

# Bad Weather Ahead? – Turn Back

— Pressures, Good Intentions,  
and Mind-sets... —



This article was contributed by John Nicolson, a well-known microlight and glider pilot with a keen interest in safety issues. His thoughts illustrate how a study of accident scenarios (via safety seminars or reading) can help to extend our knowledge and understanding and hopefully assist us in making better weather-related decisions.

*Bad-weather flying or scud-running in conditions below VFR minima is as bad and as risky as it can get. Bad weather and restricted visibility is an unsafe condition. To attempt passage in these circumstances is an unsafe act. Personal pressures, the downstream effect of obligations and/or self-imposed commitments, abandoned good intentions, and mind-sets together are potentially deadly components when associated with bad-weather flying. The existence of pressure gives rise to distractions, and who needs distractions when everything in our favour as pilots is already against us!*

Much has been written about the woes of penetrating bad weather, though despite excellent on-going advice, controlled flight into terrain (CFIT) continues to claim the lives of many unsuspecting VFR aviators. A poignant article, “Pushing the Limits” (*Vector* 1999, Issue 2), reminds us of the need to be wary of bad weather and ‘go, no-go’ pressures. “The pressure to get to a destination can be great – as can the pressures exerted by passengers. It is essential that these pressures are resisted and that the decision on whether or not to continue is based solely on safety...”

*“It is too simplistic to consider the cause of these and other accidents to be just a case of random pilot error.”*

Back in 1997, I attended a thought-provoking AeroKiwi Flight Safety Seminar conducted by the CAA, which focused on pilot pressures and the inherent tendency to form a ‘must-go’ mind-set. The given case study involved an actual air crash in which the pilot of a Cessna 185 was attempting to navigate his aircraft through a narrow mountain pass in seemingly appalling weather and limited visibility. The big Cessna collided with the ground at the top of the pass while flying straight and level, and all on

board were tragically killed. Background information included the fact that the pilot had discussed the marginal on-track weather with another pilot during his pre-flight preparation. It was decided that he would return to the airfield if the situation aloft further deteriorated. Our study group also noted that the aircraft was to be back at its base by a certain time, and that a passenger was required to be home by a certain time.

A more recent accident, with reasonably similar causal factors, occurred in April 2000. In this case, the pilot of a Cessna 206 and his five passengers set off on a late-morning flight from Central Otago to the lower North Island. The proposed time of their departure had been delayed by about three hours because of poor weather conditions en route. Although local weather conditions had improved with time, the weather over a section of the pilot’s planned outbound route – the area of the accident site – remained in question, and accordingly the pilot made it known that he would reassess the situation once airborne. The Cessna, configured for bad weather, was seen by witnesses to be transiting low-level overhead a main highway via a mountain pass in drizzle and low misty cloud. The aircraft’s progress was eventually impeded by an impassable situation of valley cloud, whereupon the pilot initiated a reversal turn. The aircraft crashed into the ground during the turn and, sadly, there were no survivors among those on board.

In June of 1999, a microlight pilot – flying a Kolb Mk2 – set out on a 127-mile cross-country flight down the middle of the North Island. The on-track weather with regards to visibility was not a problem, but it was very windy. At about 25 miles from his destination, the pilot made a fuel stop. The local microlight club president approached the pilot and told him of his serious concerns about continuing the flight due to the very gusty northwesterly winds.

The possibility of extreme mechanical turbulence in the lee of the hills on track was also discussed by the two men. The pilot

commented in reply that he had already been “thrown about” and indicated that he “would give it go and turn around if it got too bad.” On takeoff, the club president noticed that the pilot was having trouble controlling the engine revs due to the turbulence. A witness soon after saw the aircraft in flight and reported that it was being “tossed around” in the high winds, said to be gusting upwards of 30 to 40 knots. When nearing its destination, the microlight’s left wing rear pivoting attachment failed, and consequently the wing became completely detached from the aircraft in flight. The pilot was killed in the ensuing ground impact.

It is appropriate to note in this instance, that while strong winds were most certainly a large contributing factor, accident investigators found that the left wing’s rear pivoting attachment had failed “through overload or low cycle fatigue in tension.”

In particular, the weld site at the point of failure was closely examined and was reported to be of “exceptionally poor quality, and that the load required to cause failure would have been significantly less than one third of that required for a good weld.”

