

论文

## 辽宁农田土壤田间持水量的空间变异性分析

蔡福<sup>1</sup> 明惠青<sup>2</sup> 张淑杰<sup>1</sup> 陈鹏狮<sup>1</sup> 米娜<sup>1</sup> 周广胜<sup>1,3</sup>

1.中国气象局沈阳大气环境研究所, 辽宁 沈阳 110016; 2.辽阳市气象局, 辽宁 辽阳 111000; 3.中国科学院植物研究所植被与环境变化重点实验室, 北京 100093

收稿日期 2008-9-28 修回日期 2008-11-24 网络版发布日期 2009-2-27 接受日期 2008-11-24

**摘要** 利用常规统计方法、地统计学方法及GIS空间分析技术, 分析了辽宁5—50 cm土壤田间持水量的空间变异性。结果表明: 10—50 cm各层次土壤田间持水量以辽东地区最大、中部地区次之、辽西地区最小; 30 cm以上各层次土壤田间持水量, 辽北地区大于辽南地区, 而30cm以下则相反; 5 cm土壤田间持水量与其他层次差异较大, 40 cm和50 cm土壤田间持水量最接近, 30 cm有可能是土壤田间持水量的分界层; 5 cm土壤田间持水量的空间分布格局与其他层次亦差异明显, 存在3个高值中心, 分别为辽西西部、中部和辽东地区。10—50 cm土壤田间持水量的空间分布格局基本相似, 低值分布在辽西东部和沈阳北部地区, 高值中心分布在辽东地区。

**关键词** [辽宁](#) [土壤田间持水量](#) [空间变异性](#)

分类号

[S152.7±1](#)

## Spatial variability of field water-holding capacity in the farmland in Liaoning province

CAI Fu<sup>1</sup> MING Hui-qing<sup>2</sup> ZHANG Shu-jie<sup>1</sup> CHEN Peng-shi<sup>1</sup> MI Na<sup>1</sup> ZHOU Guang-sheng<sup>1,3</sup>

(1. Institute of Atmospheric Environment, China Meteorological Administration, Shenyang 110016, China; 2. Liaoyang Meteorological Bureau, Liaoyang 111000, China; 3. State Key Laboratory of Vegetation and Environmental Change, Institute of Botany, the Chinese Academy of Sciences, Beijing 100093, China)

**Abstract** Spatial variability of field water-holding capacity in the soil from 5 to 50 cm in the farmland in Liaoning province was analyzed with the routine statistics method and geostatistics method integrating spatial analysis technique on GIS. The results show that the maximum field water-holding capacity in different soil layers from 10 to 50 cm appears in the east, followed in the middle, and finally in the west of Liaoning province. Field water-holding capacity in different soil layers above the depth of 30 cm in the north is larger than that in the south of Liaoning province, while it is contrary under the depth of 30 cm. There is an obvious difference between field water-holding capacity at the depth of 5 cm and that of other layers. Field water-holding capacity at the depths of 40 cm and 50 cm is similar. Boundary layer of field water-holding capacity appears possibly at the depth of 30 cm. Its spatial distribution at the depth of 5 cm is obviously different from those at other layers. There are three high values located in the west, the middle and the east of Liaoning province. Its spatial distribution from 10 to 50 cm is unanimous. The low value is located in the east of western Liaoning province and the north of Shenyang, and the high value is located in the east of Liaoning province.

**Key words** [Liaoning province](#) [Field water-holding capacity](#) [Spatial variability](#)

DOI:

通讯作者

### 扩展功能

#### 本文信息

▶ [Supporting info](#)

▶ [PDF\(1249KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

#### 服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

#### 相关信息

▶ [本刊中 包含“辽宁”的 相关文章](#)

▶ 本文作者相关文章

· [蔡福](#) [明惠青](#) [张淑杰](#) [陈鹏狮](#) [米娜](#) [周广胜](#)