Expert survey on chamber methane fluxes - measurement, calculations and quality control

Thank you for participating in our expert survey on the chamber method for measuring methane fluxes!

With this survey we aim to investigate the impact of different methodologies on final methane flux estimates. For this we collect information on how research groups all over the world measure, calculate, and evaluate methane fluxes obtained with the chamber method.

In total it will take you about 30 to 45 minutes to complete this survey. You can save your progress at any point and resume the survey later. You can also always navigate back to earlier questions.

The survey is structured as follows:

- **First**, we will collect some **Demographic information.**
- **Second,** we will ask you some questions on how you do **Your flux measurements**.
- **Third,** we would like to know how you do **Your flux calculations**.
- **Fourth,** we will ask you to perform a **Visual quality control** on 12 examples of our manual flux chamber measurements.

There are 80 questions in this survey.

Demographic information

Would you like to stay anonymous in the further data processing process and publication of the survey statistics? (In any case your personal data will not be connected to your answers to the survey questions but will only be used to acknowledge your contribution in case you choose not to stay anonymous. If you choose to stay anonymous your personal data that we ask for below will only be used for internal data processing.)

Please choose **all** that apply:

- [ ] Yes
- [ ] No

Please enter your first and last name.

Please write your answer here:

Country of your main institute:

Please write your answer here:

Affiliation:

Please write your answer here:

Current role:

Please choose **all** that apply:

- [ ] Researcher
- [ ] Consultant
- [ ] Engineer
- [ ] PhD student
- [ ] Master student
- [ ] Bachelor student
- [ ] Other:

Your scientific background:

Please choose **all** that apply:

- [ ] Geosciences
- [ ] Meteorology
- [ ] Biology
- [ ] Physics
- [ ] Mathematics
- [ ] Other:

Your main (current and/or past) research topics:

Please write your answer(s) here:

1.

2.

3.

Education level:

Please choose **all** that apply:

- [ ] Bachelors
- [ ] Masters
- [ ] PhD
- [ ] Other:

Are you a member of one or more of the following networks?

Select all that apply
Please choose **all** that apply:

- [ ] FluxNet
- [ ] ICOS
- [ ] AmeriFlux
- [ ] OzFlux/TERN
- [ ] European Fluxes Database Cluster
- [ ] Other:

Time since PhD completion:

Please choose **all** that apply:

- [ ] not completed
- [ ] ≤ 7 years
- [ ] > 7 years
- [ ] > 15 years

Your flux measurement sites

Please provide a brief description of the research goals of your flux measurements (1-2 sentences).

Please write your answer here:

Study region:

Please write your answer here:

What is the primary (and secondary) ecosystem type of your research?

Please write your answer(s) here:

1.

2.

Other:

Is there a measurement site where you make regular measurements? If yes, please name the site.

Please choose **all** that apply:

- [ ] No
- [ ] Other:

How frequently do you repeat your chamber measurements at the same site?

Please choose **all** that apply:

- [ ] Daily
- [ ] Weekly
- [ ] Monthly
- [ ] Seasonally
- [ ] Annually
- [ ] I only measure once per site
- [ ] Other:

Your flux measurement setup

Please refer to your primary or most recent chamber flux measurements when answering the following questions.

If available, please upload a photo of your measurement setup. Please upload only one file.

Please upload at most one file
Kindly attach the aforementioned documents along with the survey

Chamber dimensions:

Please write your answer(s) here:

Chamber shape (e.g. square, cylindric,...)

Surface area [m^2]:

Headspace volume [m^3]:

Which chamber type do you use?

Please choose **all** that apply:

- [ ] Automated chambers
- [ ] Manual chambers
- [ ] Other:

How do you seal your chamber?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Collar - if yes, how long before the measurement do you install it?
- [ ] Skirt (e.g. rubber seal)
- [ ] Water seal
- [ ] Other:

Do you use fans to mix the air inside your chamber?

Please choose **all** that apply:

- [ ] Yes
- [ ] No
- [ ] Other:

Do you cool the air inside your chamber? If yes, how?

Please choose **all** that apply:

- [ ] No
- [ ] Other:

Does your chamber have a vent for pressure equilibration?

Please choose **all** that apply:

- [ ] Yes
- [ ] No
- [ ] Other:

Which gases do you measure?

Select all that apply
Please choose **all** that apply:

- [ ] H_2O
- [ ] CO_2
- [ ] CH_4
- [ ] N_2O
- [ ] Other:

How long do you keep your chamber closed for one flux measurement?

Please write your answer(s) here:

Length of one chamber measurement in minutes:

Comment:

Are there procedures that you use to minimize the disturbance at your measurement plots (e.g. boardwalks in wetlands,...)?

Please write your answer here:

Which instrument do you use to measure the gas concentrations inside your chamber?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Manual sampling and analysis on gas chromatograph – Instrument model:
- [ ] Closed sample loop with in-line gas analyzer – Instrument model:
- [ ] Other:

At which frequency do you record the gas concentrations inside your chamber?

Please write your answer(s) here:

Concentration measurements per minute:

Comment:

How frequently do you calibrate your gas analyzer?

Please choose **all** that apply:

- [ ] Anually
- [ ] Once before every measurement campaign
- [ ] Weekly during measurement campaigns
- [ ] Daily during measurement campaigns
- [ ] Other:

Which data do you collect in addition to the concentration measurements for flux calculation and interpretation and at which frequency? If applicable, please enter the measurement frequency in measurements per minute. Please list any additional measurements and their respective frequencies under "Further measurements".

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Chamber temperature
- [ ] Chamber pressure
- [ ] Soil temperature - if yes, at which depths?
- [ ] Water table depth
- [ ] Soil moisture
- [ ] Photosynthetically active radiation
- [ ] Wind speed
- [ ] Further measurements:

What would make you redo a measurement in the field (e.g. some sort of disturbance during the measurement)?

Please write your answer here:

Additional information:

Please write your answer here:

Your flux calculations

Please provide a short description (one paragraph) of your flux calculation approach, including any quality control, filtering and uncertainty estimation of the flux estimates. Please also provide relevant references for your calculation methods.

Please write your answer here:

Which software, packages, libraries do you use for your flux calculations?

Please write your answer here:

Which part of your individual chamber measurements do you consider for flux calculation?

Please write your answer here:

What method do you use to fit the change in concentration over time (if varying between measurements please select several)?

Select all that apply

Please choose **all** that apply:

- [ ] Linear
- [ ] Quadratic
- [ ] Exponential
- [ ] Logarithmic
- [ ] Other:

Is your quality control (QC) procedure done manually or automated?

Please choose **all** that apply:

- [ ] Manually
- [ ] Automated

Which criteria do you use in your QC? Are there certain diagnostics that you look at?

Please write your answer here:

Do you discard measurements? If yes: On what basis?

Please choose **all** that apply:

- [ ] No
- [ ] Other:

How many fluxes (range in %) are usually excluded based on your QC?

Please write your answer here:

Do you assess an uncertainty of your flux estimates? If yes, how?

Please choose **all** that apply:

- [ ] No
- [ ] Other:

Additional information:

Please write your answer here:

Visual quality control

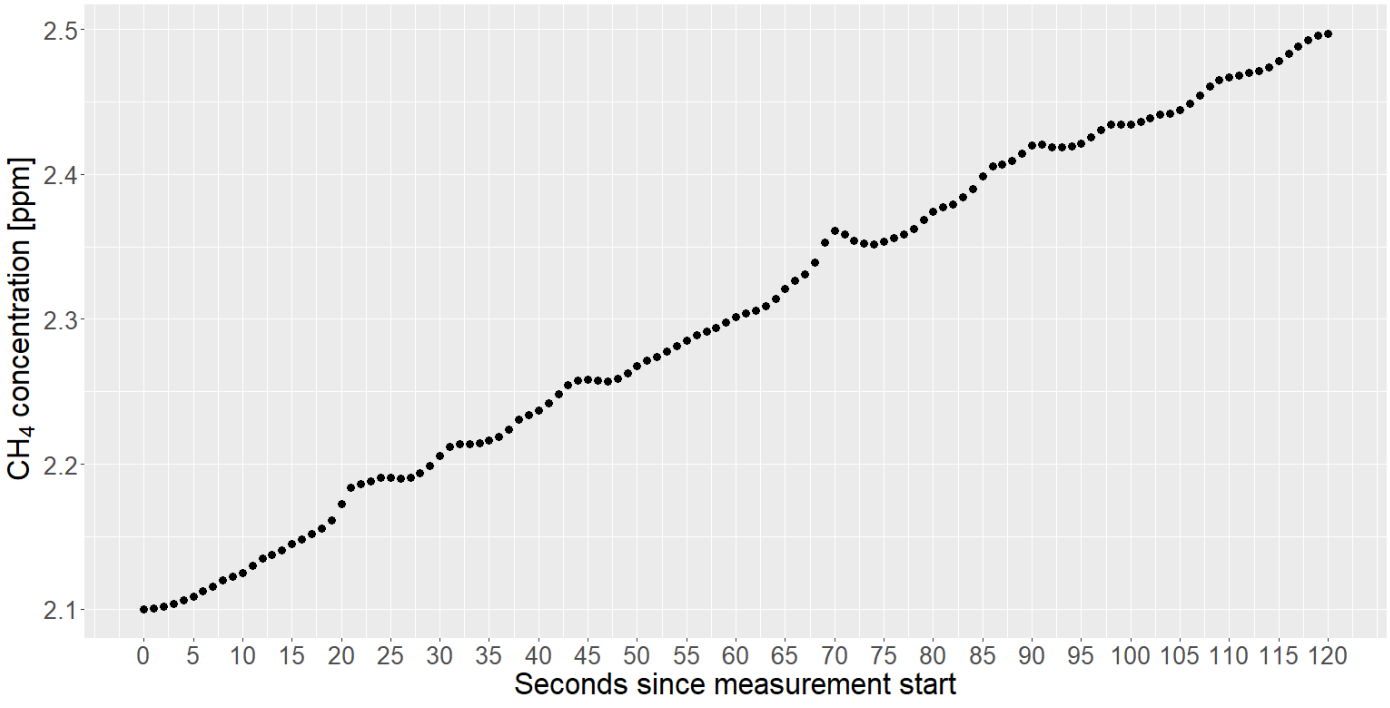
In the following you will find 12 examples of the change in CH_4 concentration over time (as well as the time series of CO_2 and H_2O concentrations for additional information) during one chamber closure of 5 min.

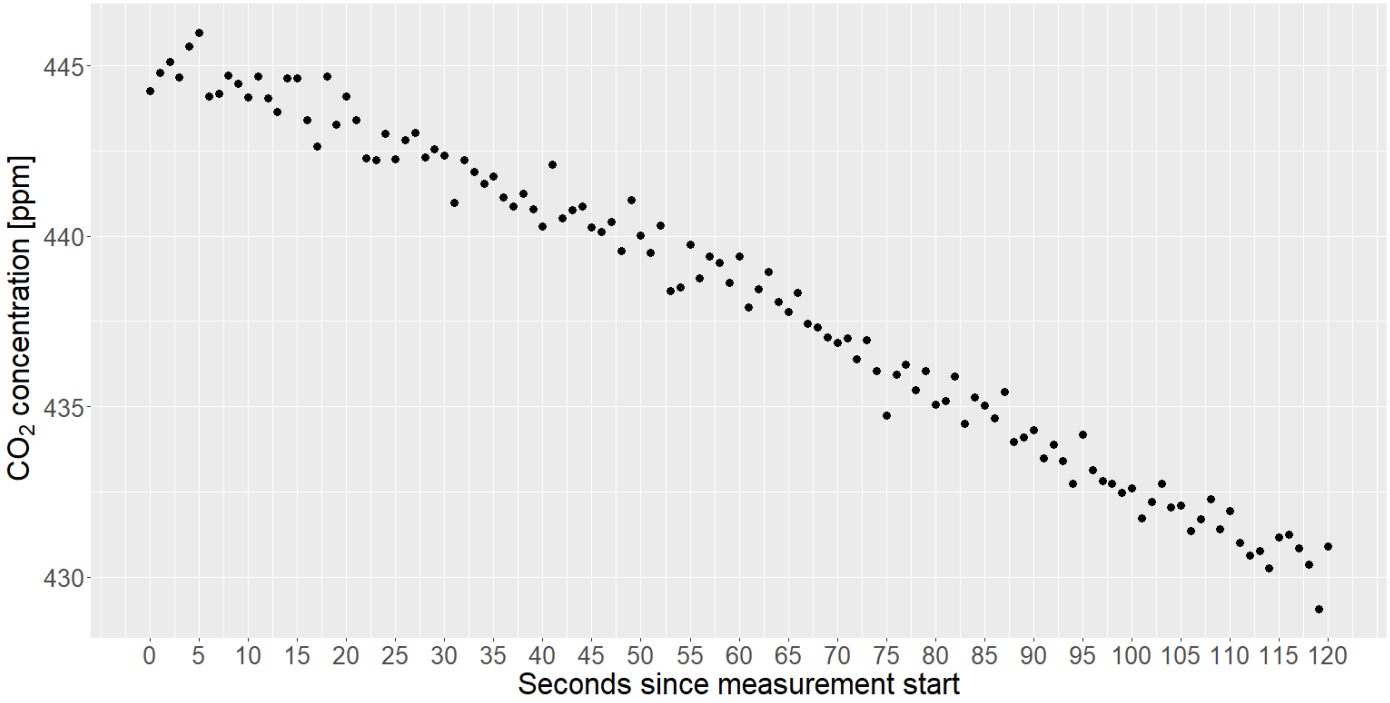
The measurements were performed in Siikaneva bog (61°50'N, 24°12'E), Southern Finland at different measurement plots in summer 2021 and summer and fall 2022 using a manual flux chamber with a volume of 36 l, equipped with a cooling system, two fans to mix the air inside the chamber, and a small opening for pressure equilibration. For the measurements, the chamber was placed on collars that were permanently installed in the ground. The gas concentrations inside the chamber were measured with an inline gas analyzer in a closed sample loop at a measurement frequency of 1 Hz.

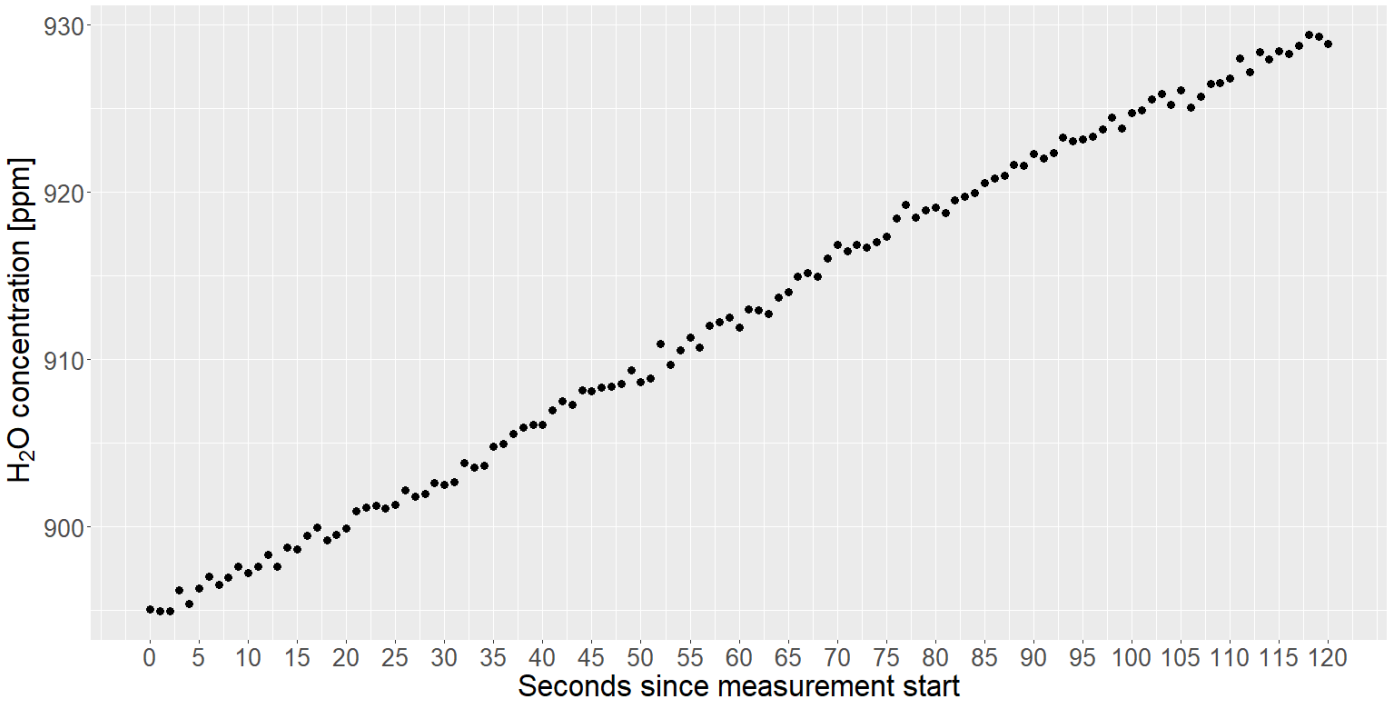
Flux chamber

We would like to know how you would handle the following examples for chamber CH_4 flux measurements in your data processing based on visual inspection of the change in gas concentrations over time.

