



# AUSTRALIAN RAINFALL AND RUNOFF WORKSHOP

Course Duration: Two-Days

## Overview

Australian Rainfall and Runoff (ARR) is a national guideline for flood risk estimation. ARR provides guidance and datasets to produce accurate and consistent flood studies and mapping to ensure communities, infrastructure and the environment can withstand the impact of extreme rainfall, flooding and storm surge.

The 2016 edition is the first major revision in 30 years. It is published and supported by the Commonwealth of Australia through Geoscience Australia.

During this two-day course, expert facilitators will cover the guidelines, updates to the 2016 edition, accompanying tools, and application in the workplace.

Participants have the option to attend the full workshop or a single day.

## Target audience

This workshop is suitable for professionals working in the water industry including hydrologists, civil and environmental engineers, scientists, policy makers, and urban planning/design practitioners from local government, catchment authorities, consultants, researchers, and land developers.

Participants attending Day Two must be actively working within hydrology or water related fields with some knowledge of ARR.

## Learning outcomes

- Understand the differences between the 1987 and 2016 editions, and why
- Learn how the updated guidelines affects studies undertaken using the 1987 edition
- Able to apply the tools and techniques in ARR 2016
- Use ARR 2016 software
- Understand how to access and use the latest datasets detailed in ARR 2016
- Find out about the future for the ARR guidelines

## Full course outline

### Day One - Introduction and Update

- Overview including:
  - Concepts and terminology
  - Flood frequency analysis
  - Regional flood frequency estimation (RFFE) tool
  - Design flood method
  - How to access the document
  - Why should we change to these new methods?
- Uncertainty
- Data Hub Tool - interactive session
- ARR 1987 to 2016
  - What has change and what is new?
  - Implications of these changes
  - Do you have to redo studies?
  - Future of ARR - what still needs to be updated

### Day Two - Advanced Application

- New Design Inputs
  - Spatial Patterns
  - Areal reduction factors
  - Baseflow
  - Intensity-frequency-duration data
  - Temporal patterns
  - Preburst rainfall
  - Losses
- Blockage
- Simple, ensemble and Monte Carlo
  - Which one do I choose?
  - What is right for my problem?
- Parameter Selection
- RFFE and design flood calculation - A session on how to calculate design floods for routine projects including use of data and RFFE
- Ensemble and Monte Carlo tips and tricks
  - Practical ways to combine with hydraulic models
- Urban modelling