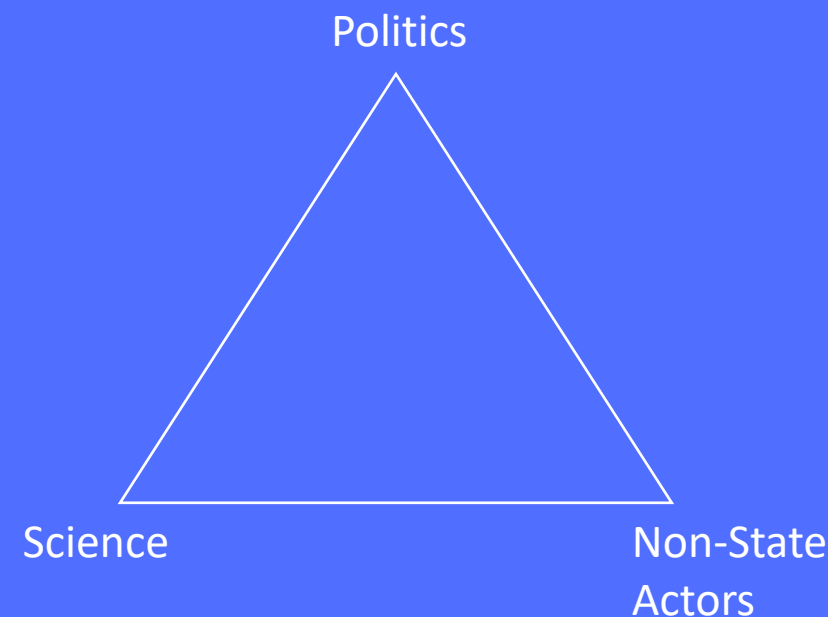


# Systematic observation of greenhouse gases (GHG) to support climate action in cities and regions

Wednesday 9 Nov. 2022, 11:30–13:00, Akhenaten



Funded by  
the European Union



COP27 Side events programme

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## Speakers

Richard Engelen Deputy Director, Copernicus Atmosphere Monitoring Service, ECMWF

Antoine Gillod Director of the Observatory on Non-State Climate Action, Climate Chance

Leena Järvi Professor in Urban Meteorology, University of Helsinki

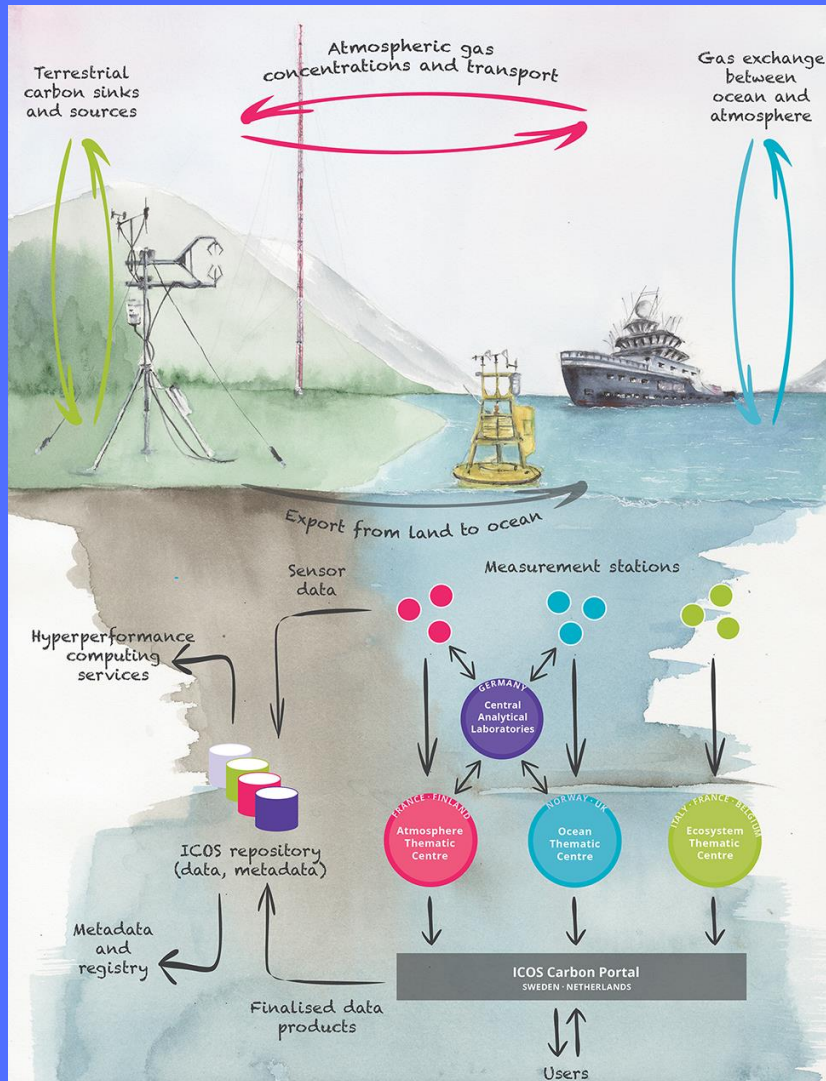
Rose Lekalesoi Assistant Director climate services section at Kenya Meteorological Department

