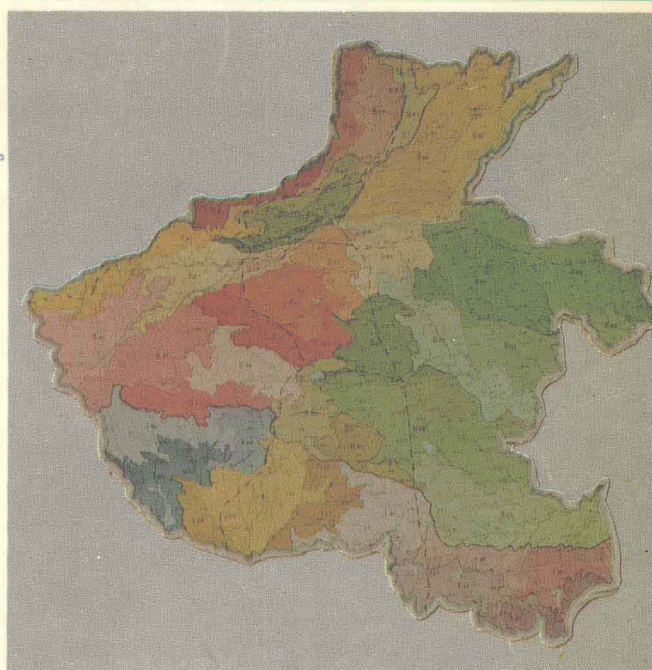
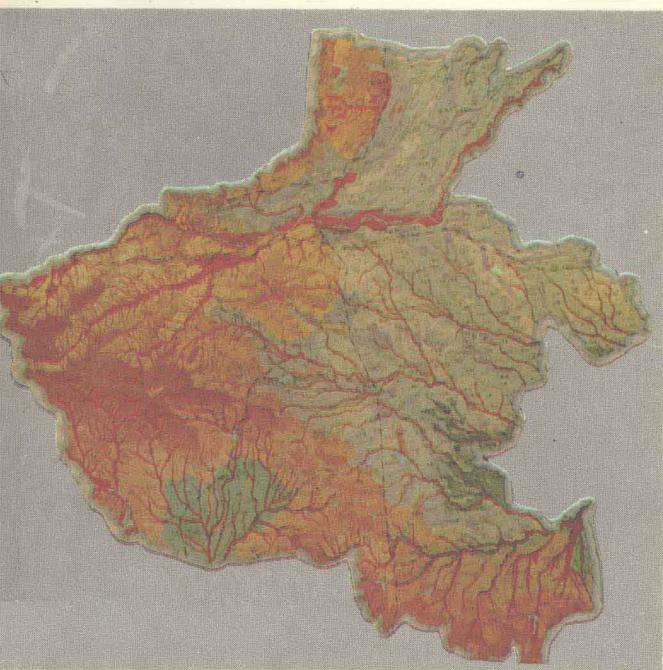


# 河南省农业资源与农业区划地图集 编制研究

张天桢 主编



测绘出版社

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1992.12 北京

**STUDY ON THE COMPILATION  
OF ATLAS OF AGRICULTURAL  
RESOURCES AND REGIONALIZATION  
OF HENAN PROVINCE**

**Written by**  
*Zhang Tianzhen*

**THE PUBLISHING HOUSE OF  
SURVEYING AND MAPPING**

**BEIJING • 1992**

# 奉献给河南的土地和人民

——悼念地图专家毛继周

(代序)

河南省科学院、计划经济委员会地理研究所有一个坚强的研究集体。以毛继周、张天桢同志为核心的一班人，呕心沥血，前仆后继，为了河南省的土地和人民，奉献着自己的青春和智慧。1990年，他们完成了《河南省农业资源与农业区划地图集》的编制，以中、英文两种版本问世；1992年，又编辑出版有关这部地图集的论文、报告，总结技术经验，探讨理论方法。工作有始有终，作品图文并茂，既立足于结合农业生产实践，又着眼于推进地图学科发展。他们这种执著而又顽强的科学献身精神，是令人十分敬佩的。

