



## **Soaring Achievements**

### *Clouds and Thermals*

#### **Ian Johnston:**

On top of the hill here at Dunstable we can see the London Gliding Club laid out below us, and we can also see gliders flying above us. The ridge here is only about a couple of miles long and there's an awful lot of countryside out there without ridges, so when people are flying cross-country there, how would they find the lift?

#### **Ann Welch:**

Well they certainly wouldn't limit themselves to a small ridge, but you look for cumulus clouds and cumulous clouds on a good day will be right to the horizon and beyond. The cumulous clouds really are signposts for thermals. Now if the pilot gets in a thermal under a cumulous cloud then he will circle up, flying as slowly as possible until he gets a small turning circle up to the base of the cumulus. While he's doing that he'll be looking ahead to see where's the next good cumulus to go for and he'll go for its thermal.

#### **Narrator:**

Why are cumulus clouds so closely associated with thermals? Well, sunshine heats up the surface of the Earth and the Earth heats up the air close to it. But some parts of the land heat up more quickly than others, for example, a village will absorb heat more quickly than surrounding fields. This leads to a patch of warmer air above the houses and since hot air rises, it detaches from the ground in due course as a rising bubble, a thermal. As this air rises it cools and any water vapour condenses as cotton-wool-like cumulus clouds. Thermals are created all the time. But each one isn't continuous. As the hot air column rises, cold air descends from all around to be heated in turn over the hot spot. If a glider turns tightly enough to stay within a thermal it can gain height. Once at the top of the thermal a glider can strike out across country by gliding down to another thermal in order to gain height again.