



# EUMETSAT/ECMWF NWP-SAF satellite data assimilation training

Introduction to training

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# European Centre for Medium-Range Weather Forecasts (ECMWF)

Three sites: one unique role

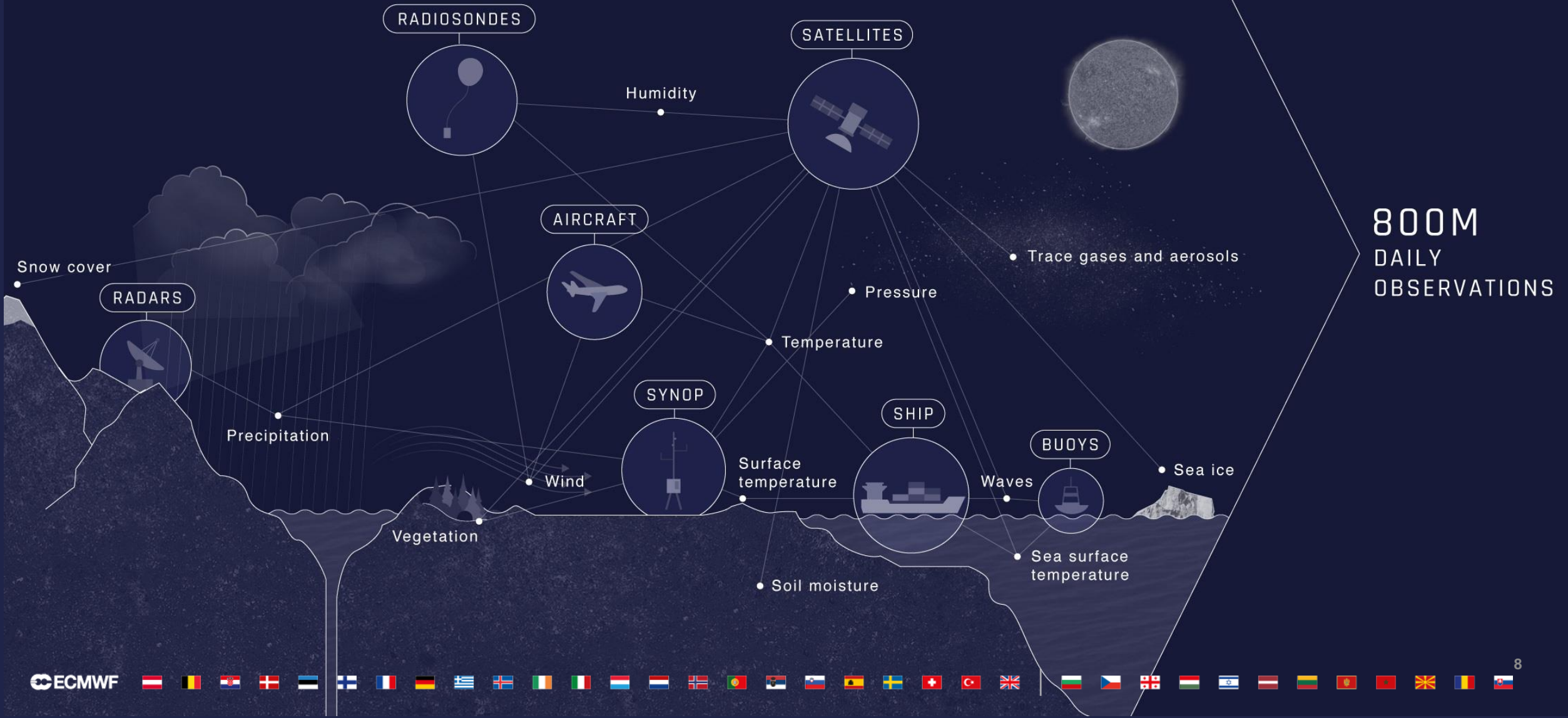
ECMWF's role is to address the critical and most difficult research problems in medium-range NWP that no one country could tackle on its own





# CAPTURING THE WEATHER

To predict the future, we observe the present. Every day, we absorb 800 million observations to create a detailed snapshot of Earth's weather.



