2019年第2期总169期

农业与资源环境信息工程专题

本期导读

前沿资讯

1. 利用云进行LiDAR数据管理

2. 利用机器处理大数据

3. 新的工具和网站可支持不同网格化人口数据集并行比较

学术文献

1. CHRs数据平台，是易于访问的PERSIANN全球卫星降水数据知识库

2. 基于OpenStack的开源PaaS云计算的地理空间图像处理服务性能评估

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前沿资讯

1．Managing LiDAR data using Cloud（利用云进行LiDAR数据管理）

简介：LiDAR是一种具有多种可用性的技术，在许多领域中得到广泛应用，并且具有很好的发展空间。 从自动驾驶汽车到测绘，LiDAR正在成为未来创新的基石。 随着LiDAR的应用越来越多，大量的LiDAR数据和管理它是一项艰巨的任务。 基于云的应用程序和网络通过云解决了数据存储、数据管理和数据共享的问题

来源：地理空间世界（印度）

发布日期:2019-01-04

全文链接:https://www.geospatialworld.net/blogs/managing-lidar-data-using-cloud/

2．Use machines to tame big data（利用机器处理大数据）

简介：Geoscientists need a comprehension of scale and often an acceptance of data limitation: their object of study — the Earth — is big, old and complicated1. For decades — even centuries — geoscientists were necessarily experts filling in the gaps of limited data sets. However, with the advent of automation in all areas of life, including observational techniques, the diversity and wealth of data types has vastly increased. As such, a field that was once characterized by data scarcity now has some geoscientists learning how to tackle a different challenge: big data. A pair of papers in this issue of Nature Geoscience takes on that challenge, using machine learning to pull important information on fault physics out from a cacophony of background noise generated by laboratory earthquakes and the Cascadia subduction zone.

来源：Nature Geoscience

发布日期:2019-01

全文链接:https://www.nature.com/articles/s41561-018-0290-6

3．New Tool and Web Site Supports Side-by-Side Comparison of Different Gridded Population Data Sets（新的工具和网站可支持不同网格化人口数据集并行比较）

简介：CIESIN has released a new Web site and mapping tool designed to help users learn about the growing number of gridded population data sets, and make decisions about which data sets may be the most useful for their needs. The POPGRID web site and viewer were developed under the auspices of the POPGRID Data Collective, an initiative launched by CIESIN in 2017 with support from the Earth Institute, the Bill & Melinda Gates Foundation (BMGF), and the NASA Socioeconomic Data and Applications Center (SEDAC). The POPGRID web site provides users with detailed background information and documentation, as well as direct links to the data and data sources.

来源：Ciesin:国际地球科学信息中心

发布日期:2018-12-04

全文链接:http://agri.ckcest.cn/file1/M00/06/5B/CsgkOFw3AugATud7AAJn2jPyQZU793.pdf

学术文献

1．The CHRS Data Portal, an easily accessible public repository for PERSIANN global satellite precipitation data（CHRs数据平台，是易于访问的PERSIANN全球卫星降水数据知识库）

简介：The Center for Hydrometeorology and Remote Sensing (CHRS) has created the CHRS Data Portal to facilitate easy access to the three open data licensed satellite-based precipitation datasets generated by our Precipitation Estimation from Remotely Sensed Information using Artificial Neural Networks (PERSIANN) system: PERSIANN, PERSIANN-Cloud Classification System (CCS), and PERSIANN-Climate Data Record (CDR). These datasets have the potential for widespread use by various researchers, professionals including engineers, city planners, and so forth, as well as the community at large. Researchers at CHRS created the CHRS Data Portal with an emphasis on simplicity and the intention of fostering synergistic relationships with scientists and experts from around the world. The following paper presents an outline of the hosted datasets and features available on the CHRS Data Portal, an examination of the necessity of easily accessible public data, a comprehensive overview of the PERSIANN algorithms and datasets, and a walk-through of the procedure to access and obtain the data.

来源：Scientific Data

发布日期:2019-01-08

全文链接:http://agri.ckcest.cn/file1/M00/06/5B/CsgkOFw3BFuALYqIAD-ggJ-5k48734.pdf

2．Based on Open Source PaaS Cloud Computing Using Cloud Foundry on OpenStack（基于OpenStack的开源PaaS云计算的地理空间图像处理服务性能评估）

简介：Recently, web application services based on cloud computing technologies are being offered. In the web-based application field of geo-spatial data management or processing, data processing services are produced or operated using various information communication technologies. Platform-as-a-Service (PaaS) is a type of cloud computing service model that provides a platform that allows service providers to implement, execute, and manage applications without the complexity of establishing and maintaining the lower-level infrastructure components, typically related to application development and launching. There are advantages, in terms of cost-effectiveness and service development expansion, of applying non-proprietary PaaS cloud computing. Nevertheless, there have not been many studies on the use of PaaS technologies to build geo-spatial application services. This study was based on open source PaaS technologies used in a geo-spatial image processing service, and it aimed to evaluate the performance of that service in relation to the Web Processing Service (WPS) 2.0 specification, based on the Open Geospatial Consortium (OGC) after a test application deployment using the configured service supported by a cloud environment. Using these components, the performance of an edge

extraction algorithm on the test system in three cases, of 300, 500, and 700 threads, was assessed through a comparison test with another test system, in the same three cases, using Infrastructure-as-a-Service (IaaS) without Load Balancer-as-a-Service (LBaaS). According to the experiment results, in all the test cases of WPS execution considered in this study, the PaaS-based geo-spatial service had a greater performance and lower error rates than the IaaS-based cloud without LBaaS

来源： Remote Sensing
发布日期:2018-08-13