

# African Meteorological Society

## Learning Resources for Weather and Climate Enthusiasts (Non-Professionals)

**Language:** AR (Arabic), EN (English), FR (French), PO (Portuguese), RU (Russian) or SP (Spanish)

**Connectivity:** Assessed as H (high), M (medium) or L (low) where H indicates that there a lot of high-resolution videos/ animations whereas L indicates fewer graphics or an offline option

Name/ title	Brief description	URL	Notes	Language	Connectivity
<b>All topics</b>					
MetLink	<p>MetLink is hosted by the <a href="#">Royal Meteorological Society</a> a leading independent expert in weather and climate. MetLink is an educational website launched in 2010, with weather and climate resources for schools. Although designed for teachers and educators, it includes a wealth of content that will increase your understanding of weather and climate science and how it is applied.</p> <p>Resources can be selected by topic or by school level (primary / secondary).</p> <p>There is a search function to help find the most appropriate resources.</p>	<a href="https://www.metlink.org/">https://www.metlink.org/</a>	Click on the topic of interest and then navigate to the required resources.	EN	L-M

<p>COMET/ MetEd</p>	<p>COMET/MetEd is a free collection of hundreds of training resources covering all aspects of meteorology and is the most comprehensive source of training resources for meteorologists.</p> <p>Resources can be selected by topic and include individual lessons and courses.</p> <p>There is a search function to help find the most appropriate resources.</p>	<p><a href="https://www.meted.ucar.edu/education_training/">https://www.meted.ucar.edu/education_training/</a></p>	<p>Registration/ enrolment is required for access to the resources.</p>	<p>EN, FR, PO, SP</p>	<p>L-H</p>
<p>FutureLearn</p>	<p>FutureLearn is a global learning platform with a mission to transform access to education by offering top online courses from the world’s leading universities and brands. From microcredentials and degrees to ExpertTracks and short courses, FutureLearn offers accredited and unaccredited world-class education that is 100% online, on-demand, and social. The wide-ranging courses available allow learners to expand their interests, unlock highly skilled new career paths, and help change the world.</p> <p>There are courses on nature and the environment as well and science topics.</p>	<p><a href="https://www.futurelearn.com/subjects/nature-and-environment-courses">https://www.futurelearn.com/subjects/nature-and-environment-courses</a></p>	<p>Registration/ enrolment is required for access to the resources.</p> <p>Most courses run for a few weeks and require about 3 hours or learning each week.</p>	<p>EN</p>	<p>L-H</p>

Open Learn	Open Learn is part of the Open University learning platform. There are courses on the environment, weather and climate. Anyone can learn for free on OpenLearn but creating an account lets you set up a personal learning profile which tracks your course progress and gives you access to Statements of Participation and digital badges you earn along the way	<a href="https://www.open.edu/openlearn/">https://www.open.edu/openlearn/</a>	Registration/ enrolment is required for access to the resources.  The search function will help you navigate through the course topics.  Course material can be downloaded for use offline.	EN	L-H
STEM Learning	STEM Learning is an educational website with weather and climate resources for schools. Although designed for primary and secondary school, it includes a wealth of content that will increase your understanding of weather and climate science and how it is applied.  Resources can be selected by topic or by school level (primary / secondary).  There is a search function to help find the most appropriate resources.	<a href="https://www.stem.org.uk/resources/">https://www.stem.org.uk/resources/</a>	Click on the topic of interest and then navigate to the required resources.	EN	L-H
ThoughtCo.	ThoughtCo. looks at how the weather works by exploring the science behind daily forecasts, weather safety and climate change.	<a href="https://www.thoughtco.com/weather-and-climate-4133550">https://www.thoughtco.com/weather-and-climate-4133550</a>	Click on the topic of interest and then navigate to the required resources.  Free to use and no registration required.	EN	L-M

Study.com	Study.com hosts a huge number of courses aimed at children, teachers and anyone interested. There is a vast range of subjects including a course on Weather and Climate.	<a href="#">Weather and Climate Course - Online Video Lessons   Study.com</a>	Free trial for 30 days but registration required.  The course is comprehensive with a large number of short lessons (approximately 8 minutes)	EN	M - H
US National Weather Service (NWS) Education	<p>NWS Education offers a wealth of weather resources for educators, adults and children of all ages. You can explore science, safety, and citizen science programs.</p> <p>This is the US National Weather Service website and therefore has a US bias, but some material is relevant to the principles of weather and therefore applicable to the whole globe.</p> <p>Jet Stream is designed to help educators, emergency managers, or anyone interested in learning about weather and weather safety.</p>	<a href="https://www.weather.gov/education/">https://www.weather.gov/education/</a>	Click on the topic of interest and then navigate to the required resources. Free to use no registration.	EN	L-M

