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农业与资源环境信息工程专题

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前沿资讯

1．NASA Engages U.S. Farmers: Bringing Satellite Data Down to Earth（NASA与美国农民合作：将卫星数据带到地球）

简介：Since the launch of the first Landsat satellite in 1972, NASA and its partners have mapped agriculture worldwide and provided key input into global supply outlooks that bolster the economy and food security. Now NASA is increasing its decades-long investment in U.S. agriculture through the launch of NASA Acres, a new consortium that will unite physical, social, and economic scientists with leaders in agriculture from public and private sectors. They will have the shared mission of bringing NASA data, science, and tools down-to-Earth for the benefit of the many people working to feed the nation.“For decades, NASA has collected data in space to improve life on planet Earth,” said NASA Administrator Bill Nelson. “Now these observations can be used not only to better understand our home, but to make climate data more understandable, accessible, and usable to help support agricultural business and benefit all humanity."

来源：NASA

发布日期:2023-03-09

全文链接:http://agri.ckcest.cn/file1/M00/10/27/CsgkOGQJnF-AIe9PAAFvSOrt-k8364.pdf

2．Wheeled robot measures leaf angles to help breed better corn plants（轮式机器人测量叶片角度，帮助培育出更好的玉米植株）

简介：Researchers from North Carolina State University and Iowa State University have demonstrated an automated technology capable of accurately measuring the angle of leaves on corn plants in the field. This technology makes data collection on leaf angles significantly more efficient than conventional techniques, providing plant breeders with useful data more quickly. “The angle of a plant’s leaves, relative to its stem, is important because the leaf angle affects how efficient the plant is at performing photosynthesis,” says Lirong Xiang, first author of a paper on the work and an assistant professor of biological and agricultural engineering at NC State. “For example, in corn, you want leaves at the top that are relatively vertical, but leaves further down the stalk that are more horizontal. This allows the plant to harvest more sunlight. Researchers who focus on plant breeding monitor this sort of plant architecture, because it informs their work.

来源：EurekAlert

发布日期:2023-03-06

全文链接:http://agri.ckcest.cn/file1/M00/03/55/CsgkOYhgTqKALWQ-AAFvSPol2uo438.pdf

学术文献

1．Disaster Risk Reduction, Climate Change Adaptation and Their Linkages with Sustainable Development over the Past 30 Years: A Review（过去30年减少灾害风险、适应气候变化及其与可持续发展的联系：综述）

简介：The severe damage and impacts caused by extreme events in a changing climate will not only

make the sustainable development goals difficult to achieve, but also erode the hard-won development gains of the past. This article reviews the major impacts and challenges of disaster and climate change risks on sustainable development, and summarizes the courses and linkages of disaster risk reduction (DRR), climate change adaptation (CCA), and sustainable development over the past 30 years. Our findings show that the conceptual development of DRR actions has gone through three general phases: disaster management in the 1990s, risk management in the 2000s, and resilient management and development in the 2010s. Gradually, CCA has been widely implemented to overcome the adverse effects of climate change. A framework is proposed for tackling climate change and disaster risks in the context of resilient, sustainable development, indicating that CCA is not a subset of DRR while they have similarities and differences in their scope and emphasis. It is crucial to transform governance mechanisms at different levels, so as to integrate CCA and DRR to reduce disaster and climate change risks, and achieve safe growth and a resilient future in the era of the Anthropocene.

来源： International Journal of Disaster Risk Science

发布日期:2023-02-07

全文链接:http://agri.ckcest.cn/file1/M00/10/27/CsgkOGQJpBuAdHjGADRhyLUGCHU580.pdf

2 .Feasibility and Effectiveness Assessment of Multi-Sectoral Climate Change Adaptation for Food Security and Nutrition(对多部门在粮食安全和食物营养应对气候变化适应性中的可行性和有效性进行评估)