Adama Bamba, Félix Houphouët-Boigny University



Republic of Côte d'Ivoire





<https://doi.org/10.1175/BAMS-D-19-0364.1>

# Why this side event?

Systematic observation of GHG is key for climate action:

- Prove of mitigation
- Support and verification for inventories
- Support for regional and local activities

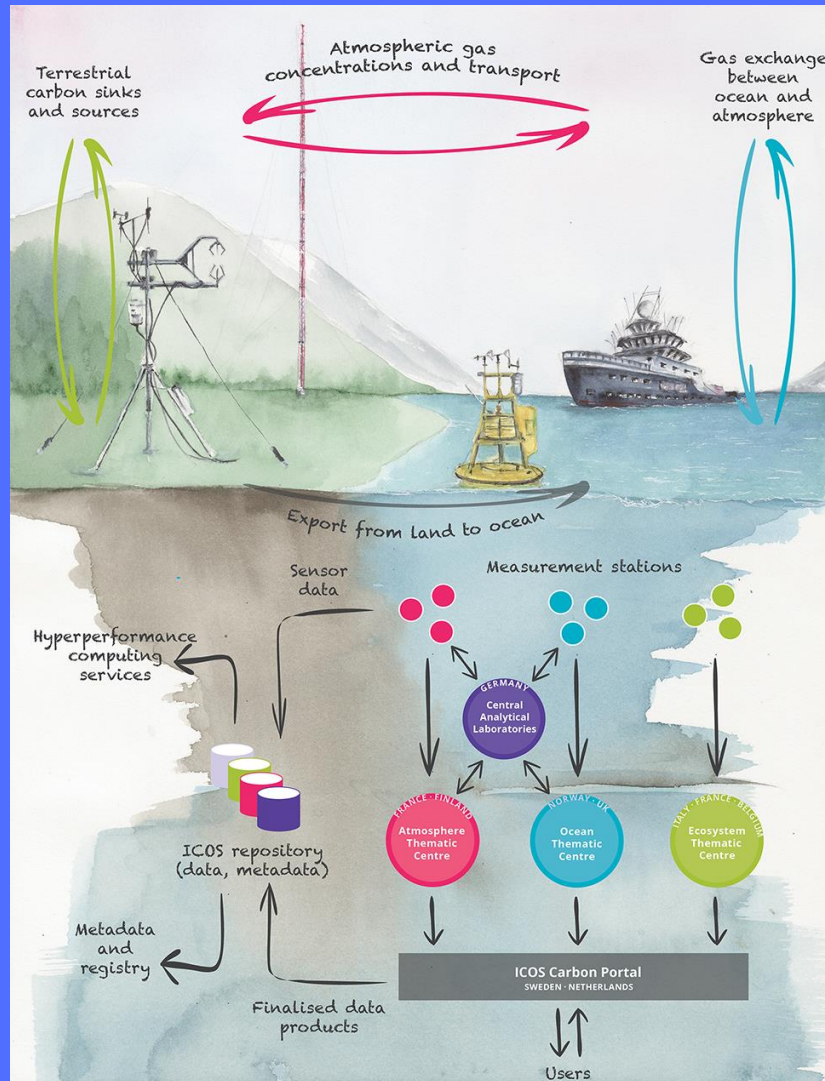
Systematic observation needs to be continuous and sustainable.

