



Electronic Version of Brochure



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INSTITUTE OF DESERT METEOROLOGY
CHINA METEOROLOGICAL ADMINISTRATION, URUMQI





Institute of Desert Meteorology, China Meteorological Administration, Urumqi



Science and Technology Support Platform of Institute of Desert Meteorology, China Meteorological Administration, Urumqi

Institutional Positioning

The institute is positioned to address global sand and dust disasters and water security in arid regions. Guided by the requirement to the global science and technology frontiers, to the main economic battlefields, to major national needs, and to people's life and health, it undertakes basic research, applied research, and technological development in desert meteorology and related fields. The institute is committed to building an intelligent open platform for desert meteorology, thereby providing scientific and technological support for disaster prevention and mitigation, ecological civilization construction, water resource utilization, and sustainable development.

Research Directions



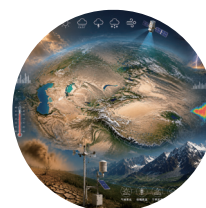
Desert Meteorology



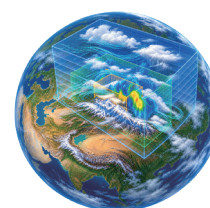
Development and Utilization
of Cloud Water Resources



Tree-ring Hydroclimatology



Central Asian Meteorology



Regional Numerical
Weather Prediction

Future Goals

To build an internationally first class platform for desert meteorological scientific research and operational support

National Field Station:

The world's only field station located more than 200 km deep into desert hinterlands, capable of round the clock detection from the surface to the troposphere.

Asia's Premier Tree-ring Repository:

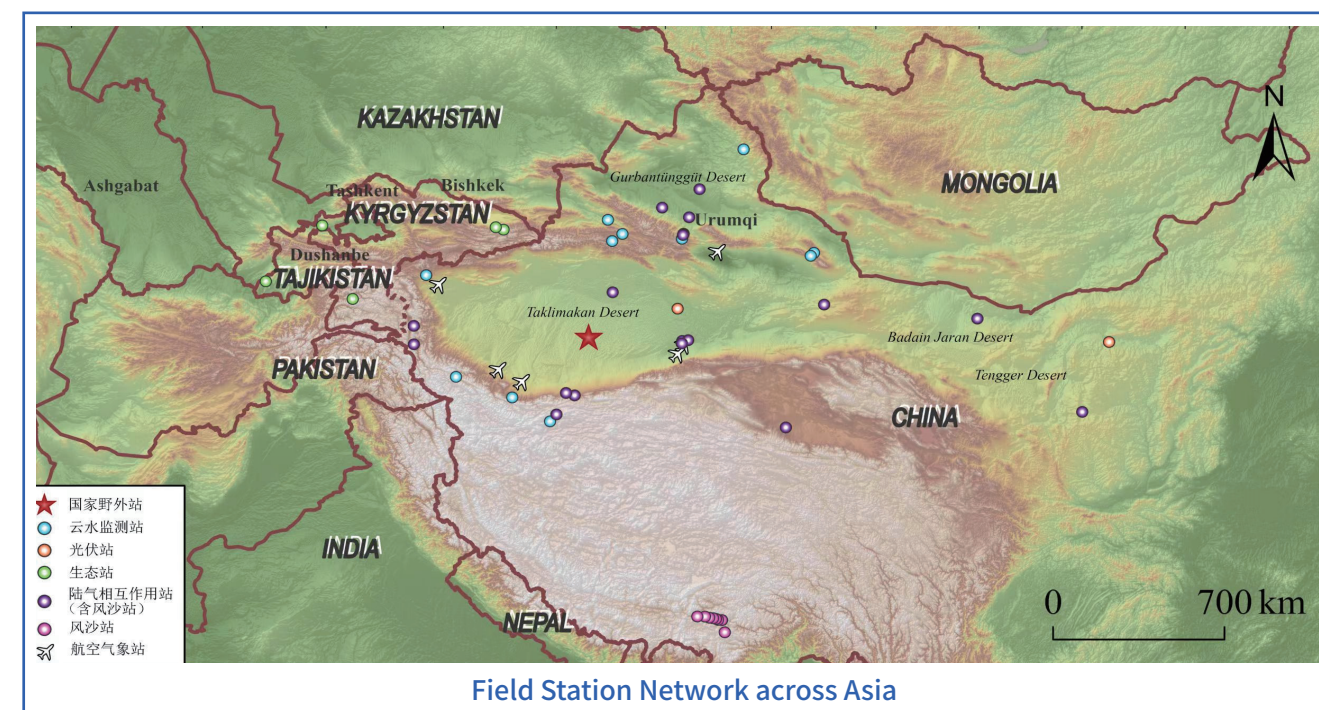
Sampling sites cover multiple Central Asian countries with Asia's largest collection of tree core samples.

Sand-dust Storm Laboratory:

A Provincial Ministerial Key Laboratory specializing in sand dust storm research.

Open-access Sharing:

It has repeatedly achieved ratings of "Good" or higher in the large scale instrument sharing assessments, and joined the Belt and Road Lidar Network as well as the ground validation station network for high resolution satellites.



