

FIGURE 1
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
STUDY AREA

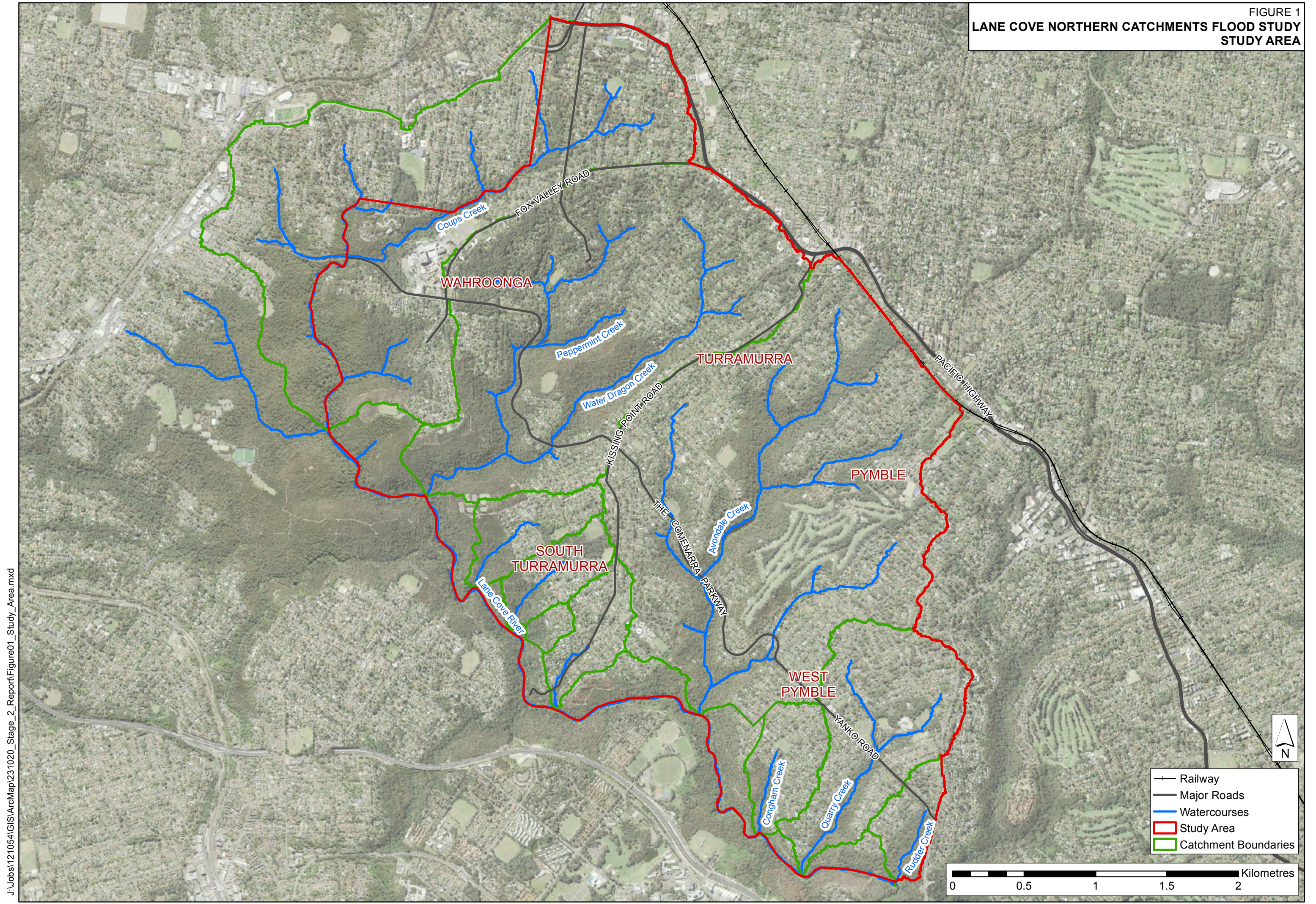


FIGURE 2
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
DIGITAL ELEVATION MODEL

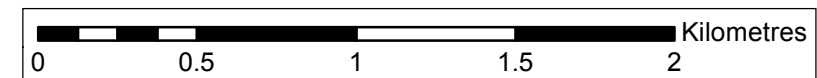
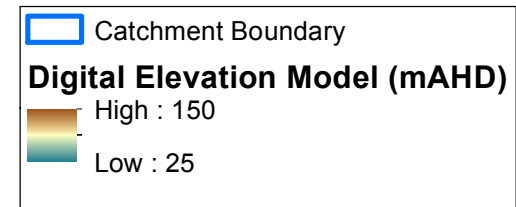
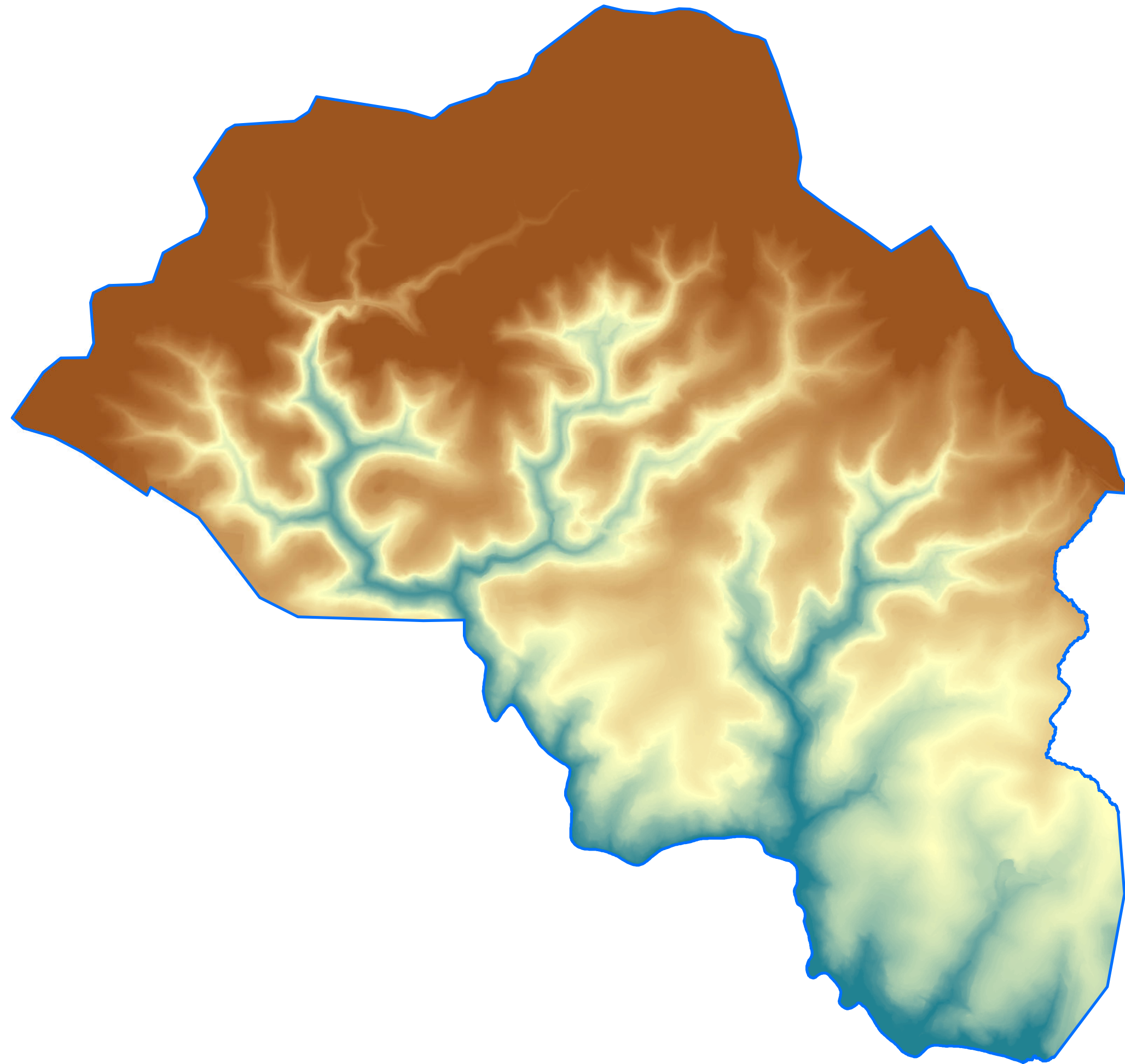
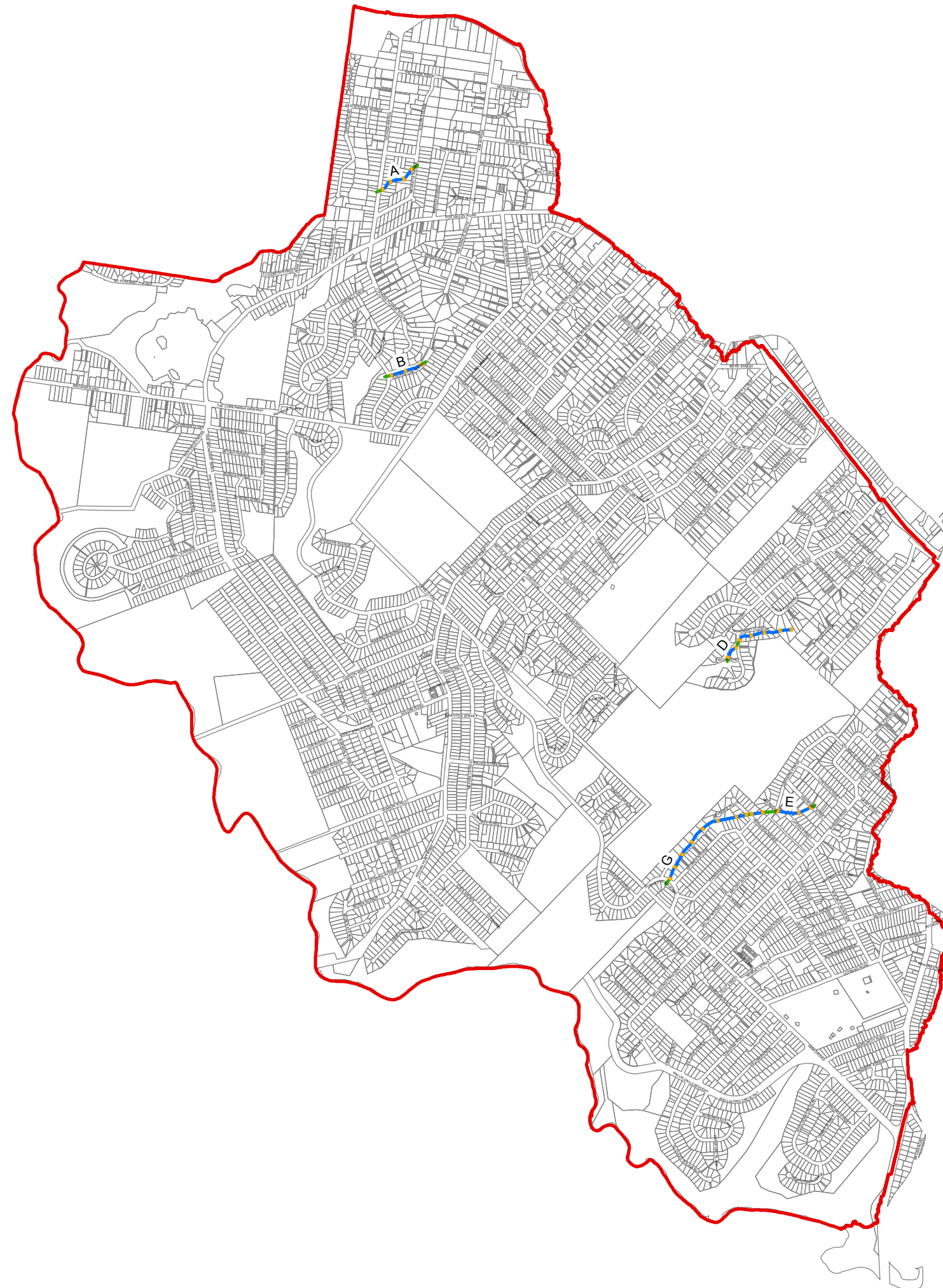


FIGURE 3
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
TOPOGRAPHIC SURVEY



- Study Area
- Cross section surveyed
- Culverts/bridge surveyed
- Channels surveyed

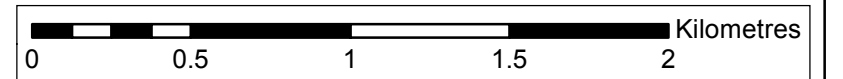
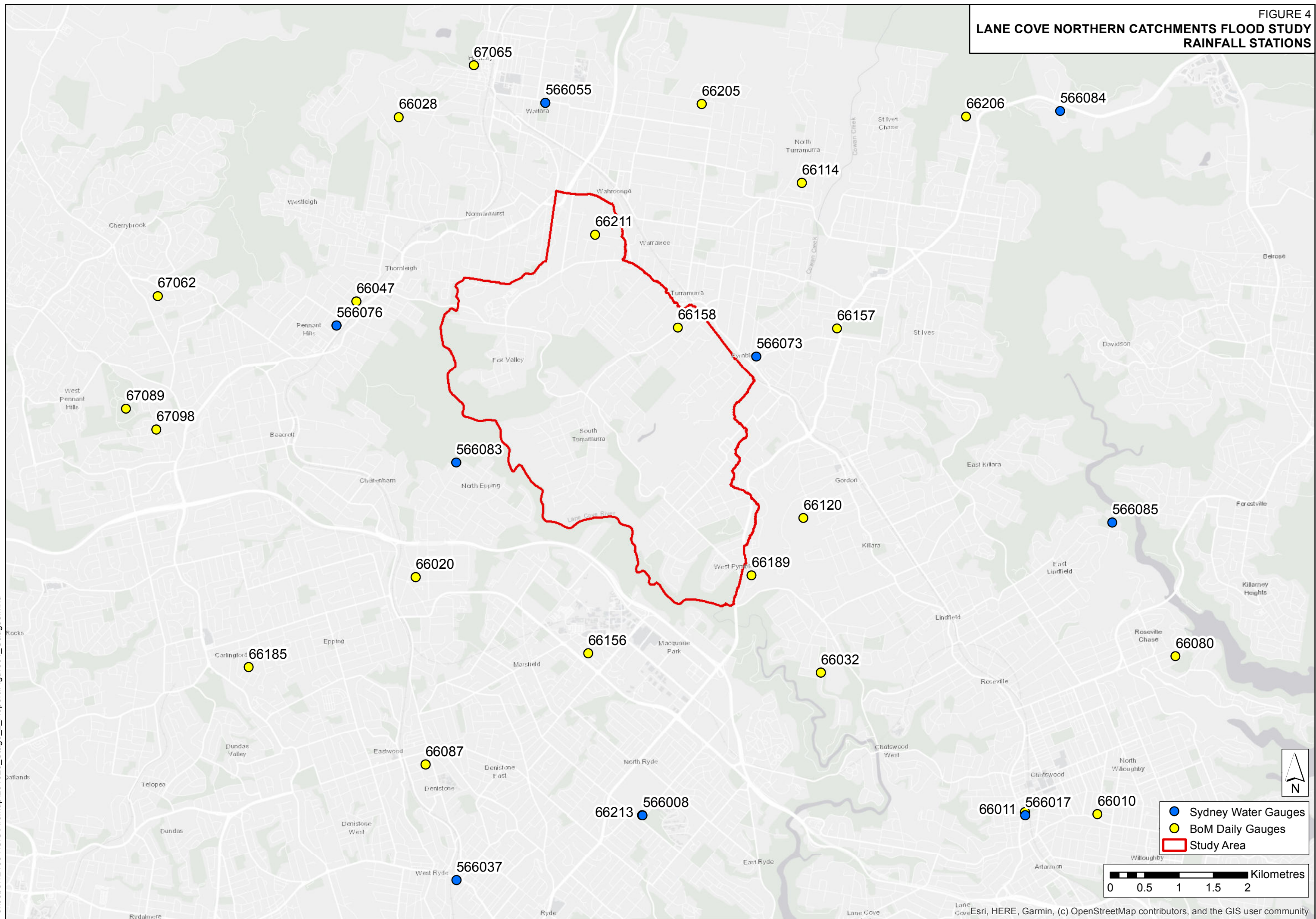
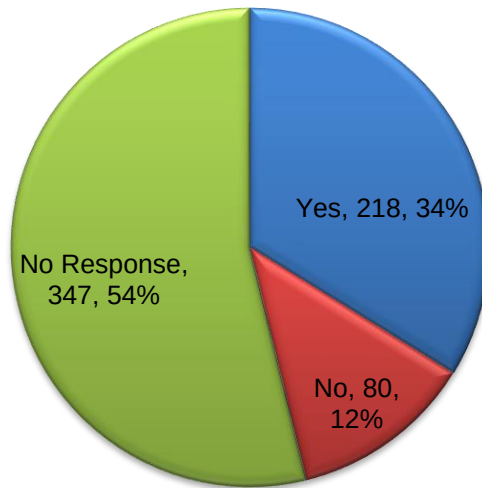


FIGURE 4
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
RAINFALL STATIONS

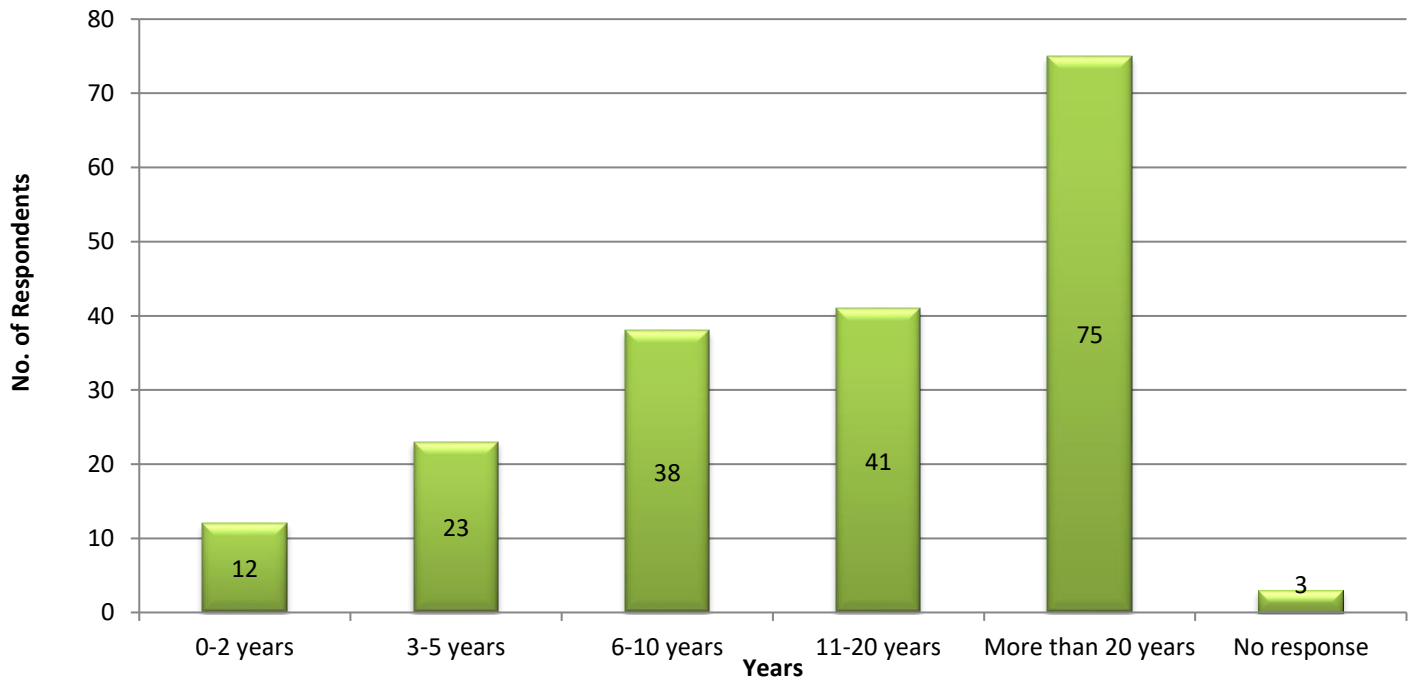
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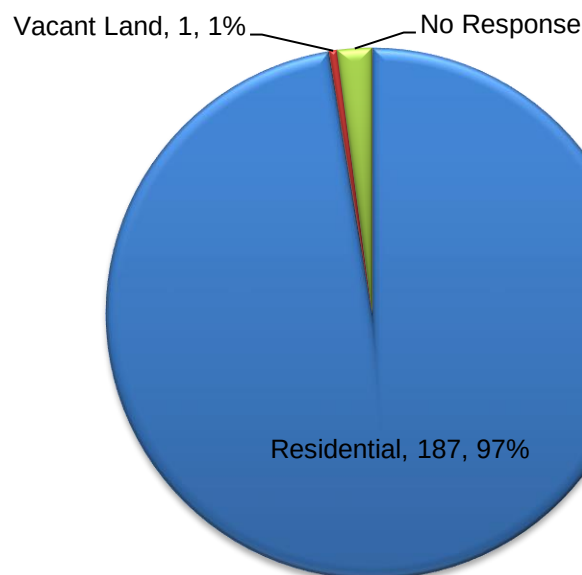
Residents Contactable



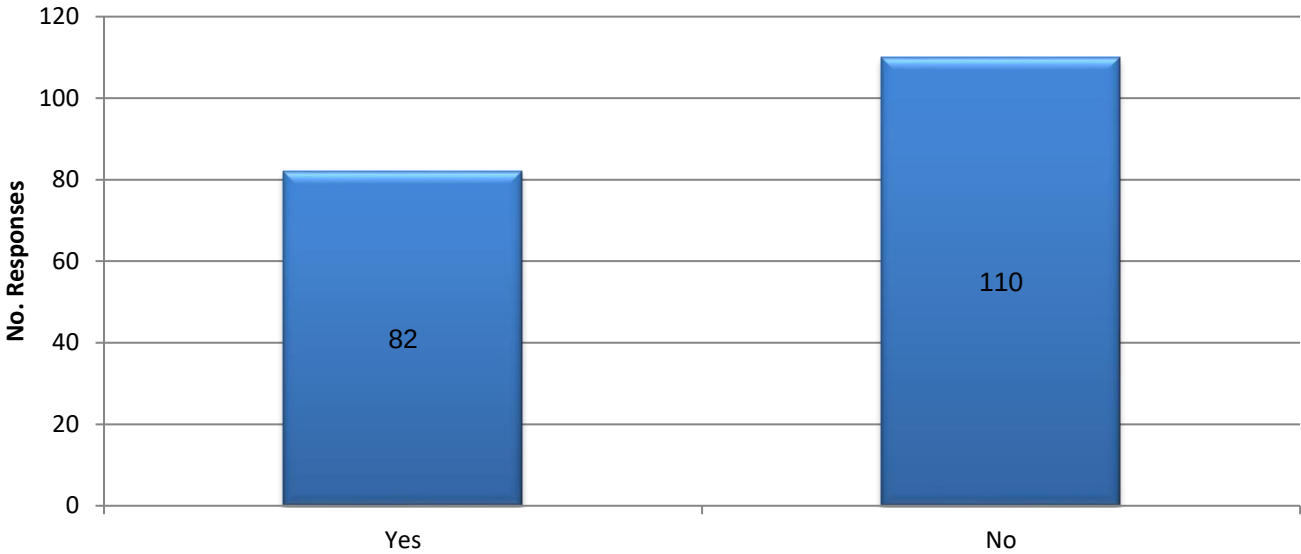
Period Living at Current Address



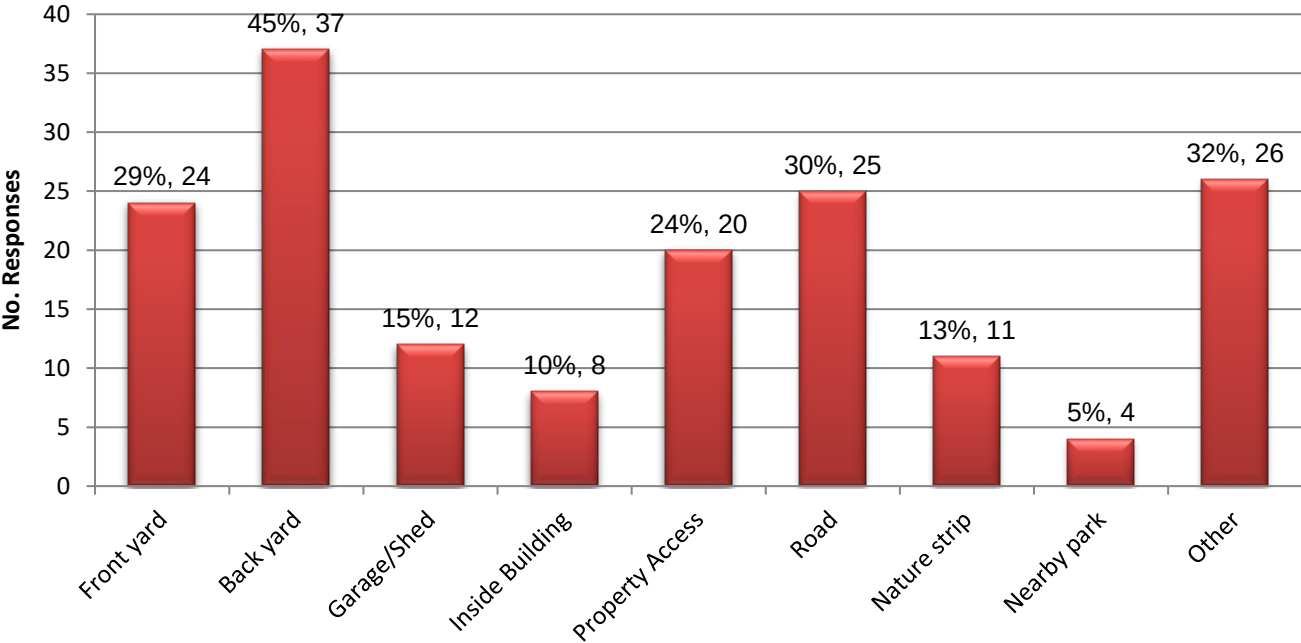
Property Type



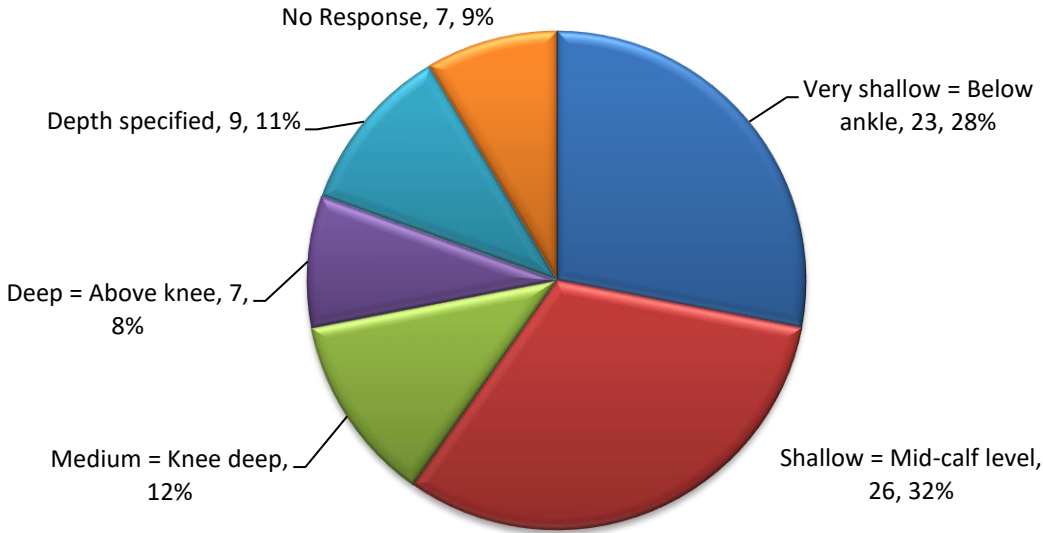
Have you experienced flooding?



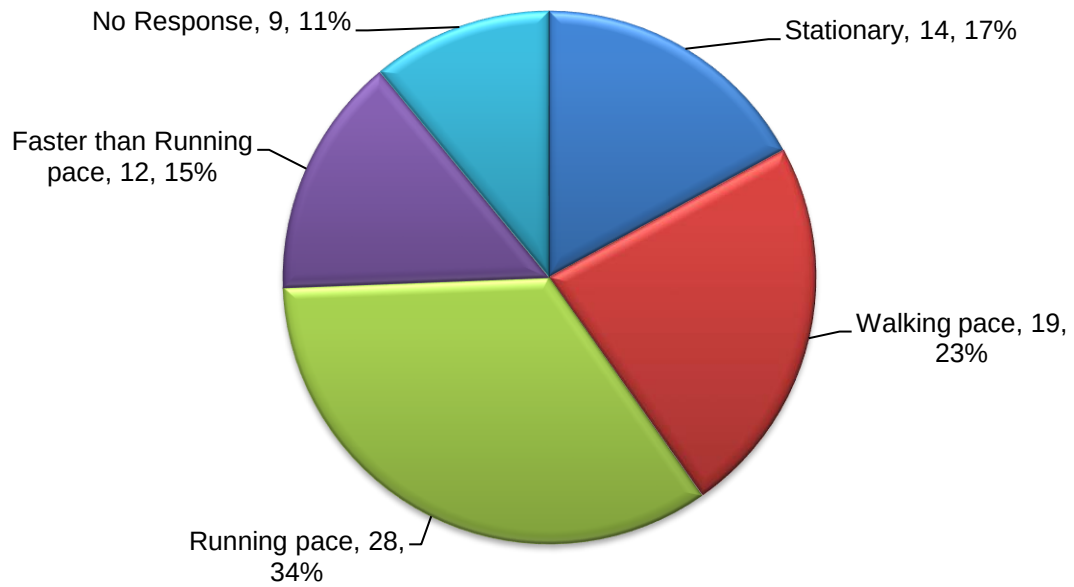
What areas were affected by flooding?



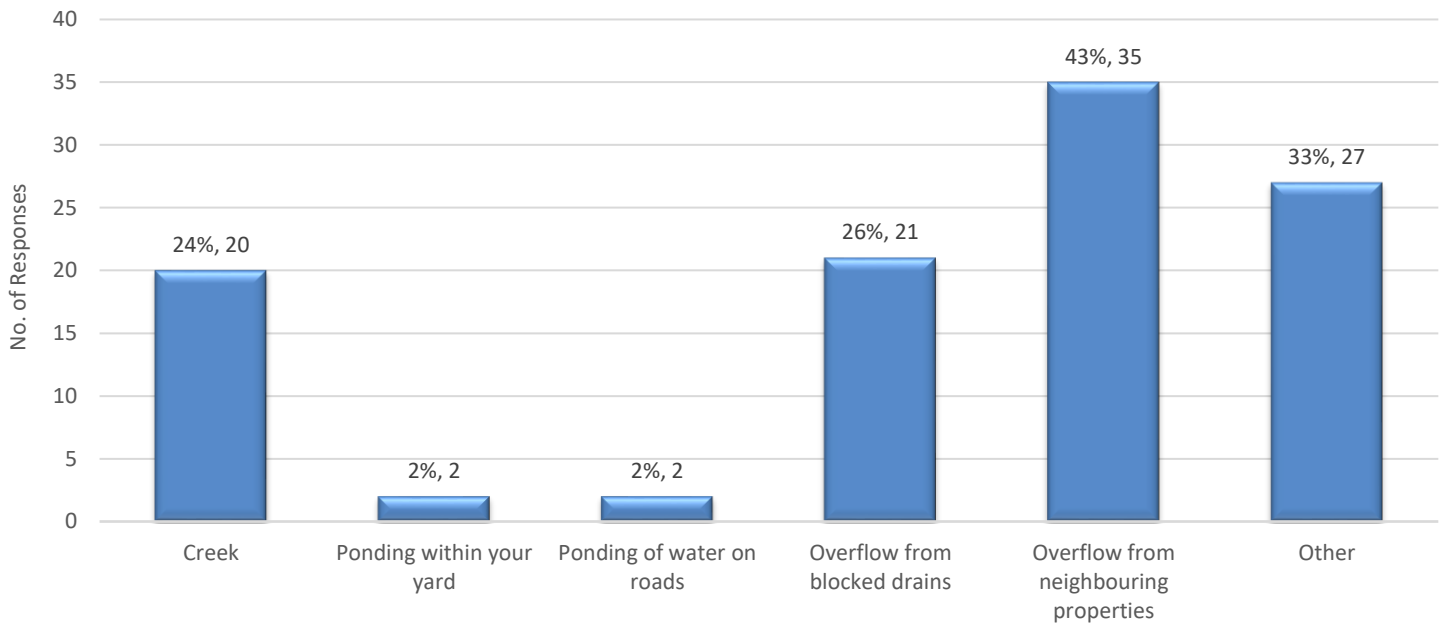
What was the depth of flooding?



