



## Agricultural Meteorology for a Climate Smart Agriculture. Course Report.

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The WMO-RTC (World Meteorological Organization – Regional Training Centre) run in Italy by the Institute of BioEconomy of the National research Council is part of a Network of Centres whose main aim is to promote education and training in meteorology, hydrology, climate and related areas. The Italian Centre, since it was established in Florence, is offering training in agrometeorology, agroclimatology, climate impacts, disaster risk reduction and climate services and communication, with short-term courses and workshops, long-term stages, rowing seminars, training events on demand. Training solutions adopted include Face-to-Face events, Distance Learning, and E-Learning packages for self-paced learning. In 2020 the Italian Association of Agrometeorology (AIAM) launched the 1<sup>st</sup> Edition of the International Advanced School in Agricultural Meteorology, and the WMO-RTC, in agreement with AIAM and the important contribution of FAO, designed and put in place a new course on Climate Smart Agriculture to be held face-to-face at CNR headquarters in Rome. Due to the Covid-19 pandemic, the format of the school was completely revised, the course opened to a much wider audience (43 students from 19 Countries) and run (synchronous) fully online. The success of the school was determined by several factors including: the theme of the school, the expertise of appointed trainers, and the use of an easy to use e-learning platform like Moodle. In addition, the continuous support ensured by the technical staff, the role played by facilitators and chairs of the sessions, and the cohesion of the scientific committee and technical staff were all ingredients contributing to the success of this online learning initiative.

In this paper, Authors discuss the results of the training initiative, and present the comments from participants to the school.

**Keywords:** Online learning, Higher education, Challenges, Teaching/learning strategies.

### 1 Background


Since its foundation in 1997, Associazione Italiana di AgroMeteorologia (AIAM) (<http://www.agrometeorologia.it/joomla/en.html>) has been involved in enhancing and promoting agrometeorological research through conferences, seminars, and training courses. It also acts as a link between the services and research activities. This connection has the result of promoting researches on relevant agrometeorological themes, which are internationally disseminated through the Italian Journal of Agrometeorology.

As part of its mission, AIAM was proud to launch the First Edition of the International Advanced School in Agricultural Meteorology, aiming to build up knowledge about the use of integrated tools and advanced technologies for a sustainable management of agroecosystems.

The 2021 edition, co-organized with WMO-RTC (<https://training.climateservices.it/>) and with the technical cooperation of FAO (<http://www.fao.org/home/en/>), is focused on the role of Agricultural Meteorology for a Climate Smart Agriculture (CSA), and wants to provide young researchers and professionals with high-level innovative knowl-

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edge and skills on the most advanced technologies for the agrometeorological analysis and monitoring applied to a sustainable agricultural development under climate change.

A Scientific Committee was in charge to design and plan the course, evaluate applications, and appoint the Trainers. The Committee was composed by: Filiberto Altobelli (CREA-PB), Anna Dalla Marta (University of Florence-DAGRI), Federica Rossi (CNR-IBE), Marina Baldi (WMO-RTC, CNR-IBE), Federica Matteoli (FAO).

The management of the Moodle platform was ensured by the colleagues of the Institute of Crystallography of CNR: Guido Righini and Marco Simonetti. They also provided technical support during online classes and facilitated access where internet connection issues arose.

## 2 Objectives and Expected Learning Outcomes

The course was designed with the aim to facilitate participants to increase their knowledge on how Agricultural Meteorology can contribute to a Climate Smart Agriculture, the school included theoretical activities, in form of webinars offered by leading scientists, and practical sessions to allow the direct application of theoretical concepts through the use of advanced tools, and the analysis of case studies. The active participation of the trainees is considered necessary to facilitate the realization of an interdisciplinary partnership among technicians and scientists.

*On completion of the course, Participants were expected to increase their knowledge on up-to-date agrometeorological tools to support a sustainable and climate smart agriculture.*

The course was designed primarily for professionals from National Agro-Meteorological Services and other technical Services involved in climate change adaptation in agriculture, but was also open to young researchers and scientists, PhD and graduate students, engaged and interested in application of advanced agrometeorological methodologies and techniques.

