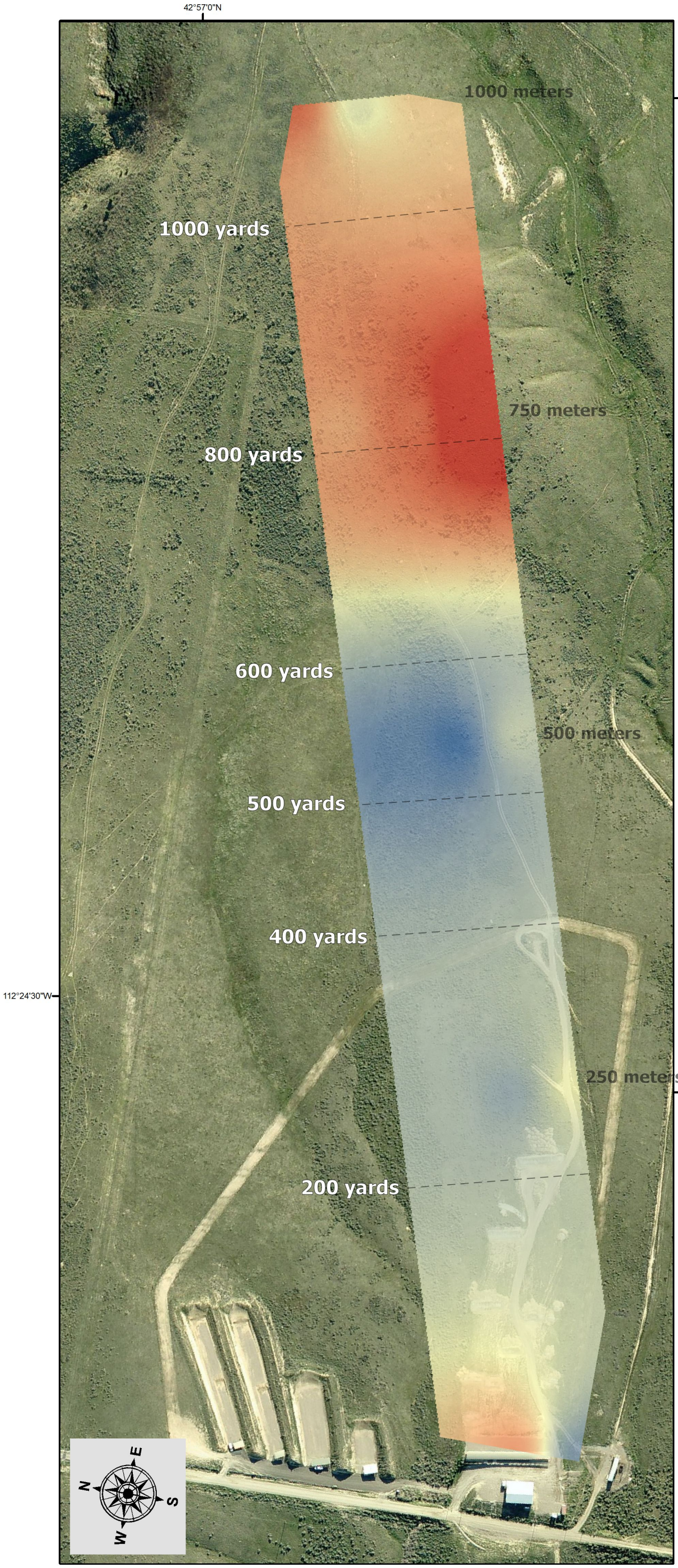

Gate City Range Wind Model

Recent research at Idaho State University's GIS Training and Research Center measured and modeled wind velocity as part of a "*Military Applications of Wind Characterization Models*" study(1).

The resulting prevailing wind model for the Gate City Range test site is shown to the left. Note the breezeway effect just in front of the firing line and slower wind speeds across most of the developed range area. Note also the higher than average wind speeds along the foothills.

These data were used to develop a wind characterization model which was applied to Ballis-tec software(2). The software calculated improved wind deflection values by dynamically assessing the bullet's flight path and incident cross-wind at 1-meter intervals out to a distance of 1000 yards. A comparison with static cross-wind calculations is given in table 1.

Table 1. Calculated wind drift at 1000 yards assuming a 10-mph cross-wind at the firing line.

.308 Win. (7.62x51mm NATO) M118LR

MV (fps)	175 gr BTHP		Wind deflection (inches)	
	BC_{G7}	BC_{G1}	Static	Dynamic
2580	0.243	0.496	102.0	76.6

1- http://giscenter.isu.edu/research/Techpg/wind/index.htm
2- http://giscenter.isu.edu/Software/ballistec.htm

How to use this map...

This prevailing winds map has been normalized so wind speed at the firing line equals 1mph.

If the actual wind speed at the firing line is 10mph then we can assume a 6mph cross-wind at 400 yards and a 16mph cross-wind at approximately 800 yards.

This map does not indicate wind direction.

Prevailing wind speed

wind at firing line — 1.0

Higher wind speeds (x1.6)

Slower wind speeds (x0.25)

GIS Training and Research Center
Pocatello, Idaho
http://giscenter.isu.edu