WMO OMM

World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
世界气象组织

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Form for
Regular Reporting of Regional Instrument Centres

(please expand the cells as required to properly reflect your activities)

Terms of Reference for Regional Instrument Centres (RICs) are available under:
https://www.wmo.int/pages/prog/www/IMOP/instrument-reg-centres.html

Regional instrument Centre - General Information	
Name of RIC	Casablanca
RIC's website	cri.marocmeteo.ma
Institute hosting RIC	Direction de la Meteorologie Nationale
City	Casablanca
Country	Morocco
Regional Association	RA-I Africa
Contact Person for the Regional Instrument Centre	
Courtesy Title	Engineer
First name	Mounir
Family name	AZIZ
Street and number	Direction de la Meteorologie Nationale, Avenue Capitane Tayeb Naciri, administrative complex Hay Hassani
Postal code	20220
City	Casablanca
State/Province	Grand Casablanca
Country	Morocco
Tel. number(s)	+212661472398
Fax number(s)	+212522908593
Email(s)	azizmounir@gmail.com
Has contact person changed since 2013?	☐ Yes ☒ No
If yes, provide the previous contact person?	

RIC's staff

(Please specify the number of your managerial and technical staff)

- Managerial: 2
- Technical: 6

Interlaboratory Comparisons

Have you organized any interlaboratory comparison? (If yes, please specify the event(s) and final reports, including their web links, if available)**: No**

Have you participated in any interlaboratory comparison? (If yes, please specify the event(s) and the report(s), including their web links, if available)**: Yes**

- Bilateral cooperation Moroccan Meteo & Meteo France

Applied International Standards/Norms

Is your RIC accredited according to ISO/IEC 17025?

☐ **Yes** (please, specify the following):

Accreditation/certification body:

Date of the last audit:

Link to the Certificate of Accreditation:

☒ **No** (please, indicate if you have already applied any quality management system, and provide a reason for a lack of accreditation, if possible)

-ISO17025 applied

Assessment by a recognized authority other than accreditation body

Was your RIC assessed by a recognized authority other than an accreditation body? (e.g. certification body, NMI, another RIC)

☒ **Yes** (please, specify the following):

Name of a recognized authority: VERITAS

Date of the last assessment: 2016

Standard against which the assessment was carried out: ISO9001

☐ **No** (please, explain why, if possible)

WMO/CIMO Evaluation Scheme (excel file)

Have you filled out the WMO/CIMO Evaluation Scheme (excel) and submitted it to the WMO Secretariat?

☒ **Yes** (please, specify when): may, 2017

☐ **No** (please, explain why, if possible)

Calibrations of the Members' Instruments

Which calibration services, were provided by your RIC for other Members/countries since 2013? (Please specify)

Year	Type of instruments	Number of calibrated instruments	WMO Member/Country
2017	**National Fix and mobile standard barometers**	**04**	**Madagascar, Cameroune**
2016	**National Fix and mobile standard barometers, and network barometers**	**13**	**Senegal**
2016	**Standard barometers**	**02**	**Algery**

Capacity Development and Training Activities

Which capacity development/training activities have been carried out by your RIC since 2013 within the Region? (please specify events, WMO Members that participated and the number of participants**)**

- **2015**: "Maintenance and Calibration of meteorological instruments": Algeria, Tunisia, Mauritania, Senegal, Cape Verde, Cameroon, Comoros, Djibouti, Guinea, Guinea-Bissau, Haiti, Sao Tome and Principe, Madagascar, Benin (14 participants).
- **2014**: "Maintenance and Calibration of meteorological instruments": Mali, Togo, Niger, Tunisia, Mauritania, Senegal, Cape Verde, Gabon, Burkina Fasso, Cameroon, Comoros, Djibouti, Sao Tome and Principe, Madagascar, Congo (15 participants).
- **2013**: Metrology for Meteorology: Training of ASECNA Technicians in EAMAC-Niger (18 participants)

Has your RIC provided services on capacity development and training outside the Region? (If yes, please specify to whom and when)

- **No**

Which guidance documents, standard procedures or other publications were developed and published by your RIC since 2013? (Please, include full reference and web-link if available)

- "Results of CIL conducted by RIC-Casablanca in temperature, humidity and pressure"
- "Moroccan approach providing modern alternatives to replace dangerous and obsolete meteorological instruments"

  www.wmocimo.net/wp-content/uploads/TECO-2016_Final_Programme_20160922.pdf

Utilization of Resources and Capabilities of the Region

(Have you collaborated with other RICs, RRCs, RTCs, NMHSs or NMIs on standardization of meteorological and other related environmental measurements? If yes, please specify when and how):**Yes**, within the participation in Expert team of Operational Metrology

(ET-OpMet)

Recent Changes in Circumstance

Have there been any changes in your RIC's capabilities since 2013? (If so, please specify)

- **No**

Have there been any significant changes in your RIC's infrastructure since 2013? (If so, please specify)

- **Yes**, in 2015, the RIC has annexed a training room to the laboratory.

