主办 中国科学院遥感与数字地球研究所
中国地理学会环境遥感分会
出版 科学出版社

JOURNAL OF REMOTE SENSING

遥感学报

2014年 Vol.18 第18卷 No.3 第3期 ISSN 1007-4619 CN11-3841 / TP CODEN YXAUAB

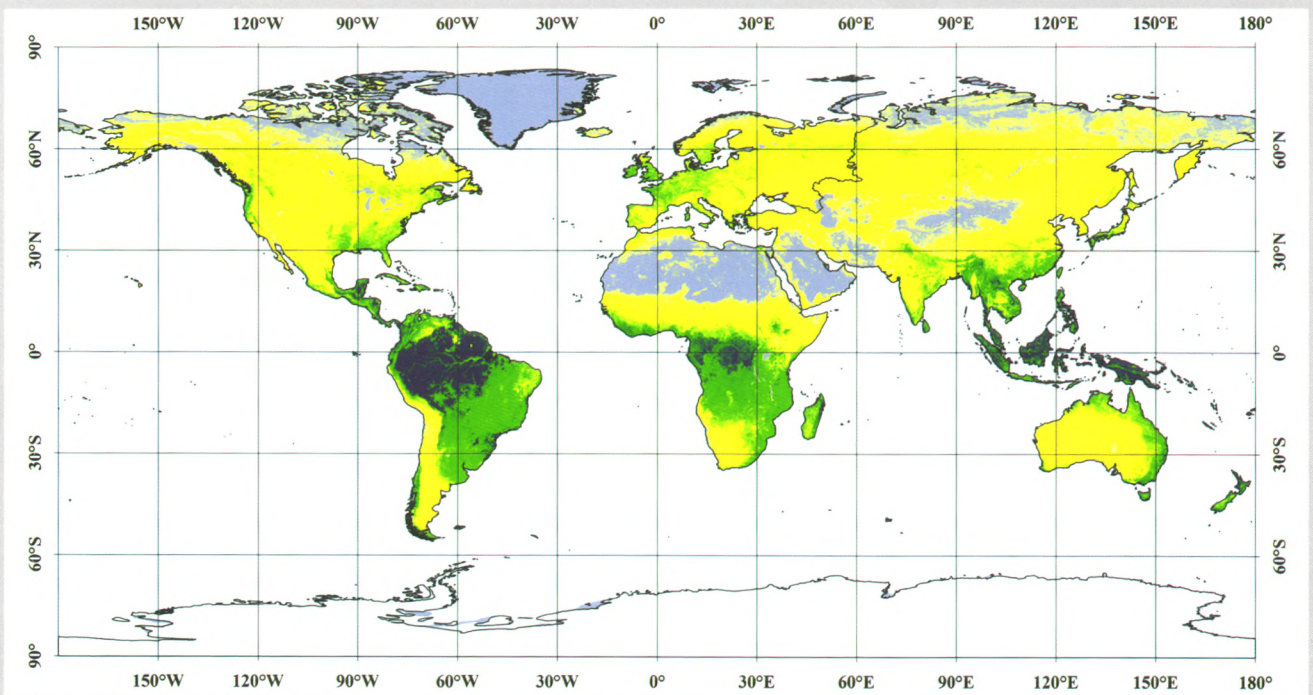

图1 2012年12、1和2月GLASS LAI均值的分布图

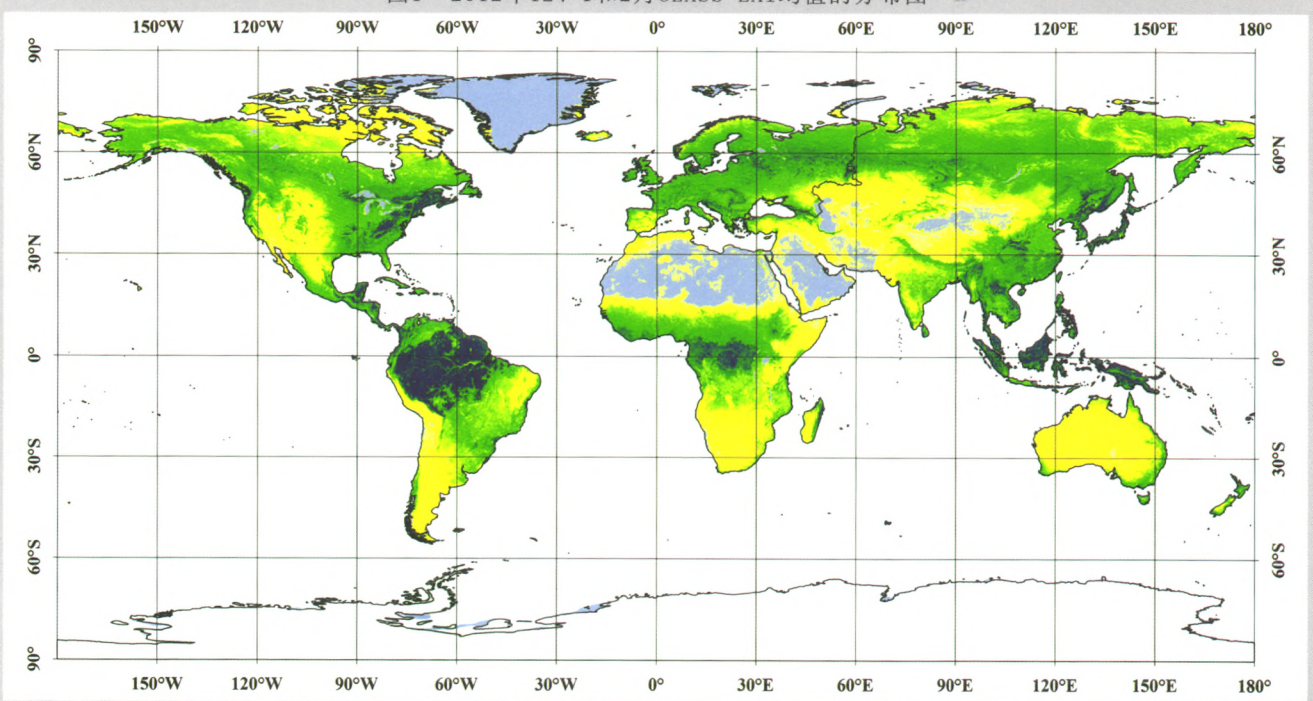

图2 2012年6、7和8月GLASS LAI均值的分布图

百种中国杰出学术期刊

遥感学报

Yaogan Xuebao

第 18 卷　第 3 期　2014 年 5 月

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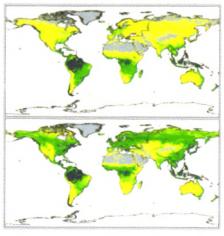

封面说明

About the Cover

GLASS叶面积指数产品

GLASS LAI product

针对全球叶面积指数(LAI)产品存在的数据缺失、不连续和不确定性较大等问题，北京师范大学全球变化数据处理与分析中心(http://www.bnu-datacenter.com/)发布了1981年—2013年的全球GLASS LAI产品。该产品利用“多输入-多输出”的广义回归神经网络反演算法，将一年的MODIS或AVHRR地表反射率数据作为输入，一次性输出获得一年的LAI产品。GLASS LAI产品具有空间完整、时间序列平滑连续等特点，且精度优于MODIS和GEOV1等全球LAI产品，可以很好地反映全球植被的物候变换规律。基于该产品的部分研究成果请见本期“陆表遥感数据产品的分析研究”专栏。

Current satellite Leaf Area Index (LAI) products are not continuous in both space and time, and their accuracies also need to be improved. In order to solve these problems, the Global LAnd Surface Satellite (GLASS) LAI product is generated and released by the Center for Global Change Data Processing and Analysis of Beijing Normal University (http://www.bnu-datacenter.com/), which is available from 1981 to 2013. This product was retrieved from time-series MODIS and AVHRR surface reflectance data, using the General Regression Neural Networks (GRNNs) which were trained by the fused time-series LAI values from MODIS and CYCLOPES LAI products and the reprocessed time-series MODIS or AVHRR surface reflectance values at the BELMANIP sites. The reprocessed MODIS or AVHRR surface reflectance data from an entire year were entered into the GRNNs to estimate the one-year LAI profiles. Comparison of the GLASS LAI product with the MODIS and GEOV1 