Visual quality control 1







Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: *Sphagnum magellanicum*, *S. rubellum*, *Eriophorum Vaginatum* is common
- Water table depth: -18 cm
- Date and Time: 2021-07-28 08:46 local time
- Transparent chamber
- Seal between chamber and collar: rubber skirt
- Gas analyzer: LI-COR LI-7810

Measurement plot

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

☐ Yes, because...

☐ No, because...

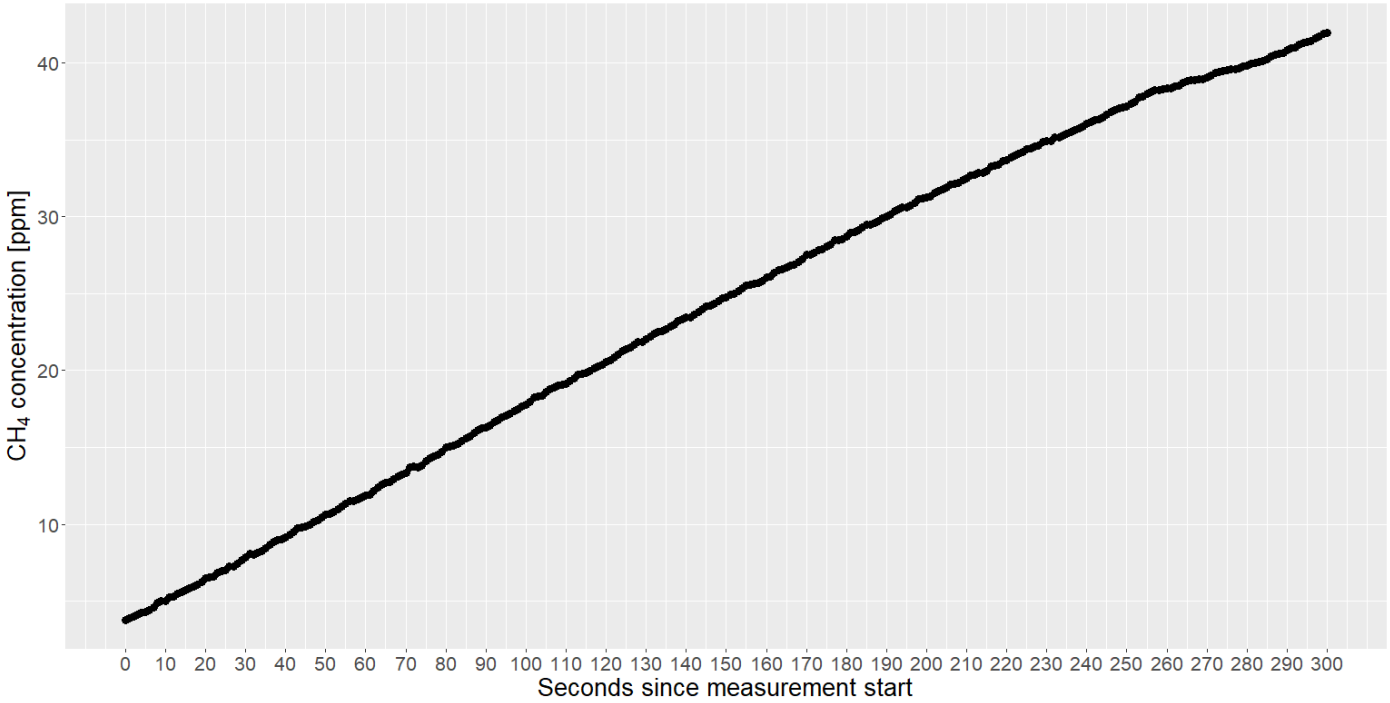
If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

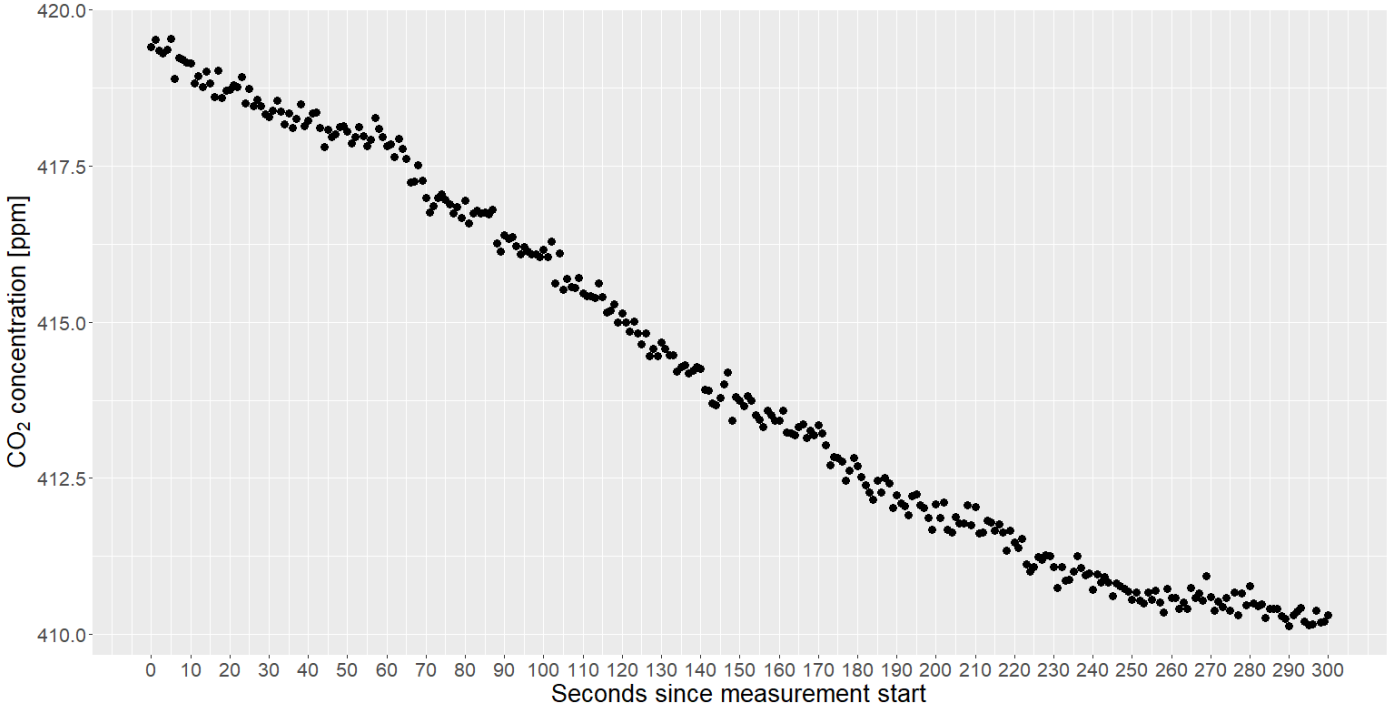
Only numbers may be entered in these fields.
Please write your answer(s) here:

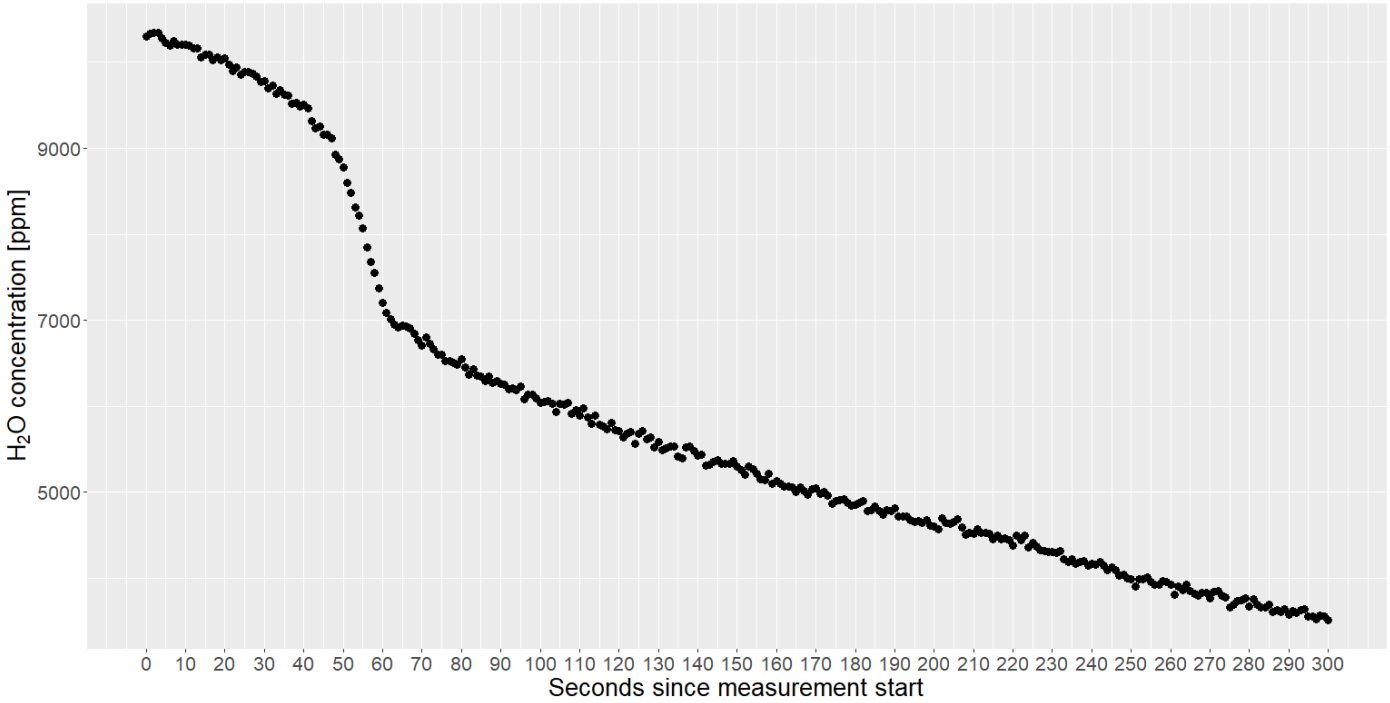
Start:

End:

Visual quality control 2


40
30
20
10
CH_4 concentration [ppm]
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
Seconds since measurement start


420.0
417.5
415.0
412.5
410.0
CO_2 concentration [ppm]
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
Seconds since measurement start



Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: *Sphagnum magellanicum*, *S. rubellum*; *Eriophorum Vaginatum* is common
- Water table depth: -11 cm
- Date and Time: 2022-10-01 14:42 local time
- Transparent chamber
- Seal between chamber and collar: water-filled rim
- Gas analyzer: LGR GLA131-GGA

Measurement plot

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Yes, because...
- [ ] No, because...

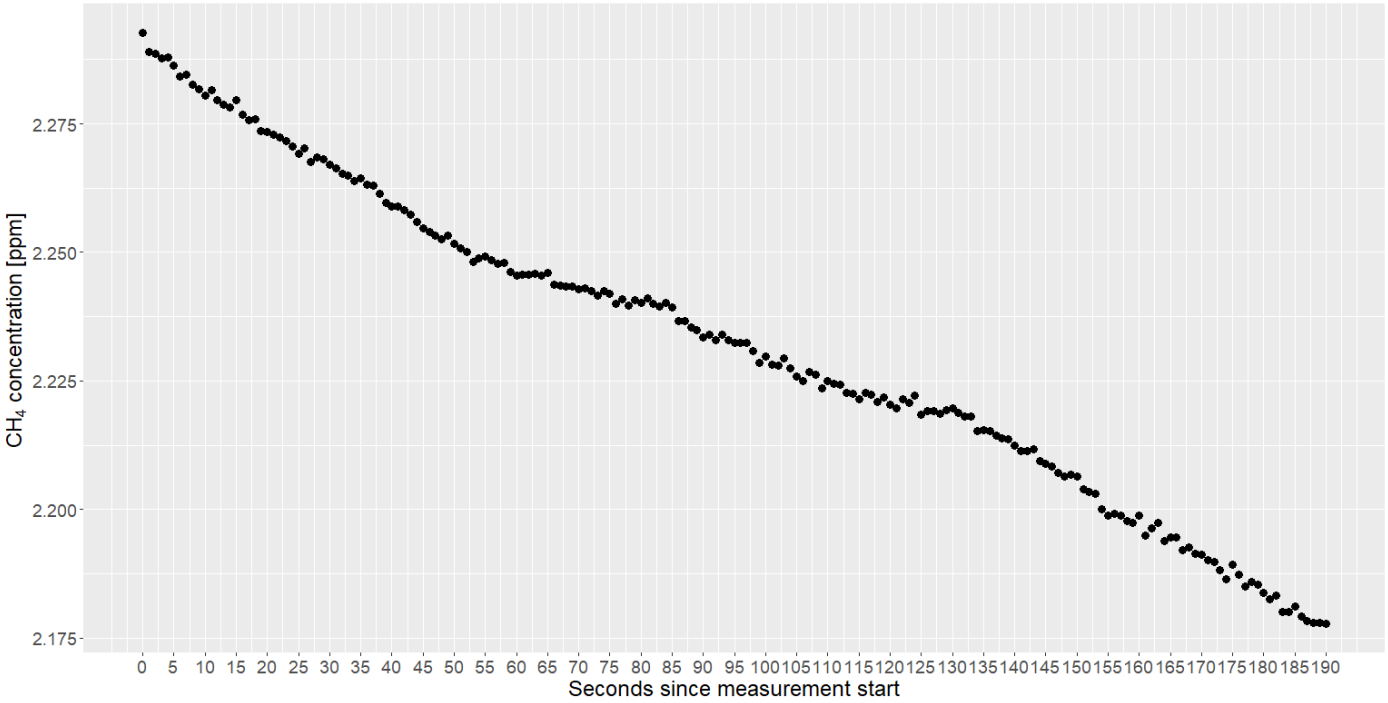
If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