Data from systematic observation needs to be open and free.

Systematic observation needs to be equally distributed around the globe.

Systematic observation requires cooperation and exchange of experience.

Systematic observation needs to be diverse and contextual.



<https://doi.org/10.1175/BAMS-D-19-0364.1>

# More detailed

The Integrated Carbon Observation System (ICOS) has experiences in building up a cooperation of 16 countries in systematic observation.

ICOS has 175 stations to measure GHG concentrations in the atmosphere as well as land and ocean fluxes.

ICOS has a well organised data life cycle with quality control, centralized data processing and archiving and open and free access for users.

ICOS has also a long history of exchanging experience with African countries (e.g. through the EU-funded projects SEACRIFOG and KADI)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 730995.

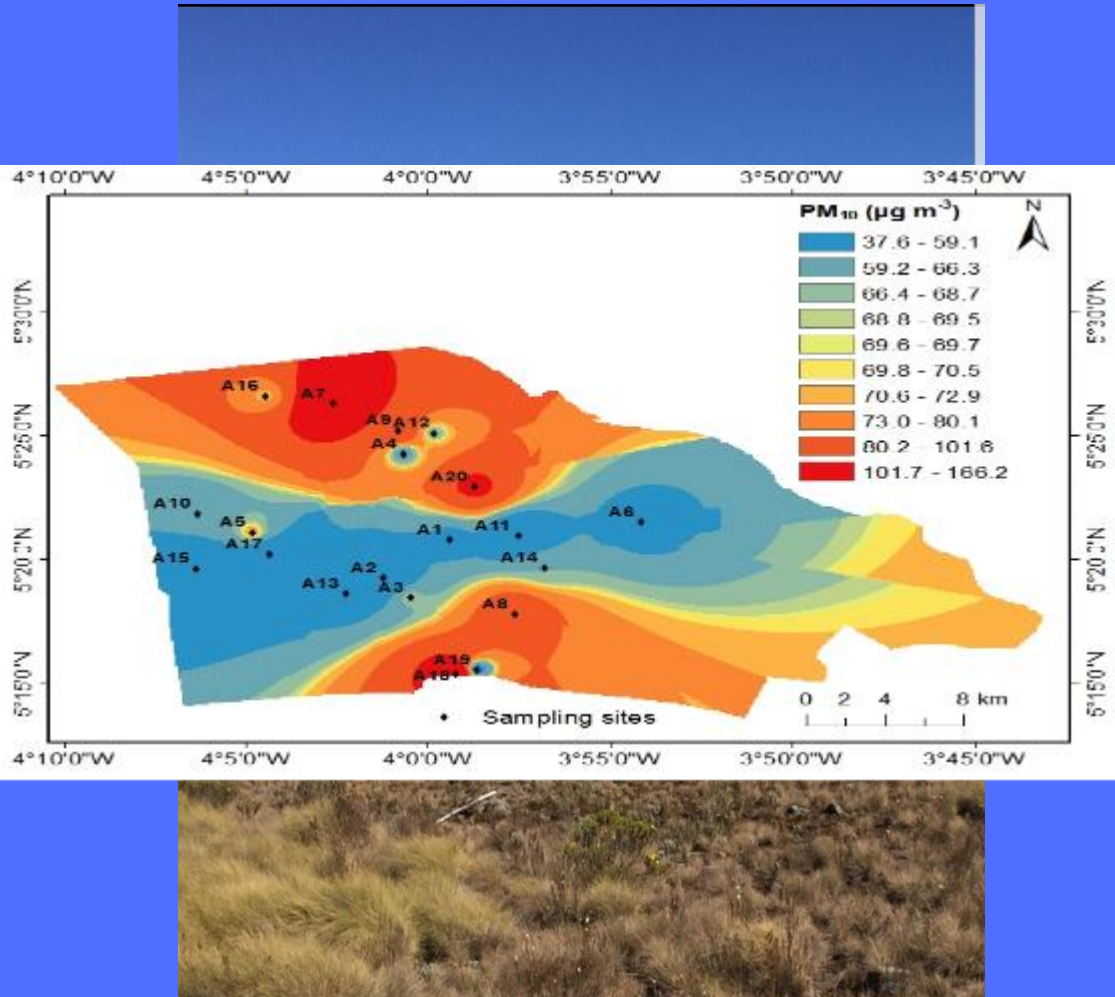


# More detailed

Kenya has long-term experience in systematic observation running the Global Atmosphere Watch (GAW) station at Mount Kenya.

