城市气象科技信息监测简报
（资讯类）

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北京气象学会
北京城市气象研究院

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前 言

2021年7月，依托北京城市气象研究院行业信息监测与分析系统，北京气象学会与支撑单位北京城市气象研究院联合制作了《城市气象科技信息监测简报》，定期为会员提供科技信息服务。简报每月一期，每期分为文献和咨询两类。

目前，学会主要依据城市气象领域的关键词搜索信息，并形成每月简报。欢迎各位会员向我们提供相关科技领域信息及其搜索关键词，不断扩充简报的专业领域范围，丰富简报的内容，以更好地满足广大会员朋友们对快速更新科技信息的需求。

同时，热诚欢迎广大会员对简报的科技信息内容、展现形式、阅读体验和收获感悟等提出建议和点评。编辑团队将遴选出优秀建议和点评内容刊载在简报上。

2020年12月，学会换届成立了第21届理事会，现拥有52 家理事单位和 947 名会员。我们希望借助此简报，为广大会员朋友们提供高质高效的科技信息服务，同时在大家的支持和帮助下，我们共同将简报建设成为会员交流的友好平台。

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❖报告概述

✧监测周期

2022 年 10 月 01 日 – 2022 年 10 月 31 日

✧监测主题

行业动态——新闻资讯

❖行业动态

✧新闻资讯

本监测周期内，资讯信息共更新 15 条：

1. WMO and WHO launch ClimaHealth portal

摘要：The first global knowledge platform dedicated to climate and health - ClimaHealth.info - has been launched by the World Meteorological Organization and World Health Organization Joint Office on climate and health, with support from the Wellcome Trust. It is in response to growing calls for actionable information to protect people from the health risks of climate change and other environmental hazards. Climate and health are inextricably linked. Climate change, extreme weather events and environmental degradation have a fundamental impact on human health and well-being. More people than ever before are exposed to increased risk, from poor water and air quality to infectious disease transmission to heat stress. In recognition of this, WMO is strengthening its climate and health related activities. Its recent Services Commission meeting passed a series of resolutions embracing improved early warnings, and more action on heatwaves and integrated urban services for health.' There is no doubt that climate change is killing people," said Diarmid Campbell-Lendrum, coordinator of WHO's climate change and health program. "It impacts the basics we need to survive - clean air, safe water, food and shelter - with the worst impacts being felt by the most vulnerable.

来源：WMO

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https://public.wmo.int/en/media/news/wmo-and-who-launch-climahealth-portal

2. “Science for Climate Action” pavilion by WMO, IPCC and MERI Foundation at COP27, Egypt

摘要：The World Meteorological Organization (WMO), the Intergovernmental Panel on Climate Change (IPCC) and MERI Foundation, part of the philanthropic group, Philanthropy Cortés Solari, are hosting a joint pavilion, 'Science for Climate Action' at next month’s COP27 in Egypt. Featuring the latest knowledge about climate change, the pavilion aims to deliver the science at the heart of the international talks, decision-making and climate action. Under the slogan 'Connected', the pavilion will focus on the impact of human activities on communities, economies and ecosystems, in order to move towards concrete mitigation and adaptation actions.“The message from the scientific community is very clear. The impacts of climate change are already very visible and will get worse. COP27 must accelerate the ambition levels on climate change mitigation and adaptation”, said WMO Secretary-General Prof. Petteri Taalas adding that, “WMO will inform negotiations at COP27 with the latest science on greenhouse gas concentrations and the state of the climate, as well as updates on climate observations, monitoring and research. WMO will unveil an action plan to achieve Early Warnings for All, and initiatives to boost resilience”.“The time for climate action is now. Science is critical in shaping the policies and actions to tackle the global climate change challenge,” said Chair of the IPCC Hoesung Lee.

来源：WMO

发布时间：2022-10-28

数据类型：资讯

https://public.wmo.int/en/media/news/%E2%80%9Cscience-climate-action%E2%80%9D-pavilion-wmo-ipcc-and-meri-foundation-cop27-egypt