The course has been realized online from the 8<sup>st</sup> to the 19<sup>th</sup> of March 2021, including a 1 day pause, so the total duration of the school was 9 days.

The distance learning has been carried out using the platform Moodle<sup>1</sup> as a learning management system. Moreover, students and teachers of the course used the same platform to share educational material and fulfil training assessment procedures.

Through the course, participants were expected acquire theoretical and practical knowledge on current approaches of communication, with emphasis on:

- Climate Smart Agriculture concept and the 5 step-process to CSA implementation
- Eddy Covariance and flux measurement techniques in the agricultural ecosystem: briefing on theory, experimental design and implementation
- Climate information Services, Early Warning Systems and Early Action
- European Space Agency (ESA) facilities and tools: Copernicus, databases, instruments/tools
- Extreme events, risk reduction
- Climate Change, Agriculture, and Food Security

## 3 Training approach

The training course was implemented on the distance learning deployment Moodle of RTC-Italy<sup>2</sup>, while for the webinars we used the Zoom application.

The Moodle platform used by the RTC-IBE is powered by the Institute of Crystallography of CNR and is managed by Guido Righini in collaboration with Marco Simonetti.

The distance learning platform developed on Moodle was used for multiple purposes:

- sharing with participants the course agenda
- sharing training materials and technical and scientific documentation on the topics;
- publishing the videos of the webinars
- assigning the exercises and gather the participants' assignments
- contacting and exchanging with the participants (class message and private messages)
- offering a room to facilitate the discussion on the course topics
- offering a space (forum) for participants to introduce each other
- gathering participants evaluation on the course with an online questionnaire
- gathering comments from participants

The choice of Zoom<sup>3</sup> derived by the fact that is one of the cheapest and more efficient tools for webinars, and it allows to video recording the whole sessions which can be easily downloaded from cloud afterwards for post-production work. In addition, it takes track of sessions participants, chats, Q&A sessions.

The connection between Moodle and Zoom could be managed using a free plugin, but the zoom session room can also be reached directly, a solution preferred by trainers not always familiar with Moodle. Day by day the link to the webinars was added as an URL link in the Moodle Course and communicated to the trainers.

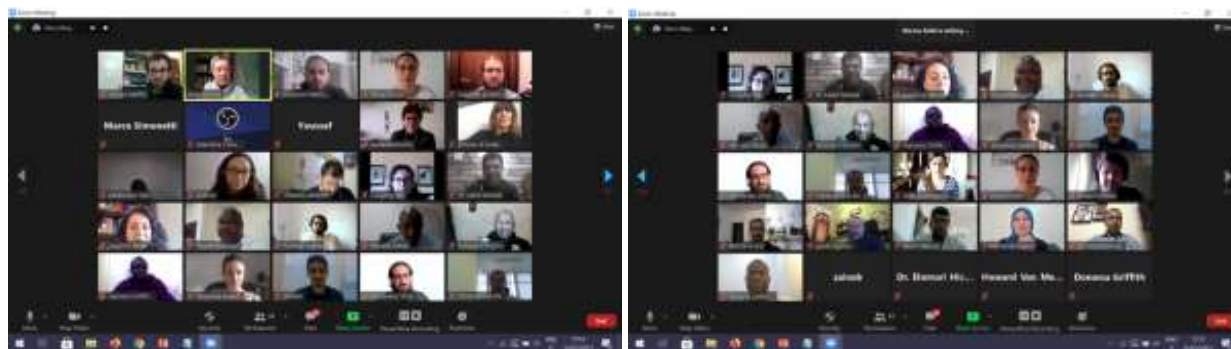


Fig. 1 "Group" photo.

## 4 Delivery of the course

### 4.1 Participants

Forty-three people coming from 19 Countries enrolled in the course, as listed in the table 1.

