

黄土高原水土保持对流域降雨径流的影响分析

Effect of soil and water conservation on the runoff on the Loess Plateau

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中文摘要:

以黄土高原西川河流域1990年开展大规模水土保持综合治理以来的降雨、径流及各种治理措施面积变化等资料为基础, 提出对各次降雨径流过程按雨量分级, 然后分别研究流域治理程度逐年提高对其径流的影响规律, 并对各种治理措施的降雨径流影响大小进行了对比分析。结果表明水土保持综合治理可以明显改变中雨、大雨级的降雨产流量, 削弱降雨—径流型的流域间水分大循环, 强化以降雨—入渗—蒸发型的流域内水分小循环; 工程治理措施对径流的拦蓄作用大于植树种草生物治理措施; 林草拦蓄降雨径流作用具有滞后性。

英文摘要:

The effects of soil and water conservation measures on runoff and water balance were analyzed and formulated with the data of rainfall, runoff and the land usage condition of Xichuan River Basin since the soil and water conservation measures have been taken after 1990. The relationship between runoff coefficient and the level of soil and water conservation was presented. The results showed that the soil and water conservation measures could improve the infiltration and runoff during rainfall period and weaken the hydrological cycle on basin scale, and reinforce the hydrological cycle at field scale. The engineering measures have greater holdup of effect on runoff than those of vegetative measures. The hydrologic effects of the forestry and grassland measures have the laggard characteristics.

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