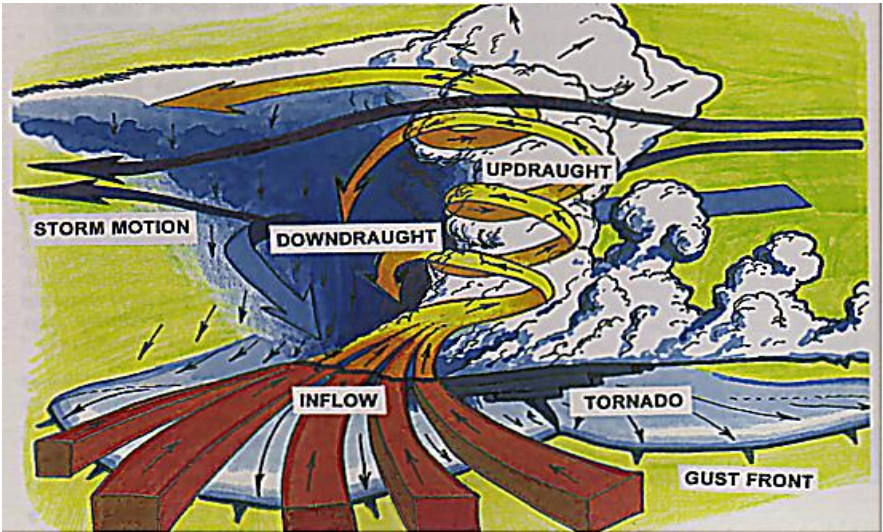


SEVERE THUNDERSTORM RISK ASSESSMENT STUDY

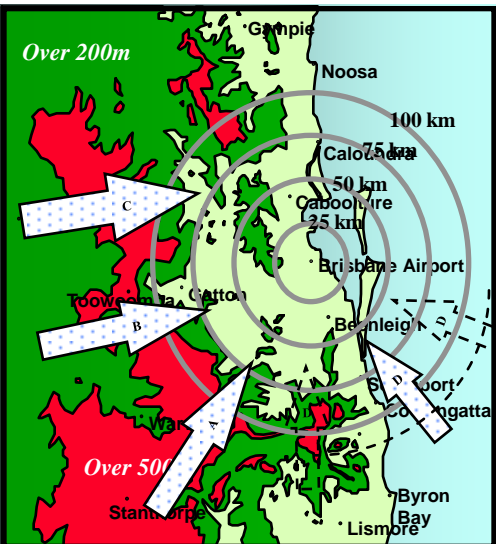


Bureau of Meteorology Diagram

PROJECT DESCRIPTION

The South East Queensland coastal region is an area subject to the effects of severe thunderstorms on an average of about 20 days each year. A number of meteorological and topographical factors combine to provide a moist unstable environment which is ideal for the generation of severe convection. The interaction with the surrounding mountain ranges and the sea breeze on the coastal plain can create explosive conditions over the broad metropolitan regions of Brisbane, Ipswich and the Gold and Sunshine Coasts between October and April each year.

The study considered a 30 year inventory of severe storms in the region taken from Bureau of Meteorology and SUNCORP records. This highlighted the history of very severe hail, damaging downburst winds and tornadoes, leading to the development of a regional climatology of severe storms.



A numerical model of the wind, hail and tornado components of severe storms was then developed based on a review of the international literature. The model was verified against historical storms, enabling the long term predictions of insured losses across the region.



CLIENT
SUNCORP General Insurance
Brisbane

LOCATION
South East Queensland

SEA PERSONNEL PROVIDED

- Development of a statistical simulation model of severe thunderstorms
- Analysis of historical severe wind, hail and tornado losses
- Review of regional severe storm climatology
- Prediction of wind, hail and tornado losses for residential portfolio



**Systems Engineering
Australia Pty Ltd**
ACN 073 544 439
Tel/Fax: +61 (0) 7 3353-0288
www.uq.net.au/seng