Country	Participants
Argentina	1
Austria	1
Bangladesh	2
Colombia	1
Croatia	1
Ethiopia	1
Germany	1
Guyana	3
India	2
Indonesia	1
Ireland	1
Italy	15
Italy (Somalia)*	2
Italy (Tunisia)*	1
Morocco	2
Nigeria	2
Senegal	1
Slovakia	1
Slovenia	1
Togo	1
Tunisia	2

Table 1 List of participants. \* In Italy for a PhD programme

An extra-session of about 2 hours was also offered in order to give participants (see figure 1) the opportunity to introduce and get to know each other, and overcome the anonymity characteristic of a fully online course.

### 4.2 Trainers and synchronous activities

The school opening session was public, and included welcome address from the President of AIAM, Francesca Ventura, the Director of WMO-RTC in Italy, Marina Baldi, and of Filiberto Altobelli from CREA. The school was then declared officially opened by the B.Gen Baione, Permanent Representative of Italy with WMO.

We involved 20 trainers during the 9 days of the school, experts from FAO, ESA, Alliance Bioversity- CIAT, CNR-IBE, and they offered lectures on the following topics:

#### Day 1 Climate Smart Agriculture

An introductory overview, Federica Matteoli, Julian Schnetzer, **FAO**

#### Day 2 & 3 Climate information Services

Climate Services for Farmers, Ana Heures, **FAO**

The AquaCrop Model Hands on Exercise, Oscar Rojas, **FAO**

Introduction to Aquacrop, Patricia Mejias Moreno, **FAO**

From the Global Agriculture Drought Monitoring to Country Level using Geospatial Information, Jorge Alvar Beltran, **FAO**

#### Day 4 Copernicus, databases, instruments/tools

Copernicus & ESA in support of a sustainable agriculture, Espen Volden, **ESA**

Vegetation indices, parameters & SNAP tool, Fabrizio Ramoino, **ESA**

Agricultural monitoring, Benjamin Koetz, **ESA**

Big data and the platform approach, Markus Muerth, **ESA**

#### Day 5

How agribusiness and agricultural meteorology can contribute to CSA, Romano De Vivo, **Alliance Bioversity-CIAT**

Principles of Climate and Risk Communication, Elena Rapisardi, **CNR-IBE**

#### Day 6 Flux measurements and remote sensing in agriculture

Eddy covariance and alternative methods, Karolina Sakowska, **CNR-IBE**

Other Fluxes, Federico Carotenuto, **CNR-IBE**

Smart Farms - The application of low-cost technology for Precision Agriculture, Alessandro Zaldei, **CNR-IBE**

Remote sensing of vegetation, Karolina Sakowska, **CNR-IBE**

#### Day 7

Supporting Resilient Agricultural Investments through Climate Risk Profiling, Evan Girvetz, Ivy Kinyua, **Alliance Bioversity-CIAT**

The Alliance of Bioversity International and CIAT, Gianpiero Menza, **Alliance Bioversity-CIAT**

#### Day 8 Extreme events, risk reduction, Early Warning Systems

Extreme events, risk reduction, Early Warning Systems, Ramona Magno, **CNR-IBE**

Extreme events, risk reduction, Early Warning Systems - Hands on (Copernicus Climate Data Store, Sentinel Hub, Quantum GIS, Anaconda), Leandro Rocchi, **CNR-IBE**

#### Day 9

Digital and participatory climate services for agriculture, Peter Laderach, **Alliance Bioversity-CIAT**

Improved business through seasonal forecasting for coffee in Vietnam, Peter Laderach, **Alliance Bioversity-CIAT**

### 4.3 Practical Sessions

Many participants actively participated and were committed to doing the exercises that had excellent results.

The proposed exercises included: contribution in forums, access to database or data hub (e.g. Copernicus, Sentinel), access and use of the FAO AquaCrop model, and creation of a podcast for the session on communication.

The practice in all disciplines is crucial to better understand the theory and to acquire knowledge on how the theory can be implemented in specific services, however the distance of a virtual space, and the absence of a tutor like in a physical classroom can represent a big obstacle.

