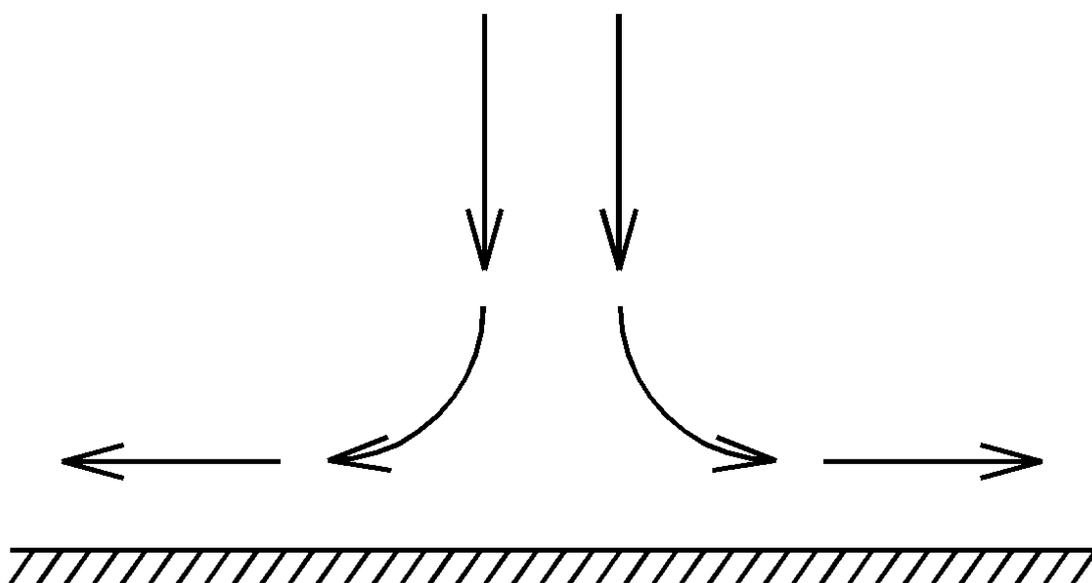


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### SOS - Sink On Stanage!

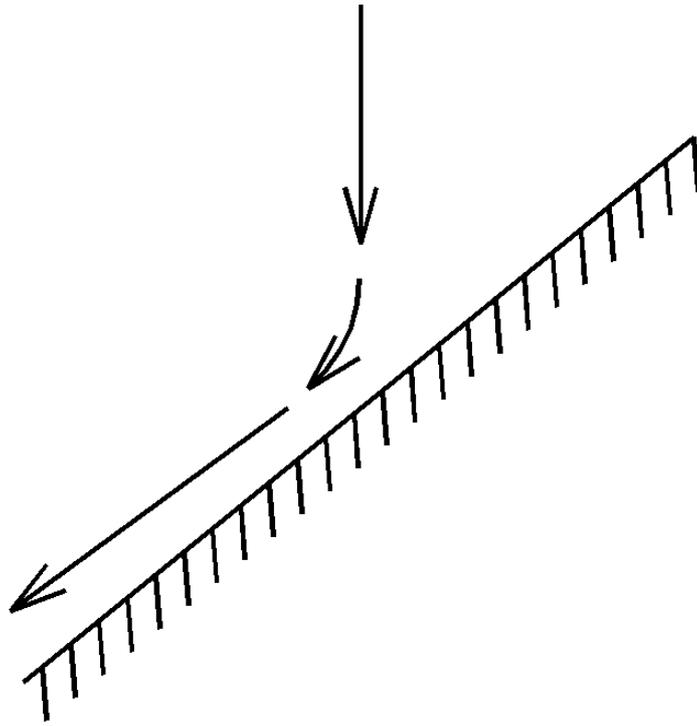
Conditions which produce thermals usually produce areas of sink as well, and we are generally advised to fly fast when we encounter it. Good advice, but I wonder how many pilots have ever found themselves, as I have, plunging past rocks and trees wondering if “flying faster” really covers it.