What was the speed of flood waters at the peak/worst of flooding?



What was the source of floodwater?



Are there any flood marks on your property?

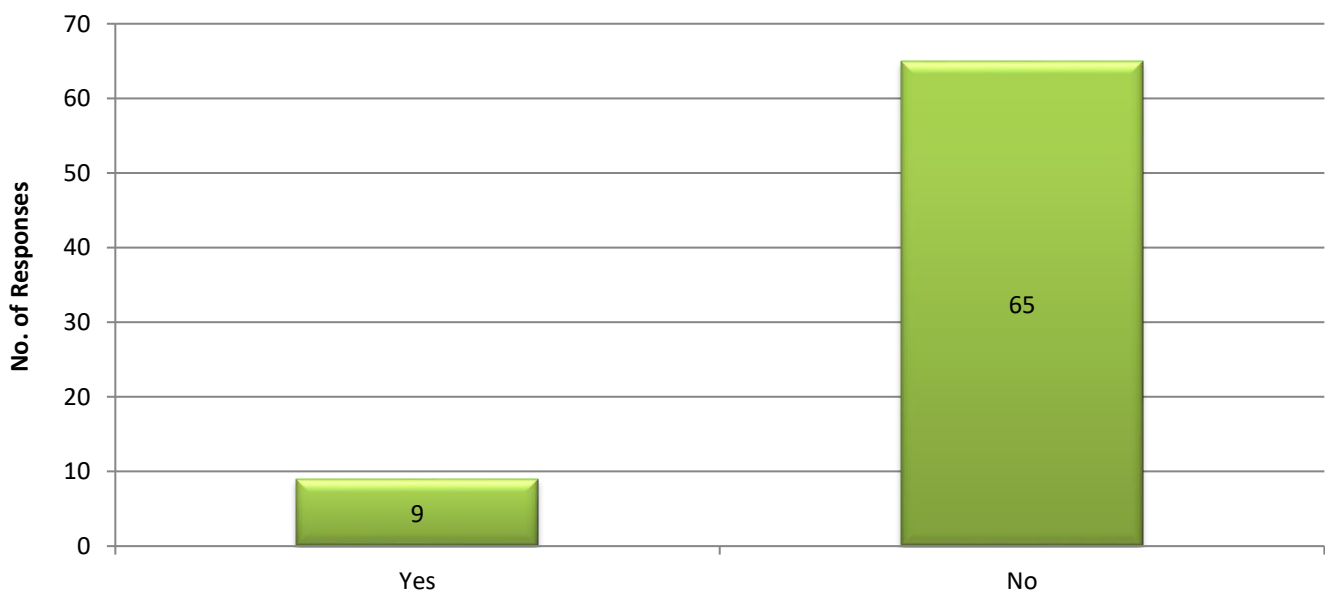


FIGURE 6
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
COMMUNITY RESPONSES

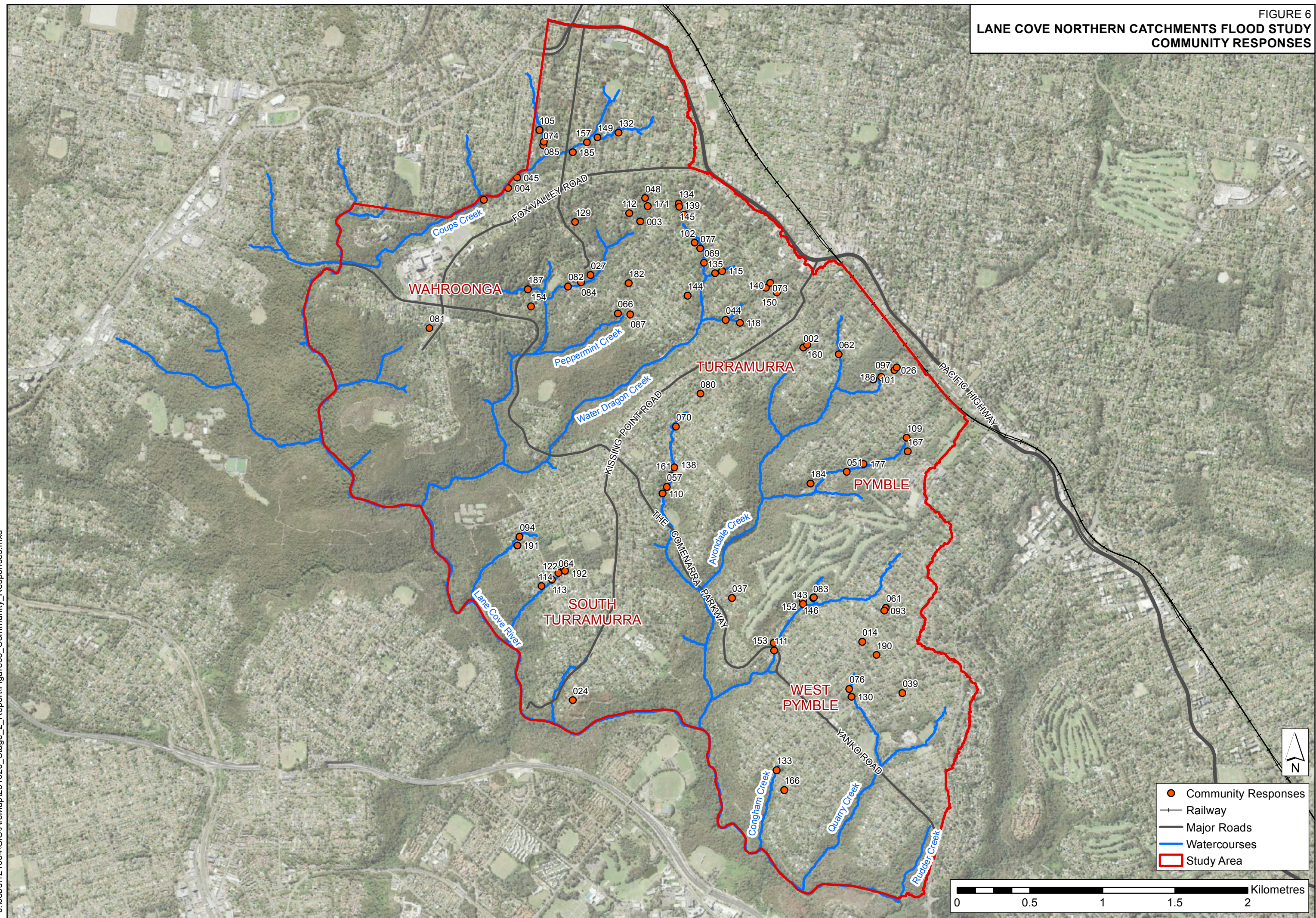


FIGURE 7
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
DRAINS MODEL SUBCATCHMENTS

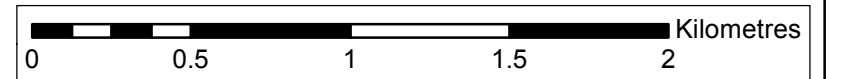
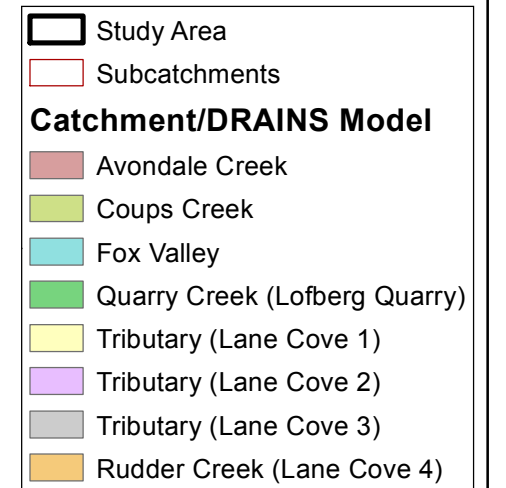
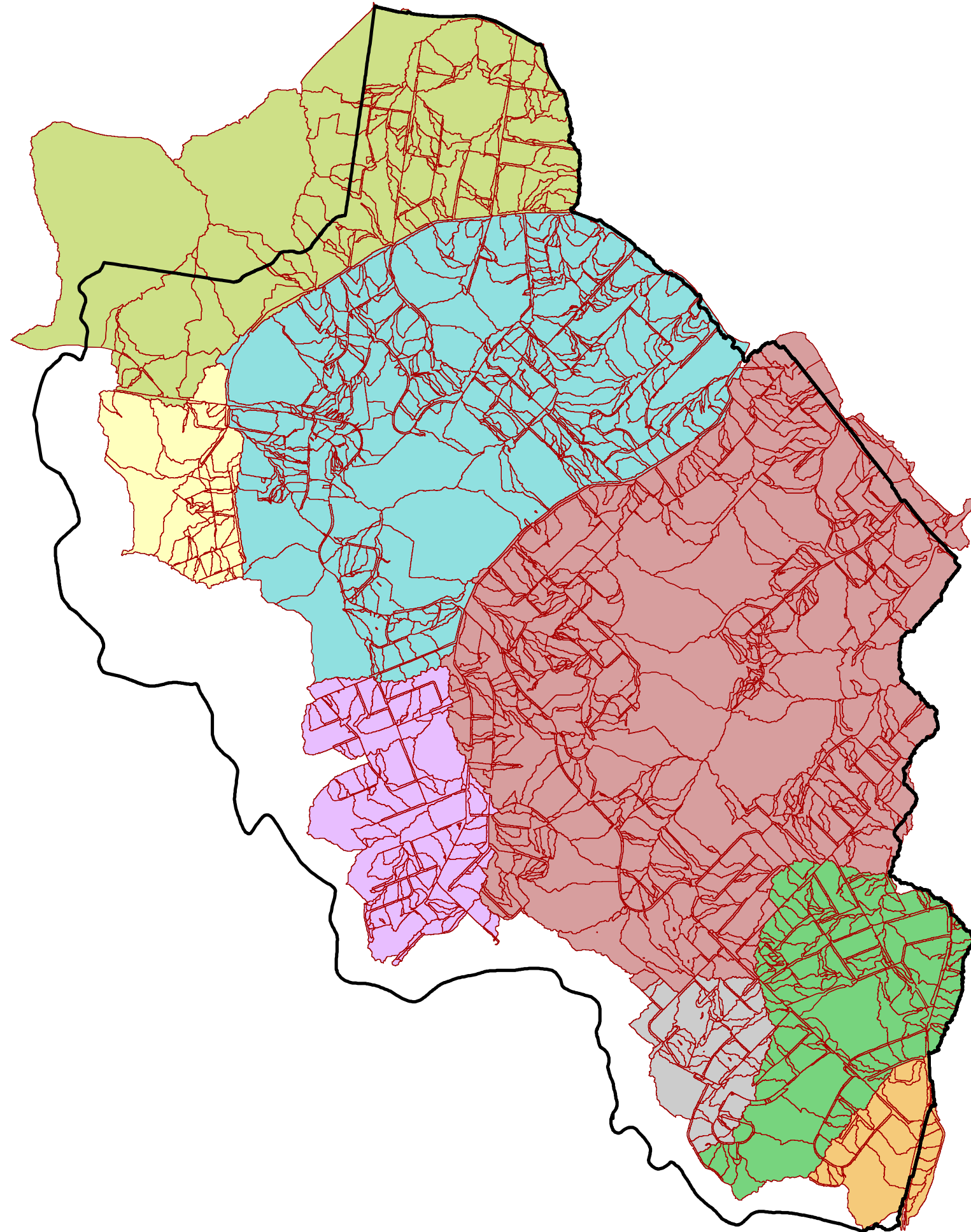


FIGURE 8
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
DRAINS MODEL LAND USE

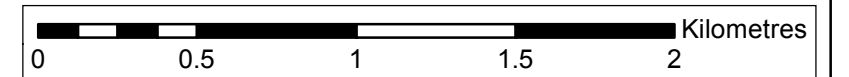
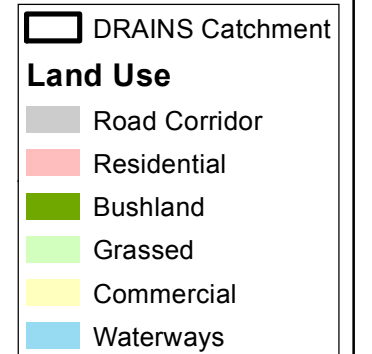
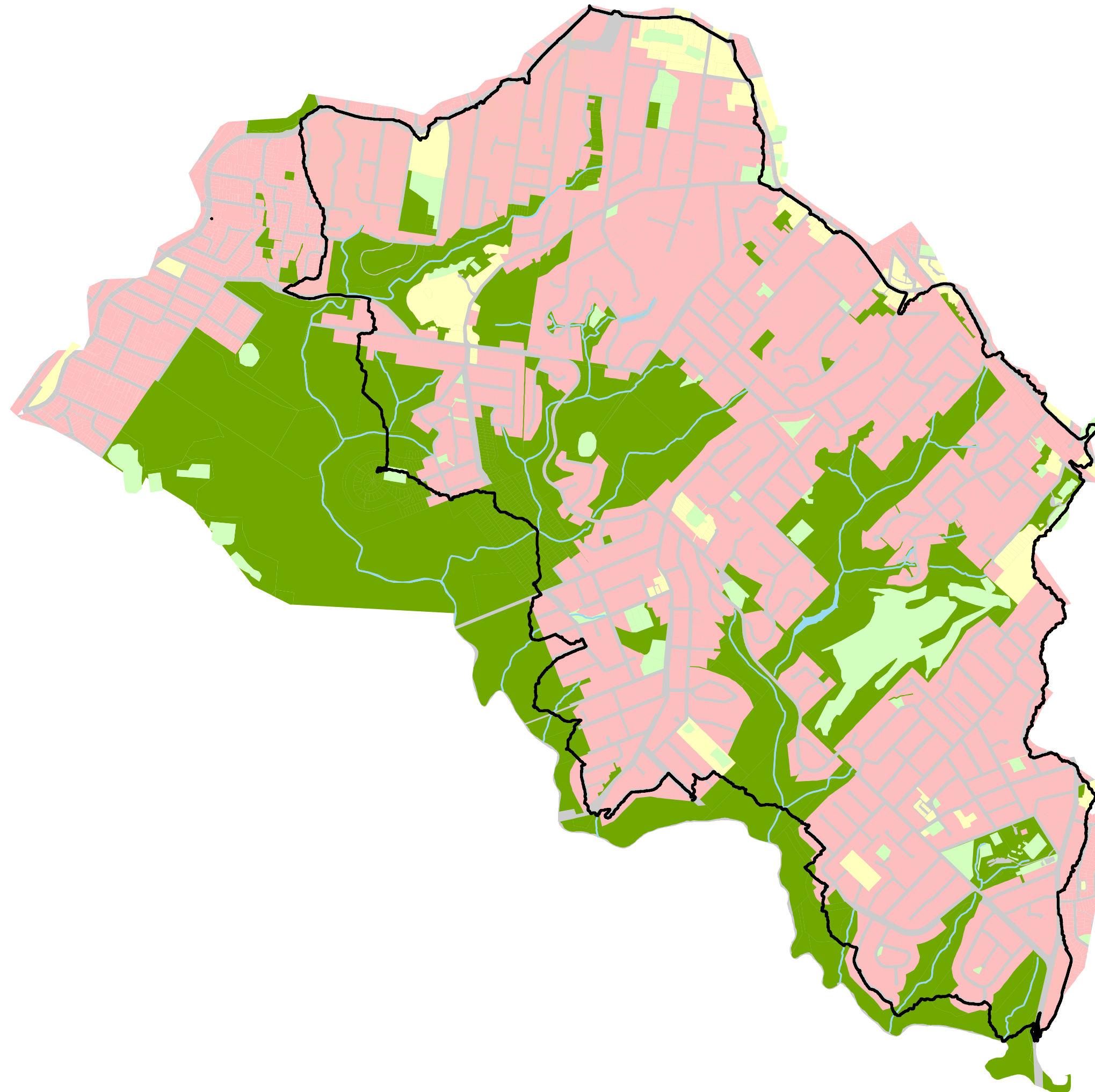
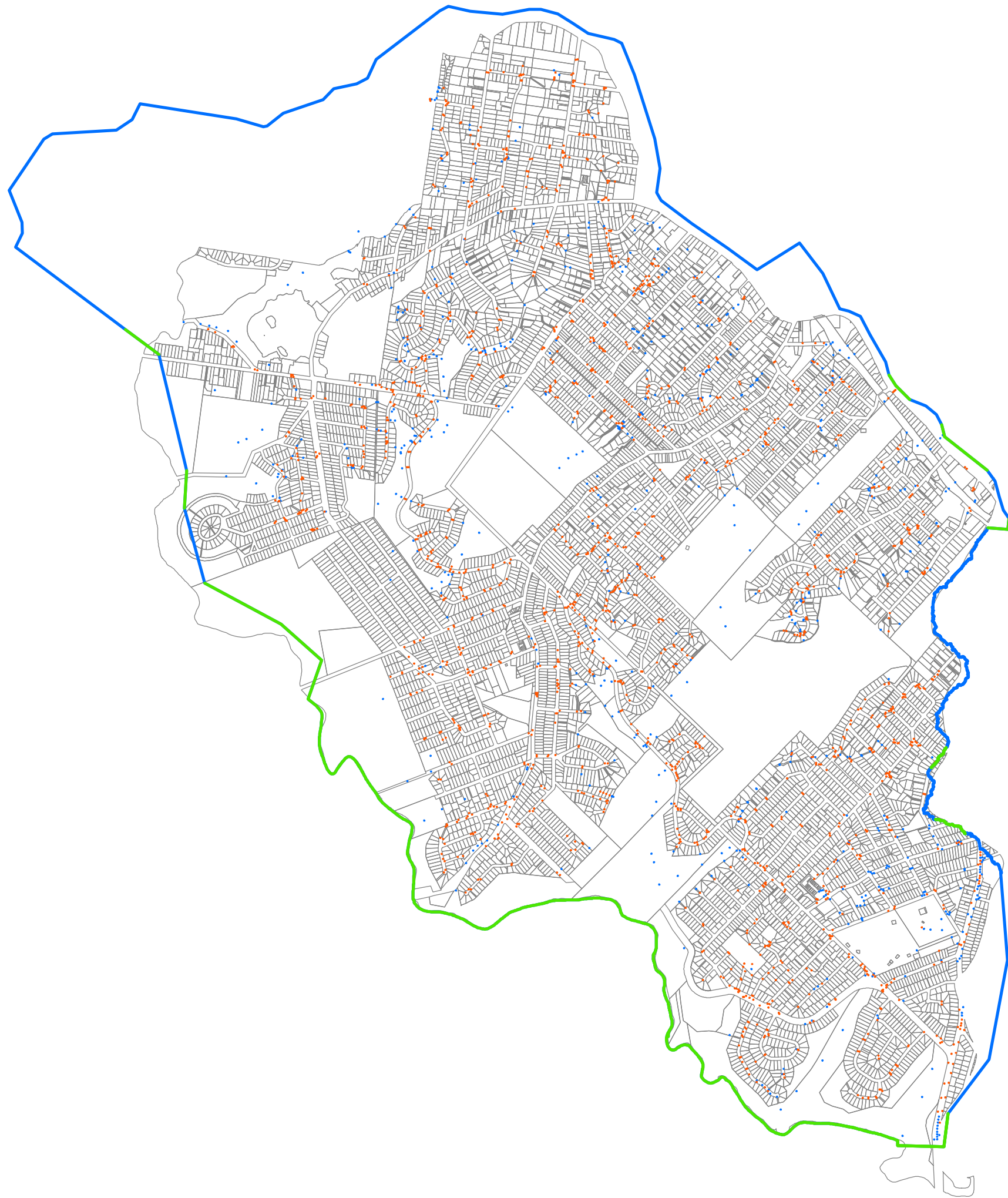


FIGURE 9
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
TUFLOW MODEL LAYOUT



- Cadastral
- Model Boundary
- Inflows at pits
- Inflows on flow paths
- Outflow Boundary

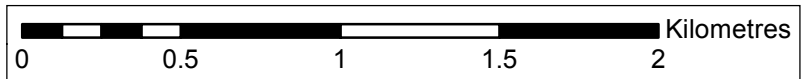
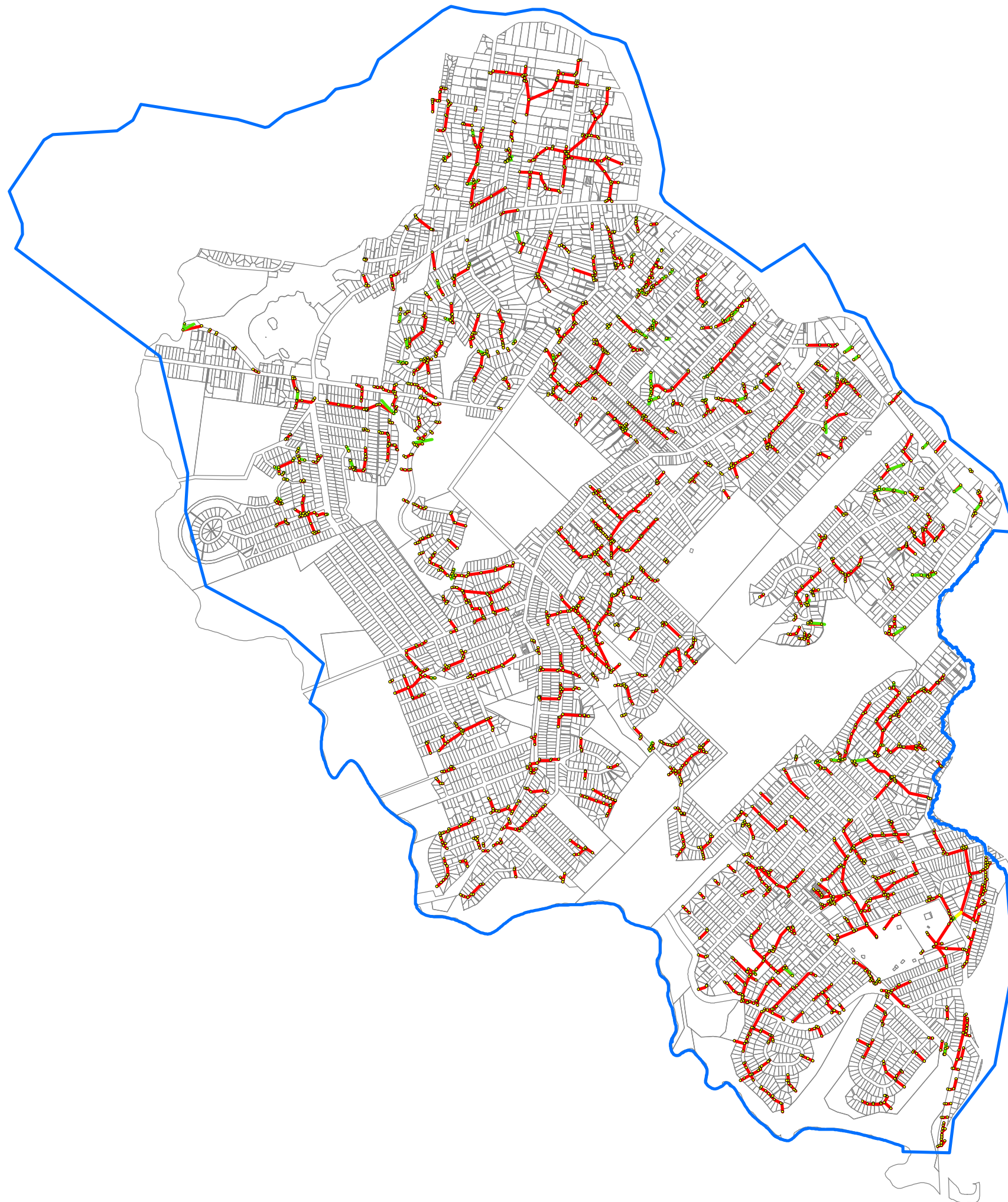


FIGURE 10
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
TUFLOW STORMWATER NETWORK



- Pits
- Pipes
- Culverts
- 1D channel
- Cadastre
- Study Area

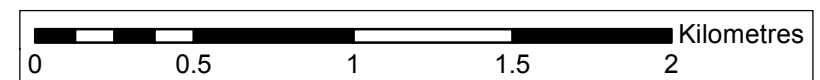
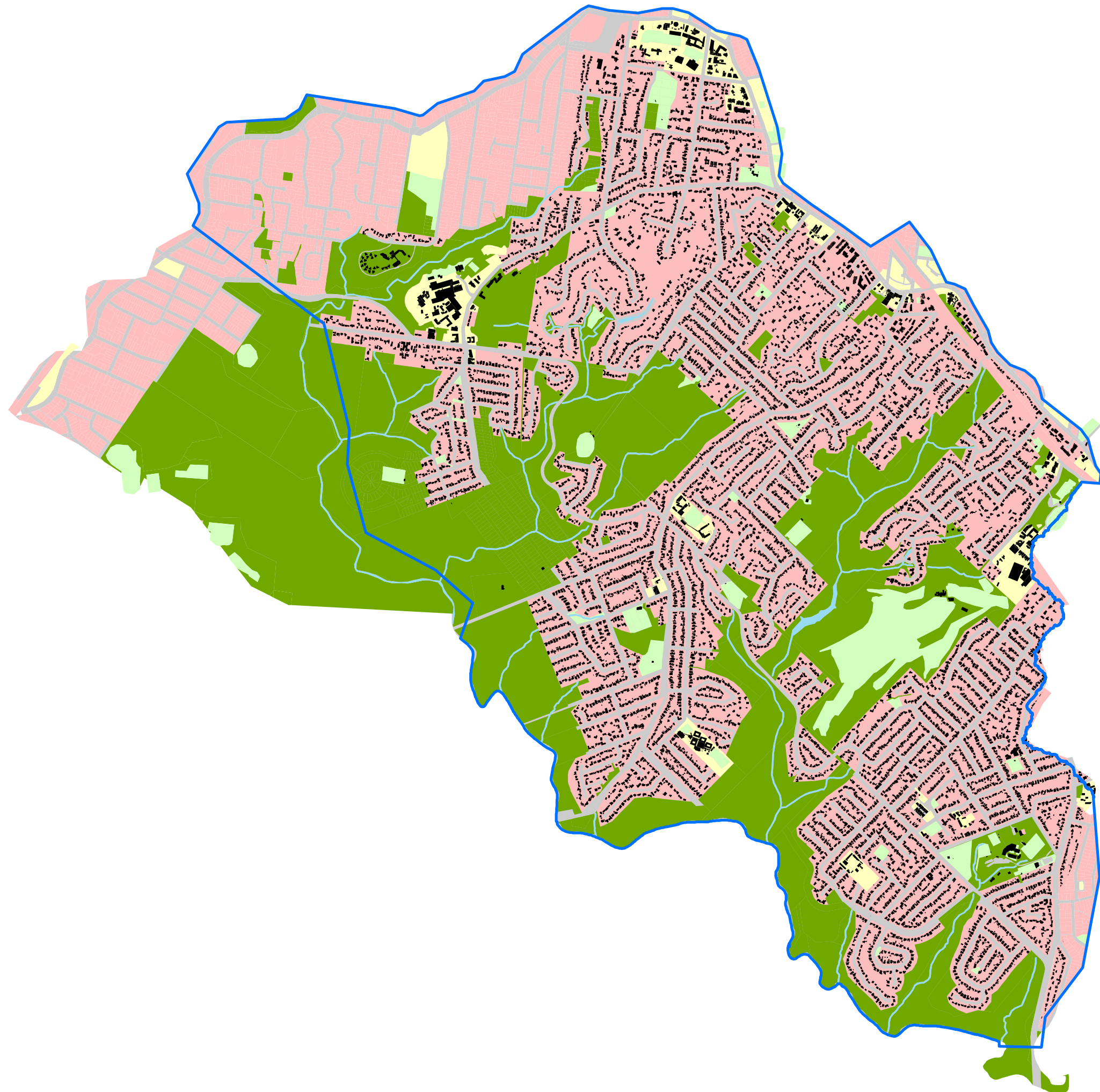


FIGURE 11
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
TUFLOW MODEL ROUGHNESS



- Model Boundary
- Buildings
- Roads/Pavements (0.03)
- Residential (0.06)
- Heavy Vegetation/Forest (0.15)
- Light Vegetation/Grass (0.04)
- Commercial (0.025)
- Waterway/channels (0.05)

0 0.5 1 1.5 2 Kilometres

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FIGURE 12
LANE COVE NORTHERN CATCHMENTS
RAINFALL ISOHYETS
11TH OF JUNE 1991

