



地理学报(英文版) 2004年第14卷第2期

### The non-point output of different agriculture landuse types in Zhexi hydraulic region of Taihu Basin

作者: LI Hengpeng LIU Xiaomei

This paper takes Zhexi hydraulic region in Taihu Basin as a study area. On the basis of hydraulic analysis function of Arcgis8.3, the drainages were delineated by selecting the monitoring points and discharge stations as outlets. The landuse map were finished by denoting the TM/ETM image. The precipitation map was finished by spatial interpolation according to the rainfall monitoring records. Overlaying the drainage boundary, landuse map and precipitation map, the rainfall, different landuse type area, and runoff pollution concentration and runoff were calculated. Based on these data in different sub-watersheds, by Origin7.0 regression tool, an equation is established to predict runoff using the relationships between runoff, precipitation depth and land use patterns in each of the sub-watersheds. Selecting the sub-watershed which is mainly composed of forest landuse type, the mean runoff concentration (MRC) from sub-watershed has been estimated. The mean runoff concentration of farmland has been estimated by the same methods after the contribution of forest landuse type was removed. The results are: for the forest landuse type, the mean runoff concentrations of COD, BOD, Total N and Total P are 2.95 mg/l, 1.080 mg/l, 0.715 mg/l, and 0.039 mg/l, respectively; for the farmland, the mean runoff concentrations of COD, BOD, Total N and Total P are 5.721 mg/l, 3.097 mg/l, 2.092 mg/l, and 0.166 mg/l, respectively. By using these results, the agriculture non-point pollution loads have been assessed. The loads of COD, BOD, Total N and Total P in Zhexi region are 14,631.69 t/a, 6401.93 t/a, 4281.753 t/a and 287.67 t/a, respectively.

Paper (PDF)

**关键词:** Taihu Basin; Zhexi hydraulic region; landuse; non-point pollution doi: 10.1360/gso40203