我曾经荣幸地应邀为《河南省农业资源与农业区划地图集》写过序言。主要是从河南省地处中原的优越地理区位，说明河南省农业资源与区划的一些特点。河南具有过渡性、多样性的环境，悠久的开发历史和辉煌的当代成就。编制这样一部综合性的农业地图集，难度很大，同时，社会、经济效益也是很大的。

但是，使我感到非常悲痛的是，这部地图集的主编——毛继周同志，竟在图集问世不久就溘然长逝，离开了他长期合作的集体，离开了他热爱的地图研究与创作，乃至这部地图集的技术总结，只能由张天桢等同志来继续完成。同志们和他曾经日夜拼搏在一起，现在化悲痛为力量，写出了20多篇文章，整理出毛继周同志的遗稿，编辑出版论文集。这是最珍贵的情谊，最隆重的纪念。我想，一心扑在事业上的毛继周同志，一定会感到欣慰，一定会含笑九泉的。

在我的回忆中，毛继周同志把他毕生的精力和智慧，毫无保留地奉献给河南省的土地和人民，奉献给祖国的地理和地图科学事业。他埋头苦干，朴实无华，密切结合当时当地生产与建设的需求，特别是在农业地图方面，精心设计了大量地图作品，不仅得到了社会的公认和好评，而且不少已成为地图界的示范之作。例如，在他的倡导下，河南省地理所编制出版了河南省《新乡地区灌溉图集》，又为老区扶贫编制了《大别山区全图》；80年代为对外开放，又编制了《河南省土特产分布图》。这些作品，都获得了很大的成功，在许多展览会上交口称誉。他的论文来自实践，很有创见，也深受同行的赞许。毛继周担任的学术组织工作很多，并不局限于地图学界。他倡导创办了《地域研究与开发》期刊，独树一帜，很有特色；他为中国地理学会主持编辑了《中国地理著作要览》，热情支持“地图学与地理信息系统”专业委员会的学术活动，在国内外同行中享有很高的声誉。不久之前，他还和我多次商量，讨论如何在河南省建立地理信息系统，更好地把地图学、遥感应用结合起来，为河南省的地理建设提供更多的信息服务。但是，创业维艰，要推动一番事业谈何容易！尤其是编制出版大型地图集，工程巨大，事务纷繁，毛继周同志终于积劳成疾，力不从心了。甚至在肝癌已经威胁到他生命的最后岁月里，他还是义无反顾地全心全力投入工作，亲自去上海中华印刷厂驻厂，为争取《河南省农业资源与农业区划地图集》的高质量 and 早出版而忘我地工作。他鞠躬尽瘁，死而后已，无愧于河南又一个焦裕禄！

我们为地图界失去一位坚强而又执著的亲密战友——毛继周同志而哀悼；同时也为有张天桢、付安良等为发展河南省地理建设和地理与地图科学事业而努力不懈的许多同志，无限欣慰！《河南省农业资源与农业区划地图集编制研究》这部论文集的出版，正是体现了这种可贵的精神。为此，谨借文集的前页，敬致悼念与慰问。

中国地理学会理事长

陈述彭

1992年清明时节

# **Dedication to the Land and People of Henan Province**

## **—In Memory of Mao Jizhou, a Mapping Expert**

### **(In Lieu of Preface)**

In the Institute of Geography, Henan Academy of Sciences and Planning Economic Committee, a staunch research group is found with Mao Jizhou, Zhang Tianzhen, as its core. For many years, Mao and Zhang, with their colleagues made pains-taking work, pressing forward wave upon wave in mapping field. They dedicated all their energy, intelligence, their youth and even entire life to the land and people of Henan Province. In 1990, their great work « Atlas of Agricultural Resources and Regionalization of Henan Province » came to the world in both Chinese and English two languages. And in 1992, the world is to see the publication of a collection of scientific treatises and reports on the atlas, which includes many elegant maps. In the collection, the technical experience is summarised, theoretical approaches are studied, thus a series of work is completed. Their work will surely benefit both practice in agricultural production and development of cartographic science. Their punctiliousness and devotion to their work is really worthy of the admiration and respect they have received.

