

The strange thing about CX MRA calculations

Vol 2 Pt 2 3-1-39 et seq

Below is a simple graphic that shows 3 mountains; one less than 5000ft high, one just more than 5000ft high and one over 8000ft.

There are a couple of odd comments in the text: Para 3-1-40 A (a) states that the first altitude assessed is that shown on the Airpath CFP but we already know that that value has a notional 1000ft added for a nominal 30kt wind, so this would be an odd basis on which to continue calculations, particularly as the Diversion Guide adds an arbitrary 1000ft for a 50kt wind.

The red arrows show the obstacle clearance allowance (1000ft for below 5000ft, otherwise 2000ft). The green/blue arrows show the wind allowances for 50kt. Now things get odd: if we refer to the CFP section (18.1) this allowance is 1000ft for winds up to 30kt plus 500ft up to 50kt, yet if we refer to the Diversion Guide (18.2) it's 1000ft for winds up to 50kt, plus another 500ft for terrain above 8000ft. Thus reducing the safe terrain separation over terrain between below 8000ft when operating off airway using a Diversion Guide by 500ft as the CFP section would have us add another 500ft for winds between 31 and 50kt!

Later para A (b) states that the 1000/1500ft incremental is added to cover for up to 50kt of wind then smoothly says that these terrain clearances are sufficient for low temperature altimetry. So over a 9000ft mountain with an MRA of 12500ft with a sea level temp of -1°C 3-2-17 10.2 requires you to correct MSAs by 10% or 1300ft. So a not very cold day has already reduced your wind safety allowance to 200ft. A more seriously cold day of -20°C reduces your MSA by 2500ft. Ouch!

