

Supplementary figures for emission estimates

This document contains overview figures for all emission estimates from AVIRIS-4 data of the controlled release experiment in September 2024 in Pau, France. The figures were produced using the Python library for data-driven emission quantification *ddeg* (version 1.0) which is available on [Gitlab.com](https://gitlab.com/ddeg).

The retrieved AVIRIS-4 CH₄ maps, wind and sources data as well as estimated emissions are available on the Zenodo data repository (DOI: 10.5281/zenodo.16410532).

Data and images of each overpass share the following naming convention:

M0{CampaignDay}_{YYMMDD}_FRA_Pau_Methane_{Altitude}ft_Line_{Orientation}_{HHMMSS}_000_rdn{Suffix}

- Orientation: "0002" and "20001" are overpasses in E-W direction and "0001" and "10001" in N-S direction
- Suffix: depends on the data product and can be "winds", "sources", "{method}_data", "{method}_results" or "{method}_emissions"

The results figure of the cross-sectional flux method consists of four subplots

- RGB image of the release site
- CH₄ map with identified source location, detected plume and centre line
- Gaussian fits to the CH₄ columns from the first and last three cross-sections
- Along-plume flux estimates of all cross-sections and retrieval metadata.

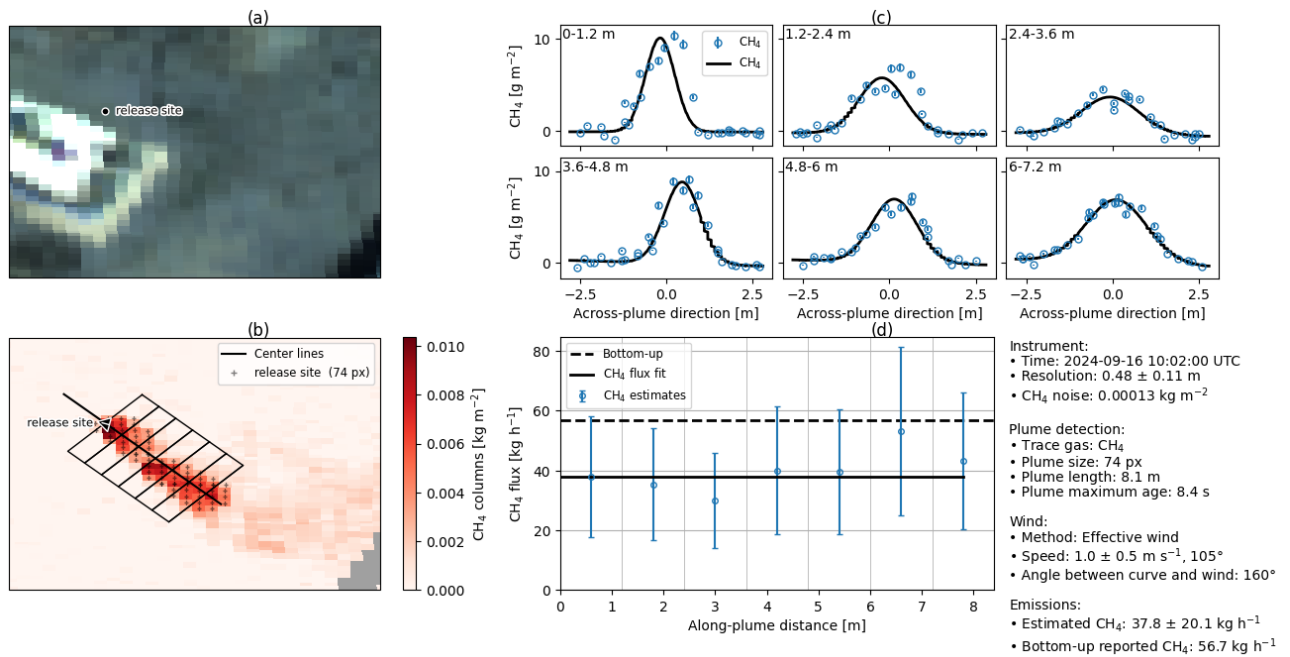
The results figure of the cross-sectional flux method consists of three subplots

- RGB image of the release site
- CH₄ map with identified source location, detected plume and centre line
- Retrieval metadata.

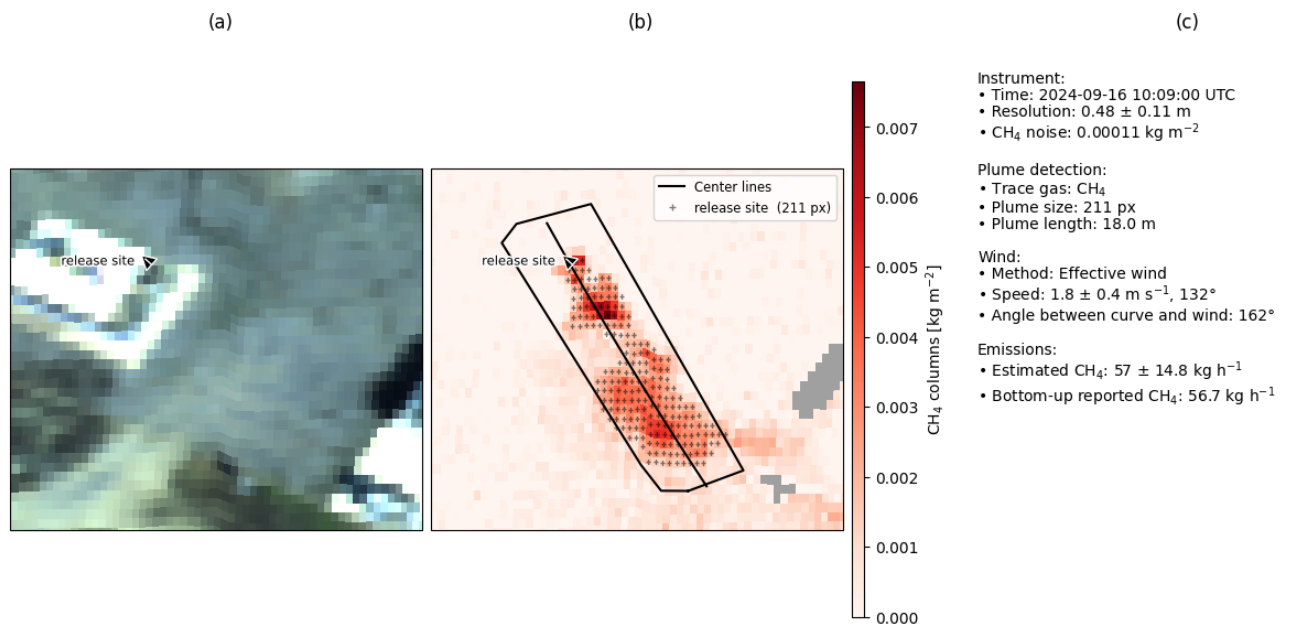
The wind method "Effective wind" refers to the wind speed at source height described in Section 2.5.