Sink can be spread over a large area and almost insignificant, but it can also be a more localised mass of air dropping down, a bit like a thermal in reverse.



From the safety point of view, if we are over flat, landable ground this is not too big a deal because the air cannot flow through the surface of the ground. It has to flow horizontally lower down. Unless the general wind is strong enough to overcome the outflow, the air near the surface will be flowing away from the sink. We need to keep a close eye on the local wind direction, particularly if we have to land. As long as we are not experiencing something like a microburst from a cumulonimbus this is usually enough for our safety.

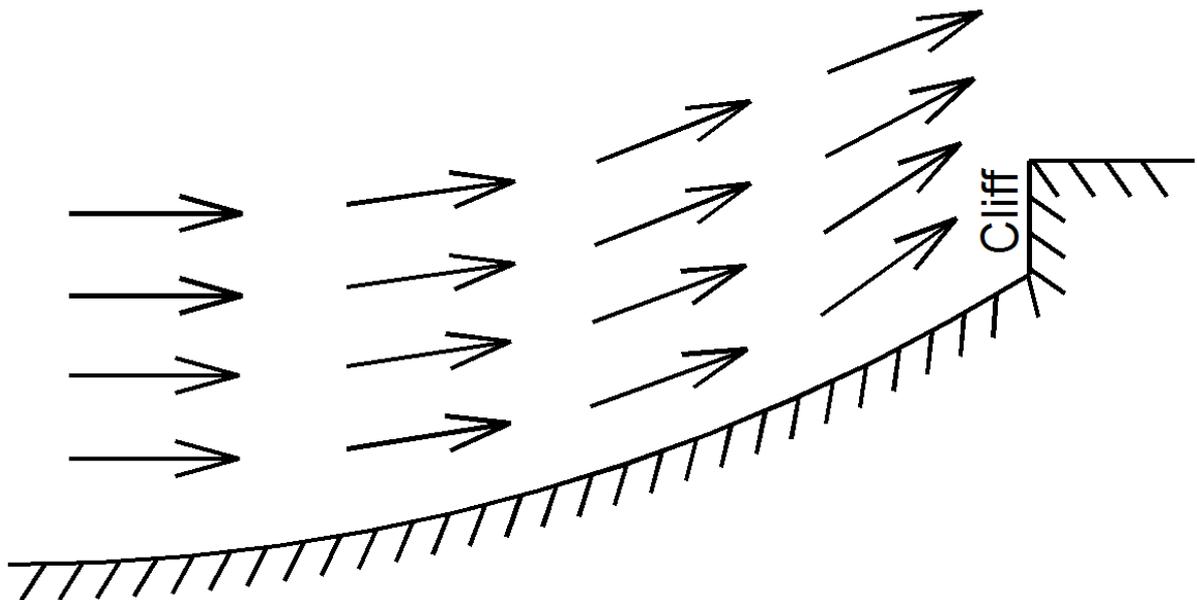
It is not quite so easy if we are over a slope.



Sinking air tends to run down slopes. If we are in it we may find ourselves having rather more excitement than we had hoped for, descending at the sink rate of our glider added to the sink itself near to terrain. Getting away from the slope is a priority. Slope landing is hazardous in any downflow.

