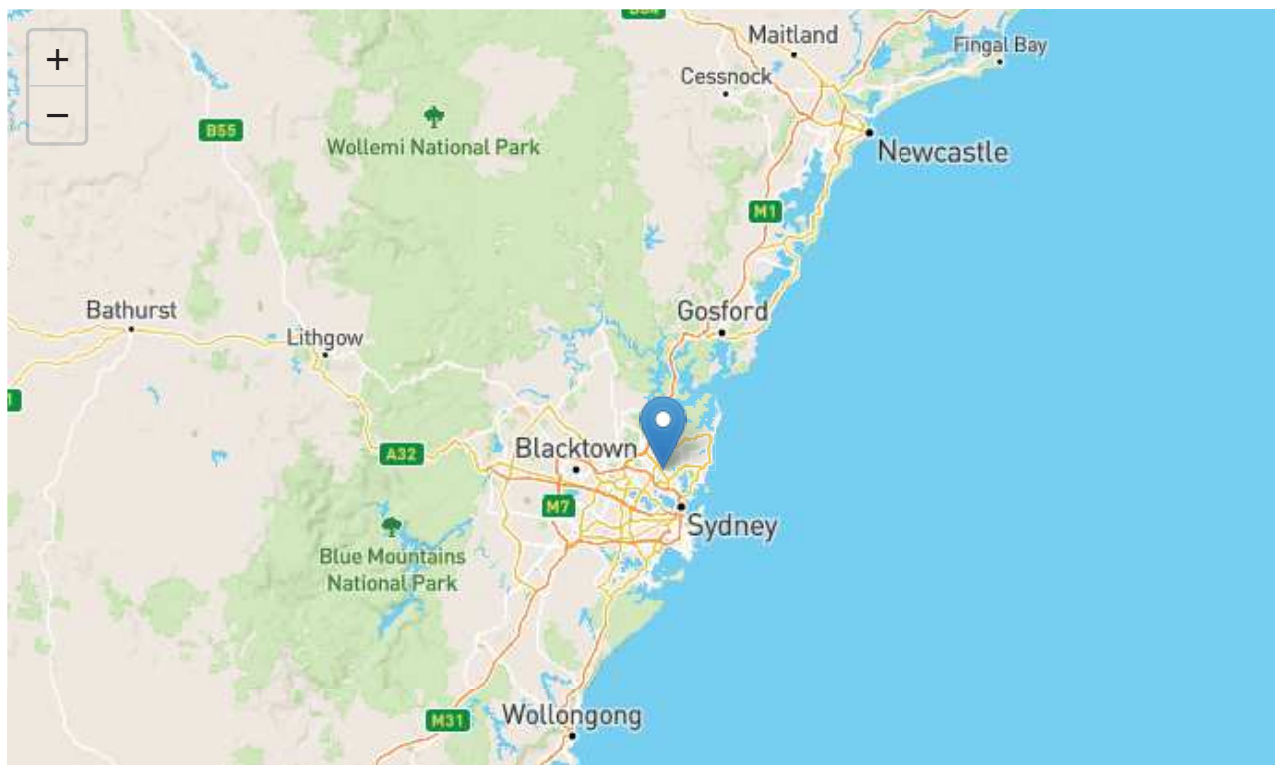


Annex E AR&R Datahub Results

Australian Rainfall & Runoff Data Hub - Results

Input Data

Longitude	151.163
Latitude	-33.766
Selected Regions (clear)	
River Region	show
ARF Parameters	show
Storm Losses	show
Temporal Patterns	show
Areal Temporal Patterns	show
BOM IFDs	show
Median Preburst Depths and Ratios	show
10% Preburst Depths	show
25% Preburst Depths	show
75% Preburst Depths	show
90% Preburst Depths	show
Interim Climate Change Factors	show
Probability Neutral Burst Initial Loss (./nsw_specific)	show





Leaflet (<http://leafletjs.com>) | Map data © OpenStreetMap (<https://www.openstreetmap.org/>) contributors, CC-BY-SA (<https://creativecommons.org/licenses/by-sa/2.0/>), Imagery © Mapbox (<https://www.mapbox.com/>)

Data

River Region

Division	South East Coast (NSW)
River Number	13
River Name	Sydney Coast-Georges River