Systematic observation can combine multiple challenges. In Côte d'Ivoire observations of emissions in cities are combined with air quality measurements.

Also Kenya is developing systematic observations connecting greenhouse gas emissions with air quality observations.



# More detailed



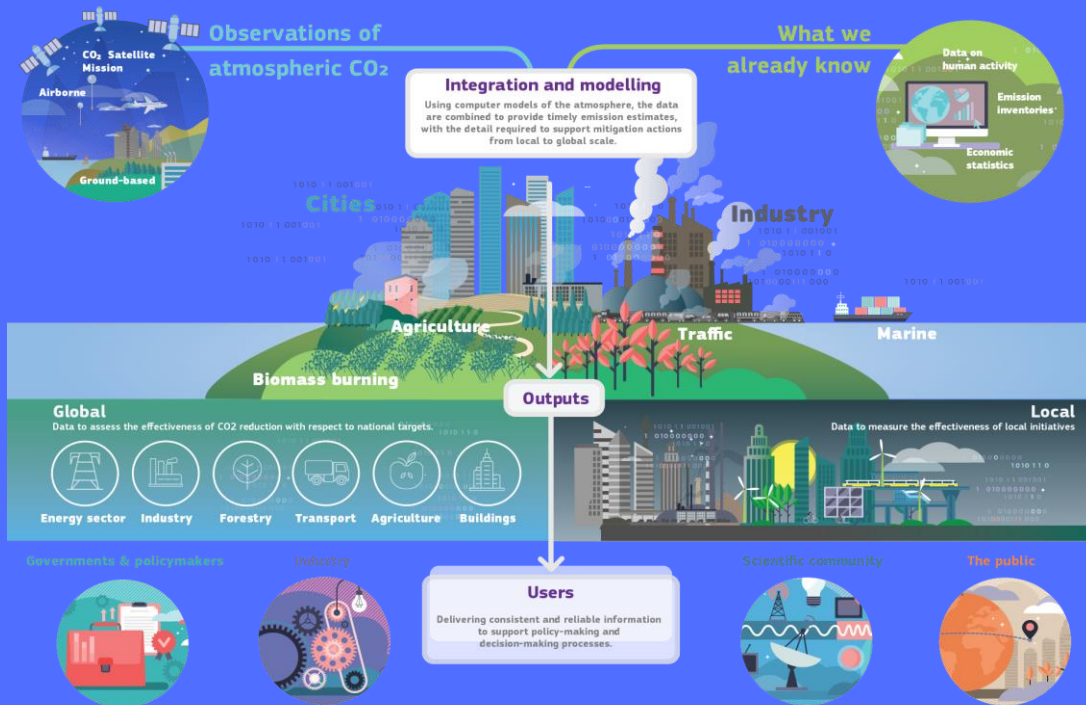
More recently, systematic observation has developed a stronger focus on hot spots where the big emissions happen like in cities.

New technologies are developed to receive detailed spatial information on GHG fluxes and concentrations.

Services for climate action in cities are developed.

# ICOS | Cities

# More detailed



COPERNICUS provides services based on systematic observations at the regional level.

The aim is to develop comprehensive systems including data integration and modelling.

The COPERNICUS services are supporting the work of the parties at COP







## More detailed

Systematic observation has many initiatives driven by non-state actors.

Systematic observation should also comprise a comprehensive overview of climate action by all non-state actors on a global scale.

We need to better explore the cooperation between research infrastructures and non-state actors.





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## Plenary discussion

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of Helsinki

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Moderator: Werner Kutsch, ICOS ERIC



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CoCO2 Horizon 2020 GA Nr 958927

KADI Horizon Europe GA Nr 101058525



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