Field Station Network across Asia

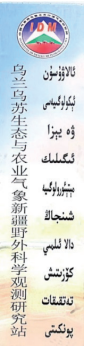
"Two Stations, Three Laboratories, Two Bases, Three Platforms" Science and Technology Support Platform



新疆塔克拉玛干沙漠气象国家野外科学观测研究站
National Field Observation and Research Station
(Xinjiang Taklimakan) for Desert Meteorology



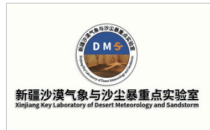
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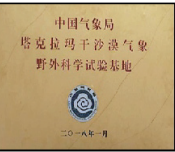
塔中站
Wulanwusu Ecology and Agrometeorology Observation and Research Station of Xinjiang



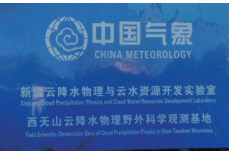
自治区重点实验室
新疆树木年轮生态实验室
Xinjiang Laboratory of Tree Ring Ecology



新疆沙漠气象与沙尘暴重点实验室
Xinjiang Key Laboratory of Desert Meteorology and Sandstorm



中国气象局
塔克拉玛干沙漠气象
野外科学试验基地



中国气象
新疆云降水物理与云水资源开发实验室
Xinjiang Cloud Water Resources Field Experiment Base Network



塔吉克斯坦树木年轮气候与气候变化研究中心
Tajikistan Dendroclimatology and Climate Change Research Center



新疆空中云水资源开发利用创新研究院
Xinjiang Innovation Institute of Cloud Water Resource Development and Utilization



塔吉克斯坦树木年轮气候与气候变化研究中心
Tajikistan Dendroclimatology and Climate Change Research Center

Two Stations

National Field Observation and Research Station (Xinjiang Taklimakan) for Desert Meteorology
Wulanwusu Ecology and Agrometeorology Observation and Research Station of Xinjiang

Three Laboratories

Xinjiang Key Laboratory of Tree-ring Ecology
Xinjiang Key Laboratory of Desert Meteorology and Sandstorm
Key Laboratory of Tree-ring Physical and Chemical Research, China Meteorological Administration

Two Bases

Taklimakan Desert Meteorology Field Experiment Station of China Meteorological Administration
Xinjiang Cloud Water Resources Field Experiment Base Network

Three Platforms

Regional Numerical Precipitation Operational Platform
Xinjiang Innovation Institute of Cloud Water Resource Development and Utilization
Tajikistan Dendroclimatology and Climate Change Research Center



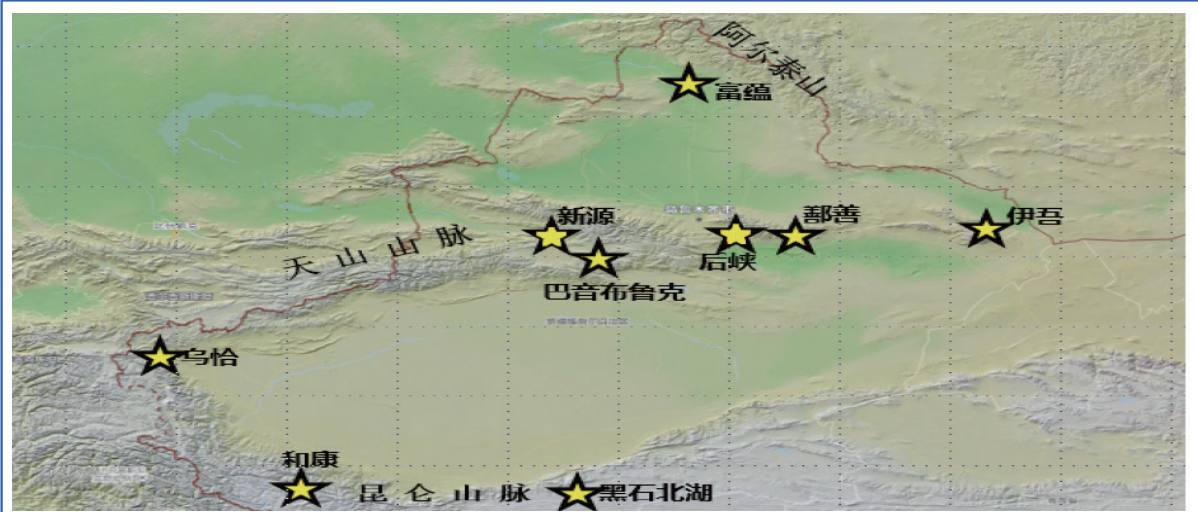
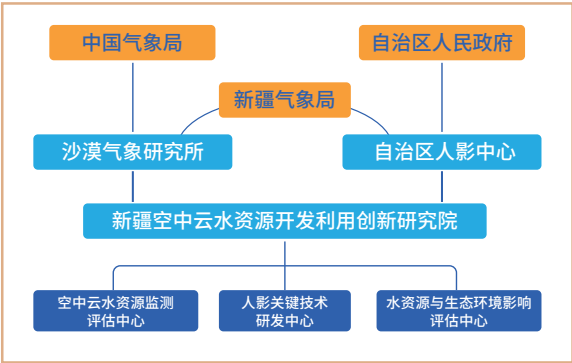
Xinjiang Innovation Institute of Cloud Water Resource Development and Utilization

Positioning

Rooted in the core area of the Silk Road, serving national water security, and building a national-level innovation hub for weather modification. It tackles key technologies for cloud water resource development, enhances precipitation enhancement capacity in Xinjiang, consolidates the western ecological shield, and empowers Silk Road development through science and technology.