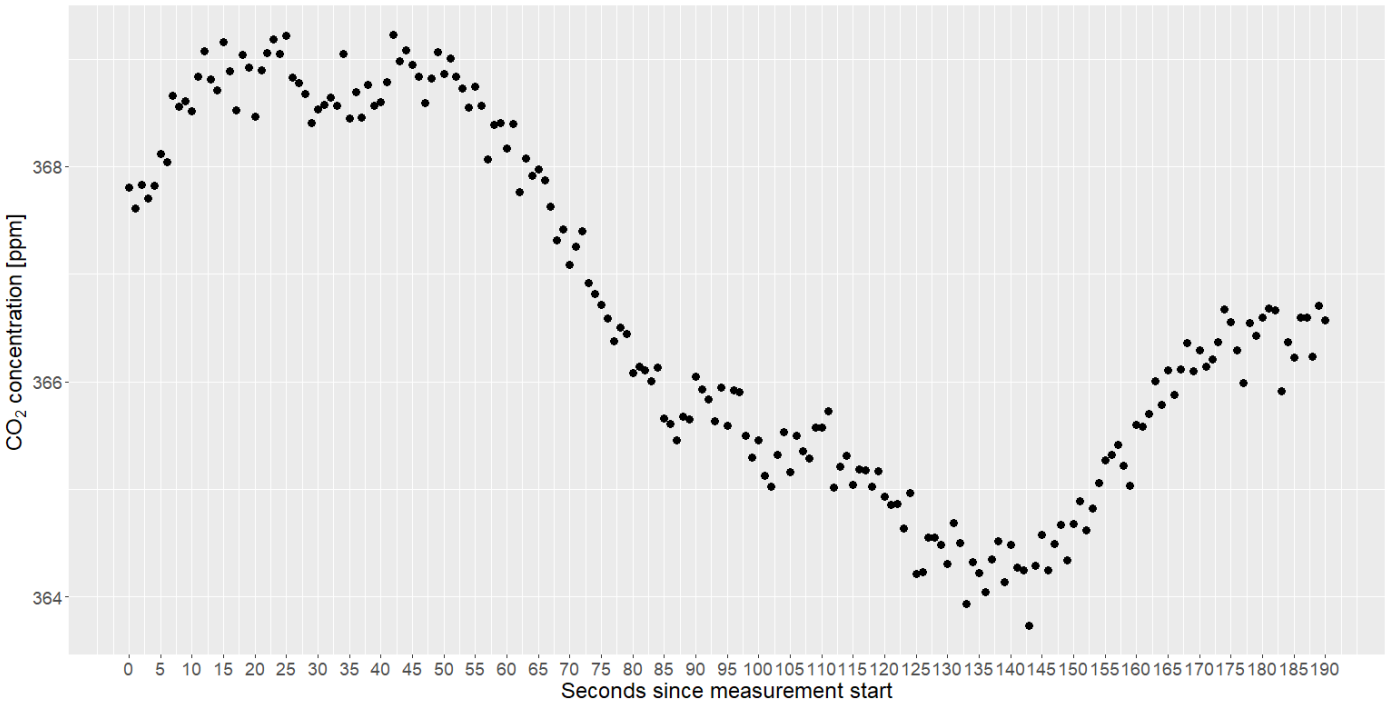
Only numbers may be entered in these fields.
Please write your answer(s) here:

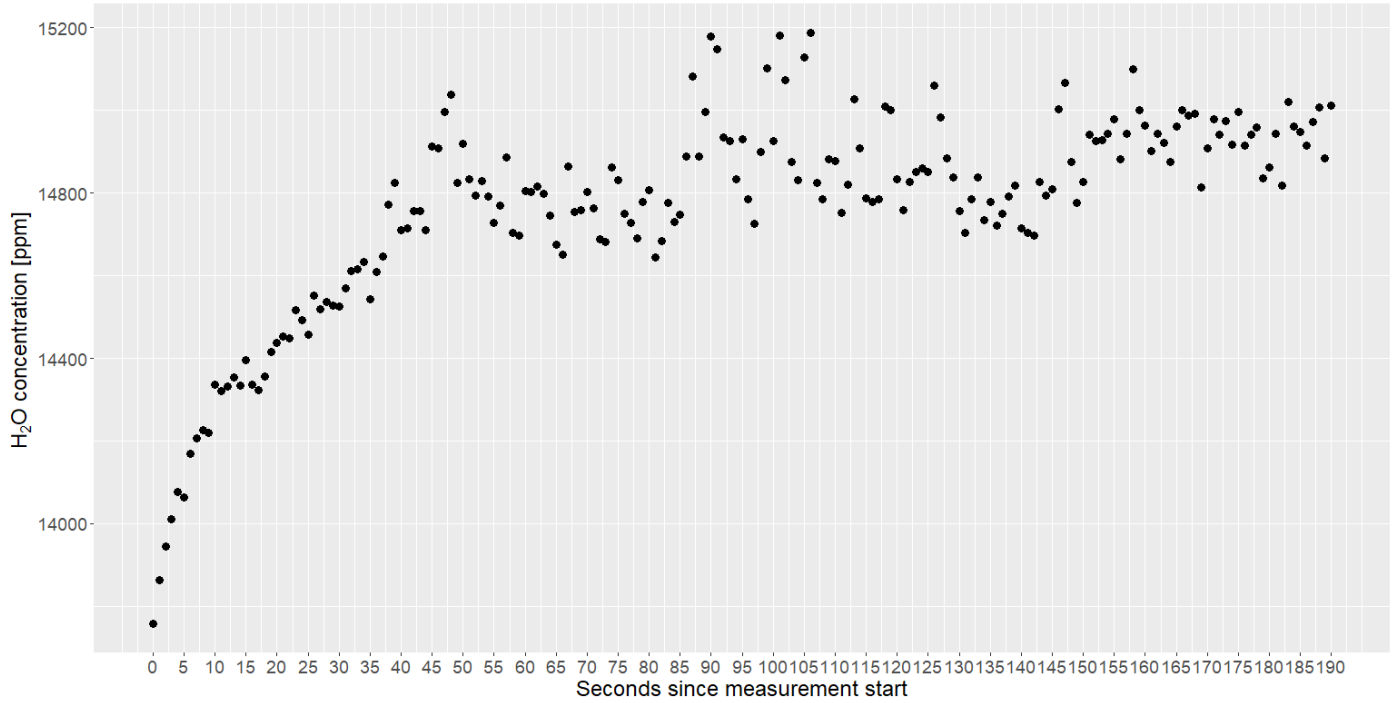
Start:

End:

Visual quality control 3


2.275
2.250
2.225
2.200
2.175
CH4 concentration [ppm]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185 190
Seconds since measurement start


368
366
364
CO2 concentration [ppm]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185 190
Seconds since measurement start



Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: *Sphagnum fuscum*, *S. rubellum*; dwarf shrubs such as *Andromeda polifolia*, *Calluna vulgaris* and *Empetrum nigrum*; *Eriophorum vaginatum* is also found
- Water table depth: -25.5 cm
- Date and Time: 2022-06-23 16:55 local time
- Transparent chamber
- Seal between chamber and collar: water-filled rim
- Gas analyzer: LGR GLA131-GGA

Measurement plot

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Yes, because...
- [ ] No, because...

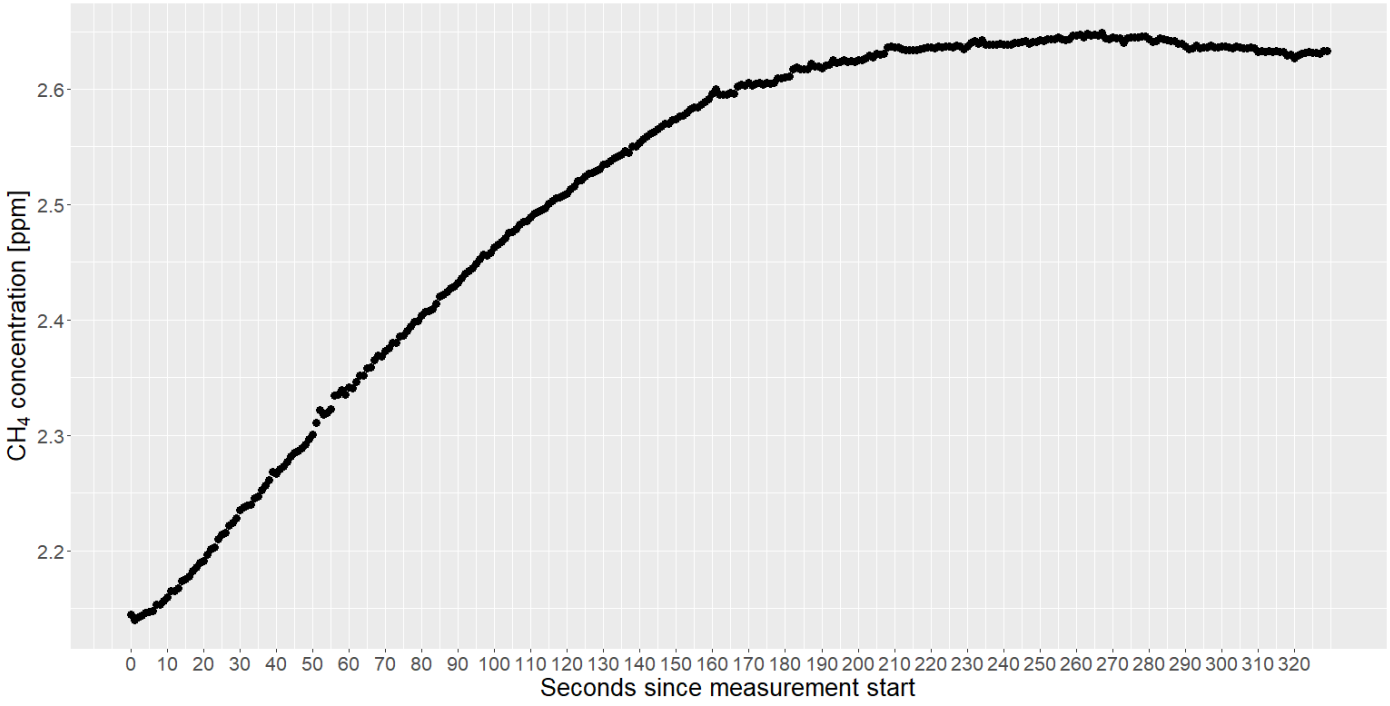
If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

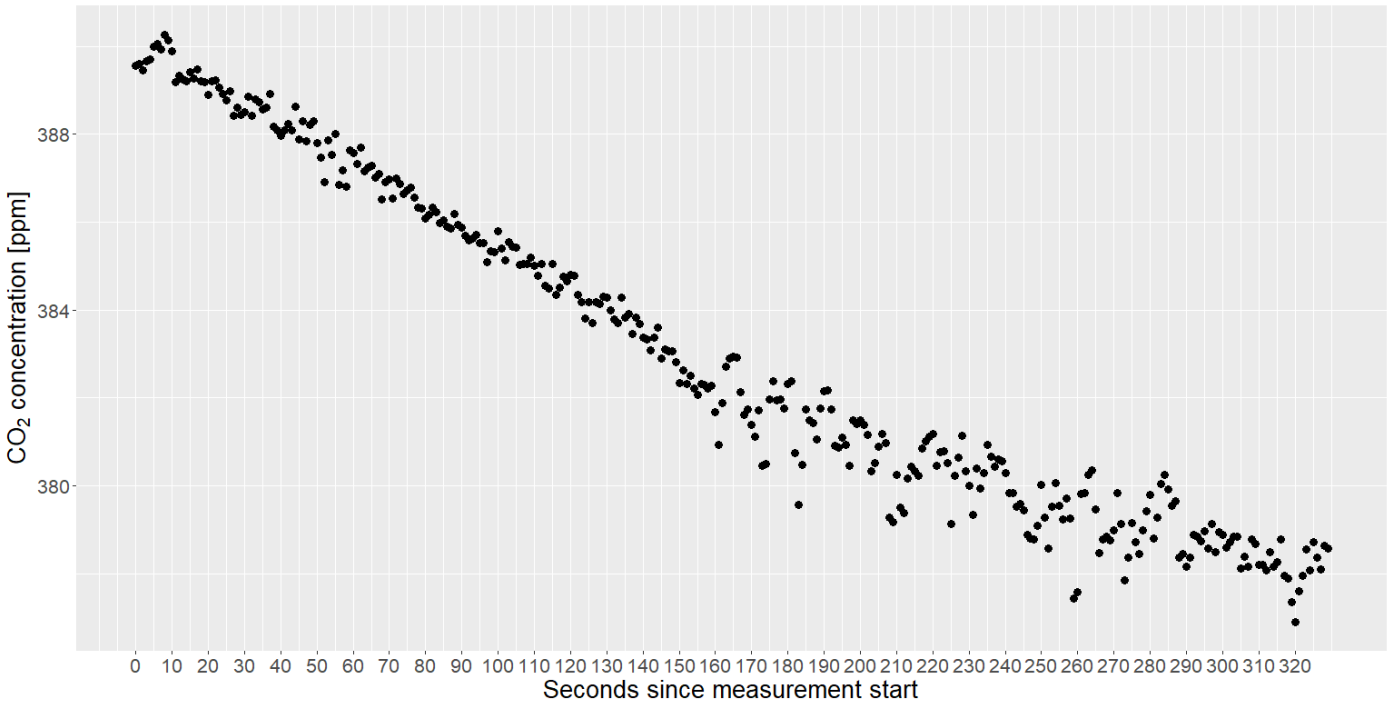
Please write your answer(s) here:

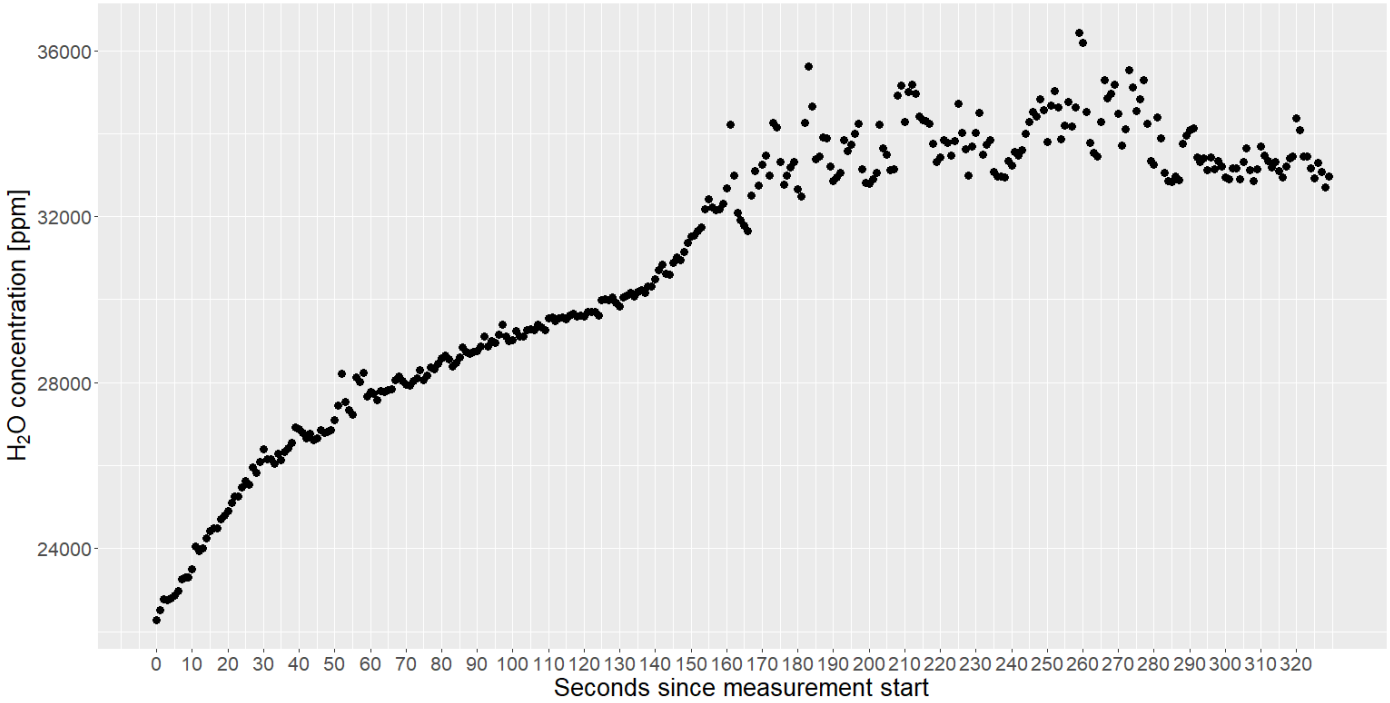
Start:

End:

Visual quality control 4

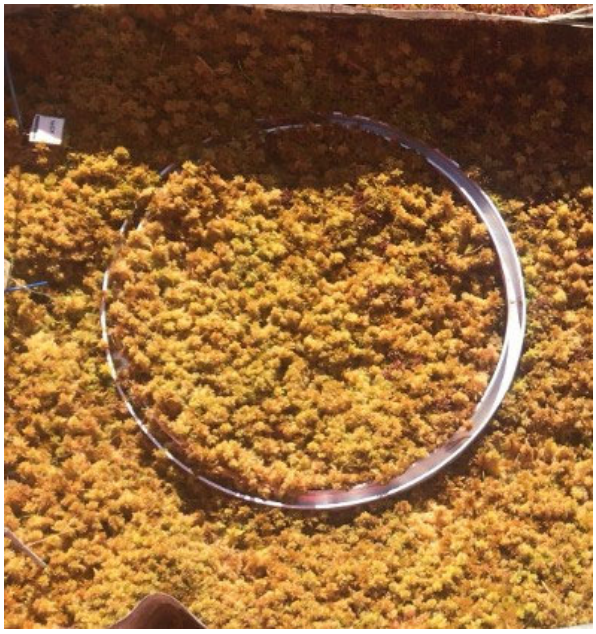

CH_4 concentration [ppm]
2.6
2.5
2.4
2.3
2.2
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320
Seconds since measurement start


CO_2 concentration [ppm]
388
384
380
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320
Seconds since measurement start



Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: *Sphagnum cuspidatum*, *S. majus*
- Water table depth: - 11 cm
- Date and Time: 2022-06-29 14:33 local time
- Transparent chamber
- Seal between chamber and collar: water-filled rim
- Gas analyzer: LGR GLA131-GGA



Measurement plot

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Yes, because...
- [ ] No, because...