The practical sessions (for example during day 2 & 3, 8) were offered at a slower pace, also allowing comments and questions on some of the more complex steps, in order to allow trainee to follow all the steps of accessing data/models, and use them. The zoom chat was also used to permit to trainees to copy and paste some of the scripts used by the trainer (session 8).

The exercise of session on Communication was the creation of a podcast for general public to be developed in small groups (7). They had the possibility to introduce each other in the group, organize the group, assigning a role to each participant and produce the result.

As we thought that this could be the first experience of recording a podcast, the trainer prepared a detailed guide with indications on how to design a podcast, some examples, the software to use for recording and editing.

The podcasts have been presented and discussed in a final session on the last day. The results were surprisingly positive and the work in group was a success, as for the comments from the participants. More group work might be planned in future editions of the school.

## 5 Course Evaluation

As a final task to complete the course the participants were asked to respond to the evaluation questionnaire on the Moodle platform. The general participants' perception of the course is positive with more than 70% evaluating the initiative very successful or excellent, and for about 70% of the participants had the right duration (2 weeks). In terms of meeting the objectives, about 43% of the participants evaluated the course to fully meet them, and 30% very well, while only 11% evaluated the course to nearly meet the objectives.

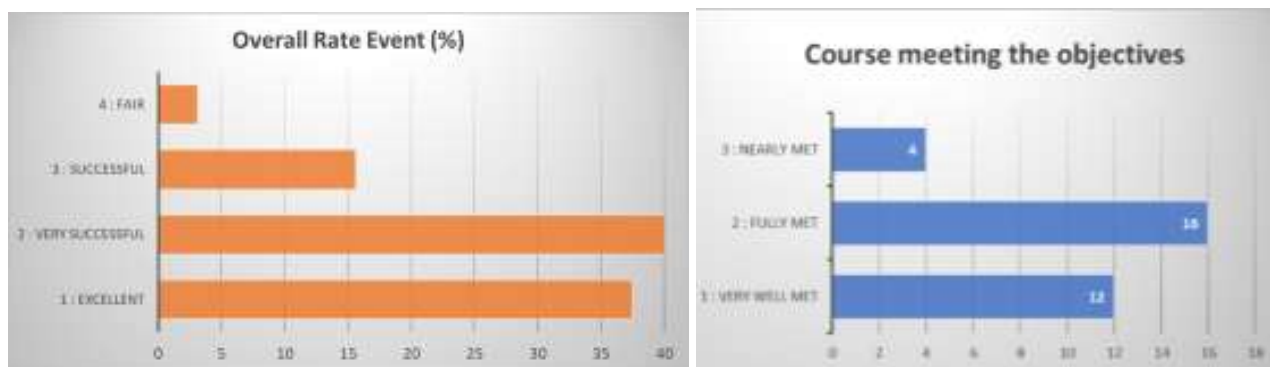


Fig. 2 Perception of participants of the course (up) and course meeting the objectives (down)

Concerning the main problems faced during the course, two were the main issues: the first related to their job activities to be completed during the course (2 participants), while, surprisingly, only 1 participant suffered because of bad internet connection. As a matter of fact, the choice of zoom as software for the webinars was a winning, although not free, solution.

Most of the participants gave the perception to have good ability to use the internet at a level between intermediate and expert, and only few problems occurred in the first access to the Moodle platform and to the webinars.

To guarantee some interactions during the webinars, we allowed participants to talk, pose questions through the chat or Q&A Zoom function, and the choice was well appreciated.

We also planned some group exercises, but we decided to not use the dedicated virtual rooms offered by zoom, but leave the participants to use a solution of their choice (google meet, skype, ...) to meet virtually. In this way the completed a challenging role-play exercise such as to realize a podcast. We also encouraged the use of different forums to foster discussions.

Despite the assignments, and the practical sessions, some of the participants (31%) considered the course too theoretical and suggest more practical parts to be included in the future. This is a comment often received during classroom courses, and it is even more true when the school is fully online, and new solutions must be considered in future online courses.