Day 1: 16.09.2024

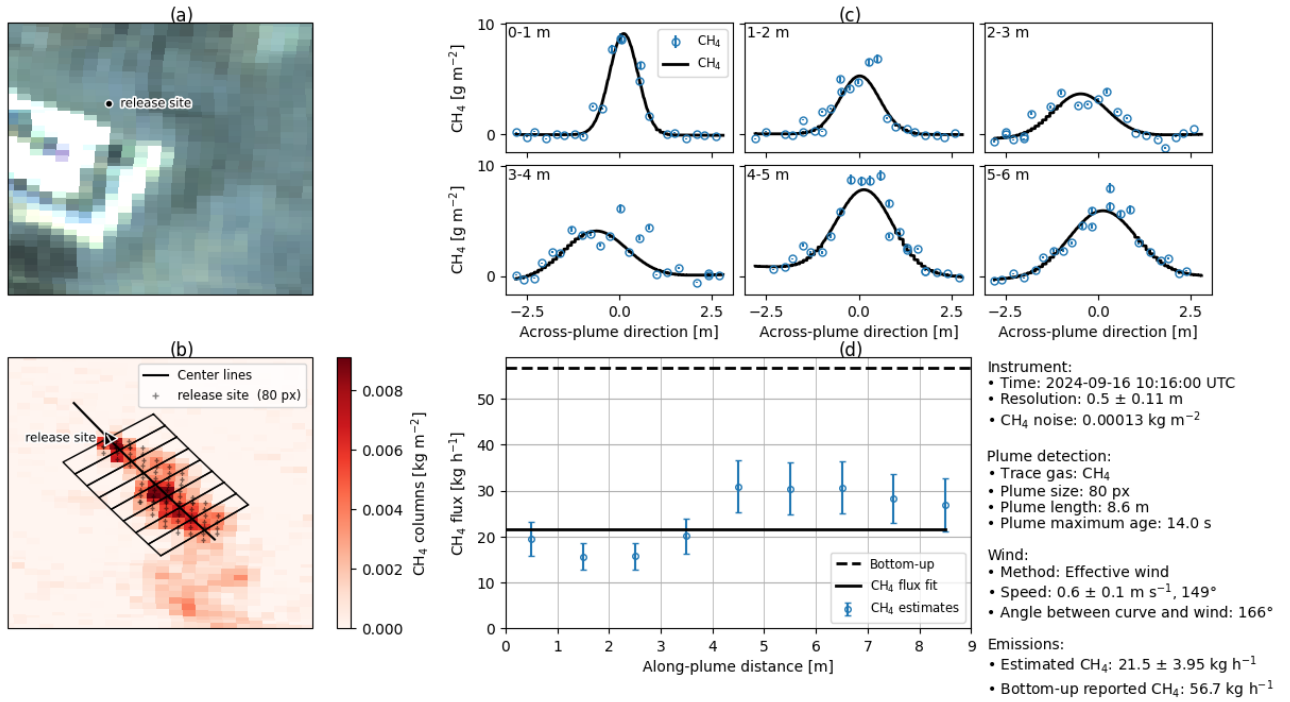
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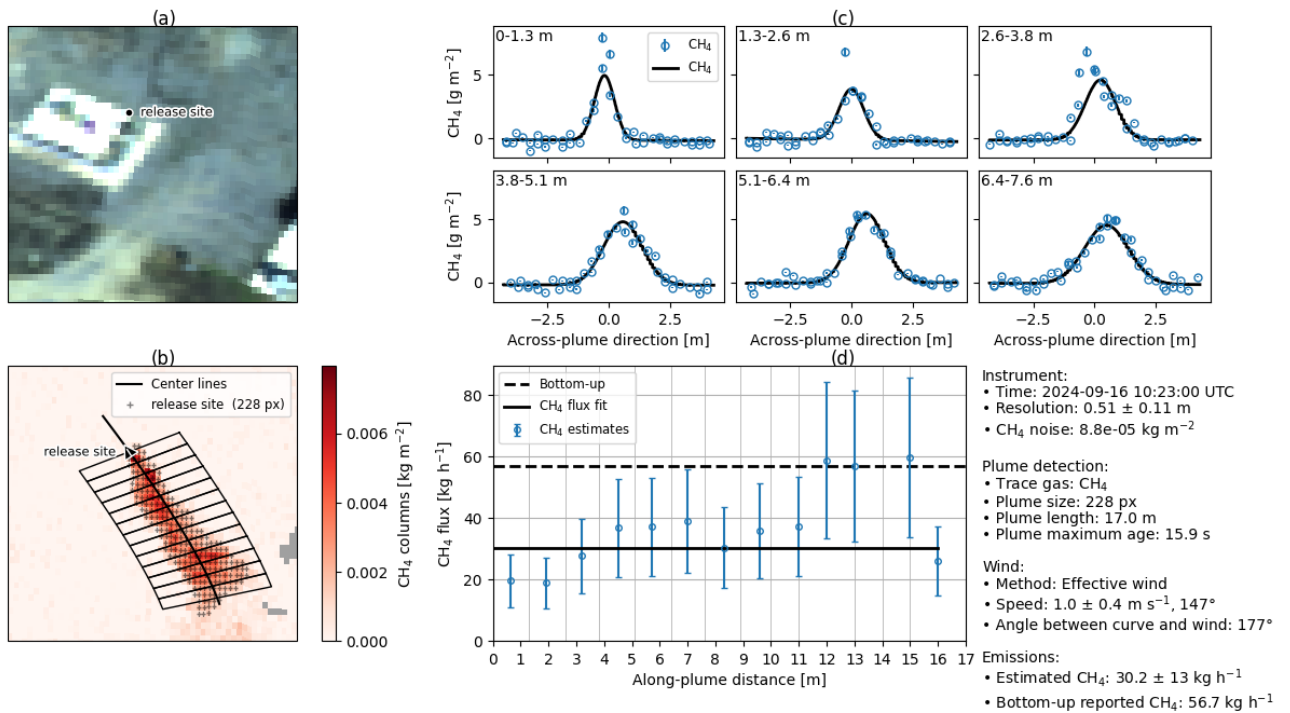
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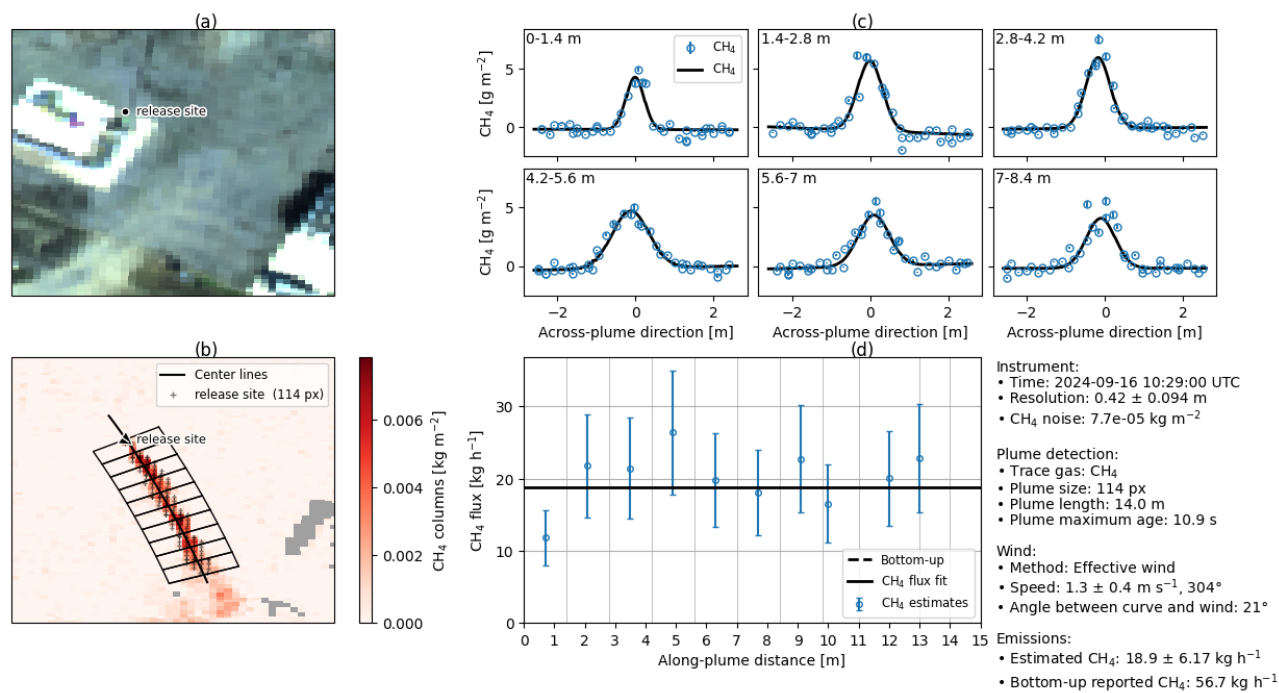
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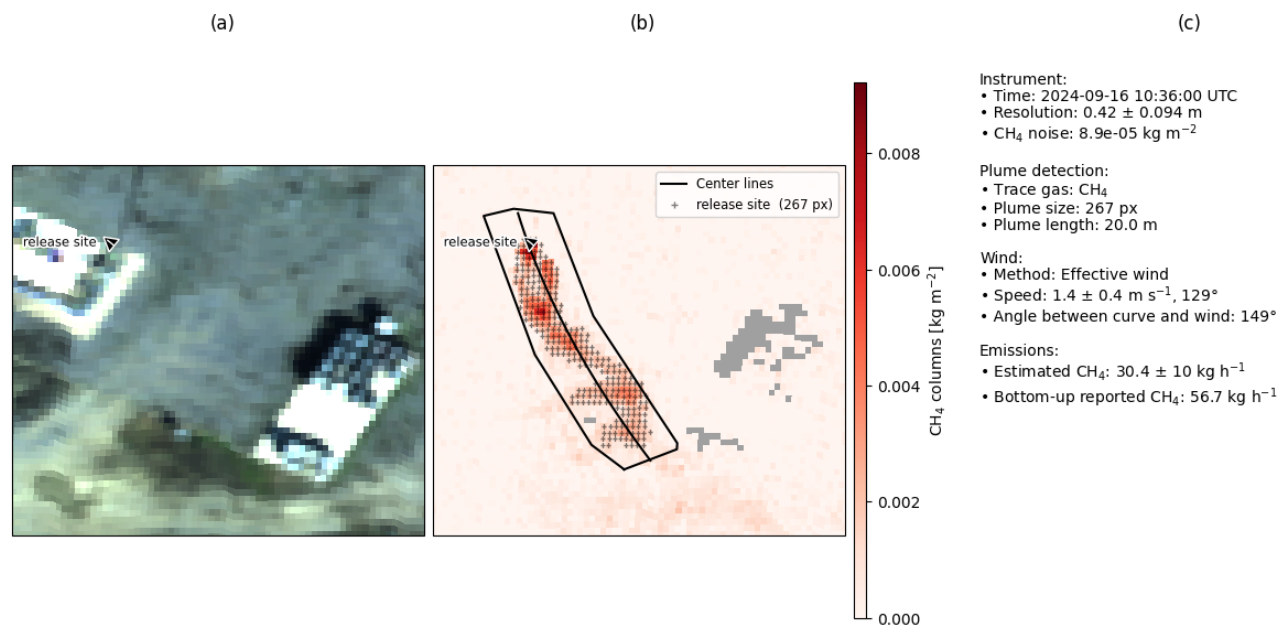
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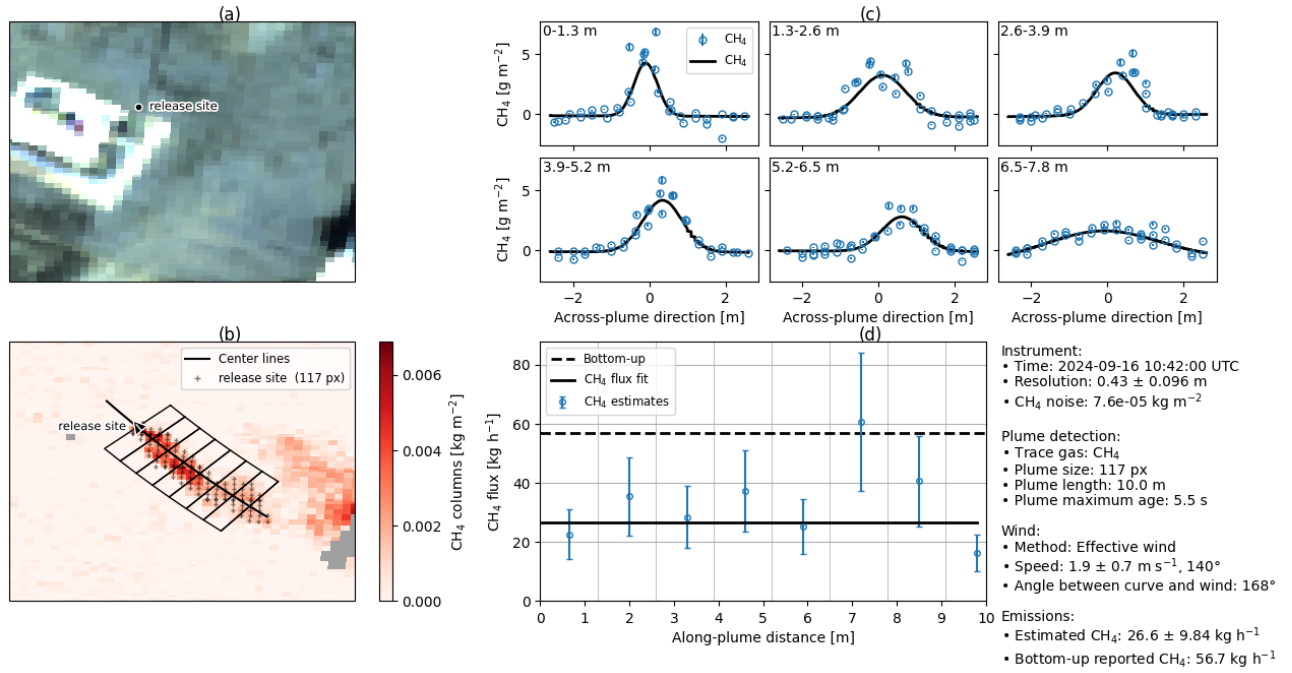
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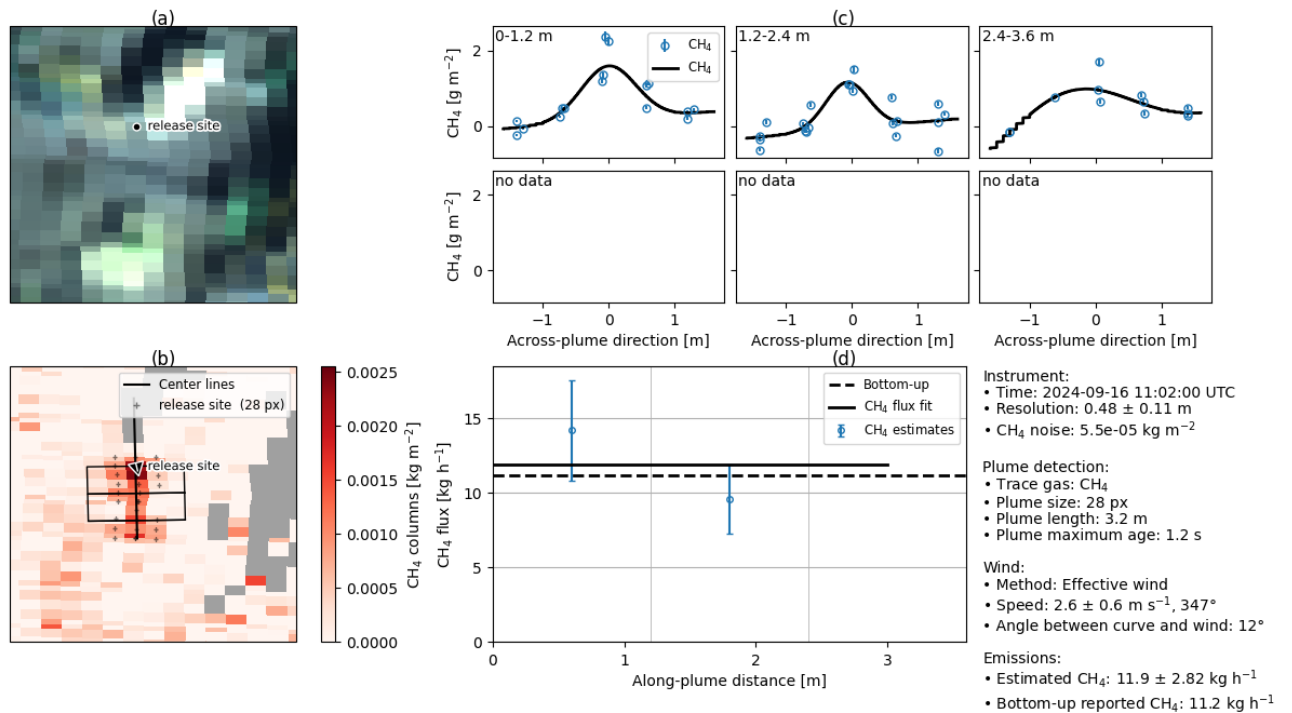
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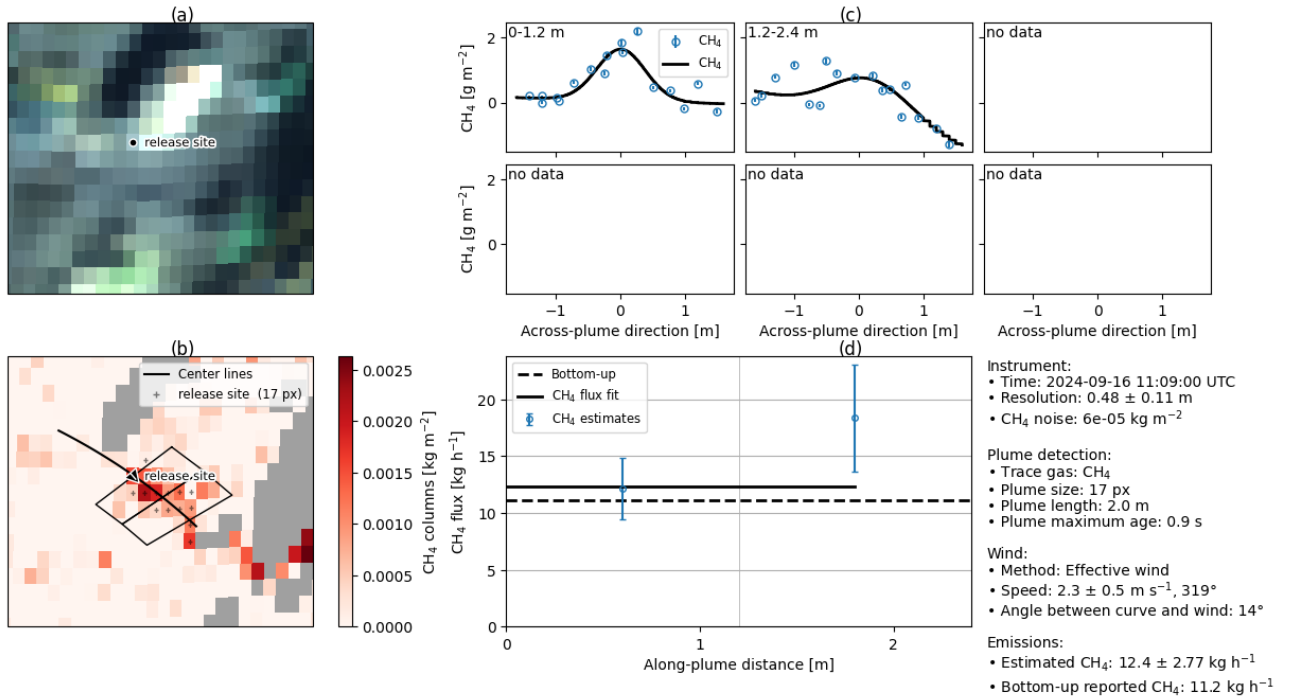
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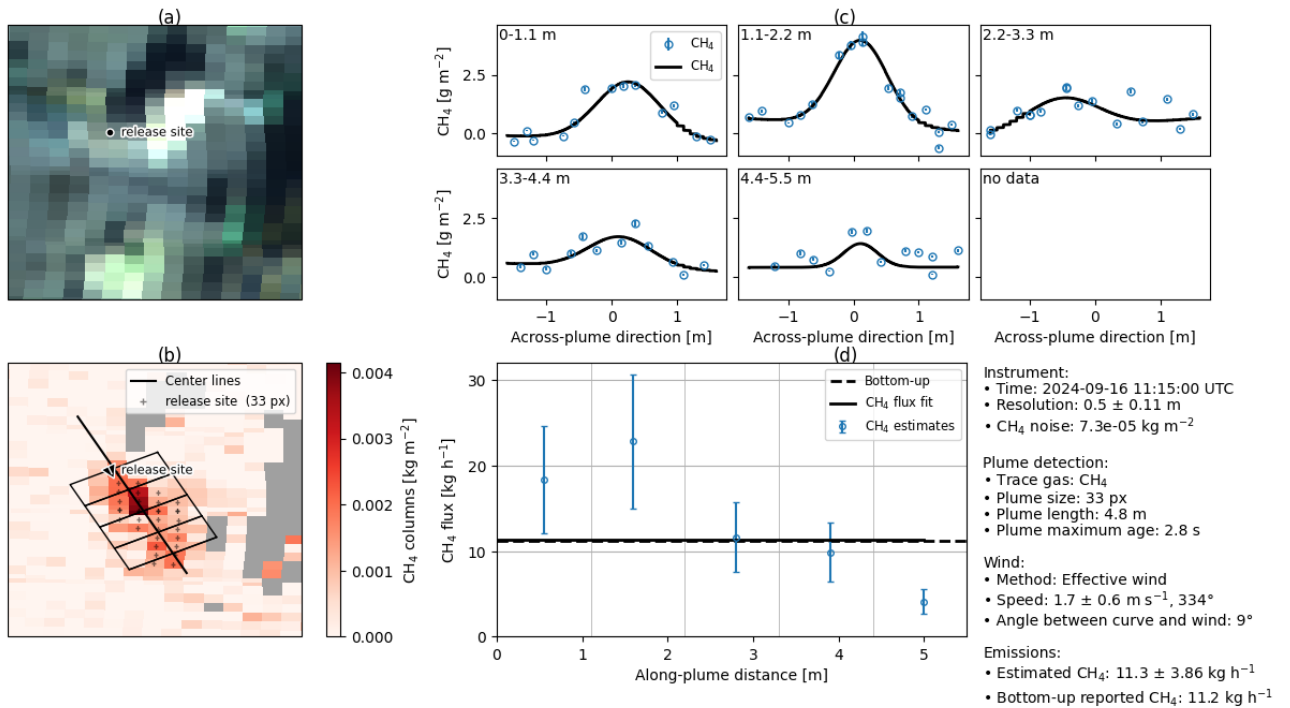
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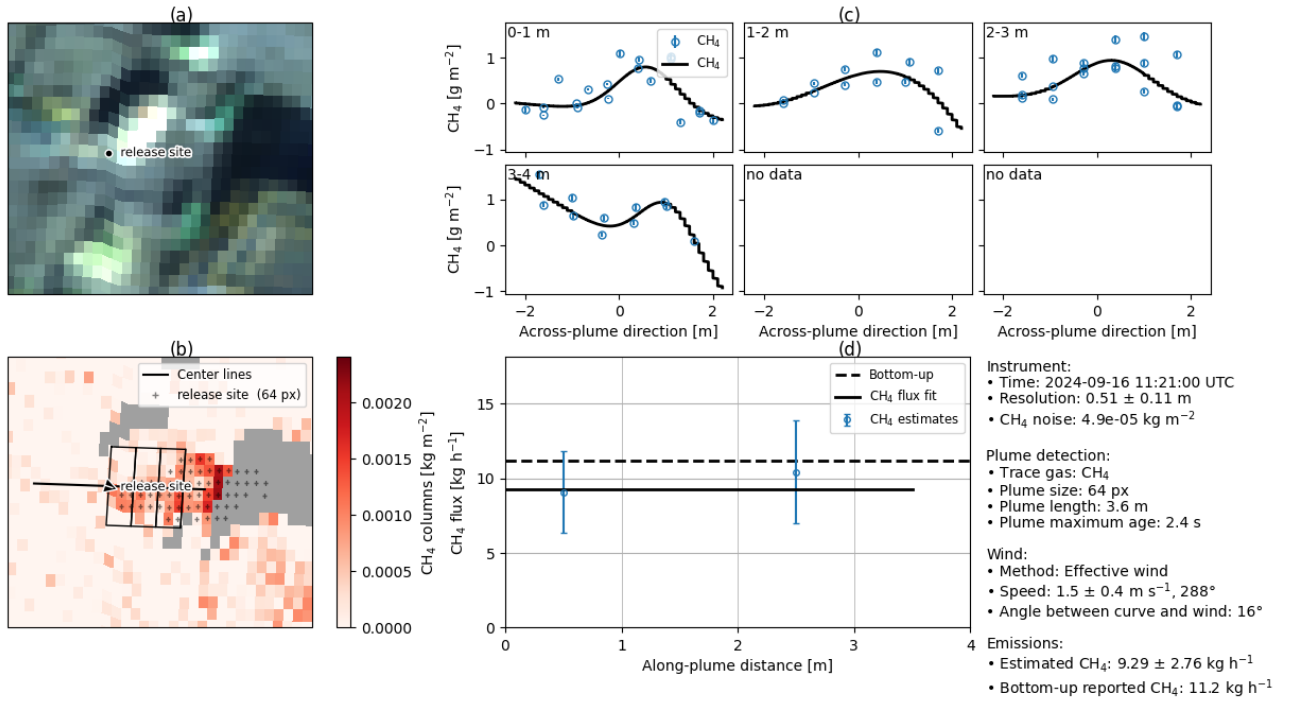
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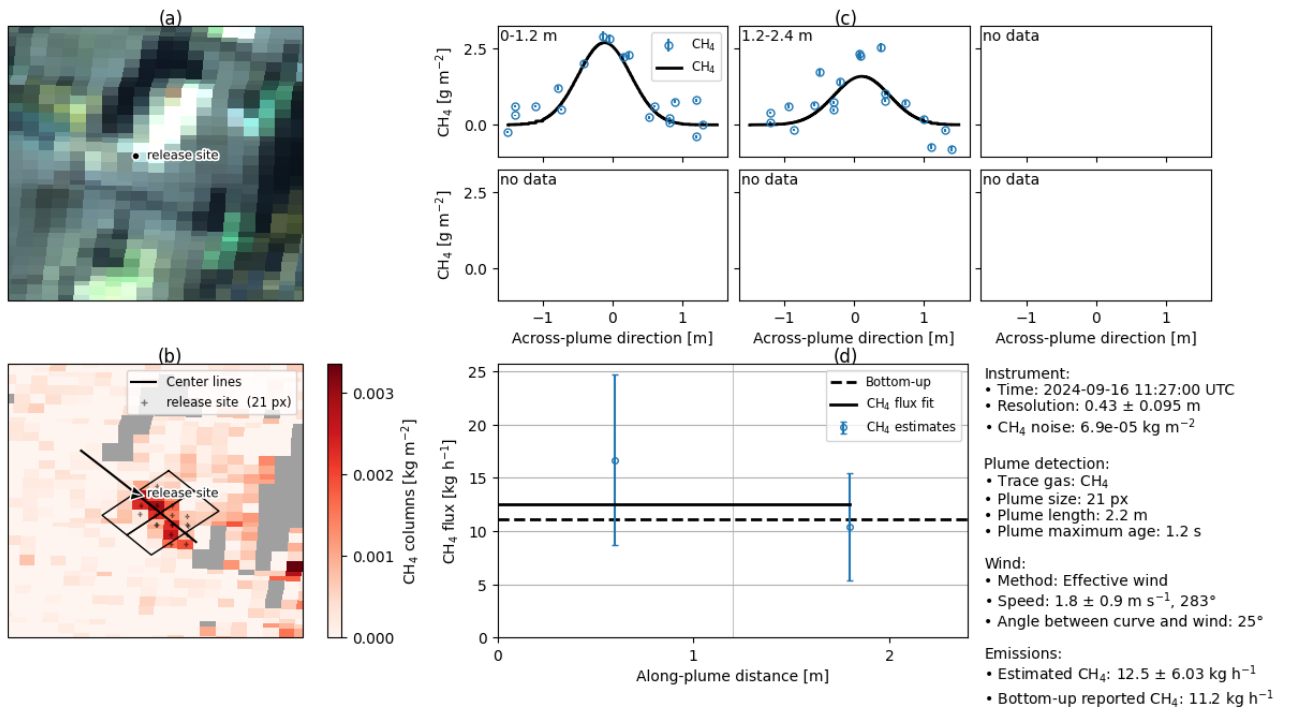
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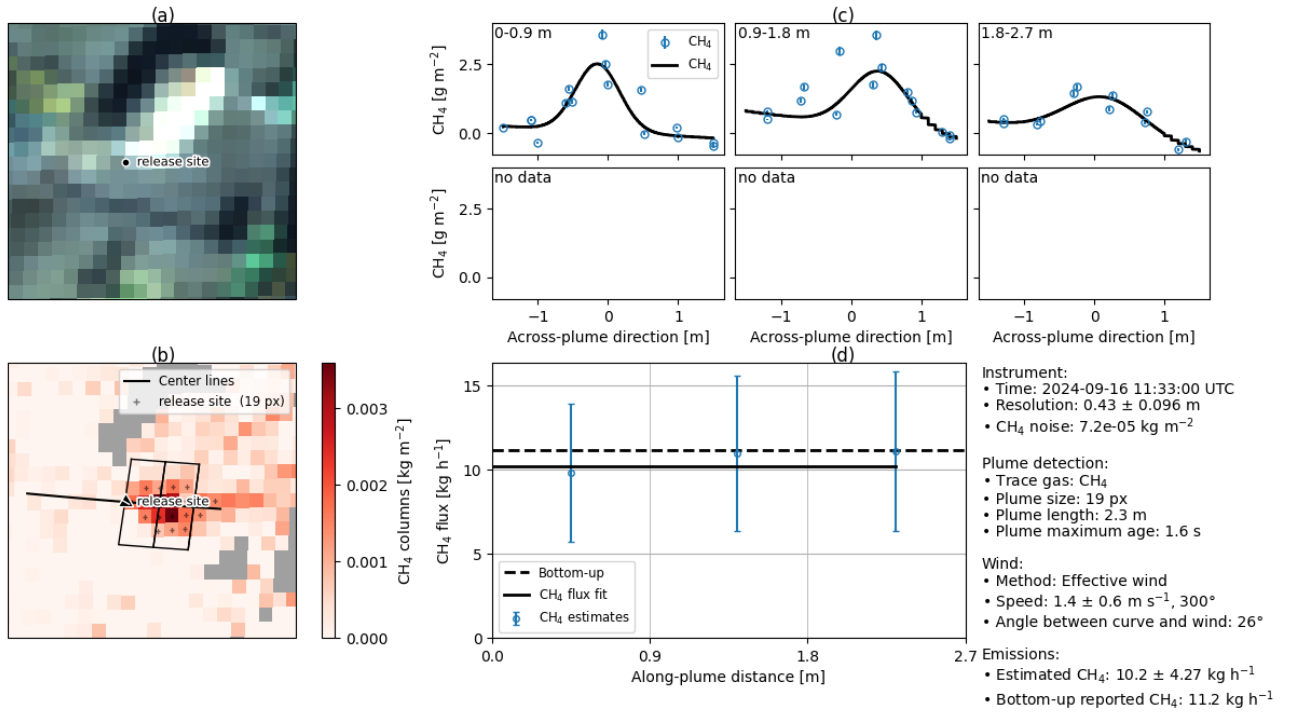
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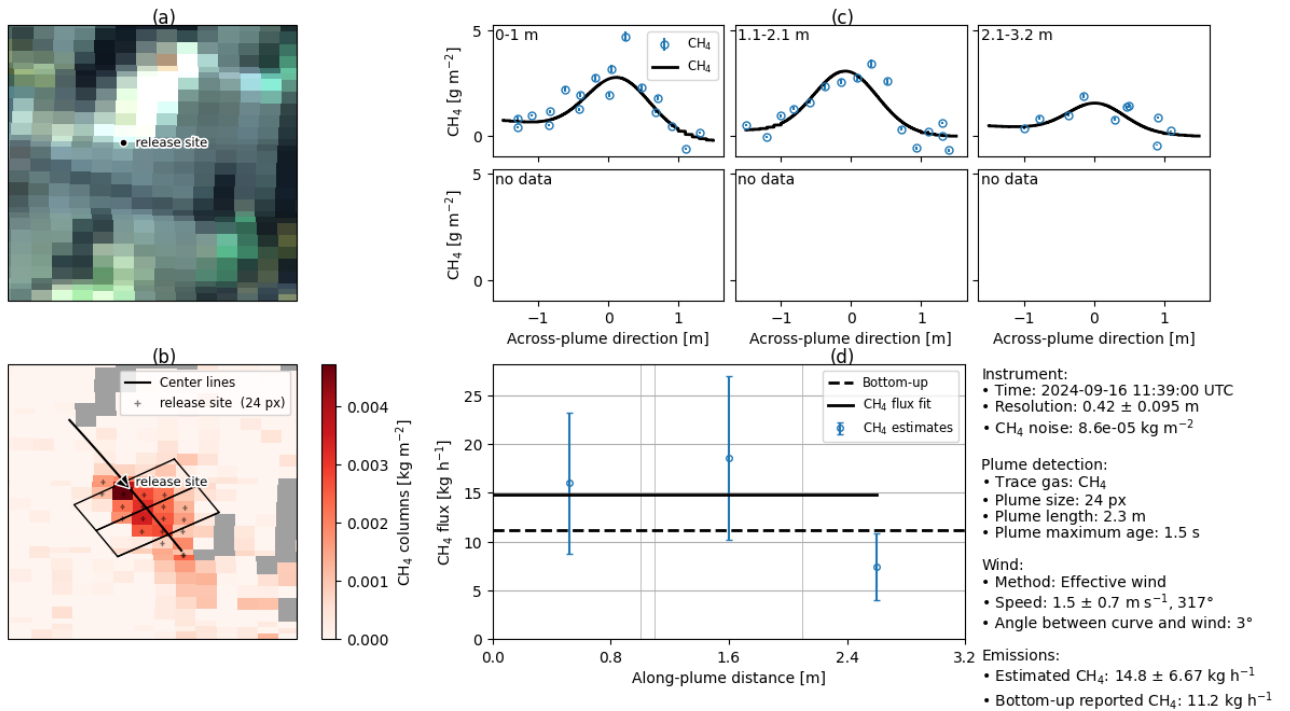
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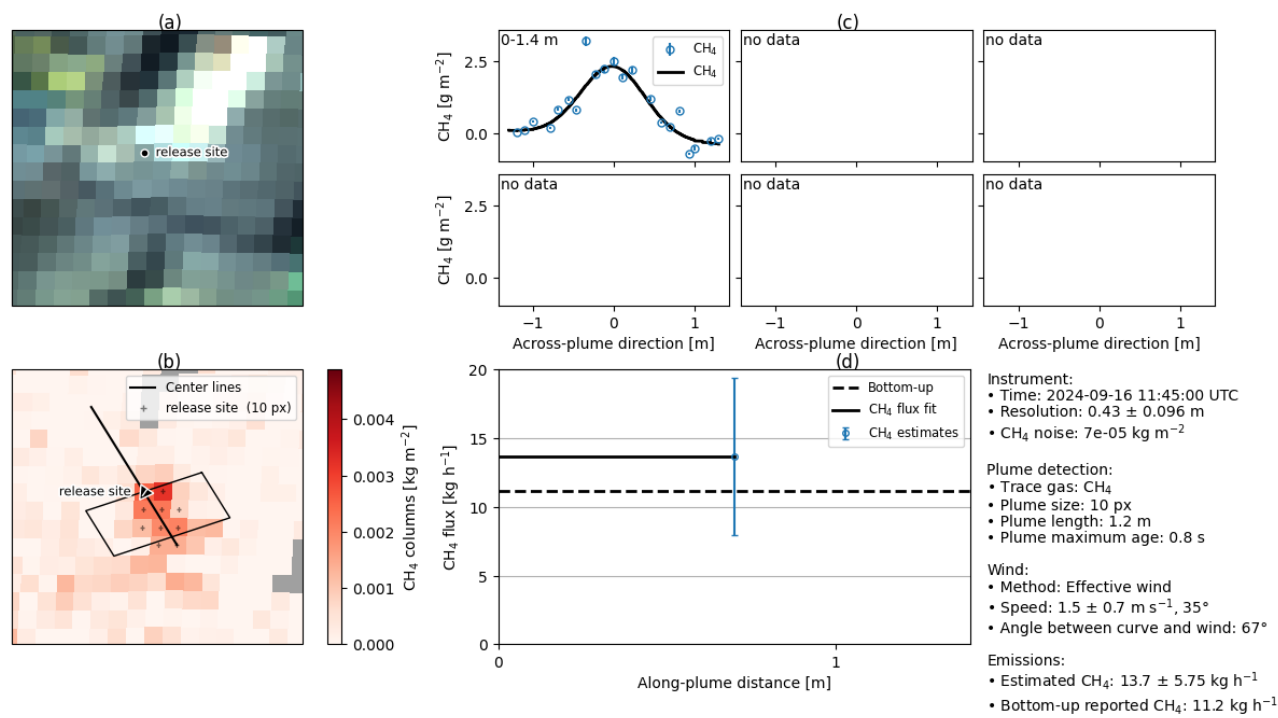
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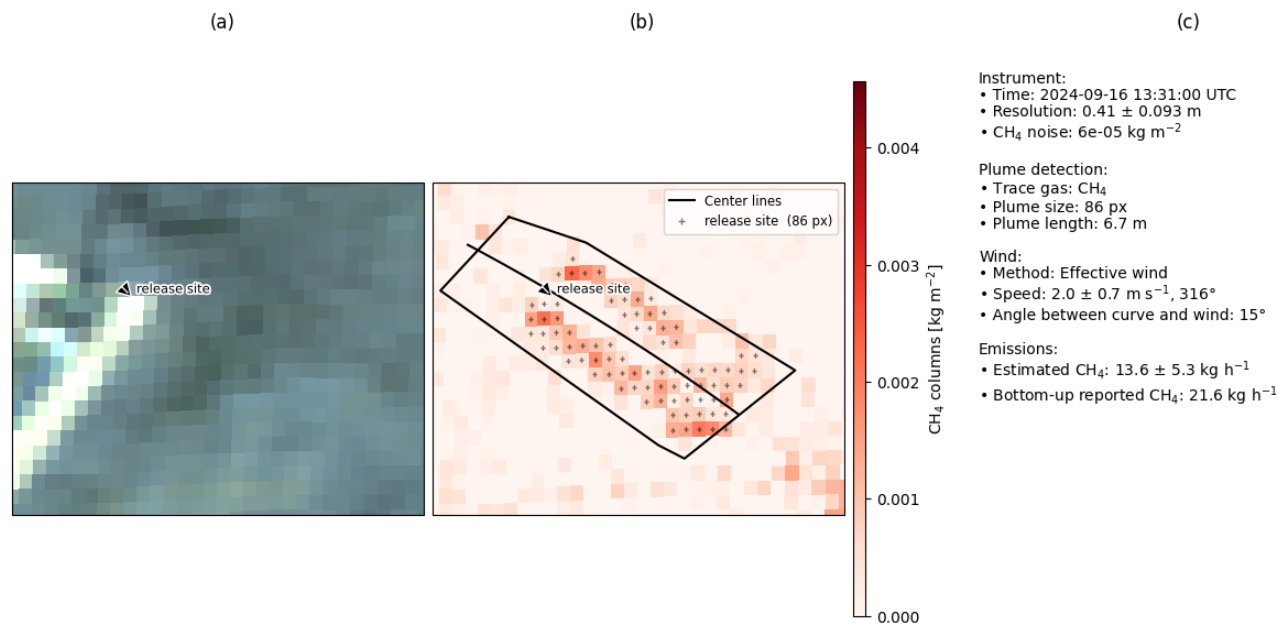
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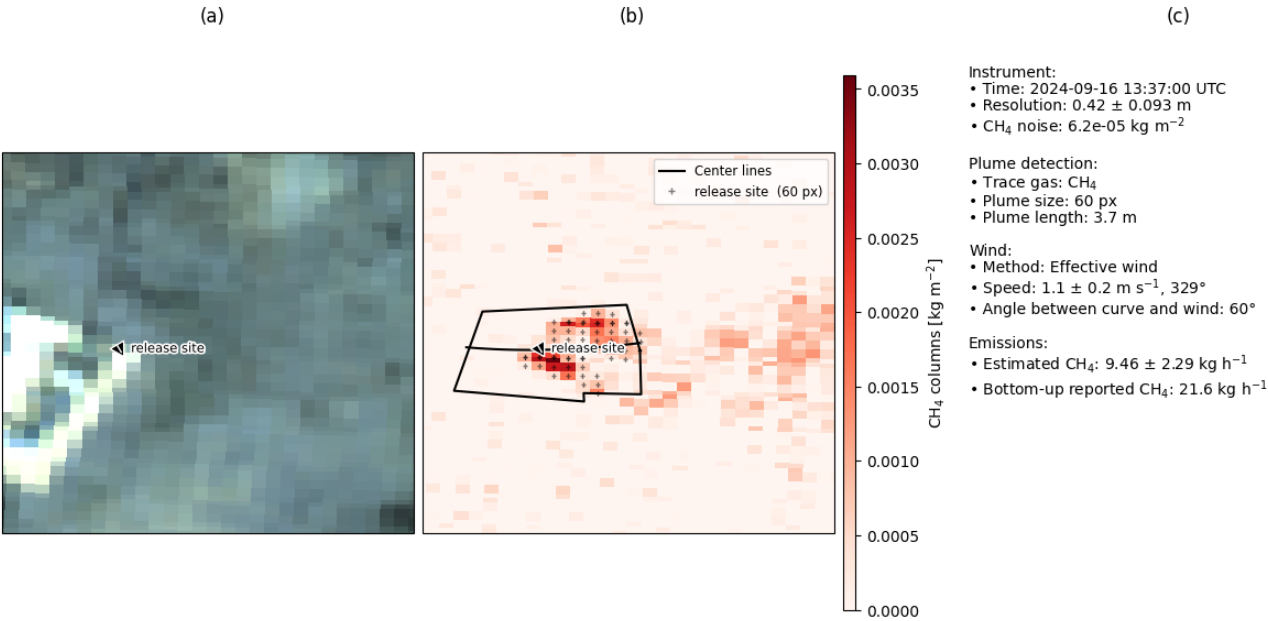
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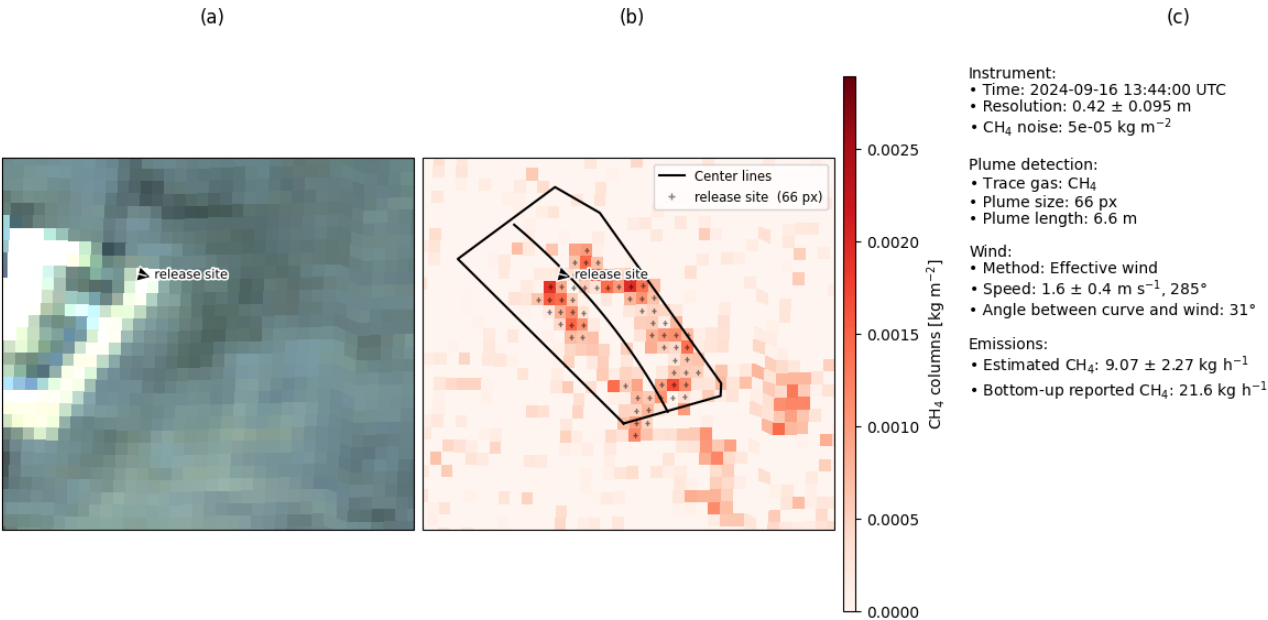
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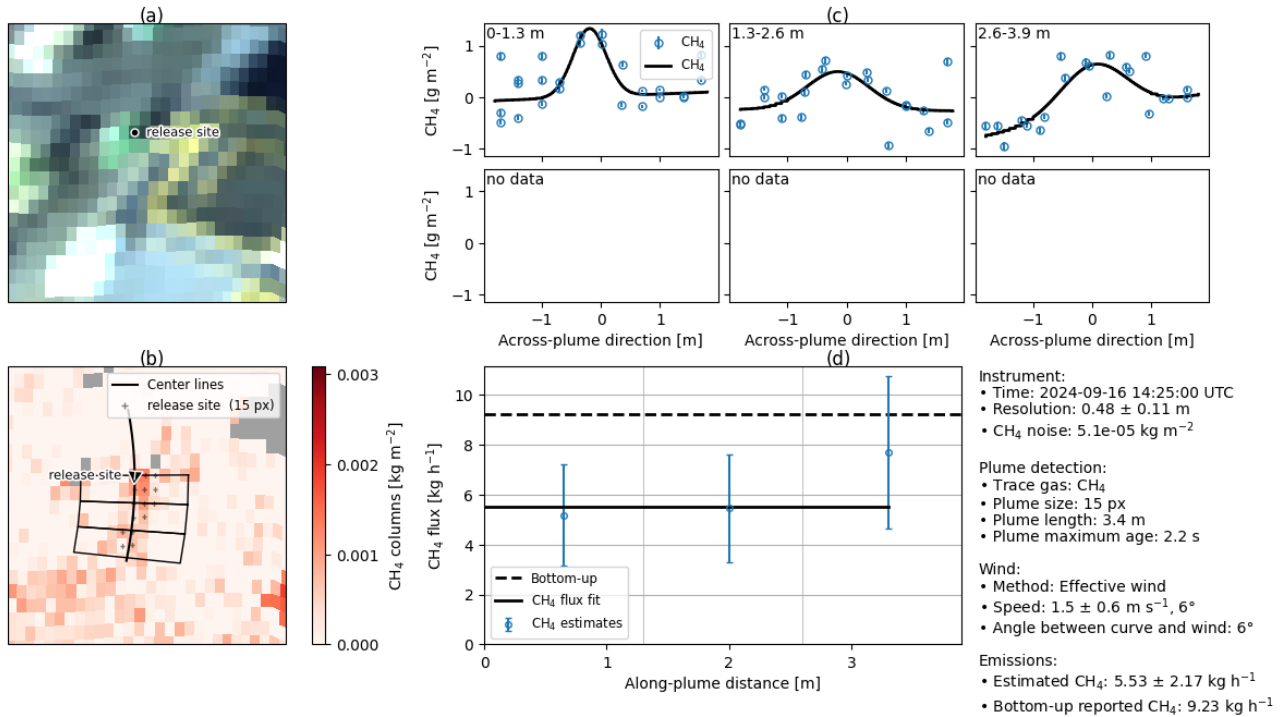
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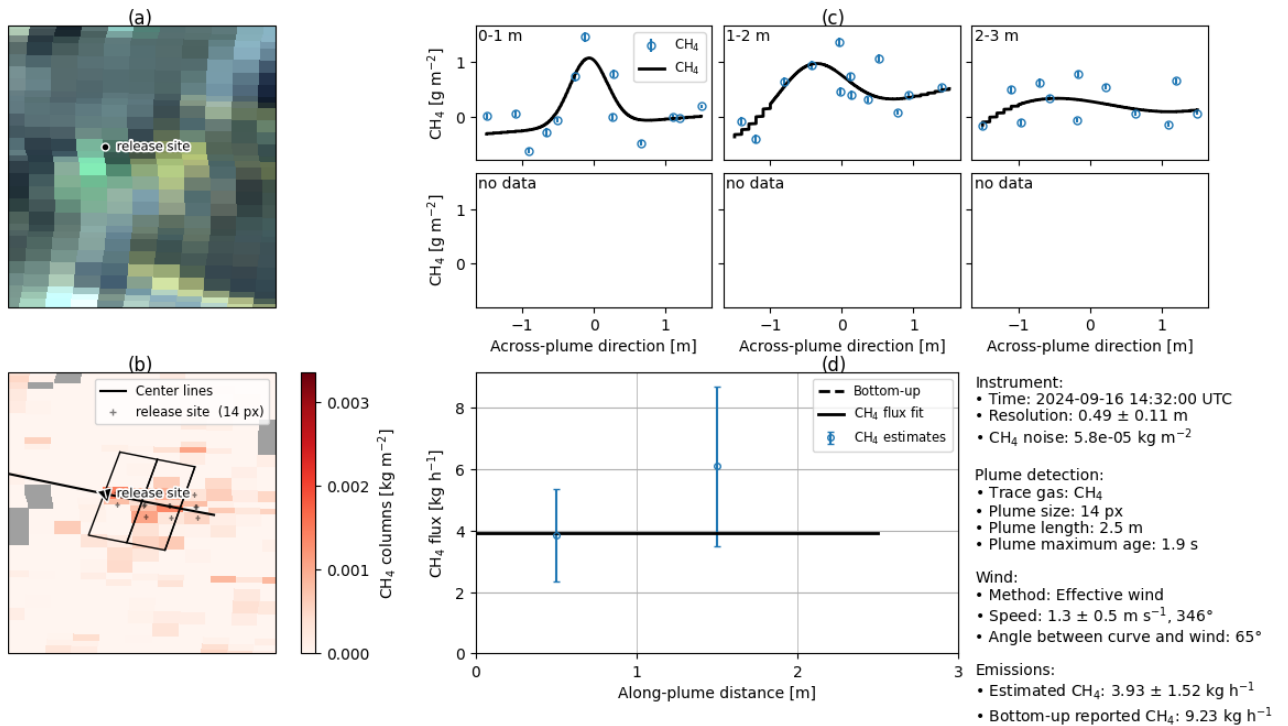
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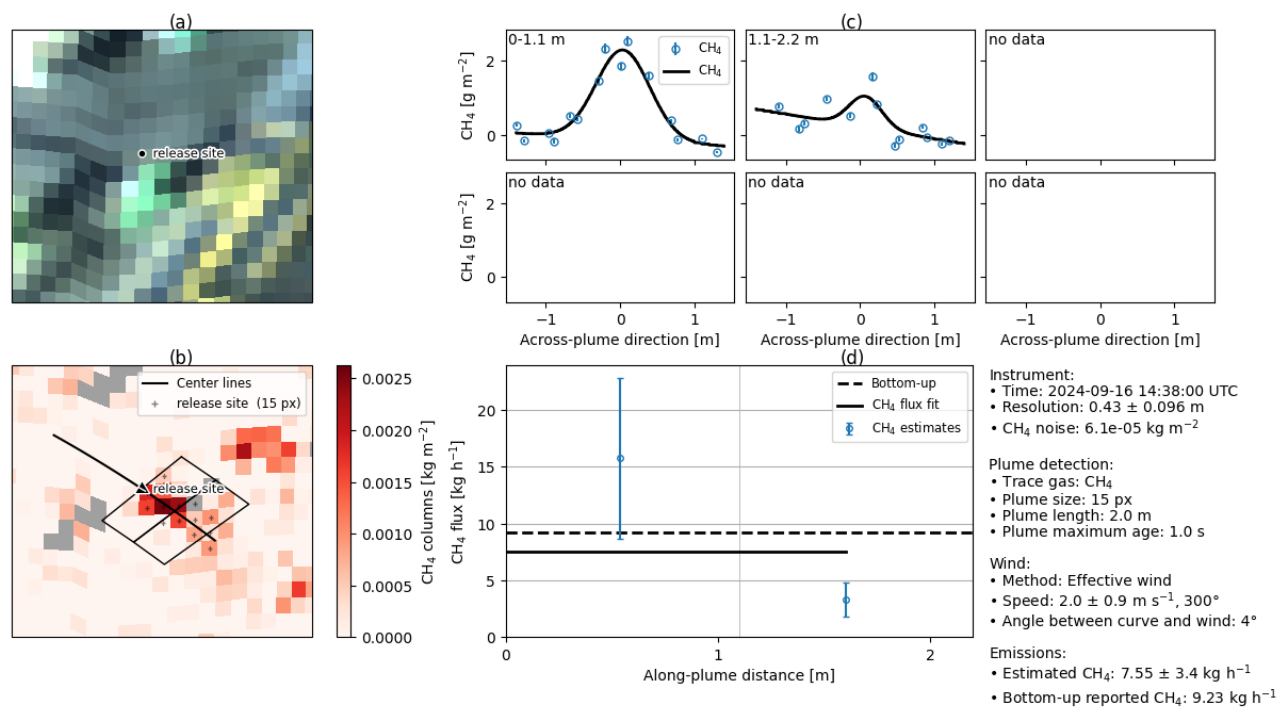
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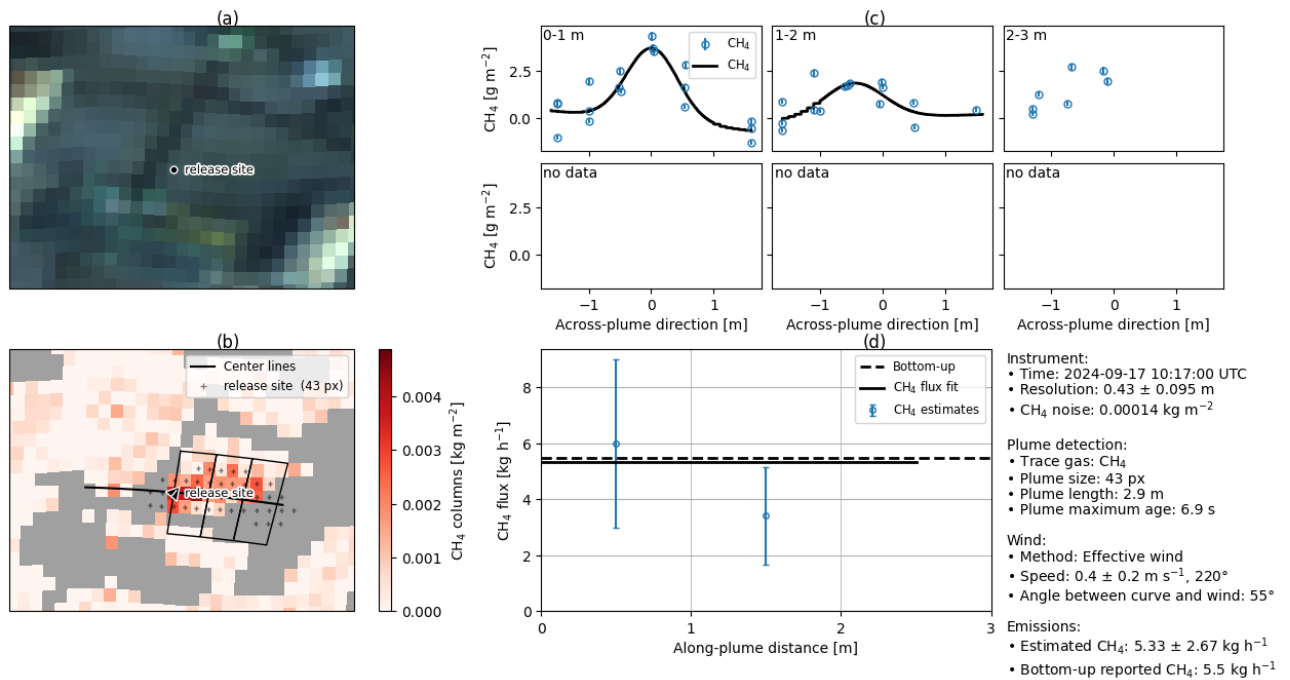