	Monday 15 May	Tuesday 16 May	Wednesday 17 May	Thursday 18 May	Friday 19 May
09:30-10:45	Welcome and introductions <b>Chris Stewart, participants and lecturers</b>	The infrared spectrum – measurement, modelling and information content <b>Tony McNally</b> 10:45: GROUP PHOTO	GPS Radio Occultation: Principles and NWP use <b>Katrin Lonitz</b>	Future evolution of satellite observing systems <b>Stephen English</b>	Satellite wind information on the ocean surface (Scatterometer, Altimeter & SMOS) <b>Giovanna De Chiara</b>
10:45-11:15			<i>Coffee break</i>		
11:15-12:30	Theoretical background (1) What do satellites measure? <b>Tony McNally</b>	The detection and assimilation of cloud-affected infrared satellite radiances <b>Chris Burrows</b>	GPS Radio Occultation: Extended applications <b>Sean Healy</b>	Microwave applications – clear sky temperatures, cloud and rain detection and assimilation <b>Alan Geer</b>	Wind information from satellites (Atmospheric Motion Vectors) <b>Francis Warrick</b>
12:30-13:30			<i>Lunch Break</i>		
13:30-14:45	Theoretical background (2) Data assimilation algorithms, key elements and inputs <b>Tony McNally</b>	Satellite information on the land surface <b>Patricia de Rosnay</b>	Bias Correction Methods for Satellite data and observation monitoring <b>Niels Bormann</b>	Satellite data assimilation of atmospheric composition <b>Mel Ades</b>	Wind information from Aeolus <b>Michael Rennie</b>
14:45-15:00			<i>Coffee break</i>		
15:00-16:15	The microwave spectrum – measurement, modelling and information content <b>Alan Geer</b>	Practical implementation of Radiative Transfer for operational NWP <b>Marco Matricardi &amp; Tony McNally</b>	Observation errors for satellite data assimilation <b>Niels Bormann</b>	Background errors for satellite data assimilation <b>Tony McNally</b>	Question and answer session, course evaluation  <i>Close</i>
16:15-16:30			<i>Comfort break</i>		
16:30-17:30	<i>Icebreaker</i>	<i>Practical extension</i>		<i>Practical extension</i>	

# Certificate of attendance & course material

- Presentations will be available via course website:
  - <https://events.ecmwf.int/event/334/timetable/>
- Certificate of attendance awarded at end of course

The screenshot shows a web browser displaying the ECMWF website. The page title is "Training course: EUMETSAT/ECMWF NWP-SAF satellite data assimilation". The navigation menu includes Home, About, Forecasts, Computing, Research, Learning, and Publications. The "Learning" section is active, showing a list of training courses. The selected course is "Training course: EUMETSAT/ECMWF NWP-SAF satellite data assimilation". The timetable for Monday, 15 May is displayed, with a dropdown menu for selecting a timezone (currently set to Europe/London).

Time	Activity	Duration
09:30 → 10:45	<b>Welcome and introductions</b> Speakers: Christopher Stewart (ECMWF), Lecturers and Participants	1h 15m
10:45 → 11:15	<b>Coffee break</b>	30m
11:15 → 12:30	<b>Theoretical background (1) : What do satellites measure?</b> Speaker: Tony McNally (ECMWF)	1h 15m
12:30 → 13:30	<b>Lunch break</b>	1h
13:30 → 14:45	<b>Theoretical background (2) : Data assimilation algorithms, key elements</b>	1h 15m

The certificate is titled "TRAINING COURSE" and is issued by ECMWF (European Centre for Medium-Range Weather Forecasts) and NWP SAF (Numerical Weather Prediction). It certifies that «First\_Name» «Last\_Name» participated in the "EUMETSAT/ECMWF NWP-SAF Satellite data assimilation" training course, held at ECMWF on 15 - 19 May 2023. The course consisted of 25 hours of lectures and 2 hours of practical extension. The certificate is signed by Andrew Brown, Director of Research, on 19 May 2023. The ECMWF logo is visible in the bottom right corner.

# General Housekeeping

## Access to Centre

- Please sign in/out each day at reception

## Personal belongings

- Do not leave any personal belongings at ECMWF outside office hours.
- We recommend that you do not leave valuables unattended in the classroom or any other part of the building.
- ECMWF will not take any responsibility for items lost at the premises.

## Smoking

- Smoking is not allowed inside the building. Please ask at Reception Desk and you will be directed to the outside smoking area.