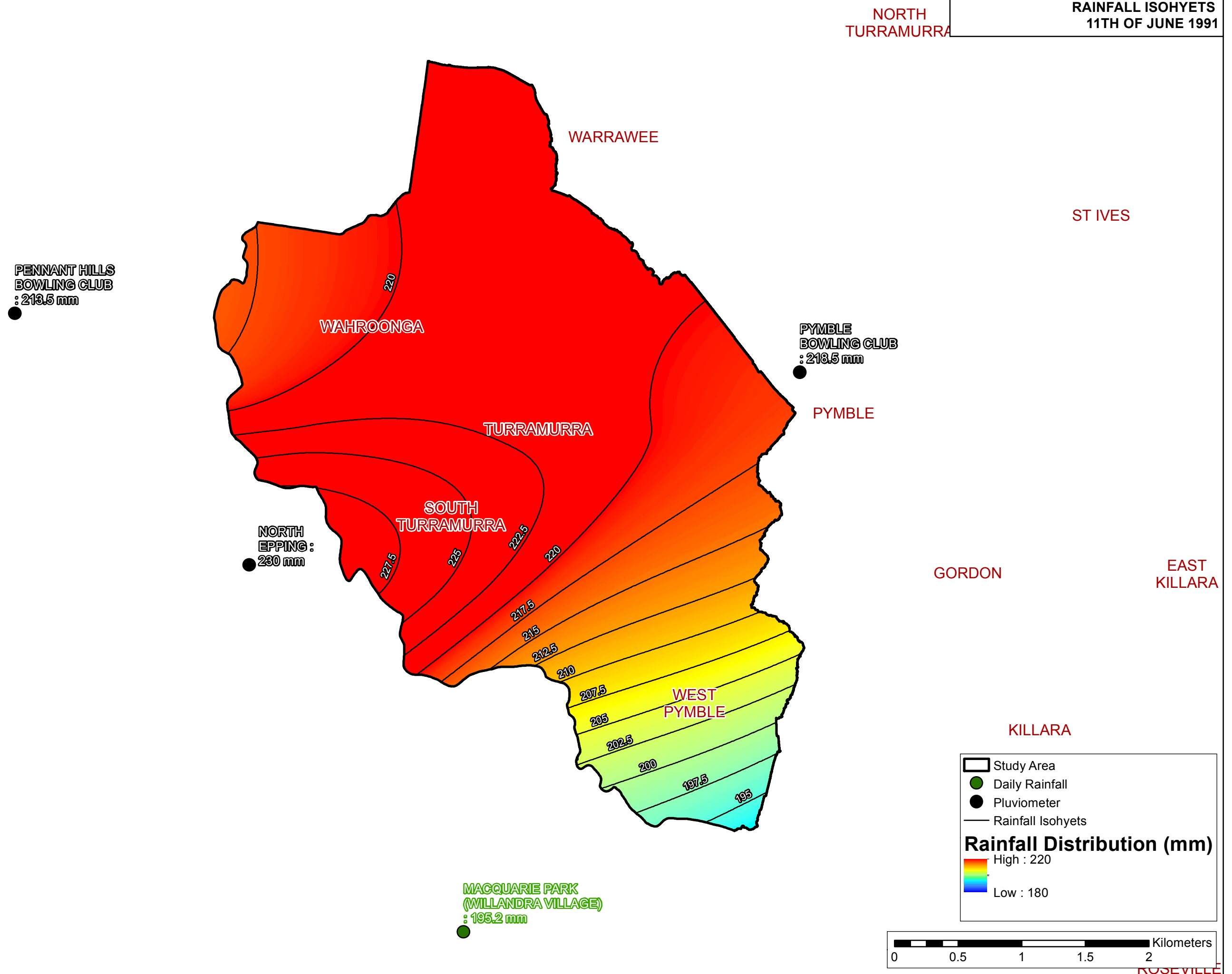


FIGURE 13
CUMULATIVE RAINFALL DATA
1991 EVENT

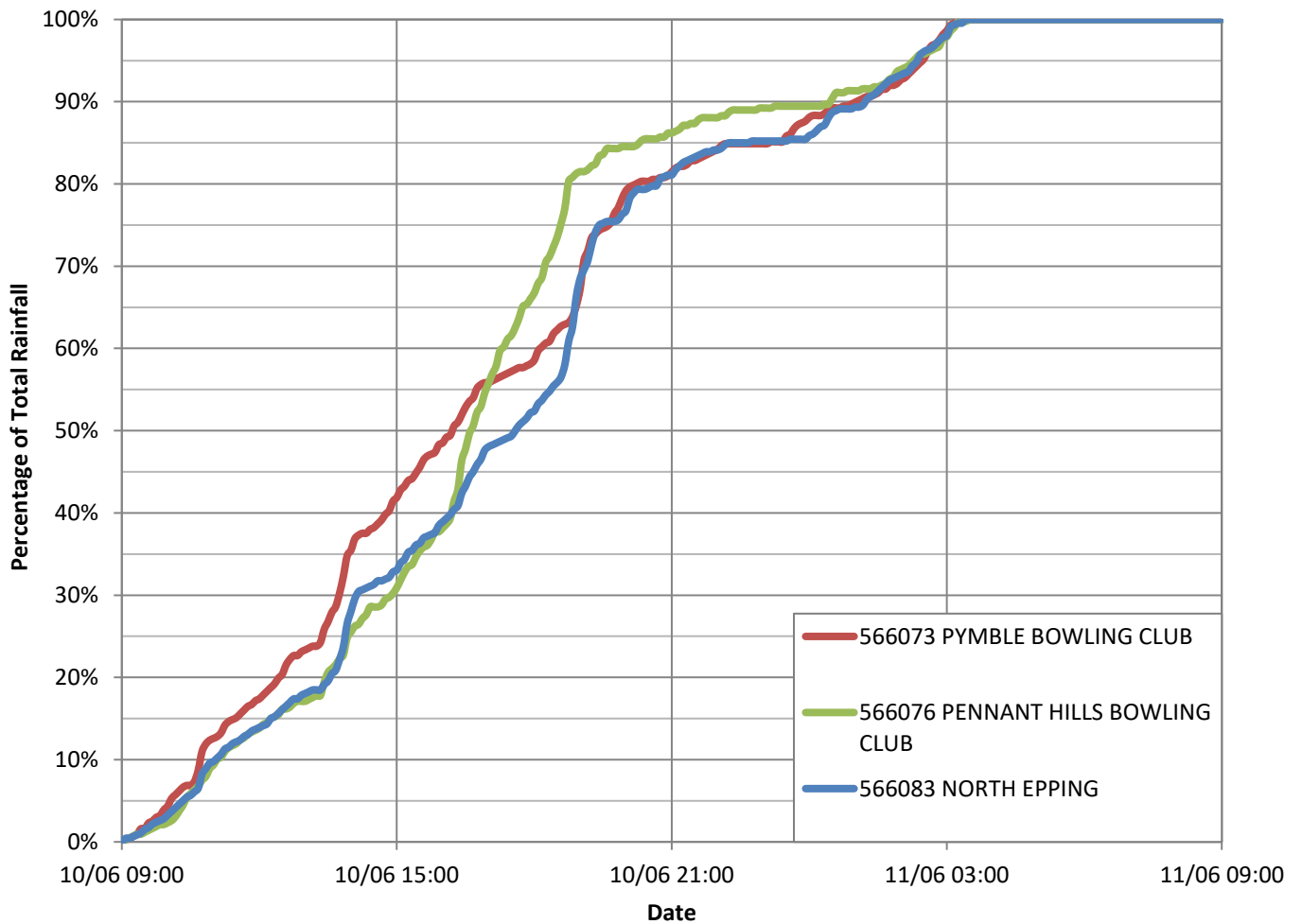
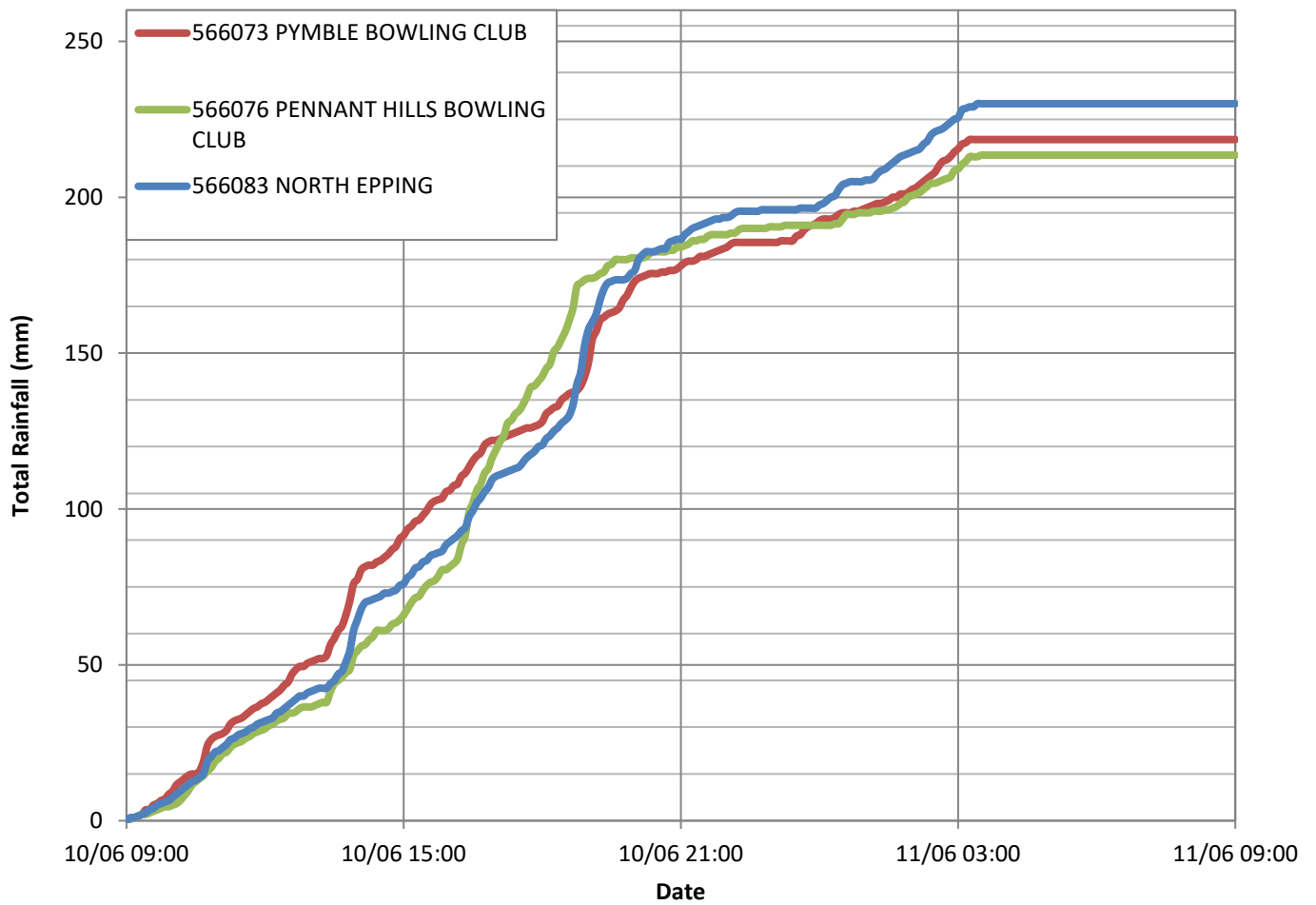


FIGURE 14
BURST INTENSITIES AND FREQUENCIES
1991 FLOOD EVENT

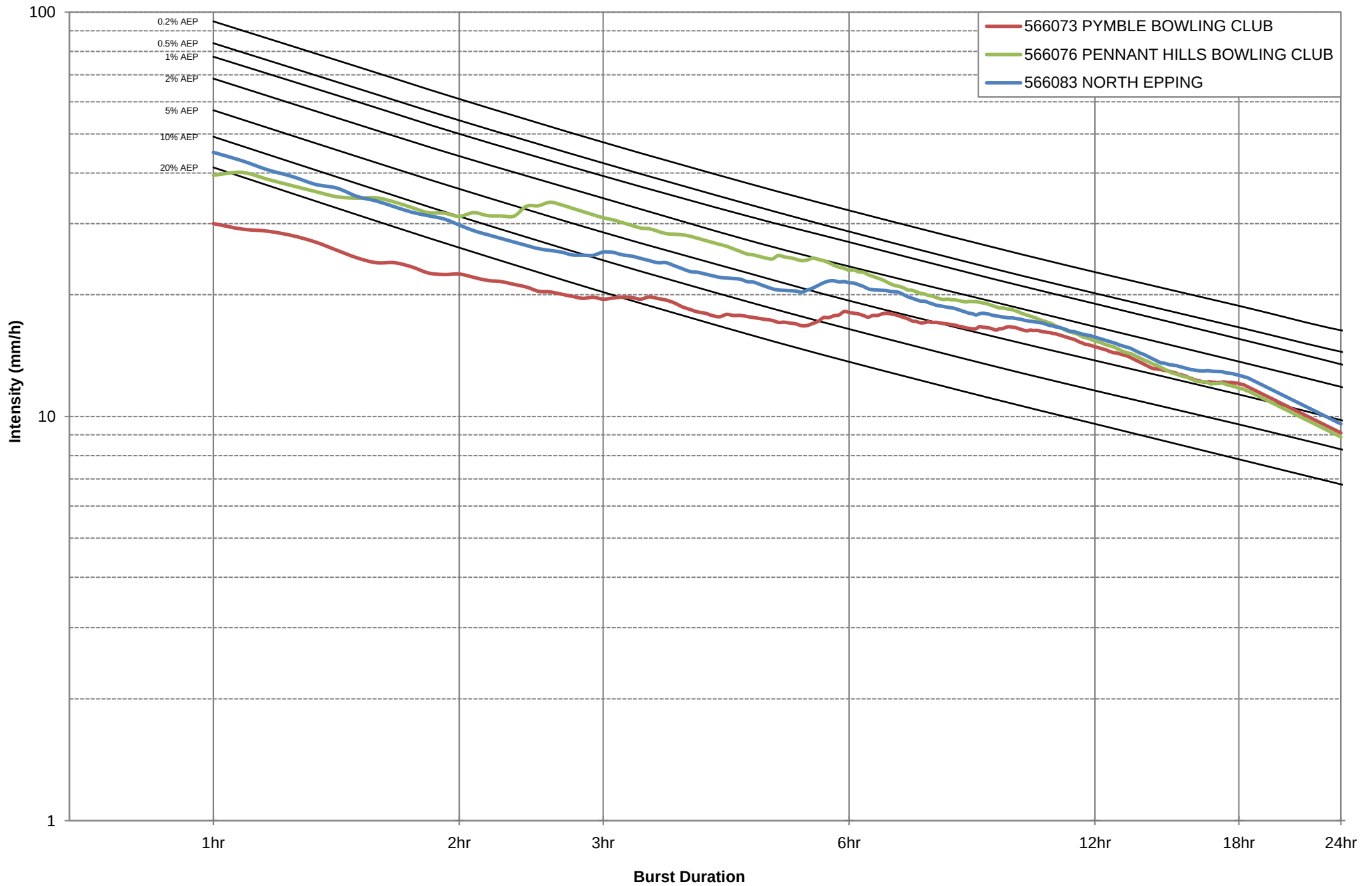


FIGURE 15
LANE COVE NORTHERN CATCHMENTS
RAINFALL ISOHYETS
10TH OF FEBRUARY 2020

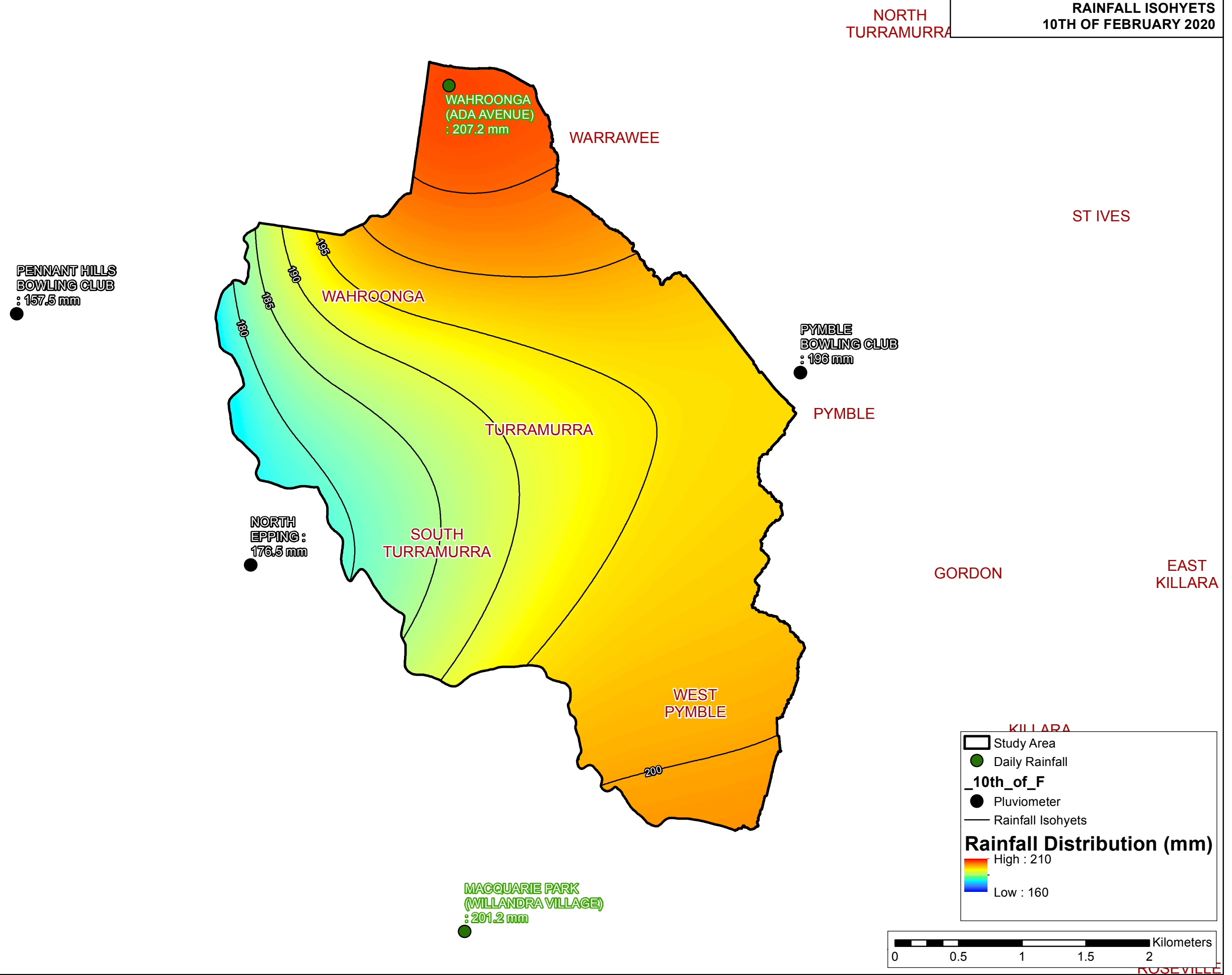


FIGURE 16
CUMULATIVE RAINFALL DATA
2020 EVENT

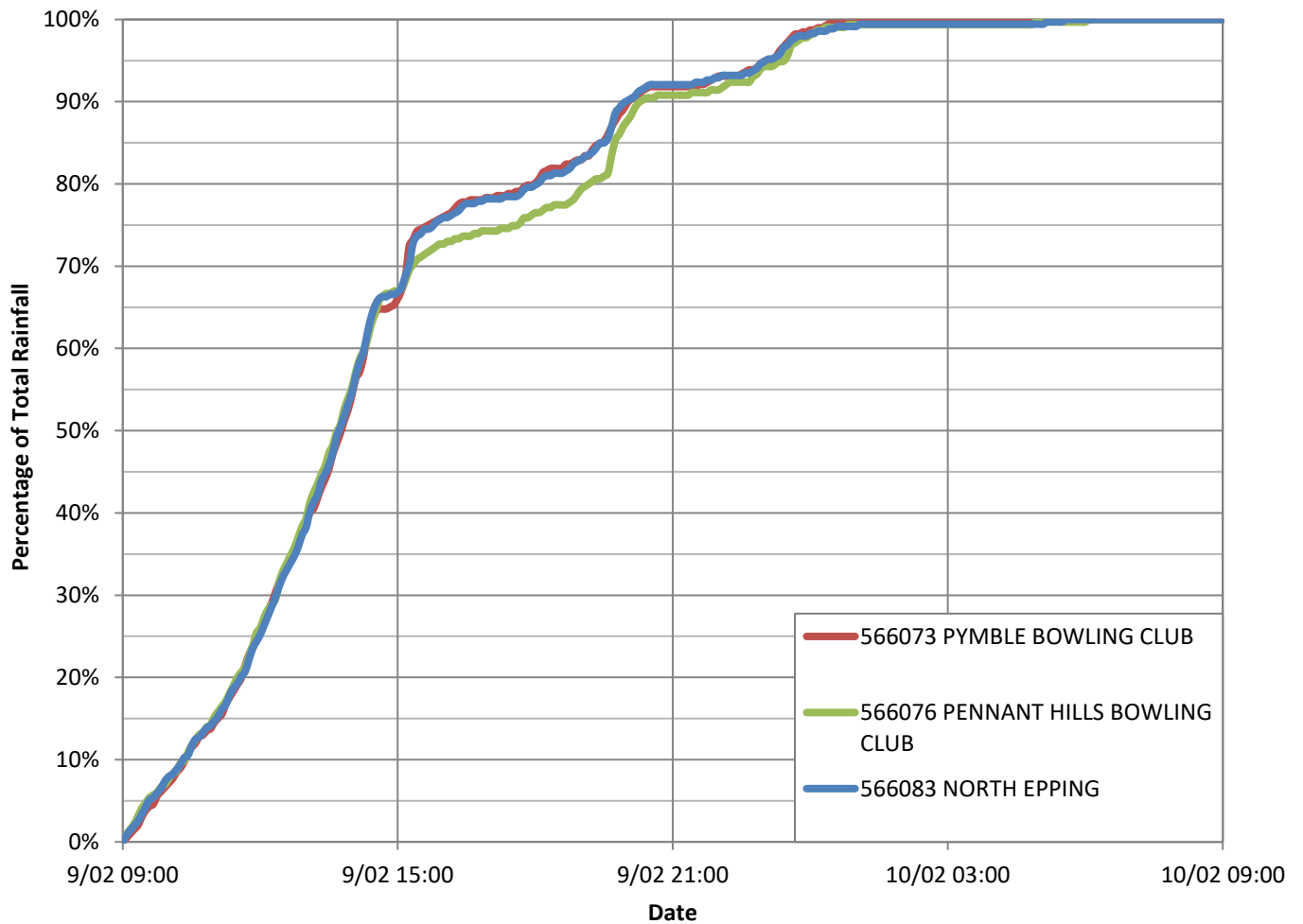
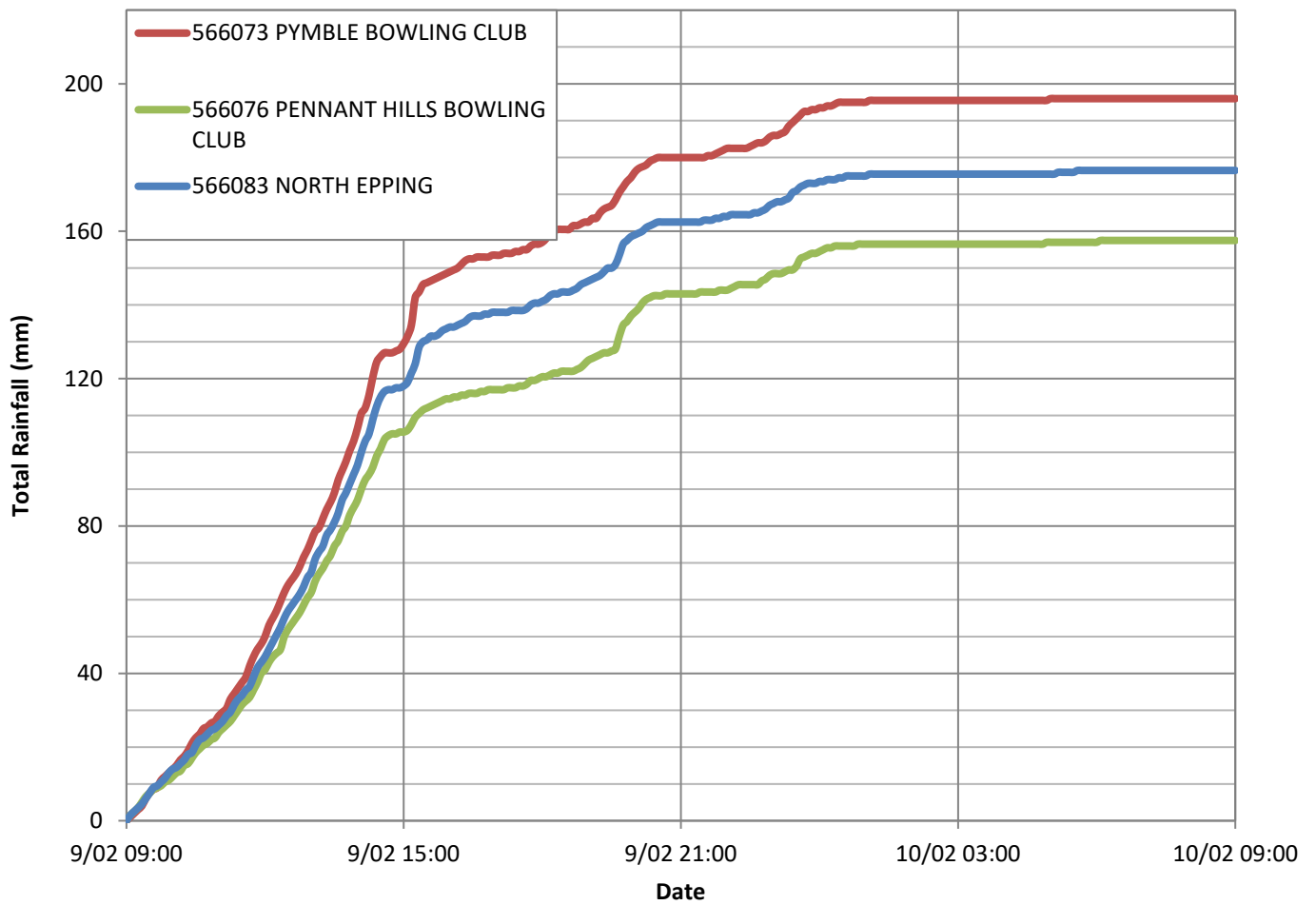
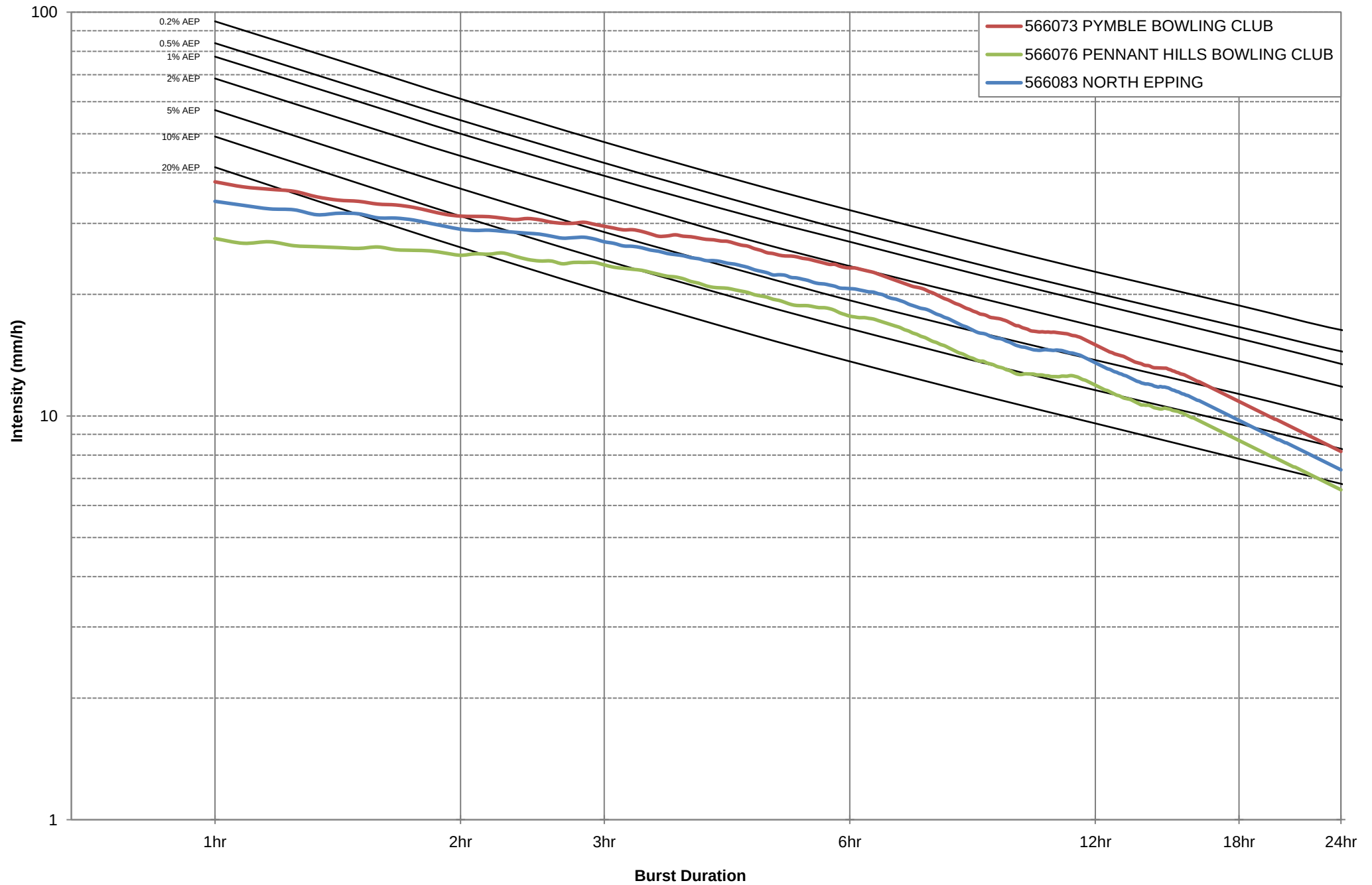


FIGURE 17
BURST INTENSITIES AND FREQUENCIES
2020 FLOOD EVENT



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FIGURE 18
LANE COVE NORTHERN CATCHMENTS
RAINFALL ISOHYETS
21ST OF MARCH 2021