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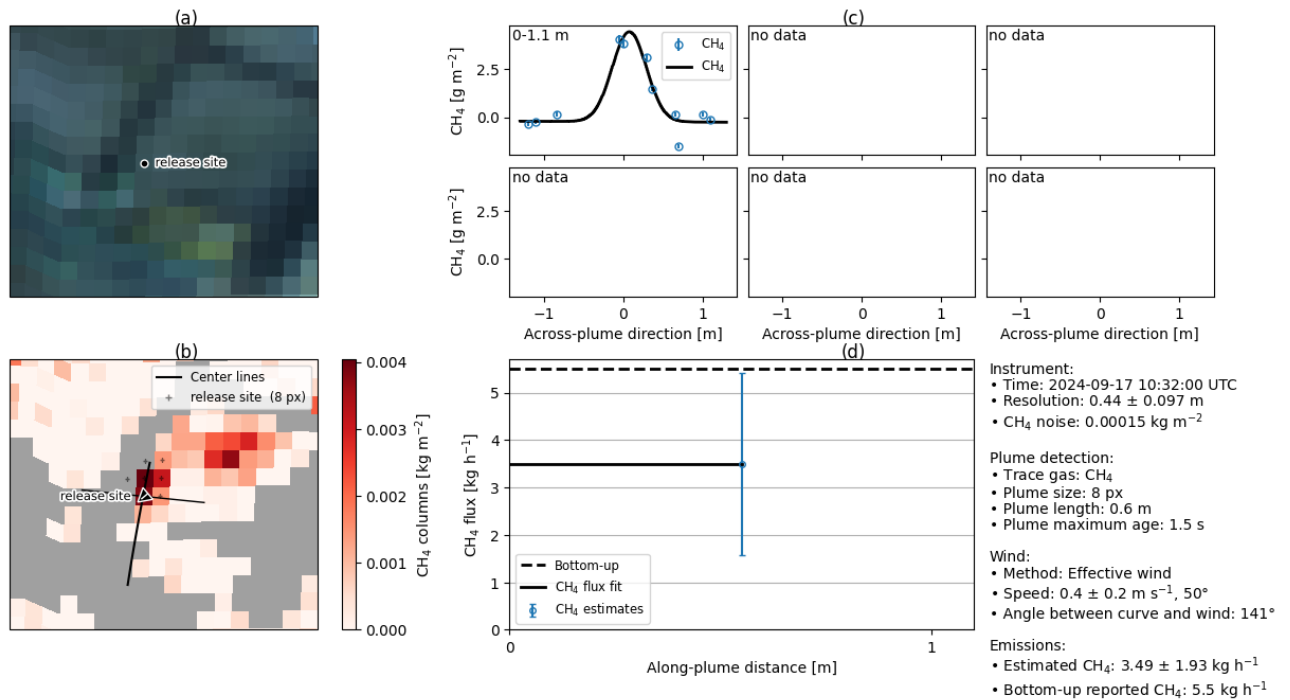