简介：Purpose of ReviewThis review aims to identify the evidence for the assessment of the effectiveness and feasibility of multi-sectoral climate adaptation for food security and malnutrition. This review and the assessments of the evidence inform the contents and confidence statements in section “multi-sectoral adaptation for malnutrition” and in the Executive Summary of the IPCC AR6 WGII Chapter 7: Health Wellbeing and Changing Community Structure.Recent FindingsA review of adaptation for food security and nutrition FSN in West Africa concluded that food security and nutrition and climate adaptation are not independent goals, but often go under different sectors.SummaryMost of the adaptation categories identified here are highly effective in reducing climate risks to food security and malnutrition, and the implementation is moderately or highly feasible. Categories include improved access to (1) sustainable, affordable, and healthy diets from climate-resilient, nutrition-sensitive agroecological food systems; (ii) health care (including child, maternal, and reproductive), nutrition services, water and sanitation; (iii) anticipatory actions, adoption of the IPC classification, EW-EA systems; and (iv) nutrition-sensitive adaptive social protection. Risk reduction, such as weather-related insurance, and risk management are moderately effective and feasible due to economic and institutional barriers. Women and girls’ empowerment, enhanced education, rights-based approaches, and peace building are highly relevant enablers for implementation of the adaptation options.

来源：Current Climate Change Reports

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全文链接:http://agri.ckcest.cn/file1/M00/03/55/CsgkOYhgWLmAe-JMAA2NGfFHiZs923.pdf

专业会议

1 .WSIS Action Line C7: E-Agriculture "DIGITAL IN ACTION - Agrifood Systems Transformation for SDGs Achievement"(WSIS行动路线C7：电子农业“数字化行动-实现可持续发展目标的农业粮食系统转型”)

简介：“数字技术”已经在许多领域发挥作用，包括改善农民获取信息和开拓市场的途径、新的创新金融服务、食品可追溯性、数字化电子凭证和基于现金的转移计划，以及地理空间和大数据的利用为农民和其他利益相关者提供新技术。最新的负面预测表明仍有超过 6.7 亿人 2030 年面临饥饿。 在这种充满挑战的背景下，距离实现 2030 年议程目标只有 7 年的时间，数字化、创新和农业数据的使用以及人工智能在支持循证政策、规划和实施以提高农业效率方面发挥着至关重要的作用。粮农组织长期参与信息社会世界峰会(WSIS) 论坛是实现这一愿景和通过更好地利用信息通信技术促进发展实现农产品转型的关键要素和机制。多年来，根据联合国大会第 70/125 号决议，粮农组织一直是信息社会世界峰会的成员之一，在促进 WSIS C7 行动方面起到了关键作用，行动内容包括：电子农业、提供信息交流、知识创造和最佳实践分享的机会，并将相关利益攸关方聚集在一起，包括政府代表、其他机构和国际组织、学术界、私营部门和民间社会一起具体合作，扩大有前途的技术创新。 一年一度的信息社会世界峰会论坛是一个全球多方利益相关者相聚的平台，旨在促进实施 WSIS 行动以推进可持续发展，由国际电联、教科文组织、开发计划署和贸发会议组织，与所有 WSIS 行动方面共同/促进者密切合作，其他联合国组织，同时确定新兴趋势和促进伙伴关系，同时考虑到不断发展的信息和知识社会。 2023 年的 WSIS 论坛计划于 2023 年 3 月 13 日至 17 日在日内瓦国际电联总部举行，支持远程参与。虚拟研讨会将在四月和五月继续进行。2023 年 WSIS 论坛的主题是“更好的重建并加速实现可持续发展目标的 WSIS 行动”。 此次活动旨在针对“数字在行动中”的关键议题-农业食品系统的转型展开讨论，通过数字化的具体解决方案和实例作为实现可持续发展目标的加速器，包括粮农组织数字村倡议和“手拉手”倡议及其支持工具地理空间平台。特别会议旨在创造协同效应，创造一个有利于农产品系统包容和可持续数字化的环境（例如，政策、法规、基础设施、组织和社会文化变革），并在 COVID-19 大流行之后将农业食品的转型工作开展的更好。

来源： FAO

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