

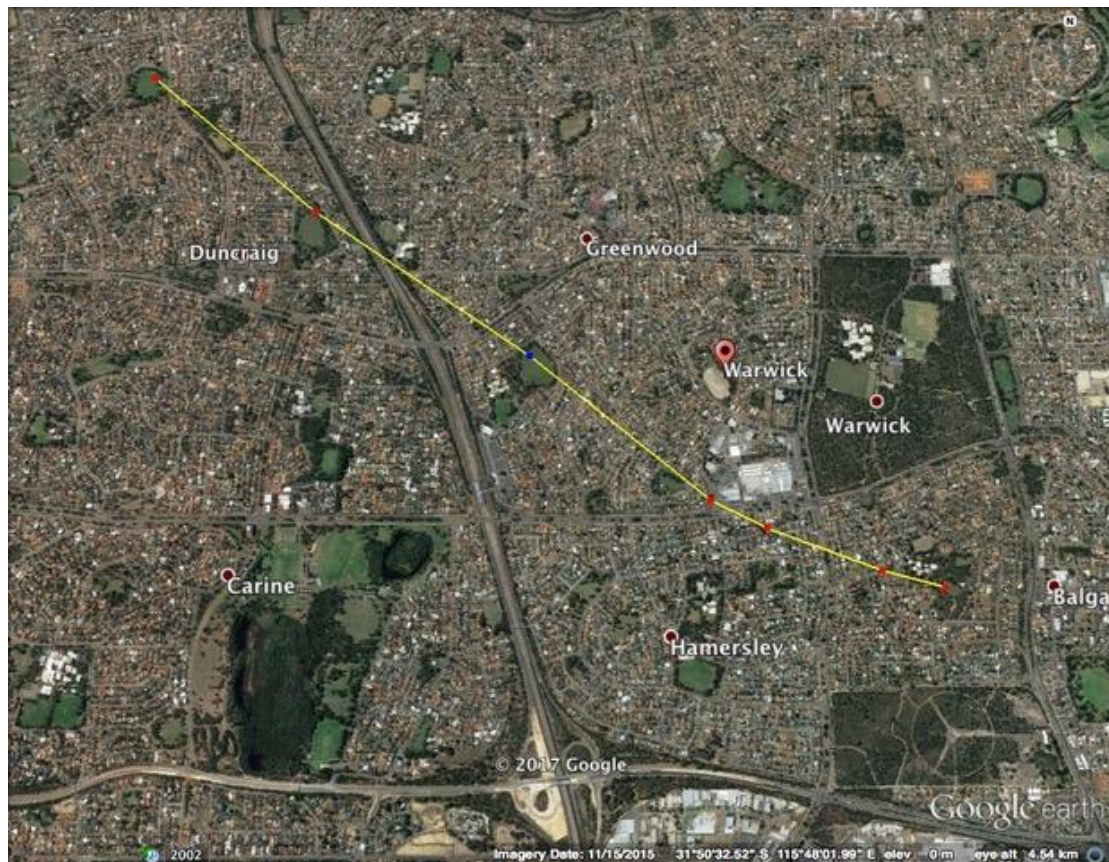
Perth Storm – 31 July 2017

Geoff Boughton and Debbie Falck

A strong cold front passed through the Perth metropolitan area around 11.00 am on Monday 31 July 2017. It caused power outages and significant damage to large trees, but only relatively minor damage to a few houses, and carports.

A severe cell was embedded in the front and caused localized damage along a 30 m to 50 m wide path in the suburbs of Duncraig, Warwick, Hamersley and Balga. A CTS team investigated damage in most of the affected areas. Trees falling across roofs and fences caused much of the damage to property, although some metal roof cladding and roof tiles were lifted on a few houses. The estimated maximum wind gusts in the cell were around 110 km/h, which is less than 70% of the design wind speed for Region A.

Although the path, damage patterns and description by witnesses all bear the hallmark of a cold weather tornado, most of the structural damage that was observed by the CTS team was to open carports and was caused by wind pressures rather than differential pressures across the tornado column. Mild tornados (F0 to F1 on the Fujita scale) are sometimes embedded in cold fronts that pass through the South West of WA in winter.



Approximate path of tornado determined by tree and building damage



Tree damage



Tile damage



Secret-fixed roof sheeting on a carport became detached from its clips and folded back over the house roof



(a) Damaged carport brick pillar



(b) Damage to ceiling



(c) Brick pillar (circled) inside dining room



(d) Brick pillar on roof

Unreinforced brick pillar attached to a carport was lifted onto and through a house roof. It is highlighted in the red circle