Concerning the topics covered and the knowledge acquired during the course, all the respondents believe the acquired knowledge will help during their everyday job activities. The appreciation was also well described by the answers to the specific question [5] reported in the appendix.

Participants are aware the course offered the opportunity to know tools and methods to be applied in their daily job, and they express the intention to contact the trainers in the future when more questions will arise on the use of the tools.

Moreover, the topics that aroused most interest were: AquaCrop, Flux measurements and Remote Sensing, use of GIS, Copernicus tools and data, and last, but not least, Climate risk communication (the realization of the podcast was a very interesting and appreciated exercise).

Participants evaluated positively the Trainers in terms of preparation, their ability to motivate/stimulate the class, and to respond and interact with learners during the Q&A sessions. The material distributed by the trainers was considered comprehensive for the theoretical lectures, and the practical sessions for 90% of respondents, but the quality of training materials could be improved distributing additional case studies and exercises. Additional support,

not better specified, after the training could improve the training itself.

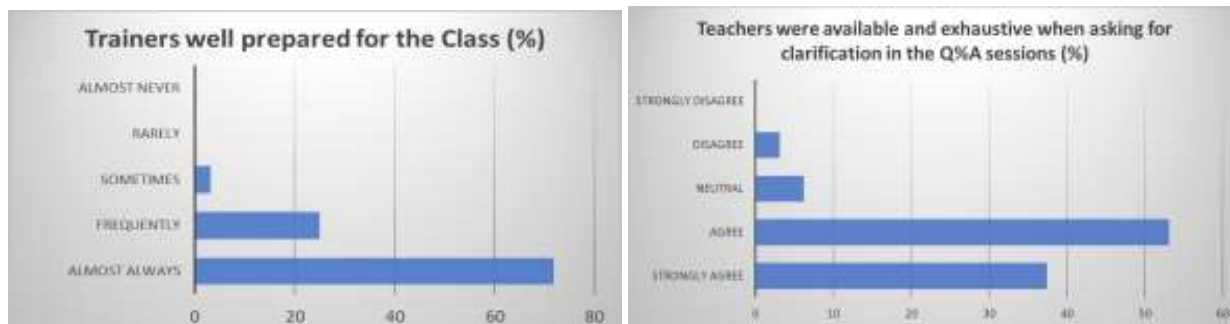


Fig. 3 Appreciation of trainers



Fig. 4 Quality of training material

## 6 Certificate of attendance

This course included the release of a certificate of attendance.

The picture 5 shows a sample certificate with the logo of all the contributors to the realization of the Course: AIAM, WMO-RTC, FAO.



Fig. 5 Certificate of attendance - Template

The criteria for the certificate of participation was attending 70% participation to the course, all the participants received the certificate of attendance (see an example in the figure 5).

## 7 Conclusions and recommendations

The survey distributed via the Moodle allowed to collect participants' opinions and impressions on the course. The surveys' questions were designed in order to get information on the efficacy of the course, on the tools used and the

subject matters, as well as on the duration and structure of the course. The purpose of the survey was also to get suggestions for future courses of distance learning.

We believe that participants were generally satisfied by the course. Also, from our point of view, it was a positive experience and surely a valuable experience for the future.

Some consideration not in order of importance, reflecting the comments on possible improvements for future course (see Annexe 2, Responses to question [29]), can be summarized as follows:

- The topic: Climate Smart Agriculture is a very wide topic and can be declined in different ways and presented at different levels of complexity. Some of the major aspects have been touched during the 2 weeks, by a group of international experts. A fully synchronous distance learning is probably not the better approach to deliver it. The course was originally planned as a classroom workshop, and this can make a difference, especially for the practice, which is somehow limited in an online course. The participants' suggestions for future training initiatives underline the desire for more in-depth study of some topics, but also the need for in-presence exercises.
- Engagement: for the classroom course a selection process was carried out, but then all the applicants have been accepted to participate to the online course. This resulted in much more work from the organization side, but didn't impact on the results of the course. When the presence workshop was converted in a distance event, probably disappointed the expectation of some participants. Indeed, following a distance learning course demands a much stronger motivation than a presence workshop, and the modality of delivery should be clear before the submission of candidatures.
- Technical issues: while internet connection was not a real problem in this case, probably the main challenge for some participants was the digital skill. Some problems arose in the first 2 days in using the Moodle platform as well as the Zoom videoconferencing tool.
- Human interaction: Another suggestion is related to communication among participants and with trainers. Having participants and trainers at hand in a classroom, to discuss and interact is still considered an added value that can positively impact on a course. In future online events other tools can be considered and used to favor more interactions.

