

**WORLD METEOROLOGICAL ORGANIZATION**  
**WMO TECHNICAL CONFERENCE ON METEOROLOGICAL AND**  
**ENVIRONMENTAL INSTRUMENTS AND METHODS OF OBSERVATION**  
*Towards fit-for-purpose environmental measurements*  
*Amsterdam, The Netherlands, 8 - 11 October 2018*

**SUBMITTED ABSTRACT**

<b>0.</b>	<b>Paper Number</b>	35
	<b>Session Name</b>	1. Characterization and standardization of environmental measurements - traceability assurance
<b>1.</b>	<b>Title of the paper</b>	Calibration Challenges In Southern Africa

<b>2.</b>	<b>Institution</b>	Zimbabwe Meteorological Services Department (ZMSD)			
	<b>Authors</b>	Dr/Mr/Ms	Family name	First name	Country
a	Lead author	Mr	Magwaro	Webster	Zimbabwe
b	Co-author				
c	Co-author				
d	Co-author				

<b>4.</b>	<b>Abstract of the paper</b>
	<p>There is no substitute for quality. In meteorology , a good scientific research, numerical weather predictions , Aviation and public weather forecasts entirely rely on quality data. As such calibration and maintenance plays a significant role in ensuring that meteorological equipment operate in good working conditions as per WMO standards. There is need for regular calibration and maintenance of meteorological instruments to meet the increasing needs for high-quality meteorological and hydro-logical data. As recommended by CIMO IX in 1985 ( updated by CIMO- XIV in 2006) RICs with full capability can assist Members of the Region in calibrating their national meteorological standards and related environmental monitoring instruments for the following variables: temperature, humidity, pressure and possibly others. However in Southern Africa there is one RIC which was established in Botswana (Gaborone) but never utilized because the center is not equipped with relevant equipment. Considering that a greater percentage of pressure and temperature measuring instruments use mercury which is a dangerous substance to both humans and the environment, it is very risky and expensive to transport these instruments for the purpose of calibration to a nearby RIC (Kenya) which is in East Africa. In Zimbabwe for example, the only institute that performs calibration , do not have standards for pressure and wind which means there is a challenge in ensuring sustainability and homogeneity in meteorological data as instruments tend to deviate from normal operation conditions with time resulting in recording inaccurate data. There is greater need for WMO to embark on a program to establish small laboratory centers for developing nations for the sole purpose of calibrating instruments. In this paper challenges in calibration are detailed challenges in calibration and how they can be addressed.</p>