3. More bad news for the planet: greenhouse gas levels hit new highs

摘要：Geneva/New York, 26 October (WMO) - In yet another ominous climate change warning, atmospheric levels of the three main greenhouse gases - carbon dioxide, methane and nitrous oxide all reached new record highs in 2021, according to a new report from the World Meteorological Organization (WMO).WMO’s Greenhouse Gas Bulletin reported the biggest year-on-year jump in methane concentrations in 2021 since systematic measurements began nearly 40 years ago. The reason for this exceptional increase is not clear, but seems to be a result of both biological and human-induced processes. The

increase in carbon dioxide levels from 2020 to 2021 was larger than the average annual growth rate over the last decade. Measurements from WMO's Global Atmosphere Watch network stations show that these levels continues to rise in 2022 over the whole globe. Between 1990 and 2021, the warming effect on our climate (known as radiative forcing) by long-lived greenhouse gases rose by nearly 50%, with carbon dioxide accounting for about 80% of this increase. Carbon dioxide concentrations in 2021 were 415.7 parts per million (ppm), methane at 1908 parts per billion (ppb) and nitrous oxide at 334.5 ppb. These values constitute, respectively, 149%, 262% and 124% of pre-industrial levels before human activities started disrupting natural equilibrium of these gases in the atmosphere.

来源：WMO

发布时间：2022-10-26

数据类型：资讯

https://public.wmo.int/en/media/press-release/more-bad-news-planet-greenhouse-gas-levels-hit-new-highs

4. Private sector – and Big Tech - rally behind Early Warnings for All

摘要：The private sector, including Big Tech companies, are joining the WMO, development and disaster risk reduction communities in rallying behind the new United Nations campaign to ensure that every person in the world is protected by early warning systems within the next five years.At the request of UN Secretary-General António Guterres, WMO is leading the Early Warnings for All initiative and will present an action plan at the forthcoming UN climate conference, COP27, in Sharm-el-Sheikh."The provision of global multi-hazard early warnings is our collective responsibility," said a statement read out at the end of a one-day technical conference on 22 October.It called on "stakeholders from all sectors to advocate for and contribute to a distributed global infrastructure that delivers multi-hazard early warnings to all, particularly to protect the most vulnerable members of society."The technical conference brought together members of WMO's Services and Infrastructure Commissions, which are responsible for the basic observing, monitoring and forecasting networks as well as the development and dissemination of early warnings. It also embraced the disaster risk reduction and humanitarian communities as well as the private hydrometeorological sector and some of the world's biggest Information Technology players.The one-day event injected a sense of dynamism into the Early Warnings for All Initiative. It laid the foundations for more intense

collaboration in the months ahead, in particular on how to leverage additional sources of funding through more effective public private engagement (PPE).Representatives of private sector organizations including Alibaba, F24, Google, IBM, Microsoft and Smart Communications all voiced commitments to the Early Warnings for All Initiative. Their presentations stressed the huge opportunities as a result of progress in cloud computing, artificial intelligence, digital platforms and other areas of digital technology to address infrastructural and technological gaps in early warning services.

来源：WMO

发布时间：2022-10-25

数据类型：资讯

https://public.wmo.int/en/media/news/private-sector-%E2%80%93-and-big-tech-rally-behind-early-warnings-all

5. AAS: 我国碳卫星观测首次成功用于城市 CO2 排放定量监测

摘要：中国科学院大气物理研究所中国碳卫星研究团队联合芬兰气象研究所团队首次利用中国碳卫星（TanSat）观测定量识别和计算城市碳排放，证实了中国碳卫星具有城市级别碳排放监测的能力。在温室气体遥感监测合作协议支持下，本研究联合使用了欧洲哨兵卫星（Sentinel-5P）的二氧化氮（NO2）观测。研究结果于 10 月 25 日在线发表在 SCI 期刊《大气科学进展》上。【研究结果：污碳协同的城市排放观测】应对或减缓全球变暖，是人类在 21 世纪面临的挑战。由于化石燃料燃烧和土地利用变化等人为活动，二氧化碳（CO2）浓度增加了 40%以上。与化石燃料使用有关的排放尤其局限于当地，城市地区是全球 CO2 排放量的主要贡献者，占全球排放量 70%以上。尽管新冠肺炎疫情对全球经济体造成了较大的影响，但化石燃料 CO2 排放量 2021 年仍然增加了 5%。与此同时，我们在计算人为排放方面仍然存在较大的不确定性。利用碳监测卫星进行全球人为排放的监测更具优越性。碳监测卫星直接观测大气 CO2 浓度，仅凭单一 CO2 要素的观测，定量区分 CO2 浓度变化源来自于人为排放还是自然过程是一个难点问题。