Have there been any changes in your staffing since 2013? (If so, please specify)

- Yes, replacement of two retired technicians.

Future Plans and any other relevant information

(Please provide plans/projects of your RIC for 2017, and add any other information you find relevant about your RIC)

- audit for accreditation ISO 17025

Are you in agreement with publishing this reporting form on WMO/CIMO website?

☒ Yes ☐ No

08 mai 2017 — Date

AZIZ Mounir — Name and Signature of Person in Charge of RIC

ANNEX

(Following information will be a part of your RIC's website as published on the WMO/CIMO website)

Specific information on Instrument Calibration Capabilities

Temperature:

Instrument Undergoing Calibration	Calibration Range	Reference standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference equipment	
				Last standard calibration date	Calibration body
Resistance thermometer PT100	-20°C to 60 °C	SPRT 100 (ISOTECH)	0.065°C	15 February 2017	Laboratory AIRMETROLOGY Cofrac accreditation n°02-60-18
Liquid in Glass thermometer		Triple point of water cell			
		Gallium fixed point cell			
		MicroK precision thermometry bridge			

Status of accreditation (date of the latest accreditation):
Link to the accreditation certificate:
Accreditation body:

Relative Humidity:

Instrument Undergoing Calibration	Calibration Range	Reference standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference equipment	
				Last standard calibration date	Calibration body
Capacitive hygrometer	10 to 90 %RH	Dew Point Mirror type MBW473	1,60%	14 February 2017	Laboratory AIRMETROLOGY Cofrac accreditation n°02-60-19
Display hygrometer		Hygrogen generator			
Hygrograph		Climatic chamber			

Status of accreditation (date of the latest accreditation):
Link to the accreditation certificate:
Accreditation body:

Atmospheric pressure:

Instrument Undergoing Calibration	Calibration Range	Reference standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference equipment	
				Last standard calibration date	Calibration body
Electric/Digital barometers	500 to 1100 hPa absolute pressure	Barometer CPC6000 IS50; Nitrogen Generator CPC600	(0.015 hPa +3.3x10-5 x P)	09 February 2016	MENSOR ZL accreditation N: 2066.01
Pressure gauge	1 to 25 bars gauge pressure	Manometer CPC6000 IS-50; Nitrogen Generator CPC 6000	(14.1+3.9x10-5 x P) Pascal		

Status of accreditation (date of the latest accreditation):
Link to the accreditation certificate:
Accreditation body:

Wind:

Instrument Undergoing Calibration	Calibration Range	Reference standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference equipment	
				Last standard calibration date	Calibration body

Status of accreditation (date of the latest accreditation):
Link to the accreditation certificate:
Accreditation body:

Precipitation:

Instrument Undergoing Calibration	Calibration Range	Reference standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference equipment	
				Last standard calibration date	Calibration body
Tipping bucket rain gauge (0.1; 0.2; 0.5 mm resolution)	0 to 10 mm/minute	Pluvio Precipitation Weighing Gauge "Pump drive" model MCP	0,3%	15 February 2017	National Metrology Lab

Status of accreditation (date of the latest accreditation):
Link to the accreditation certificate:
Accreditation body:

Other (Solar global & direct radiation):

Instrument Undergoing Calibration	Calibration Range	Reference standard, Equipment	Calibration and Measurement Capability (CMC)*	Traceability of Reference equipment	
				Last standard calibration date	Calibration body
pyranometer	Up to 1400 W/m²	Kipp & Zonnen Calibration bench (with projector)	1%	August 2015	Kipp&Zonnen
pyrheliometer		Pyrheliometer			

Status of accreditation (date of the latest accreditation):
Link to the accreditation certificate:
Accreditation body:

* A **CMC (calibration and measurement capability)** is the smallest uncertainty (k=2) of measurement that can be expected to be achieved by the RIC during a calibration under normal conditions. This CMC is evaluated by the RIC itself and described in the scope of accreditation of the RIC, if available.