Class Central	<p>Class Central is a listing of online courses. It aggregates courses from many providers to make it easy to find the best courses on almost any subject, wherever they exist. Whatever you are interested in learning, it is more than likely that our catalogue includes a course that will meet your needs.</p> <p>Through Class Central, you can find courses; review courses you've taken (and read other people's reviews); follow universities, subjects and courses to receive personalized updates; and also plan and track your learning.</p>	<a href="https://www.classcentral.com/">https://www.classcentral.com/</a>		EN	L-M
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<p>Watching the Weather</p>	<p>This free course, Watching the weather, describes how meteorological observations are made looking upwards from the surface of the Earth, looking downwards from satellites in space and from aircraft and balloons within the atmosphere. This international network of observations is vital for scientists and forecasters and the results impact on everyone's daily activities.</p> <p>Produced by Open Learn for the Open University it is aimed at introductory level.</p>	<p><a href="https://www.open.edu/openlearn/nature-environment/environmental-studies/watching-the-weather">https://www.open.edu/openlearn/nature-environment/environmental-studies/watching-the-weather</a></p>	<p>Free course but requires registration. Downloadable so suitable for offline use. Suggested 10 hours to complete the course.</p>	<p>EN</p>	<p>M</p>
<p>Come Rain or Shine: Understanding the Weather</p>	<p>This Future Learn course explores some of the physical processes driving weather systems and includes practical activities and fieldwork. Try your hand at forecasting and have a go at interpreting weather maps. You'll also watch our educators carrying out simple but effective experiments including creating clouds and simulating hot air rising.</p>	<p><a href="https://www.futurelearn.com/courses/come-rain-or-shine">https://www.futurelearn.com/courses/come-rain-or-shine</a></p>	<p>Hosted by Future Learn this course is free with limited access but requires registration. Suggested length is 3 weeks with 4 hours per week. Certification can be provided on completion if you buy the course. Available to start anytime, but educators will be present at certain dates.</p>	<p>EN</p>	<p>M-H (some videos)</p>

Africa's weather and climate video	This 1.5 hour video lesson on Africa's weather and climate and position of Africa's major climate regions. Links the African continent circulation to global tri-cellular circulation. Identifies the major ocean currents around Africa and their influence on climate. El Nino and La Nina processes.	<a href="https://www.youtube.com/watch?v=b4ySRVm6qwc">https://www.youtube.com/watch?v=b4ySRVm6qwc</a>		EN	H
Introduction to Tropical Meteorology	Introduction to Tropical Meteorology is an online textbook is a comprehensive resource for Tropical Meteorology. It is intended for use by undergraduate and early graduate students in Tropical Meteorology courses, forecasters, and others interested in the impacts of tropical weather and climate.	<a href="https://www.meted.ucar.edu/tropical/textbook_2nd_edition/table_of_contents.htm">https://www.meted.ucar.edu/tropical/textbook_2nd_edition/table_of_contents.htm</a>	Registration/ enrolment is required for access to the resources.	EN	L-H
Backyard Meteorology: The Science of Weather	The course, provided by Harvard University, explores the science behind weather systems by teaching the observational skills needed to make a forecast without using instruments or computer models. It covers the physical processes driving weather, the global forces that shape global climate systems, and the limits of prediction in both human observations and computer models.	<a href="https://www.classcentral.com/course/edx-backyard-meteorology-the-science-of-weather-12108">https://www.classcentral.com/course/edx-backyard-meteorology-the-science-of-weather-12108</a>	Registration/enrolment required for access to the resources.	EN	L-M

The Globe Program	The Globe Program is a five-week curriculum unit provided by UCAR Center for Science Education, which provides a comprehensive set of resources to investigate the natural environment.	<a href="https://www.globe.gov/do-globe">https://www.globe.gov/do-globe</a>	Teaching guides, student activity sheets, assessments, PowerPoints, and extensions for how students can collect their own data using GLOBE protocols are provided.	AR, EN, FR, PO, SP and many other languages	L–M
YouTube	YouTube has a range of videos dealing with both weather and climate.	<a href="https://www.youtube.com/">https://www.youtube.com/</a>	Search on "weather and climate"  Registration/enrolment not required.	EN	M–H
<b>Atmosphere and fundamentals of meteorology</b>					
Come Rain or Shine: Understanding the Weather	This Future Learn course explores some of the physical processes driving weather systems and includes practical activities and fieldwork. Try your hand at forecasting and have a go at interpreting weather maps. You'll also watch our educators carrying out simple but effective experiments including creating clouds and simulating hot air rising.	<a href="https://www.futurelearn.com/courses/come-rain-or-shine">https://www.futurelearn.com/courses/come-rain-or-shine</a>	Registration/ enrolment is required for access to the resources.	EN	L-H