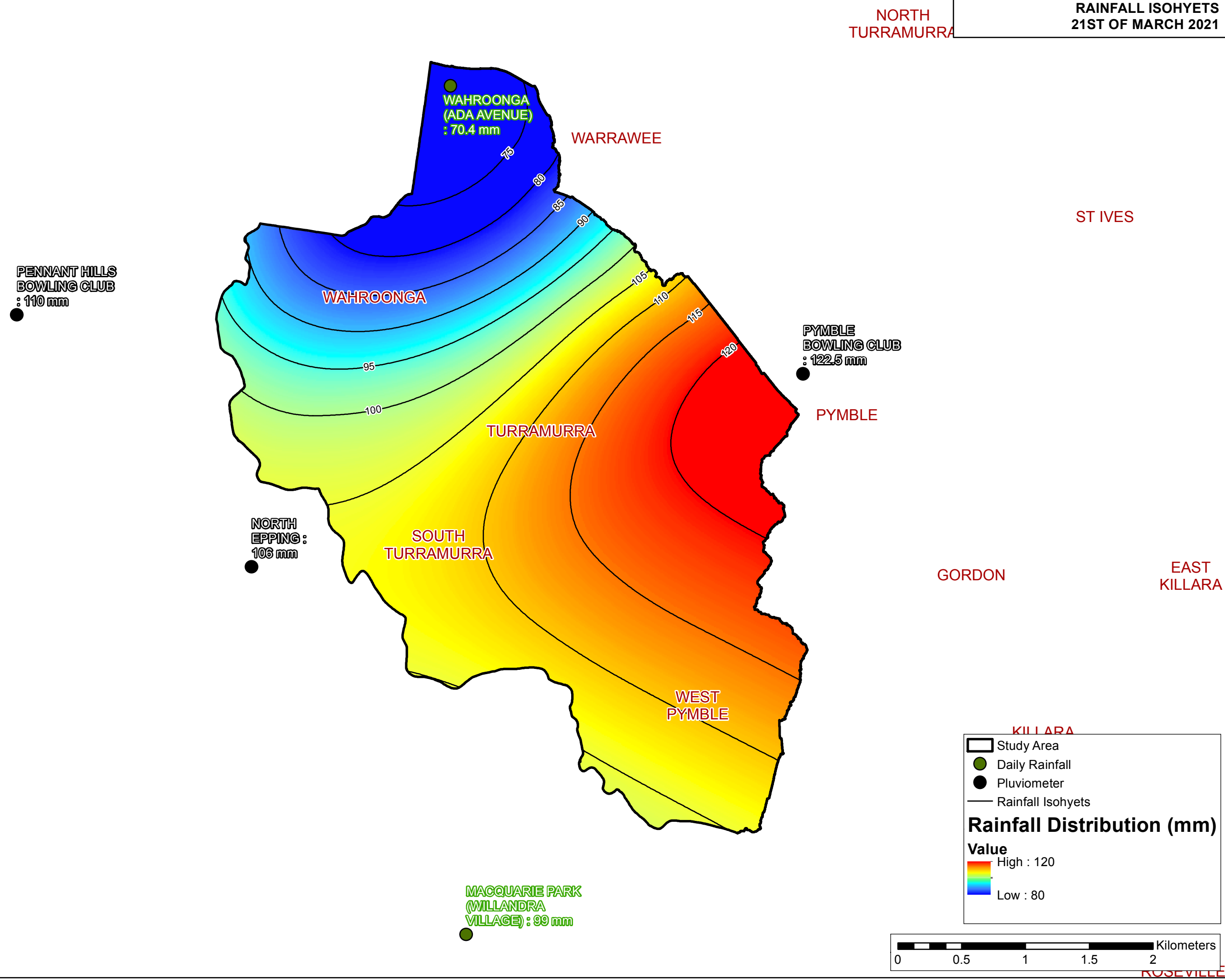


FIGURE 19
CUMULATIVE RAINFALL DATA
2021 EVENT

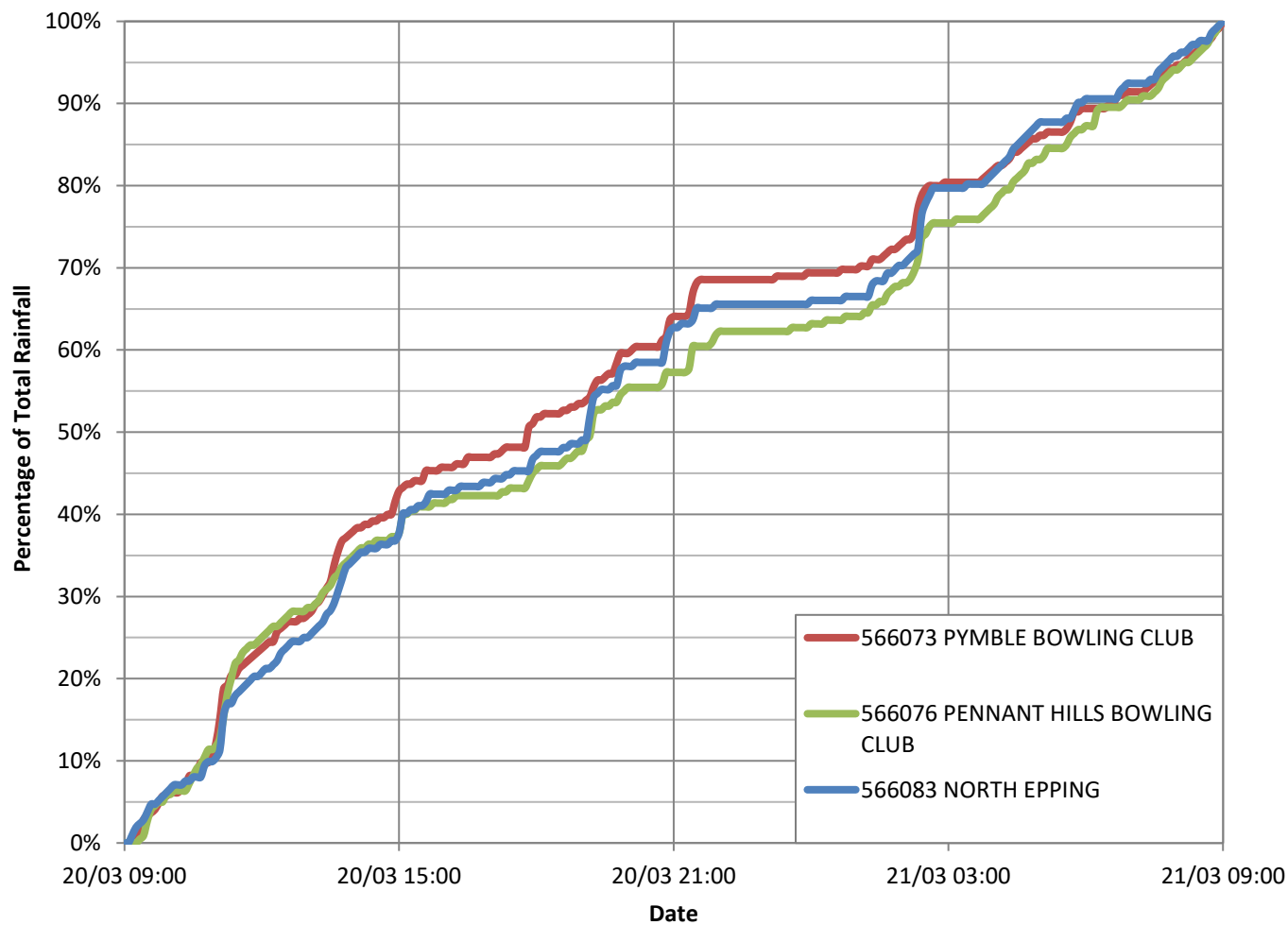
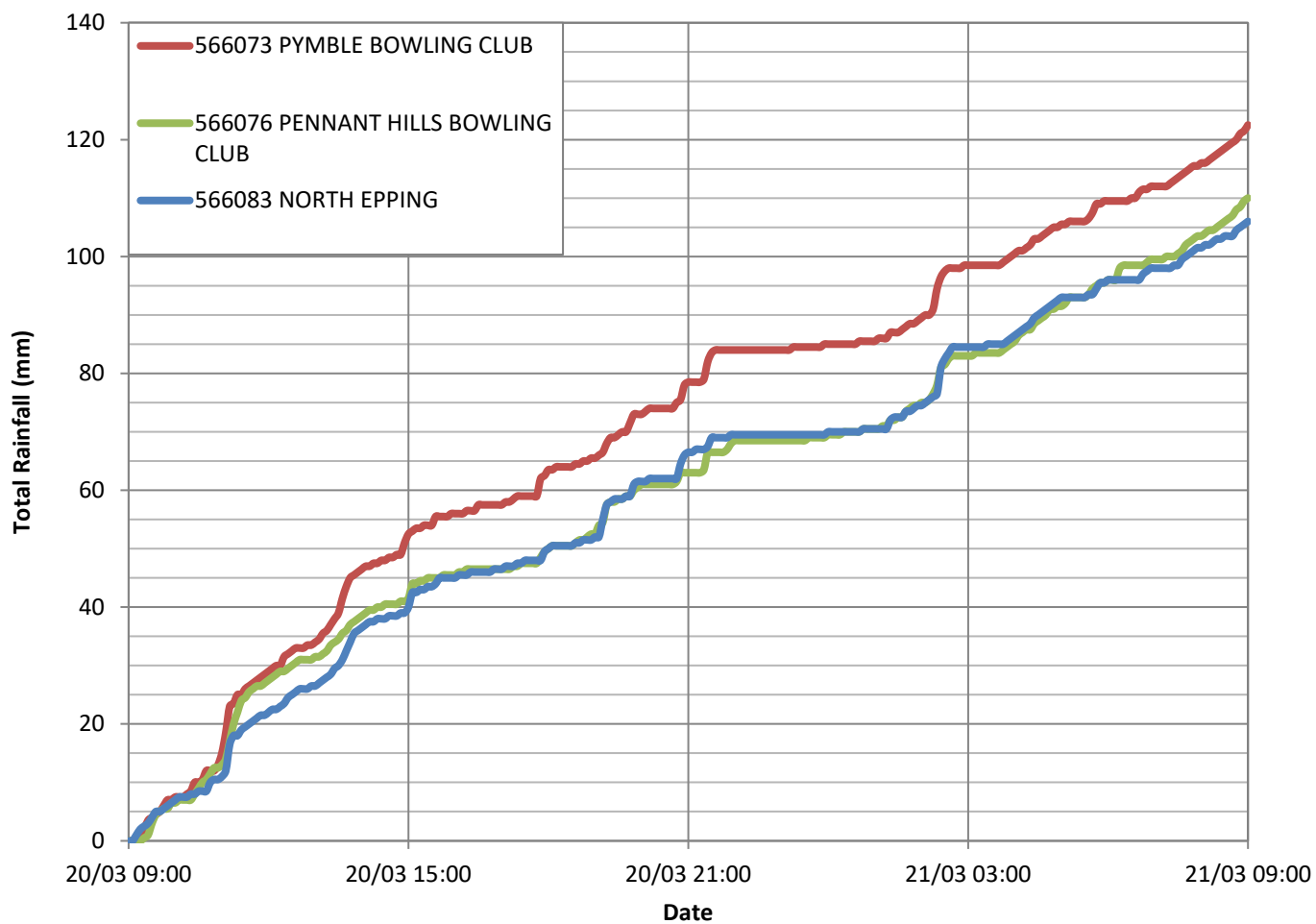


FIGURE 20
BURST INTENSITIES AND FREQUENCIES
2021 FLOOD EVENT

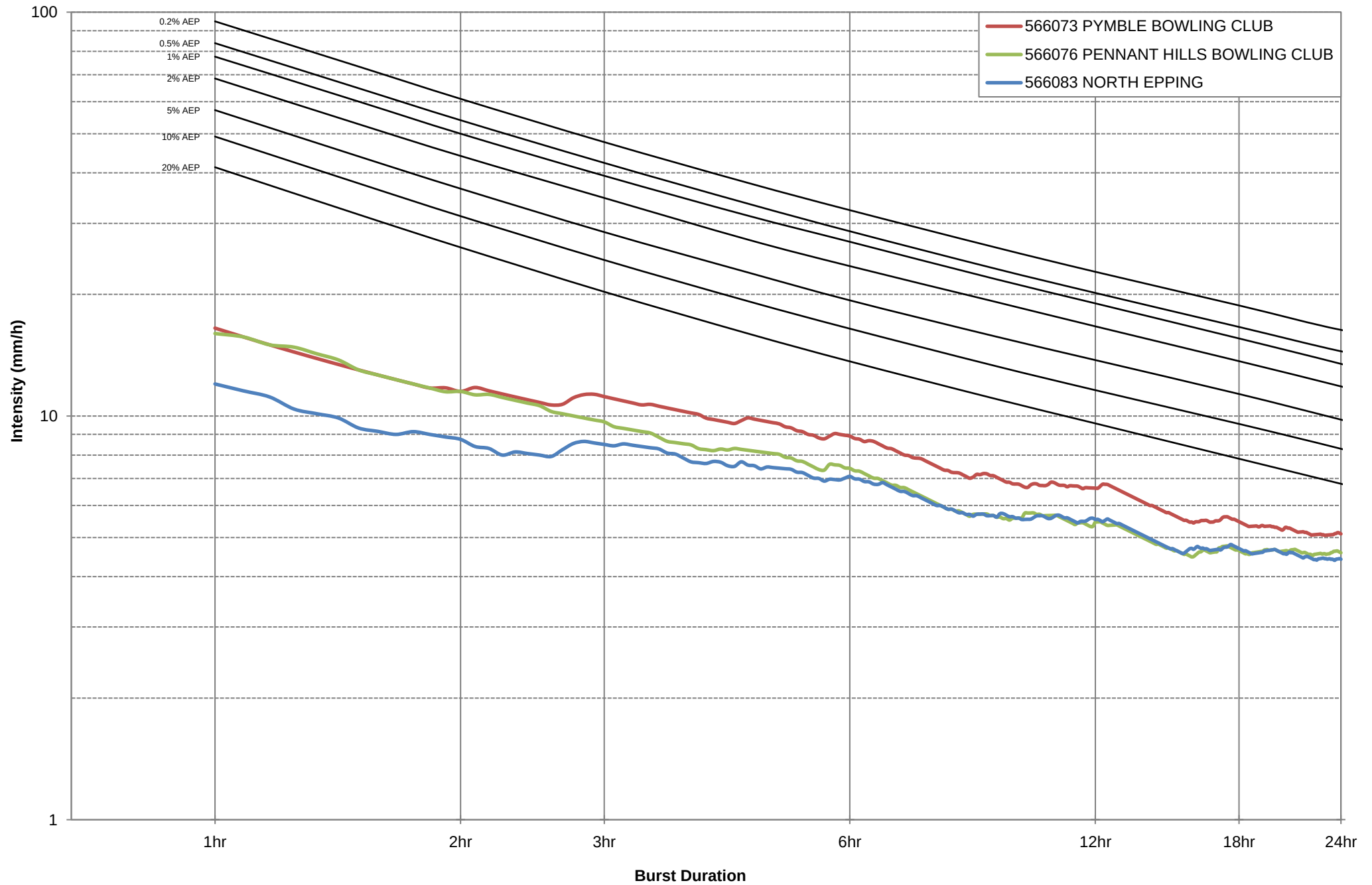


FIGURE 21
LANE COVE NORTHERN CATCHMENTS
RAINFALL ISOHYETS
9TH OF MARCH 2022

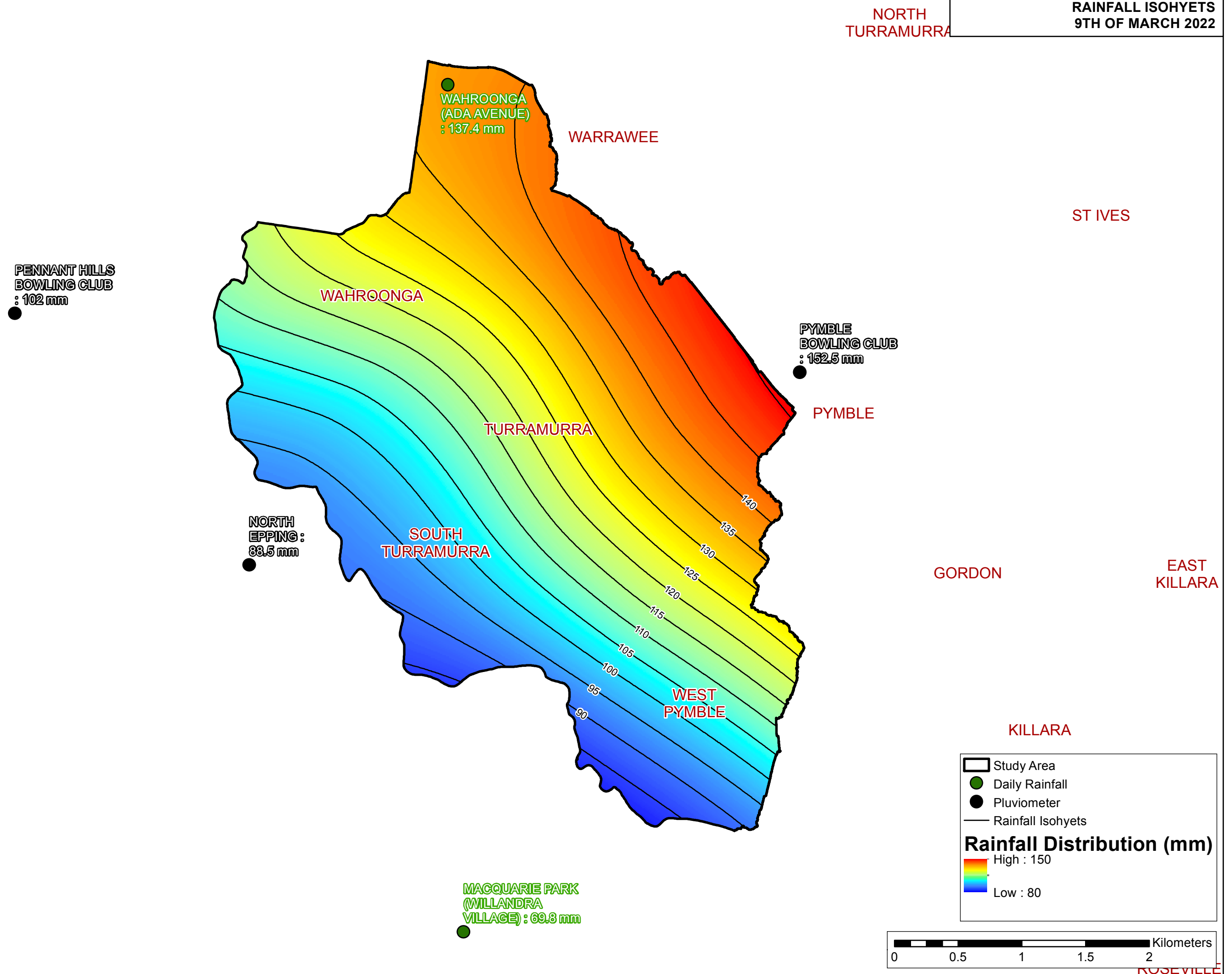


FIGURE 22
CUMULATIVE RAINFALL DATA
2022 EVENT

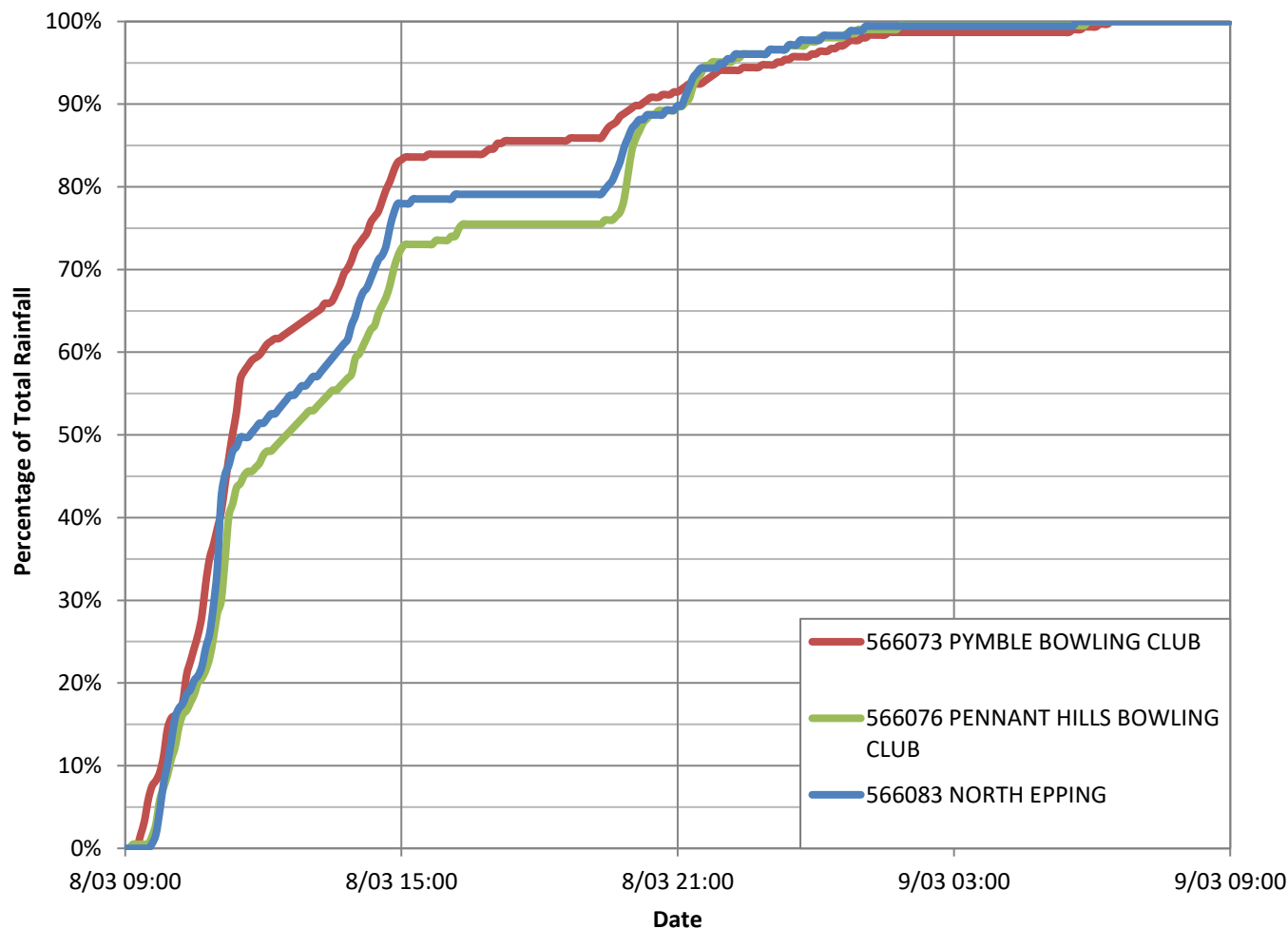
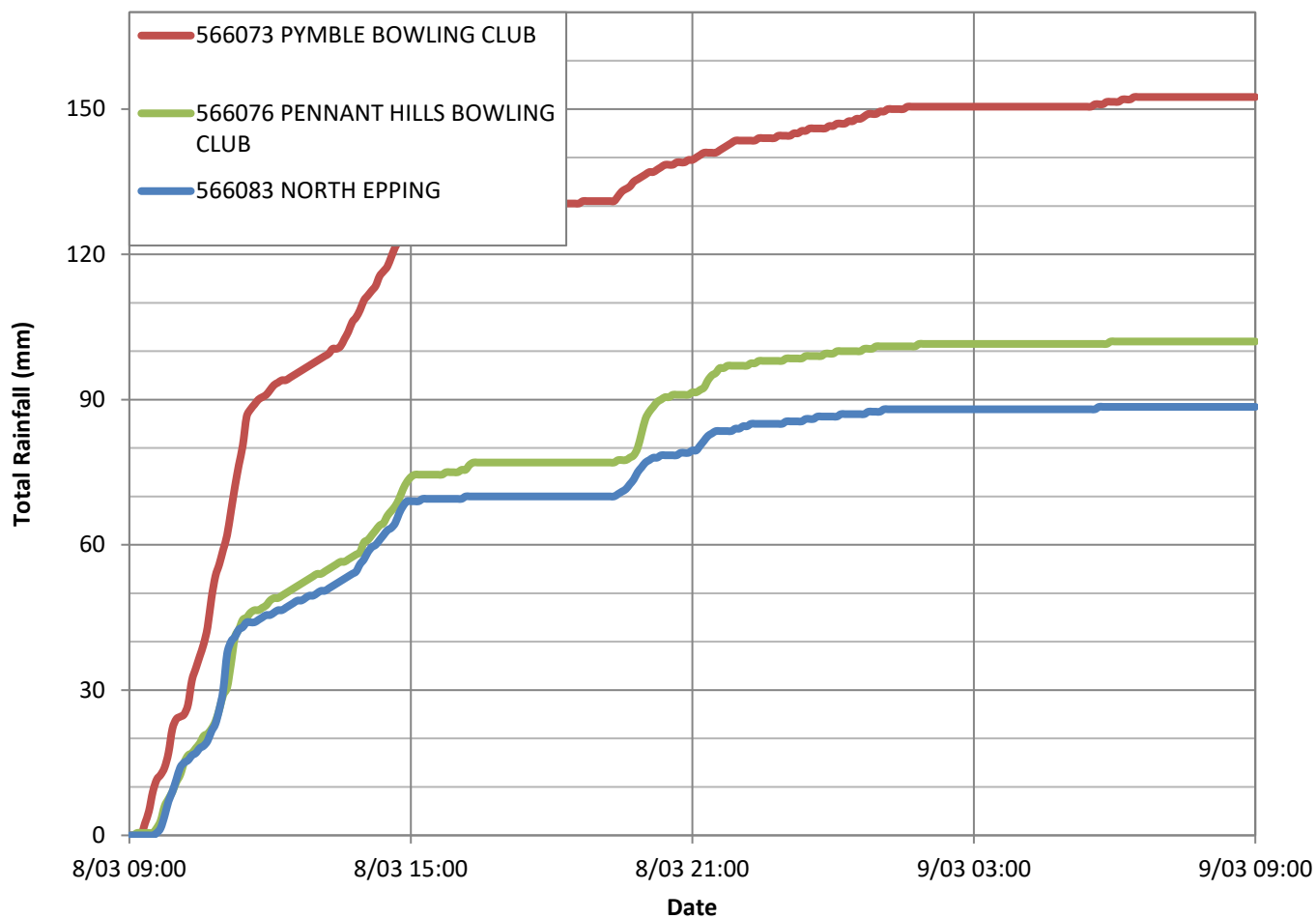


FIGURE 23
BURST INTENSITIES AND FREQUENCIES
2022 FLOOD EVENT

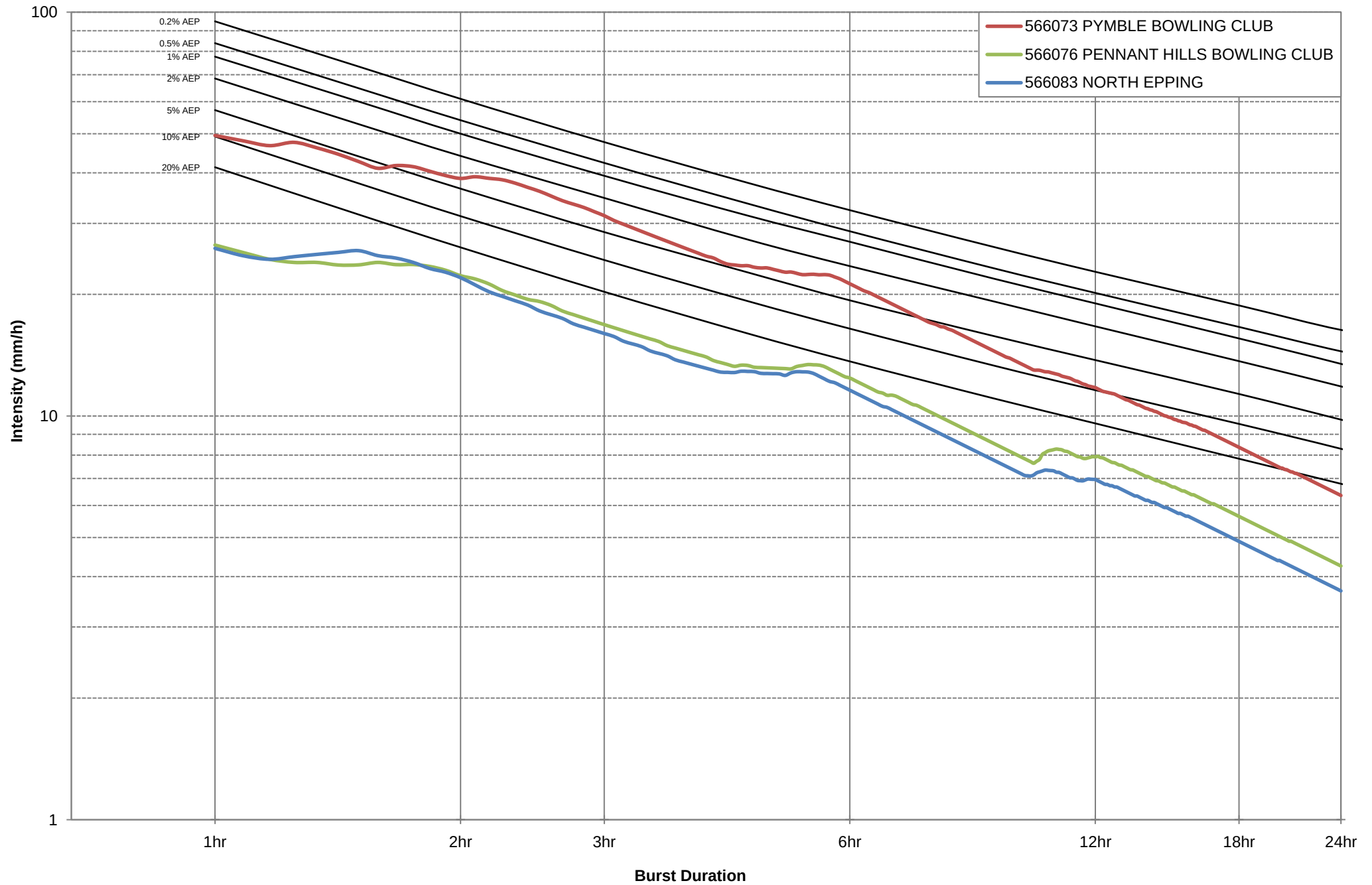


FIGURE 24
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
PEAK FLOOD DEPTH
JUNE 1991

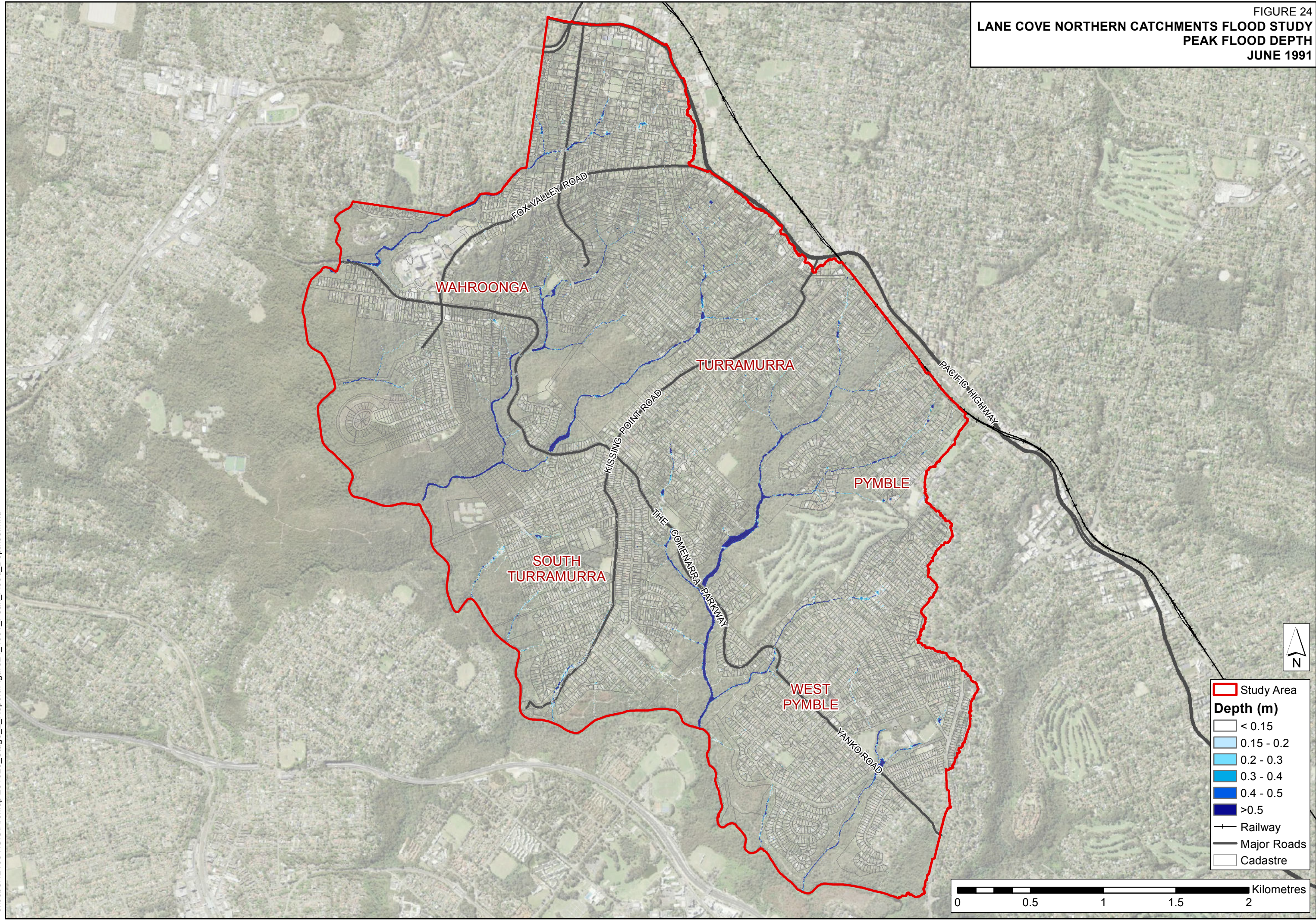
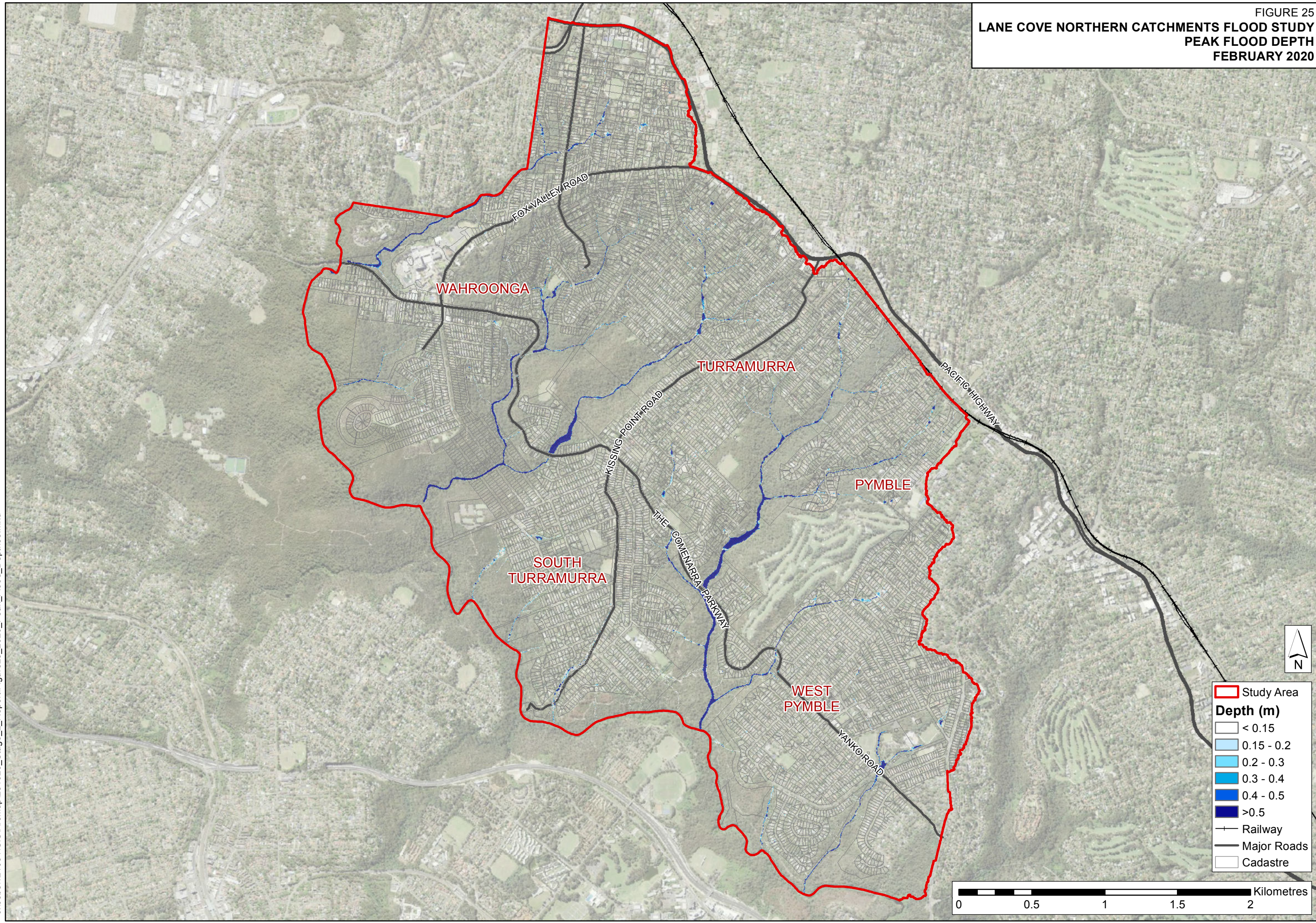


FIGURE 25
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
PEAK FLOOD DEPTH
FEBRUARY 2020

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Study Area

Depth (m)

- < 0.15
- 0.15 - 0.2
- 0.2 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- > 0.5