## Enquiries

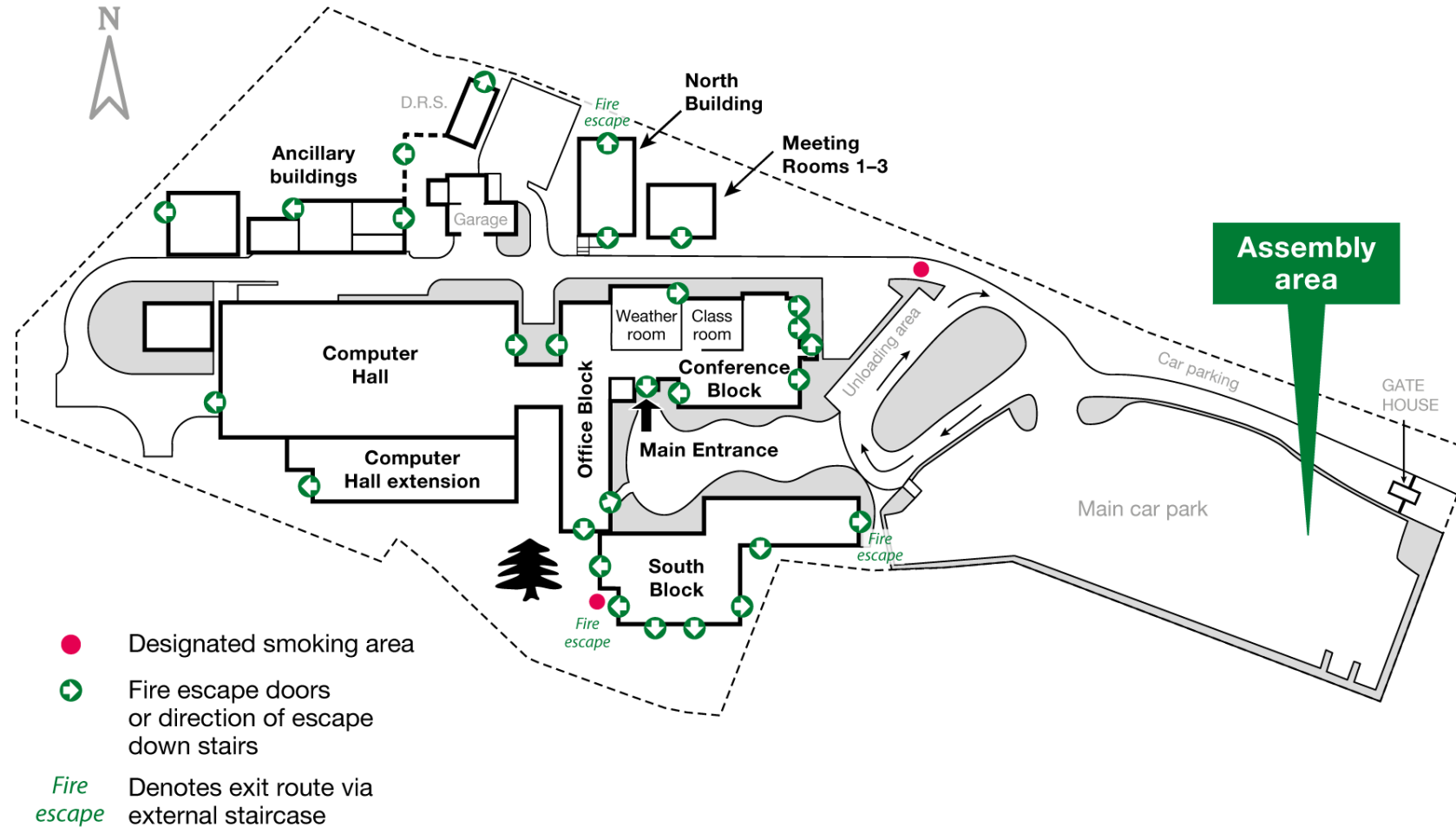
- If you have any questions, please contact the Reception Desk who will liaise with the course organisers.

## Make the most of the training!

- Please don't check emails on the computers, or on other devices 😊
- There are no stupid questions!

# General Housekeeping

## Fire Escapes and Assembly Area



# Visitor WiFi

Follow these steps to use the visitor WiFi.

1. From the list of available SSIDs, select "ECMWF-Visitors-Self-Register"
2. Enter your details in the appropriate boxes on the registration screen and press the Register button.
3. You will be redirected a page that informs you of a successful registration and provides your personal Access key.
4. Select "ECMWF-Visitors" from the list of available SSIDs and enter the Access key to connect.



# Restaurant

- The restaurant provides the following daily services:
  - Light breakfast from 08:00
  - Lunch: hot counter choices, salads, sandwiches, soup and desserts.
- Please speak to the restaurant staff if you have any special dietary requirements.
- The restaurant can only accept chip and pin and contactless card payments.
- Coffee/tea will be supplied during the breaks as specified on the programme.



**Good luck with the training!**