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Introduction to Tropical Meteorology	Introduction to Tropical Meteorology is an online textbook is a comprehensive resource for Tropical Meteorology. It is intended for use by undergraduate and early graduate students in Tropical Meteorology courses, forecasters, and others interested in the impacts of tropical weather and climate.	<a href="https://www.meted.ucar.edu/tropical/textbook_2nd_edition/table_of_contents.htm">https://www.meted.ucar.edu/tropical/textbook_2nd_edition/table_of_contents.htm</a>	Registration/ enrolment is required for access to the resources.	EN	L-H
Study.com	Study.com hosts a huge number of courses aimed at children, teachers and anyone interested. There is a vast range of subjects including a course on Weather and Climate.	<a href="#">Weather and Climate Course - Online Video Lessons   Study.com</a>	Free trial for 30 days but registration required.  The course is comprehensive with a large number of short lessons (approximately 8 minutes)	EN	M - H
<b>Climate and climate change</b>					

<p>Planet Partners: Tackling the Climate Crisis Together</p>	<p>This Future Learn course investigates the impact of climate change, the research being done to tackle it, and what you can do to take meaningful action.</p> <p>The course was developed by the University of Reading and the Walker Institute and is suitable for anyone with an interest, although mainly aimed at 16-18 year olds.</p>	<p><a href="https://www.futurelearn.com/courses/tackling-climate-crisis">https://www.futurelearn.com/courses/tackling-climate-crisis</a></p>	<p>A 2 week course hosted on Future Learn. 2 hours per week commitment. Free with limited access but requires registration. A digital certificate available if you buy the course.</p>	<p>EN</p>	<p>M-H (some videos)</p>
<p>Climate Change: Science</p>	<p>In this Futuer Learn course you will learn about the science of climate change, the risks it poses, and how human activity is changing our world.</p>	<p><a href="https://www.futurelearn.com/courses/climate-change-the-science">https://www.futurelearn.com/courses/climate-change-the-science</a></p>	<p>Registration/ enrolment is required for access to the resources.</p> <p>This is a 4 week course and requires a 3-4 hours commitment a week.</p>	<p>EN</p>	<p>L-H</p>

<p>Climate Change: Solutions</p>	<p>This Future Learn Course explores solutions to climate change, including mitigation, adaptation and geo-engineering, which can help avoid the most dangerous climate changes and increase the resilience of societies and ecosystems to climate changes that cannot be avoided.</p> <p>You don't need any prior knowledge of climate change, just an interest in science, nature and the environment. However it might be useful to have completed other Future Learn courses like: Climate Change: The Science.</p>	<p><a href="https://www.futurelearn.com/courses/climate-change-the-solutions">https://www.futurelearn.com/courses/climate-change-the-solutions</a></p>	<p>Registration/ enrolment is required for access to the resources.</p> <p>This is a 4 week course and requires a 3-4 hours commitment a week.</p>	<p>EN</p>	<p>L-H</p>
<p>Bending the Curve – Climate Change</p>	<p>Bending the Curve is a series of four short courses are based on the multidimensional aspects of the climate change along with possible solutions. These are suitable for general studies by students and people at large. The solutions to combat the effects of climate change are discussed in terms of technological innovation, ecosystem management, market mechanisms and even behaviour changes.</p>	<p><a href="https://online.ucsd.edu/programs/080c48a1-70bf-439c-9eac-a02b60282209/about?clid=EA1aIQobChMlvZ_dxtad6wIVQiQrCh0ihwWbEAYASAAEgKmbvD_BwE#courses">https://online.ucsd.edu/programs/080c48a1-70bf-439c-9eac-a02b60282209/about?clid=EA1aIQobChMlvZ_dxtad6wIVQiQrCh0ihwWbEAYASAAEgKmbvD_BwE#courses</a></p>	<p>Registration/ enrolment is required for access to the resources.</p> <p>Courses is available at specific times and each course takes 16 hours of complete.</p>	<p>EN</p>	<p>L-H</p>

The Essential Principles of Climate Literacy	Presents information that is deemed important for individuals and communities to know and understand about Earth's climate, impacts of climate change, and approaches to adaptation or mitigation. Principles in the guide can serve as discussion starters or launching points for scientific inquiry. The guide aims to promote greater <i>climate science literacy</i> by providing this educational framework of principles and concepts. The guide can also serve educators who teach climate science as a way to meet content standards in their science curricula.	<a href="https://www.climate.gov/teaching/climate">https://www.climate.gov/teaching/climate</a>	Free and no registration. Mainly text based, so can be easily downloaded	EN, ES	L
Climate Change	The course provided by the National Center for Science Education provides evidence-based answers to some central questions about climate change — Is the climate changing? Are humans causing that change? What will the consequences be? What can be done about it?	<a href="https://ncse.ngo/climate-change-101">https://ncse.ngo/climate-change-101</a>	Registration/enrolment not required.	EN	L
Climate Change	Wicked Weather Watch aims to provide clarity for children and young people about climate change and global warming	<a href="https://wickedweatherwatch.org.uk/climate-change/">https://wickedweatherwatch.org.uk/climate-change/</a>	Registration/enrolment required for access to the resources.	EN	L
<b>Observations, including remote sensing</b>					

