

How do the new IFDs compare to the ARR87 IFDs?

The new IFDs have been estimated using:

- a more extensive dataset, with nearly 30 years' additional rainfall data and data from 2300 extra rainfall stations;
- more accurate estimates, combining contemporary statistical analyses and techniques with an expanded rainfall database;

The methodological differences between the new IFDs and the old are summarised in the table below:

Method	New IFDs	ARR87 IFDs
Number of rainfall stations	Daily read – 8074 Continuous – 2280	Daily read – 7500 Continuous – 600
Period of record	All available records up to 2012	All available records up to ~1983
Length of record used in analyses	Daily read > 30 years Continuous > 8 years	Daily read > 30 years Continuous > 6 years
Source of data	Bureau of Meteorology & other organisations collecting rainfall data	Primarily Bureau of Meteorology
Extreme value series	Annual Maximum Series (AMS)	Annual Maximum Series (AMS)
Frequency analysis	Generalised Extreme Value (GEV) distribution fitted using L-moments	Log-Pearson Type III (LPIII) distribution fitted using method of moments
Extension of sub-daily rainfall statistics to daily read stations	Bayesian Generalised Least Squares Regression (BGLSR)	Principal Component Analysis
Gridding	Regionalised at-site distribution parameters gridded using ANUSPLIN	Maps hand-drawn to at-site distribution parameters, digitised and gridded using an early version of ANUSPLIN

As is to be expected, the differences between the data and methods adopted have resulted in differences between the new IFDs and the ARR87 IFDs. These differences vary not only across Australia but across durations and probabilities.

Information sheets on the nature and extent of the differences for each of the capital cities are provided below. Over the coming weeks similar information will be added for other parts of Australia.

It is emphasised that the new IFDs are only one input to design flood estimation. The full impact of the new IFDs will not be known until 2015 when the revision of the other design flood estimation inputs (including design temporal patterns and losses) has been completed.

For more information on the specific circumstances when the new IFDs should be used see [Project 1 IFD Statement](#).