I feel honoured to have had the opportunity to write sth. as preface of « Atlas of Agricultural Resources and Regionalization of Henan Province » at the request of the compilers of the atlas. In the article are stated the characteristics of agricultural resources and regionalization of the province based on its superior geographical location, which is situated in Central China plains. Geographically, Henan province is at the transition area and thus has a great variety of climatic environment. What's more, Henan is a place that has long been developed with splendid modern achievements. The compilation of the complex agricultural atlas is arduous work and correspondingly is of great social and economic benefits.

But unfortunately, the chief compiler of the atlas, Mao Jizhou passed away not long after the publication of the atlas, parting forever from his colleagues with whom he worked together for decades, and leaving his beloved work of cartographic research and compilation to his fellow workers. Therefore work of technical summary of the atlas falls on the shoulders of his comrade-in-arms Zhang Tianzhen and other men. Now Zhang Tianzhen and his colleagues, with great grief for Mao's death in their hearts, have written over 20 treatises and collected Mao Jizhou's concerning posthumous manuscripts, which are to be put in the treatise collection mentioned above. In doing so, they present Mao Jizhou and their best commemoration and sincere friendship. Mao Jizhou, the staunch devotee of his work would feel gratified in the nether regions.



Mao Jizhou devoted all of his talent, wisdom and creativeness without any reserve to the land and people of Henan Province, to work of geographical and cartographic science of the country. He worked conscientiously day and night, living a simple and plain life without any pretension. He closely linked his work to the need of local construction and agricultural production of the time, especially in agricultural mapping, by designing a series of elaborate maps of the kind, many of which have long been regarded as paragons in the cartographic world. His work has obtained universal appreciation and social recognition. For instance, in accordance with his proposal, Henan Institute of Geography compiled and published 《Atlas of Irrigation of Xinxang District》, 《Complete Map of Dabie Mountain Areas》, which is for the purpose to help the old liberated areas to develop economy. In 1980's they compiled 《Map of Distribution of local and Special Products of Henan Province》, which is an aid to the development of Henan's foreign trade. All of the atlas and maps are of great success. And in many map exhibitions, the maps won a lot of praises. His treatises, which are from practice, are full of creative ideas and are admired by his fellow men in the mapping circle. Mao Jizhou also played an active part in work of academic organizations, which were not limited in the mapping world. At his initiation, a new Journal with its own creative characteristics 《Areal Study and Development》 came into being. He also compiled and published 《List of Chinese Geographical publications》, in the name of Geography Society of China. He was also a patron of the academic activities of the professional committee of 《Cartography and GIS》. He enjoyed high reputation among people of his profession at home and abroad. Not long ago, he consulted with me a number of times about how to establish GIS in Henan Province so as to better combine cartography with remote sensing application and to provide Henan's geography construction with more information service. But it's really no easy job to initiate a pioneering work, especially to compile and publish large and comprehensive atlases, which involves much meticulous work. Due to too much pains-taking work Mao Jizhou fell ill. But he never ceased to work until he had no energy left. Even in his last days when his liver cancer was threatening his survival, he still worked whole heartedly without any hesitation, going to Shanghai Printing House personally in order to urge the earlier publication of the atlas in high quality. He has given his all to his work and thus to the land and people of the province. He is worthy of the name of another Jiao yulu, a well-known county Party secretary, who devoted all his life to his people and has long been regarded as a shining example for all communists.

We feel deeply sorry for the death of Mao Jizhou, our staunch and hard-working comrade-in-arms. But what makes us relieved is that we have Zhang Tianzhen, Fu Anliang, his intimate colleagues, who are determined to carry on and push forward Henan's geography construction and geographic and cartographic science with all their energy and wisdom. The publication of the treatise collection 《Compilation Practice and Research of the Atlas of Agricultural Resources and Regionalization》 is a reflection of this valuable spirit. Here when the book is published, I feel greatly honoured to write a few

words above in memory of Comrade Mao Jizhou to show my respect for him.