Layer Info

Time Accessed	14 May 2021 02:59PM
Version	2016_v1

ARF Parameters

$$ARF = Min \left\{ 1, \left[1 - a (Area^b - \log_{10} Duration) Duration^{-d} + e Area^f Duration^g (0.3 + \log_{10} AEP) + h 10^{i Area \frac{Duration}{1440}} (0.3 + \log_{10} AEP) \right] \right\}$$

Zone	a	b	c	d	e	f	g	h	i
SE Coast	0.06	0.361	0.0	0.317	8.11e-05	0.651	0.0	0.0	0.0

Short Duration ARF

$$ARF = Min \left[1, 1 - 0.287 (Area^{0.265} - 0.439 \log_{10}(Duration)) \cdot Duration^{-0.36} + 2.26 \times 10^{-3} \times Area^{0.226} \cdot Duration^{0.125} (0.3 + \log_{10}(AEP)) + 0.0141 \times Area^{0.213} \times 10^{-0.021 \frac{(Duration-180)^2}{1440}} (0.3 + \log_{10}(AEP)) \right]$$

Layer Info

Time Accessed	14 May 2021 02:59PM
Version	2016_v1

Storm Losses

Note: Burst Loss = Storm Loss - Preburst

Note: These losses are only for rural use and are **NOT FOR DIRECT USE** in urban areas

Note: As this point is in NSW the advice provided on losses and pre-burst on the NSW Specific Tab of the ARR Data Hub (.nsw_specific) is to be considered. In NSW losses are derived considering a hierarchy of approaches depending on the available loss information. The continuing storm loss information from the ARR Datahub provided below should only be used where relevant under the loss hierarchy (level 5) and where used is to be multiplied by the factor of 0.4.

ID	7239.0
Storm Initial Losses (mm)	33.0
Storm Continuing Losses (mm/h)	1.8

Layer Info

Time Accessed	14 May 2021 02:59PM
Version	2016_v1

Temporal Patterns | Download (.zip) (static/temporal_patterns/TP/ECsouth.zip)

code	ECsouth
Label	East Coast South

Layer Info

Time Accessed	14 May 2021 02:59PM
Version	2016_v2

Areal Temporal Patterns | Download (.zip) (./static/temporal_patterns/Areal/Areal_ECsouth.zip)

code	ECsouth
arealabel	East Coast South

Layer Info

Time Accessed	14 May 2021 02:59PM
Version	2016_v2

BOM IFDs

Click here (http://www.bom.gov.au/water/designRainfalls/reviced-ifd/?year=2016&coordinate_type=dd&latitude=-33.766&longitude=151.163&sdmin=true&sdhr=true&sdday=true&user_label=) to obtain the IFD depths for catchment centroid from the BoM website

Layer Info

Time Accessed	14 May 2021 02:59PM
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Median Preburst Depths and Ratios

Values are of the format depth (ratio) with depth in mm

min (h)\AEP(%)	50	20	10	5	2	1
60 (1.0)	11.0 (0.348)	7.7 (0.183)	5.6 (0.112)	3.5 (0.061)	2.1 (0.030)	1.0 (0.013)
90 (1.5)	14.0 (0.388)	9.5 (0.196)	6.5 (0.113)	3.6 (0.054)	2.1 (0.027)	1.0 (0.011)
120 (2.0)	9.3 (0.232)	7.7 (0.144)	6.6 (0.105)	5.6 (0.077)	4.2 (0.048)	3.2 (0.032)
180 (3.0)	6.8 (0.146)	6.5 (0.105)	6.3 (0.086)	6.2 (0.072)	6.9 (0.067)	7.4 (0.064)
360 (6.0)	11.1 (0.180)	17.9 (0.215)	22.3 (0.226)	26.6 (0.231)	18.9 (0.136)	13.0 (0.083)
720 (12.0)	4.8 (0.057)	11.6 (0.101)	16.2 (0.117)	20.5 (0.126)	26.1 (0.133)	30.3 (0.136)
1080 (18.0)	3.7 (0.036)	8.2 (0.058)	11.2 (0.066)	14.1 (0.071)	22.2 (0.092)	28.3 (0.103)
1440 (24.0)	0.8 (0.007)	6.3 (0.039)	9.9 (0.050)	13.3 (0.058)	21.1 (0.076)	26.9 (0.085)
2160 (36.0)	0.0 (0.000)	2.9 (0.015)	4.9 (0.021)	6.7 (0.024)	9.4 (0.028)	11.5 (0.030)
2880 (48.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	2.0 (0.005)	3.5 (0.008)
4320 (72.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	1.2 (0.003)	2.2 (0.005)

Layer Info

Time Accessed	14 May 2021 02:59PM
Version	2018_v1
Note	Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.