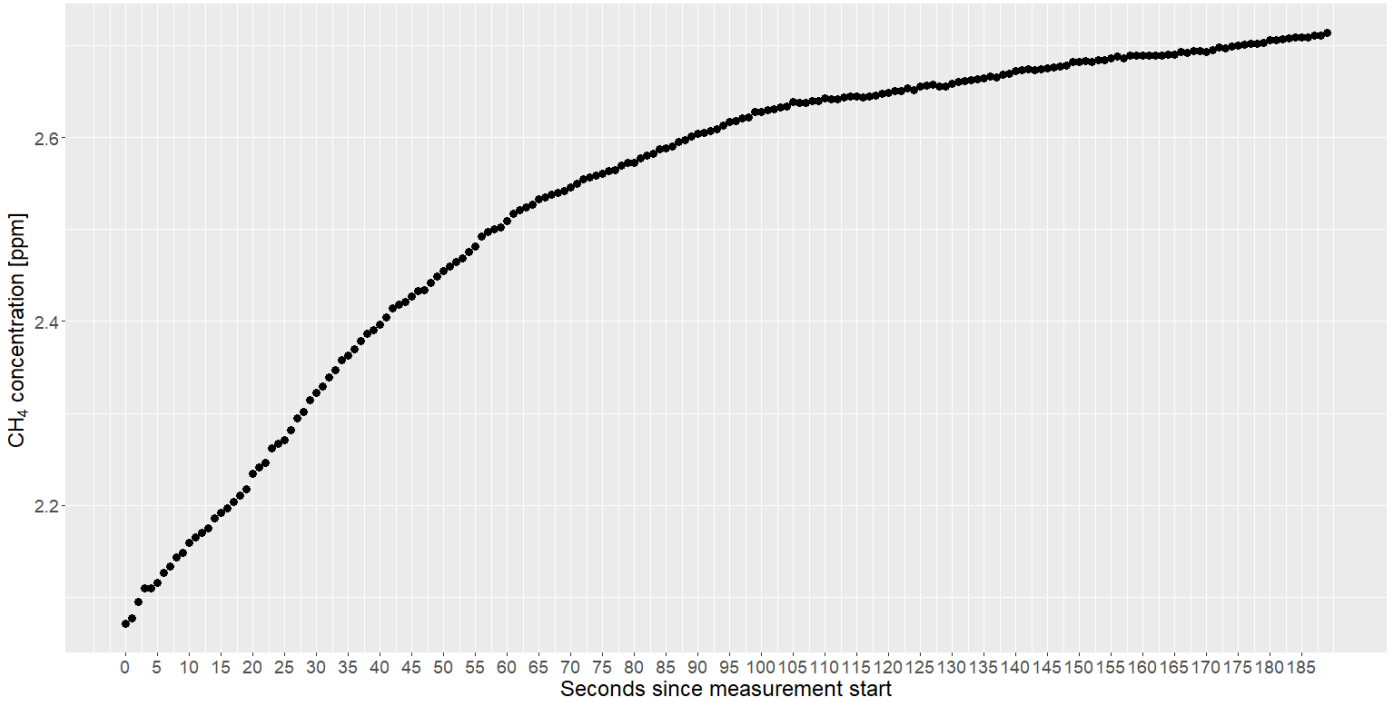
If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

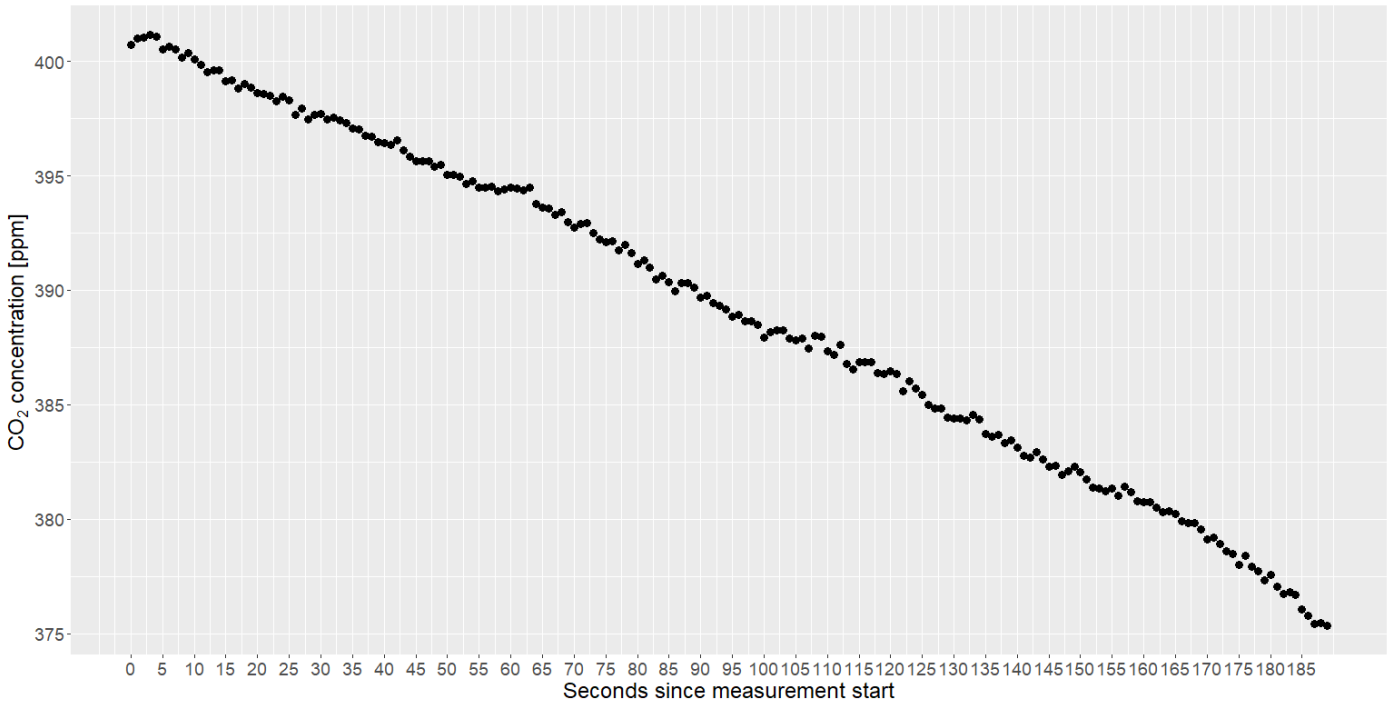
Only numbers may be entered in these fields.
Please write your answer(s) here:

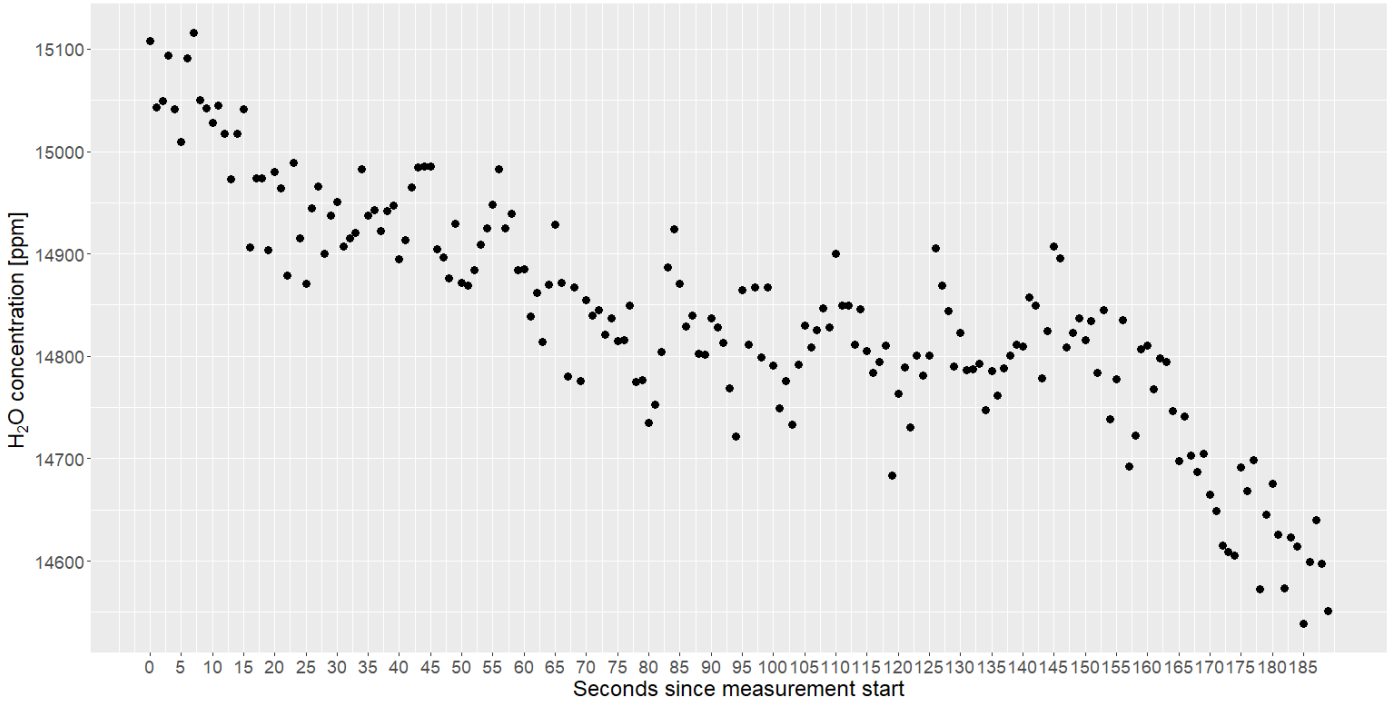
Start:

End:

Visual quality control 5


CH_4 concentration [ppm]
2.6
2.4
2.2
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185
Seconds since measurement start


CO_2 concentration [ppm]
400
395
390
385
380
375
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185
Seconds since measurement start



Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: *Sphagnum fuscum*, *S. rubellum*; dwarf shrubs such as *Andromeda polifolia*, *Calluna vulgaris* and *Empetrum nigrum*; *Eriophorum vaginatum* is also found
- Water table depth: -22 cm
- Date and Time: 2022-06-23 14:54 local time
- Transparent chamber
- Seal between chamber and collar: water-filled rim
- Gas analyzer: LGR GLA131-GGA

Measurement plot

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Yes, because...
- [ ] No, because...

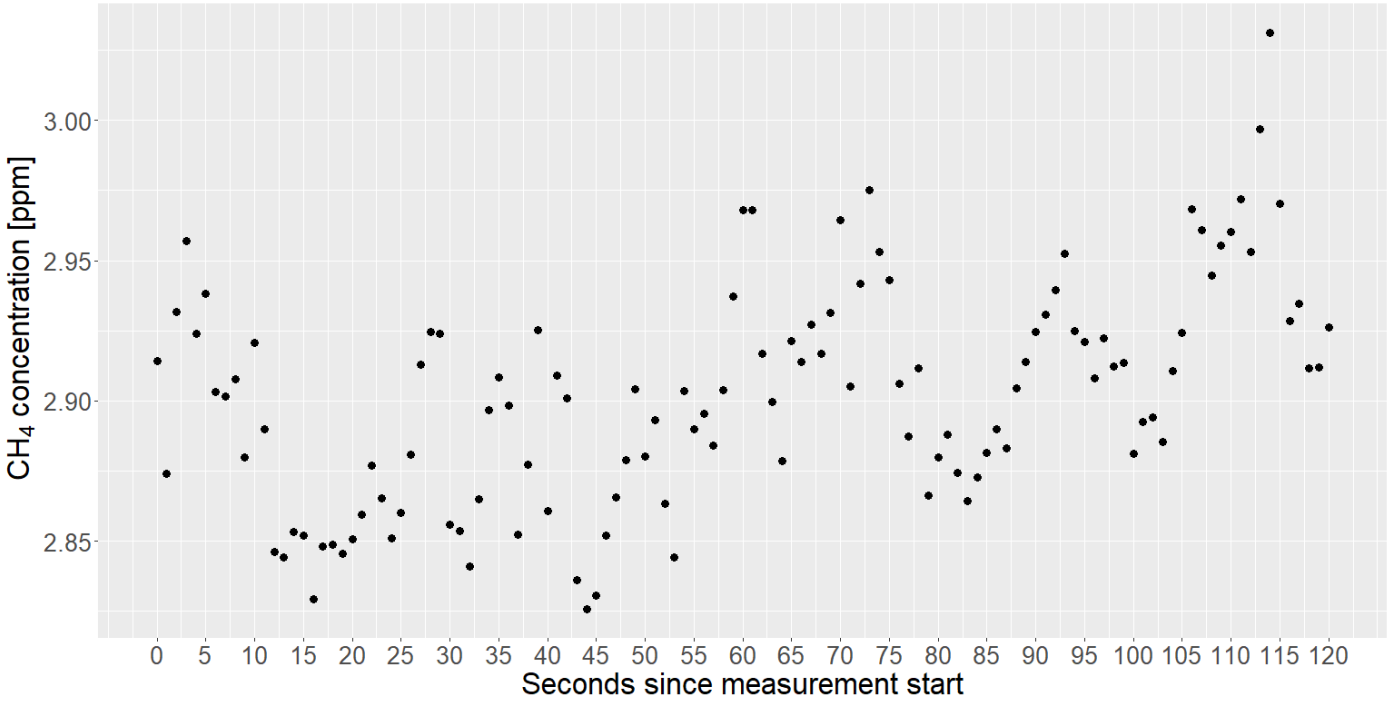
If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