—+— Railway

— Major Roads

— Cadastre

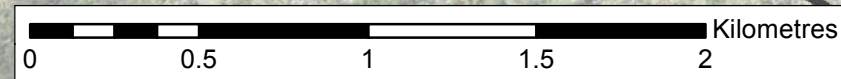


FIGURE 26
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
PEAK FLOOD DEPTH
MARCH 2021

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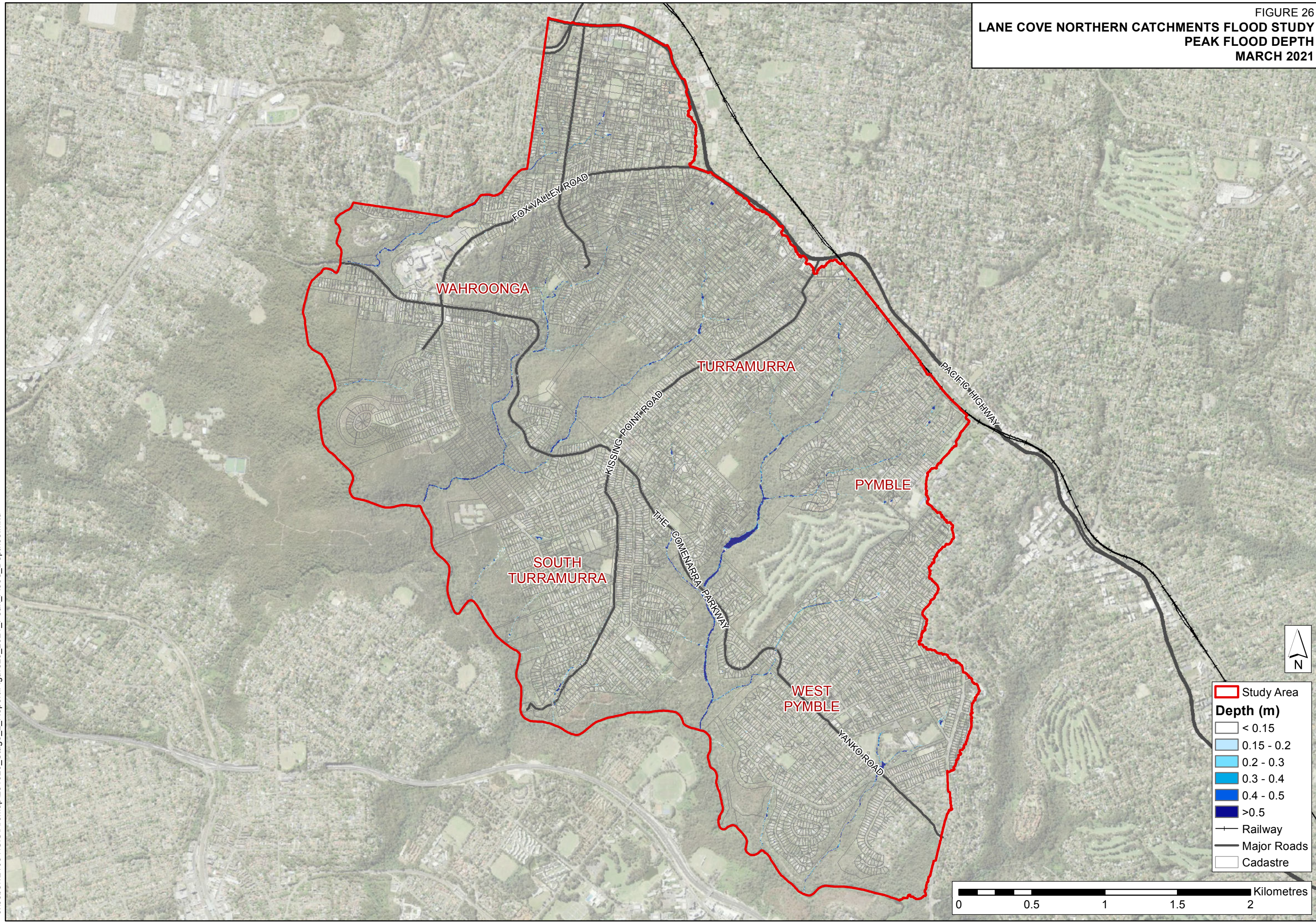
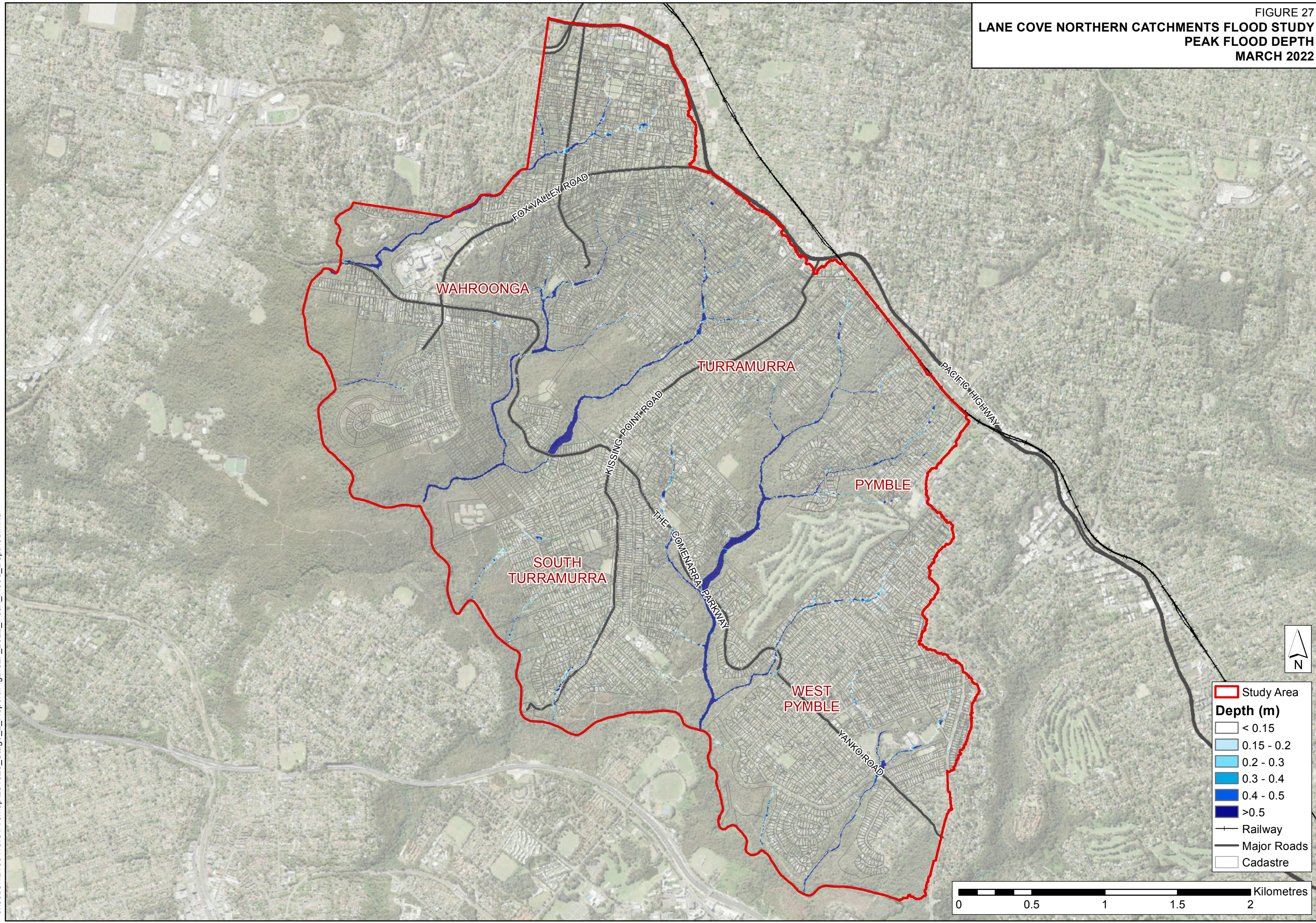
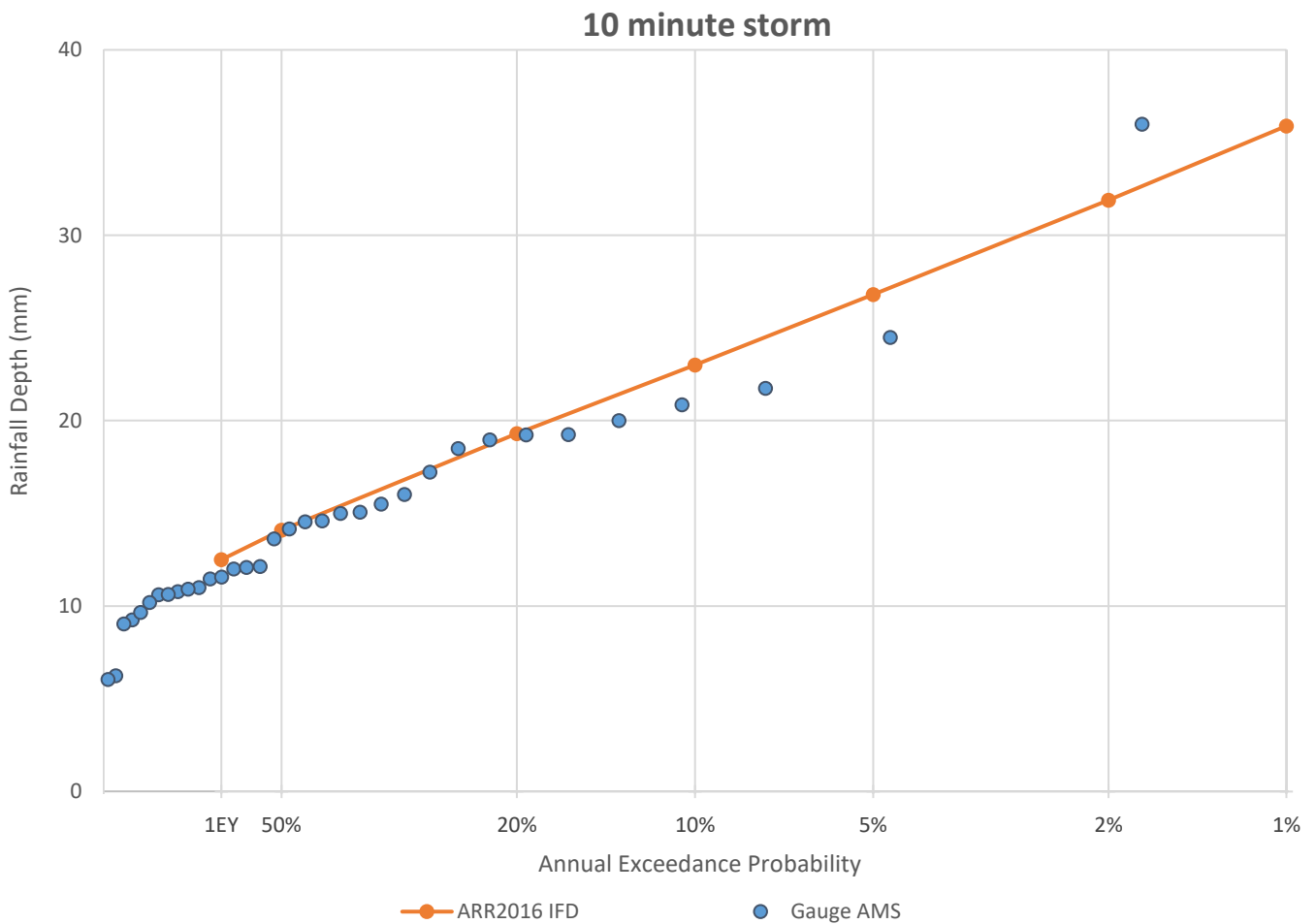
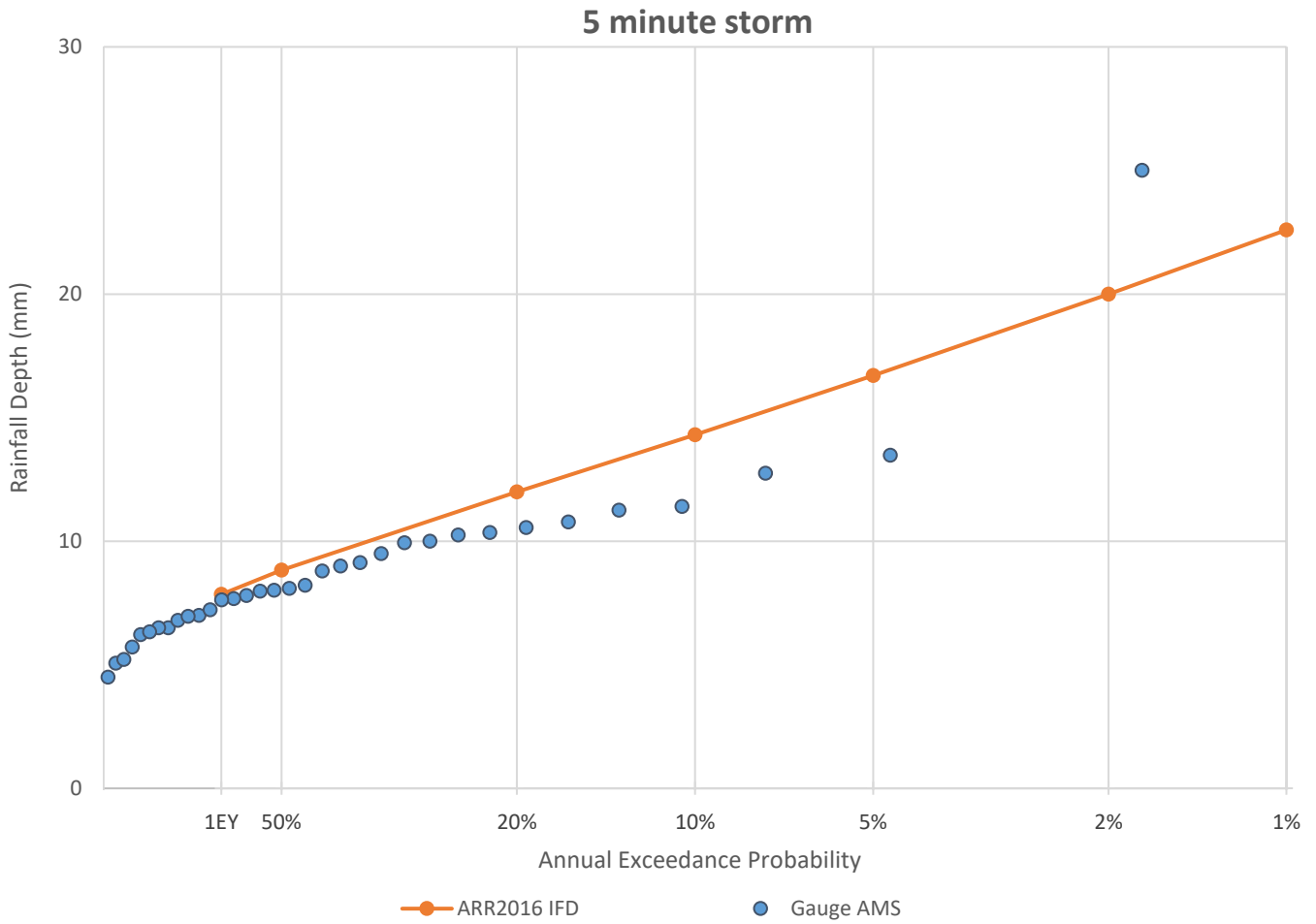
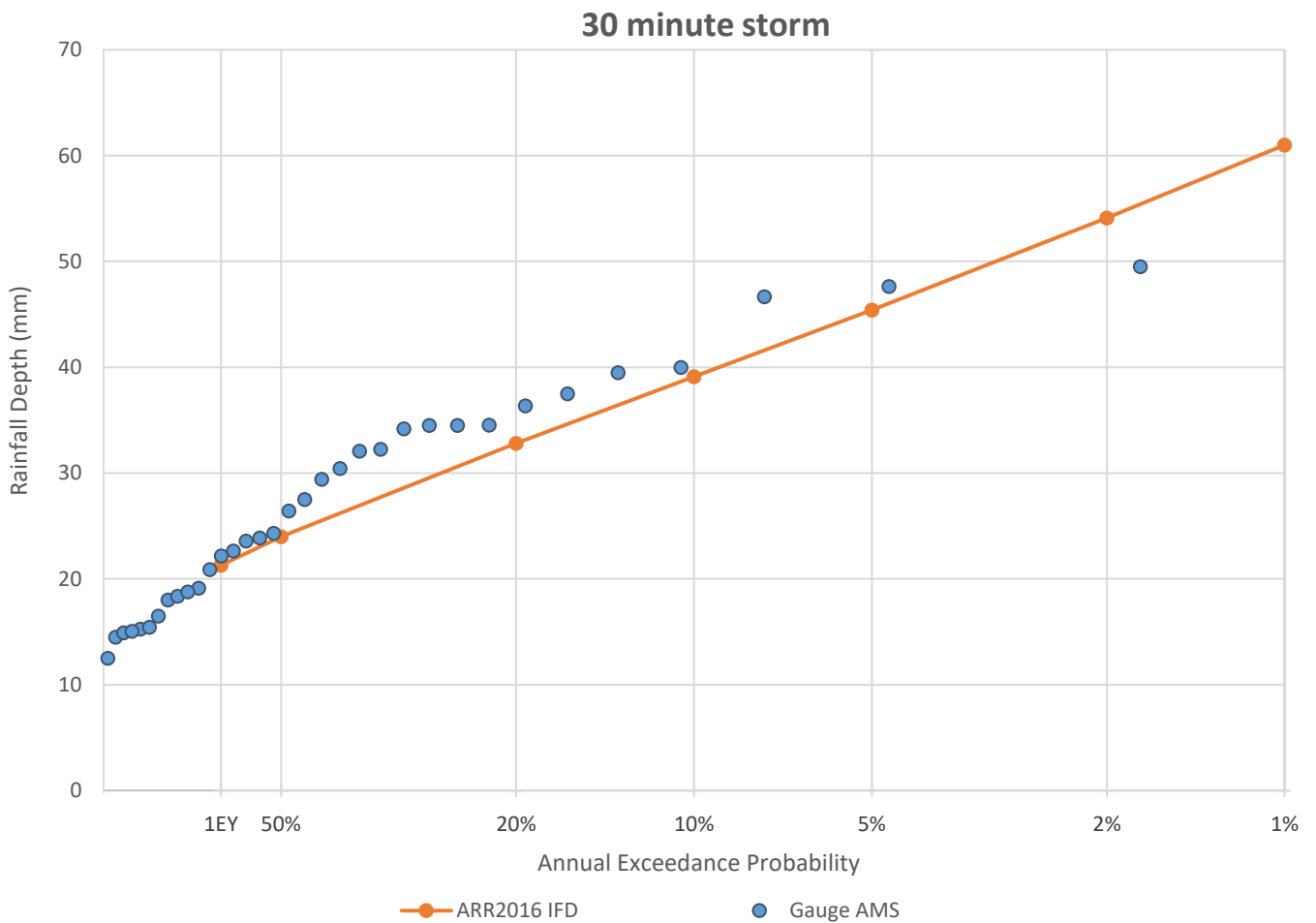
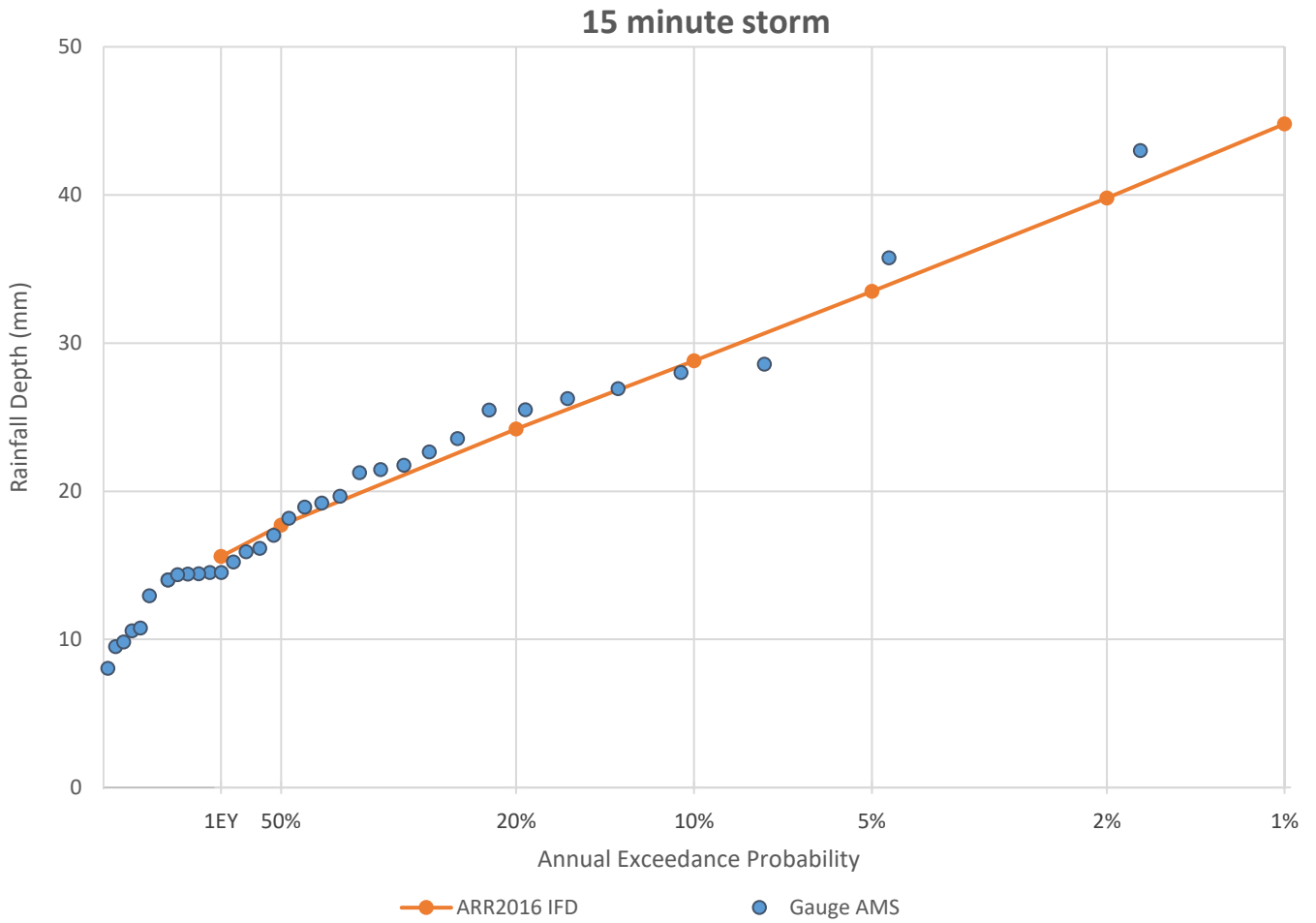
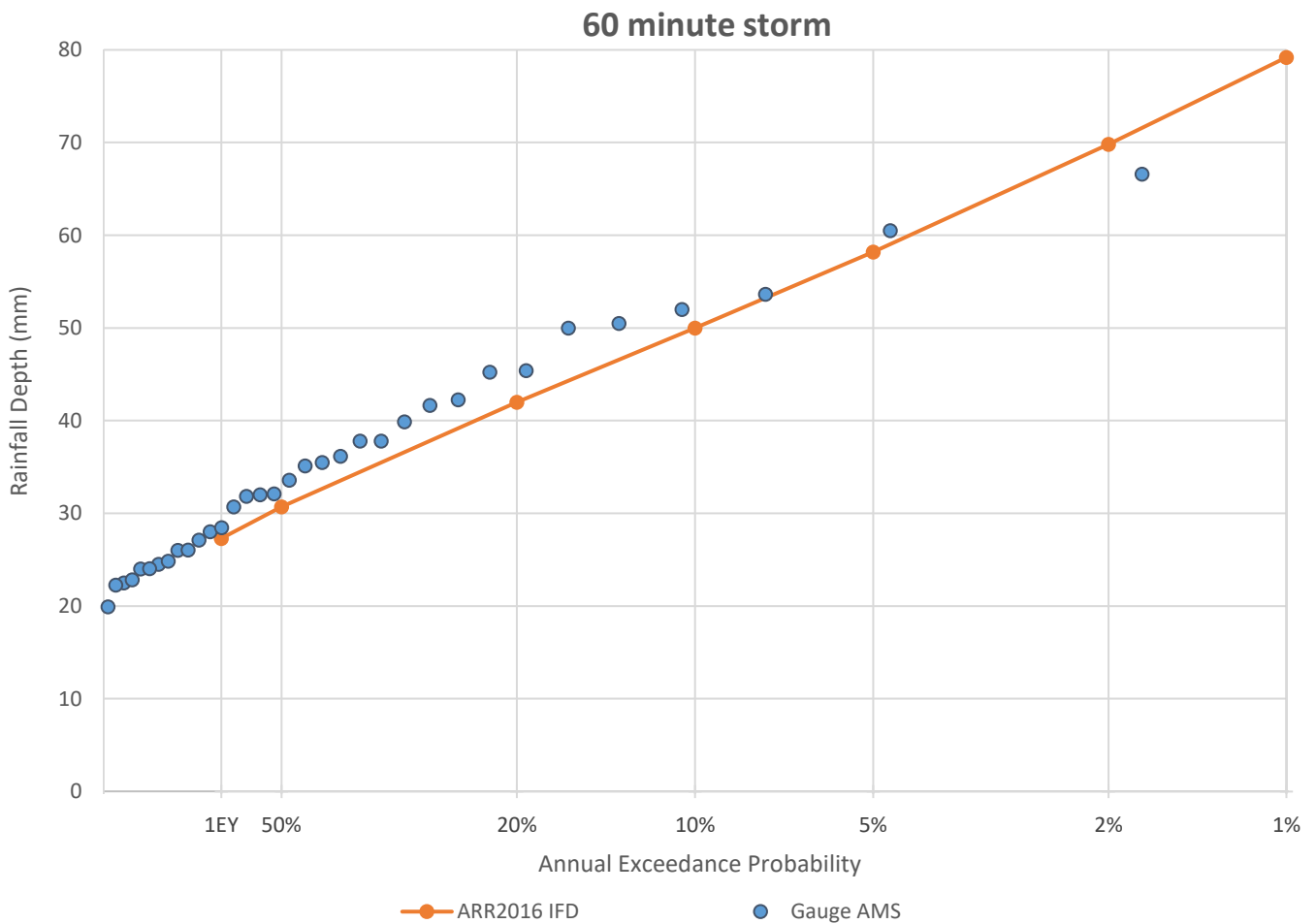
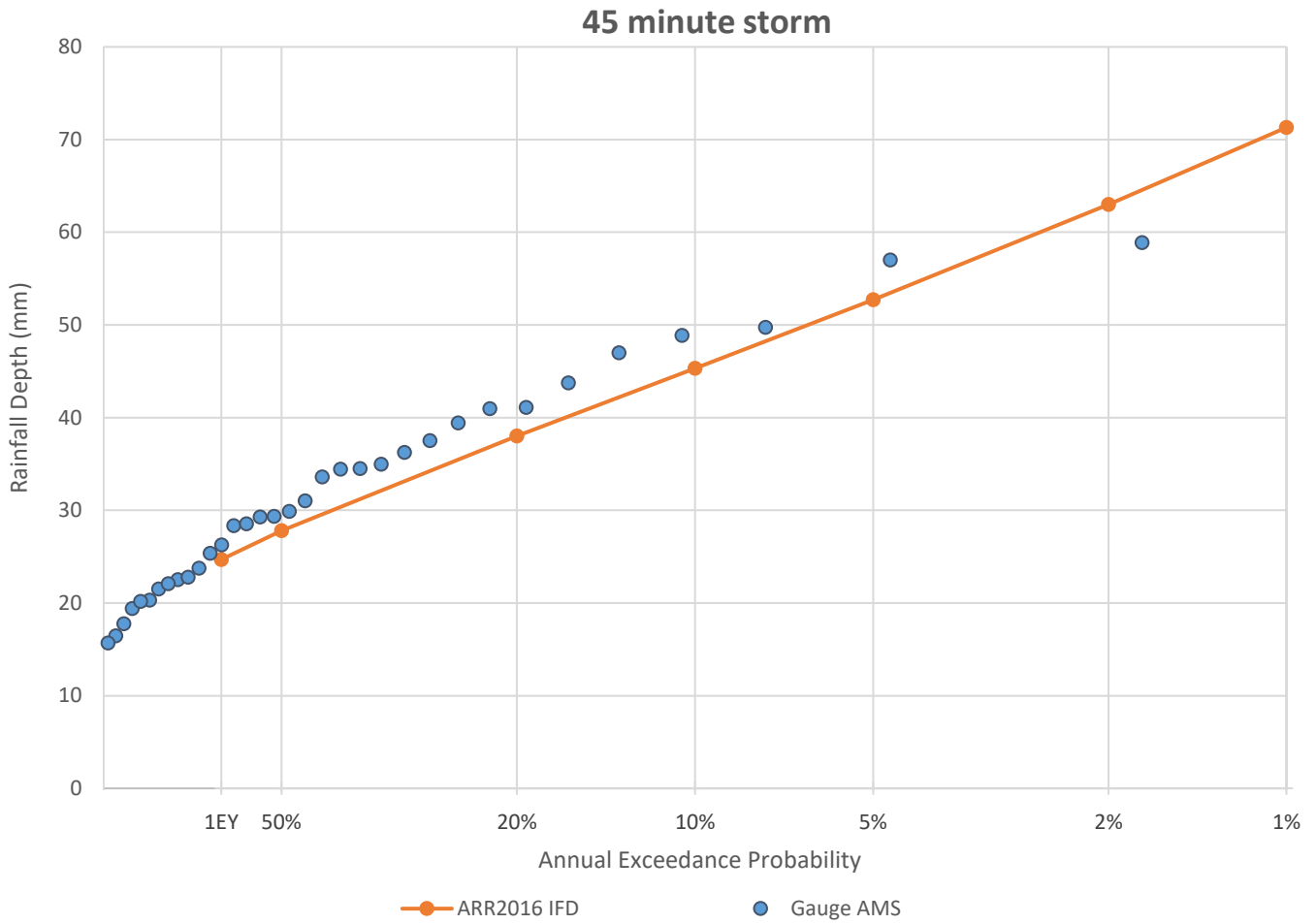