来源：大气物理所

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数据类型：资讯

http://www.iap.cas.cn/gb/xwdt/kyjz/202210/t20221025_6539042.html

6. WMO issues guidelines on coastal flooding early warning systems

摘要：New WMO Guidelines on the Implementation of a Coastal Inundation Forecasting Early Warning System offer solid and practical advice for countries, donors and experts seeking to set up early warning systems against an increasing hazard. The guidelines are a contribution to the UN Early Warnings for All initiative and reflect the high priority needs of small island developing States (SIDS) and Least Developed Countries that are particularly vulnerable to these coastal hazards. “The severity of the impacts of disasters, especially on coastal communities, is well known and documented. A contributing factor is the increasing intensity and frequency of meteorological and oceanographical hazards caused by climate change, including sea-level rise, which can seriously affect SIDS and other coastal nations,” state the guidelines. “It is critical to recognize that coastal inundation can result from single or multiple hazards, and that it is being exacerbated by the impacts of climate change, especially associated with sea-level rise.' “Coastal inundation events are an increasing threat to the lives and livelihoods of people living in low-lying, populated coastal areas. Furthermore, the issues for most countries that have vulnerable coastlines are the increasing level of development for fishing, tourism and infrastructure, and the sustainability of their communities,” it says. The new guidelines were presented during a side event during WMO’s Commission for Weather, Climate, Water and Related Environmental Services and Applications (SERCOM), attended by more than 140 participants from all over the globe, including the South Pacific, the Caribbean, and Africa. WMO is grateful to the Climate Risk and Early Warning Systems Initiative and the Korean Meteorological Administration for financial support. These guidelines are based on the successful implementation of demonstration systems in four countries between 2009 and 2019 through the Coastal Inundation Forecasting Demonstration Project, which included a special focus on Pacific islands.

来源：WMO

发布时间：2022-10-22

数据类型：资讯

https://public.wmo.int/en/media/news/wmo-issues-guidelines-coastal-flooding-early-warning-systems

7. Conference highlights need for global climate observations

摘要：An international conference has declared its commitment to a “comprehensive and sustainable global climate observing system” which is needed more than ever in view of rapid climate change.Observations of our climate show unprecedented changes that are more widespread, rapid, and intense than in thousands of years. These changes affect all components of the climate system and every region on Earth. They cause more frequent and more extreme events such as heat waves, storms, heavy rainfall, and droughts that strongly impact human infrastructures and living beings, according to a declaration issued by the Global Climate Observing System (GCOS) conference.“Observations underpin all weather, climate, water, and ecosystems services and products. Without the collection and sharing of these observations, the ability to understand, predict, mitigate, and adapt to changes in the climate system is limited,” Sabrina Speich, said the GCOS Climate Observation Conference chair.The conference hosted by EUMETSAT from 17-19 October 2022 in Germany, focused on addressing urgent needs and gaps, and developed strategies and solutions for a sustainable future. It brought together 140 participants onsite and 400 online participants.“Current changes to the climate are posing a threat to the Earth. The steps we take today matter for our future and EUMETSAT aims to play a part in supporting a more sustainable way forward for the planet,” EUMETSAT Director-General Phil Evans said at the close of the conference and in a statement on the organization’s commitment to address climate change.

来源：WMO

发布时间：2022-10-20

数据类型：资讯

https://public.wmo.int/en/media/news/conference-highlights-need-global-climate-observations

8. AAS: 新研究预测 2022 年可能发生第三次连续拉尼娜

摘要：在中国科学院前沿科学重点研究项目、国家自然科学基金、中国科学院战略重点研究项目和广东省基础与应用基础研究重大项目的联合资助下，中科院大气所郑飞研究员和复旦大学方向辉副研究员及合作者，利用多元回归预测模型对 2022 年冬季的尼诺 3.4 指数进行了预测，分析了可能导致第三年拉尼娜出现的气候因素，对比了同样发生连续三年拉尼娜事件的 1998-2000 年间各项气候条件，最终对其可能产生的气候影响进行了初步预判。这项研究对于进一步理解 ENSO 复杂性及其预测具有重要的学术价值。1.多元模型预测强东南风对 2022 年冬季第三次拉

