Off-Road Military Vehicle Testing and Simulation

DR. GEORGE L. MASON, PHD.
Single Tire

Apollo Lunar Rover Tire

Sand

Clay

Single Track
Canal Road Analysis

Analyzed as an embankment stability problem under a point wheel-load on a given set of soil conditions.
M923 5-Ton Truck  16.00R20 Michelin Tires
8 psi Inflation Pressure  37% Deflection
As Resolution Increases Data Storage Requirements are an issue
25 km World Map – 1 year - 25 megs
1 km Afghan Map – 1 year - 200 megs

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https://worldview.earthdata.nasa.gov/
Site LAT3421  3.5 inches Rain
SM Soil Type  12 Inch Plow Grizzly

Soil Strength (R C)

Time (Hours)

Vehicle Speed

Soil Strength