

Flood Hazard Mapping and Assessment Project

Flooding has the potential to impact our safety and natural and built environments in South Australia but, with investigations and planning, the hazards arising from flood risk can be minimised.

The Flood Hazard Mapping and Assessment Project will deliver more consistent and contemporary mapping of flood hazard across the State. The project's mapping will be incorporated in the Planning and Design Code (the Code), and will be used to assess flooding hazard in new development proposals.

Data from the project will not only provide greater certainty in the assessment of new development, but also inform rezoning, regional planning and emergency management.

Delivering State Planning Policies

The project will complement the following State Planning Policies:

- 15.1 *Identify and minimise the risk to people, property and the environment from exposure to natural hazards including terrestrial and coastal flooding; including taking into account the impacts of climate change.*
- 15.2 *Locate and design development in accordance with a risk hierarchy of 'avoid', 'accommodate' and 'adapt'.*
- 15.3 *Avoid locating sensitive developments and communities in areas at high risk of hazards – namely hospitals, telecommunication towers, major transport infrastructure, energy base stations and water services – or ensure that these developments are subject to a higher level of assessment.*

Standardising flood modelling for land use planning

The project will provide state-wide standardised modelling parameters of flood hazard to ensure land use planning requirements consider future flooding and stormwater management studies.

The key modelling inputs will reflect future development scenarios to 2050 taking into the account the impact of climate change and the changes to impervious surfaces.

Changes to the Hazard (Flooding) Overlays

The overlays in the Code which identify flood hazard will be divided into areas that are:

- Generally **intolerable for development** considering a 1% AEP.
- **Tolerable for development** based on design responses (e.g. building above the flood plain) in the context of 1% AEP.

- **Tolerable for development, but critical and sensitive land uses** need to be accessible and safe during a 0.2% AEP event

Likelihood	Annual Exceedance Probability (AEP)	Probability of the flood occurring in a lifetime (70 years)	
		At least once	At least twice
1 in 20	5%	97%	86%
1 in 100	1%	50%	16%
1 in 500	0.2%	13%	

In regional and outback townships and settlements areas, mapping will indicate where there is a likelihood of flooding occurring.

To support the assessment of development applications in these Overlays, it's anticipated the spatial layers in the SA Property and Planning Atlas (SAPPA) will provide 1%, 5%, & 0.2% AEP Hazard maps, banded by High, Medium and Low Risk, along with Water Surface Elevation values where possible.

New contemporary policy for the overlays will be developed. The likely outcomes of this policy will be tested against the new hazard mapping.



Visual Representation of the Conceptual planning framework¹

Project Data

The project will provide the following data:

- **Detailed flood studies** (September 2021 - June 2022): New flood studies and enhancement of existing studies will be undertaken. Study locations have been prioritised by identifying future development growth, known flood risk and the adequacy of existing studies.

¹ Adapted from the Toowoomba Council Flood Information Sheet 4: Flood Risk and Planning Tools

- **Coarse-scale mapping** (August 2021): Mapping at a 30m and 5m scale, which is available across Australia. This mapping is predominantly commissioned for and used by insurance companies in estimating flood risk and damages. This 30m data can be used to indicate where flood risk may be present in rural and outback areas. The 5m scale mapping can be used to inform where flood risk exists but further detail may be required at the development application stage.
- **LiDAR Mapping** (November 2021): New Digital Elevation Modelling at a **1cm accuracy** will be **captured** for areas of growth outside of metropolitan Adelaide.

Project Outcomes

Stage 1: August 2021 to March 2022

- A Flooding Hazards Mapping Update Code Amendment to update the existing spatial layers of the Hazard (Flooding) Overlays to reflect a limited number of recently completed flood studies and to remove the existing 'evidence required' overlay where justified.
- A fact sheet to assist in interpreting the existing Flood (Hazard) Overlays in development assessment.
- A standard specification for flood modelling, ensuring future land use planning uses the same basis for future flood hazard identification.
- Enhanced and New Flood Studies and Mapping products

Stage 2: July 2022 to April 2023

- A State-wide Flooding Hazards Code Amendment to insert new flood hazard mapping and policy into the Code.
- A fact sheet for interpreting the new overlays and SAPPA mapping for development assessment, rezoning and regional planning.