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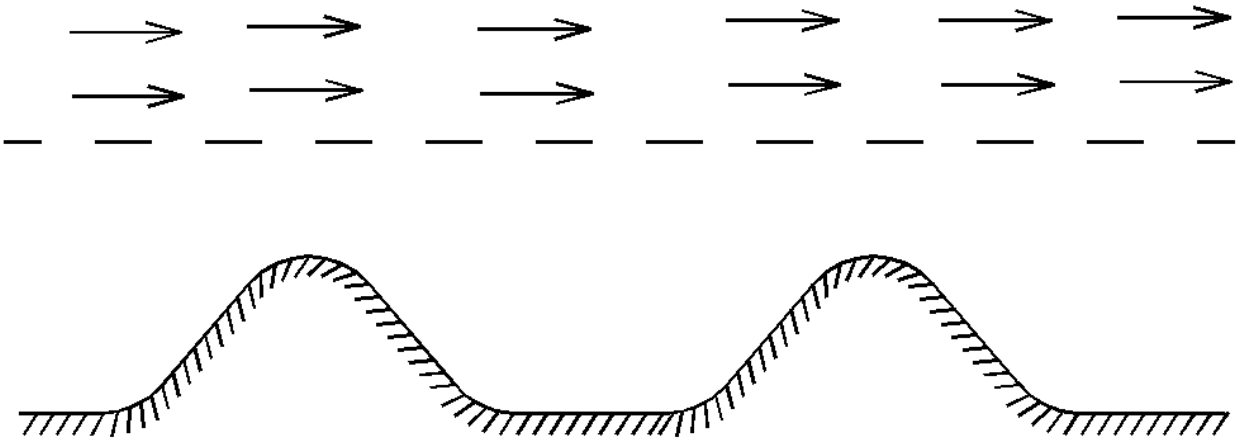
Strong Winds Up Top - Nigel Page

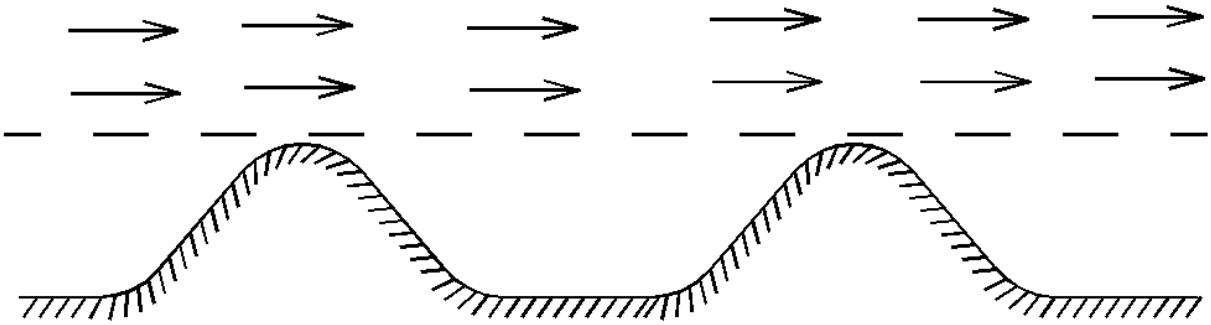
Usually the higher we go the stronger the wind gets. We sometimes use this effect to enable us to fly in strong winds by taking off part of the way up a hill rather than at the top. This also helps to keep out of the area prone to venturi. However it does have its hazards and some pilots will not take off unless it is possible to do so at the top of the hill. They may have a point! Let's have a look at some of the things that might be going on.

The following diagram shows layered air. Air is moving fast high up but is fairly dead lower down. This could be due to hills upwind shielding our area, a pool of cold air in a low area or some other phenomenon. In summer this condition is most common early in the morning after the lower air has cooled during the night. In winter the lack of thermal mixing makes such “layering” common in daytime too.

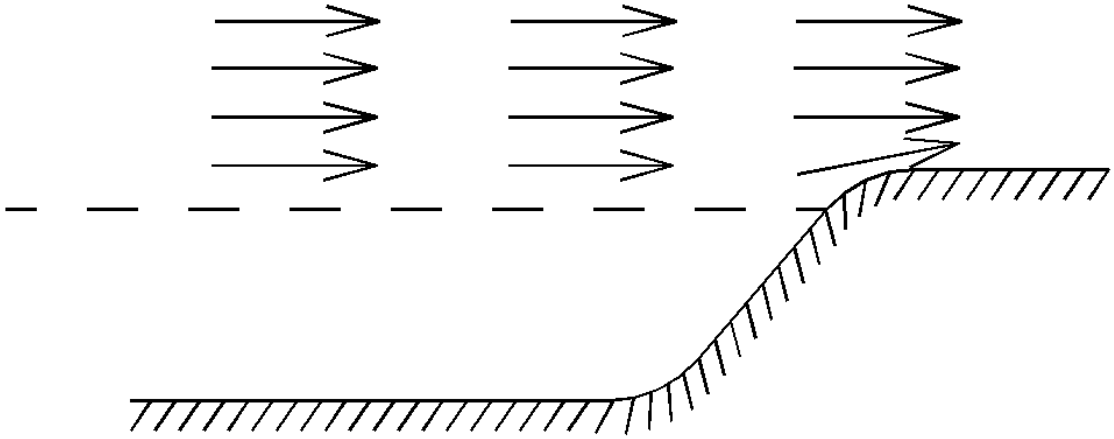


Although we may not be able to feel this strong wind from the ground we might be able to identify it from clouds scudding across the sky or observing the speed their shadows move across the ground. Air lower down may still be moving, but more slowly, so it may be possible to soar.

Great, but what happens if something changes and the boundary of the fast air moves down?



We have a situation where it can suddenly become very windy on the hilltop.



If we are soaring lower down in these conditions we must be very cautious about how we approach the top of the edge. We may have launched from there at a time when the boundary of the fast air was higher up and not be directly aware of how windy it has become on the edge.

What of our friends who will only take off from the top? Perhaps they are being quite sensible, but they may be choosing to take off in the most difficult spot as far as wind is concerned. How about a compromise. Until we have experience of a wide range of conditions a good rule of thumb might be to always go to the top of the hill to check the wind even if we then go lower down to take off. Remember too that strong winds high up can be expected to worsen any venturi or rotor effect around the top of the hill.