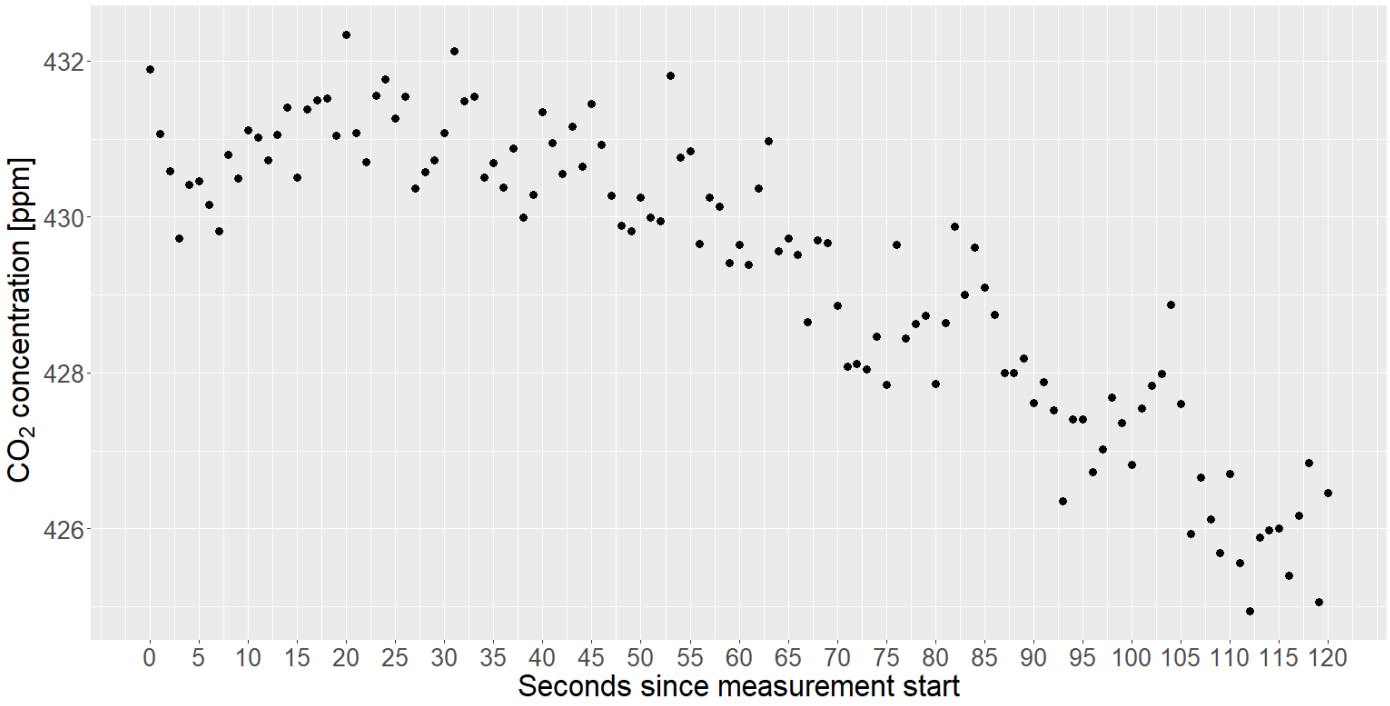
Only numbers may be entered in these fields.
Please write your answer(s) here:

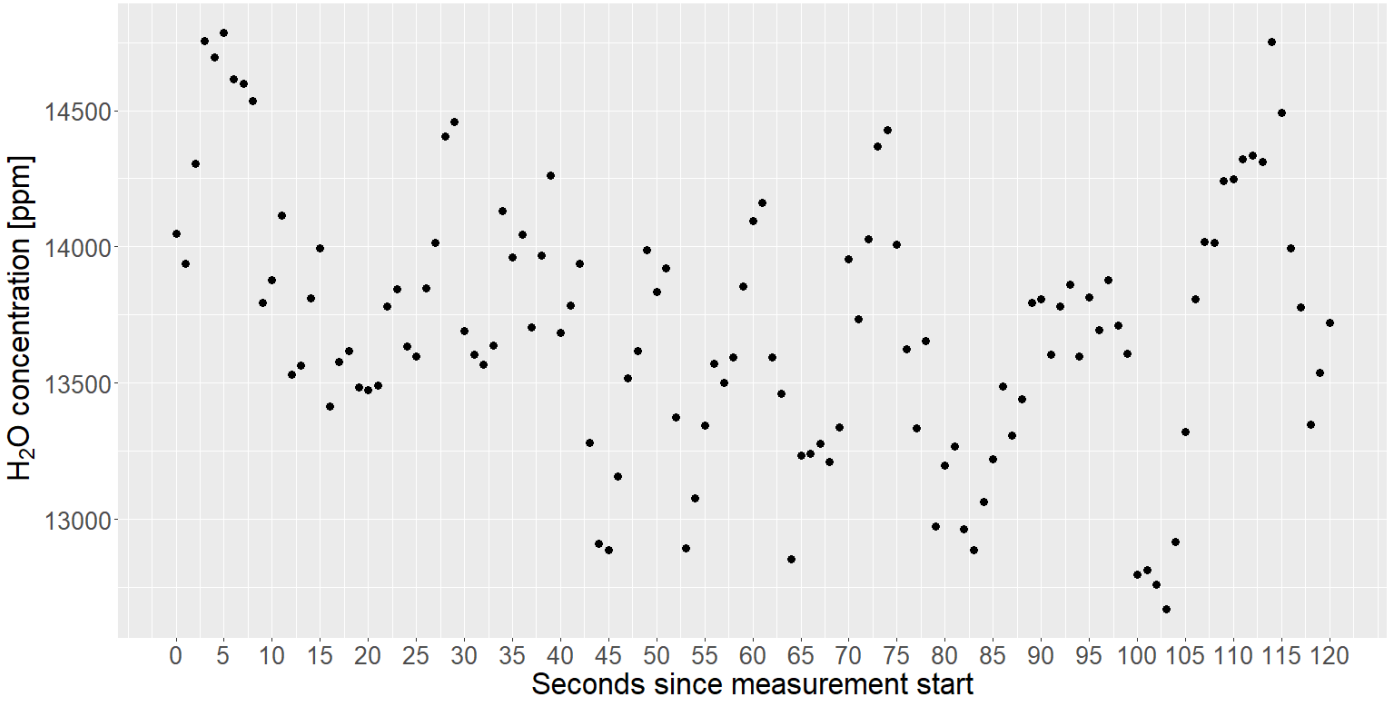
Start:

End:

Visual quality control 6


3.00
2.95
2.90
2.85
CH4 concentration [ppm]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
Seconds since measurement start


432
430
428
426
CO2 concentration [ppm]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
Seconds since measurement start



Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: *Sphagnum fuscum*, *S. rubellum*; dwarf shrubs such as *Andromeda polifolia*, *Calluna vulgaris* and *Empetrum nigrum*; *Eriophorum vaginatum* is also found
- Water table depth: -25 cm
- Date and Time: 2021-07-15 13:29 local time
- Transparent chamber
- Seal between chamber and collar: rubber skirt
- Gas analyzer: LI-COR LI-7810

Measurement plot

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Yes, because...
- [ ] No, because...

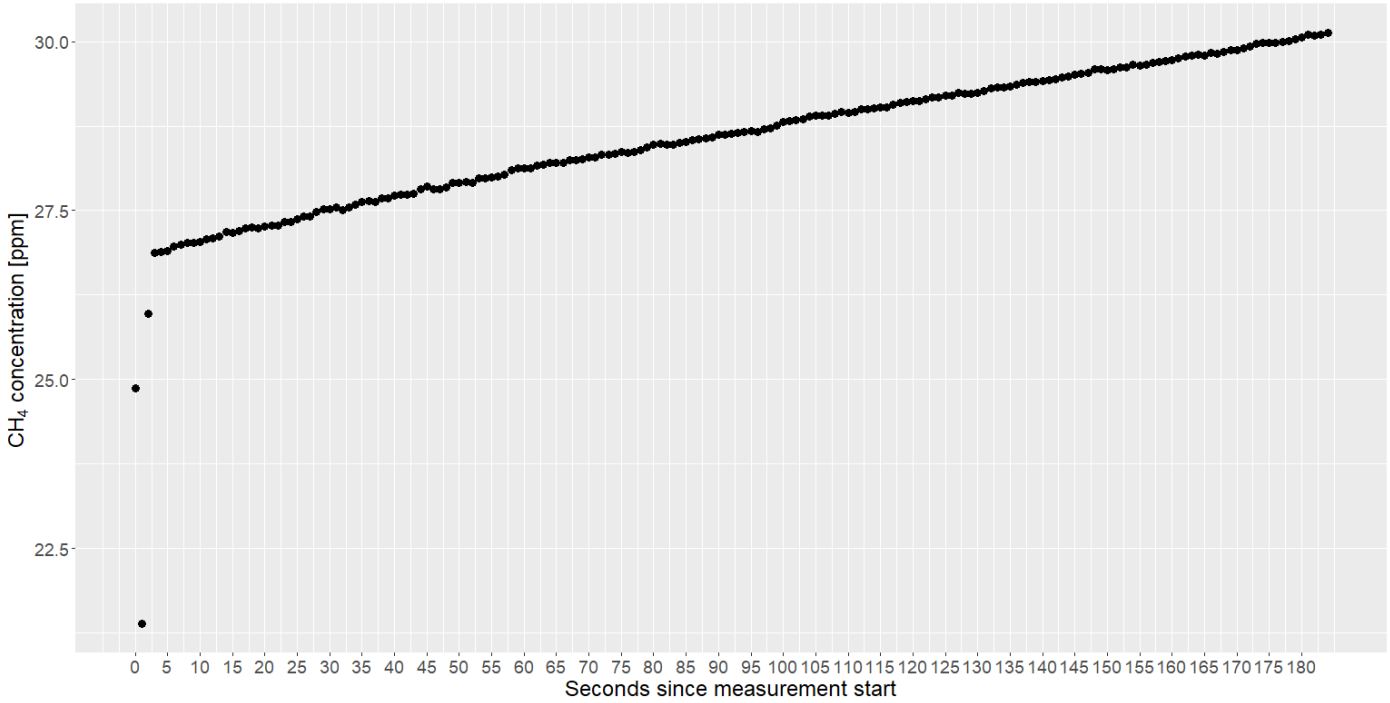
If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

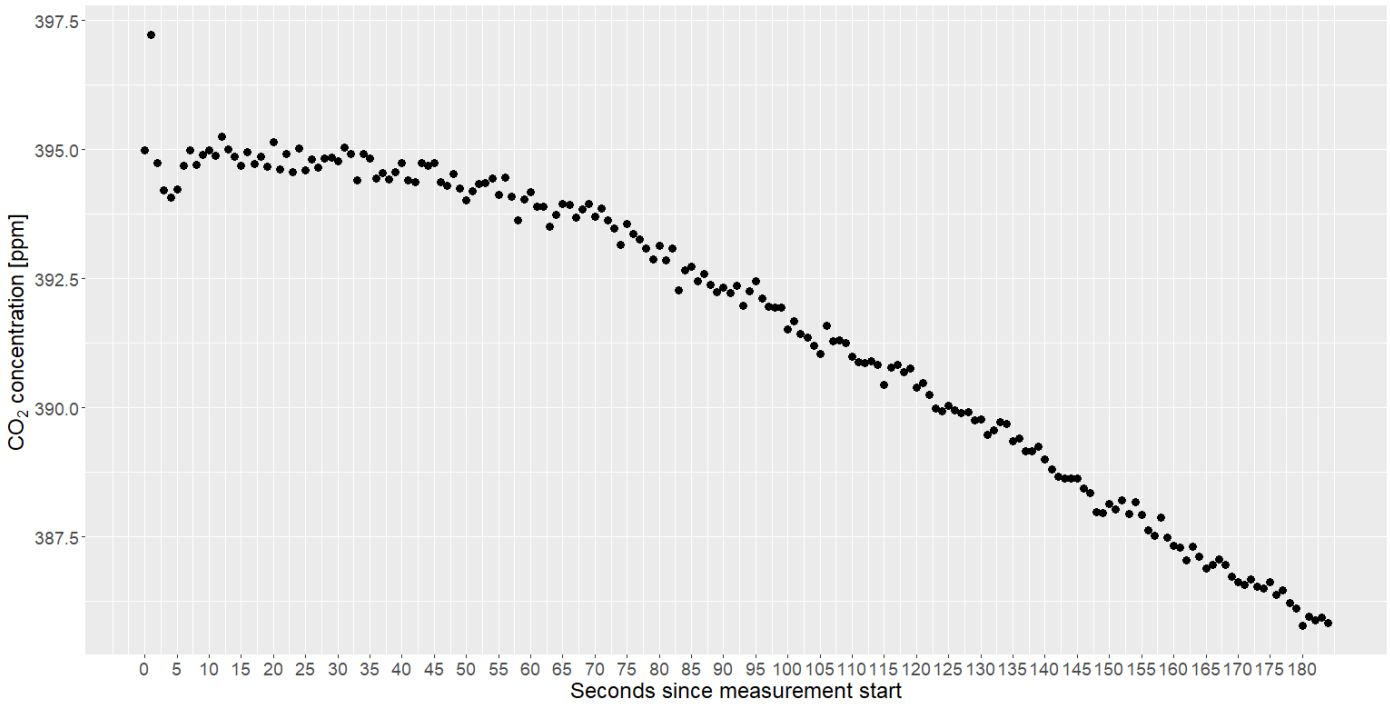
Only numbers may be entered in these fields.
Please write your answer(s) here:

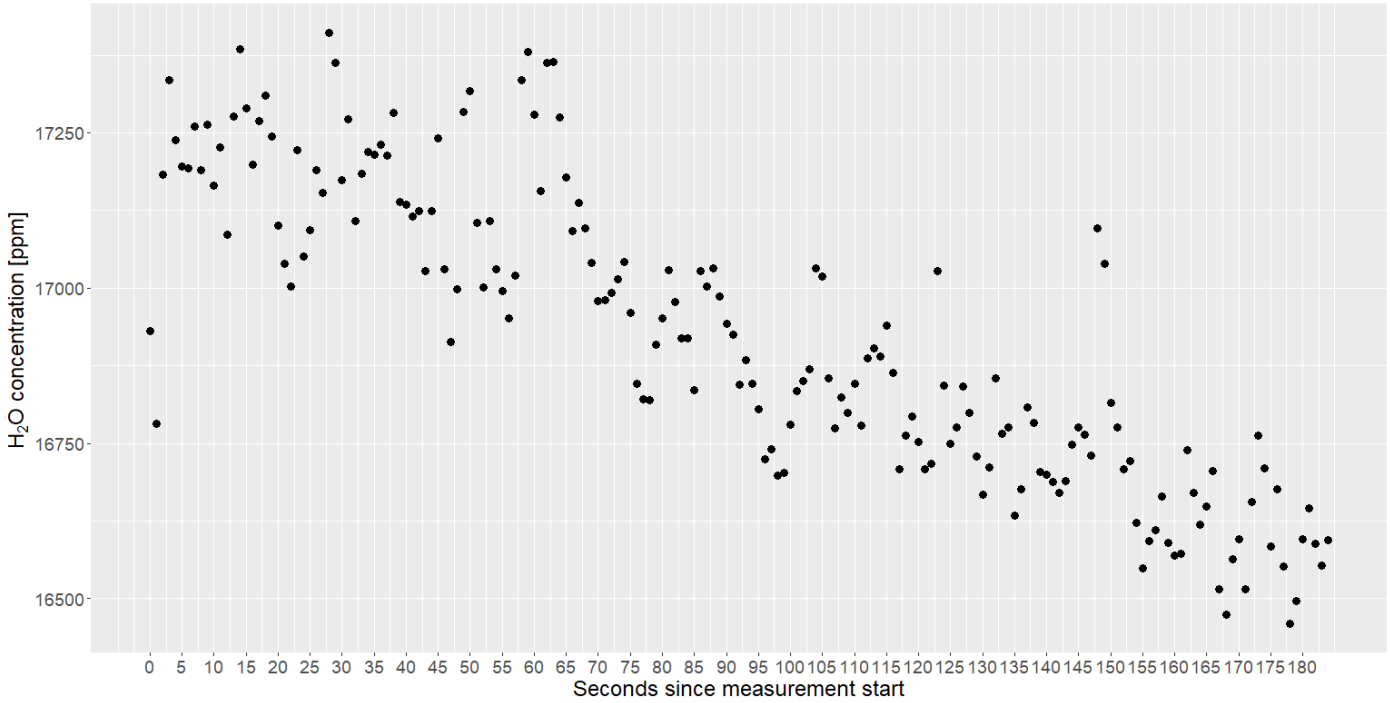
Start:

End:

Visual quality control 7


30.0
27.5
25.0
22.5
CH4 concentration [ppm]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180
Seconds since measurement start


397.5
395.0
392.5
390.0
387.5
CO2 concentration [ppm]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180
Seconds since measurement start



Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: *Sphagnum cuspidatum*, *S. majus* & *Carex limosa*, *Rhynchospora alba*, *Scheuchzeria palustris*
- Water table depth: -5 cm
- Date and Time: 2022-06-23 18:41 local time
- Transparent chamber
- Seal between chamber and collar: water-filled rim
- Gas analyzer: LGR GLA131-GGA

Measurement plot

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Yes, because...
- [ ] No, because...