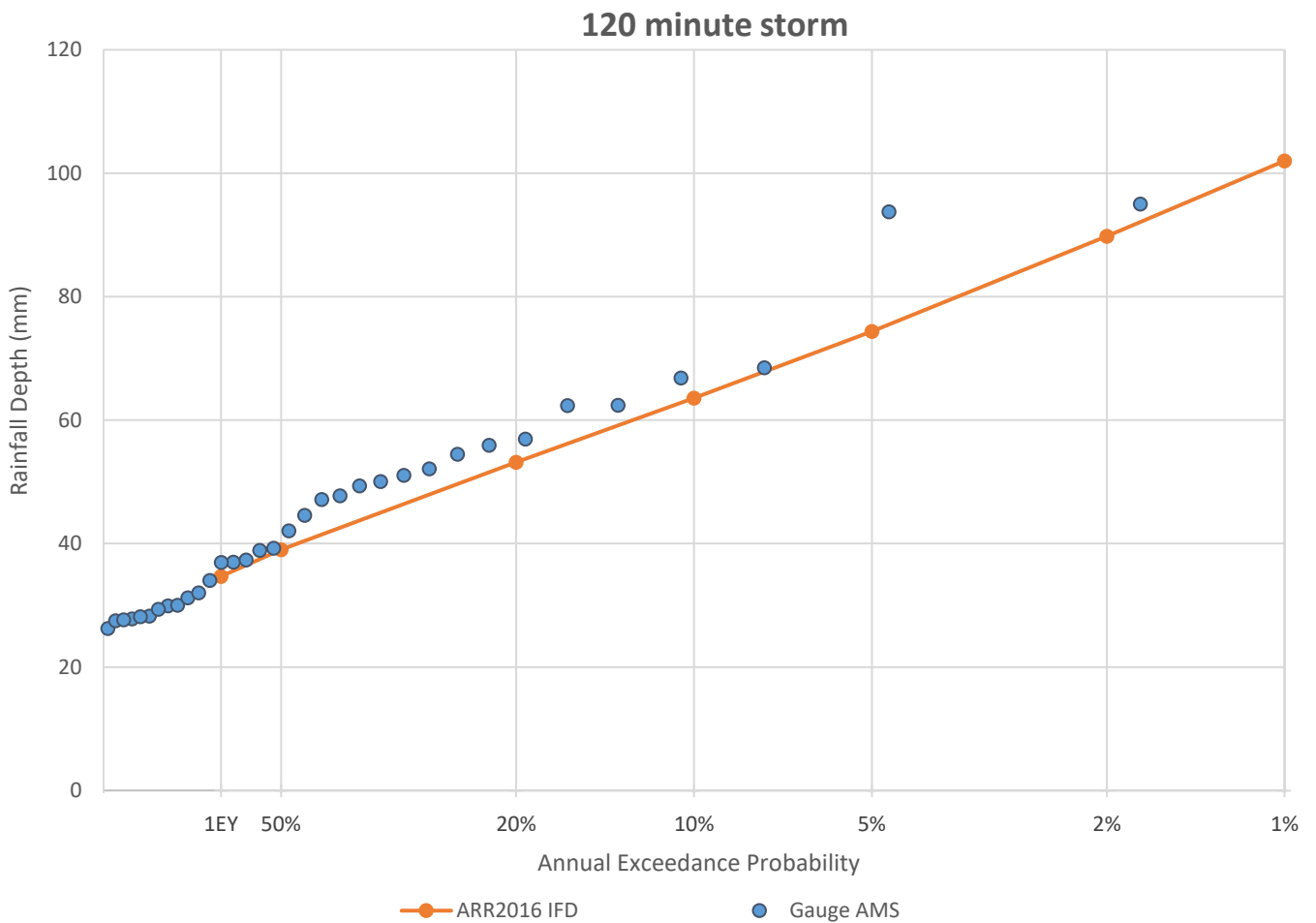
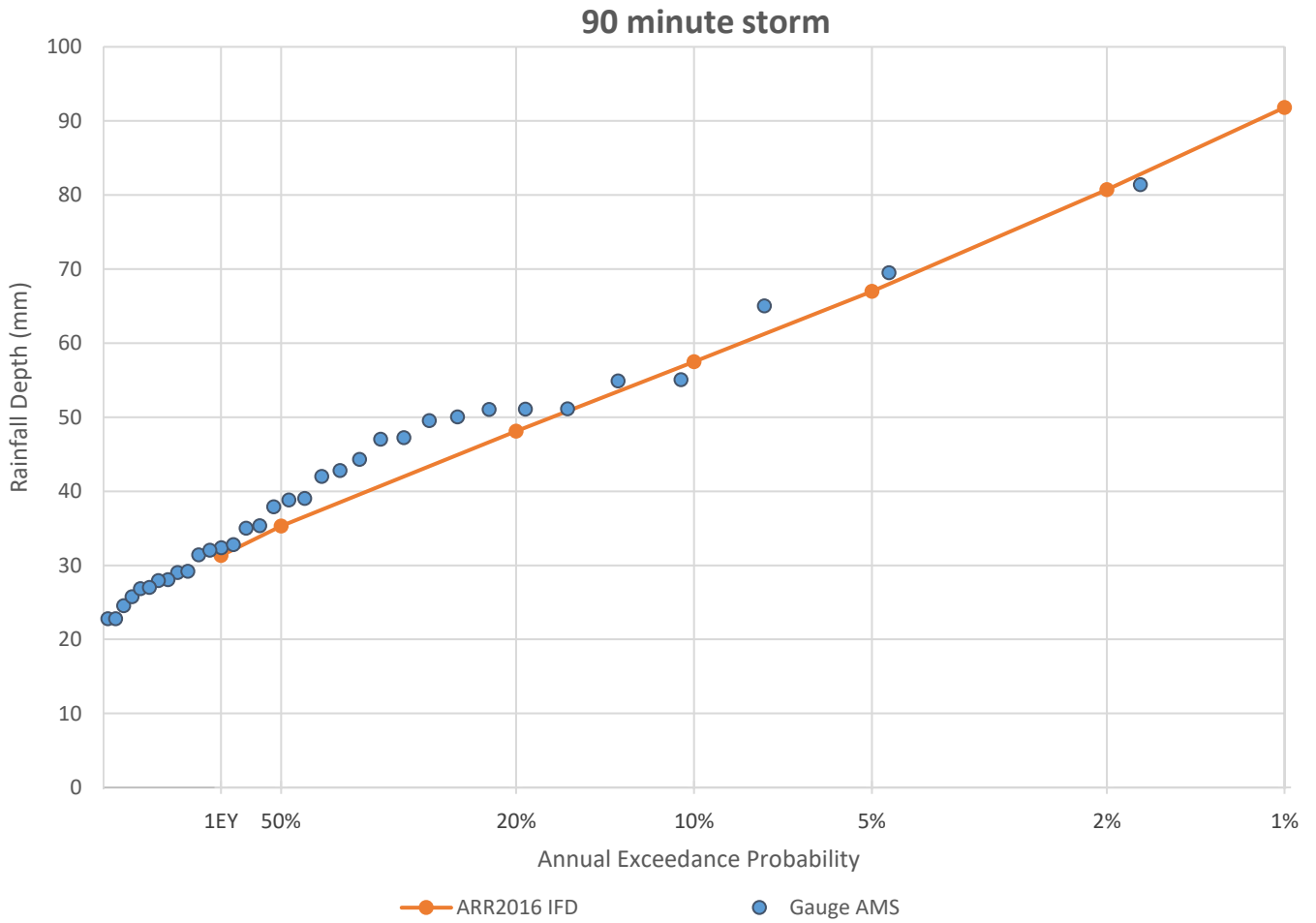
FIGURE 27
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
PEAK FLOOD DEPTH
MARCH 2022

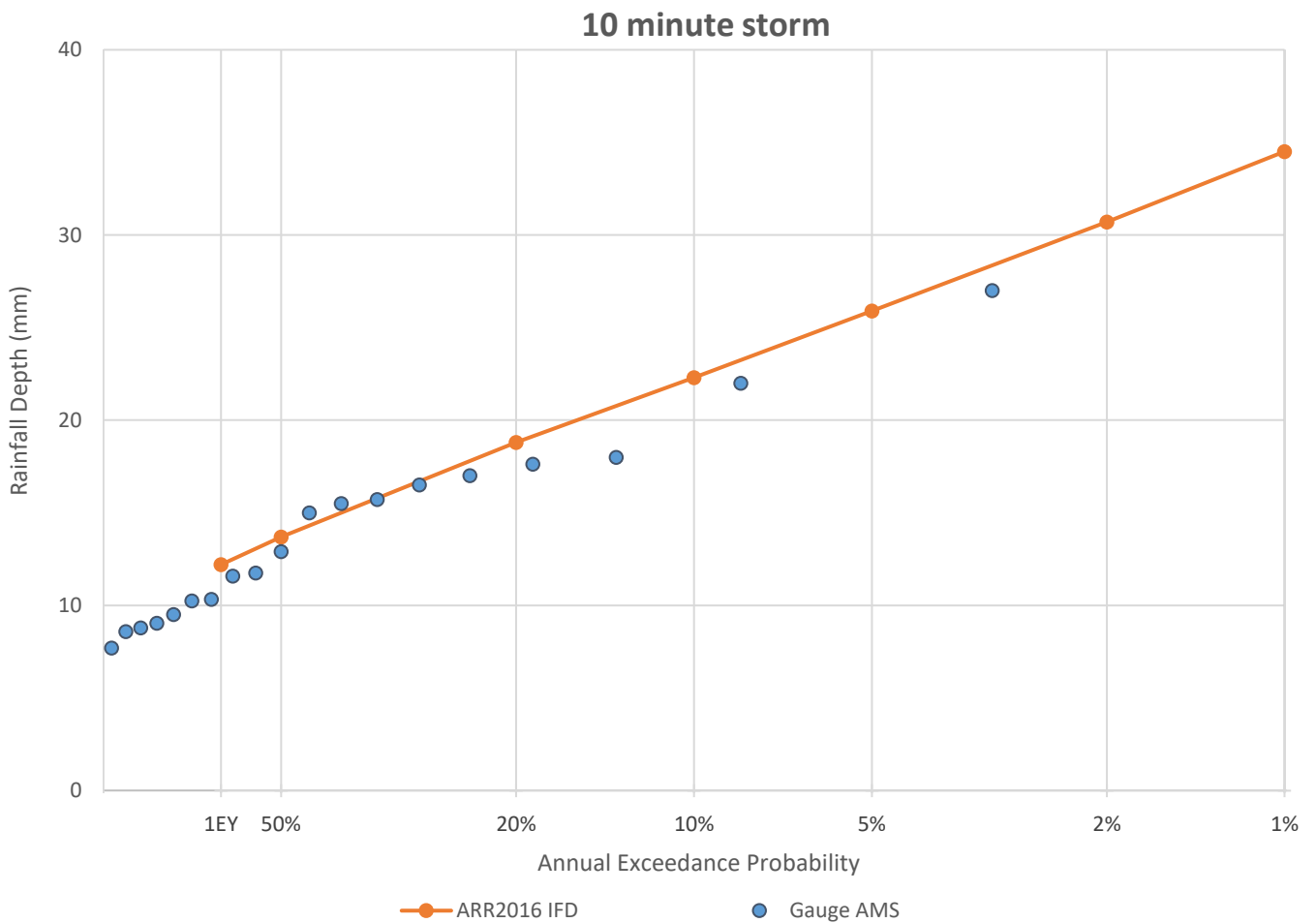
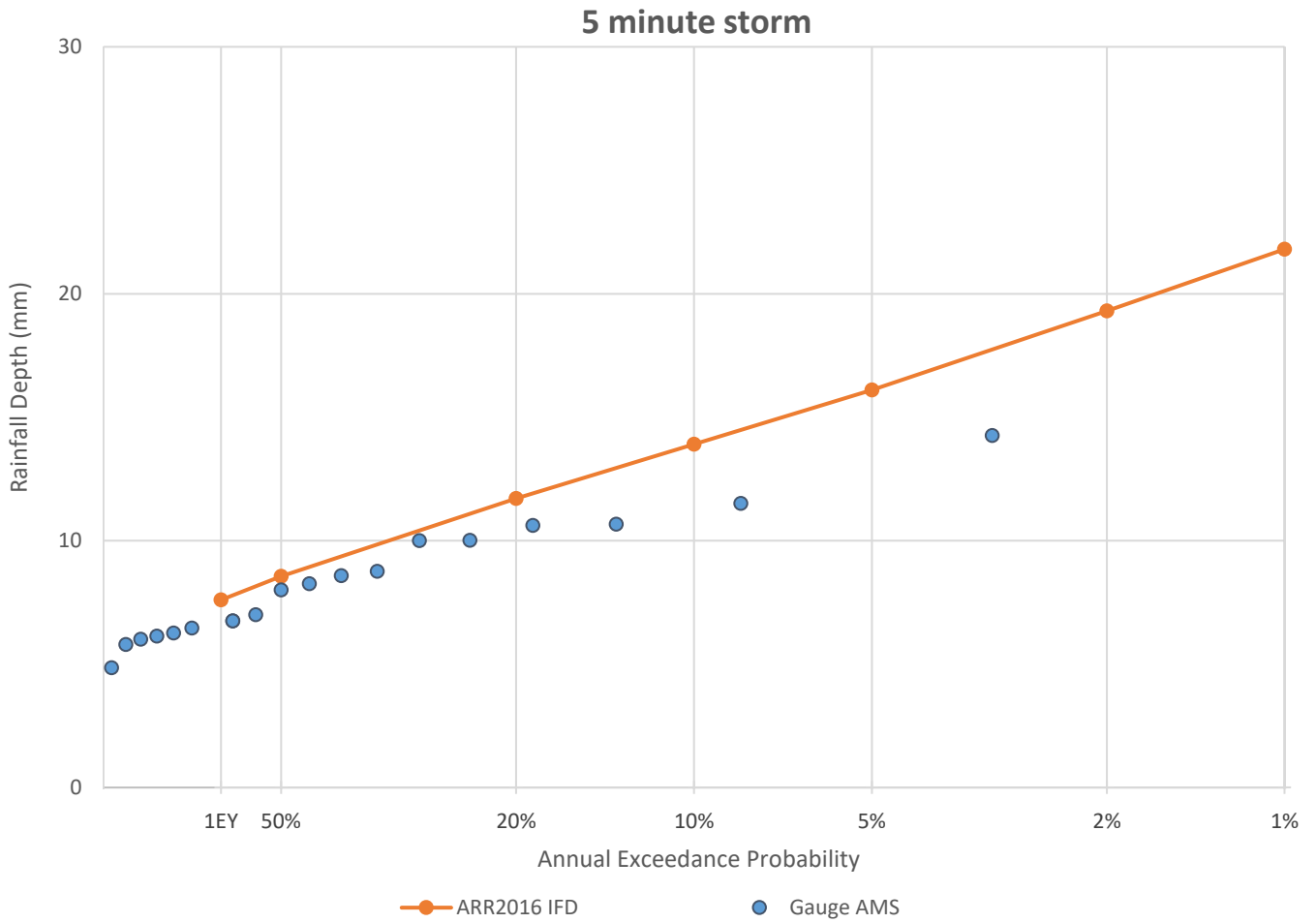


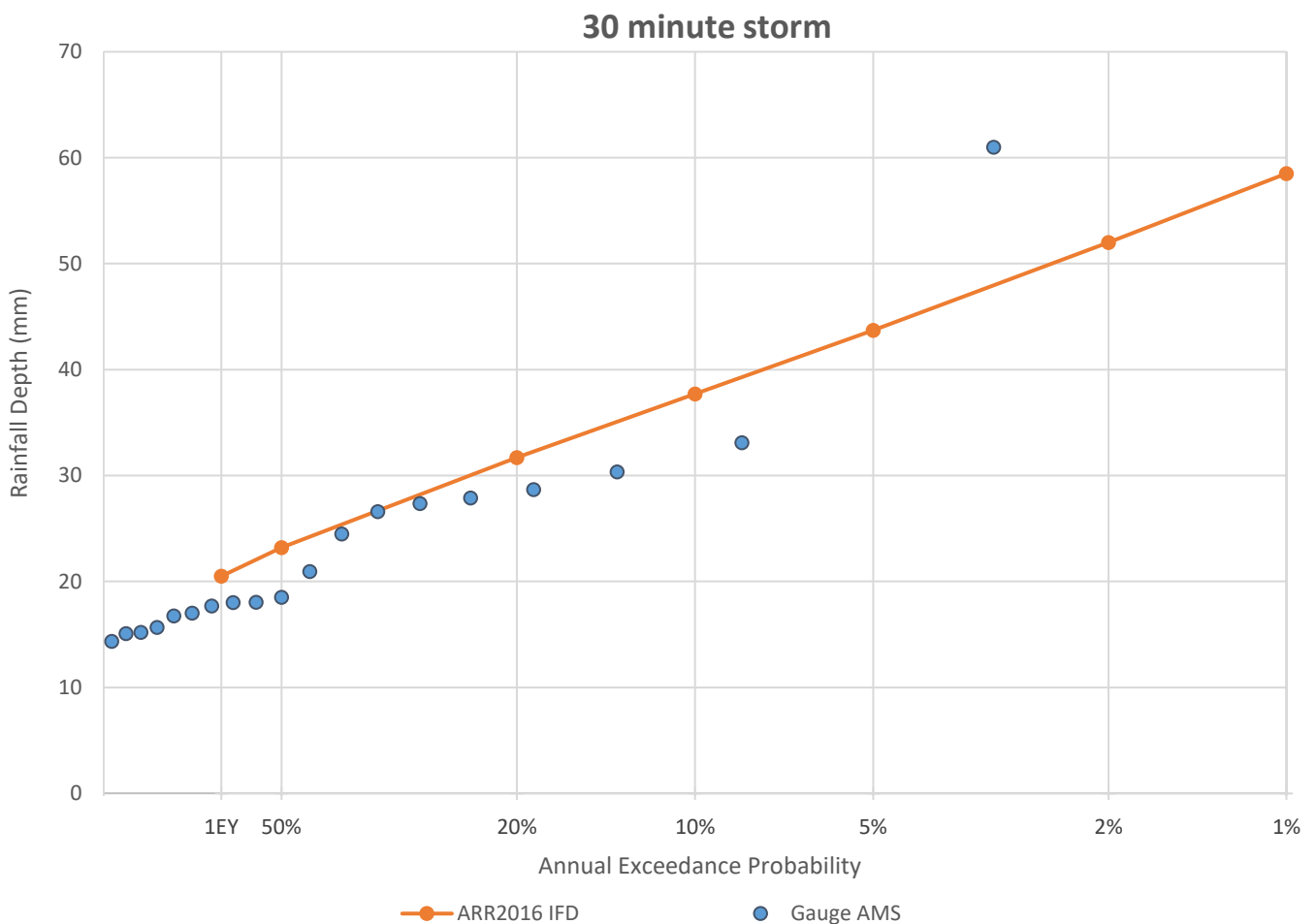
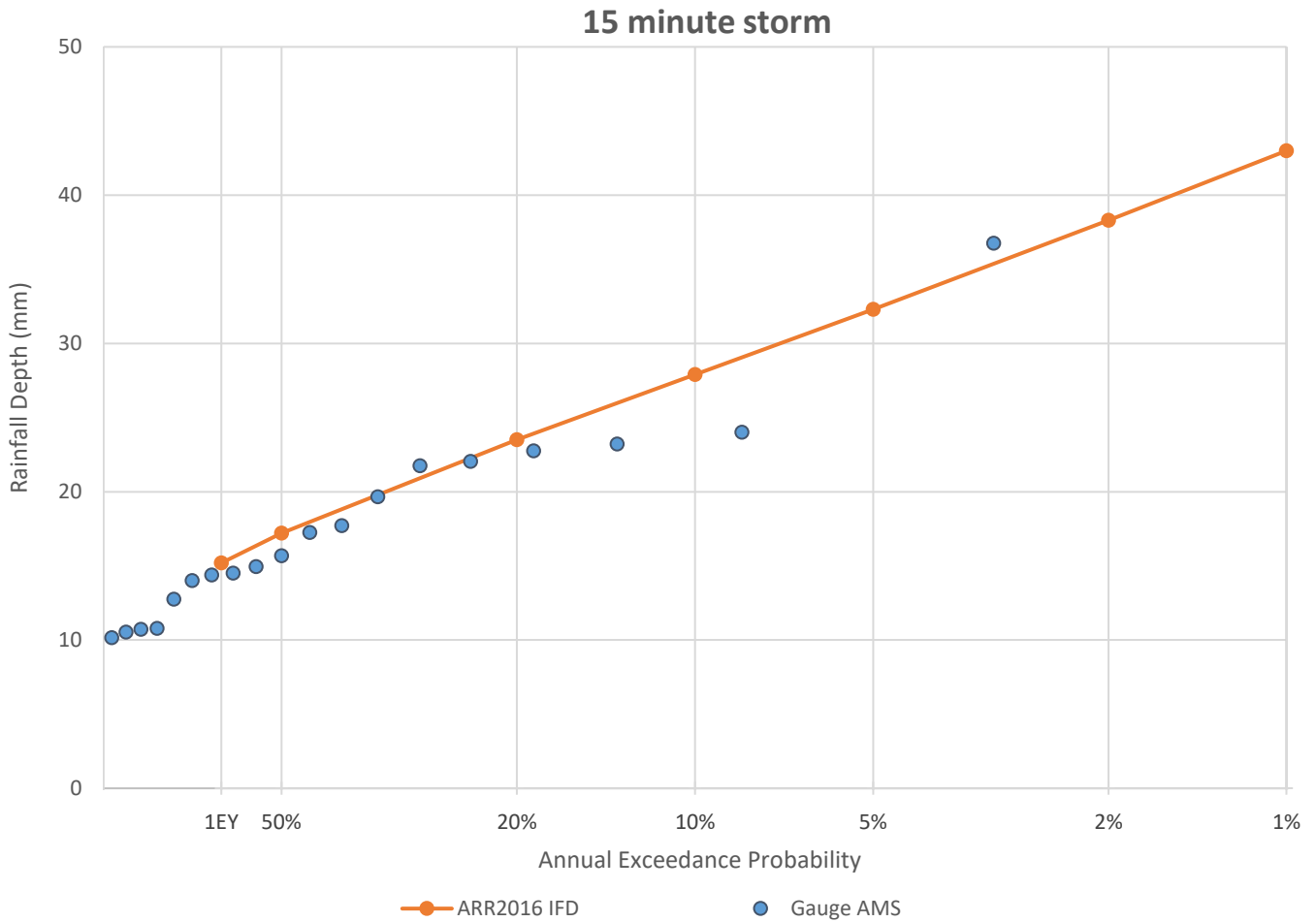


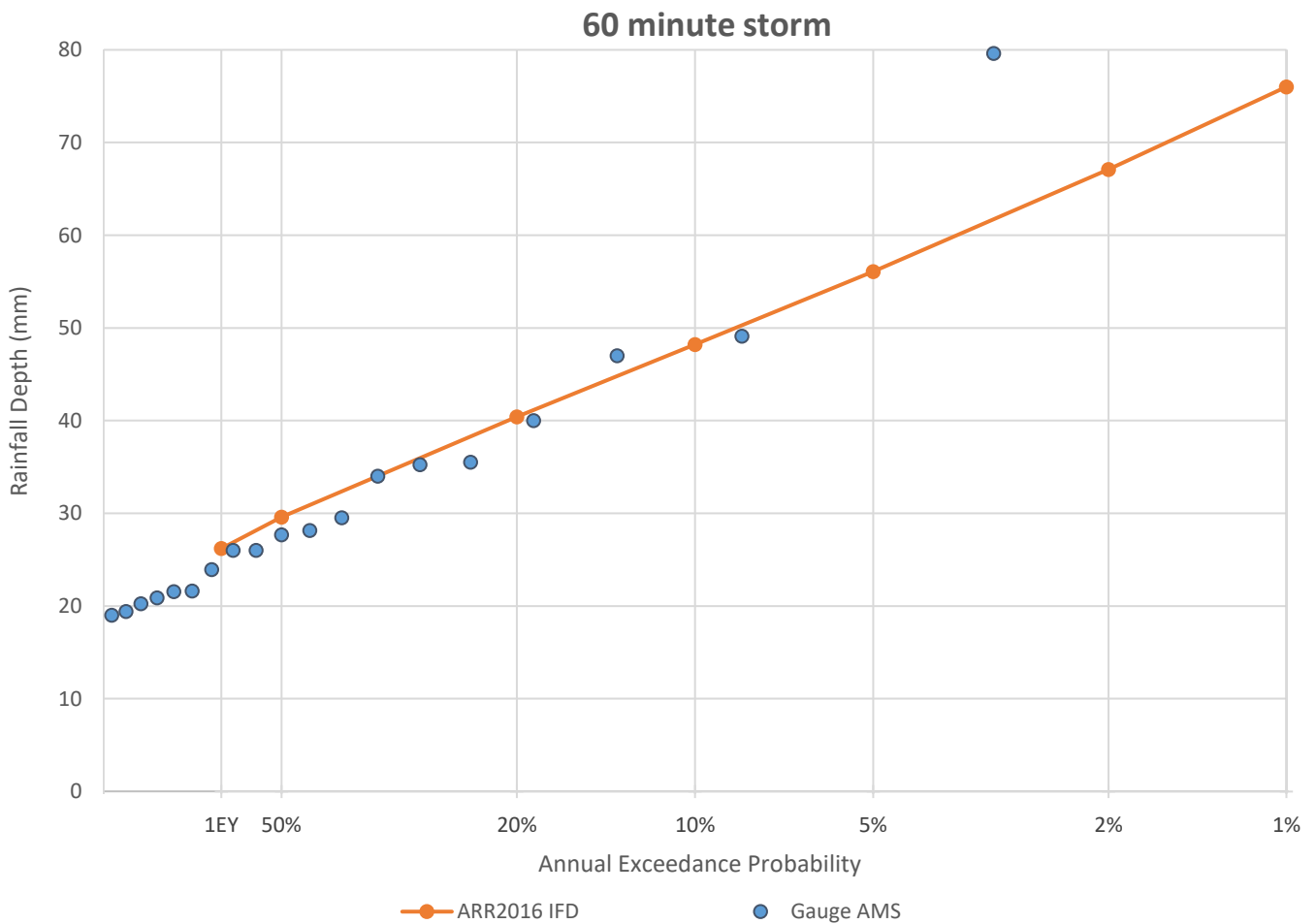
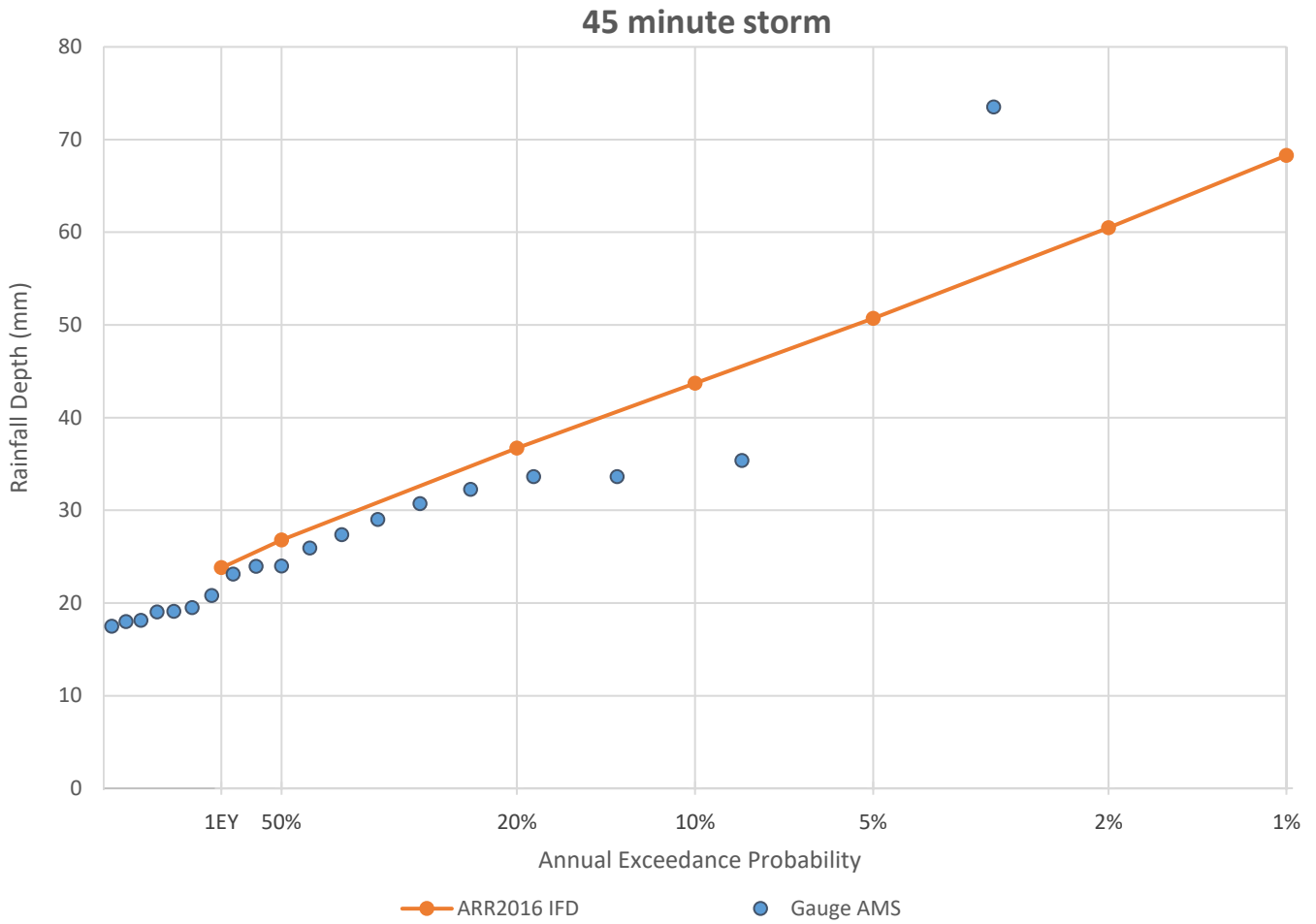


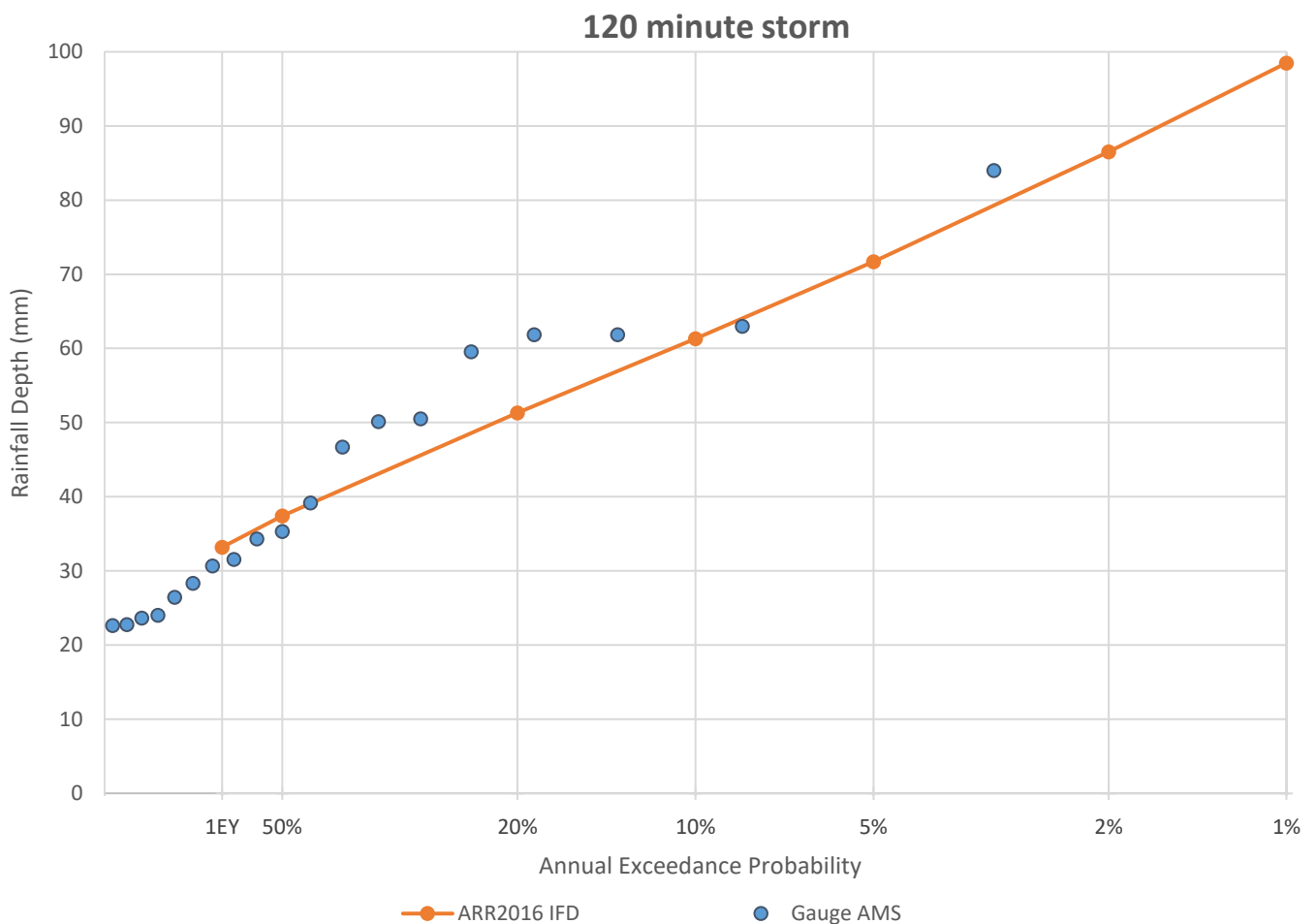
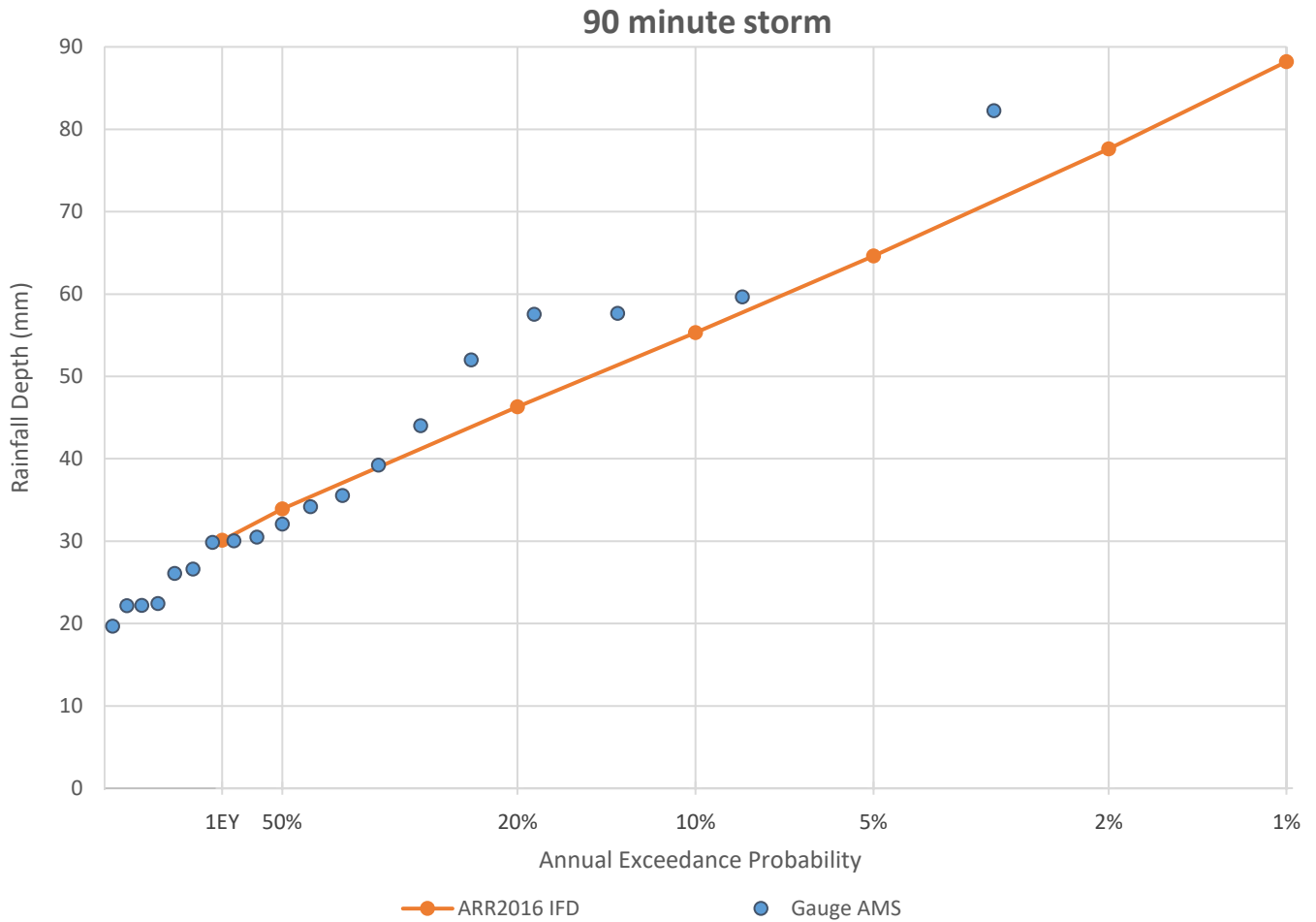