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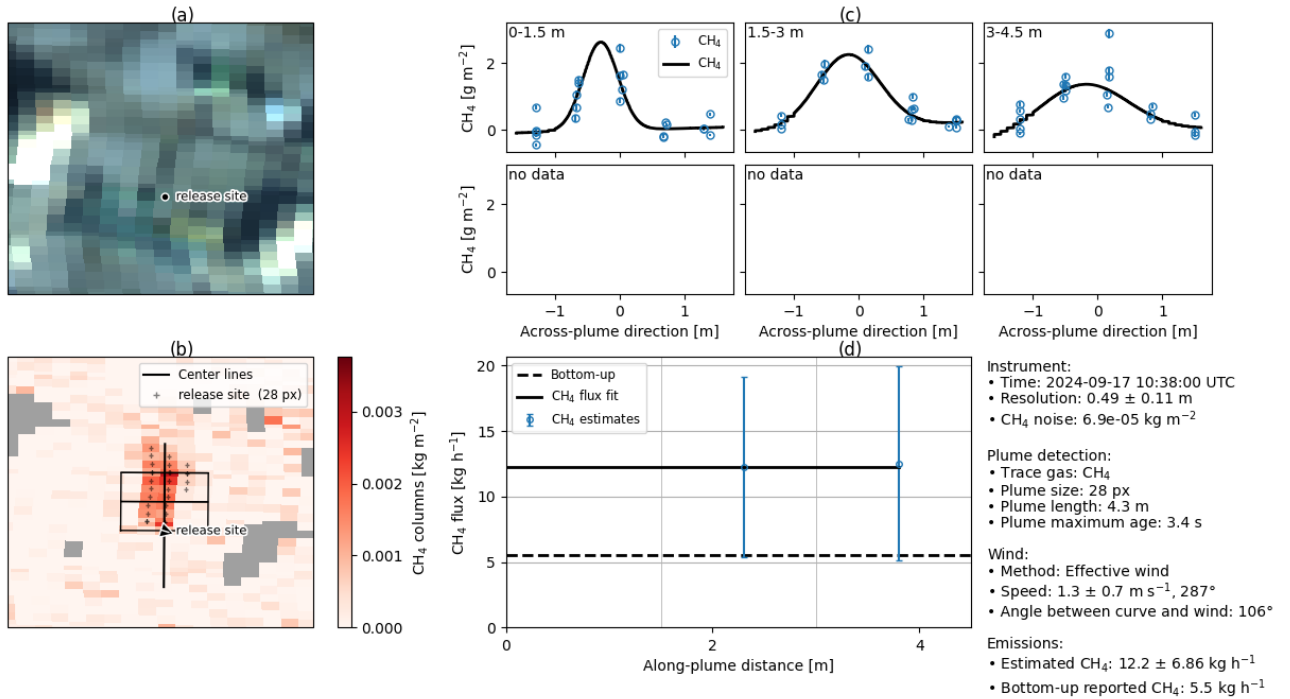
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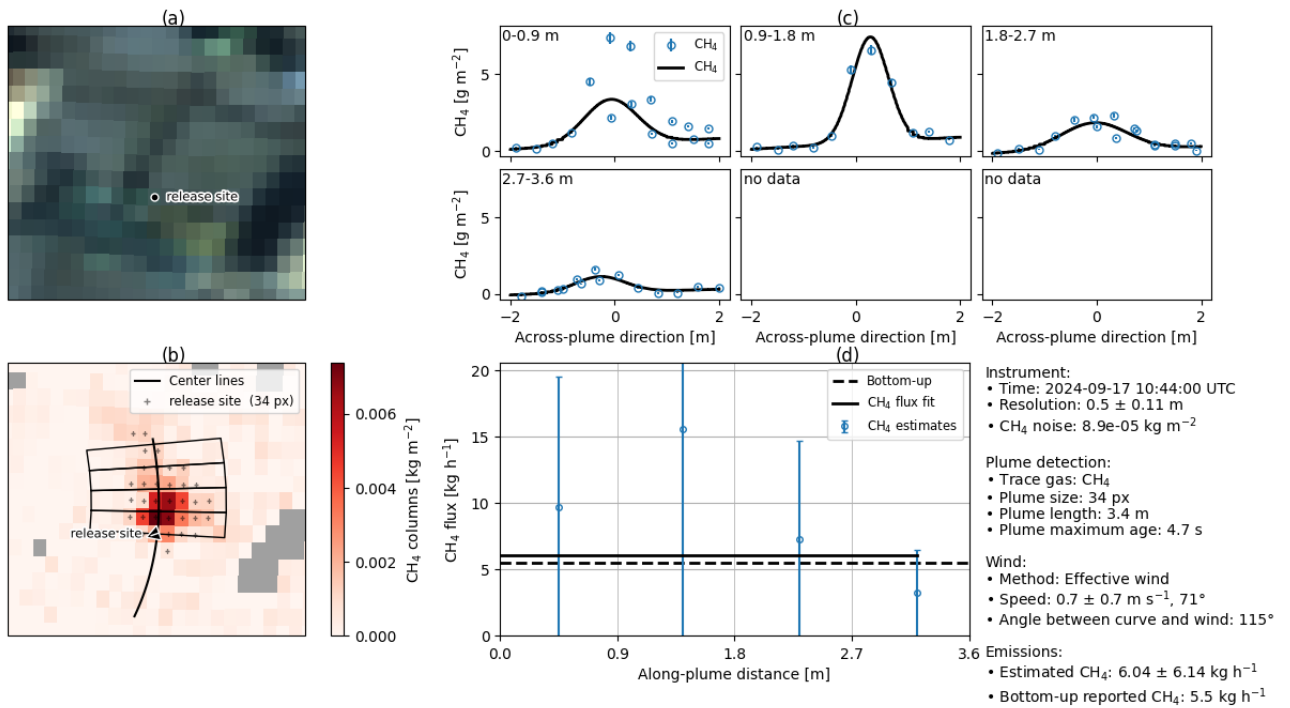
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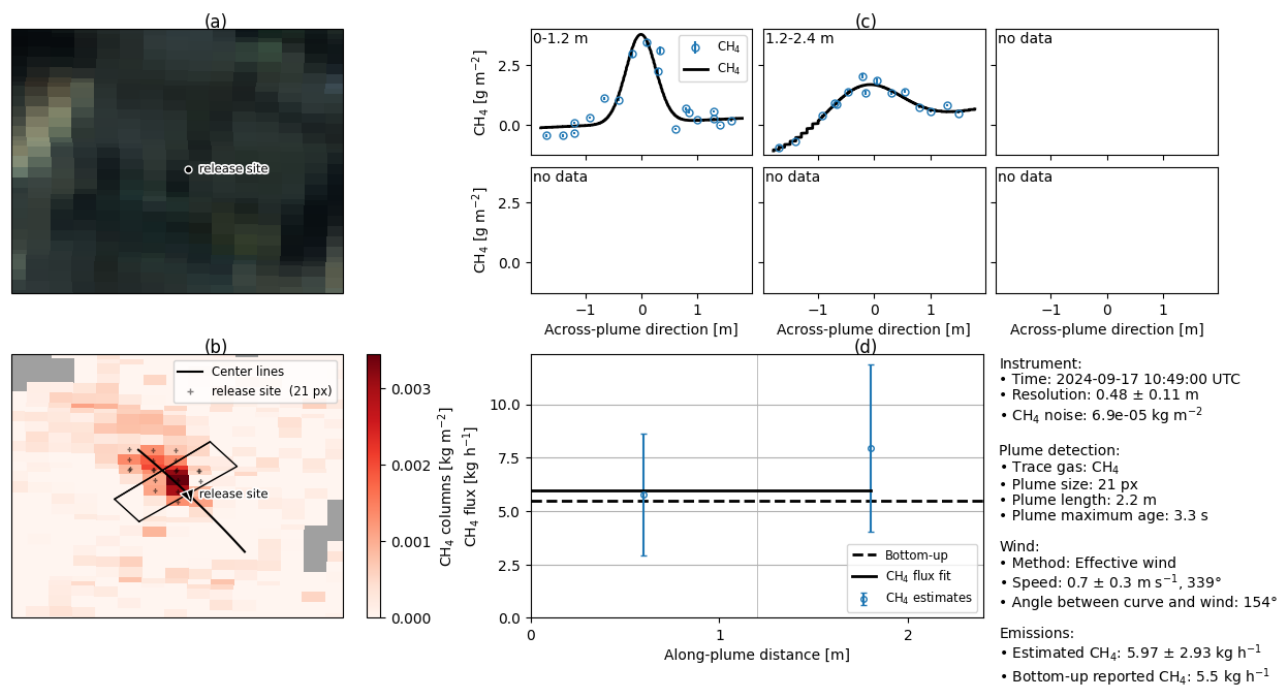
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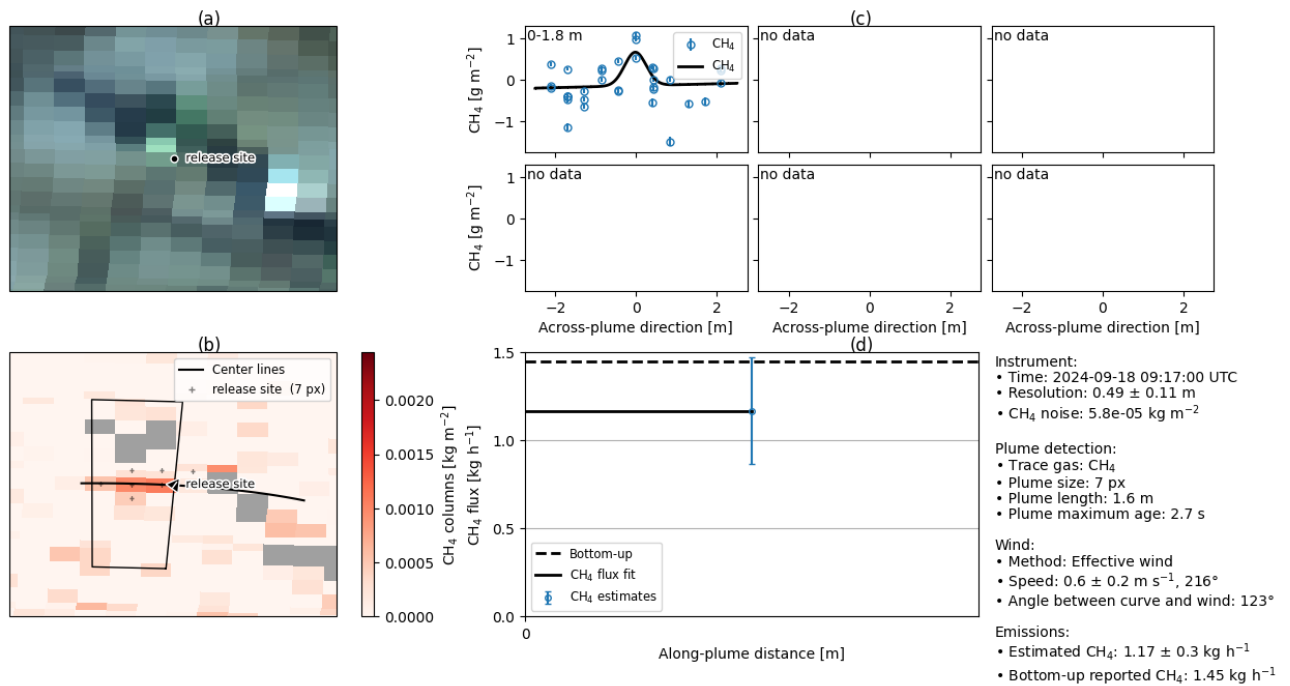