尼娜生成有促进作用研究者们分析了 2022 年春季的海气场状态，发现热带中东太平洋地区存在大范围区域海温仍然偏冷。研究者们进一步利用包含赤道平均温跃层深度、西太平洋纬向风应力、温跃层深度的纬向梯度以及东赤道太平洋平均经向风应力四个气候因子在内的多元回归预测模型，分析了其对 2022 年冬季尼诺 3.4 指数重要影响因子的贡献，发现春季大气的异常状态比海洋温跃层异常状态更强：较强东风应力与自 1980 年以来最强的南风应力，能够通过影响赤道地区温跃层纬向梯度进一步影响热带中东太平洋的冷海温，并使之得以维持，并可能向西发展，进而导致 2022 年冬季第三次拉尼娜的形成。2022 年 3 月偏冷的热带太平洋、强的东南风和较大的赤道温跃层梯度 2.第三次拉尼娜发生的贡献因子对比及可能带来的气候影响伴随着前述强劲的东南风异常，若 2022 年冬季继续发生拉尼娜事件的话，2020-2023 年将成为拉尼娜自 1980 年以来第二次持续发生三年的年份，这是十分罕见的，此前仅有 1998-2001 年与之相似。从拉尼娜发生前第三年春季的海气条件来看，这两次气候事件的发展过程存在较大差异：2000 年的东风应力异常抵消了赤道温跃层深度的平均值和东西太平洋梯度，以及东太平洋经向风应力这三个变量带来的负贡献，说明尽管海洋动力的角度来看，并不支持 ENSO 演变为冷事件，但西太平洋强劲东风异常也能够促使冬季拉尼娜的出现；而 2022 年春季的异常，东风和南风都贡献了很大力量，可能是通过增强赤道南部的海洋上升流、迫使次表层冷水从离赤道区向赤道地区入侵，进而引发第三年拉尼娜。由于三次连续拉尼娜的发生在历史上十分罕见，作者分析了第三年拉尼娜将产生的气候影响，认为 2022 年夏季在海洋大陆区可能存在强降水异常，而冬季在北美和亚欧大陆可能出现强列的冷异常，需要防范个别地区的洪涝及低温灾害。四个预测因子对 2000 和 2022 年冬季拉尼娜的相对贡献目前 ENSO 预测的主要障碍来自其时空复杂性，如 ENSO 发生的类型，超级厄尔尼诺的可预报性，厄尔尼诺与拉尼娜的非对称性，以及春季预报障碍等。进一步理解春季海气耦合状态复杂情况、对跨春季的 ENSO 预报进行改进、对 ENSO 可能带来的气候影响进行预警，将是未来的重要目标。参考文献：Fang, X.-H., and Coauthors, 2022: Will the historic southeasterly wind over the equatorial Pacific in March 2022 trigger a third-year La Ni?a event? Adv. Atmos. Sci., https://doi.

来源：大气物理所

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http://www.iap.cas.cn/gb/xwdt/kyjz/202210/t20221020_6536586.html

9. Rapidly changing emissions drove substantial surface and tropospheric ozone increases over Southeast Asia

摘要：We combined observations and simulations to assess tropospheric ozone trends over Southeast Asia from 2005 to 2016. Multi-platform observations showed that surface ozone had been increasing at rates of 0.7 to 1.2 ppb year-1 over the Peninsular Southeast Asia (PSEA) and 0.2 to 0.4 ppb year-1 over the Maritime Continents (MC); tropospheric ozone columns had been rising throughout Southeast Asia by 0.21 to 0.35 DU year-1. These observed ozone trends were better reproduced by simulations driven with satellite-constrained NOx emissions, indicating that NOx emission growths may have been underestimated for the PSEA and overestimated for the MC in the Community Emissions Data System and the Global Fire Emissions Dataset. The surface ozone increases over the PSEA were driven by rapidly growing local emissions, wherein fire emission growths may still be underestimated even with satellite constraints. We highlighted the need for better quantifying Southeast Asian emissions to benefit air quality management.

来源：北京大学资讯

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数据类型：资讯

https://www.atmos.pku.edu.cn/kxyj/kyjz/144384.htm

10. RS: 同化葵花-8 号气溶胶观测提升 WRF-Chem-Solar 模式对我国晴空太阳能的预报精度

摘要：碳达峰碳中和目标下，绿色清洁可再生太阳能应用前景广阔。地表水平总辐射（Global Horizontal Irradiation，GHI）是太阳能发电预报系统中的首要也是最重要的变量之一。晴空条件下太阳能资源最丰富，GHI 的高精度预报对光伏等太阳能大规模化并网利用具有重要意义。WRF-Solar 是第一个明确为太阳能应用而开发的区域预报模式，对辐射过程参数化方案做了大量改进和优化，并具备快速辐射传输计算能力，前人研究证明与标准 WRF 版本相比，晴空辐照度预报准确度提高了 46%。但 WRF-Solar 尚未考虑动态气溶胶过程对太阳辐射大气传输的影响，晴空条件下，气溶胶-辐射相互作用是自然沙尘和人为污染源排放区 GHI 预报结果最大的不确定来源。因此，改善晴空条件下气溶胶光学厚度（AOD）的预报精度对 GHI 的准确预报至关重要。图 1 试验设计流程图气溶胶数据同化（DA）是降低气溶胶初始场不确定性的最佳方法，本研究首先将气溶胶化学模块与 WRF-Solar 中的