It is too simplistic to consider the cause of these and other

accidents to be just a case of random pilot error. We must also look at the surrounding circumstances in each of these tragic accidents. There was a lot going on in the events leading up to the point of impact – the least of which being the human factors and succession of demanding complexities that might well have been beyond the individual pilot’s ability to both recognise and respond to. The possibility of personal pressures, the development of a mind-set and a failure to remain within the proposed good intentions, were very much apparent as part of the accident’s causal chain in my opinion.

So what is the headstrong driving force that urges us on in an attempt to penetrate poor weather conditions when the odds are knowingly against us? A short answer discloses perhaps a hint of desperation, not detected by the usually very dependable pilot, as it quietly erodes the approving values of common sense.

The requirement for sound weather-related judgment, stemming from the need to make intelligent aeronautical decisions, is unfortunately letting some pilots down. Why? Tony Wilson, ATPL and Human Factors consultant, maintains that pilot experience with regards to the decision-making processes is not reliable in itself. “It might be expected that novices would be involved in more accidents than more experienced pilots”, he writes. “When handling errors are involved, this is true, but when it is a matter of judgment and decision-making, the figures show that the higher-time pilot does little better than the less experienced fellow.”

Mr Wilson’s comment in general makes a whole lot of sense to me – anyone is capable of making a bad judgment call, and more so perchance when the chips are down. But there are other authoritative findings on this very subject that are not entirely in harmony with Tony Wilson’s views. In 1996, a report was released by Dr David O’Hare of the Otago University and his colleague, Dr Mark Wiggins (University of Newcastle) on an experiment in which a cross-section of NZGA pilots were put through a decision-making test in a controlled VFR cross-country environment. They found that when confronted by a

weather-related decision, “Experienced pilots (+1000 hours) were much quicker at making decisions on all of the model’s variables. They accessed the information screens less, made fewer information recursions, and spent less time examining the information screens than the inexperienced pilots.”

Dr O’Hare went on to report that, “Inexperienced pilots (Novice, 2 to 100 hours and Intermediate, 101 to 1000 hours) also responded much slower when selecting from a forced choice whether to continue to the destination or return to the point of takeoff.” Furthermore, it was established in the study that “Inexperienced pilots have greater difficulty formulating an appropriate decision strategy during limited time frames...”

Whatever your camp, pilots have to think smarter. Recognising that dubious weather ahead is a problem (a big problem!) is a good place to start. Knowing the difference between right

and wrong, safe and unsafe is also a giant step in the right direction, and it’s not a big ask. Having achievable options or alternatives and the ability and knowledge to anticipate bad outcomes are equally tried and true safeguards, as is taking into special consideration the consequences of your

actions. As an aside, it’s worth noting that, in order to anticipate a potential, likely or probable state of affairs, you have to have knowledge – without the appropriate knowledge you cannot anticipate! The greater the knowledge, therefore, the greater will be the accuracy (and safety) of an anticipated outcome.

In summary then. Good intentions can be directly affected in one way or the other by pressures and the sequential progression of mind-sets. It has to be remembered that, for the most part, good pre-flight intentions are (or should be) created without duress, in the relative calm of the moment and are therefore pretty reliable. Good intentions ordinarily form the basis of our flight safety management contingencies. But good intentions are like plasticine – they can be easily moulded into any shape or profile to fit any situation at any given time, especially when in flight!

By the way. Have you ever heard this line? “With a little bit of luck, I’ll be able to get through now.” Dodgy! The only pilots who think success is a result of luck are the unsuccessful ones. Trust me on this!

*“A plane passes beneath the light-quickening cloud  
So low and so fast  
Insistent as it flies  
But what of the pilot, his interesting past  
I will never know –  
Least not he crashes and tragically dies.”*

by John Nicholson 2001

#### **Vector Comment**

Pilots do not deliberately set out to have accidents. This article has provided one explanation of how otherwise cautious and qualified pilots have found themselves in situations beyond their control or ability. Some rules to bear in mind are:

- Make your key flight-planning decisions and set your limits when on the ground before the flight, where there is plenty of time to think about all the issues.
- Set and adhere to your personal minimums. If conditions unexpectedly deteriorate en route, turn back well before your minimums are breached.
- Never allow external factors, such as time pressures or passengers, to affect your decision to continue a flight or not – it’s better to wait for another day and be late than it is to ‘press on’ and be dead on time. ■