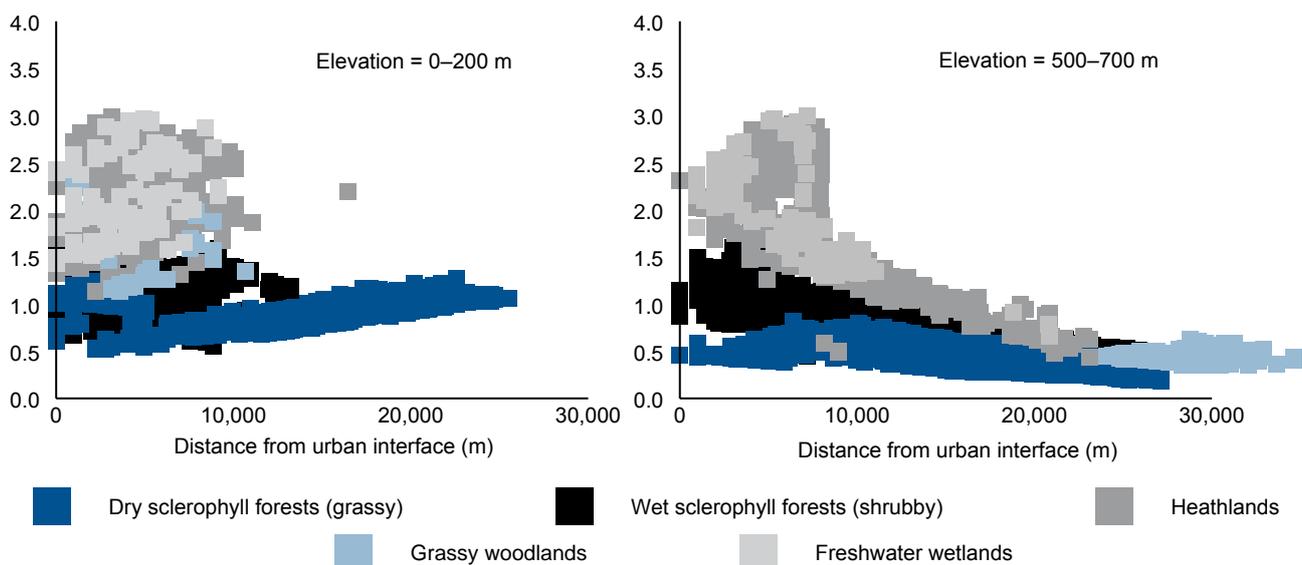


People and bushfires: factors affecting fire frequency

Despite interest in predicting the occurrence of bushfires in Australia, little is known about the relative importance of environmental factors and their interaction in determining fire frequency. In particular, human aspects of the environment and their relationship to fire have been the subject of little research. Recently completed research (Davidson 2006) looked at several environmental factors and their effect on unplanned fires in the Sydney basin. The factors considered in the research included vegetation structure, climactic factors such as temperature, solar radiation and rainfall, topographical factors such as elevation and slope, and distance from the urban interface (where the city meets the bush) and major roads.

The study found that proximity to urban interfaces, vegetation structure, solar radiation and elevation were all factors influencing unplanned fire frequency in the Sydney basin, although these variables interacted in complex ways (See Figure 1). The results were consistent with the literature, although the finding that fires were more frequent within 10 kilometres of urban interfaces was one that had not previously been investigated. The identification of such factors can be used to assist in the construction of hazard maps. These maps can highlight aspects of a landscape likely to be important in fire management, and can aid decisions in land management and resource allocation, such as hazard reduction burning and surveillance during the fire season.

Figure 1: Predicted unplanned fires, by vegetation and elevation, Sydney basin region (mean number)



Reference

Davidson AM 2006. Key determinants of fire frequency in the Sydney basin. Unpublished Honours thesis, Australian National University.