Research Directions

Monitoring and assessment of atmospheric cloud water resources and cloud precipitation physics; R&D and application of key weather modification technologies; research on the impacts of climate change on water resources and the ecological environment.



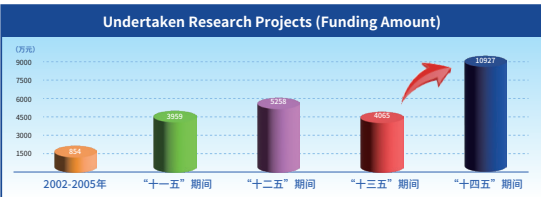
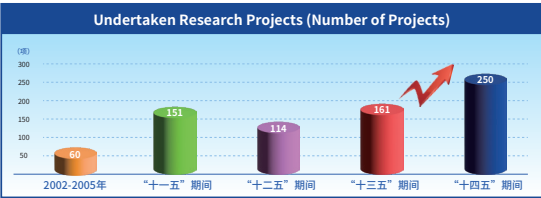
Field Base Group for Cloud water Resource Monitoring across Xinjiang's Three Major Mountain Ranges

Research Achievements

Since its establishment, the institute of Desert Meteorology has continuously advanced organized research and high quality scientific studies. Scientific and technological outputs have grown in both quantity and quality. The institute actively compiles major research achievements for application to science and technology awards at all levels. Its leading disciplines have gained markedly enhanced national influence and core competitiveness, and notable progress has been made in cultivating high level talents and innovative teams.

Research Projects

Since 2002, the institute has undertaken 736 research projects with a contractual fund of 224 million yuan, including 106 national level projects with contractual funding of 116 million yuan. Among them are 2 National Key R&D Program projects, 89 National Natural Science Foundation projects, 9 national special projects for the 3rd Comprehensive Scientific Expedition to Xinjiang and the 2nd Comprehensive Scientific Expedition to the Qinghai Xizang Plateau, and 2 key R&D special projects of the Xinjiang Uygur Autonomous Region.

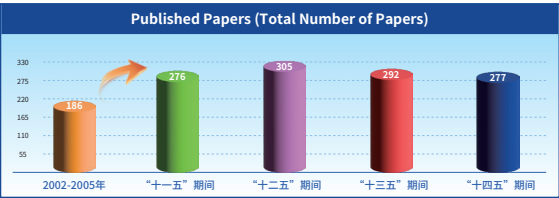


Talent Cultivation and Team Building

74 person times have been selected for talent programs at or above the provincial ministerial level, including 1 recipient of the National Ten Thousand Talents Program "Young Top notch Talent", 4 provincial ministerial leading talents, and 4 provincial ministerial science and technology innovation teams.			
1 recipient of the National High-level Talent Special Support Program (Ten Thousand Talents Program) "Young Top notch Talent"	4 recipients of the CMA Western Outstanding Young Talent Subsidy		
1 recipient of the Xinjiang Uygur Autonomous Region "Tianshan Award" for Foreign Experts	3 CMA Science and Technology Leading Talents, 1 Xinjiang Uygur Autonomous Region Science and Technology Leading Talent		
48 person times under Xinjiang's Tianshan Talents Program (Tianshan Cedar, Tianshan Youth, Tianchi Talents, etc.)	1 Second Prize, National Meteorological Science Popularization Contest; 1 Third Prize, Xinjiang Uygur Autonomous Region Science Popularization Contest		
13 CMA Young Meteorological Talents	2 winners of the Xinjiang Uygur Autonomous Region Youth Science and Technology Award		
3 recipients of the Xie Yibing Young Meteorological Science and Technology Award	3 CMA Western & Northeast Outstanding Meteorological Talents		
1 winner of the Xinjiang Uygur Autonomous Region Most Beautiful Science and Technology Worker	1 First Prize winner of the Tu Changwang Young Meteorological Science and Technology Award		

Achievements Output

As the primary affiliation, the institute has published 1336 papers, 395 of which are indexed in SCI. Many papers have been published in top geoscience journals including Environmental Science & Technology, Bulletin of the American Meteorological Society, Geophysical Research Letters and Climate Dynamics. It has published 16 monographs, obtained 84 authorized patents (including 12 invention patents), registered 58 software copyrights, and released 17 standards (4 industrial standards and 13 local standards).



Scientific Research Awards

The research achievements have won 16 Provincial Ministerial Science Technology Progress Awards. 5 achievements received an "Excellent" rating and 3 received a "Good" rating in the science technology achievement evaluation conducted by the China Meteorological Administration.

Monographs, Standards, Patents



High impact Papers



RESEARCH ACHIEVEMENTS