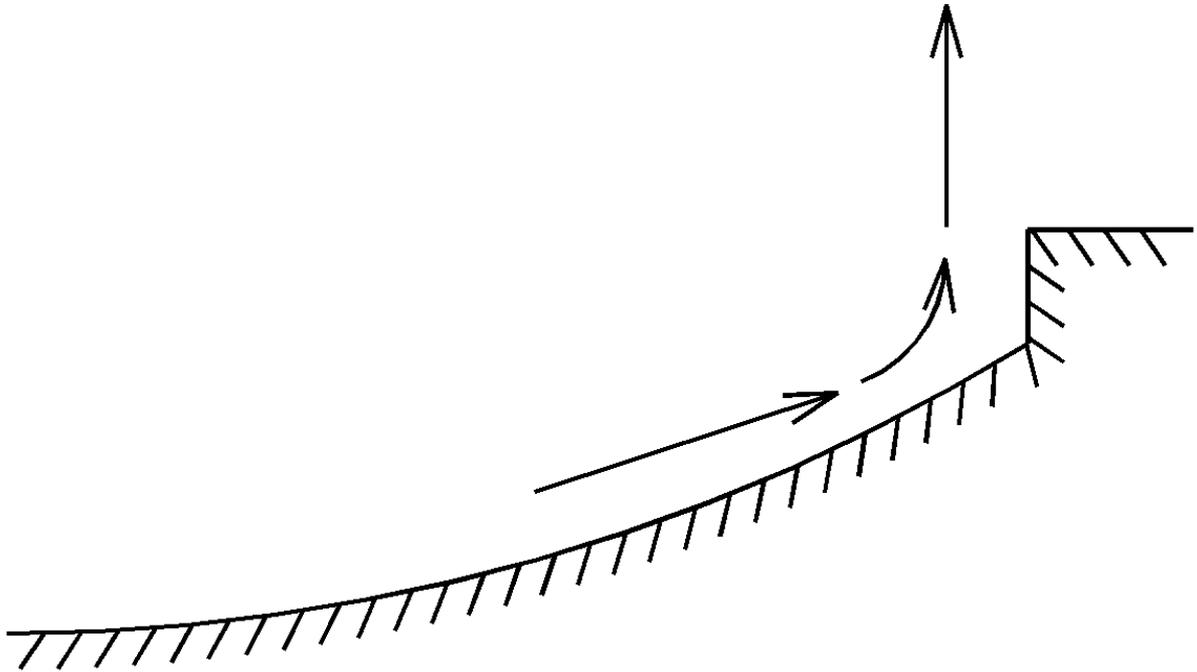
### Stanage

When we fly Stanage Edge in Derbyshire in a wind without thermals we expect the airflow to be something like this.