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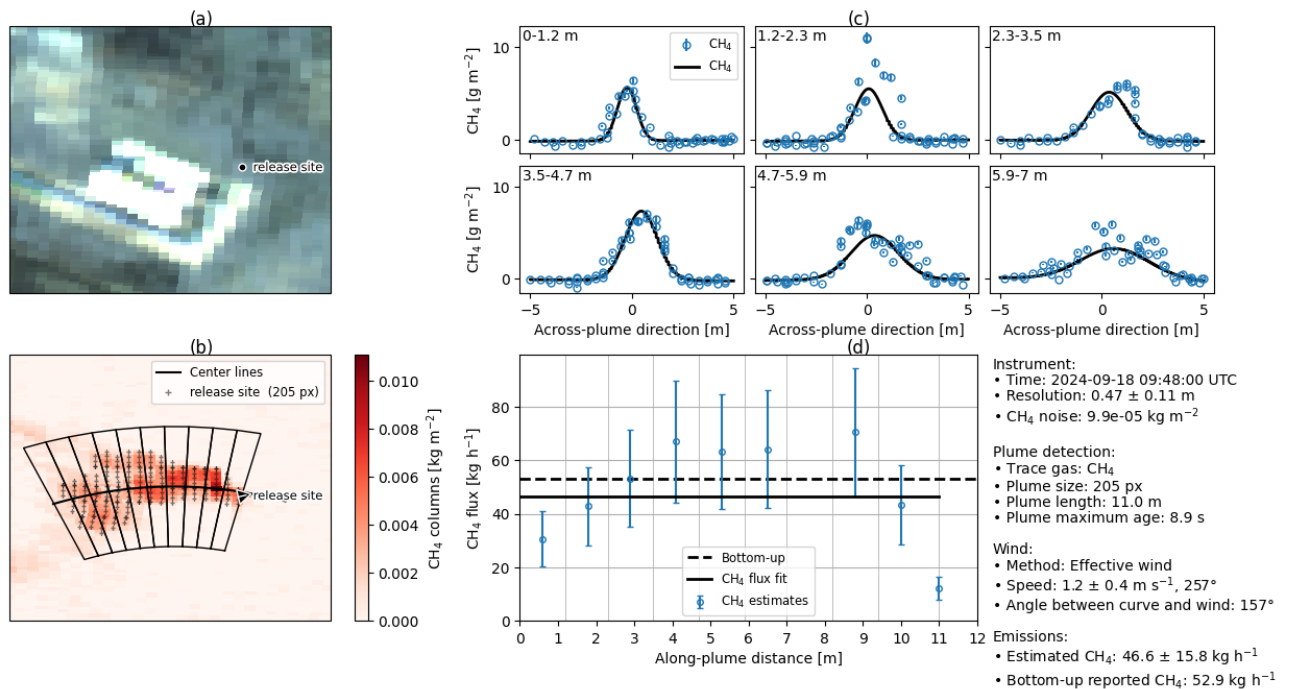