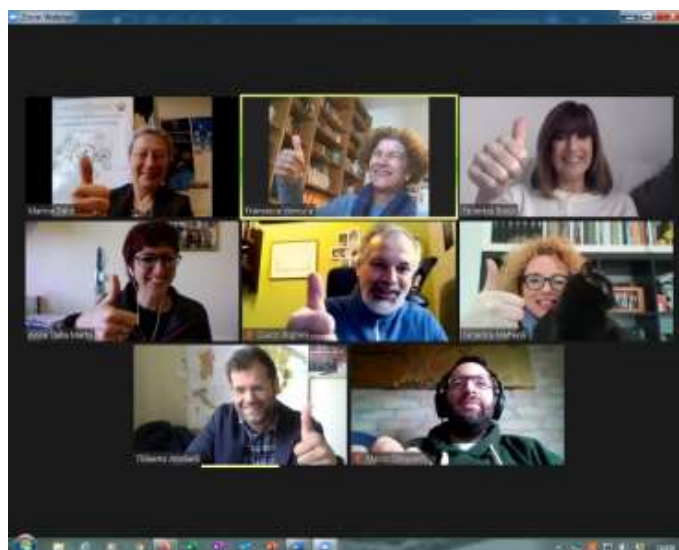


Fig. 6 The Scientific Committee of the school and the supporting ICT staff (plus a cat!)

## References

- 1 <https://moodle.org/>.
- 2 <https://rtc-moodle.ibe.cnr.it>.
- 3 <https://zoom.us/>.

## Annexe 1. Opening Session - programme



INVITATION TO THE OPENING OF

**AIAM INTERNATIONAL ADVANCED SCHOOL IN AGRICULTURAL METEOROLOGY**  
1st edition

Co-Organized by:  WORLD METEOROLOGICAL ORGANIZATION

Monday, 8 March 2021 from 2:00 p.m. to 3:30 p.m. (CEST)

The Italian Association of AgroMeteorology AIAM and Organization committee of AIAM INTERNATIONAL ADVANCED SCHOOL IN AGRICULTURAL METEOROLOGY - National Research Council (CNR), Council for Agricultural Research and Economics (CREA), World Meteorological Organization - Regional Training Center (WMO-RTC), Rete Rurale Nazionale (RRN), Italian Ministry for Environment, Land and Sea, European Space Agency (ESA), Foundation for Climate and Sustainability (FCS), Global Alliance for Climate-Smart Agriculture (GACSA), Alliance-Bioversity – CIAT, University of Florence (DAGRI), University of Zurich (CCRS) - are pleased to invite you to the webinar opening session.

### Background

Since its foundation in 1997, AIAM has been involved in enhancing and promoting agrometeorological research through conferences, seminars, and training courses. It also acts as a link between the services and research activities. This connection has the result of promoting researches on relevant agrometeorological themes, which are internationally disseminated through the Italian Journal of Agrometeorology. As part of its mission, AIAM is proud to launch the First Edition of the International Advanced School in Agricultural Meteorology, aiming to build up knowledge about the use of integrated tools and advanced technologies for a sustainable management of agroecosystems. The 2021 edition, co-organized with WMO-RTC and with the technical cooperation of FAO, is focused on the role of Agricultural Meteorology for a Climate Smart Agriculture (CSA), and wants to provide young researchers and professionals with high-level innovative knowledge and skills on the most advanced technologies for the agrometeorological analysis and monitoring applied to a sustainable agricultural development under climate change.