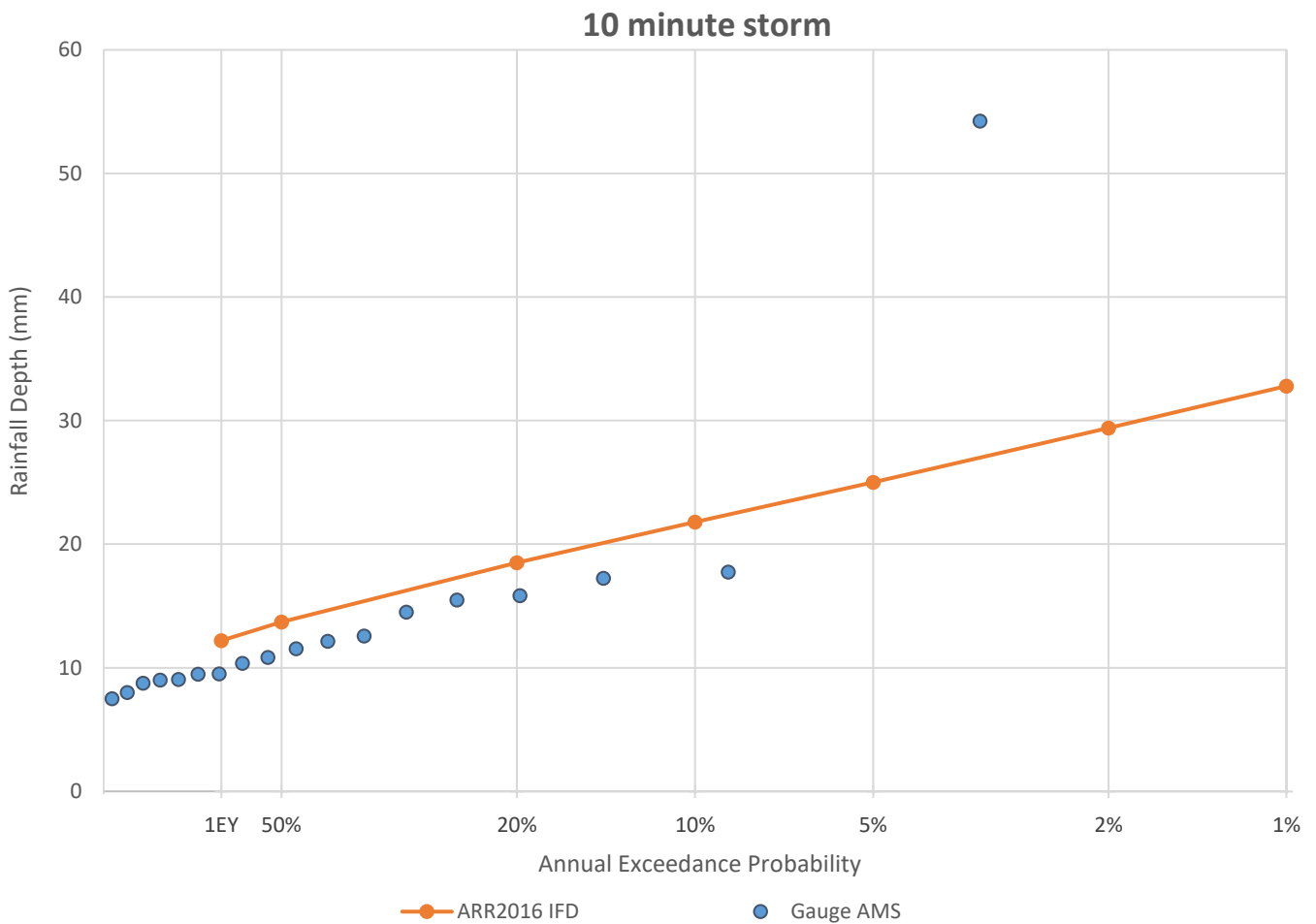
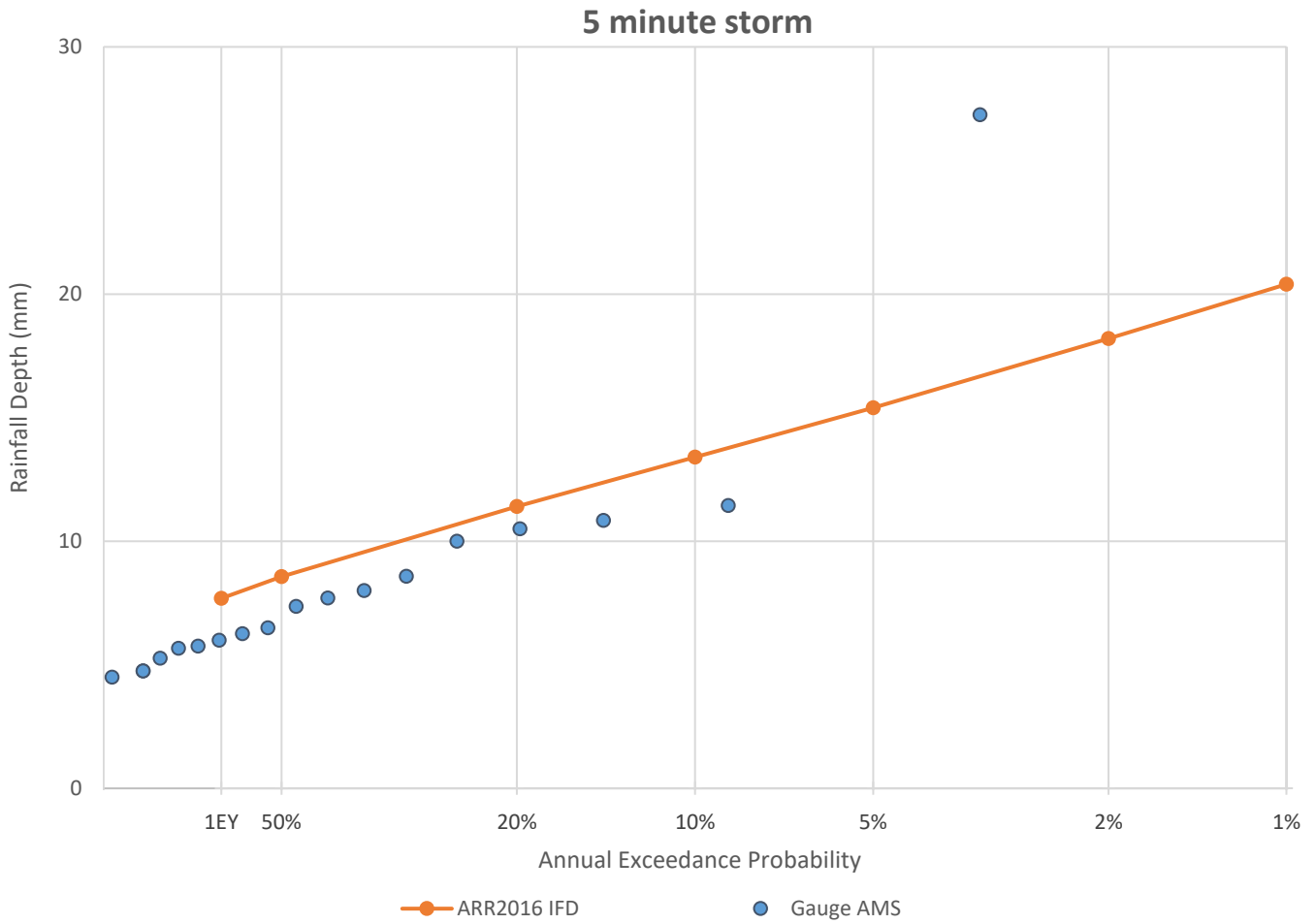


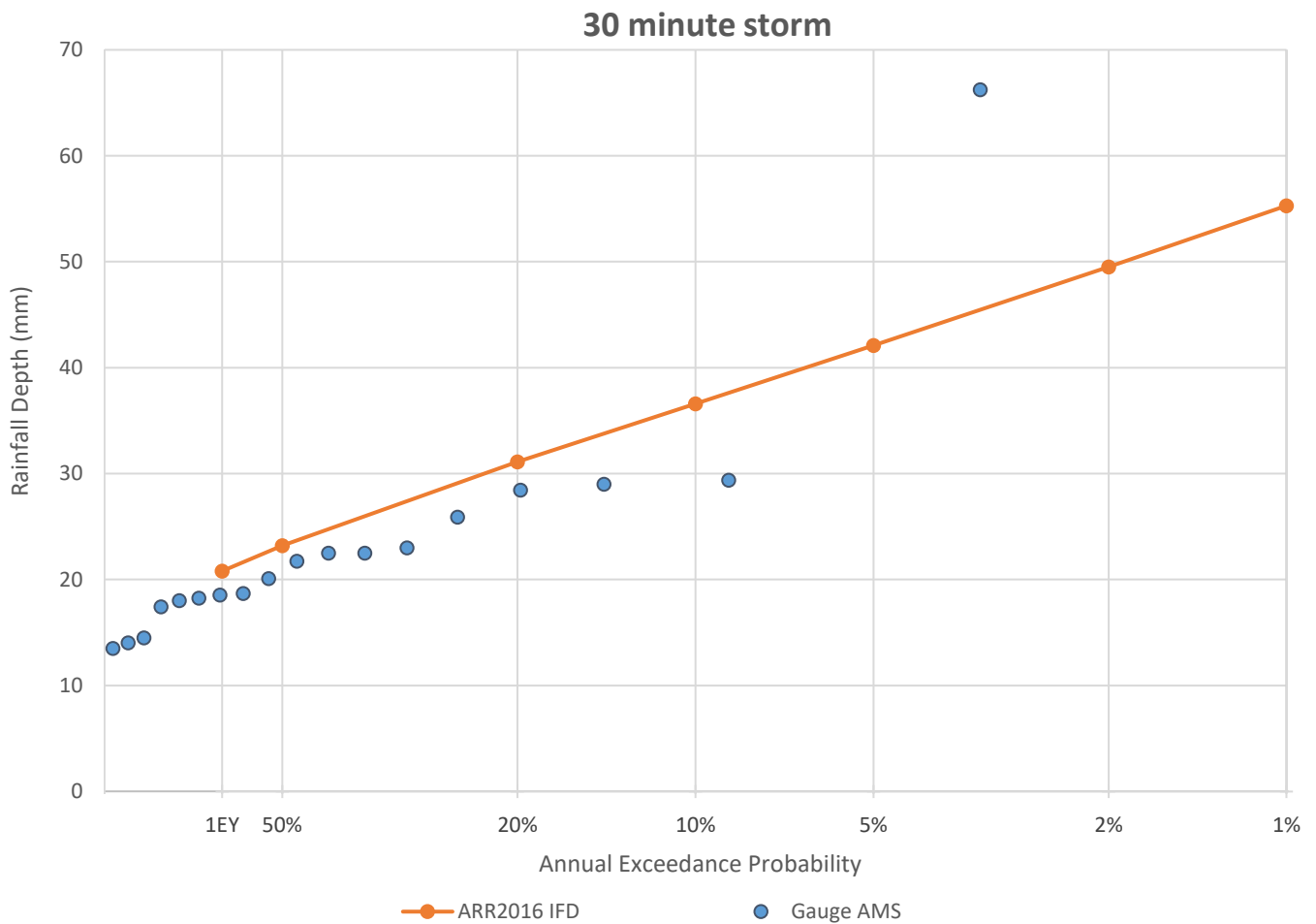
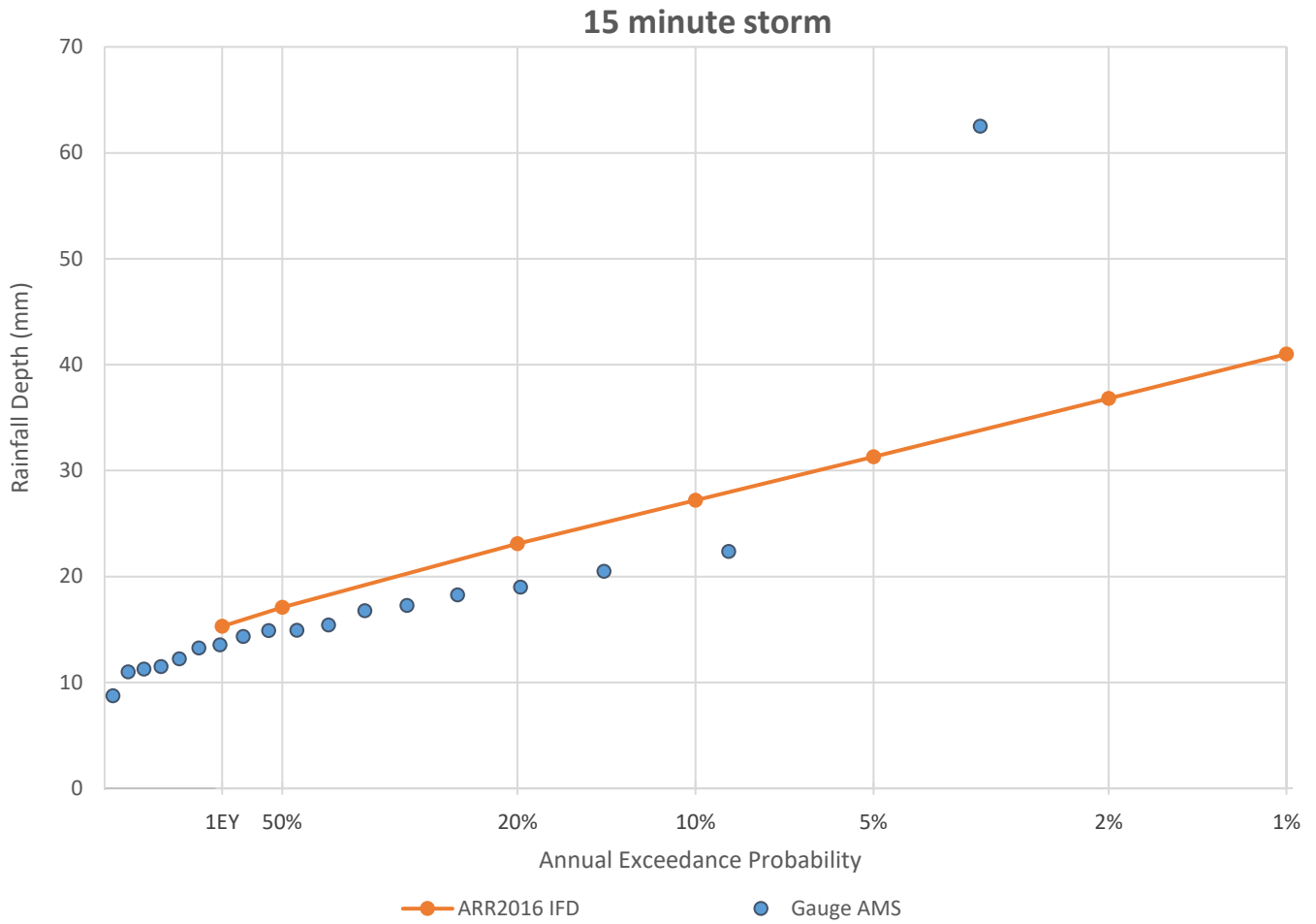


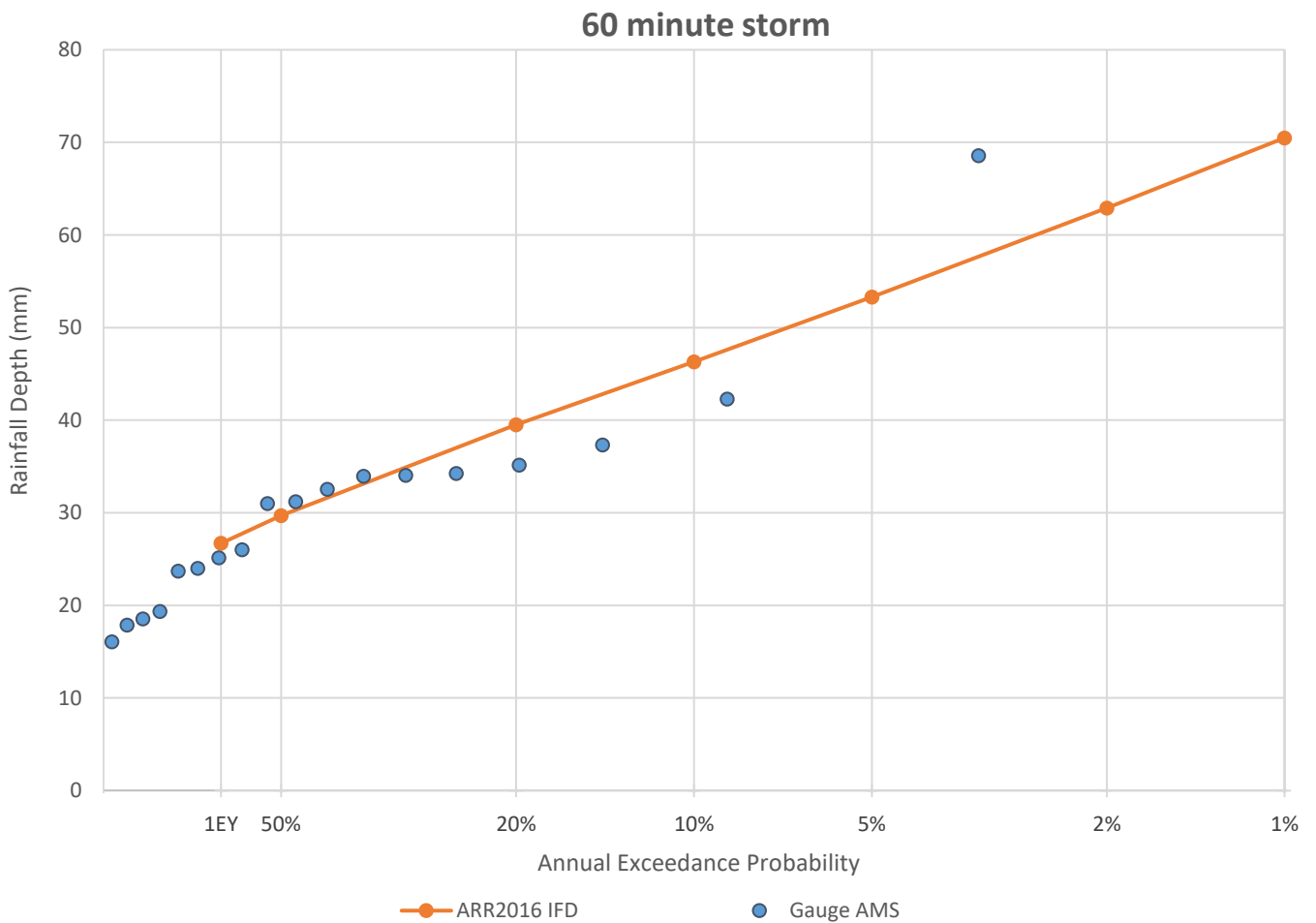
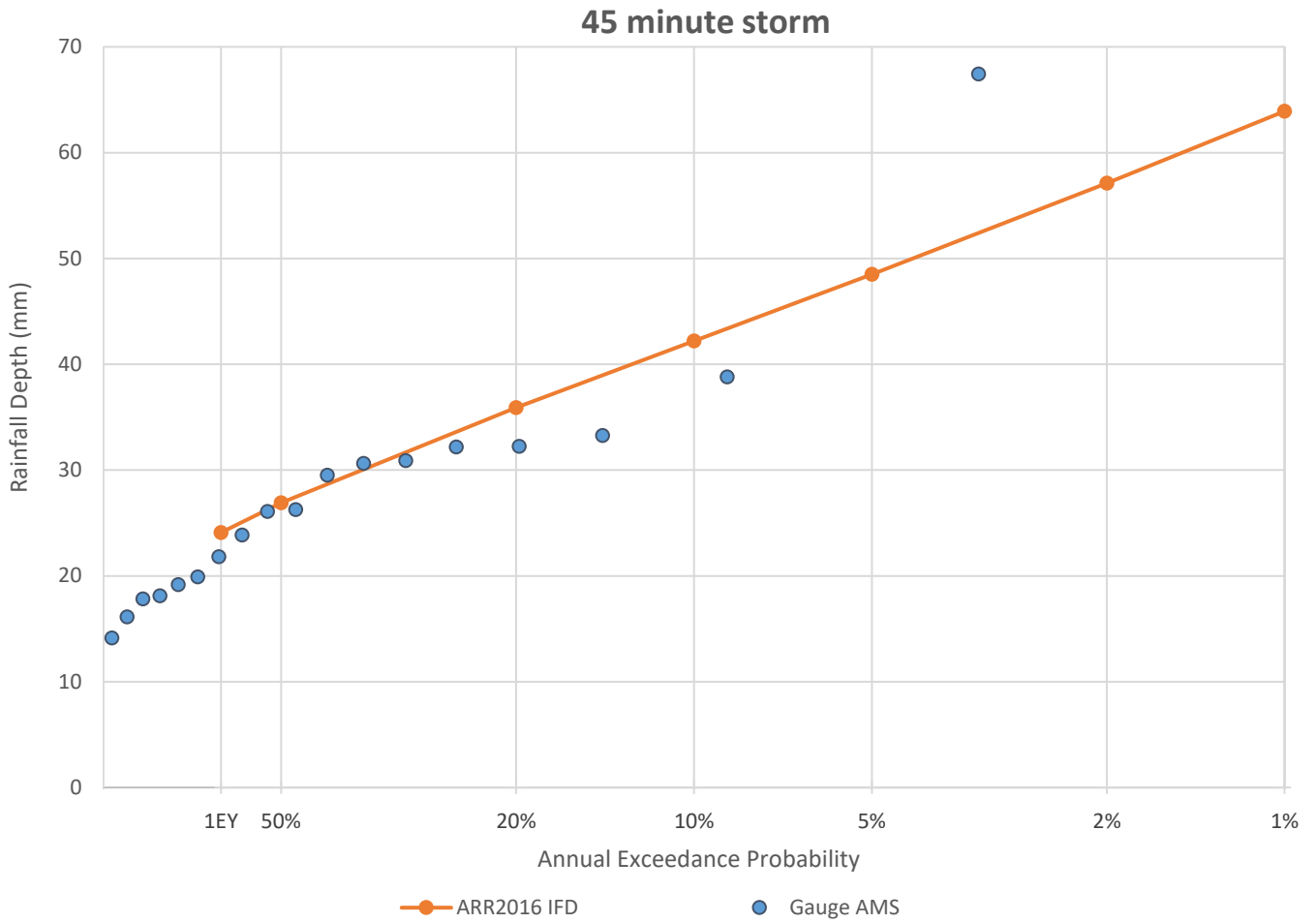












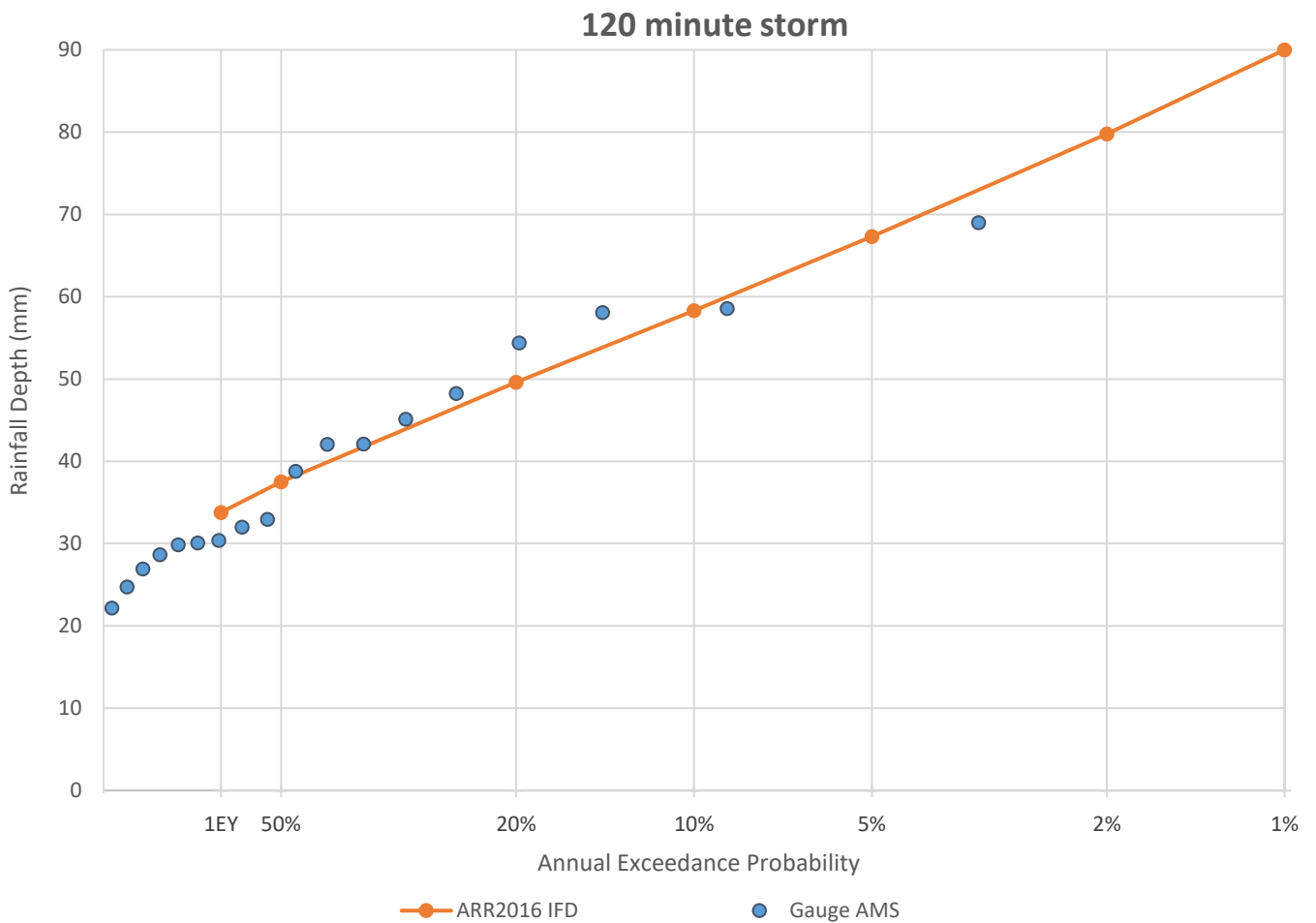
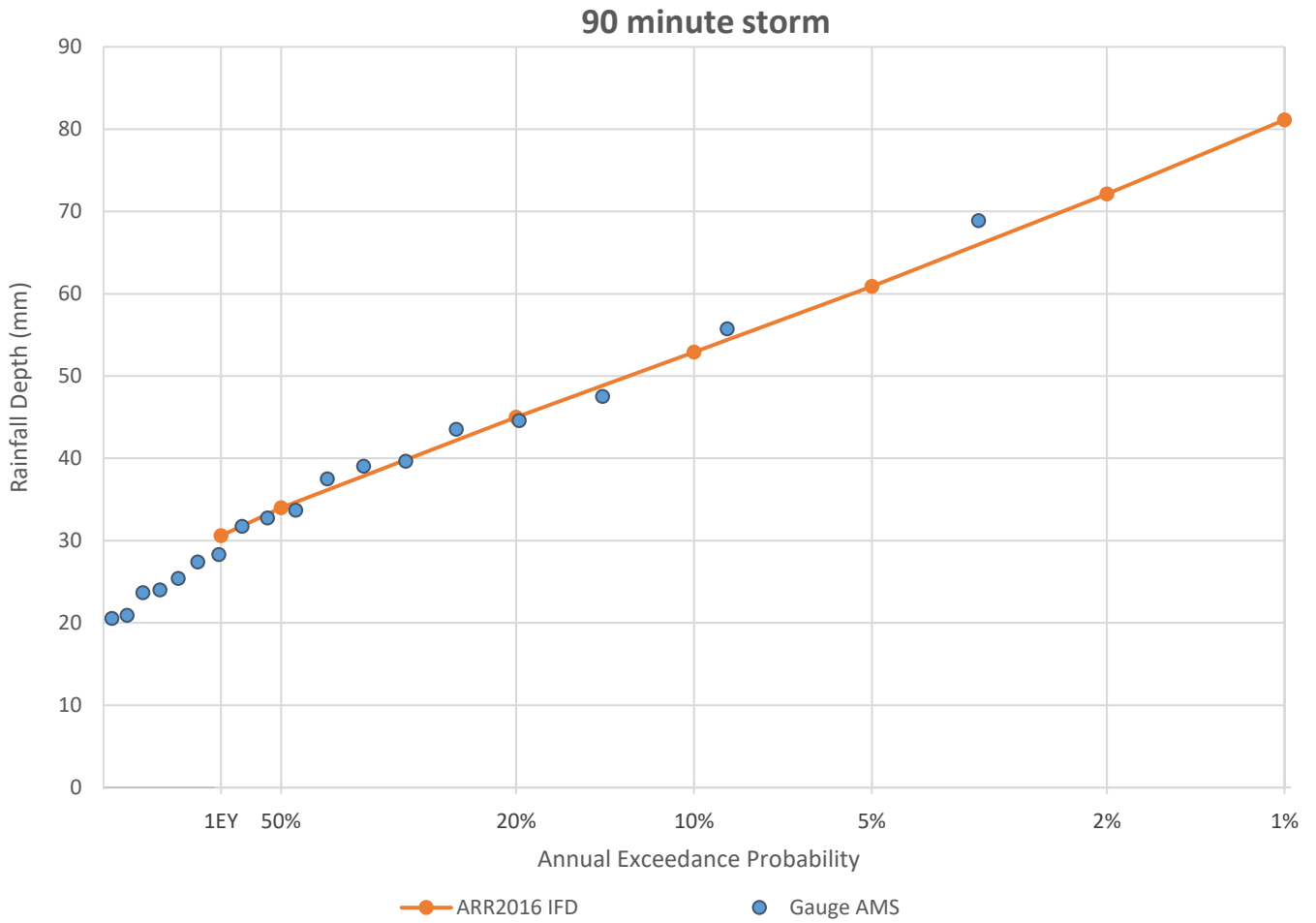
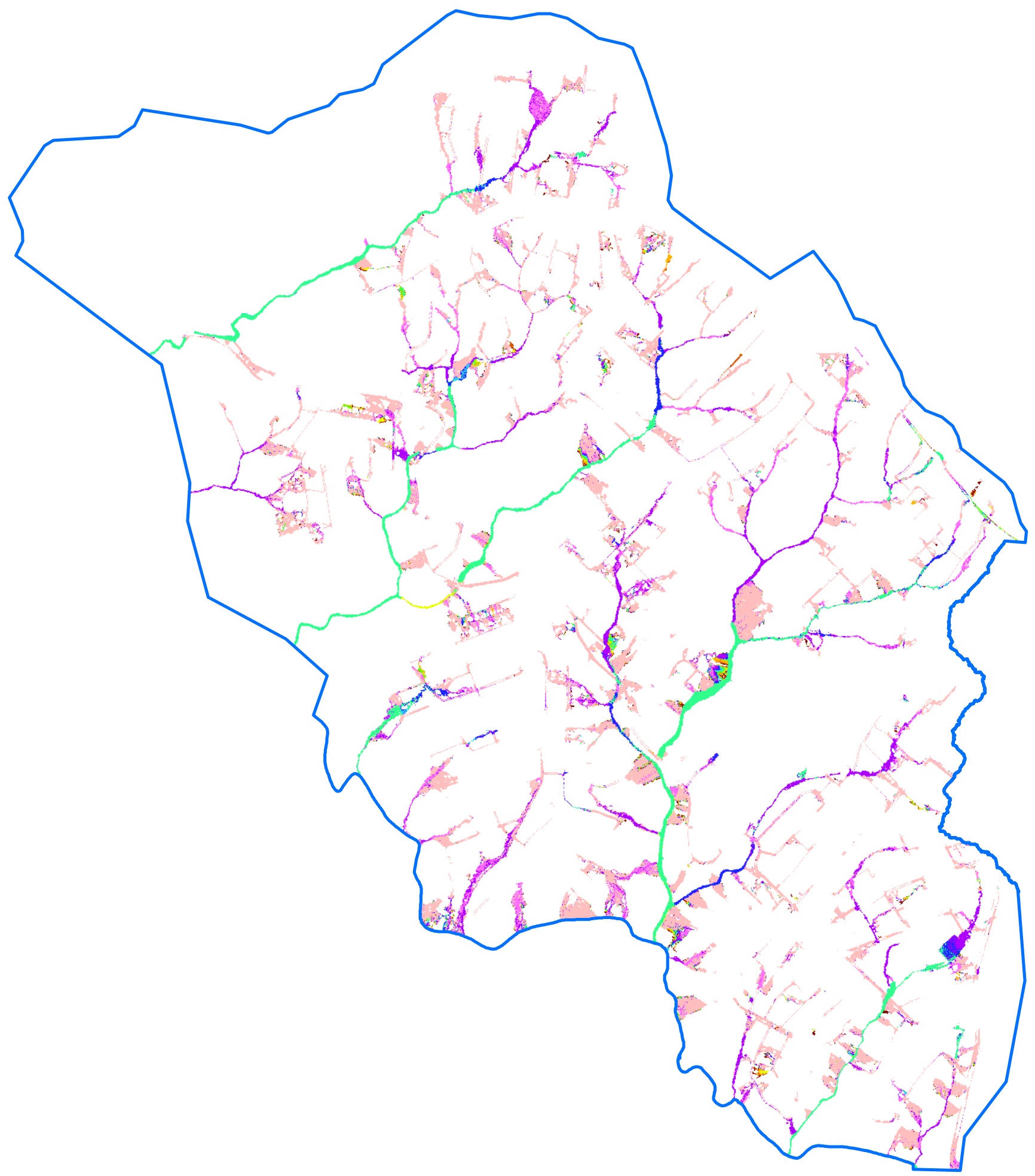