辐射模块进行了在线耦合（即 WRF-Chem-Solar），然后利用新一代静止气象卫星葵花-8 号（Himawari-8）AOD 观测数据，在 WRF-Chem-Solar 模型基础上搭建了一个三维变分法（3DVAR）气溶胶同化系统。研究发现，葵花-8 号 AOD 同化可以显著消除模式中 AOD 的低估，合理地重现 AOD 的时空分布，使得模拟偏差相对提高 51.63%，相关系数相对提高 61.29%。与官方版本的 WRF-Solar 相比，在线计算的气溶胶可以将地表水平总辐射（GHI）的 24 小时预报偏差减少 44.52%，葵花-8 号 AOD 同化有助于将该值进一步减少 17.43%。图 2 2021 年 3 月 8 日至 22 日(a)官方版本（OR）、(b) WRF-Chem-Solar（FR）和(c) WRF-Chem-Solar-DA 版本（DA）试验中，观测与模拟的我国郊区小时晴空 GHI 的概率密度分布。

来源：大气物理所

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数据类型：资讯

http://www.iap.cas.cn/gb/xwdt/kyjz/202210/t20221014_6530808.html

11. Tonga boosts early warnings through smartphones

摘要：The Kingdom of Tonga is further developing their early warning systems through the Tonga Mobile Applications Community MHEW and Response System (MACRES).As climate change causes more frequent, extreme, and unpredictable weather events, investment in early warning systems that target multiple hazards is more urgent than ever. Since the unprecedented volcano and tsunami disaster of 15 January 2022 in the Kingdom of Tonga, and the subsequent nearly year-long State of Emergency, the people of Tonga are tragically aware of the dangers and risks they face. This is especially true as recent scientific surveys by the National Institute of Water and Atmosphere (NIWA) indicate that the volcano is still active below the sea surface and further eruptions with tsunami risk remain.Through the Tonga Meteorological Services (TMS) and Permanent Representative to the World Meteorological Organization (WMO), the people of Tonga have demanded for an improved system for rapid and mass dissemination of warnings to communities. The Tonga MACRES will be developed to deliver on this demand through the Climate Risk and Early Warning Systems (CREWS) initiative Accelerated Support Window (ASW).“The MACRES is an information system looking to vastly improve early warning and early response to hazard and disaster events. It is my sincere hope this initiative can be replicated and contribute to the development of Early Warning Systems, particularly in vulnerable regions of the globe. We welcome a positive consideration by the

CREWS Steering Committee of this request.”,” said ‘Ofa Fa’anunu, the Permanent Representative of Tonga.

来源：WMO

发布时间：2022-10-13

数据类型：资讯

https://public.wmo.int/en/media/news/tonga-boosts-early-warnings-through-smartphones

12. UN warns that half the world is not prepared for disasters

摘要：A new report from the United Nations Office for Disaster Risk Reduction (UNDRR) and the World Meteorological Organization (WMO) warns that half of the countries globally are not protected by multi-hazard early warning systems.The numbers are even worse for developing countries on the front lines of climate change. Less than half of the Least Developed Countries and only one-third of Small Island Developing States have a multi-hazard early warning system.The report, Global Status of Multi-Hazard Early Warning Systems - Target G, analyses new data and shows that countries with limited early warning coverage have disaster mortality that is eight times higher than countries with substantial to comprehensive coverage.“The world is failing to invest in protecting the lives and livelihoods of those on the front line. Those who have done the least to cause the climate crisis are paying the highest price” said António Guterres, Secretary-General of the United Nations, in a video message.The Secretary General called on all countries to invest in early warning systems, “Extreme weather events will happen. But they do not need to become deadly disasters.”Mr Guterres has asked WMO to spearhead new action to ensure that every person on Earth is protected by early warning systems in the next five years. Early warning systems are a proven means to reduce harm to people and damage to assets ahead of impending hazards, including storms, tsunamis, droughts, and heatwaves, to name a few.