### Objectives

In order to facilitate participants to increase their knowledge on how Agricultural Meteorology can contribute to a Climate Smart Agriculture, the school will include theoretical activity and practical sessions to allow the direct application of theoretical concepts. The active participation of the trainees is necessary to facilitate the realization of an interdisciplinary partnership among technicians and scientists. A large spectrum of topics will be covered by the course:

- Climate Smart Agriculture concept and the 5 step-process to CSA implementation
- Eddy Covariance and flux measurement techniques in the agricultural ecosystem: briefing on theory, experimental design and implementation
- Climate information Services, Early Warning Systems and Early Action
- European Space Agency (ESA) facilities and tools: Copernicus, databases, instruments/tools
- Extreme events, risk reduction
- Index based insurance
- Climate Change, Agriculture, and Food Security.





## AGENDA

*Date: Monday, 8 March 2021*

*Time: 14.00 - 15.30 (CET)*

*Link to access the webinar: <https://us02web.zoom.us/j/88971813443>*

### Opening remarks

14.00-14.10

- Ms Francesca Ventura, President of AIAM - Italian Association of AgroMeteorology

### Scientific committee and coordinators of INTERNATIONAL ADVANCED SCHOOL IN AGRICULTURAL METEOROLOGY of AIAM

14.10-14.40

- Mr Filiberto Altobelli, CREA Research Centre for Agricultural Policies and Bioeconomy, Agricultural Expert at the Permanent Representation to the International Organizations in Rome
- Ms Marina Baldi, WMO-RTC, Italy
- Office of the Italian Permanent Representative with WMO

### Keynote speakers

14.40-15.10

- Ms Federica Matteoli, FAO, Food and Agriculture Organization of the United Nations

### Closing remarks

15.10-15.20

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## Annexe 2, Responses to question [5]: Do you think the acquired knowledge will help you during the everyday job activities?

Really interesting topics. As a matter of fact, we want to introduce most of the practices discussed and I will certainly reach out to the presenters on a later stage.
I was interested in the Copernicus services and Eddy Covariance, flux measurement that are directly linked to my research and I may explore it more from now on.
I'm particularly interested in AquaCrop and the drought early warning protocol and see myself using them frequently
For me personally, I benefitted mostly on the utilization and delivery of advisories to farmers, here in Guyana, that was one area we somewhat struggled and hoped to one day improve, I believe the courses content has shown me, how I can improve on our delivery to help farmers in their activities
I am using Aquacrop model for crop yield forecasting in West Africa. I have learned a lot about AquaCrop and also many aspects of climate smart agriculture which I will be using everyday
my field of expertise in hydrology interests me to learn several software and new tools and thanks to this course I have the opportunity to work on Qgis and learn other tools
I found session 3 (Benjamin Koetz) of particular relevance. We are currently seeking ways to upscale GHG emissions from field to farm to catchment scale. Benjamin's research using 'crop masks' appears to bridge that gap of knowing what crop/management the farmer has in place. Fantastic resource!
the issues addressed, especially on the monitoring and observation aspects, were also very useful in an experimental key in the "reuse" of information in several sectors. Personally, I am very interested in the aspects of civil protection
I will certainly use information about vegetation indices, remote sensing of drought, etc. The lessons about communication with farmers were very interesting, too. My work is not oriented to communication with them today, but maybe I will use this information one day.
it is important for our organization, because climate CSA important is best for my country so, this course is great with me.
because I have known realities that I did not know
The lecturers and the topics they covered were by themselves of great interest to me, as - in my view - they were in great degree addressing the change of mindset, change of thinking and approaching our work and stakeholders, and this widened view will help me think wider try out new approaches etc
Aquacrop and data sources (copernicus) in particular can be very useful "everyday". Also knowing better CSA principles in the med-long term will help
Much of the topics that we learned I can implement it in the projects that I am developing and the topics and tools allow me to propose new ideas, new projects.
New product ideas and increase dissemination channels for current CIS for farmers
My basic education was meteorology but I've taken master in agriculture study. Before join this school, my knowledge about agrometeorology was really unsatisfying but after join this I feel so blessed. This school was open my mind about many thing in agrometeorology such as downscaling, etc. thx!
As we are in Bangladesh issuing Agromet Bulletins for all districts twice in a week ( <a href="http://www.bamis.gov.bd/district-bulletin">www.bamis.gov.bd/district bulletin</a> ), the knowledge we gathered in the course will help us to translate hydro met Information more effectively.
I have acquired greater awareness and knowledge on issues relating to agrometeorology and climate change
I think some of the applications seen will serve as useful hints for future projects
I gathered many information I didn't know before and many useful resources I will certainly explore in the future. This is what I really need to start in working in this field. I really appreciated the holistic point of view
If can help me better to implement platform on sustain of climate smart agriculture
All lectures were very well structured with well covered topics. They gave me a very good insight into current topics. Thank you very much!

