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洞庭湖区农业水旱灾害演变特征及影响因素——60年来的灾情诊断

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Title: Evolution characters and influence factors of agricultural flood and drought in Dongting Lake area: diagnosis of disaster situation in recent 60 years

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关键词: 洞庭湖区; 水旱灾害; 演变特征; 影响因素

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摘要: 以洞庭湖区1950-2009年的灾情、雨情和水情等资料为依据,运用灾害系统理论与方法,分析了湖区农业水旱灾害的演变特征及其影响因素。结果表明:在水旱灾害时间序列中,其演变特征表现为:(1)具有明显的频发性,不同等级的旱灾在1950-1999年间为间歇发生,但2000年以来为连年发生,不同等级的水灾年年发生;(2)水旱承灾体受灾率、成灾率异常指数的演变具有高位波动性,其中以水灾波动幅度最大;(3)水旱灾害损失演变的总体趋势表现为:水灾损失减少,旱灾损失稍有增加;(4)三峡水库运行以来,毁灭性的洪溃决堤灾害得到有效控制,但涝渍灾害仍然频发,夏秋连旱灾害年年发生。水旱灾害的这些演变特征即是洞庭湖流域降水量年际、年内分配不均,河、湖、库蓄水量年际年内变化大,以及湖区各个阶段对防洪、排涝、抗旱等水利设施建设投资力度的差异等因素综合作用的结果。

Abstract: Based on the data of disaster, rain and water in Dongting Lake area from 1950 to 2009, evolution characters and influence factors of agricultural flood and drought were analyzed by disaster system theory and method. The results indicate that in the time series of flood and drought, the evolution characters can be presented as follows: (1) Flood and drought occurs frequently. Different-grades drought has taken place intermittently from 1950 to 1999, while it has happened for years since 2000. And different-grades flood occurs every year. (2) The evolution of abnormal indexes of the affecting rate and disaster rate of flood and drought shows the character of top fluctuation, especially the flood rates. (3) The loss of flood tends to decrease while the loss of drought tends to increase lightly. (4) Though the destructive bank breach has been effectively controlled since the operation of the Three Gorges Reservoir, waterlogging has occurred frequently, and droughts which continue through both the summer and autumn have taken place every year. These characters of flood and drought result from the imbalance of precipitation distribution in years and within year in the Dongting Lake area, the great change of water storage of rivers, lakes and reservoirs in years and within year, the difference of investment strength on water conservancy facility construction (such as flood prevention, storm drainage and drought relief) at different stages.

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