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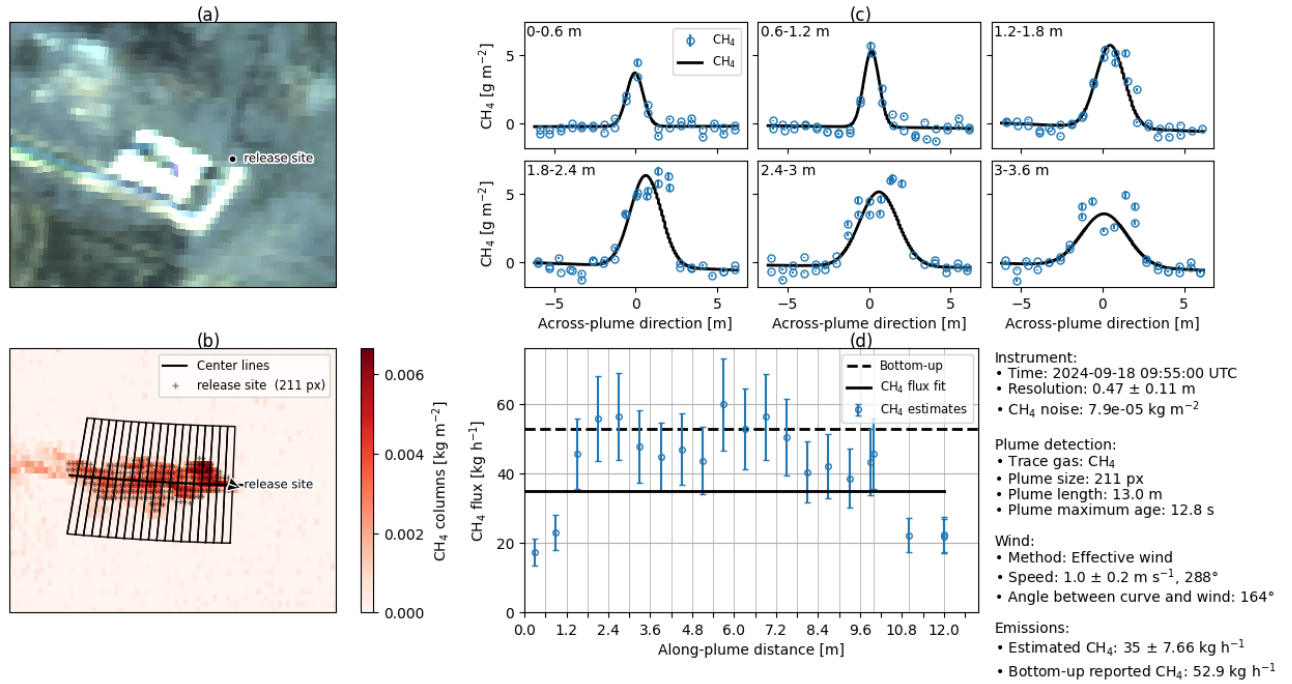
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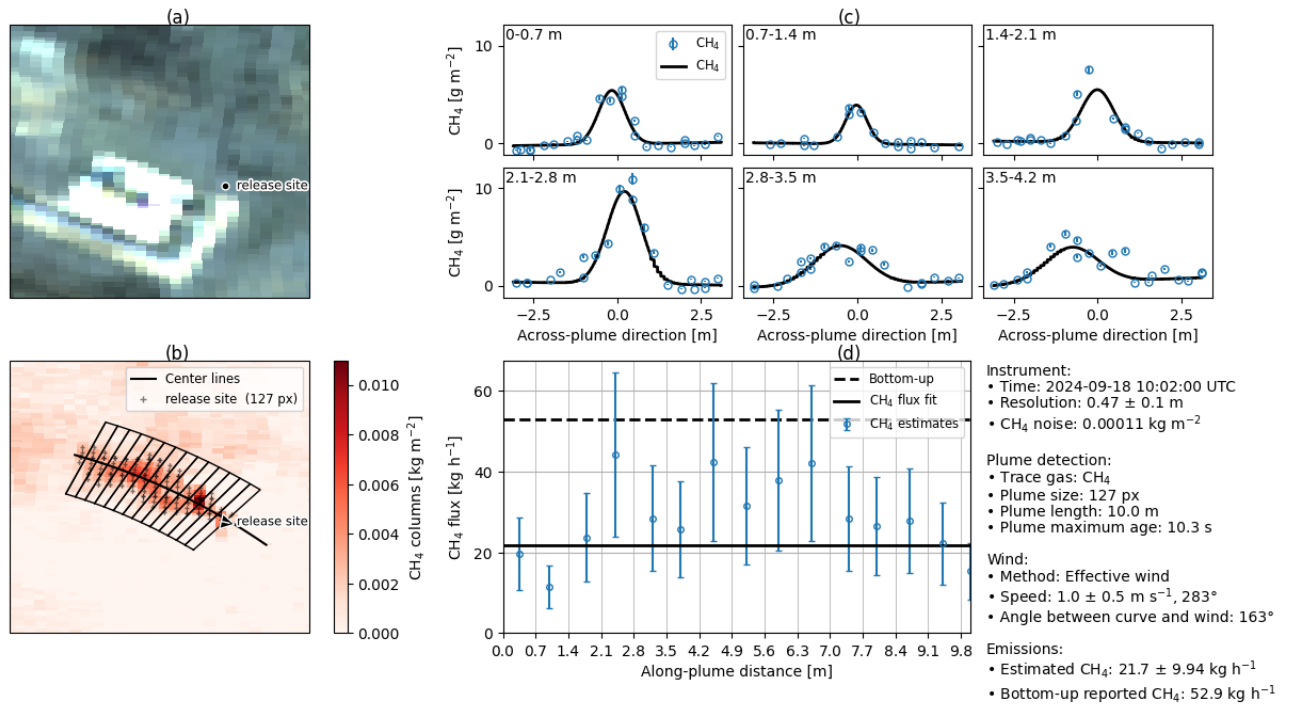
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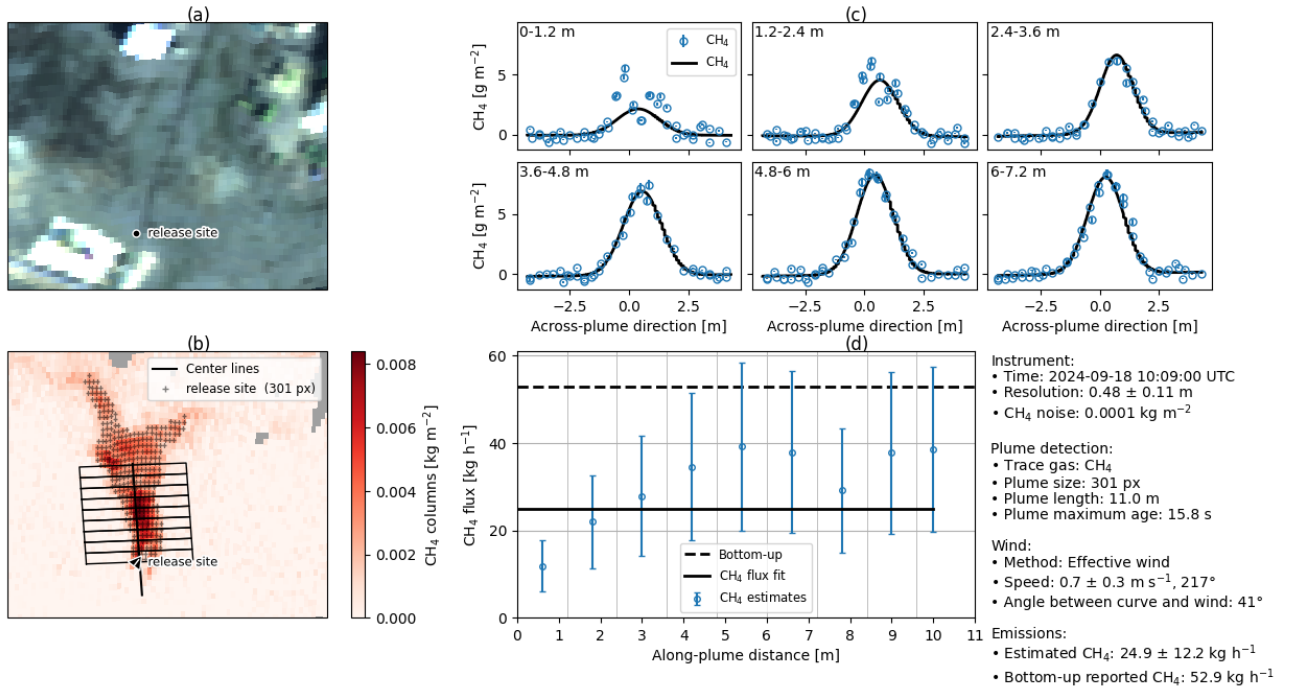
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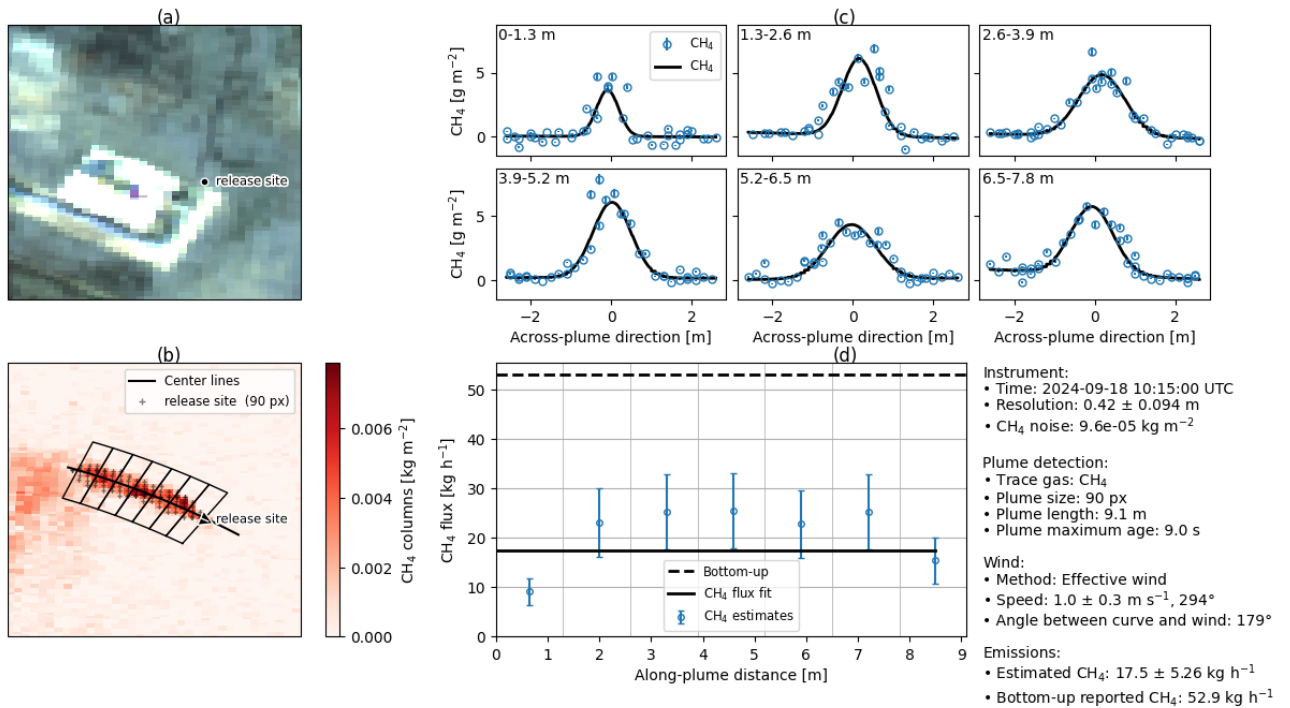
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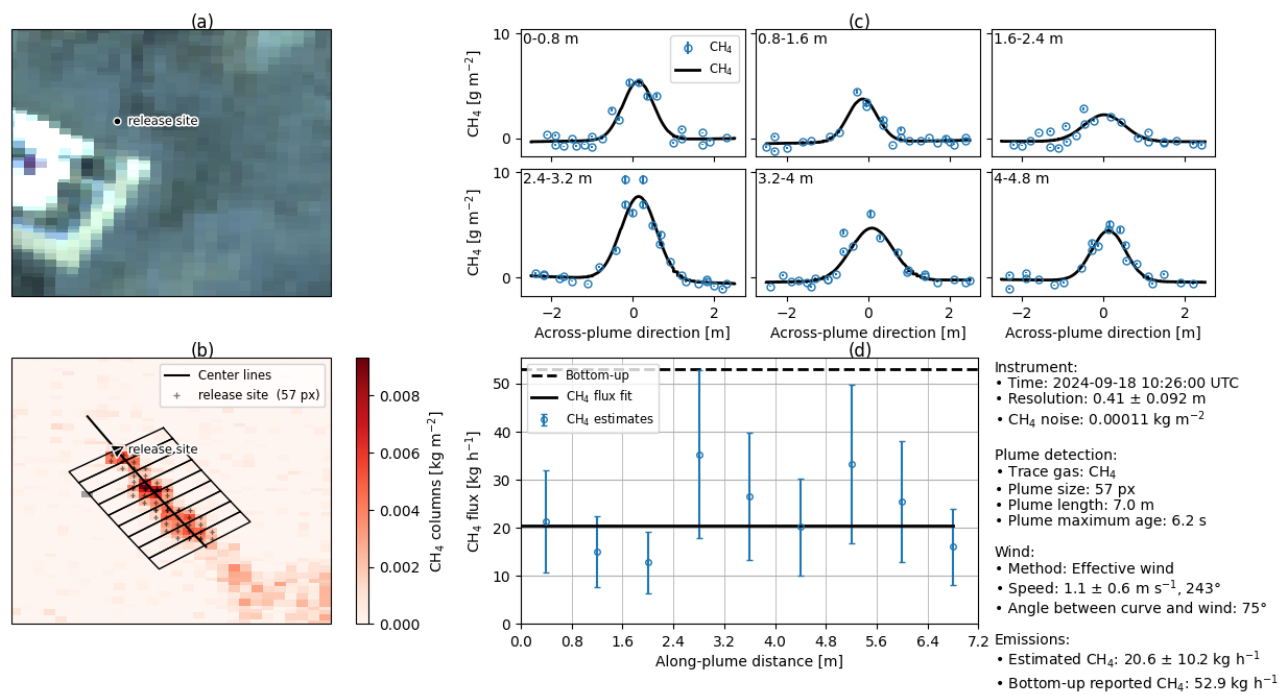
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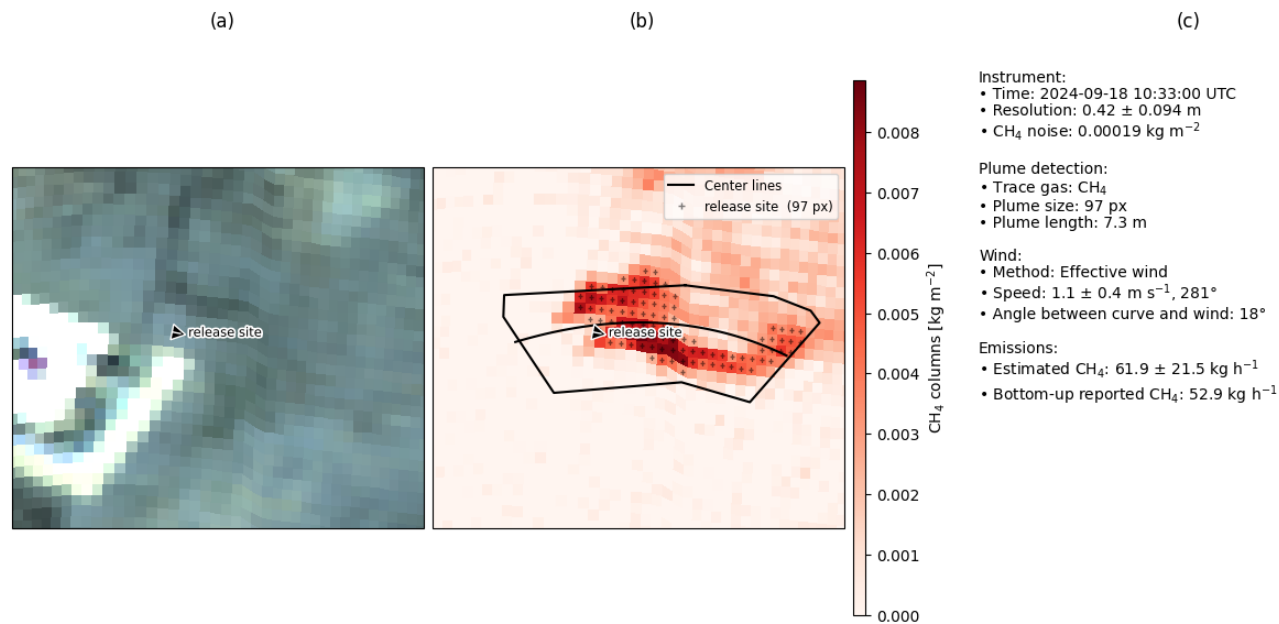
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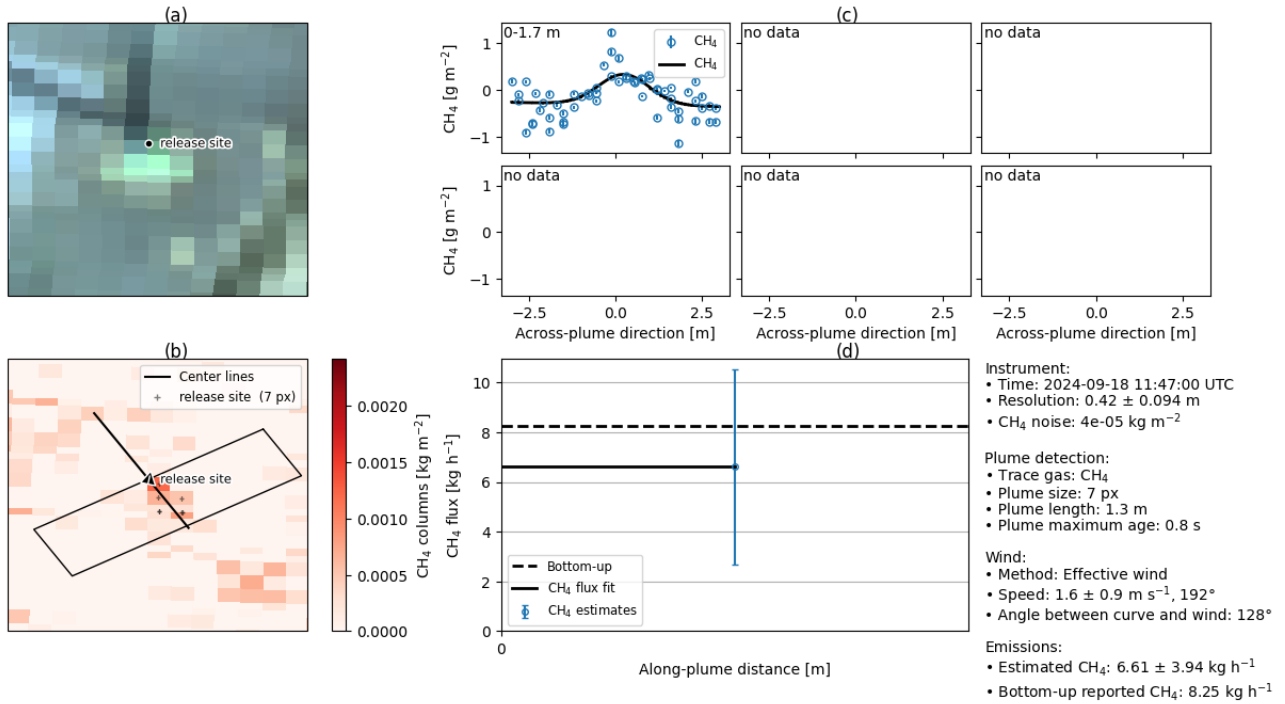
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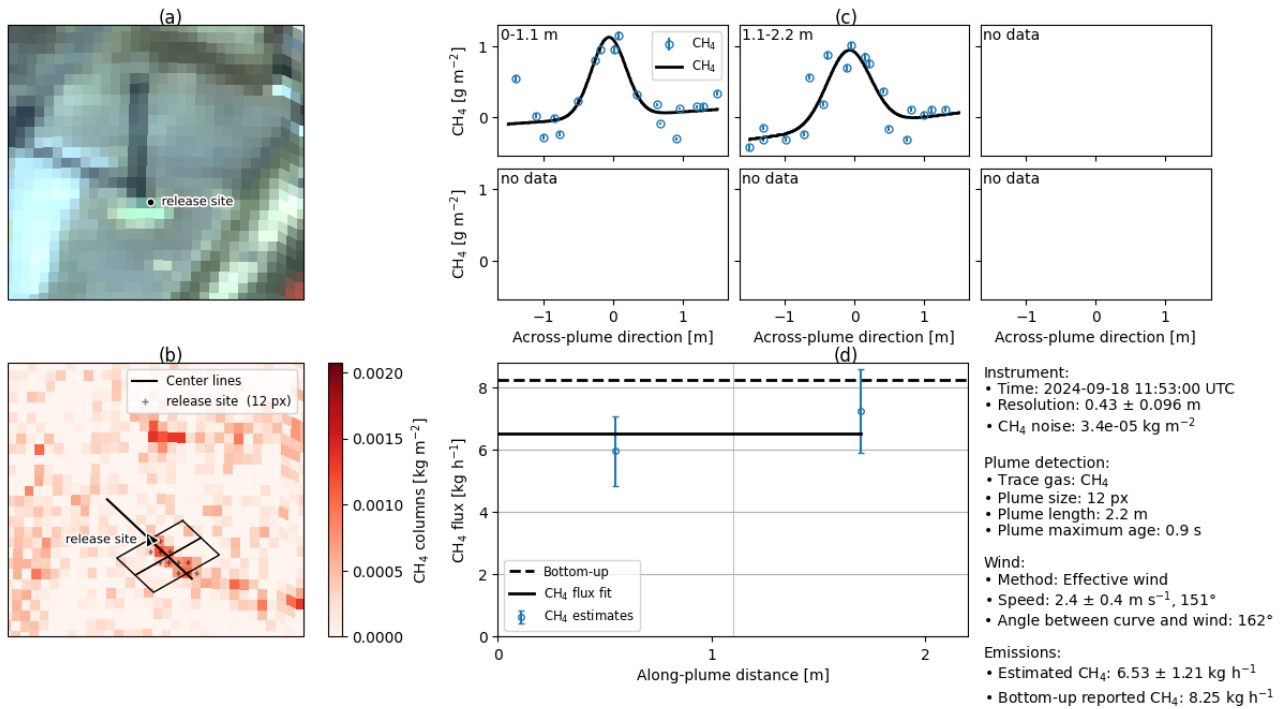
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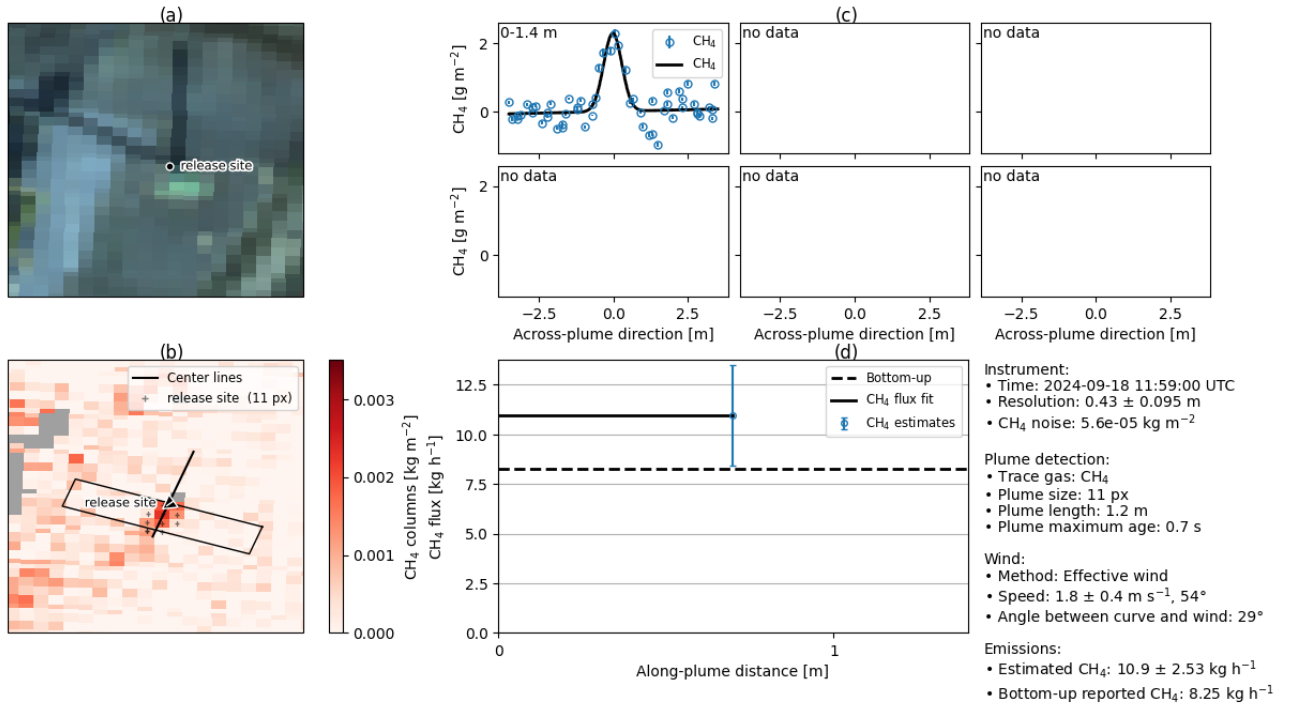
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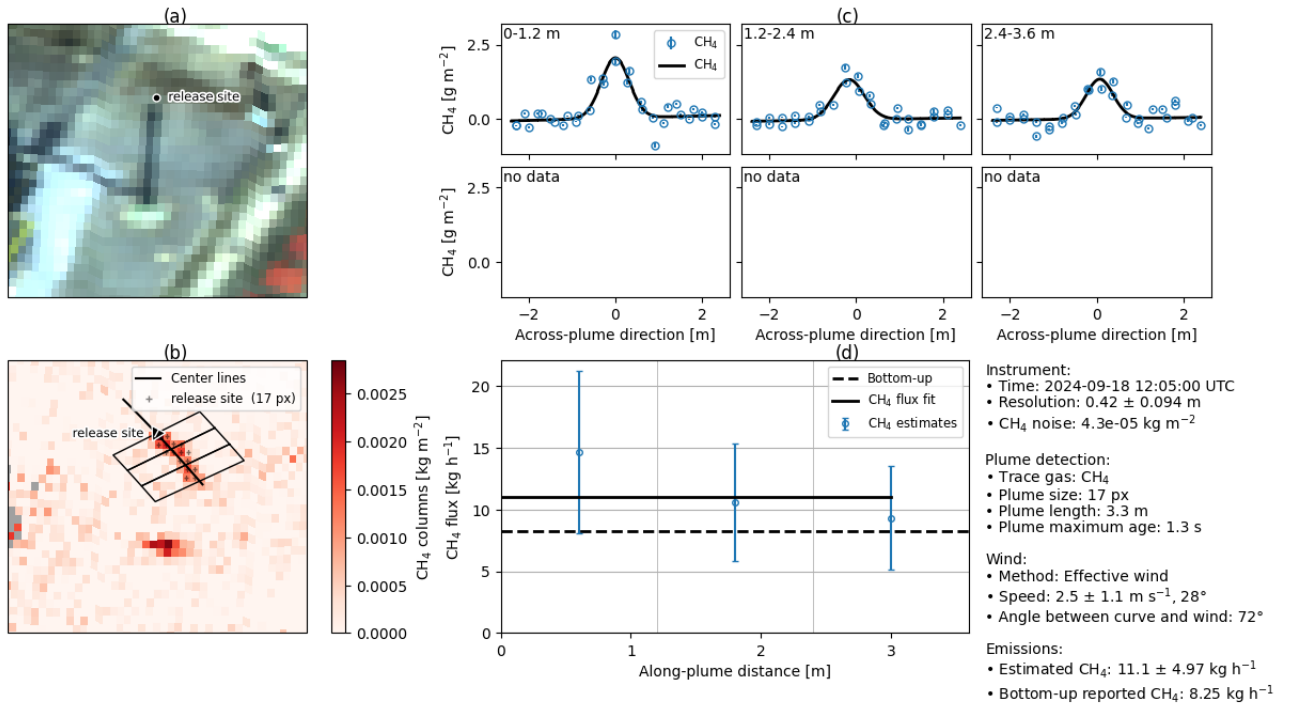
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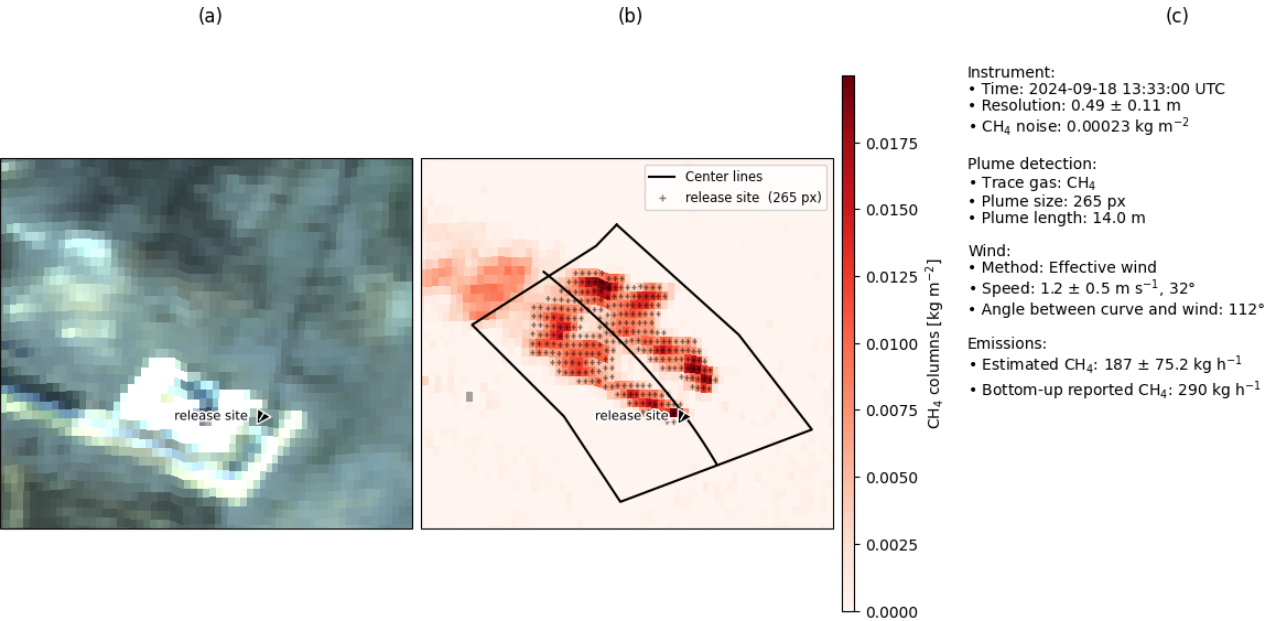
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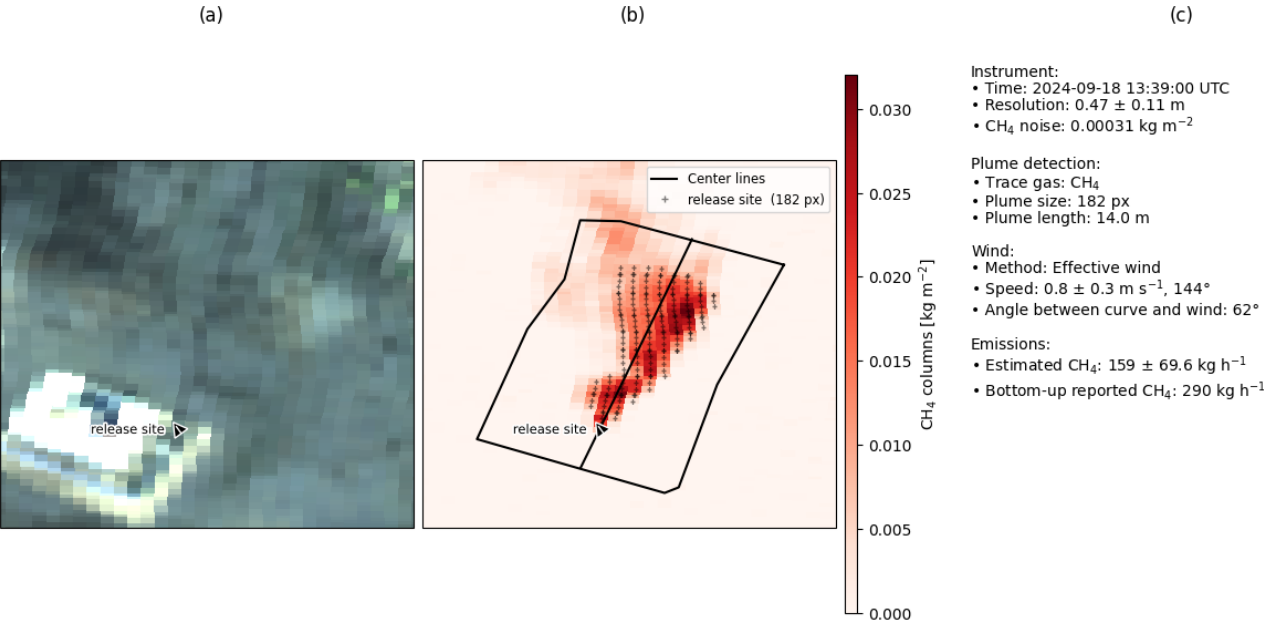
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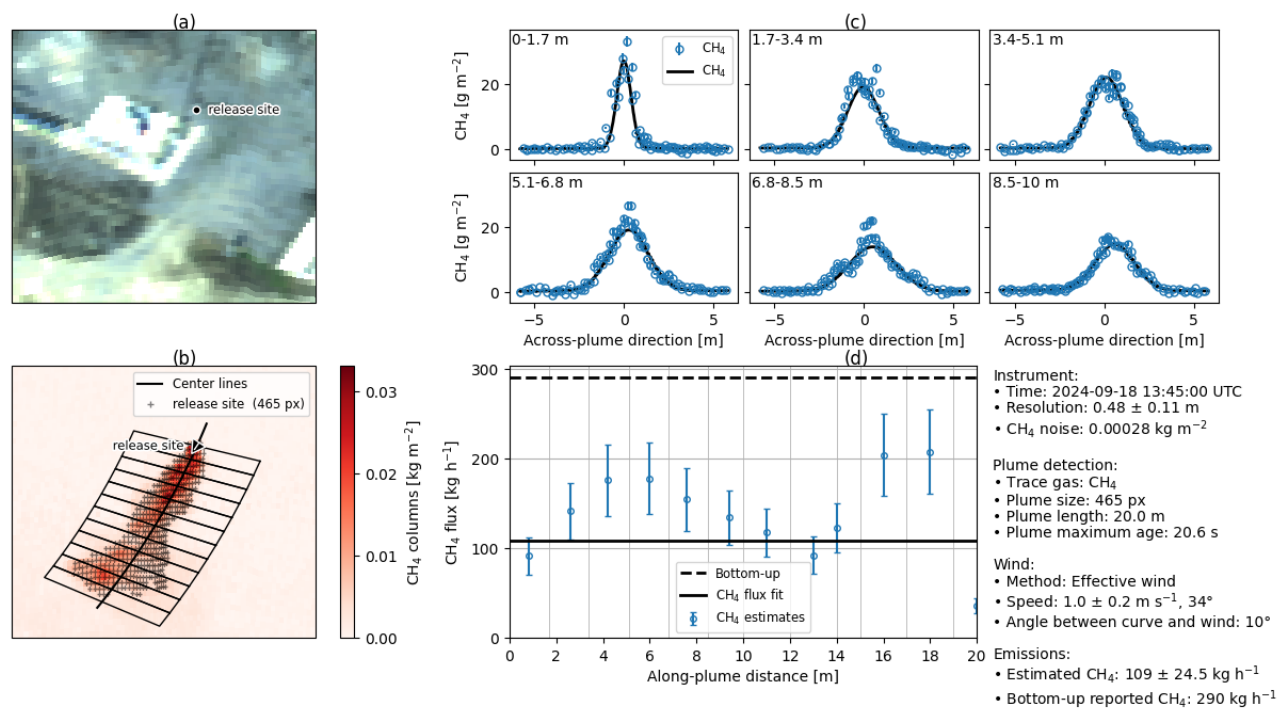
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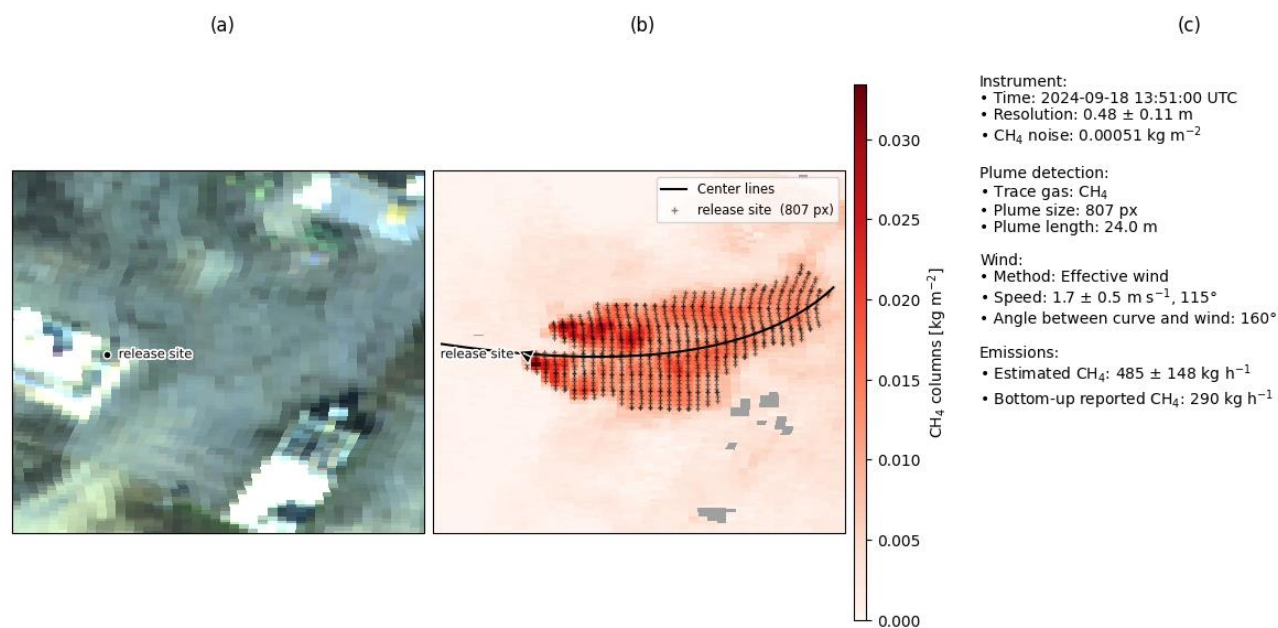
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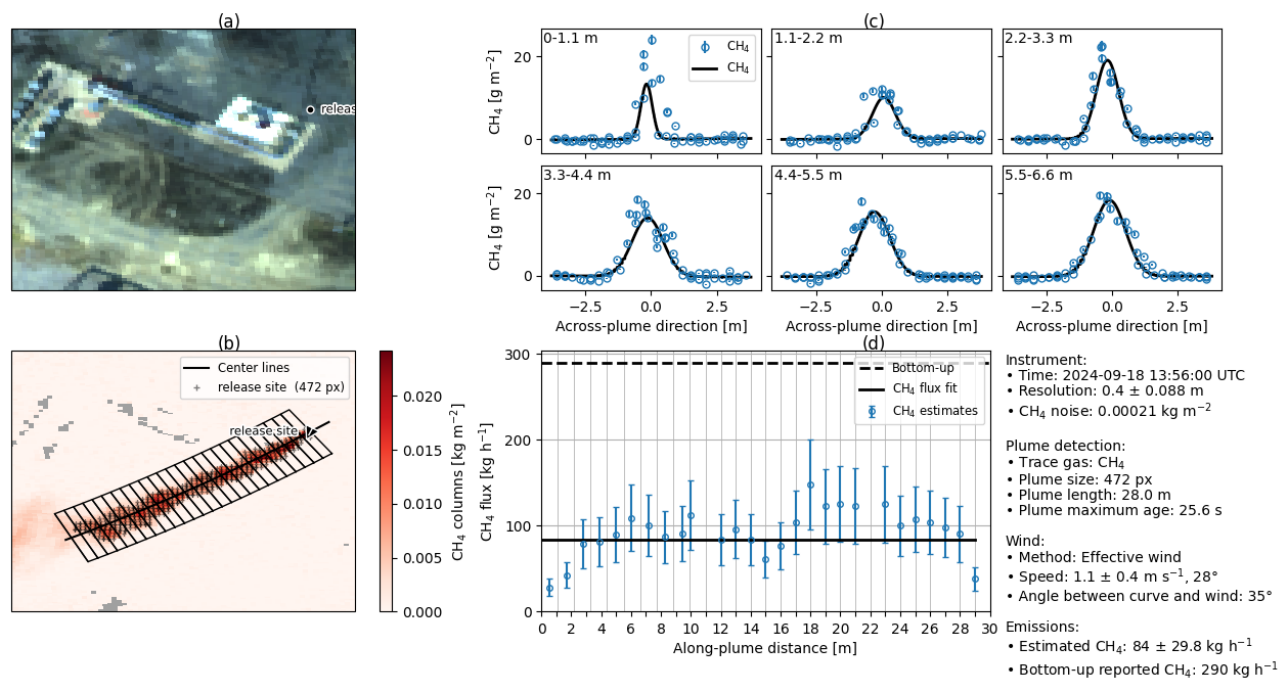
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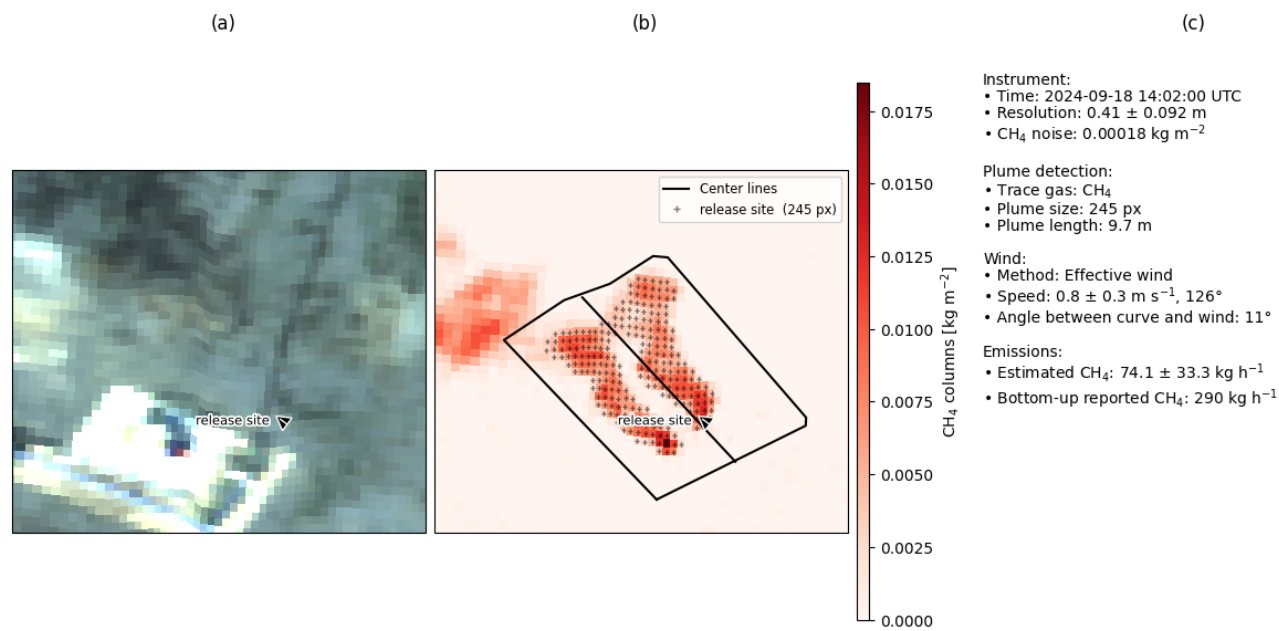
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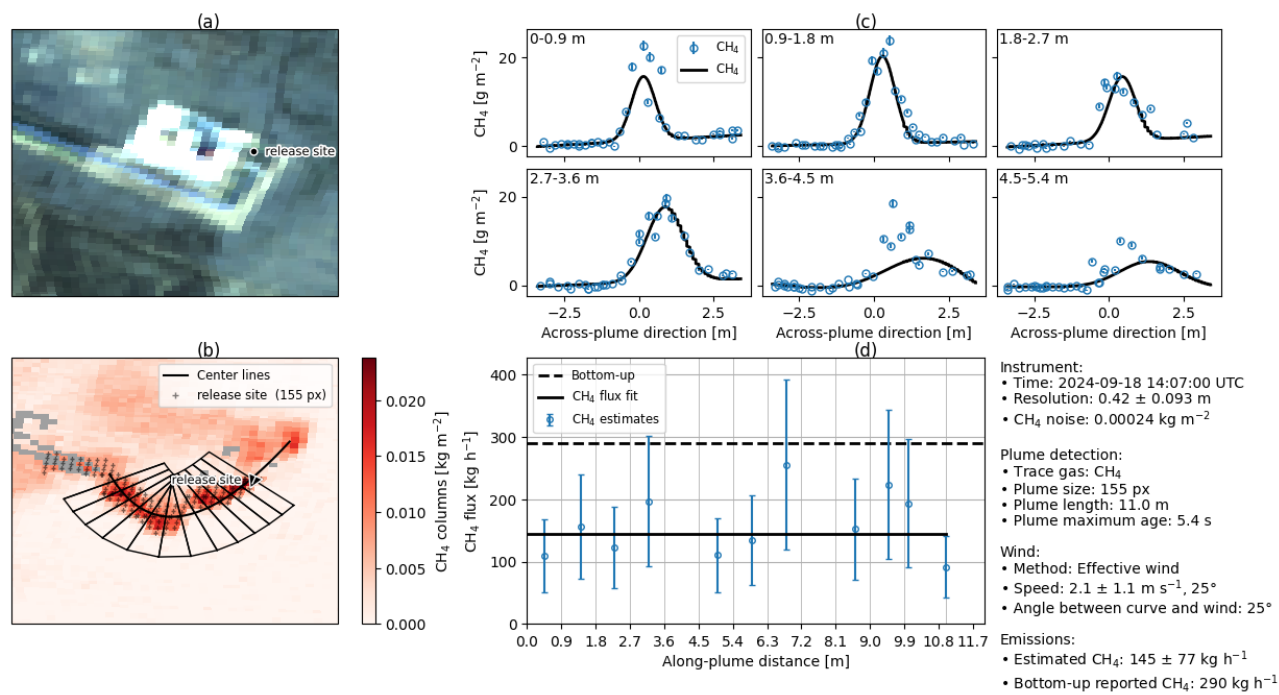
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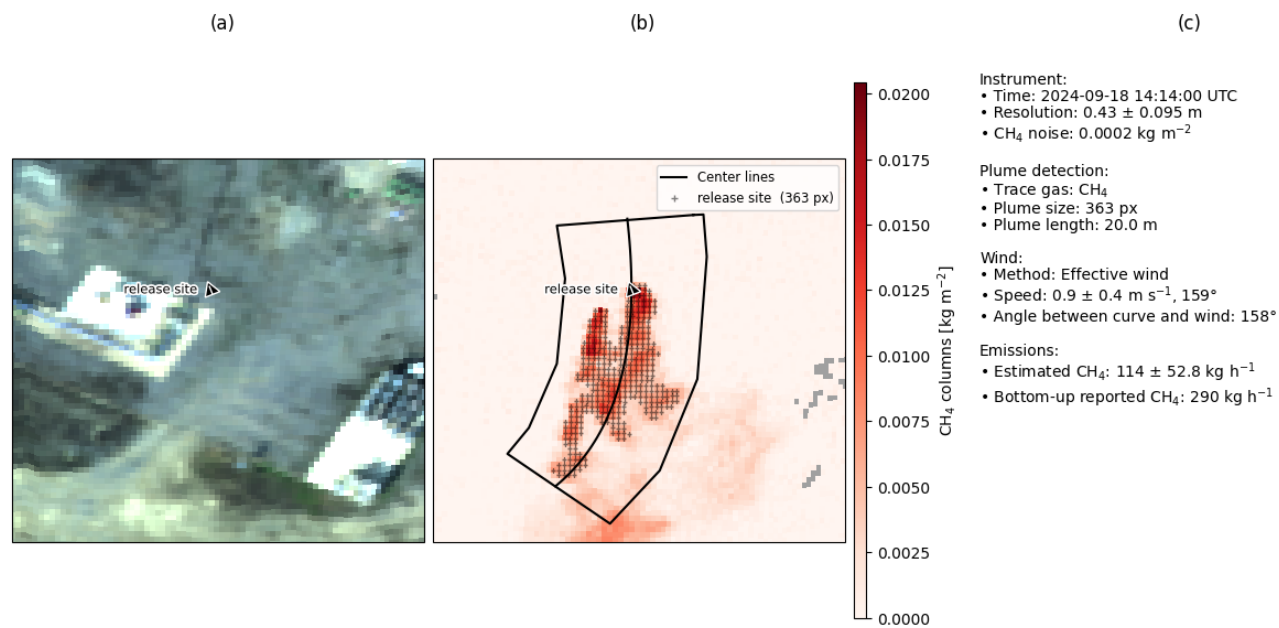
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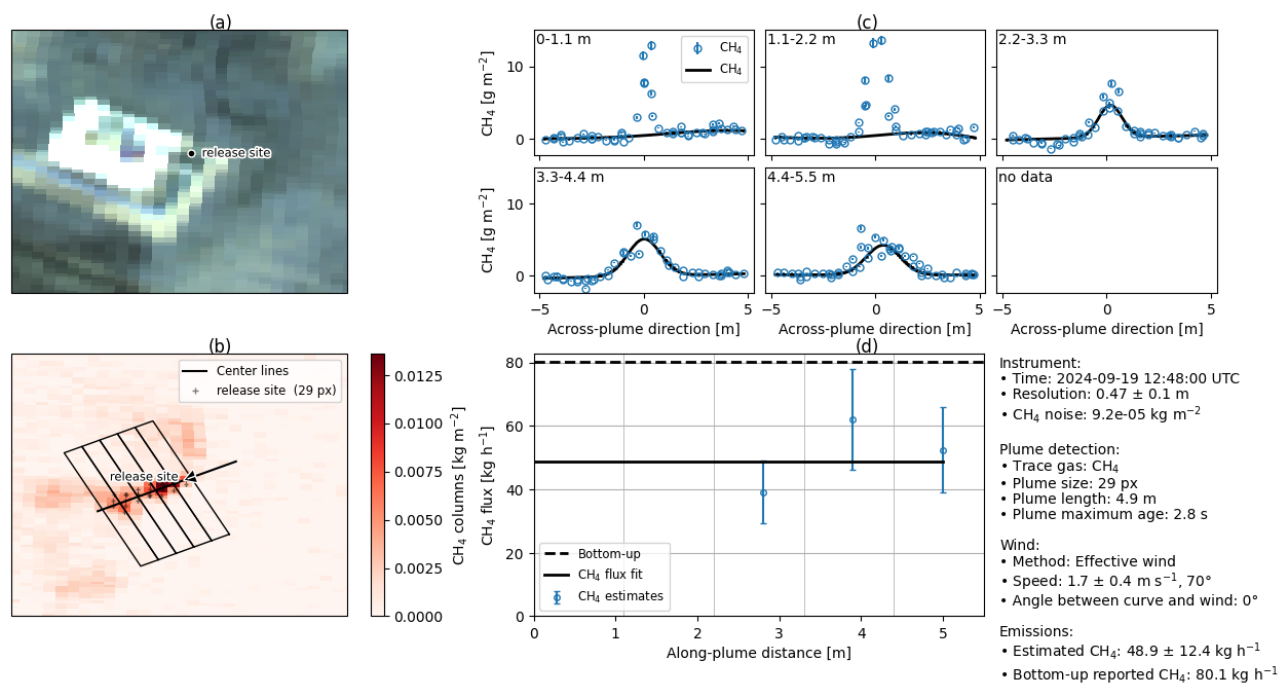


