



BUNGIL CREEK (ROMA) FLOOD MARCH 1997

1. Introduction

Heavy rainfall occurred in the Bungil Creek catchment upstream of Roma in the 24 hours to 9am 6 March 1997. This resulted in major flooding in the township of Roma on 7 March 1997, with approximately 10 houses flooded over floor level. About 30 to 40 houses were protected by sandbags.

2. Existing Flood Warning Network

The current flood warning network of rainfall and river height stations operated by the Bureau of Meteorology in the Bungil Creek is shown on the attached map, Figure 1. The Creek at Tabers, some 30km upstream of Roma, has a catchment area of 710 square kilometres while at Roma, the catchment area is about 1400 square kilometres. The network in the Bungil Creek above Roma consists only of one telemetered rain/river station at Tabers. This station, owned by the Department of Natural Resources, is interrogated by the Bureau regularly during floods.

Two new rainfall telemeters, Bendoba and Pine Hills, were installed by the Bureau in the upper Dawson River late last year. Being close to the watershed, they provide good indications of rainfall in the upper Bungil Creek catchment.

Rainfall data is also available from the Automatic Weather Station recently installed at Roma Airport.

A Council nominated reader provides manual river height reading for Roma.

3. Rainfall

The heavy rain commenced on the afternoon of Wednesday 5 March 1997 and had largely finished by 1am Thursday 6 March 1997. During this period, rainfall totals for the period varied from 60 to 80 mm in the upper catchment to only 37 mm at Roma. Hourly rainfall data for selected stations near the catchment are shown in Figure 2. (Local unofficial reports suggested possible falls of 150 - 200 mm in the headwaters.

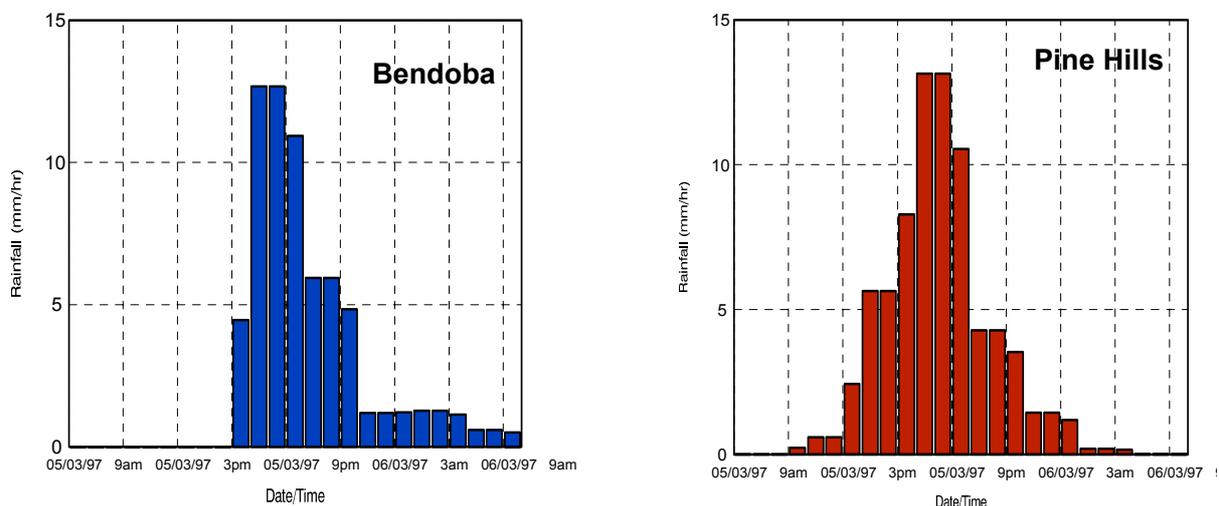


Figure 2 Rainfall Hyetographs

4. River Heights

Reports received from the telemetry station at Tabers and from Roma are shown on Figure 3. Note that during this flood, the travel time between Tabers and Roma was about 15 hours. Historical records show that it can be considerably shorter.

