**CONTEXT:**

The Earth’s water budget was essentially fixed as it cooled when gaseous water condensed and settled on the cooling planet. Free water exists in liquid form as surface and ground water and it is this water which is available for living things. It is also in the atmosphere as the main gas that

absorbs back-radiation from the Earth to assist in stabilising the Earth’s surface temperatures and climatic conditions.

The terrain and climate determine the amount of water available for an individual continent. Australia has an arid environment because its water budget is limited in most areas due to a combination of factors, such as the Great Dividing Range, which limits rain coming in from the east,

the Papua-New Guinea Highlands, which limit rain entering inland from the north, and very cold atmospheric and ocean currents coming in from Antarctica, which limit rain entering Australia from the south.

The NSW river systems have been disturbed by many factors, including run-off from pastoral systems and the damming and re-routing of others. There are now limits regulating the discharge permitted into the river systems and the health of these systems is continuing to improve.

Large areas of land have been set aside as catchment regions for dams supplying urban environments and experience has shown that care of these catchments is essential for clean, pollution-free drinking water. This module increases students understanding of the nature and practice, the applications and uses of science and the implications of science for society and the environment.