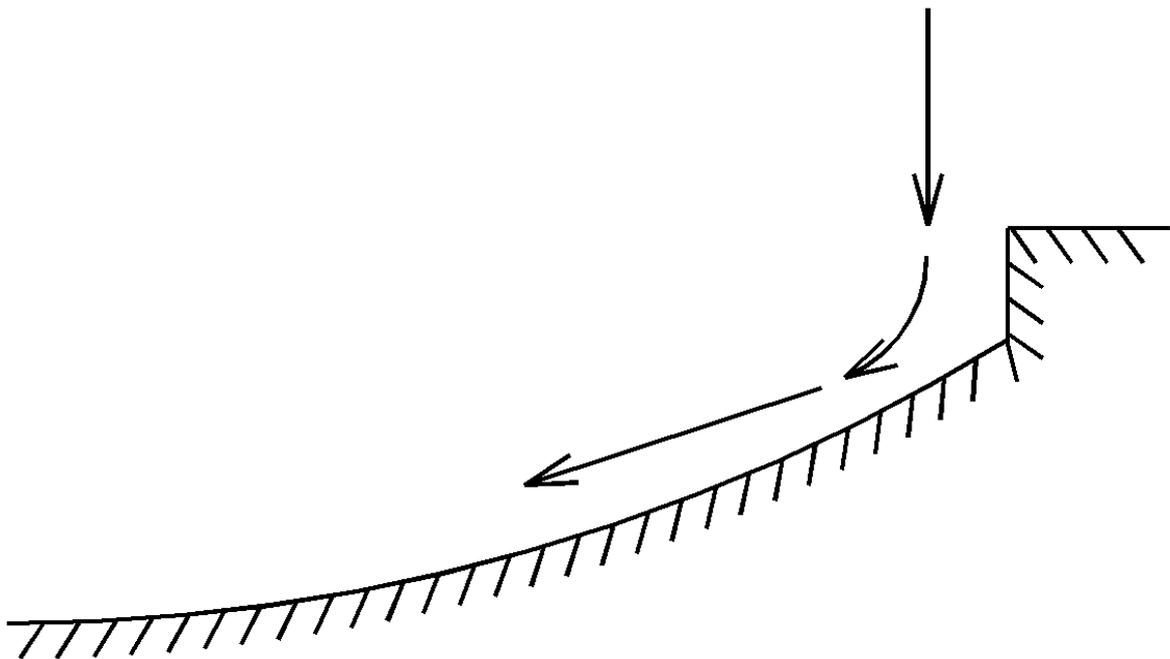


It may get a bit messy with some rotor around the cliff at the top but that's basically it. We do not normally find actual sink and the air is pushed up in front of the whole ridge. Any

thermals add to this lift, and most sink is suppressed by the wind blowing up the slope. In light winds things can be rather different.



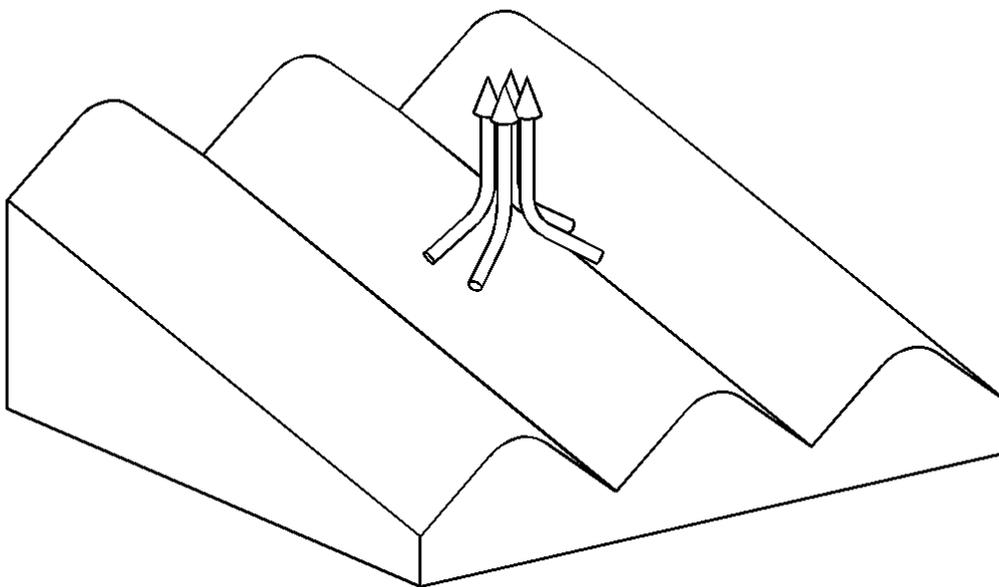
Our lift may be generated almost entirely by thermal action. Air heated on the lower slopes runs uphill until it releases and rises as a thermal, usually where the cliff acts as a trigger. This is OK to fly, but what happens if we hit some sink?