*Chen Shupeng*

Director of Geography society of China

Middl Spring, 1992



## 前 言

《河南省农业资源与农业区划地图集》由河南省农业区划委员会办公室主持，河南省科学院、计经委地理研究所主编，于1990年完成，并由测绘出版社公开出版发行。图集除主编单位外，还有10多个单位参与协作，是40余名专家、学者和科技人员分工合作，历经4年之久共同完成的集体成果。

《河南省农业资源与农业区划地图集》是一本大型的省（区）综合性农业地图集。《图集》中共有地图180幅。依照农业生产的特点和科研成果为经济与生产实践服务的宗旨，把地图划分为7个图组：（1）序图；（2）农业生态条件图；（3）农业自然资源图；（4）农业技术条件图；（5）农业经济特征图；（6）农业生产部门图；（7）农业区划图。作者把农学、地理学和地图学及农业区划理论融为一体作为图集编制的理论基础，以系统论、地图信息论、地图传输论、地图感受论、地图模式论及地图符号学等理论为指导，采取遥感制图、机助制图和常规制图技术相结合的方法，完成了这一大型的制图工程。

图集全面系统地反映了河南农业生产的自然与经济技术条件、资源类型及分布规律、农业生产部门与产业结构，和40年来河南农业生产的伟大成就，特别是十多年来，全省开展农业资源调查与农业区划及各项农业专题研究的系列成果，并从相关科学研究成果中吸收了对编制图集有用的内容。本着博采百家之精论、兼收各派之灼见的精神，广泛征求农学、地理学、地图学和农业区划专家的意见，对图集的总体设计进行过多次的讨论和论证，使图集跳出一般农业图集的结构模式，其内容、选题和结构体系更具有科学性和实用性，更切合河南农业生产的实际。

实践、认识、总结，再实践、再认识、再总结，……这是辩证唯物论的科研认识过程。总结的目的在于提高，提高的理性认识可以更好地指导实践。通过循环往复的实践、认识、总结的不断提高，可以发展学科，最终为发展生产力服务。我们本着这一宗旨，对图集的设计、编制与制印进行学术总结。但是，总结工作开始不久，图集主编毛继周研究员不幸因病住院，经过一年有余的多方医治无效，于1992年元月12日不幸与世长辞。他的逝世，是我们研究室、研究所的重大损失，我们失去了一位好伙伴、好导师，大家甚为悲痛。我们要化悲痛为力量，继续完成他未完成的事业。现在，我们撰著《河南省农业资源与农业区划地图集编制研究》，正是为了了结毛继周先生临终的一个心愿。本书由图集第一副主编张天桢副研究员负责审稿与定稿，并对全书各篇文章的关键词和重要科技术语增注了英文。在本书的编辑过程中，图集原图作者的部分专家和学者也应邀积极撰稿，为本书的科学内容和学术价值增添了份量和光彩；郑州大学杨国语副教授应邀对全书的英文摘要进行了全面校核并英译了序和前言，我们深表谢意。

这里特别要指出的是：我国著名地理学、地图学、遥感应用与地理信息系统专家，中国科学院学部委员陈述彭教授在百忙中为本书写了序；我国著名地图学家吴忠性教授、陆漱芬教授、廖克研究员分别为图集写了述评。我们对这些著名专家、教授给予我们的鼓励、支持和辛勤栽培之情深表敬意，我们向他们深深地鞠一躬，以表示我们感激之情。

在本书出版之际，我们再次向图集的科学技术顾问组全体专家、图集的主持单位——

河南省农业区划委员会办公室、图集印刷单位——上海中华印刷厂、图集和本书的出版单位——测绘出版社以及曾为图集和本书的编、著和出版工作提供过帮助和支持的单位和个人致以衷心感谢。

由于我们学术水平所限，加之时间仓促，书中不妥和错误之处在所难免，恳请批评斧正。

张天桢

1992年3月20日

## Foreword

Under the supervision of Office of Agricultural Regionalization Committee of Henan Province, 《Atlas of Agricultural Resources and Regionalization of Henan Province》 is accomplished in 1990, with Institute of Geography of Henan as the chief editorial unit, which is subordinate to Henan Academy of Sciences and Planning Economic Committee of Henan Province, and is published by Publishing House of Surveying and Mapping in the same year. More than 10 other units are involved in the work besides Institute of Geography of Henan Province, the chief editing unit. The atlas is a crystallization of collective wisdom and collaboration of over 40 experts, scholars and scientific and technical workers, who worked together for 4 long years.

