

Background

This map has been prepared using the best technology currently available to a standard of accuracy sufficient for broad scale flood risk management and planning. This map, and the others in the series, will help promote awareness of flooding associated with First, Second, Third, Fourth, Fifth and Stonyfell Creeks. It is expected that it will be of use to persons undertaking development and by the authorities that assess land capability and development proposals. It will also assist in planning essential services and emergency response.

The extent of flooding shown on this map is based on predictions of flood behaviour. The map does not increase the risk or affect the level of flooding over an area or property; it merely seeks to identify the extent of flooding under a given set of conditions. Limitations to the information shown on this map and a brief description of some concepts upon which it is based are set out in the following sections.

Flood behaviour

A flood occurs when a pipe, channel or creek cannot carry the volume of water entering from a catchment. When this occurs, floodwaters travel across the surface of the land potentially damaging property built upon the floodplain and potentially threatening the safety of people in the floodplain. Flooding is a natural event.

Annual Exceedance Probability (AEP)

The AEP is the likelihood of occurrence of a flood of given size or larger in any one year. This is expressed as a ratio, for example 1:100 or 1%. There is a 1% chance that the 1:100 AEP flood will be equalled or exceeded in any one year. Similarly, there is a 5% chance that a 1:20 AEP flood will be exceeded in any one year.

Alternatively, flood risk can be considered in terms of average recurrence interval (ARI). This is the number of years, on average, within which a given flood will be equalled or exceeded. A 1:100 AEP flood will be equalled or exceeded once in 100 years on average. A 1:20 AEP flood will be equalled or exceeded once in 20 years on average, and so on.

Due to the random nature of floods, however, a 1:100 year flood need not occur in every 100 years and conversely, several floods which exceed the 1:100 year flood could occur within any one period of 100 years.

Storm durations

The flooding response of a catchment is dependent on the duration of any storm event. Generally shorter, more intense storms produce the greatest flows from urban areas. Longer duration, but less intense storms, produce the greatest flow from undeveloped hills areas.

Changes to the catchment

As a result of this interaction this map combines the outer envelope of flood extent from the various storm events each of which produce the maximum flood extent in different parts of the catchment. Because of this, the extent of flooding shown may not occur across the entire area at the same time or during any one storm event.

Basis of mapping

The data contained on this map is based on survey, hydraulic and hydrological modelling (as at 2005) to an accuracy sufficient for broad scale flood risk management and planning. The modelling reflects current practice, but it must be realised that there are uncertainties and assumptions associated with the data and the processes on which the models are based, and therefore the flood extents shown on this map cannot be regarded as exact predictions.

The flood extents are not based on actual historical floods.

Scope of the mapping

The limit of flooding shown on this map is not a boundary between flood prone and flood free land. Land outside the flood extent shown on this map could be affected by:

- larger storms;
- flooding from local drainage systems which can occur as a result of localised heavy rainfall or drain blockage;
- flooding that may occur as a result of the interaction with catchments other than those modelled;
- flooding from the River Torrens, albeit as a result of very low probability events; and
- storms with a different Annual Exceedance Probability.

The modelling and mapping does not deal with the influence of local underground drainage systems. The effect of these systems will increasingly affect the flood extent as distance from the main creek increases and the depth of flooding reduces.

Reference to other studies and maps should be made in relation to the River Torrens.

Areas of very shallow flooding

In areas shown as being affected by flood depths of less than 0.1m (100mm) fences, walls, landscaping and buildings will affect the flow of floodwaters. Resolution to this level of detail is beyond the capabilities of the modelling process and consequently the level of certainty in relation to flood depths in these areas is reduced.

Impact on buildings

The flood extents shown are a prediction of land affected for the specific level of risk and do not necessarily indicate a threat to buildings located on that land. Flood assessment for particular sites will require more detailed interpretation, survey and analysis by qualified and experienced persons.

Effect of debris on flood extent

Vegetation and other debris is likely to be carried by flood flows and may cause blockages in local drainage systems, creeks and culverts. This cannot be predicted and consequently the impact of blockages is not modelled. If blockages do occur, flood extents will vary from those shown on the map.

Disclaimer

This map is provided on the basis that those responsible for its preparation and publication do not accept any responsibility for any loss or damage alleged to be suffered by anyone as a result of the publication of the map and the notations on it, or as a result of the use or misuse of the information provided herein.

LEGEND

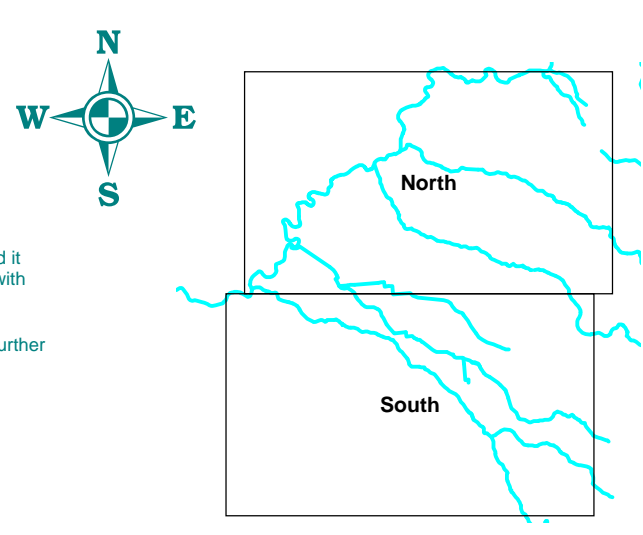
	Flood Depth <math>< 0.1\text{m}</math>		Police Station		Hospital
	Flood Depth 0.1 - 0.25m		Fire Station		Ambulance
	Flood Depth 0.25 - 0.5m		Parks / Reserves		Council Boundary
	Flood Depth 0.5 - 1.0m		Sports Ground		Extent of Modelling
	Flood Depth 1.0 - 1.5m				
	Flood Depth 1.5 - 2.5m				
	Flood Depth 2.5 - 5.0m				
	Flood Depth > 5.0m				

DRAFT

NOTES:

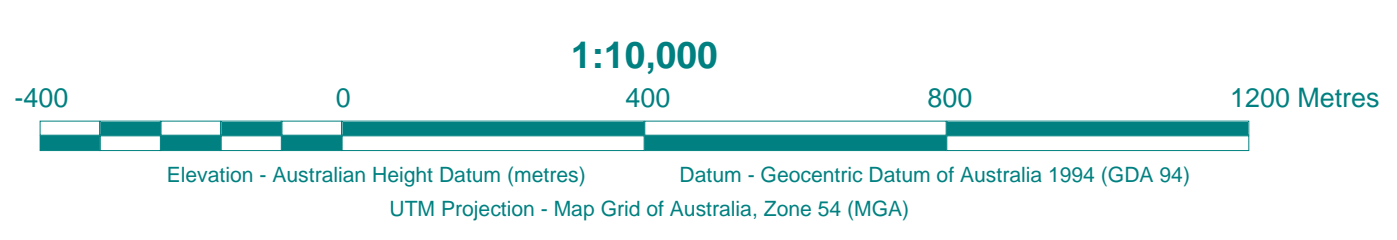
The work has been undertaken using current practice and it must be realised that there are uncertainties associated with the digital terrain and flood models and so with the flood extents.

Variations in the flood information can be expected with further data, developments in flood modelling, land development and/or changes in catchment conditions.



First - Fifth Creeks Flood Plain Mapping Study

1:100 AEP Flood Inundation Map 3 - South



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