FIGURE 31
LANE COVE NORTHERN CATCHMENTS
CRITICAL DURATION
20% AEP EVENT



Study Area

Critical Duration

- 10 minutes
- 15 minutes
- 20 minutes
- 25 minutes
- 30 minutes
- 45 minutes
- 60 minutes
- 90 minutes
- 120 minutes
- 180 minutes
- 270 minutes

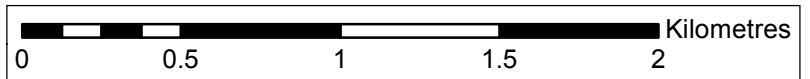


FIGURE 32
LANE COVE NORTHERN CATCHMENTS
CHANGE IN PEAK FLOOD LEVEL
ADOPTED STORM VERSUS CRITICAL DURATION MEAN PEAK LEVEL
20% AEP EVENT

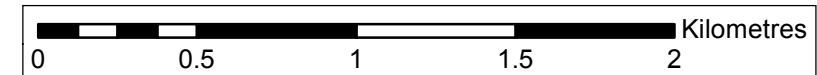
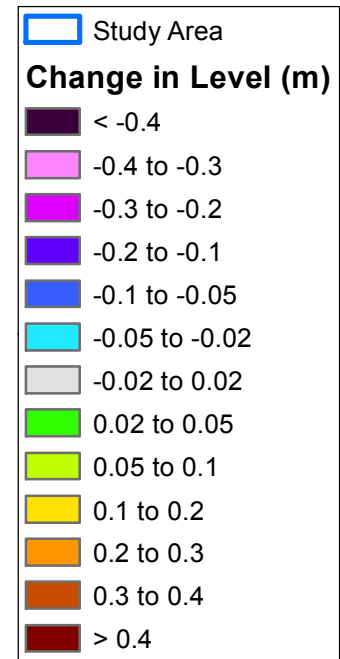
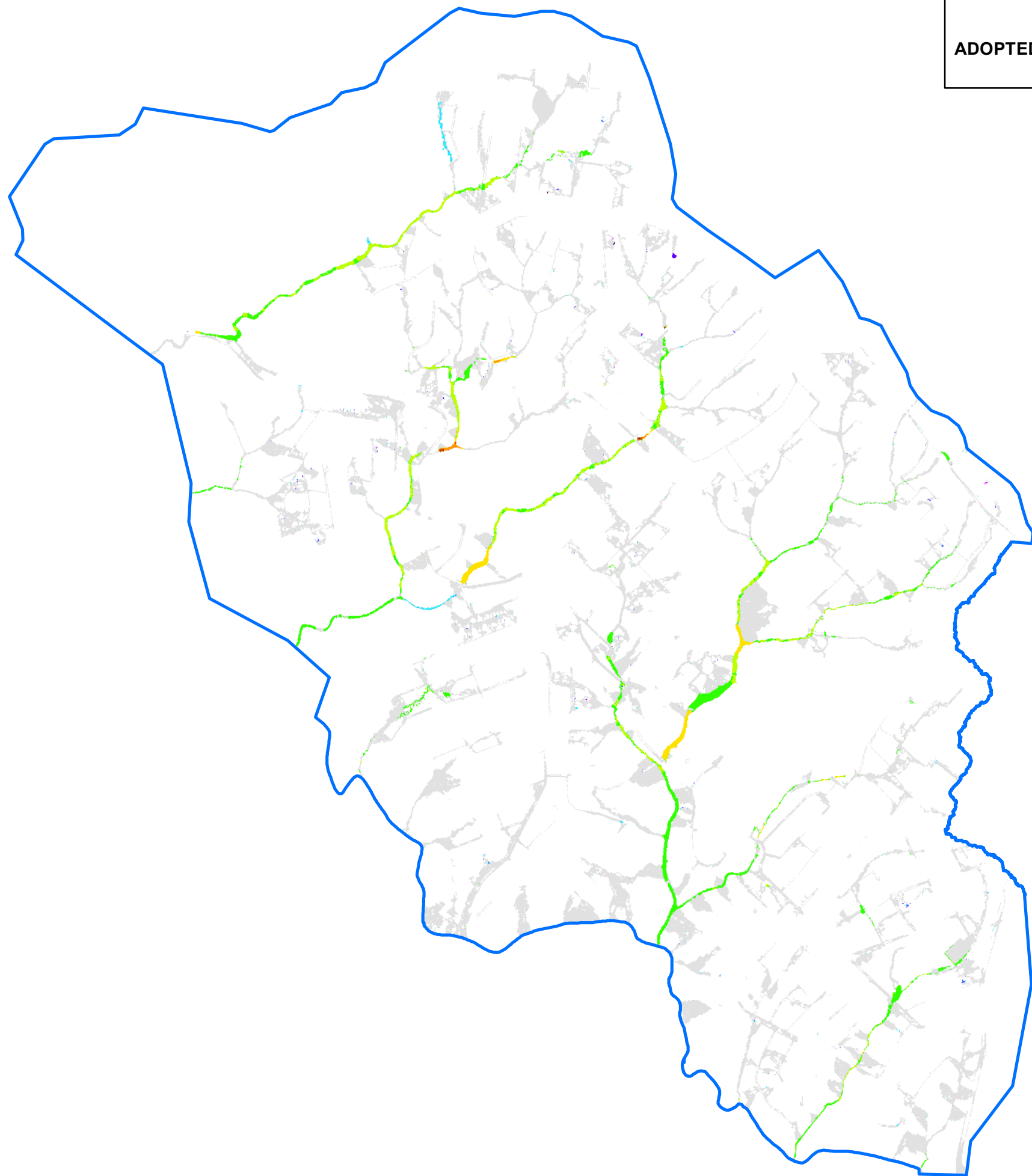
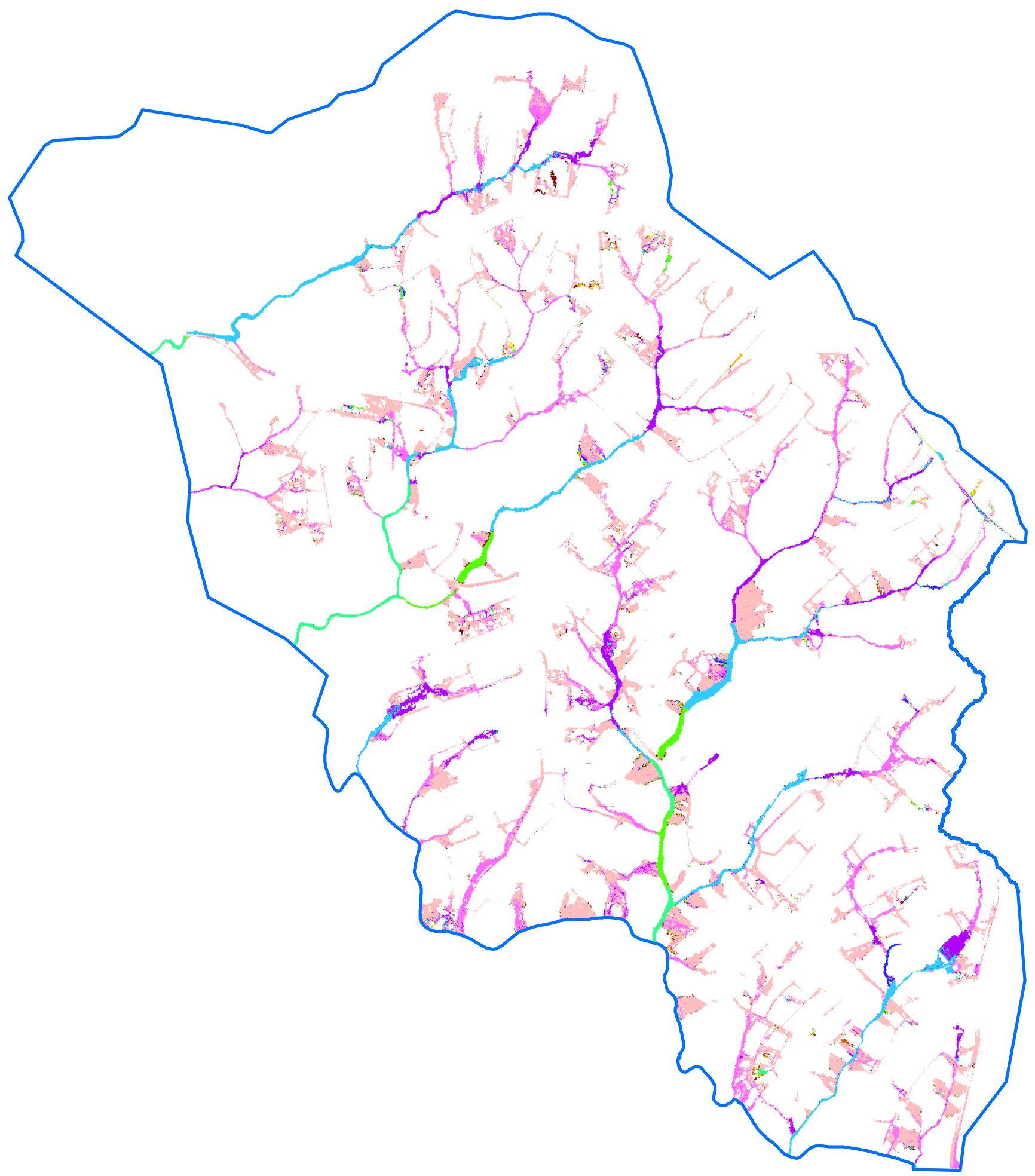


FIGURE 33
LANE COVE NORTHERN CATCHMENTS
CRITICAL DURATION
5% AEP EVENT



- Study Area
- Critical Duration**
- 10 minutes
- 15 minutes
- 20 minutes
- 25 minutes
- 30 minutes
- 45 minutes
- 60 minutes
- 90 minutes
- 120 minutes
- 180 minutes
- 270 minutes

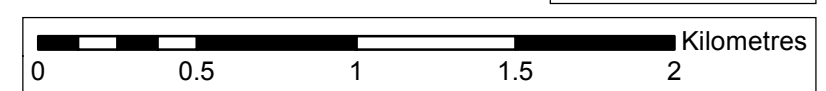


FIGURE 34
LANE COVE NORTHERN CATCHMENTS
CHANGE IN PEAK FLOOD LEVEL
ADOPTED STORM VERSUS CRITICAL DURATION MEAN PEAK LEVEL
5% AEP EVENT

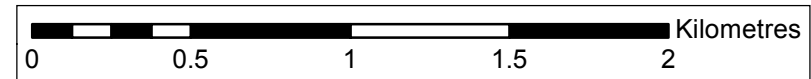
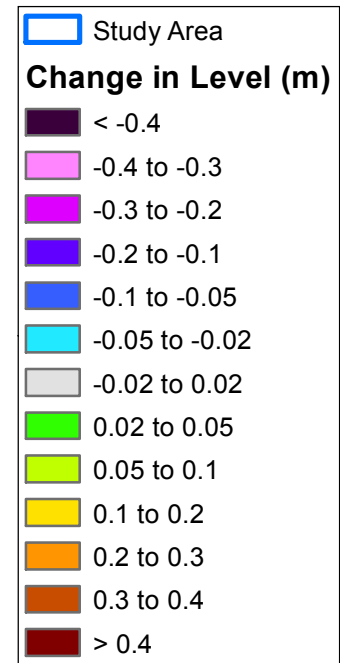
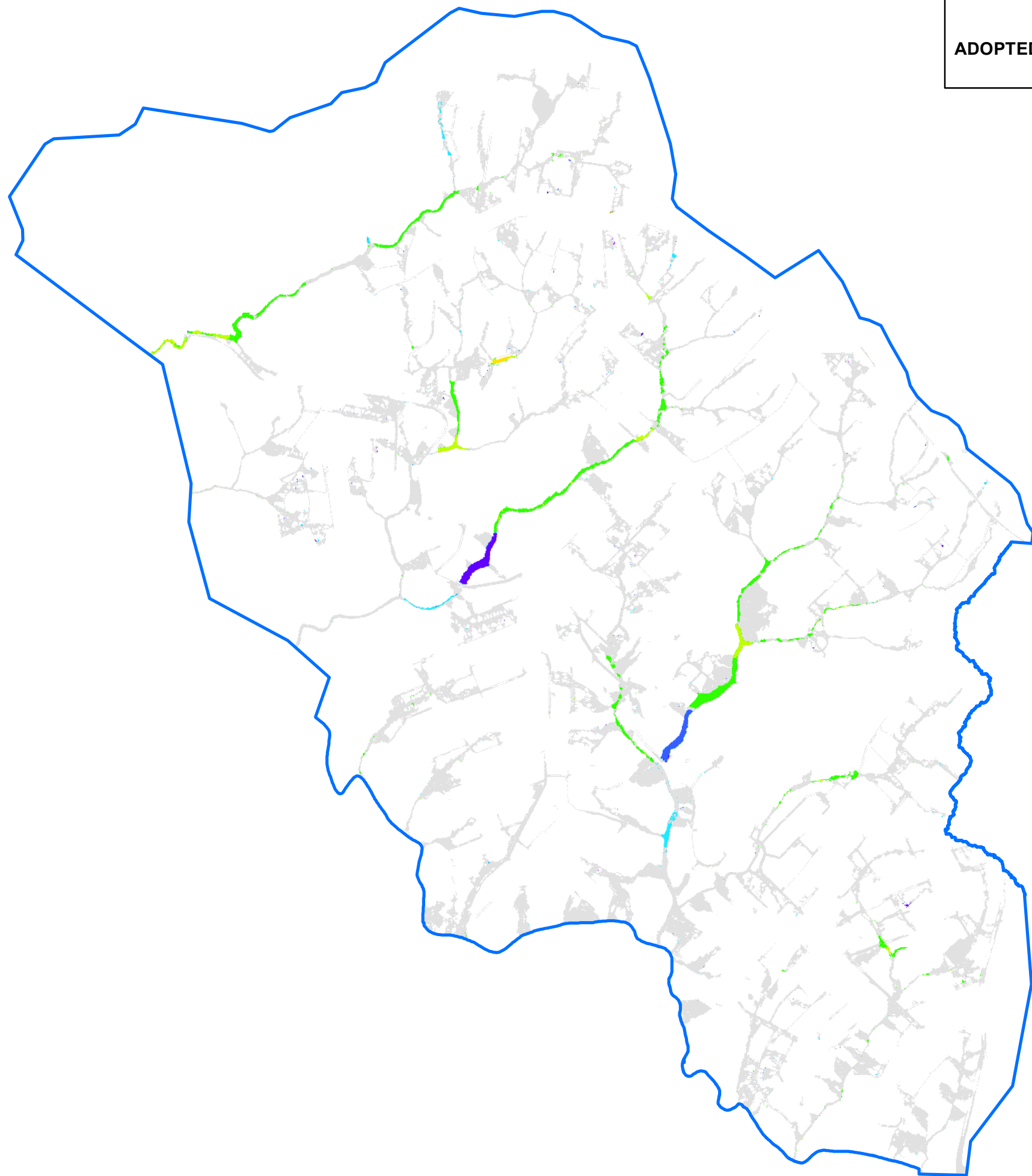
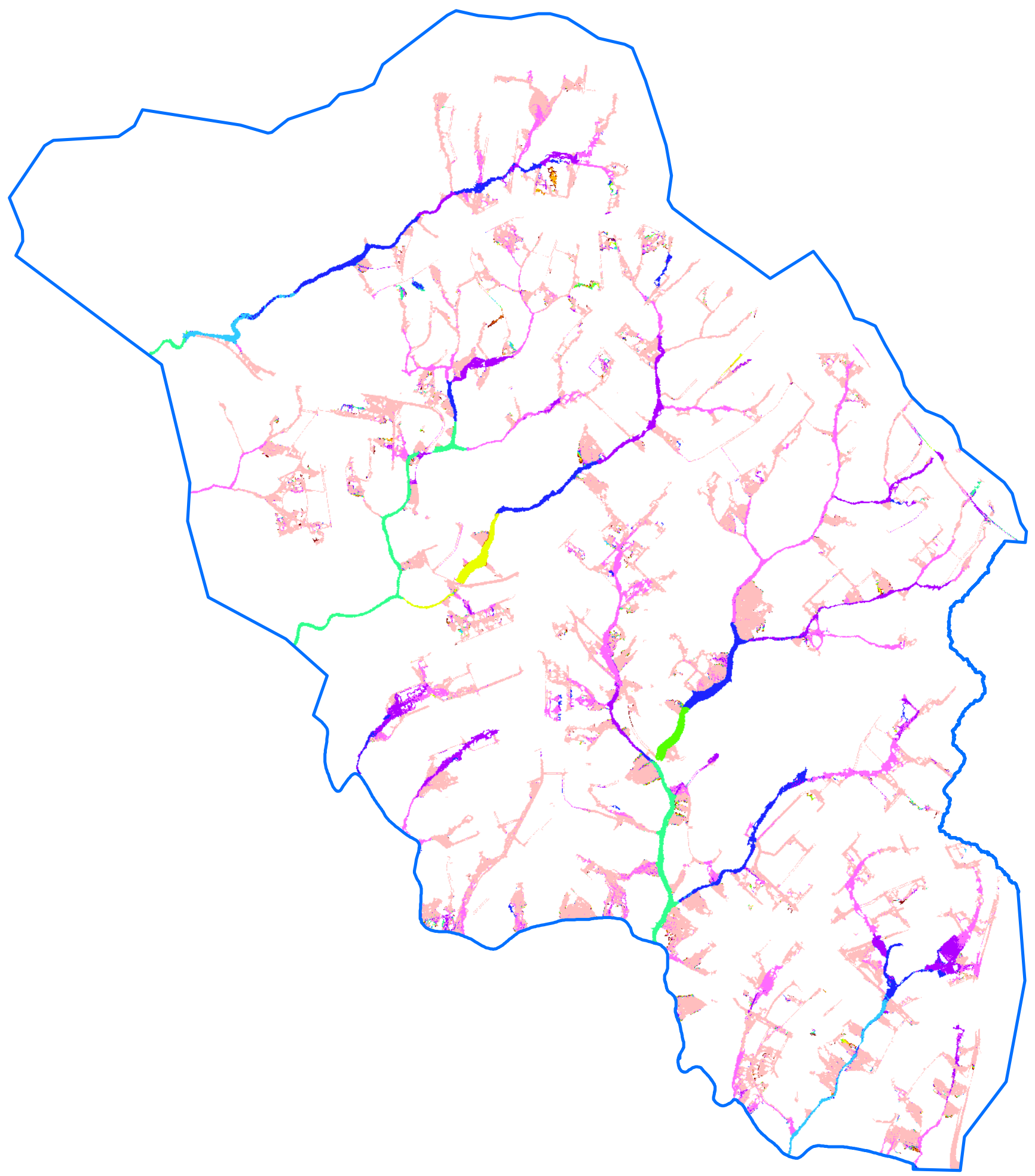


FIGURE 35
LANE COVE NORTHERN CATCHMENTS
CRITICAL DURATION
1% AEP EVENT



Study Area

Critical Duration

- 10 minutes
- 15 minutes
- 20 minutes
- 25 minutes
- 30 minutes
- 45 minutes
- 60 minutes
- 90 minutes
- 120 minutes
- 180 minutes
- 270 minutes

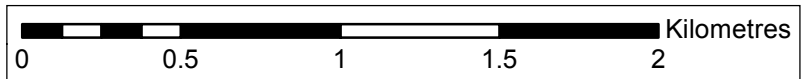


FIGURE 36
LANE COVE NORTHERN CATCHMENTS
CHANGE IN EPAK FLOOD LEVEL
ADOPTED STORM VERSUS CRITICAL DURATION MEAN PEAK LEVEL
1% AEP EVENT

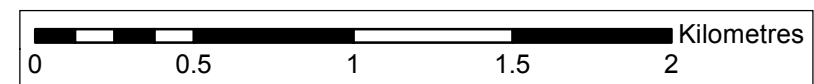
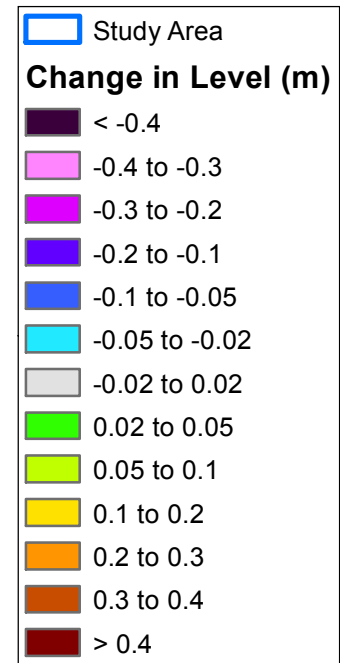
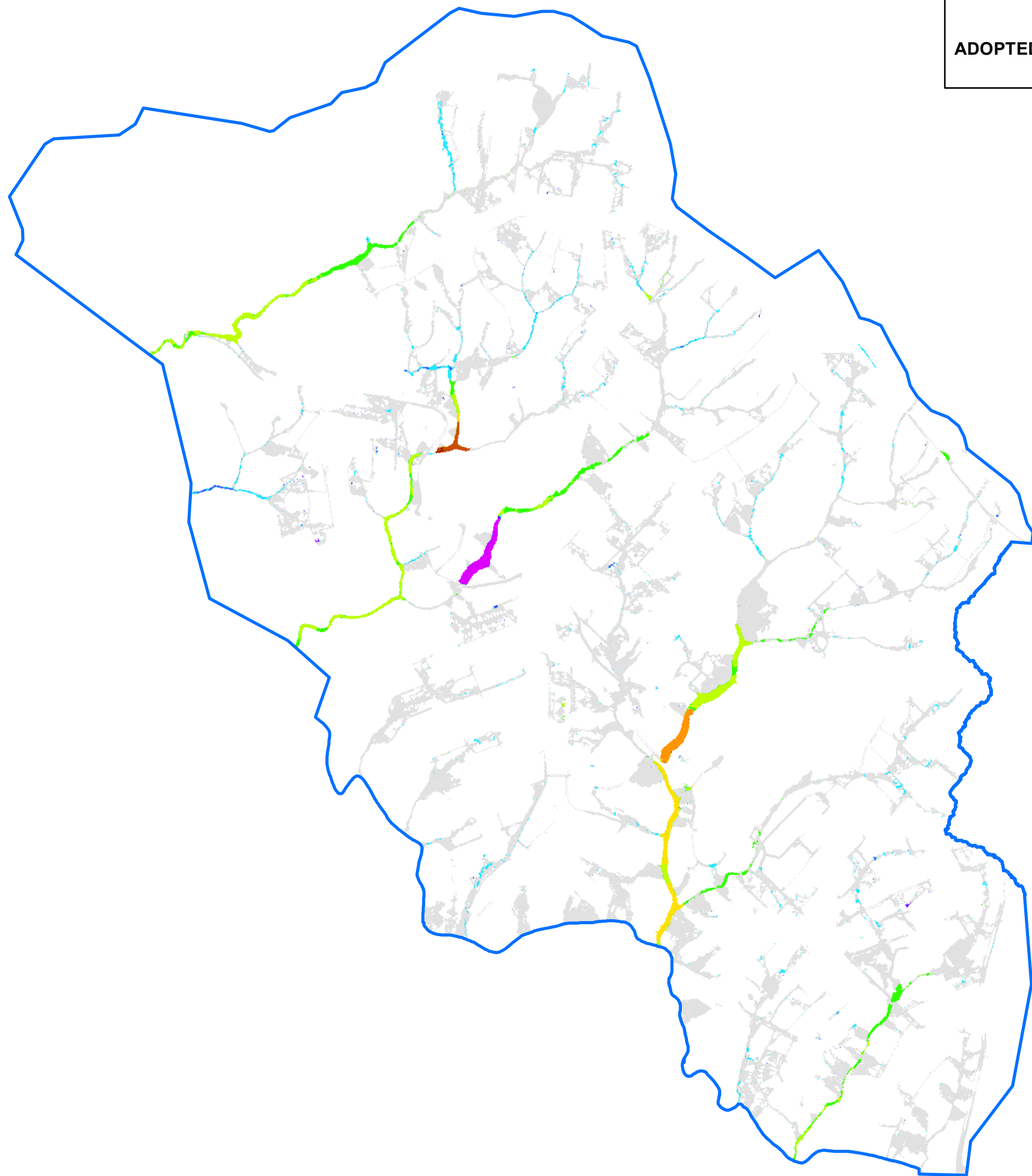
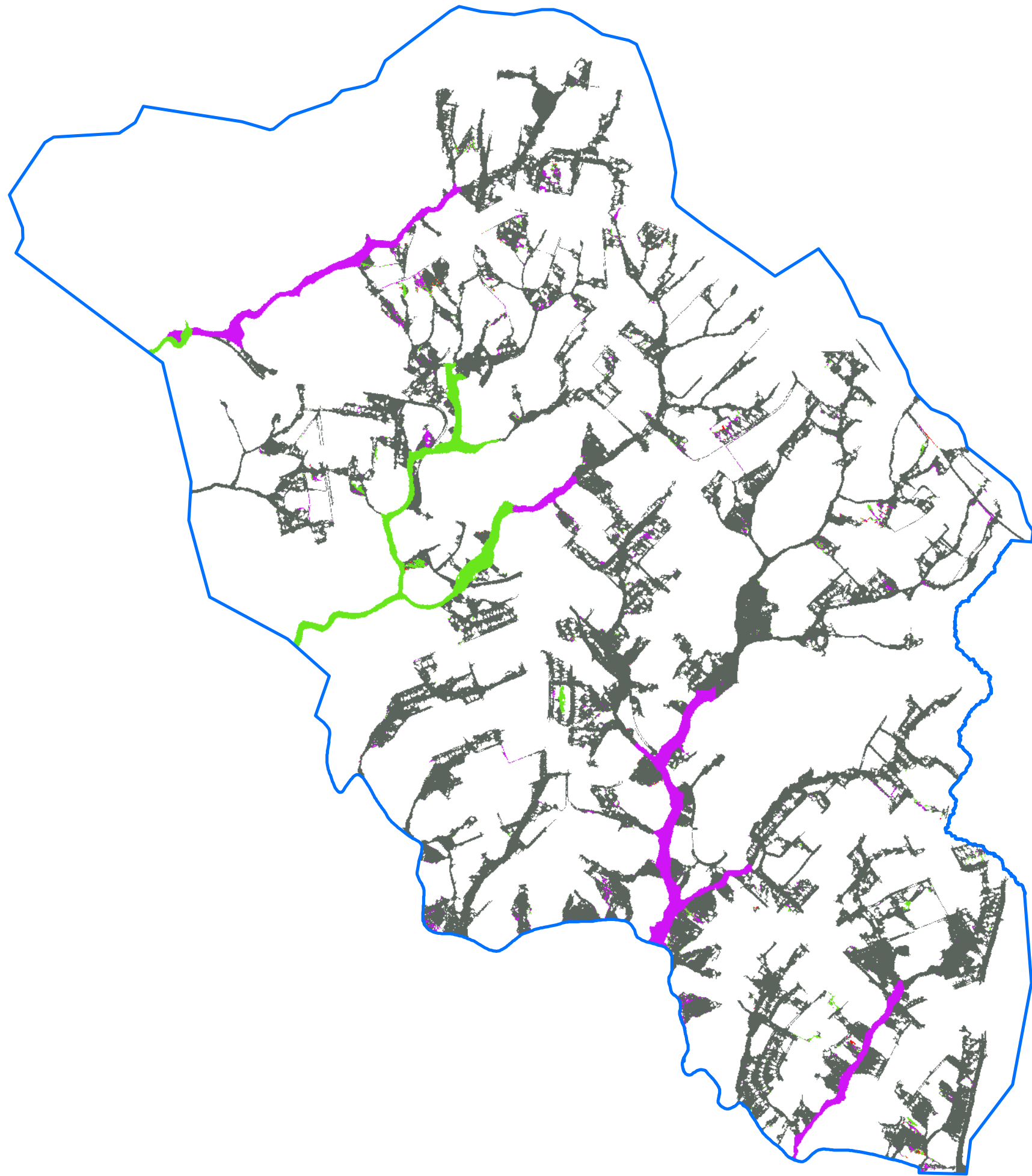


FIGURE 37
LANE COVE NORTHERN CATCHMENTS
CRITICAL DURATION
PMF EVENT



- Study Area
- Critical Duration**
 - 15 minutes
 - 30 minutes
 - 45 minutes
 - 60 minutes

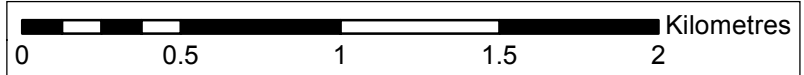


FIGURE 38
LANE COVE NORTHERN CATCHMENTS FLOOD STUDY
REPORTING LOCATIONS

