

## **Contents      Volume 18    1992/1993**

### **Volume 18    No. 1**

ANTONIO GALLARDO & WILLIAM H. SCHLESINGER: Carbon and nitrogen limitations of soil microbial biomass in desert ecosystems	1
VAL H. SMITH: Effects of nitrogen: phosphorus supply ratios on nitrogen fixation in agricultural and pastoral ecosystems	19
JOON KIM & SHASHI B. VERMA: Soil surface CO <sub>2</sub> flux in a Minnesota peatland	37

### **Volume 18    No. 2**

MCDOWELL, W.H., BOWDEN, W.B. & ASBURY, C.E.: Riparian nitrogen dynamics in two geomorphologically distinct tropical rain forest watersheds: subsurface solute patterns	53
BOWDEN, W.B., MCDOWELL, W.H., ASBURY, C.E. & FINLEY, A.M.: Riparian nitrogen dynamics in two geomorphologically distinct tropical rain forest watersheds: nitrous oxide fluxes	77
MATSON, P.A., GOWER, S.T., VOLKMANN, C., BILLOW, C. & GRIER, C.C.: Soil nitrogen cycling and nitrous oxide flux in a Rocky Mountain Douglas-fir forest: effects of fertilization, irrigation and carbon addition	101

### **Volume 18    No. 3**

CASTRO, M.S., STEUDLER, P.A., MELILLO, J.M., ABER, J.D. & MILLHAM, S.: Exchange of N <sub>2</sub> O and CH <sub>4</sub> between the atmosphere and soils in spruce-fir forests in the northeastern United States	119
ROTHFUSS, F. & CONRAD, R.: Vertical profiles of CH <sub>4</sub> concentrations, dissolved substrates and processes involved in CH <sub>4</sub> production in a flooded Italian rice field	137
LAZERTE, B.D.: The impact of drought and acidification on the chemical exports from a minerotrophic conifer swamp	153