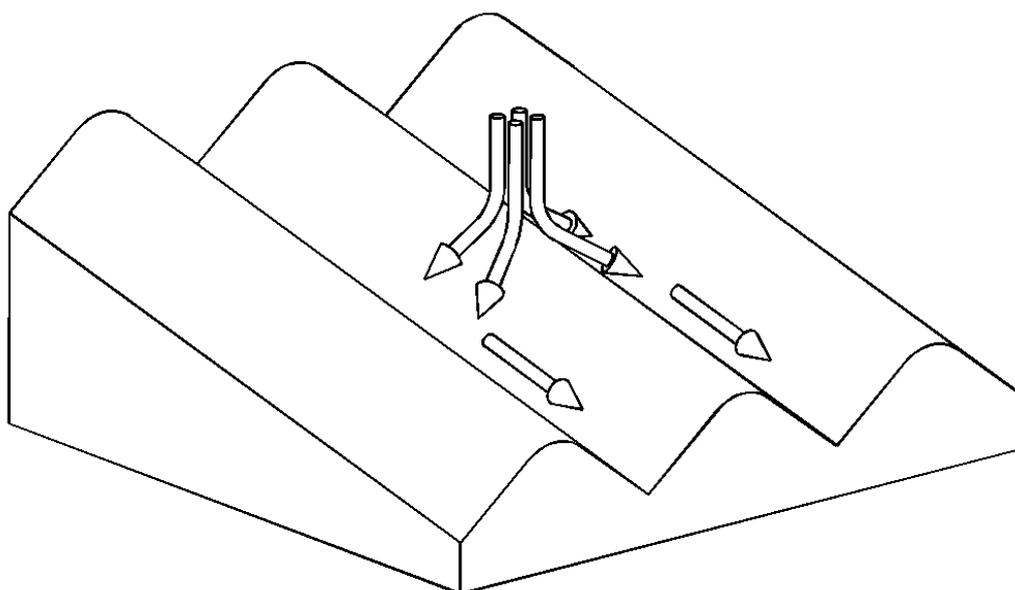
Unless there is enough wind to stop it, sinking air will slide down the slope. If we get low in such sink we need to fly away from the hill towards the flatter (if boggier!) ground at the bottom. The switch from lift to sink can be quite sudden and the sink can be very localised. If there is sink about it is advisable to keep a good ground clearance at all times.

## Piedrahita

On a very much larger scale (something like 10 or 15 times bigger) similar effects can occur on the hill below the take-off at Piedrahita in Spain. Apart from the scale, (and the weather!) the main difference from Stanage is that the slope is deeply eroded, so the hillside is a mixture of spines and cloughs, a bit like this section.



Thermals tend to break from the crests of these spines, so we often look for thermals by flying along them. The spines are big, almost hills in their own right compared with some British hills. In light conditions pilots are sometimes tempted to scratch close in to the spines, especially if there is any wind blowing across them. This is OK until we get some sink.

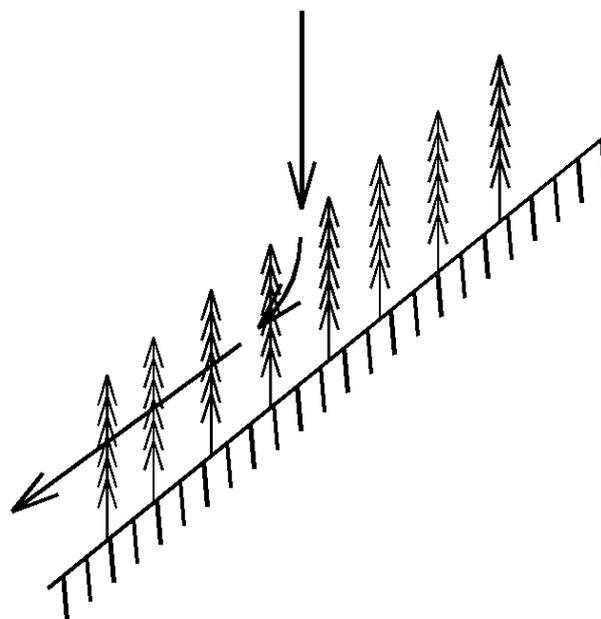


Sinking air tends to fall into the cloughs and run down them. Pilots who are scratching low on the spines may find themselves flying rather fast along the bottom of a clough in

sink. Not nice! The solution is, as a policy, to stay fairly high over the tops of the spines. If we now encounter sink we fly directly towards the valley along the ridge line of the spine keeping a good height over the ground. As well as being safer, this height over the spine allows us to manoeuvre easily when we find a thermal.

### Sink Into Trees

Some alpine hillsides have forests of tall, spindly trees with quite a lot of empty space between them.



Sinking air which would be deflected by a more solid surface can fall into the space between the trees before being deflected by the ground beneath. If we are low and hit sink we may be dropped into the trees before we have a chance to turn away from the hill. We have to be very careful not to fly too close to the treetops. The catch, of course, is that thermals we wish to use may well be emerging from the space between the trees so we might want to get close in to use them. Tricky stuff! If we are going to pick at small thermals coming out of the trees we had better be very switched on.

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