

# Critical Need for Meteorological Consensus Standards

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Paul M. Fransioli, CCM

## Role of Consensus Standards

- Voluntary consensus meteorological Standards are the core foundation of meteorological observation programs producing defensible quality data.
- Consensus among manufacturers, observers and data users on instrument characteristics and comparable observation methods creates mutually understood needs and capabilities to produce and utilize information
- Instrument manufacturers and consumers benefit from commonly derived specifications to fairly make informed procurement decisions
- Large scale observation programs benefit from accessible common methods to efficiently produce comparable quality data

## Examples of International Meteorological Standards

### ISO

- 27 countries are involved in the ISO subcommittee for Meteorology, TC 146 / SC 5, 18 as actively participating
- Six published standards involve basic methods and remote sensing technology
- Two more standards are in active development, with four more planned - these are all in remote sensing technology and applications
- Participation in ISO is through National Standards bodies
- WMO and HMEI (industry association) have Liaison status with SC5
- [http://www.iso.org/iso/home/standards\\_development/list\\_of\\_iso\\_technical\\_committees/iso\\_technical\\_committee.htm?mid=52810](http://www.iso.org/iso/home/standards_development/list_of_iso_technical_committees/iso_technical_committee.htm?mid=52810)

### ASTM International

- U.S. based ASTM International subcommittee D22.11 maintains 13 standards in a broad range of testing methods to establish instrument performance characteristics and practices to perform observations
- One Guide is a basis for statistical evaluation of uncertainty in dispersion models
- Future work is planned, notably for relative humidity technology
- ASTM D22.11 is the connection for meteorology to ISO in the United States
- <https://www.astm.org/COMMIT/SUBCOMMIT/D2211.htm>

## Applications of Meteorological Standards

### Direct

- Determine or verify instrument performance characteristics using consensus methods, terminology and documentation
- Identify significant quality elements in developing a quality-assured operational program
- Procurement specifications to clearly identify needs and expectations

### Support to standards and guides

- Some organizations developing specific methods and performance characteristics suited for a narrower application identify the consensus Standards for foundation steps
- U.S. Environmental Protection Agency in Volume IV of the QA Handbook for Air Pollution Measurements
  - U.S. Nuclear Regulatory Commission in Regulatory Guide 1.23
  - American Nuclear Society in ANSI/ANS-3.11 guidance for nuclear facilities

## Next Step for You

- **MOST IMPORTANT** Technical experts as producers and users are sorely needed for the subcommittees to continue developing and maintaining Standards
- The whole measurement community could benefit by utilizing and referencing Standards in procurements and operating quality field programs
- Join ASTM International's subcommittee D22.11 or a parallel organization in your country
- For further information, contact Paul Fransioli, Chairman of ASTM D22.11 and ISO TC 146/SC5  
[metstds@att.net](mailto:metstds@att.net)