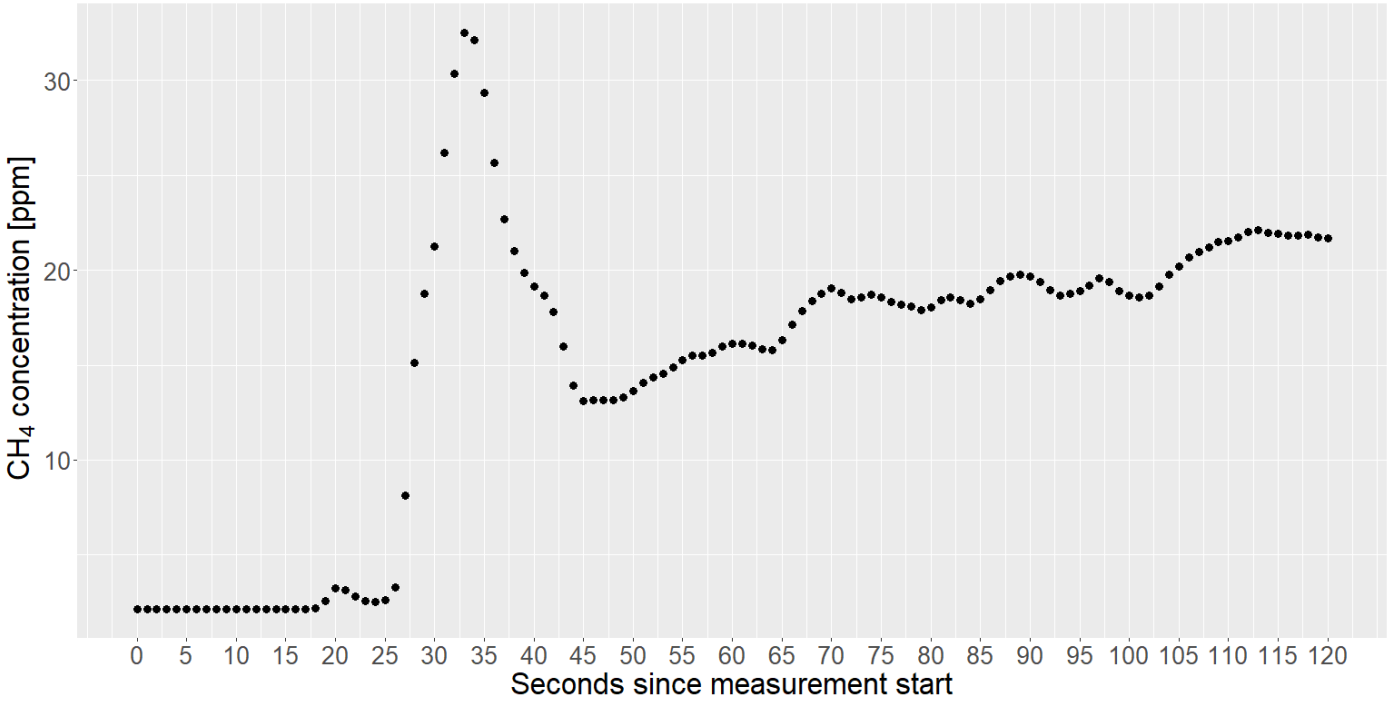
If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

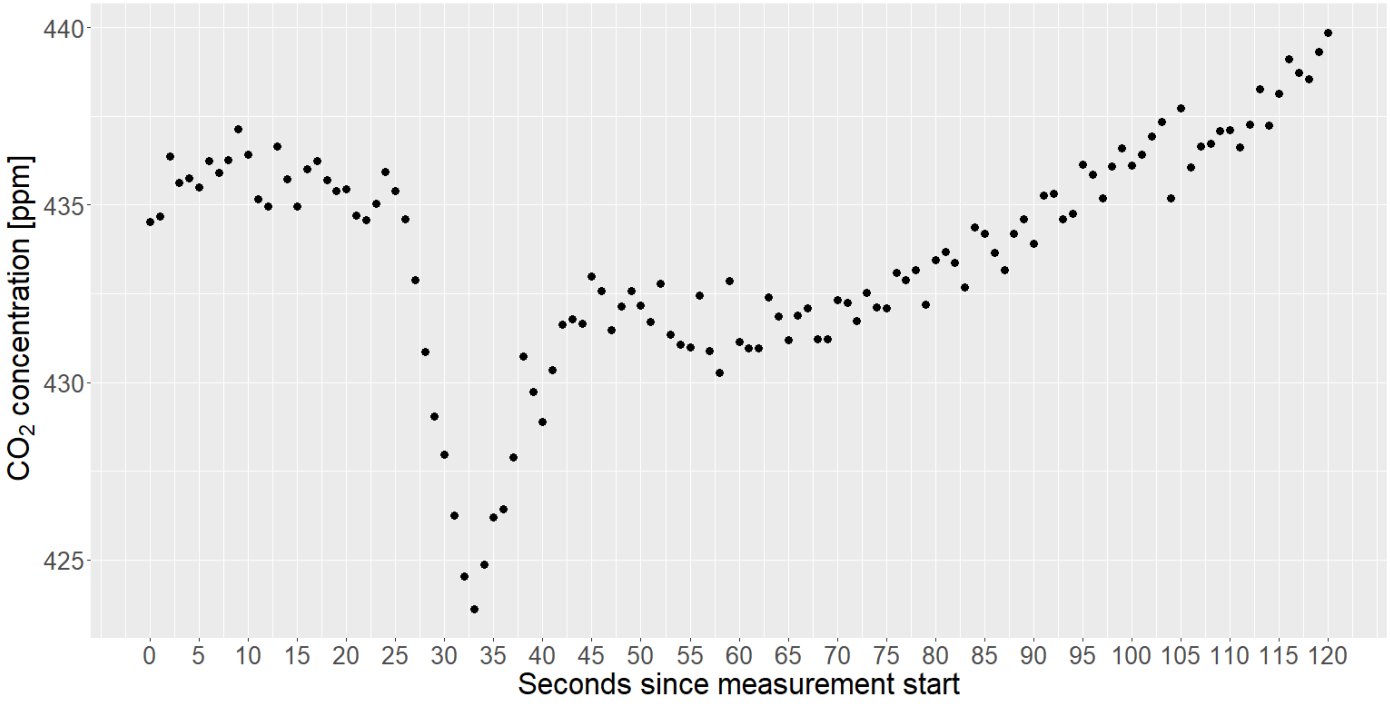
Only numbers may be entered in these fields.
Please write your answer(s) here:

Start:

End:

Visual quality control 8


30
20
10
CH4 concentration [ppm]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
Seconds since measurement start


440
435
430
425
CO2 concentration [ppm]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
Seconds since measurement start

Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: *Rhynchospora alba*
- Water table depth: -20 cm
- Date and Time: 2021-07-14 14:19 local time
- Opaque chamber
- Seal between chamber and collar: rubber skirt
- Gas analyzer: LI-COR LI-7810

Measurement plot

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Yes, because...
- [ ] No, because

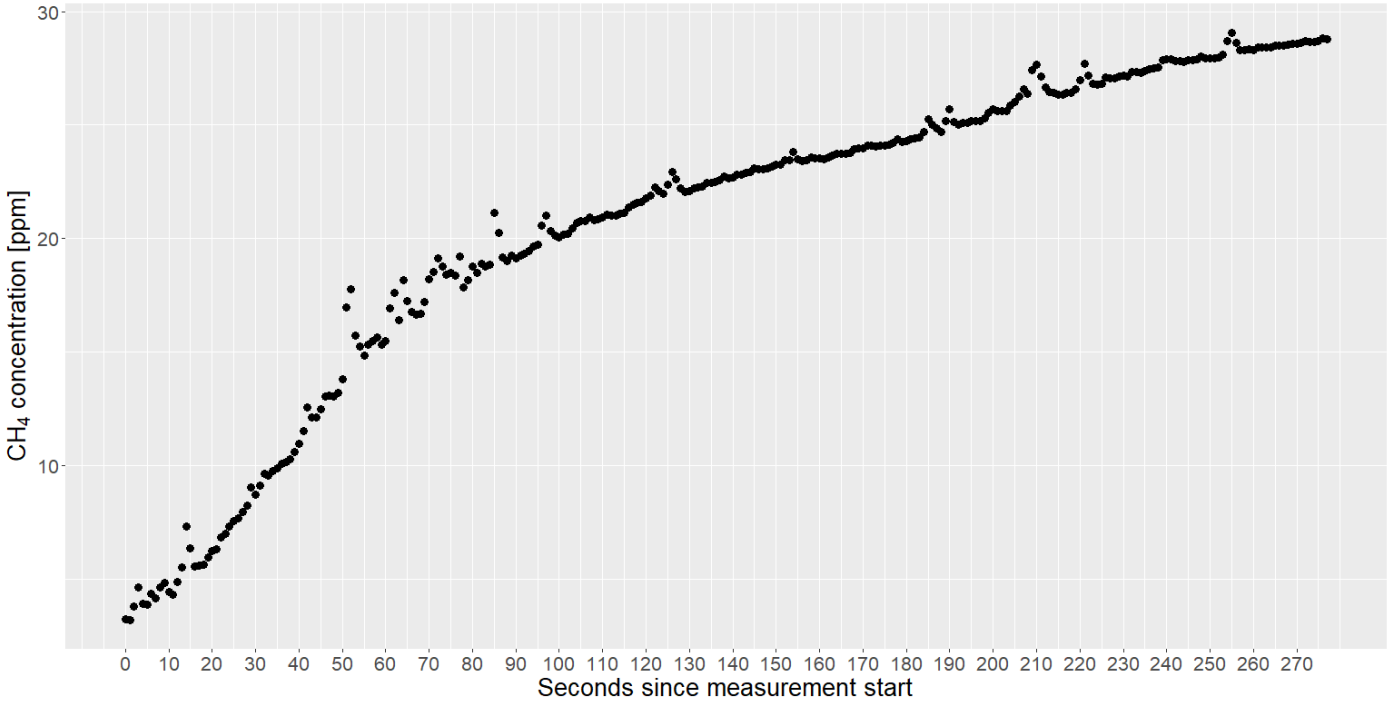
If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

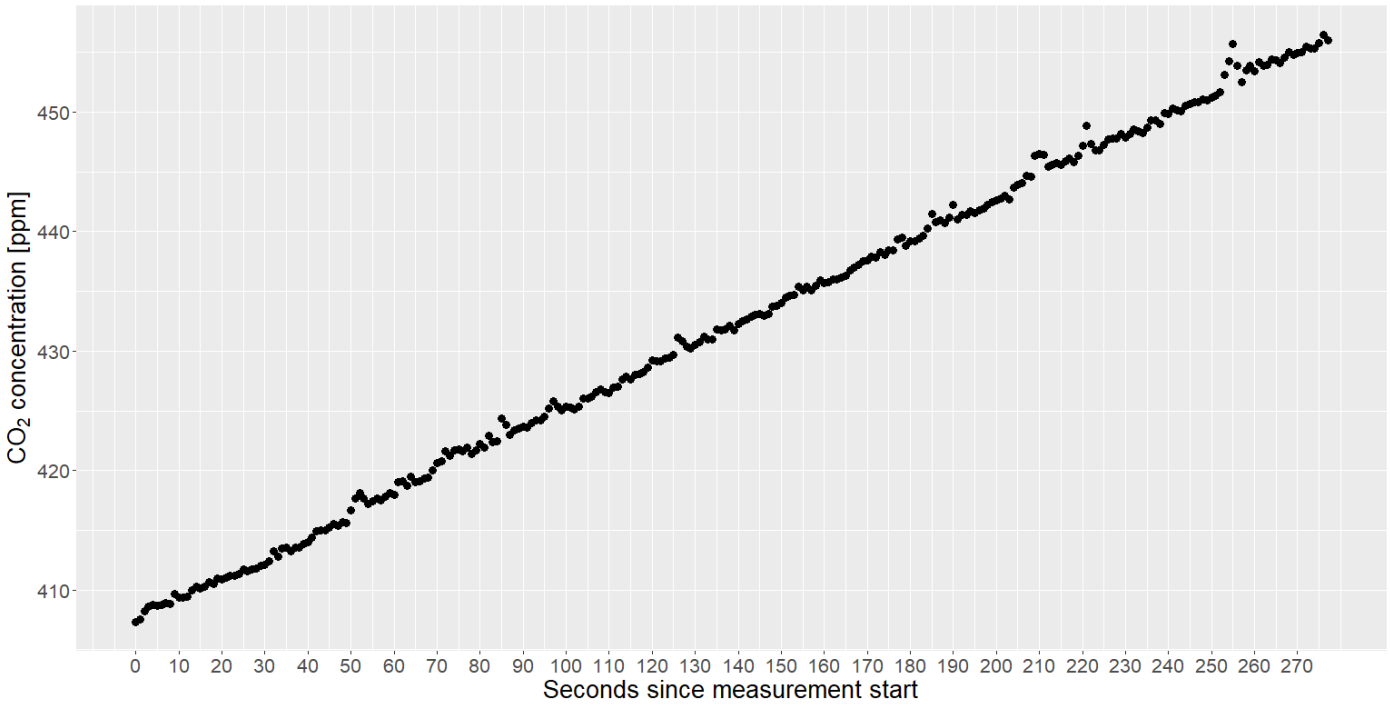
Only numbers may be entered in these fields.
Please write your answer(s) here:

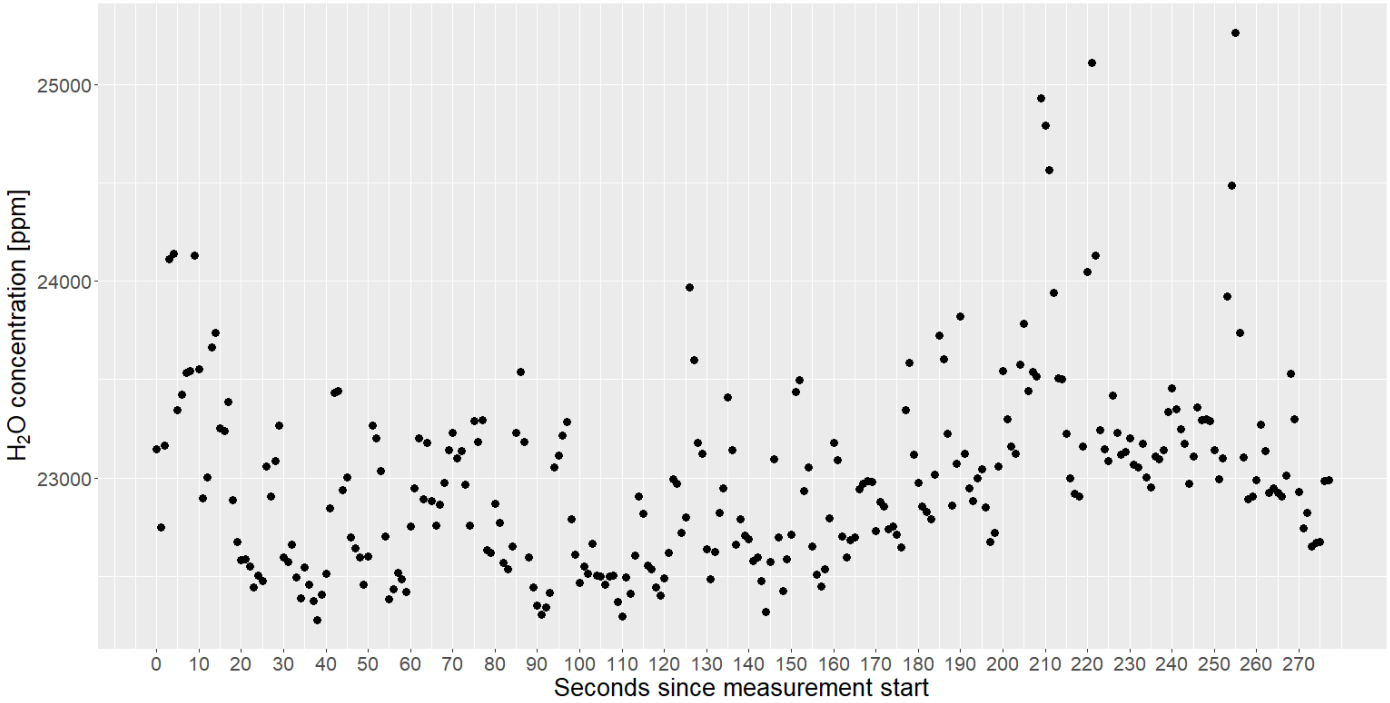
Start:

End:

Visual quality control 9


30
20
10
CH_4 concentration [ppm]
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270
Seconds since measurement start


450
440
430
420
410
CO_2 concentration [ppm]
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270
Seconds since measurement start



Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: Sphagnum cuspidatum, S. majus; Carex limosa, Rhynchospora alba, Scheuchzeria palustris
- Water table depth: -11 cm
- Date and Time: 2022-07-04 11:17 local time
- Opaque chamber
- Seal between chamber and collar: water-filled rim
- Gas analyzer: LGR GLA131-GGA

Measurement plot

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

☐ Yes, because...