The atlas is a large provincial complex agricultural atlas, with 180 various maps in it. The maps in the atlas are grouped in 7 parts in accordance with the characteristics of agricultural production and the aim of serving the economic and productive practice with scientific research products. They are: preludial maps, maps of ecological conditions of agriculture, maps of natural resources of agriculture, maps of technical conditions of agriculture, maps of economic features of agriculture, maps of agricultural production sectors, maps of agricultural regionalization. Agronomy, geography, cartography and theory of agricultural regionalization are integrated as the theoretical basis for the compilation of the atlas. And with system theory, cartographic information theory, cartographic communication theory, cartographic experiences theory, cartographic modelling theory and cartographic semiology and so forth as theoretical guidance, the grand complex cartographic project is completed with the combined approach of remote sensing, computer aid and conventional mapping techniques.

In the atlas are systematically reflected the natural, economical and technological conditions of agricultural production in the province, the resources types and distribution patterns, agricultural production sectors and industrial structure and the great achievements in agriculture of the province in the past 40 years, especially the series of research products of the past decade in the survey of agricultural resources, agricultural regionalization and various monographic studies in agriculture. And in the compilation a lot of research achievements and useful information in the relating subjects that benefits the atlas is employed. Based on the principle of absorbing the essence and profound views of different schools of thought, opinions and suggestions are also collected of experts of wide range in agronomy, geography, cartography and agricultural regionalization for the compilation of the atlas. And in order to obtain sufficient proofs for the feasibility of the atlas, many discussions are held on the overall planning, thus a brand new structure pattern for agricultural atlas

comes into being, which differs greatly from the conventional ones. Therefore the atlas accords better with the actual situation of Henan's agriculture in its scientificness and practicalness of the contents, topic-selecting and structure system.

Practice—understanding—summarising—practice again and then another circle goes on from a new basis. The process goes on and on and never ceases. That is the course of understanding in scientific research, which conforms to the dialectical materialist theory of knowledge. The purpose of summarising is only for heightening the rational understanding and thus to bring the following practice to a higher level. In this way, the discipline is further developed and finally the productive forces are benefited. Just for this purpose, the entire process of the designing, compiling and printing of the atlas is academically summarised. But unfortunately, Professor Mao Jizhou the chief compiler of the atlas, fell ill with too much hard work not long after the summarising work started, and died on Jan. 12, 1992 after all possible means of medical treatment was tried. His death is a big loss to his cartography group and to the institute as well. All his colleagues and fellow workers fall in deep sorrow for losing such a good practicer and leader in the research work. Now the grief for his death in the hearts of his colleagues is being turned into a motive force to carry on his unfinished work. The compilation and publication of « Study on the Compilation of Atlas of Agricultural Resources and Regionalization of Henan Province» is to carry out Mao Jizhou's last will. The treatises collected in the book are examined and finalized by Zhang Tianzhen, associate professor and first editor-in-chief, who also annotated the key words and technical terms in English. During the course of the compilation of the book, many experts and scholars, some of whom are makers of the maps in the atlas, provided their theses, thus making the book richer in scientific contents and more academically valuable. Mr. Yang Guoyu, at the request of the editors, translated the preface and foreword into English and examined and revised all the English abstracts. Here we extend our heartfelt thanks to them all.

What's particularly noted here is Professor Chen Shupeng, the well-known expert in geography, cartography, application of remote sensing and geographic information system, who is member of the Division of Earth Science, Academia Sinica, wrote preface for the book in spite of his daily pressing affairs. And Professors Wu zhongxing, Lu Shufen and Liao Ke, who are all famous experts in cartography wrote respectively comments on the book. We sincerely cherish gratitude for their encouragement, support and fosterage to us.

On the occasion of the publication of the book, we extend once more our sincere thanks to all the persons and units that offord their valuable help to the compilation and publication of the book, especially to the experts of the advisory group, the Office of Agricultural Regionalization Committee, which is the supervisor of the atlas, Shanghai Zhonghua Printing House —printer of the atlas and the book, the Survey Publishing House —publisher of the atlas and the book.

Due to our limited academic knowledge and unsufficient time, mistakes and errors are

inevitably to be found. So all criticisms and corrections are welcome.

Editor-in-chief

*Zhang Tianzhen*

March 20, 1992

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