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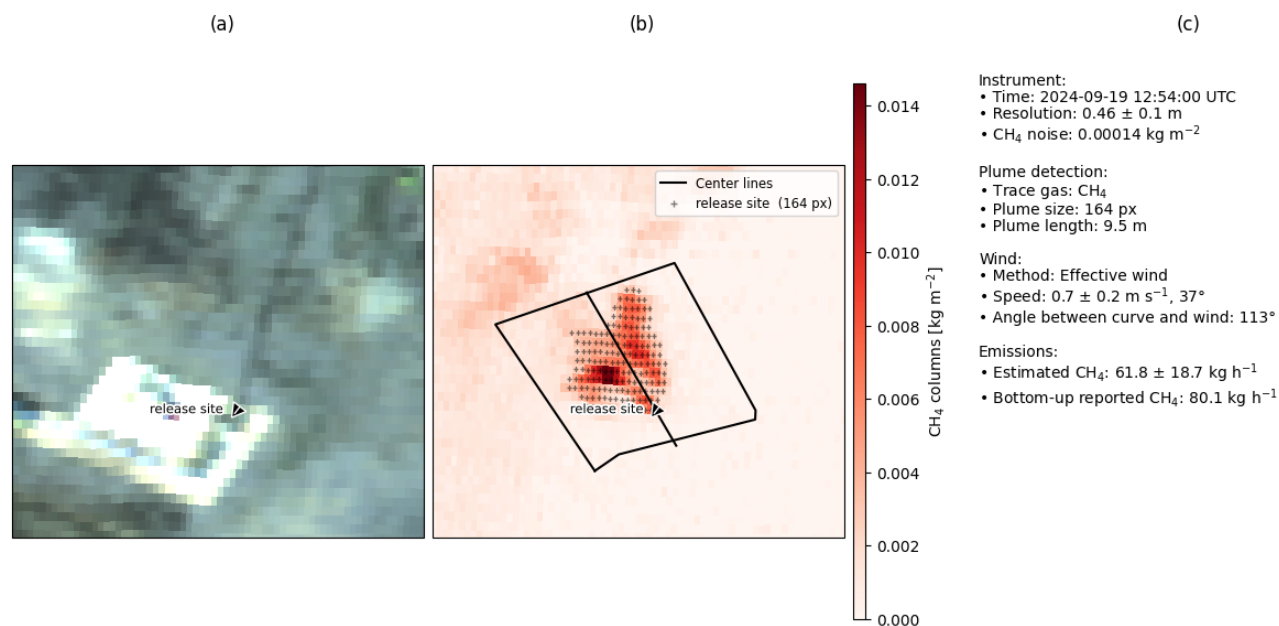