☐ No, because...

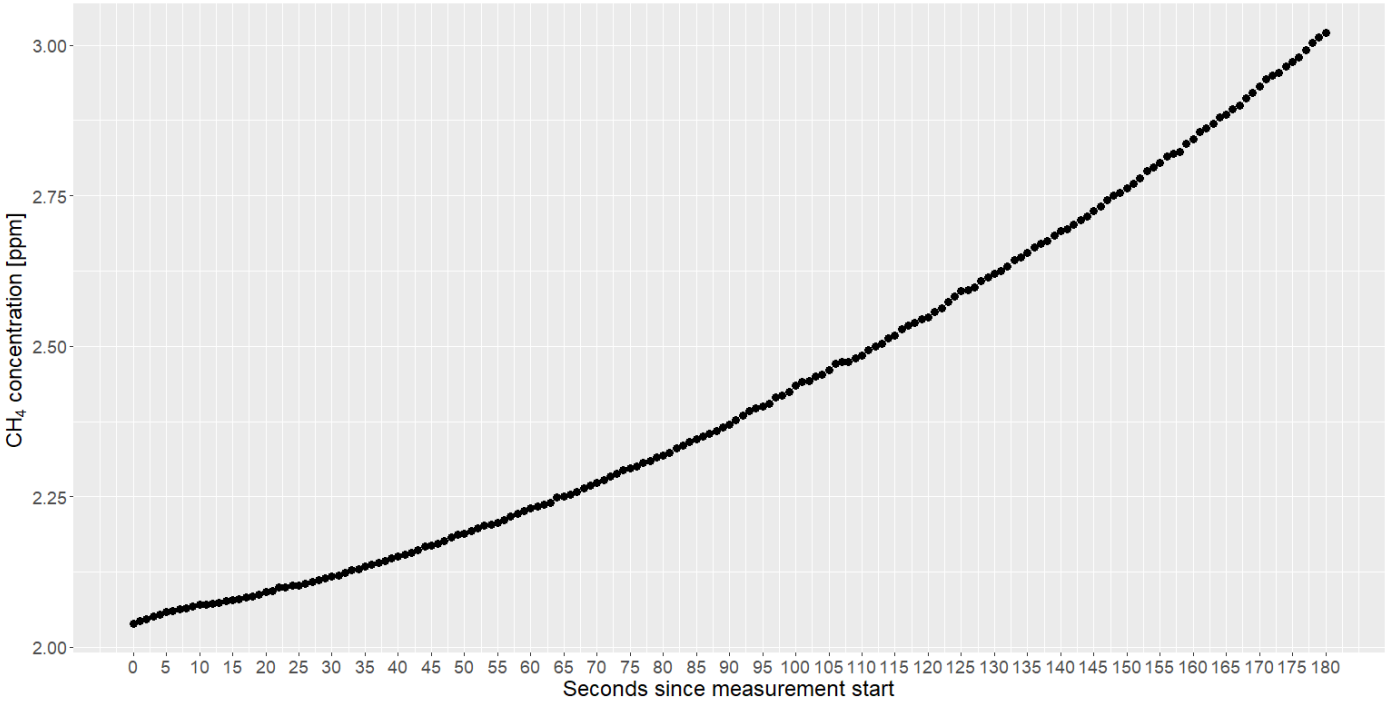
If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

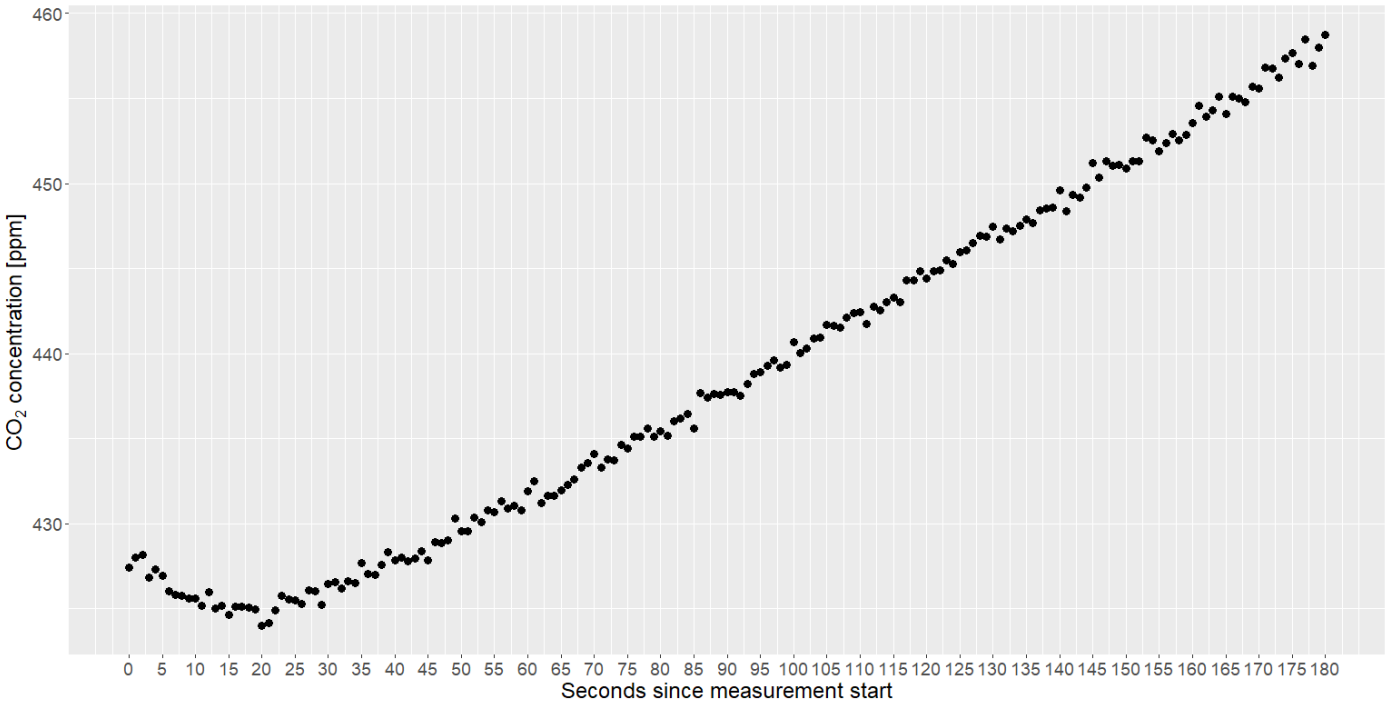
Only numbers may be entered in these fields.
Please write your answer(s) here:

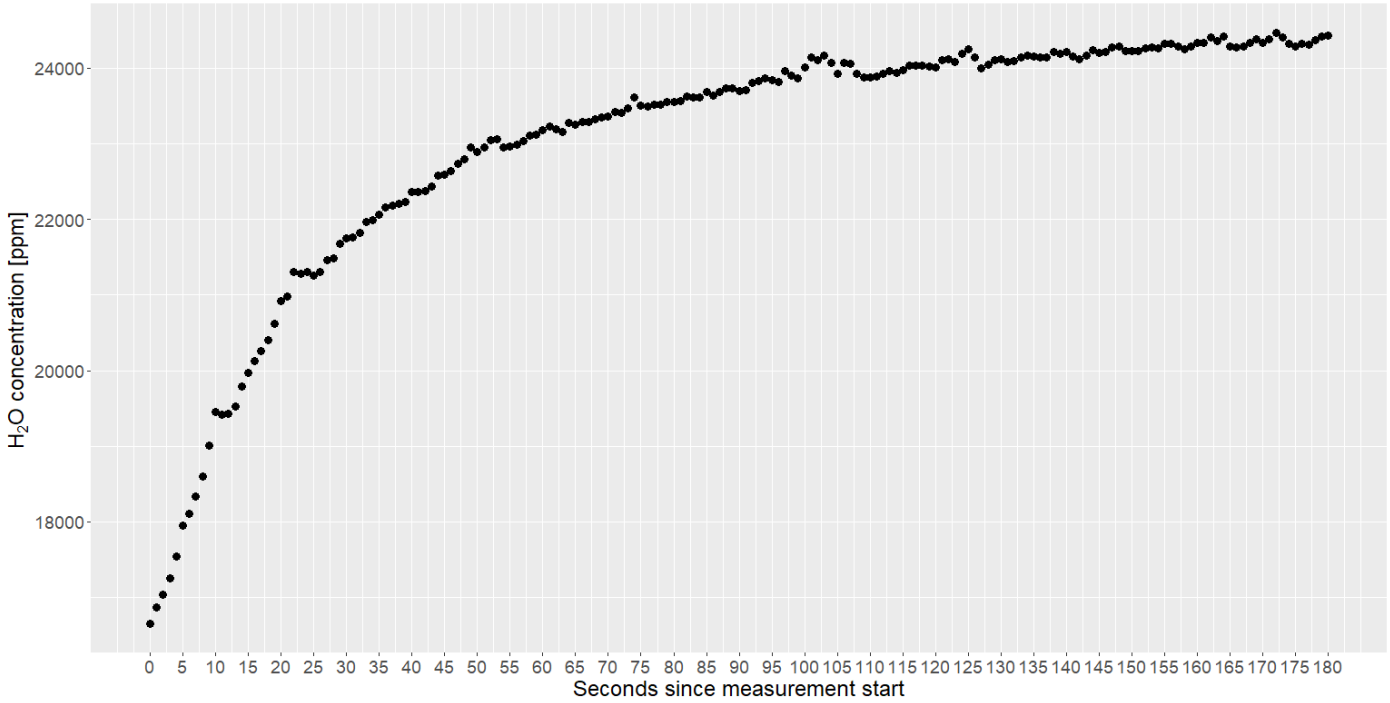
Start:

End:

Visual quality control 10


3.00
2.75
2.50
2.25
2.00
CH4 concentration [ppm]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180
Seconds since measurement start


460
450
440
430
CO2 concentration [ppm]
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180
Seconds since measurement start



Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: *Sphagnum fuscum*, *S. rubellum*; dwarf shrubs such as *Andromeda polifolia*, *Calluna vulgaris* and *Empetrum nigrum*; *Eriophorum vaginatum* is also found
- Water table depth: -31 cm
- Date and Time: 2022-07-01 15:18 local time
- Opaque chamber
- Seal between chamber and collar: water-filled rim
- Gas analyzer: LI-COR LI-7810

Measurement plot

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Yes, because...
- [ ] No, because...

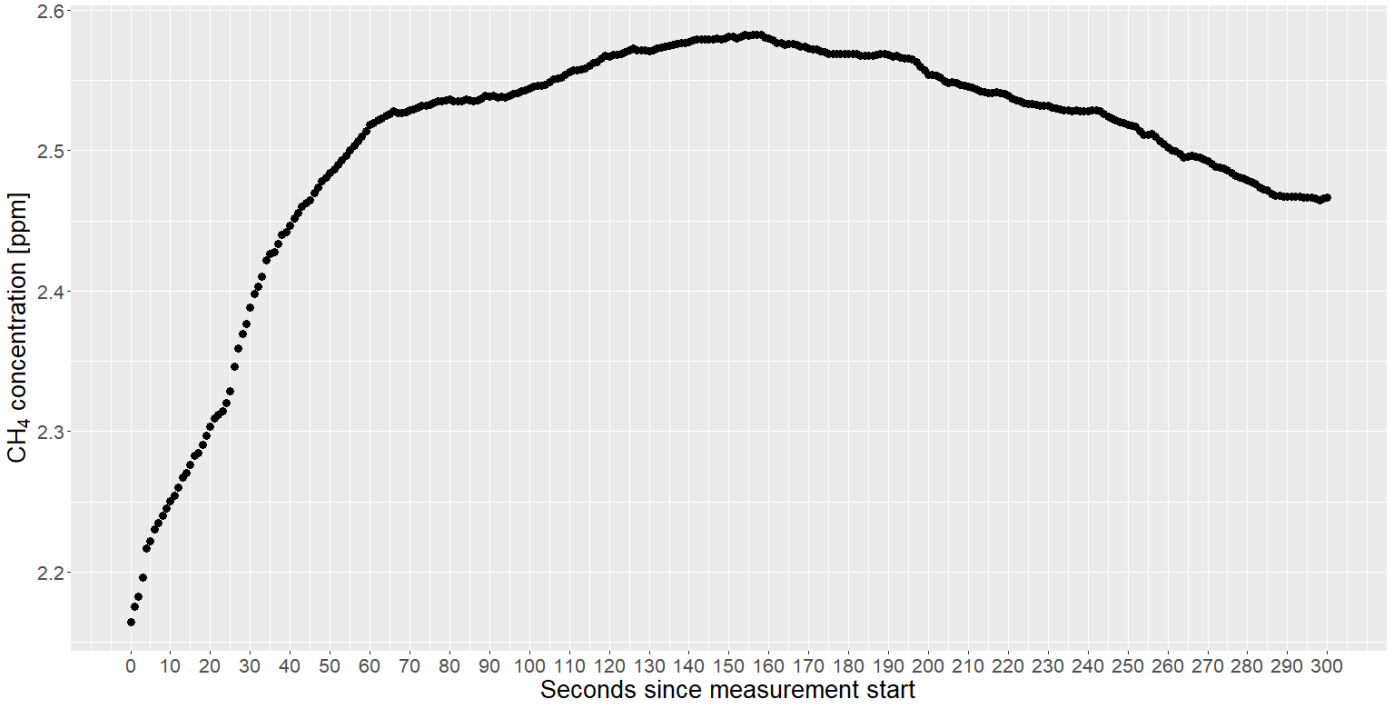
If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

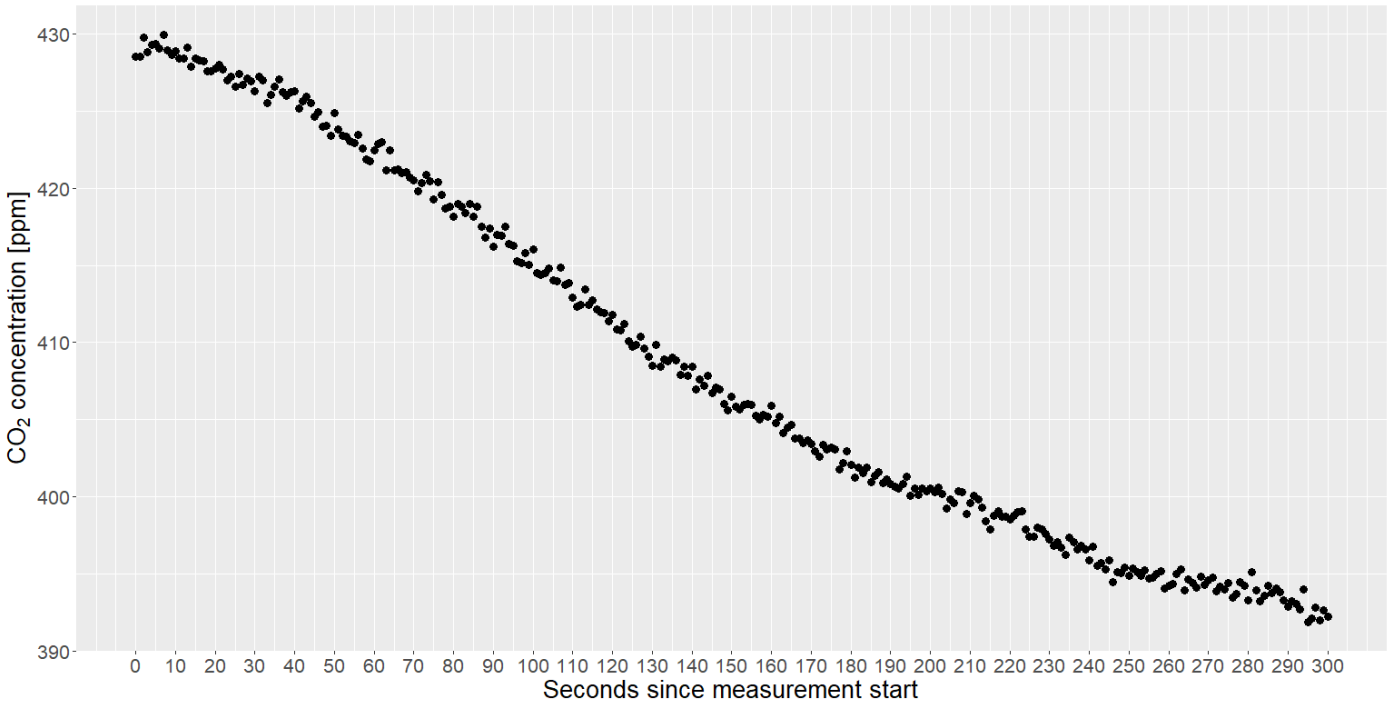
Only numbers may be entered in these fields.
Please write your answer(s) here:

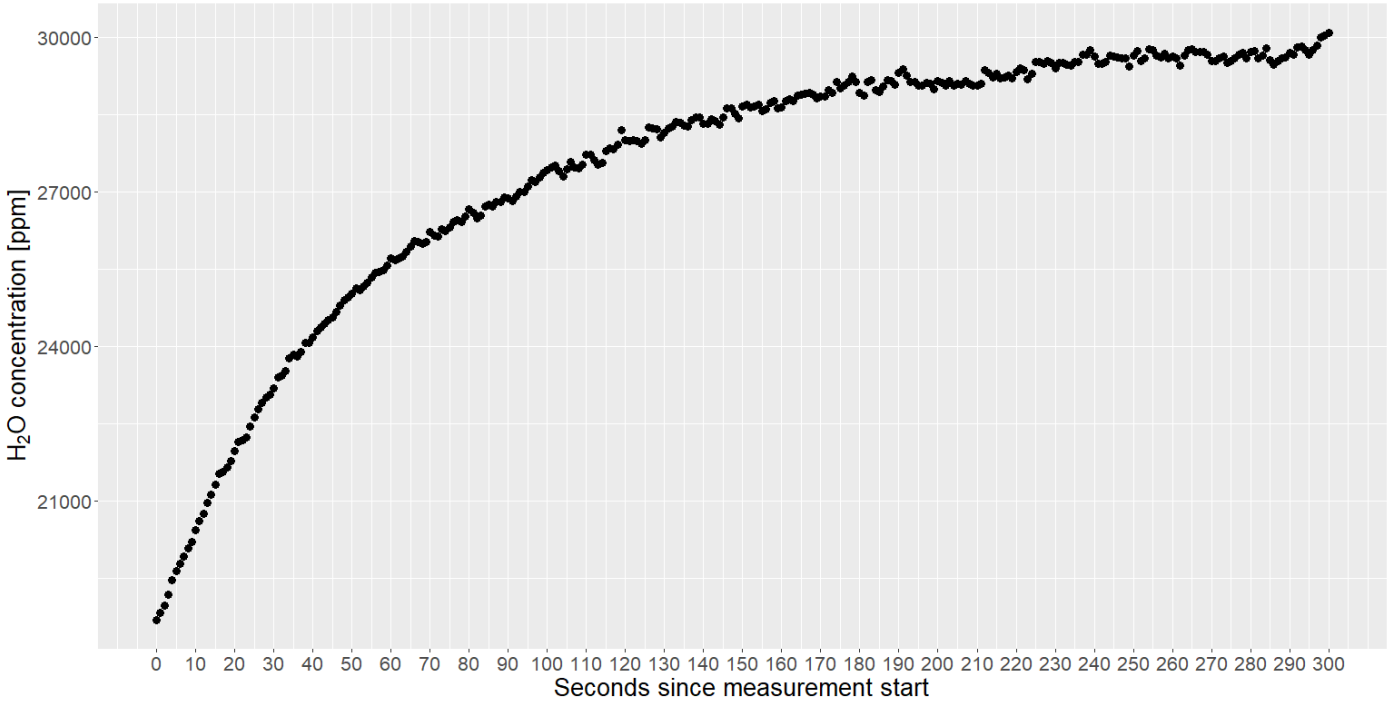
Start:

End:

Visual quality control 11


2.6
2.5
2.4
2.3
2.2
CH4 concentration [ppm]
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
Seconds since measurement start


430
420
410
400
390
CO2 concentration [ppm]
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
Seconds since measurement start



Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: *Sphagnum fuscum*, *S. rubellum*; dwarf shrubs such as *Andromeda polifolia*, *Calluna vulgaris* and *Empetrum nigrum*; *Eriophorum vaginatum* is also found
- Water table depth: -31 cm
- Date and Time: 2022-07-01 15:05 local time
- Transparent chamber
- Seal between chamber and collar: water-filled rim
- Gas analyzer: LI-COR LI-7810

Measurement plot

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

- [ ] Yes, because...
- [ ] No, because...

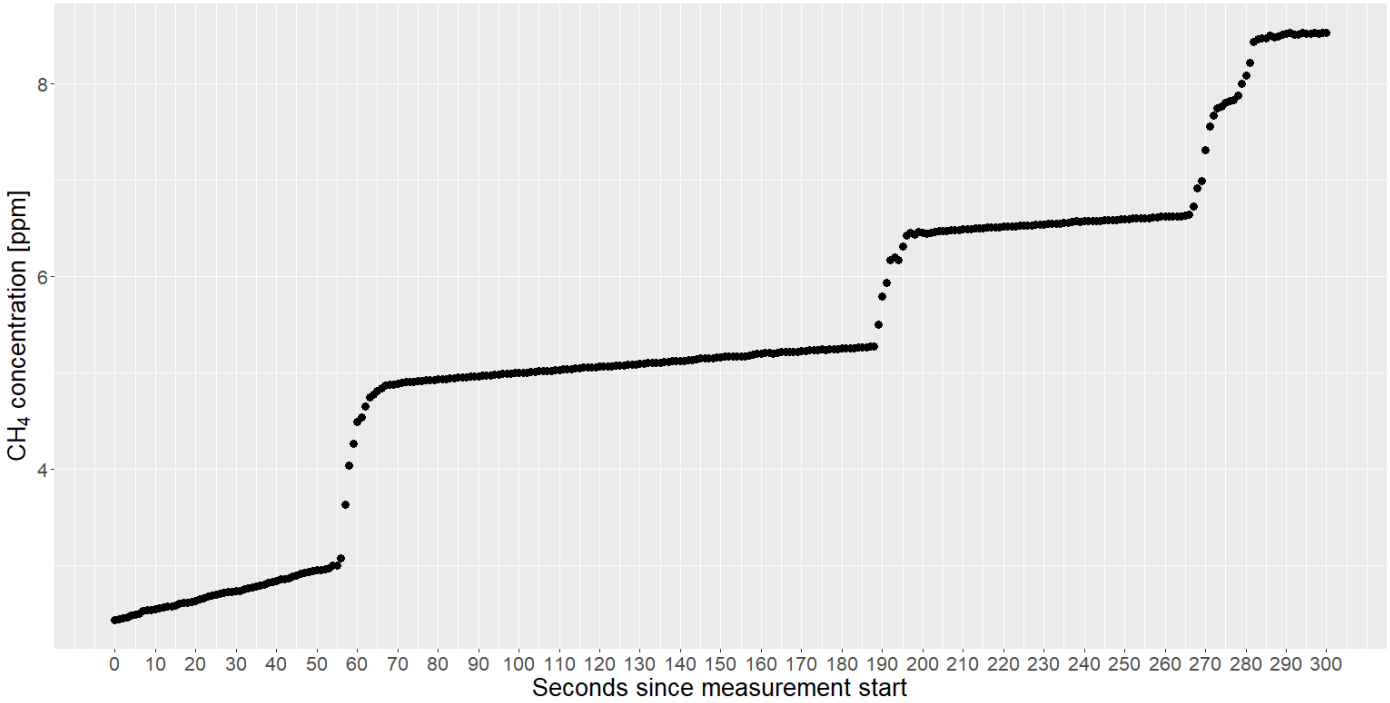
If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

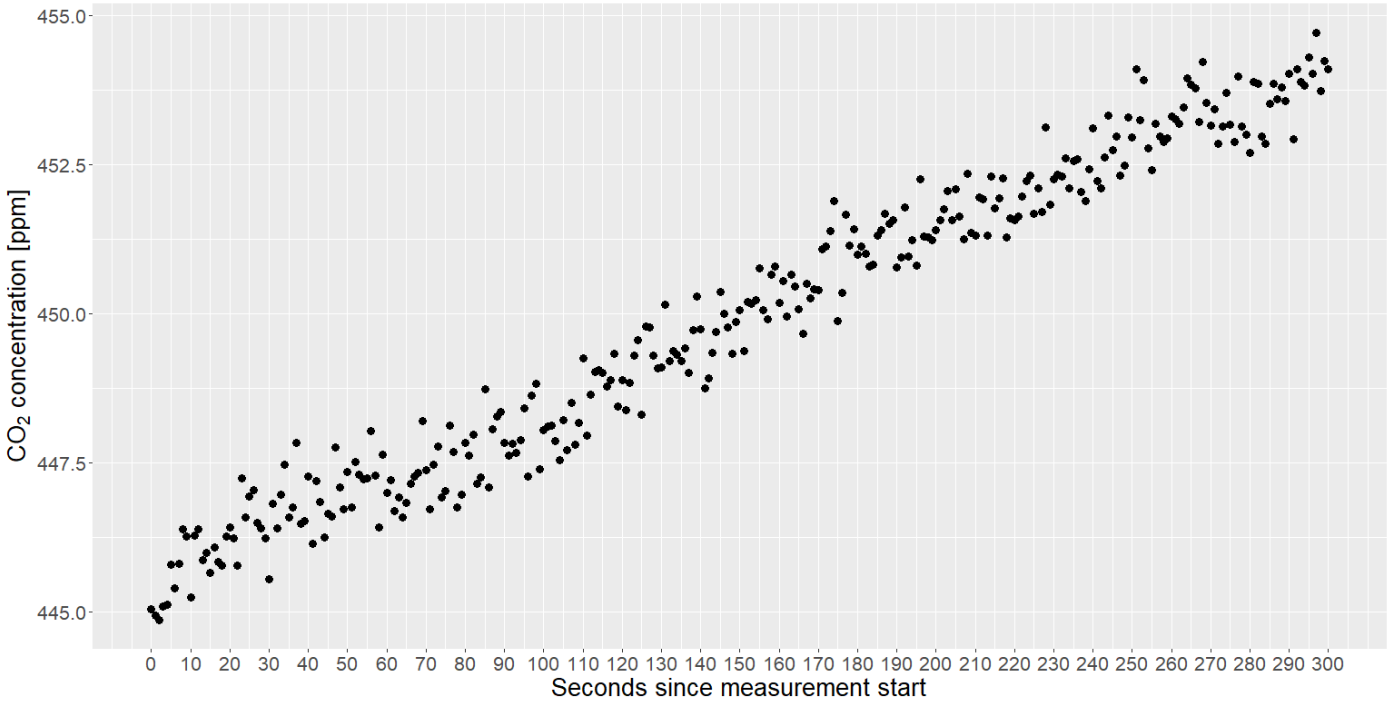
Only numbers may be entered in these fields.
Please write your answer(s) here:

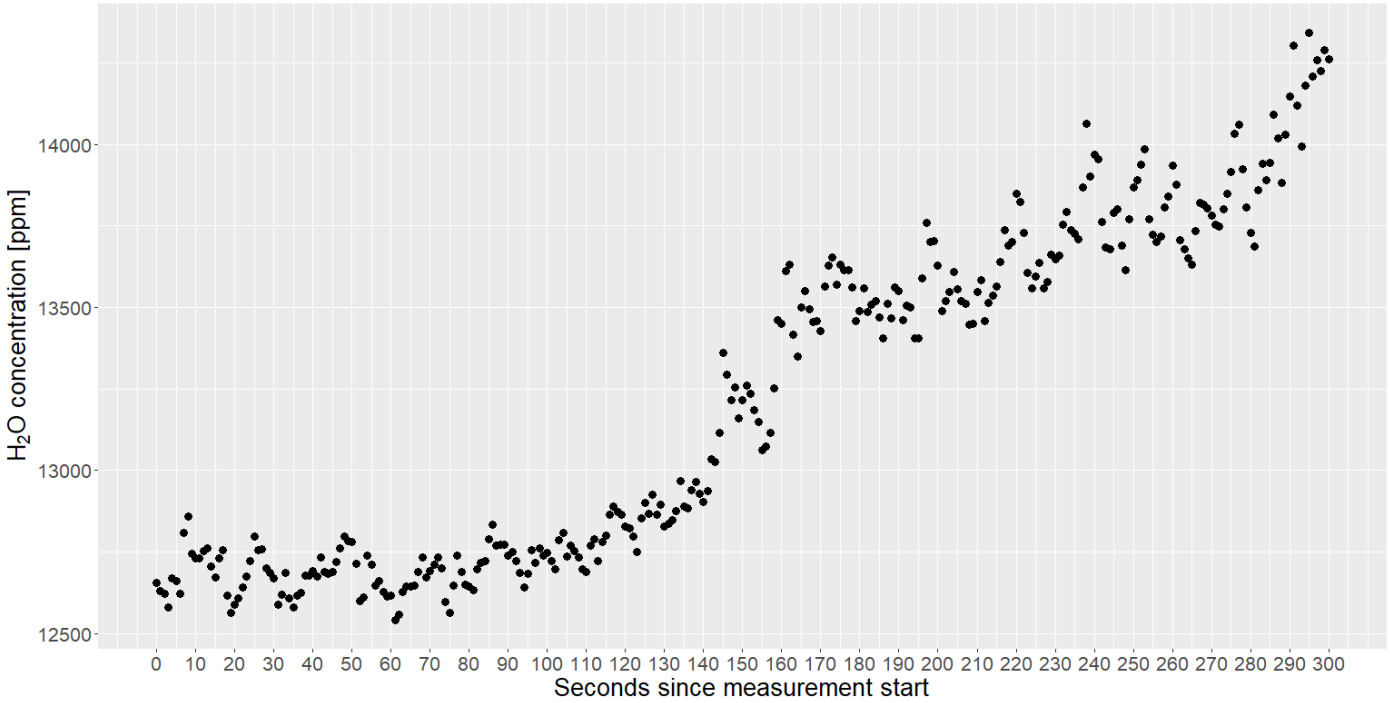
Start:

End:

Visual quality control 12


8
6
4
CH4 concentration [ppm]
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
Seconds since measurement start


455.0
452.5
450.0
447.5
445.0
CO2 concentration [ppm]
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300
Seconds since measurement start



Measurement information

- Siikaneva bog, Southern Finland, 61°50'N, 24°12'E
- Dominant vegetation: no vegetation, bare peat surface
- Water table depth: -9 cm
- Date and Time: 2022-07-08 11:48 local time
- Opaque chamber
- Seal between chamber and collar: water-filled rim
- Gas analyzer: LI-COR LI-7810

How do you explain the CH_4 concentration change in the figure?

Please write your answer here:

Would you discard this measurement?

Comment only when you choose an answer.
Please choose all that apply and provide a comment:

☐ Yes, because...

☐ No, because...

If not, which part of the measurement would you consider for your flux estimate? Please enter the start and end time in seconds after measurement start.

Only numbers may be entered in these fields.
Please write your answer(s) here:

Start:

End:

Additional comments

Do you have any additional comments?

Please write your answer here:

Follow-on qualitative survey

Are you interested in participating in a follow-on activity to calculate fluxes using a common data set of methane chamber measurements?

Please choose **all** that apply:

- [ ] Yes
- [ ] No
- [ ] Other:

Thank you for your participation!

Submit your survey.
Thank you for completing this survey.