

IAHR-WMO-IAHS Course on Stream Gauging

Lyon, France
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WMO Manual on Stream Gauging

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU



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WMO OMM

World Meteorological Organization
Organisation météorologique mondiale

World Meteorological Organization (WMO)

- Set up on 23 March 1950
- Successor to International Meteorological Organization (IMO, created in 1873)
- Specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- UN system's authoritative voice on the state and behaviour of the Earth's atmosphere, its interaction with the oceans, the climate it produces and the resulting distribution of water resources.
- Currently 185 Member States and 6 Territories
- UN Water



Purposes of WMO

To promote and foster meteorology and hydrology...to facilitate world-wide co-operation ... in:

- Networks for meteorological/hydrological... observations
- Standardization of observations
- Systems for processing and rapid exchange of data
- **Development of operational hydrology**
- Disaster prevention and mitigation
- Research and training
- Citizen Science

Role of WMO in the field of Hydrology and Water Resources

WMO Convention

Art: 2(e) : "to promote activities in operational hydrology and close co-operation between Meteorological and Hydrological Services"



**Hydrology and
Water Resources Programme**



Standardization and regulatory activities

Guidance material published

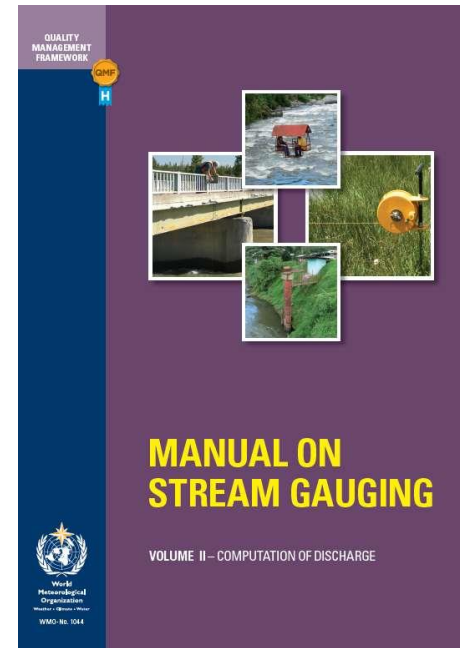
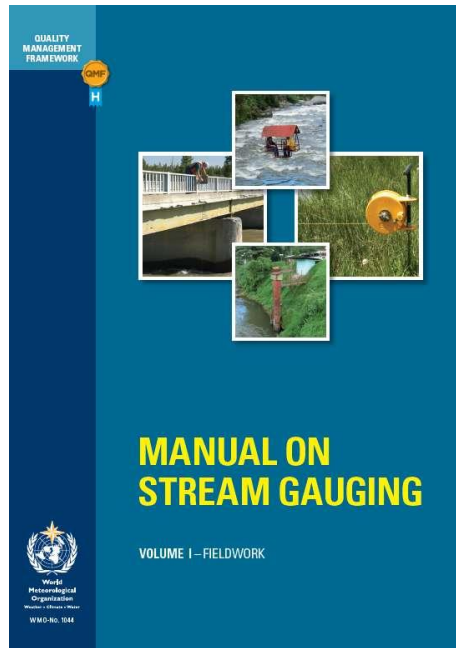
- Technical Regulations Volume III – Hydrology – 2006 ed.
- Guide to Hydrological Practices – 6th Ed. – November 2008
- WMO-UNESCO International Glossary of Hydrology
- Manual on Stream Gauging – 2nd Ed. – 2010
- Manual on Flood Forecasting and Warning - 2011
- Manual for the Estimation of Probable Max. Precipitation - 2009
- Manual on Low Flow Estimation and Prediction – 2008
- Guidelines on the role, operation and management of National Hydrological Services – 2006

Guidance material under preparation

- Guidance on Water Resources Assessment
- Guidance on Ecological Flows
- Manual on Design Flood Estimation
- Manual on Flood Risk Mapping



Manual on Stream Gauging



- 2nd edition published in 2010
- Currently reviewed in collaboration with ISO TC 113 – Hydrometry
- Possibly published as a joint document by WMO and ISO (as Technical Report)

Manual on Stream Gauging

Intended audience:

- For WMO: staff of NHTs of developing countries, hydrology practitioner
- For IAHR-IAHS: water engineers from public water authorities and private water services, as well as MSc and PhD students, and others

This is the fourth course in the IAHR-WMO-IAHS version!

Manual on Stream Gauging

- Volume I
 - Selection of stations/sites and controls
 - Measuring stage
 - Measuring discharge
 - Conventional current meter
 - Acoustic and electromagnetic methods
 - Precalibrated measuring structures
 - Miscellaneous methods
 - Velocity index
 - Tracer dilution...

Manual on Stream Gauging

- Volume II
 - Discharge ratings using:
 - Simple stage-discharge relations
 - Velocity index method
 - Slope as a parameter
 - Flow computation models
 - Discharge ratings for miscellaneous hydraulic facilities
 - Analysis and computation of discharge records
 - Rating tables and curves
 - Shift adjustments
 - Missing records...



Manual on Stream Gauging

- CHy Community of Practice
 - <http://www.wmo.int/chy/communities/course/view.php?id=17>
 - Enrollment key
 - Stream@wmo2014
 - Lectures
- Manuals are available online at:
<https://www.wmo.int/pages/prog/hwrp/manuals.php>

How to link with WMO?

- Permanent Representative and Hydrological Adviser
- Commission for Hydrology (Advisory Working Group)
- Regional Working Group on Hydrology
- If everything else fails: <http://www.wmo.int>
tabrate@wmo.int

Thank you !



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