



2019年第14期总181期

农业与资源环境信息工程专题

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▶ 前沿资讯

1 . More Than a Carbon Copy: OCO-3 on the Space Station (不只是对碳排放的重复检测：空间站中的OCO-3任务)

简介：美国国家航空航天局（NASA）准备发射一种新的太空仪器，利用国际空间站的有利位置来监测地球的碳循环。作为仍然处于活跃期的OCO-2任务的后续行动。OCO-3任务将不仅为NASA的二氧化碳观测带来新的优势，而且还将带来额外新的技术与用途。

来源：美国国家航空航天局（NASA）

发布日期：2019-04-03

全文链接：<https://www.nasa.gov/feature/jpl/more-than-a-carbon-copy-oco-3-on-the-space-station>

2 . Skyrmions could provide next generation data storage (Skyrmions提供新一代的数据储存)

简介：Scientists at the Universities of Birmingham, Bristol and Colorado, Boulder have moved a step closer to developing the next generation of data storage and processing devices, using an emerging science called skyrmionics. Skyrmionics focuses on harnessing the properties of nanometer-sized structures in magnetic films called skyrmions. These spin on the surface of the magnet like tiny vortices, and scientists believe they could be used to store much denser quantities of data than is currently possible using existing magnetic data storage techniques on which modern computers currently rely.

来源：EurekAlert

发布日期：2019-04-01

全文链接：https://www.eurekalert.org/pub_releases/2019-04/uob-scp032919.php

3 .Research connects big data marketing tools, land conservation (研究将大数据营销工具与土地保护相结合)

简介：The same data used by digital marketers to sell products can also help inspire conservation behaviors, according to new research from the University of Montana. In a recent study, "Microtargeting for Conservation," published in Conservation Biology, UM faculty in the W.A. Franke College of Forestry and Conversation demonstrate how conservation programs can benefit from tools and analyses generally reserved for businesses and political campaigns.

来源：EurekAlert

发布日期：2019-04-01

全文链接：https://www.eurekalert.org/pub_releases/2019-04/tuom-rcb040119.php

科技报告

1 . User's Manual for the Draper Climate-Distribution Software Suite with Data-Evaluation Tools (带有数据评估工具的Draper气候分布软件用户手册)

简介: Development of a time series of spatially distributed climate data is an important step in the process of developing physically based environmental models requiring distributed inputs of climate data beyond what is available from observations collected at climate stations. To prepare inputs required for model-mapping units across the study area, climate data (temperature and precipitation) are distributed by combining data from gridded surfaces of mean-monthly climate-data values with (often) widely spaced daily point observations. Examples of climate-data files used to develop PRMS-formatted input files for the Merced River Basin Precipitation-Runoff Modeling System (PRMS) are included in this manual. The Draper Climate-Distribution Software Suite (Draper Suite) consists of the Draper climate-distribution program (Draper) and several supporting pre- and post-processing applications. Draper combines spatially distributed input in the form of monthly averaged values for precipitation, maximum temperature, and minimum temperature with daily observed data from climate stations to estimate distributed climate-data values at predefined locations across a study area (typically a drainage basin) on a daily time step. Alternative methods are used when station data are limited or missing for a particular day. Draper uses a set of required and optional input and output files with defined formats and naming conventions. A shell application also is available to manage multiple runs of the Draper application.

来源: 美国地质调查局 (USGS)

发布日期: 2019-03-20

全文链接: <http://agri.ckcest.cn/file1/M00/06/68/Csgk0FykPW-AeKJ1AGY2wWsXHB0103.pdf>

2 .Spatial Database of Planted Trees (SDPT Version 1.0) (人工林空间数据库 (SDPT版本1.0))

简介: The online Global Forest Watch (GFW) platform has become essential to how the international community understands and interacts with forest information. While most international policy frameworks and private sector commitments refer to monitoring “forests” or “natural forests,” GFW monitors global “tree cover” and “tree cover change.” “Tree cover” on the GFW platform includes natural and planted forests, as well as oil palm, rubber, orchards, cocoa, coffee, and other tree crops that are not typically considered forest. The objective of this work is to spatially differentiate plantation forests and tree crops from natural and seminatural forests on a global scale. For this purpose, “tree crops” are stands of perennial tree crops, such as rubber, oil palm, coffee, coconut, cocoa, and orchards, and “planted forests” are stands of planted trees—other than tree crops—grown for wood and wood fiber production or for ecosystem protection against wind and/or soil erosion. By identifying and eliminating these areas from GFW’s global map of tree cover, “natural

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forest” areas can be more readily isolated, leading to more effective tracking of national and global progress toward major international commitments that relate to forests, climate, and biodiversity. We conducted extensive outreach to compile, synthesize, and harmonize national maps of the world’s planted forests and tree crops into a global map, which we refer to as the Spatial Database of Planted Trees (SDPT). Results show that in 2015, there were approximately 173 million hectares of planted forests worldwide, or slightly over 4 percent of total tree cover. An additional 50 million hectares were mapped as tree crops.

来源：世界资源研究所（WRI）

发布日期：2019-03

全文链接：http://agri.ckcest.cn/file1/M00/06/68/Csgk0FykPpCAahqFAE_3FxbLsmM330.pdf