SOCIO-ECONOMIC BENEFITS OF METEOROLOGICAL AND HYDROLOGICAL SERVICES

INVENTORY OF DECISION SUPPORT TOOLS

Design Intensity-Frequency-Duration Rainfall Data

ITEM	DESCRIPTION
Sector	Engineering Sector in general
Sub-sector	Hydrological design
Tool Name	Rainfall Intensity-Frequency-Duration data
Tool Description	Design and risk assessment of dams and bridges. Design of roof and stormwater drainage systems. Flood plain management. Soil conservation studies. Communication systems management.
Weather, Climate or Water inputs	Point rainfall data
Specific weather, climate, water data required	Point rainfall data
Spatial resolution	Point data, but available across areas of interest
Temporal resolution	5 minutes to 72 hours rainfall data
Delivery methodology	Extracted from historical databases
Frequency of data requirement	Data required at 5 minute – 1 day intervals, but analysed only when updates required.
Other	Temporal patterns; hydrological model
Detailed Tool Description	
Spatial resolution	Point data, but smoothed from historical point data
Temporal resolution	Intensity-frequency-duration design rainfall curves range from 5 minutes to 72 hours in duration and ARI from 1 year to 100 years
Delivery methodology	Maps, graphics and tables
Frequency of provision	Updated on average every ten years, but available on demand
Other	Other relevant information as required
Benefits of tool application	Improved design of hydrological structures – benefit/cost ratios of 1.6 to 4.4.
Possible future advances	Incorporation of radar and satellite based rainfall estimates to improve areal information.
Comments	
URL	http://www.bom.gov.au/hydro/has/cdirswebx/cdirsdoc.shtml