LAI products indicates that the GLASS LAI product has the best spatial integrity and temporal smoothness. The accuracy of the product is evaluated against a number of available LAI reference maps, the values were closer to the LAI reference maps than the GEOV1 and MODIS LAI values. Some details about GLASS LAI product will be discussed in six papers published in the column of “Analysis research of the land remote sensing product” in this issue.

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JOURNAL OF REMOTE SENSING

YAOGAN XUEBAO（双月刊　1997年创刊）

第18卷　第3期　2014年5月25日

(Bimonthly, Started in 1997)

Vol.18 No.3 May 25, 2014

主　管	中国科学院	Superintended by	Chinese Academy of Sciences
主　办	中国科学院遥感与数字地球研究所 中国地理学会环境遥感分会	Sponsored by	Institute of Remote Sensing and Digital Earth,CAS The Associate on Environment Remote Sensing of China
主　编	顾行发	Editor-in-Chief	GU Xing-fa
编　辑	《遥感学报》编委会 北京市安外大屯路中国科学院遥感与数字地球研究所 邮编：100101　电话：86-10-64806643 http://www.jors.cn E-mail:jrs@irsa.ac.cn	Edited by	Editorial Board of Journal of Remote Sensing Add: P.O.Box 9718, Beijing 100101, China Tel: 86-10-64806643 http://www.jors.cn E-mail: jrs@irsa.ac.cn
出　版	科学出版社	Published by	Science Press
印刷装订	北京科信印刷有限公司	Printed by	Beijing Kexin Printing Co. Ltd.
总 发 行	科学出版社 北京东黄城根北街16号 邮政编码：100717 电话：86-10-64017032 E-mail:sales_journal@mail.sciencep.com	Distributed by	Science Press Add: 16 Donghuangchenggen North Street, Beijing 100717, China Tel: 86-10-64017032 E-mail: sales_journal@mail.sciencep.com
国外发行	中国国际图书贸易总公司 北京399信箱　邮政编码：100044	Overseas distributed by	China International Book Trading Corporation Add: P.O.Box 399, Beijing 100044, China

中国标准连续出版物号：ISSN 1007-4619 / CN 11-3841/TP　国内邮发代号：82-324

CODEN YXAUAB　国外发行代号：BM 1002　定价：70.00元

ISSN 1007-4619

国内外公开发行