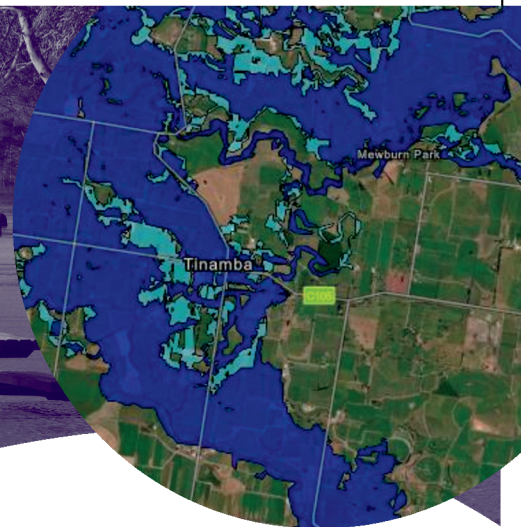


Flood modelling FAQ



What is flood modelling and how are maps created?

Flood modelling uses software to predict how flooding may occur during heavy rain, storms, or rising water levels. The models show:

- where floodwater is likely to go
- how deep the water could be
- how fast the water may flow

To do this, flood models use information such as:

- Natural features like ground height, soil type and how the land is used
- Built infrastructure like roads, drains, bridges, culverts and levees
- Climate factors like rainfall patterns, sea level rise and extreme weather

Flood mapping is dynamic and can change due to:

- Updated flood modelling
- Topographical changes including works that have changed land levels or new infrastructure
- Climate and rainfall pattern changes

How are flood events measured?

Flood events are measured using something called **Annual Exceedance Probability (AEP)**, which describes how likely a flood is to happen in any given year. Common flood measurements include:

- 10% AEP (1-in-10 year flood)
- 1% AEP (1-in-100 year flood)
- 0.5% AEP (1-in-200 year flood) – for critical infrastructure
- Probable Maximum Flood (PMF) – an extremely rare, worst-case flooding scenario

Flood mapping in the planning scheme is based on the 1% AEP flood, also known as a 1-in-100 year flood.

It's important to know that a "1-in-100 year flood" does not mean flooding only happens once every 100 years. It means there is a 1% chance of that level of flooding happening in any year, and it could happen more than once within a short period.

My property has never flooded. Why is it considered at risk now?

Australia has less than 200 years of recorded flood history. Just because a property hasn't flooded in living memory doesn't mean it hasn't flooded in the past, or that it won't flood in the future.

Floods larger than any we've previously experienced can occur. By using the best available information and computer modelling, we can predict where flooding may happen, even if it hasn't happened recently.

Planning controls help manage flooding risk by reducing potential damage, helping people prepare and limiting the impact of floods on homes and land.

If you want to build or redevelop your property, flood overlays help ensure this is done in a way that matches the level of flood risk. This helps better protect your investment, avoids making flooding worse for neighbours and prevents new developments from being built in unsafe flood-prone areas.

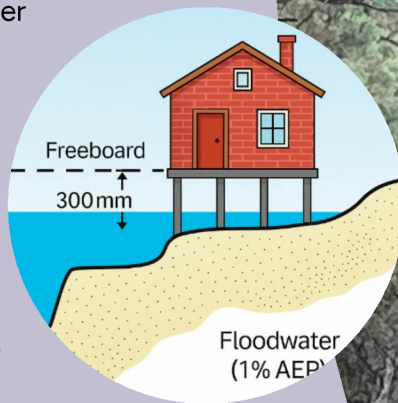


Are all properties above the flood level safe?

Floods can be higher than the levels we plan for. In Victoria, planning rules are based on a 1% AEP flood (also known as a 1-in-100 year flood), but larger floods can still happen.

For buildings in flood-prone areas, the minimum floor level must be set at least 300 millimetres above the mapped flood level. This extra height is called freeboard. It provides a safety margin for things like waves, fast-moving water or flooding that goes higher than expected.

However, flood protection measures such as raised floor levels do not guarantee that a property will never flood, and should not be relied on as complete protection.



Why can't all floods be prevented?

Flooding can't be completely prevented, especially during hard to predict extreme weather that can exceed planning and engineering standards.

Council upgrades drainage in areas with high flood risk, but it isn't possible to upgrade everywhere. High costs, conflicts with existing underground services, limited capacity of creeks and drains downstream, lack of available land for stormwater basins and drainage easements and the disruption major works can cause can limit widespread drainage upgrades.

While floods can't be stopped, Council is continually reducing their impact and helping the community prepare. Planning controls play an important role by making sure development happens in suitable locations and buildings are designed to respond to known flood risks.

What technical reports are used for this amendment, and why is my flood study an addendum?

The updates to the **Floodway Overlay (FO)** and **Land Subject to Inundation Overlay (LSIO)** are based on 22 detailed flood and drainage studies completed across Wellington Shire.

Some flood studies were completed as part of larger development projects, such as road upgrades or major infrastructure works (for example, the Princes Highway duplication). These flood studies are included as addendum reports because they focus on specific areas within a bigger project. Even so, the flood modelling used is accurate and meets required standards, including mapping flooding based on the 1% AEP (1-in-100 year flood).