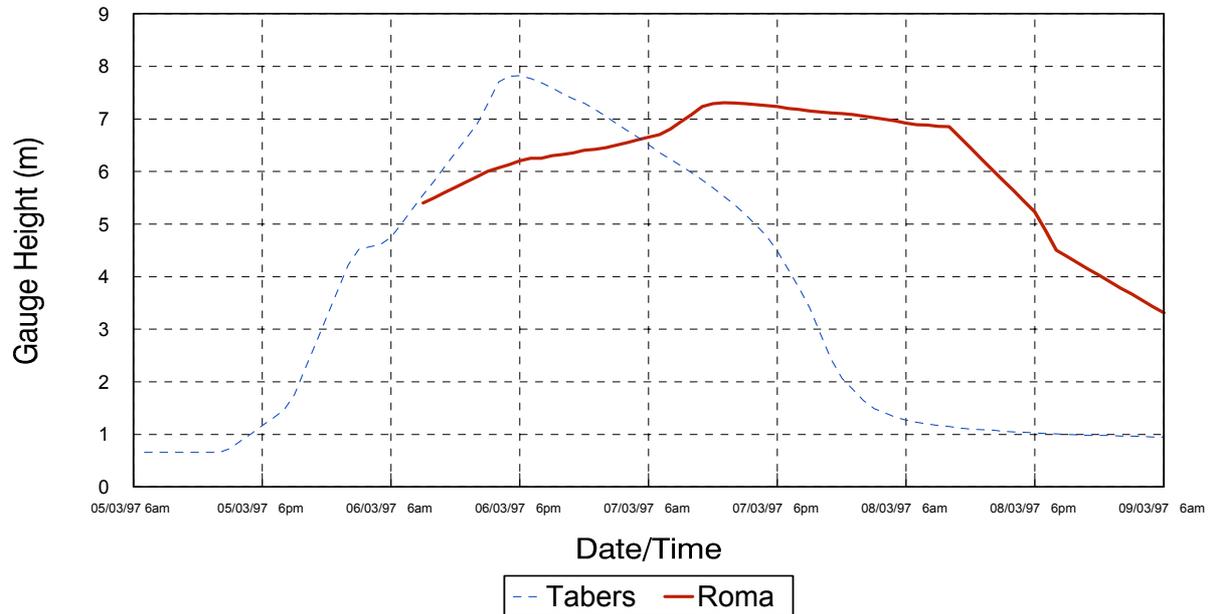


Figure 3 Bungil Creek Hydrographs

Figure 4 shows the history of flooding at Roma. It appears that the 1997 flood peak is one of the highest since Bureau records commenced in 1917. (There is some conjecture on this point as there was a change in gauge location in 1982). It is slightly higher than the floods of January 1984 and June 1983.

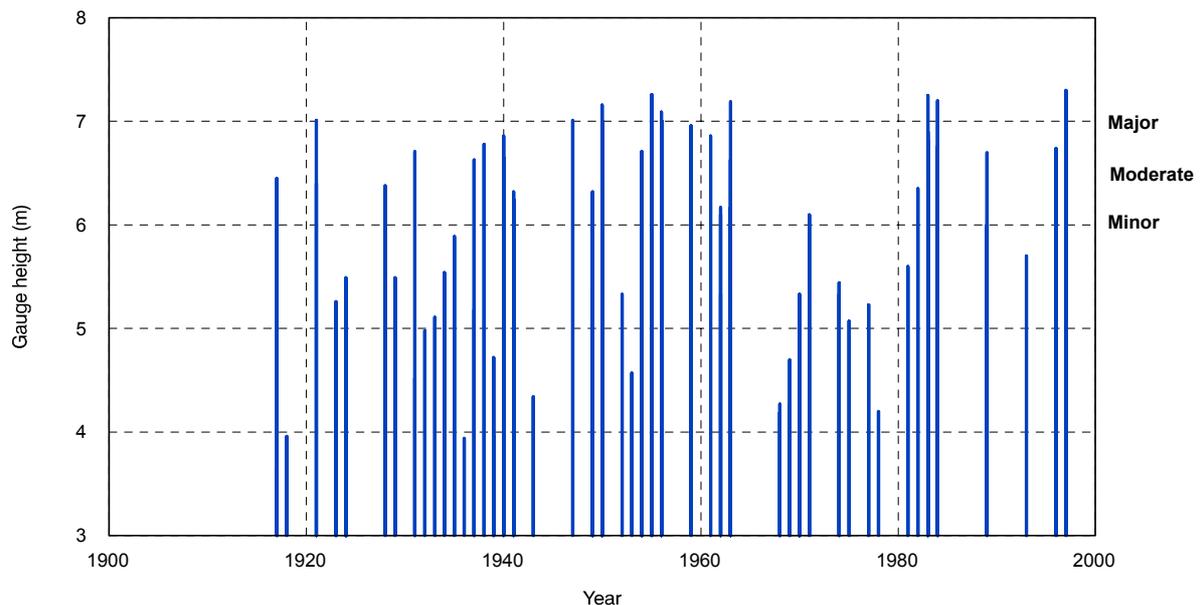


Figure 4 Highest Annual Flood Peak at Roma

5. Preliminary Recommendations

The March 1997 flood, while one of the highest on record, did not result from unusually heavy rainfall. Indications are that the rainfall, some 60 to 80 mm in 6-9 hours has only a 1 in 5 to 1 in 10 year Average Recurrence Interval (ARI).

The current flood warning network would not provide adequate information to reliably predict heights at Roma in severe floods, particularly as Mooga Mooga Creek which represents just under half the catchment, is not monitored. The network requires upgrading with the addition of at least two rainfall telemeters, one in the headwaters of Bungil Creek and the other in Mooga Mooga Creek. It is recommended that these station be installed by the Bureau in 1997/98.

At least one river height station is also recommended at a suitable site just below the junction of the Bungil Creek and Mooga Mooga Creek. Initially the station might be established as a manual station but it is highly recommended that it be telemetered to enable continuous and remote monitoring. It is suggested that Roma Town Council be approached to provide the capital cost of this station.

Field investigations are required to locate suitable sites for any proposed stations.