10% Preburst Depths

Values are of the format depth (ratio) with depth in mm

min (h)\AEP(%)	50	20	10	5	2	1
60 (1.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
90 (1.5)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
120 (2.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
180 (3.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
360 (6.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
720 (12.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
1080 (18.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
1440 (24.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
2160 (36.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
2880 (48.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
4320 (72.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)

Layer Info

Time Accessed	14 May 2021 02:59PM
Version	2018_v1
Note	Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.

25% Preburst Depths

Values are of the format depth (ratio) with depth in mm

min (h)\AEP(%)	50	20	10	5	2	1
60 (1.0)	0.4 (0.012)	0.2 (0.005)	0.1 (0.002)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
90 (1.5)	0.9 (0.024)	0.5 (0.010)	0.2 (0.004)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
120 (2.0)	0.1 (0.003)	0.1 (0.001)	0.0 (0.001)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
180 (3.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
360 (6.0)	0.1 (0.002)	0.5 (0.006)	0.8 (0.008)	1.0 (0.009)	0.4 (0.003)	0.0 (0.000)
720 (12.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
1080 (18.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	1.2 (0.005)	2.2 (0.008)
1440 (24.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.4 (0.002)	0.7 (0.002)
2160 (36.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
2880 (48.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)
4320 (72.0)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)	0.0 (0.000)

Layer Info

Time Accessed	14 May 2021 02:59PM
Version	2018_v1
Note	Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.

75% Preburst Depths

Values are of the format depth (ratio) with depth in mm

min (h)\AEP(%)	50	20	10	5	2	1
60 (1.0)	40.2 (1.280)	37.9 (0.898)	36.4 (0.729)	34.9 (0.605)	28.4 (0.413)	23.5 (0.303)
90 (1.5)	46.8 (1.295)	39.7 (0.822)	35.1 (0.614)	30.6 (0.462)	27.8 (0.352)	25.7 (0.288)
120 (2.0)	42.0 (1.053)	37.7 (0.705)	34.8 (0.550)	32.0 (0.437)	35.9 (0.410)	38.7 (0.391)
180 (3.0)	48.1 (1.038)	45.5 (0.734)	43.8 (0.596)	42.2 (0.494)	57.0 (0.557)	68.1 (0.586)
360 (6.0)	44.0 (0.716)	60.5 (0.729)	71.4 (0.722)	81.9 (0.708)	86.5 (0.623)	90.0 (0.569)
720 (12.0)	24.6 (0.292)	37.3 (0.324)	45.8 (0.331)	53.9 (0.332)	67.0 (0.342)	76.8 (0.344)
1080 (18.0)	23.8 (0.234)	38.2 (0.271)	47.7 (0.281)	56.9 (0.284)	71.4 (0.296)	82.2 (0.300)
1440 (24.0)	12.3 (0.106)	31.6 (0.195)	44.4 (0.227)	56.7 (0.246)	67.1 (0.242)	74.8 (0.237)
2160 (36.0)	7.1 (0.051)	21.4 (0.110)	30.9 (0.131)	40.0 (0.144)	51.5 (0.154)	60.1 (0.159)
2880 (48.0)	2.8 (0.018)	7.6 (0.034)	10.7 (0.040)	13.8 (0.044)	25.1 (0.067)	33.7 (0.080)
4320 (72.0)	0.0 (0.000)	1.6 (0.006)	2.6 (0.009)	3.6 (0.010)	20.9 (0.049)	33.8 (0.071)

Layer Info

Time Accessed	14 May 2021 02:59PM
Version	2018_v1
Note	Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.