Applying geographical techniques that we've learnt during the course for the assessment of agronomical choices both for academic and job purpose

I am an agronomist and I had a plan to move toward more specific CSA aspects, the course fully helped me

Learning about all the institutions and the tools helps me connect the dots in the field of agrometeorology and identify potential partners to work with in the future.

it is a new knowledge and it is gold

Some much positives that have added value. Lessons learnt have motivated me to give more attention to my current project and improve the service delivery to the chain of agricultural end users. Positives will be incorporated to improve farmer advisory products and also the information dissemination.

Crop monitoring systems and sentinel2 data processing are very useful resources to learn.

I would prefer more or less, no sharp answer, because in person will better help reach expectations. But situation oblige

### Annexe 3. Responses to question [29]: If you have any suggestion to improve the program for future training activities, please, write it here.

Courses as these should always be face to face classes. If it is not possible due to unexpected circumstances such as pandemic, it should be postponed. It is really fruitful to learn from fellow students through personal conversations after or during classes. It would have been nice to visit some of the institutes and see all developments with my own eyes. Technology of online teaching is excellent but will never replace personal interactions.
The only limitation of this course that was held online, otherwise it will be more profitable, especially in the follow up of the relevant practical exercises and for the direct interaction and also the time devoted to the course.
If it were person to person training the practical with coding would have been more useful and easier
Increase of practical sessions, Increase of practical techniques, Reduction of theoretical sessions
When somebody write a question in the Q and A, we saw them just after the question was answered live. Sometimes, the teacher was answering but we did not know what was the question. I would better understand the teacher if I could see a question first.
This course is very important for the improvement of climate-smart Agriculture, so please continue similar practical courses.
One of the previous questions made me choose between too theoretical / suitable / and too practical. I chose suitable even though I missed more practice required from participants, but selecting too theoretical wouldn't be fair, I really liked all the theory given and the amount of it as well! So please do not cut short the amount or diversity of topics presented, they were excellent! Perhaps a little extra homework can be added, since personal engagement in the topic after listening to it brings it even closer to you and its use in real life.
I would introduce a lesson (or part of it) about vegetational indexes and satellites alternative elaboration. I heard about NDVI, but I see on the web hundreds of indices. It would be nice to have an overview.
I would have liked to know more about the crops-pest models developments and examples for early warning system
more time and better instructions for the anaconda training
I hope the next time program would be in offline format
More case studies of Climate Services
Very Important: A clear timetable with the extension of the courses. A coffee-break between presentation would have been useful. I would prefer to know how long each session would take before the school starts (e.g. one session was placed in the morning without notice, only in Moodle) I would like to have had some time within the course to prepare the podcast, although such an activity is very difficult to take when the partners are all around the world and available at different times.
I would suggest a greater frequency of multimedia content (for example videos) or exercises, to facilitate the interaction and involvement of students. A field experience organized by the school would also be a great idea.
I hope to do it physical but was great to have it online
Minor Suggestion: I would suggest to rearrange the whole structure to keep all basics/introductory/concept's based sessions in the beginning and the practical ones later
Practical sessions need to be modified for better appreciation