data Availability Assessment Completed
- ◆ Task III – Design Plan Completed
- ◆ Task IV – Development and Testing In Progress
- ◆ Task V – Deployment Not Started
- ◆ Task VI – Documentation Not Started
- ◆ Task VII – Coordination and Meetings Not Started

MERRA Data

MERRA: MODERN-ERA RETROSPECTIVE ANALYSIS FOR RESEARCH AND APPLICATIONS

- ◆ MERRA is a NASA **reanalysis** for the satellite era using a major new version of the Goddard Earth Observing System Data Assimilation System.
- ◆ **Reanalysis** is a scientific method for developing a comprehensive record of how weather and climate are changing over time.



MERRA Data

- ◆ Long-term (1979-present) synthesis of climate data from a suite of research satellite observations
- ◆ Continually updated with 4.2 million global observations every 6 hours (with 2 week delay)
- ◆ A native $1/2^\circ$ latitude by $2/3^\circ$ longitude data grid
- ◆ Conducted at the NASA Center for Climate Simulations (NCCS)



Weather Data Tool - Map

Find

Section

- State/Province
- Study
- Experiment Type
- Section

Data

Range

- Hourly
- Daily
- Monthly
- Annual

Attributes

- Performance Grade
- Freezing Index
- Freeze Thaw Cycles
- Degree Days

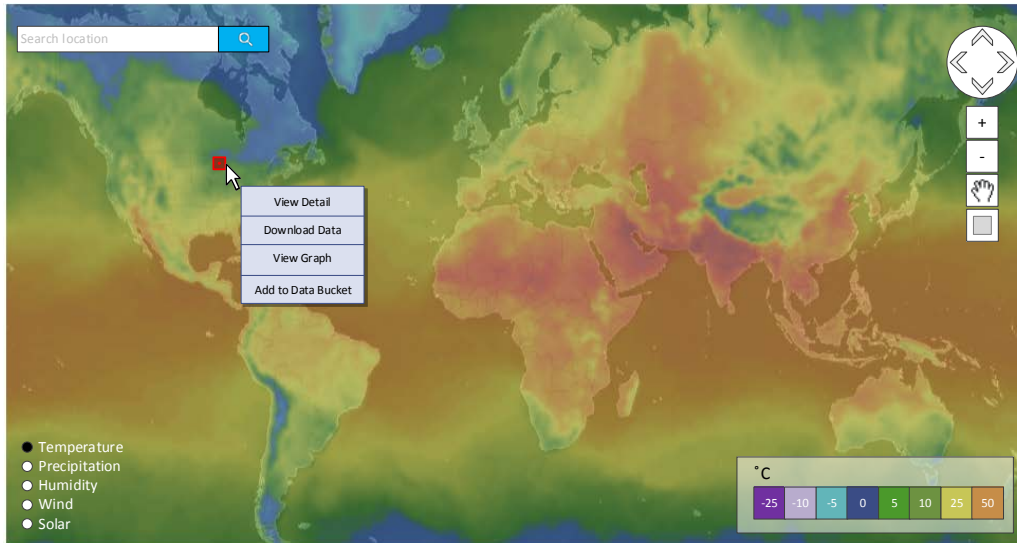
LTPP Anytime Weather

Help?

Map | Data

Select: 3/12/1990

Average Daily Temperature (C)



Graphical Data Selection

LTPPBind

Tools	LTPPBind PG Calculator Help?	
MEPDG Inputs	Start Projects Reports Help	
Rigid Pavement Design	General Project Information	General Project Information
WIM Cost Analysis	Project Number: Project Title: Project Description:	Project Number: <input type="text"/> * Project Title: <input type="text"/> * Project Location: <input type="text"/> Description: <input type="text"/>
LTPP Dynamic Modulus Prediction	Project Location	
Pavement Performance Forecast	Latitude, Degree: Longitude, Degree: Elevation, m:	
FWD Calibration	Climatic Data	
LTPP Bind	Lowest Yearly Air Temperature, Degree C: Lowest Air Temperature Standard Deviation: Yearly Degree Days > 10 Degree C:	
Distress Identification Manual	Temperature Adjustments	
Pavement Loading User Guide	Base High Temperature PG: Desired Reliability, %: Depth of Layer, mm:	
LTPP InfoPave Mobile	Traffic Adjustments	

Next

Data Input

LTPPBind

- Tools
- MEPDG Inputs
- Rigid Pavement Design
- WIM Cost Analysis
- LTPP Dynamic Modulus Prediction
- Pavement Performance Forecast
- FWD Calibration
- LTPP Bind
- Distress Identification Manual
- Pavement Loading User Guide
- LTPP InfoPave Mobile

Select Location

Please select Data Source from the options below:

Data Source: MERRA Data LTPP CLM Data

Please select location from the map or type the address in the search bar below:

Selected Location

Latitude: 32.4709519
Longitude: -100.40593
Address: Nolan, TX 79556, United States

MERRA Data Selection

Schedule

- ◆ Alpha Release: January 10, 2016 at TRB
- ◆ Beta Release: April 2016
- ◆ Go-Live: July 2016 with the release of
LTPP Standard Data Release 30

Software Testing

- ◆ Alpha and Beta testers are needed!!

Please contact Larry Wiser at larry.wiser@dot.gov for information on alpha and beta testing.

- ◆ Feedback and Comments.

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