来源：WMO

发布时间：2022-10-13

数据类型：资讯

https://public.wmo.int/en/media/press-release/un-warns-half-world-not-prepared-disasters

13. Climate change puts energy security at risk

摘要：Geneva 11 October 2022 (WMO) - The supply of electricity from clean energy sources must double within the next eight years to limit global temperature increase. Otherwise, there is a risk that climate change, more extreme weather and water stress will undermine our energy security and even jeopardize renewable energy supplies, according to a new multi-agency report from the World Meteorological Organization (WMO).WMO's State of Climate Services annual report, which includes inputs from 26 different organizations, focuses on energy this year because it holds the key to international agreements on sustainable development and climate change and, indeed, to the planet's health."The energy sector is the source of around three-quarters of global greenhouse gas emissions. Switching to clean forms of energy generation, such as solar, wind and hydropower – and improving energy efficiency – is vital if we are to thrive in the twenty-first century. Net zero by 2050 is the aim. But we will only get there if we double the supply of low-emissions electricity within the next eight years," said WMO Secretary-General Prof Petteri Taalas."Time is not on our side, and our climate is changing before our eyes. We need a complete transformation of the global energy system," says Prof. Taalas.

来源：WMO

发布时间：2022-10-11

数据类型：资讯

https://public.wmo.int/en/media/press-release/climate-change-puts-energy-security-risk

14. AAS: 郑州"21.7"极端暴雨降水效率研究

摘要：2021 年 7 月 17-23 日，河南遭遇了历史罕见的特大暴雨。郑州大部分地区累计雨量超过 400mm，局部地区超过 600mm。尤其是在 7 月 20 日 16-17 时，郑州国家气象站测得 201.9mm 的小时极端雨强，打破了中国大陆小时降雨量记录。在国家自然科学基金等项目的资助下，中国科学院大气物理研究所平凡研究员及合作者紧密合作，利用 WRF 数值模式，模拟和再现此次极端暴雨过程，并从降水效率角度分析了极端雨强形成的原因。该研究对于理解极端降水发生机理，揭示极端雨强形成中的高降水效率转化具有重要的学术价值。Advances in Atmospheric Sciences 在线发表了这项研究。1. 大尺度降水效率和云微物理降水效率实际大气中的降水主要由两个过程组成：首先是大尺度水汽输送、辐合到凝、冻结产生云；其次是由云产生降水。针对这两个过程，学者提出了大尺度降水效率（LSPE）和云

微物理降水效率（CMPE）的概念，分别定义为地面降水率与地面蒸发和辐合的水汽总量之比，以及地面降水率与水汽凝结率和凝华率之和的比。降水效率将地面降水、云微物理过程以及大尺度水汽辐合连接在一起，是研究降水过程的一个重要的物理参数。下图是风暴不同发展阶段降水效率演变的示意图。

来源：大气物理所

发布时间：2022-10-10

数据类型：资讯

http://www.iap.cas.cn/gb/xwdt/kyjz/202210/t20221010_6521885.html

15. New report outlines priorities for global climate observations

摘要：High priority actions to gather essential information on our climate system and improve monitoring and understanding of how it is changing are outlined in a new report by the Global Climate Observing System (GCOS).Climate observations are vital: they have unequivocally shown that human-induced climate change is occurring, and they have informed the projections needed to successfully adapt to climate change and reduce greenhouse gas emissions.“All successful actions to adapt to or mitigate climate change must be based on sound accurate information that can only be provided by a global climate observing system. Planning for and mitigating the impacts of climate change, predicting and understanding future risks, and protecting vulnerable populations and infrastructures all require global information on the changing climate,” said WMO Secretary-General Prof. Petteri Taalas.“Global climate monitoring needs to cover the entire Earth system from the atmosphere to the oceans, from the cryosphere to the biosphere, and encompassing the water cycle and energy and greenhouse gas budgets,” he said. WMO is one of the co-sponsors of GCOS.GCOS regularly produces status reports, which assess the progress and unmet requirements in the climate observing systems, followed by implementation plans, which propose actions for its improvement. The 2022 GCOS Implementation Plan provides critical input to the United Nations Framework Convention on Climate Change (UNFCCC) and will be presented to the UN climate change negotiations, COP27, in November.GCOS collects and documents the data needs for monitoring the climate system and assessing the impacts of climate variability and change, using satellite and in-situ, ocean, atmosphere and land observations.

来源：WMO

发布时间：2022-10-03

数据类型：资讯

https://public.wmo.int/en/media/press-release/new-report-outlines-priorities-global-climate-observations