Satellite Meteorology	<p>CIMSS Satellite Meteorology is an excellent topic to introduce users to geoscience, physics, chemistry and applied mathematics. Satellite Meteorology learning modules provide scientists and educators with exciting activities and hands-on tools for investigation, inquiry, analysis and stewardship.</p>	<p><a href="http://cimss.ssec.wisc.edu/satmet/">http://cimss.ssec.wisc.edu/satmet/</a></p>	<p>There are 10 different learning models that can be completed in a few hours.</p>	EN	L
Watching the Weather	<p>This free course, Watching the weather, describes how meteorological observations are made looking upwards from the surface of the Earth, looking downwards from satellites in space and from aircraft and balloons within the atmosphere. This international network of observations is vital for scientists and forecasters and the results impact on everyone's daily activities.</p> <p>Produced by Open Learn for the Open University it is aimed at introductory level.</p>	<p><a href="https://www.open.edu/openlearn/nature-environment/environmental-studies/watching-the-weather">https://www.open.edu/openlearn/nature-environment/environmental-studies/watching-the-weather</a></p>	<p>Free course but requires registration. Downloadable so suitable for offline use. Suggested 10 hours to complete the course.</p>	EN	M

Sat 24	Real time satellite imagery of Africa. Satellite images only no training resources.	<a href="http://www.Sat24.com">www.Sat24.com</a>		AR, EN, FR, PO, SP	L-H
<b>Observing, nowcasting and forecasting African weather systems</b>					
Africa's weather and climate video	This 1.5 hour video lesson on Africa's weather and climate and position of Africa's major climate regions. Links the African continent circulation to global tri-cellular circulation. Identifies the major ocean currents around Africa and their influence on climate. El Nino and La Nina processes.	<a href="https://www.youtube.com/watch?v=b4ySRVm6qwc">https://www.youtube.com/watch?v=b4ySRVm6qwc</a>		EN	H
Introduction to Tropical Meteorology	Introduction to Tropical Meteorology is an online textbook is a comprehensive resource for Tropical Meteorology. It is intended for use by undergraduate and early graduate students in Tropical Meteorology courses, forecasters, and others interested in the impacts of tropical weather and climate.	<a href="https://www.meted.ucar.edu/tropical/textbook_2nd_edition/table_of_contents.htm">https://www.meted.ucar.edu/tropical/textbook_2nd_edition/table_of_contents.htm</a>	Registration/ enrolment is required for access to the resources.	EN	L-H
<b>African Climate/ Climatology/ Climate change in Africa</b>					

Africa's weather and climate video	This 1.5 hour video lesson on Africa's weather and climate and position of Africa's major climate regions. Links the African continent circulation to global tri-cellular circulation. Identifies the major ocean currents around Africa and their influence on climate. El Nino and La Nina processes.	<a href="https://www.youtube.com/watch?v=b4ySRVm6qwc">https://www.youtube.com/watch?v=b4ySRVm6qwc</a>		EN	H
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Introduction to Climate Change	Developed by Ignou and hosted by Class Central, this course explains the science of climate change, including the impact of climate change on terrestrial and aquatic ecosystems.	<a href="#">Free Online Course: Introduction to Climate Change from Swayam   Class Central</a>	Free but requires registration.	EN	M-H
Climate Change	Developed by the Open University and hosted by Class Central this free course explores the basic science that underpins climate change and global warming	<a href="#">Free Online Course: Climate change from OpenLearn   Class Central</a>	Free but requires registration 18 hours of self-paced study.	EN	M-H
<b>Hydrology/ hydrometeorology/ flooding/ water resource management</b>					

Basic Hydrologic Sciences	Developed for an international audience with a broad background, this course is designed to address the needs of non-hydrologists who work with hydrological data, particularly in flood forecasting. The course provides an understanding of the complex interactions between the ground, water and atmosphere, and will prepare the student for further study in hydrological methods an forecasting.	<a href="https://www.meted.ucar.edu/education_training/courses/24">https://www.meted.ucar.edu/education_training/courses/24</a>	10-12 hours of study which is free to use but requires enrollment	EN,ES	H
<b>Urban - Impacts of weather &amp; climate on African cities</b>					
Preparing for Climate Change in African Cities	This course provides the foundation for understanding cities' exposure and sensitivity to climate change, and how cities can manage these impacts in the face of growing uncertainty.	<a href="#">Free Online Course: Planning for Climate Change in African Cities from Coursera   Class Central</a>	Free but requires registration.	EN	M-H