Candidates are admitted to the examination room ten minutes before the start of the examination. On admission to the examination room, you are permitted to acquaint yourself with the instructions below and to read the question paper.

Do not write anything until the invigilator informs you that you may start the examination. You will be given five minutes at the end of the examination to complete the front of any answer books used.

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April 2009

Data Sheet
Answer Book

Any bilingual English language dictionary permitted
Calculators and programmable calculators are permitted

THE UNIVERSITY OF READING

MSc/Diploma

Course in Applied Meteorology

Course in Atmospheric, Ocean and Climate

MSc in Mathematics and Numerical Modelling of the Atmosphere and Oceans

PAPER MTMG44

Hydrology and global environmental change

Two Hours

Answer any TWO questions.

The marks for the individual components of each question are given in [ ] brackets. The total mark for the paper is 100.
Write an essay for each answer. Your essay should have a clear structure, with headings if appropriate, and should illustrate points with case studies or examples from the literature.

1. **Describe the factors affecting the amount of gross precipitation that reaches the forest floor, and discuss the implications for the water balance.**

   [25 marks for covering the main issues
   15 marks for introducing examples
   10 marks for presentation and clarity of expression]

2. **Evaluate the uncertainties and potential errors in the estimation of catchment precipitation, at all time scales**

   [25 marks for covering the main issues
   15 marks for introducing examples
   10 marks for presentation and clarity of expression]

3. **What factors might cause a trend in river flows in a catchment, and how would you seek to test alternative explanations?**

   [30 marks for covering the main issues
   10 marks for discussing how to evaluate alternative explanations
   10 marks for presentation and clarity of expression]

(End of Question Paper)