

THE IMPORTANCE OF GEOGRAPHICAL INFORMATION

Bushfire



Australians will always remember "Black Saturday" as the day of the bushfires. Several days of extremely high temperatures - Melbourne recorded its hottest day ever, 48°C (118°F) - in combination with low humidity and years of drought, on 7th February 2009 created an alignment of forces that produced huge bushfires. Severe northerly winds speeding up to 100 kilometres/hour swept the fires over the country, merging several large conflagrations. Hundreds of residents who stayed to defend their homes, or ignoring all warnings waited too long to evacuate them, died within the first ten hours.

Large areas of Australia suffer from the threat of bushfire. The Australian climate is generally hot, dry and prone to drought. In the south-east, occasional strong winds often associated with summertime cold fronts can lead to extreme danger of fire. The amount of rain that has fallen over preceding months affects the extent of dry grass. If good spring rains have resulted in abundant plant growth, late summer grass fires can be intense. Many of Australia's native plants burn easily. The high oil content of eucalyptus makes it particularly fire-prone. And again over the past few months severe bushfires have raged across south-eastern Australia.

One essential aid in fighting bushfires is Geographical Information; what is the location of the fire, where are the fire engines and fire-fighters, which roads are still passable, what is the wind direction, where are vulnerable objects, how to avoid getting besieged by the bushfire? And where should water-bombing aircraft drop their load of thousands of litres of water without hitting fire-fighters? This last is becoming more and more important as the latest water-bombing aeroplane, a DC-10/30, can carry up to 45,000 litres of water.

All this data is processed by officers at emergency co-ordination centres tasked with allocating resources to deal with bushfires. In summary, the use of GIS, GNSS and radio communication has become essential in fighting bushfires.