90% Preburst Depths

Values are of the format depth (ratio) with depth in mm

min (h)\AEP(%)	50	20	10	5	2	1
60 (1.0)	91.6 (2.915)	94.8 (2.245)	96.9 (1.941)	98.9 (1.714)	103.6 (1.508)	107.1 (1.382)
90 (1.5)	108.2 (2.996)	105.2 (2.175)	103.3 (1.806)	101.4 (1.531)	113.6 (1.439)	122.8 (1.375)
120 (2.0)	89.3 (2.236)	94.6 (1.770)	98.1 (1.552)	101.5 (1.385)	108.2 (1.236)	113.2 (1.142)
180 (3.0)	92.3 (1.991)	102.2 (1.647)	108.8 (1.479)	115.1 (1.347)	126.6 (1.236)	135.2 (1.163)
360 (6.0)	84.9 (1.382)	106.8 (1.288)	121.3 (1.227)	135.2 (1.170)	158.1 (1.138)	175.3 (1.109)
720 (12.0)	50.6 (0.602)	78.2 (0.678)	96.5 (0.697)	114.0 (0.701)	133.6 (0.682)	148.3 (0.665)
1080 (18.0)	53.6 (0.526)	81.4 (0.578)	99.9 (0.588)	117.5 (0.588)	138.3 (0.574)	153.9 (0.562)
1440 (24.0)	40.6 (0.350)	67.3 (0.416)	84.9 (0.435)	101.9 (0.442)	118.4 (0.426)	130.7 (0.415)
2160 (36.0)	31.4 (0.226)	52.3 (0.268)	66.1 (0.281)	79.3 (0.286)	100.0 (0.300)	115.6 (0.306)
2880 (48.0)	19.9 (0.128)	43.6 (0.199)	59.3 (0.224)	74.4 (0.239)	91.0 (0.243)	103.5 (0.245)
4320 (72.0)	9.5 (0.053)	21.4 (0.085)	29.3 (0.097)	36.9 (0.104)	62.7 (0.147)	82.0 (0.171)

Layer Info

Time Accessed	14 May 2021 02:59PM
Version	2018_v1
Note	Preburst interpolation methods for catchment wide preburst has been slightly altered. Point values remain unchanged.

Interim Climate Change Factors

	RCP 4.5	RCP6	RCP 8.5
2030	0.869 (4.3%)	0.783 (3.9%)	0.983 (4.9%)
2040	1.057 (5.3%)	1.014 (5.1%)	1.349 (6.8%)
2050	1.272 (6.4%)	1.236 (6.2%)	1.773 (9.0%)
2060	1.488 (7.5%)	1.458 (7.4%)	2.237 (11.5%)
2070	1.676 (8.5%)	1.691 (8.6%)	2.722 (14.2%)
2080	1.810 (9.2%)	1.944 (9.9%)	3.209 (16.9%)
2090	1.862 (9.5%)	2.227 (11.5%)	3.679 (19.7%)

Layer Info

Time Accessed	14 May 2021 02:59PM
Version	2019_v1
Note	ARR recommends the use of RCP4.5 and RCP 8.5 values. These have been updated to the values that can be found on the climate change in Australia website.

Probability Neutral Burst Initial Loss

min (h)\AEP(%)	50.0	20.0	10.0	5.0	2.0	1.0
60 (1.0)	12.3	8.1	9.0	8.7	8.6	6.6
90 (1.5)	11.8	8.1	9.5	9.7	9.5	7.0
120 (2.0)	13.4	9.0	10.2	10.0	10.1	6.0
180 (3.0)	13.8	9.3	10.6	10.1	8.9	4.3
360 (6.0)	13.2	8.6	8.8	8.1	9.1	3.7
720 (12.0)	17.6	12.2	12.2	10.6	11.9	3.1
1080 (18.0)	18.3	13.5	14.6	12.0	13.3	3.8
1440 (24.0)	21.5	15.5	15.8	13.8	14.6	4.4
2160 (36.0)	24.2	18.4	18.4	15.9	16.6	6.9
2880 (48.0)	27.2	22.0	21.1	22.9	19.4	9.5
4320 (72.0)	29.4	25.5	25.5	25.7	21.8	10.5

Layer Info

Time Accessed	14 May 2021 02:59PM
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Version 2018_v1

Note As this point is in NSW the advice provided on losses and pre-burst on the NSW Specific Tab of the ARR Data Hub (./nsw_specific) is to be considered. In NSW losses are derived considering a hierarchy of approaches depending on the available loss information. Probability neutral burst initial loss values for NSW are to be used in place of the standard initial loss and pre-burst as per the losses hierarchy.

[Download TXT \(downloads/18b8ff06-1c14-4c4f-b890-684676cba8ec.txt\)](#)

[Download JSON \(downloads/3258dc7b-3379-4d43-9ff4-8ffb43476d1e.json\)](#)

[Generating PDF... \(downloads/007ae554-cc1b-4734-b0d6-9f0bf0a3729b.pdf\)](#)
