



2019年第11期总178期

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## ▶ 前沿资讯

### 1 .Visualizing the interconnections among climate risks (气候风险内部关联的可视化)

**简介:** 由于技术的迅速发展,城市化和全球化,当今世界的社会经济活动日益相互依存。由于人类社会与自然生态系统之间的这些相互依赖性,气候对一个部门的影响可能会影响其他部门,包括看似学科非常不相近的部门,我们称之为“气候风险的相互联系”。在我们的研究中,我们基于文献调查开发了一种有效可视化气候风险及其因果关系(负面和正面影响)的方法。我们回顾了现有文献,以提取气候风险项目以及气候驱动因素,即气候强迫因排放引起的全地球气候系统的物理变化,如气温升高或降水减少。在文献调查之后,我们开发了一种可视化气候风险链的实用方法。为了处理整个网络地图的复杂性,我们根据7个部门划分了气候风险的因果关系,并生成了风险互联的网络图。我们的平面设计师对这些数字进行了改进,使互连更容易追溯。

**来源:** EurekaAlert

**发布日期:** 2019-02-28

**全文链接:** [https://www.eurekaalert.org/pub\\_releases/2019-02/nife-vti022719.php](https://www.eurekaalert.org/pub_releases/2019-02/nife-vti022719.php)

## ▶ 学术文献

### 1 . GeoFarmer: A monitoring and feedback system for agricultural development projects (GeoFarmer: 农业发展项目的监测和反馈系统)

**简介:** Farmers can manage their crops and farms better if they can communicate their experiences, both positive and negative, with each other and with experts. Digital agriculture using internet communication technology (ICT) may facilitate the sharing of experiences between farmers themselves and with experts and others interested in agriculture. ICT approaches in agriculture are, however, still out of the reach of many farmers. The reasons are lack of connectivity, missing capacity building and poor usability of ICT applications. We decided to tackle this problem through cost-effective, easy to use ICT approaches, based on infrastructure and services currently available to small-scale producers in developing areas. Working through a participatory design approach, we developed and tested a novel technology. GeoFarmer provides near real-time, two-way data flows that support processes of co-innovation in agricultural development projects. It can be used as a cost-effective ICT-based platform to monitor agricultural production systems with interactive feedback between the users, within pre-defined geographical domains. We tested GeoFarmer in four geographic domains associated with ongoing agricultural development projects in East and West Africa and Latin America. We demonstrate that GeoFarmer is a cost-effective means of providing and sharing opportune indicators of on-farm performance. It is a potentially useful tool that farmers and agricultural practitioners can use to manage their crops and farms better, reduce risk, increase productivity and improve their livelihoods.

**来源:** Computers and Electronics in Agriculture

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全文链接:<http://agri.ckcest.cn/file1/M00/06/60/Csgk0FyJ25-AE9PyACaxoS-uhU0247.pdf>

## **2 . IOT Based Smart Agriculture System (基于智慧农业系统的物联网)**

简介: Smart agriculture is an emerging concept, because IOT sensors are capable of providing information about agriculture fields and then act upon based on the user input. In this Paper, it is proposed to develop a Smart agriculture System that uses advantages of cutting edge technologies such as Arduino, IOT and Wireless Sensor Network. The paper aims at making use of evolving technology i.e. IOT and smart agriculture using automation. Monitoring environmental conditions is the major factor to improve yield of the efficient crops. The feature of this paper includes development of a system which can monitor temperature, humidity, moisture and even the movement of animals which may destroy the crops in agricultural field through sensors using Arduino board and in case of any discrepancy send a SMS notification as well as a notification on the application developed for the same to the farmer's smartphone using Wi-Fi/3G/4G. The system has a duplex communication link based on a cellular-Internet interface that allows for data inspection and irrigation scheduling to be programmed through an android application. Because of its energy autonomy and low cost, the system has the potential to be useful in water limited geographically isolated areas.

来源: 2018 International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET)

发布日期:2018-11-09

全文链接:<http://agri.ckcest.cn/file1/M00/06/60/Csgk0FyJ2b6AChC-AAP016-8YK8764.pdf>

## **3 . Systematic survey of big data and data mining in internet of things (物联网大数据和数据挖掘系统性研究)**

简介: In recent years, the Internet of Things (IoT) has emerged as a new opportunity. Thus, all devices such as smartphones, transportation facilities, public services, and home appliances are used as data creator devices. All the electronic devices around us help our daily life. Devices such as wrist watches, emergency alarms, and garage doors and home appliances such as refrigerators, microwaves, air conditioning, and water heaters are connected to an IoT network and controlled remotely. Methods such as big data and data mining can be used to improve the efficiency of IoT and storage challenges of a large data volume and the transmission, analysis, and processing of the data volume on the IoT. The aim of this study is to investigate the research done on IoT using big data as well as data mining methods to identify subjects that must be emphasized more in current and future research paths. This article tries to achieve the goal by following the conference and journal articles published on IoT-big data and also IoT-data mining areas between 2010 and August 2017. In order to examine these articles, the combination of Systematic Mapping and literature review was used to create an intended review article. In this research, 44 articles

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were studied. These articles are divided into three categories: Architecture & Platform, framework, and application. In this research, a summary of the methods used in the area of IoT-big data and IoT-data mining is presented in three categories to provide a starting point for researchers in the future.

来源: Computer Networks

发布日期:2018-07

全文链接:[http://agri.ckcest.cn/file1/M00/06/60/Csgk0FyJ2saAMS0AAGKW\\_uRsCGc644.pdf](http://agri.ckcest.cn/file1/M00/06/60/Csgk0FyJ2saAMS0AAGKW_uRsCGc644.pdf)

## ➤ 科技报告

### 1 . Digital and social innovation in rural services (农村服务业中的数字和社会革新)

简介: This edition of the EAFRD Projects Brochure profiles 12 participatory social and digital initiatives that are enhancing rural service delivery. The source of these innovative initiatives varies sometimes it is the village community itself (Braemar, Scotland), sometimes it is the municipality or an association of municipalities (the village hub in Beveren, Flanders). In others, it is a research institute (German 'digital villages') or the private sector (Portuguese 'digital villages'). However, in all cases, local communities play a central role. The examples cover six key service areas multi-service hubs, health, education, mobility, energy and digitisation of the village itself. On their own, they can make a major impact on the quality of life in rural areas. Taken together, they can provide inspiring examples and food for thought for the much wider concept of 'Smart Villages'.

来源: 欧盟

发布日期:2018-12-13

全文链接:<http://agri.ckcest.cn/file1/M00/06/60/Csgk0FyJ2jaAc0u5ADa2motdgdU423.pdf>