Day 4: 19.09.2024

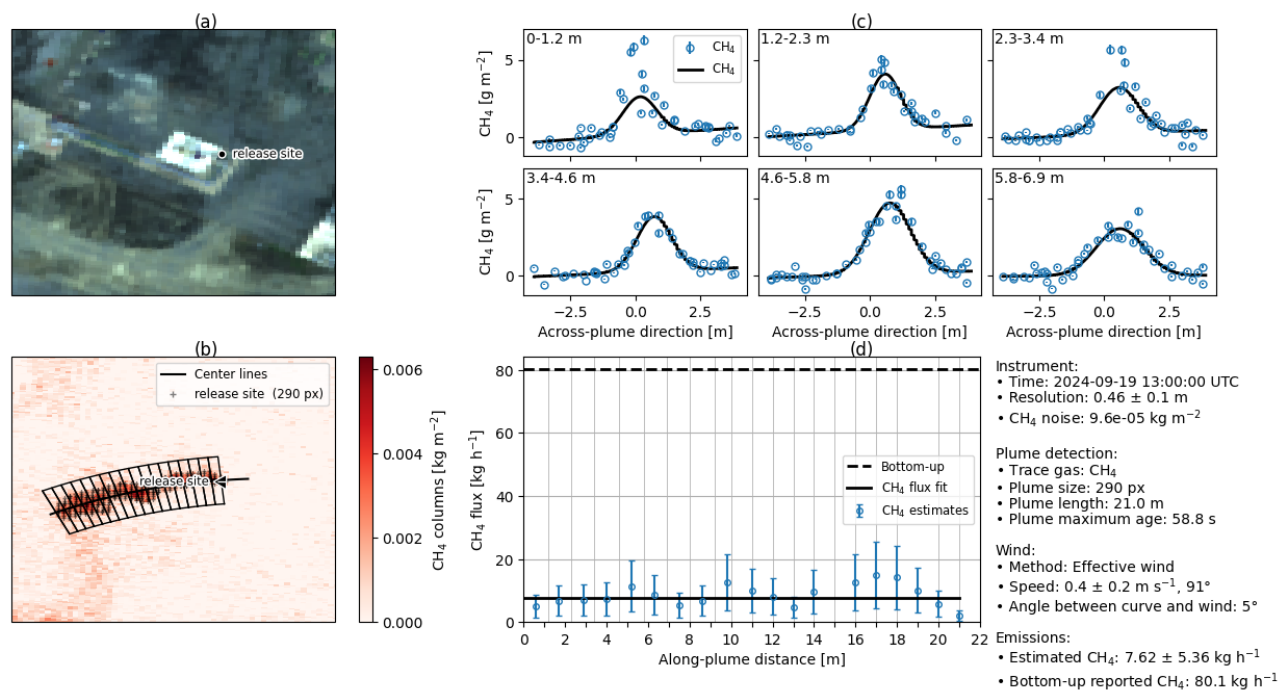
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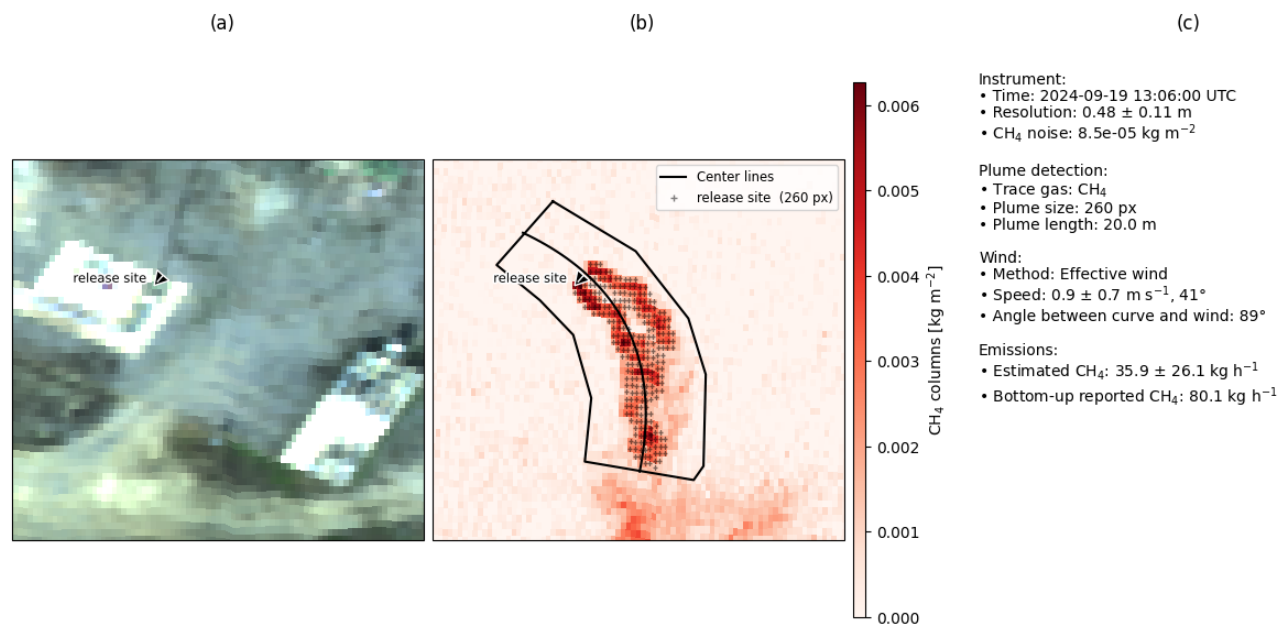
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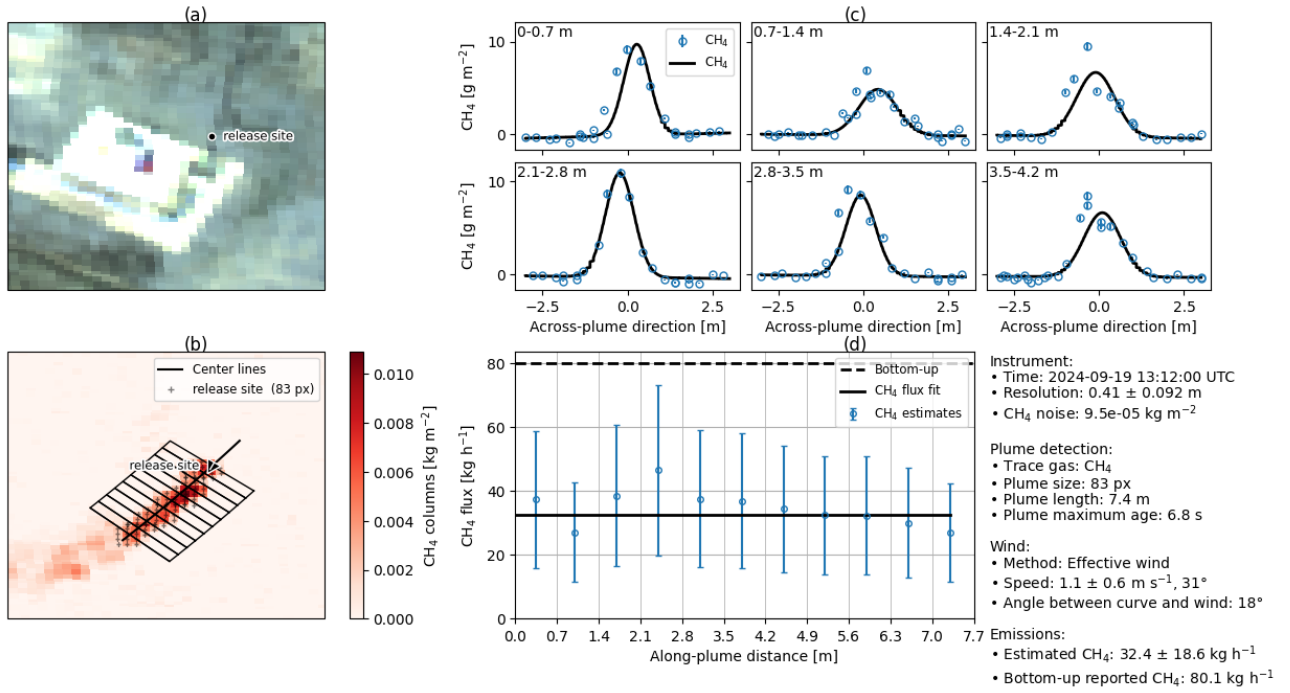
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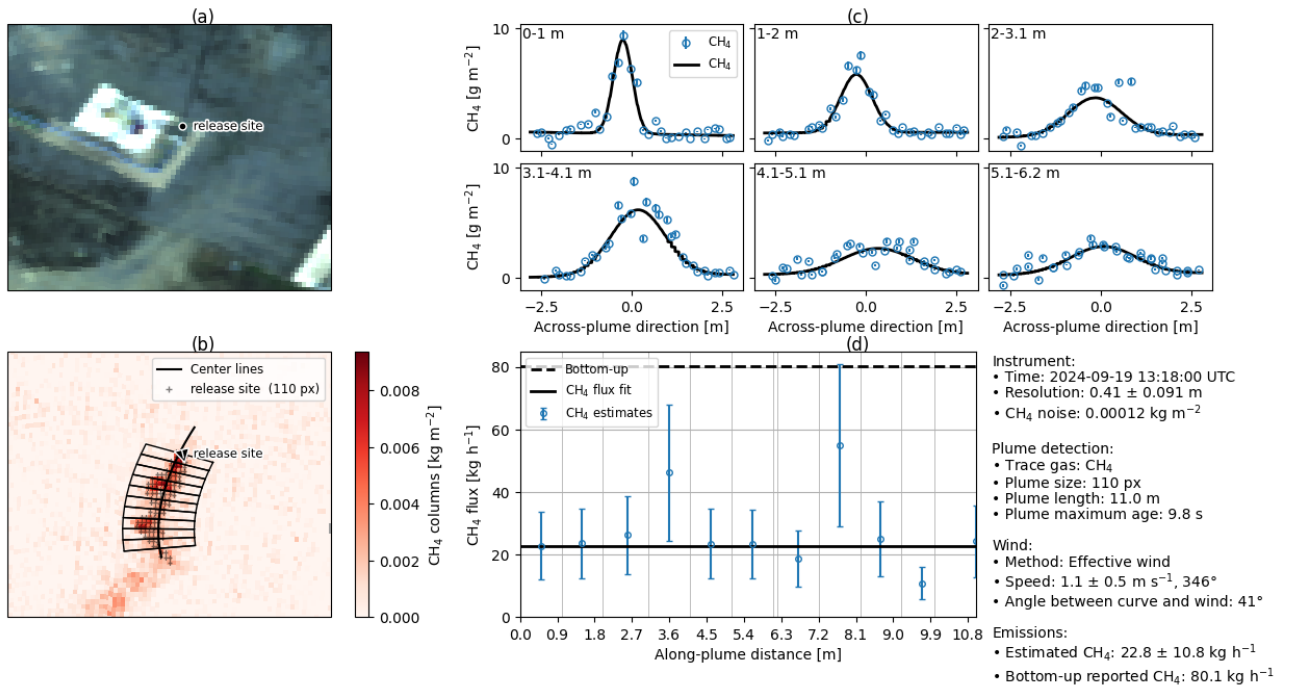
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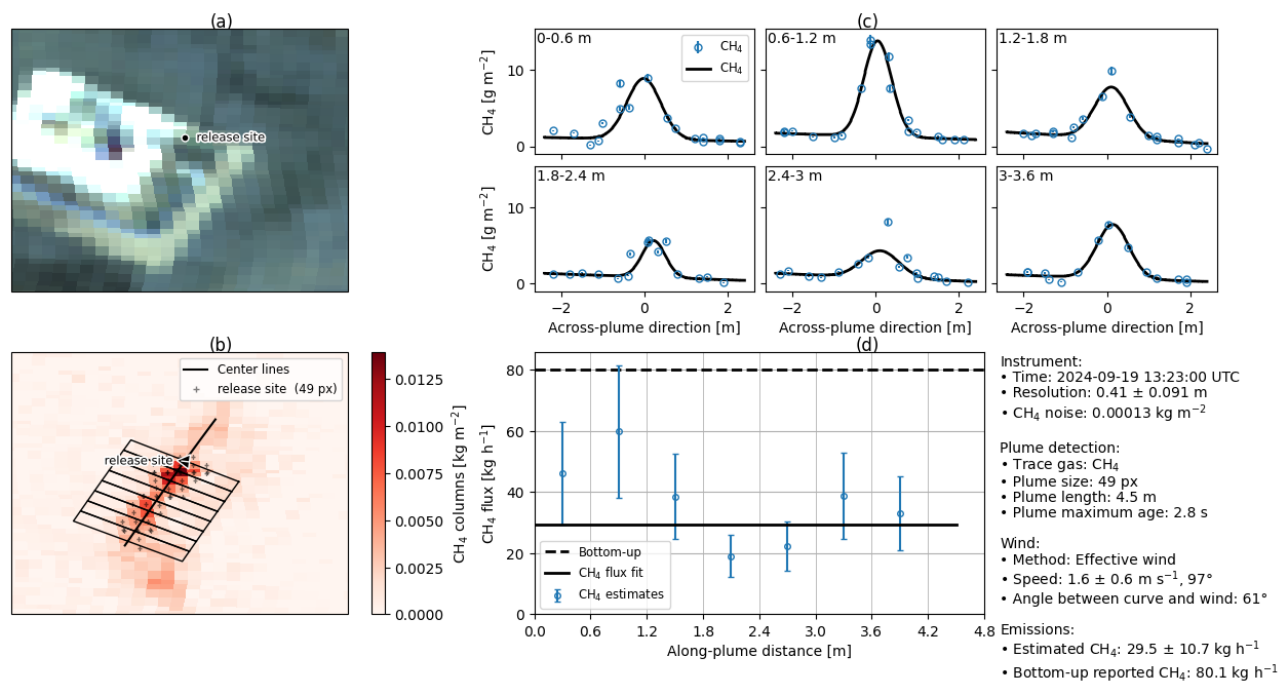
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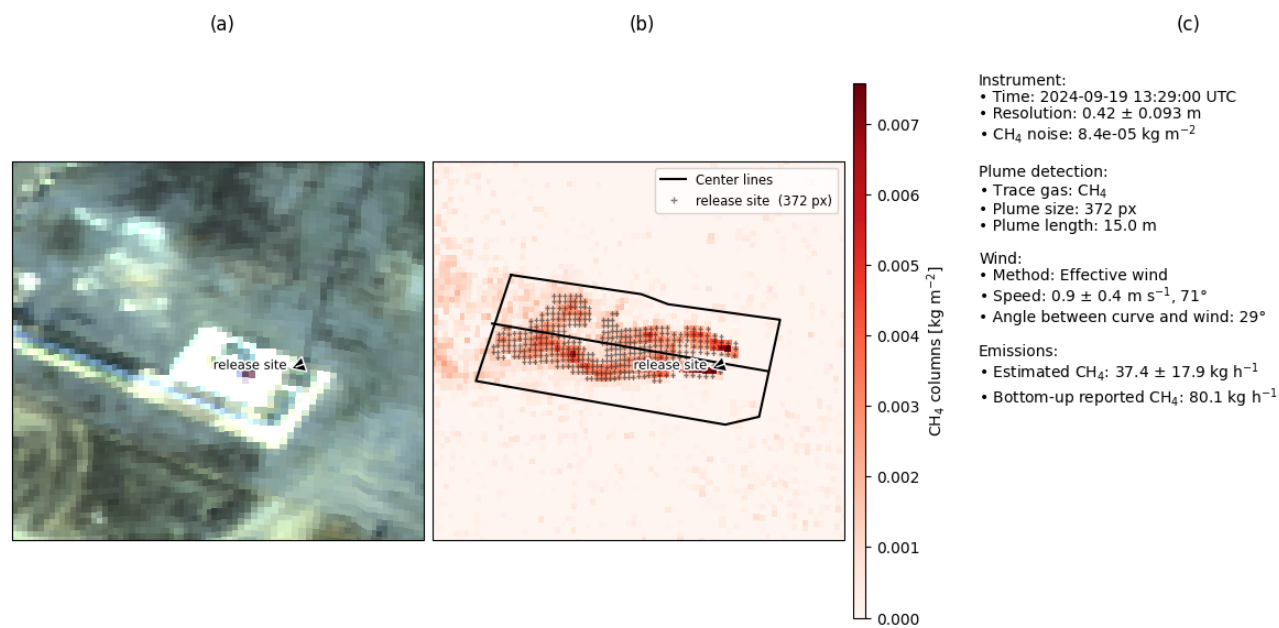
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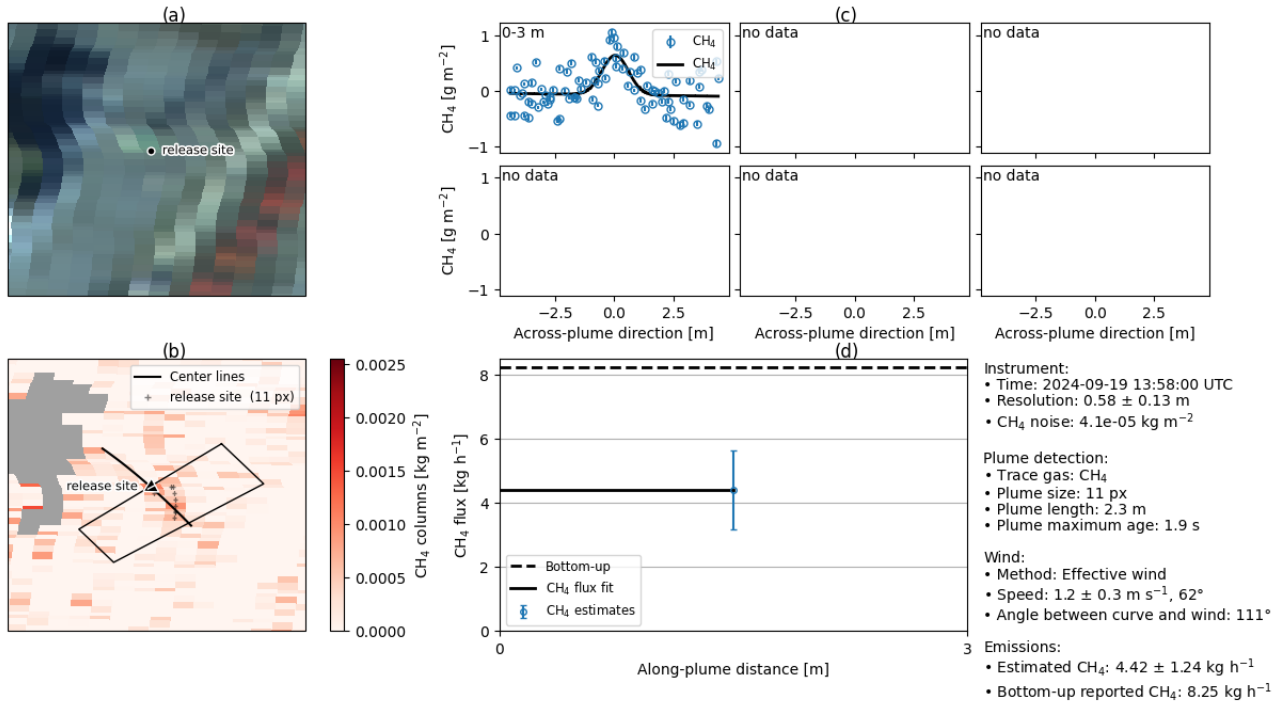
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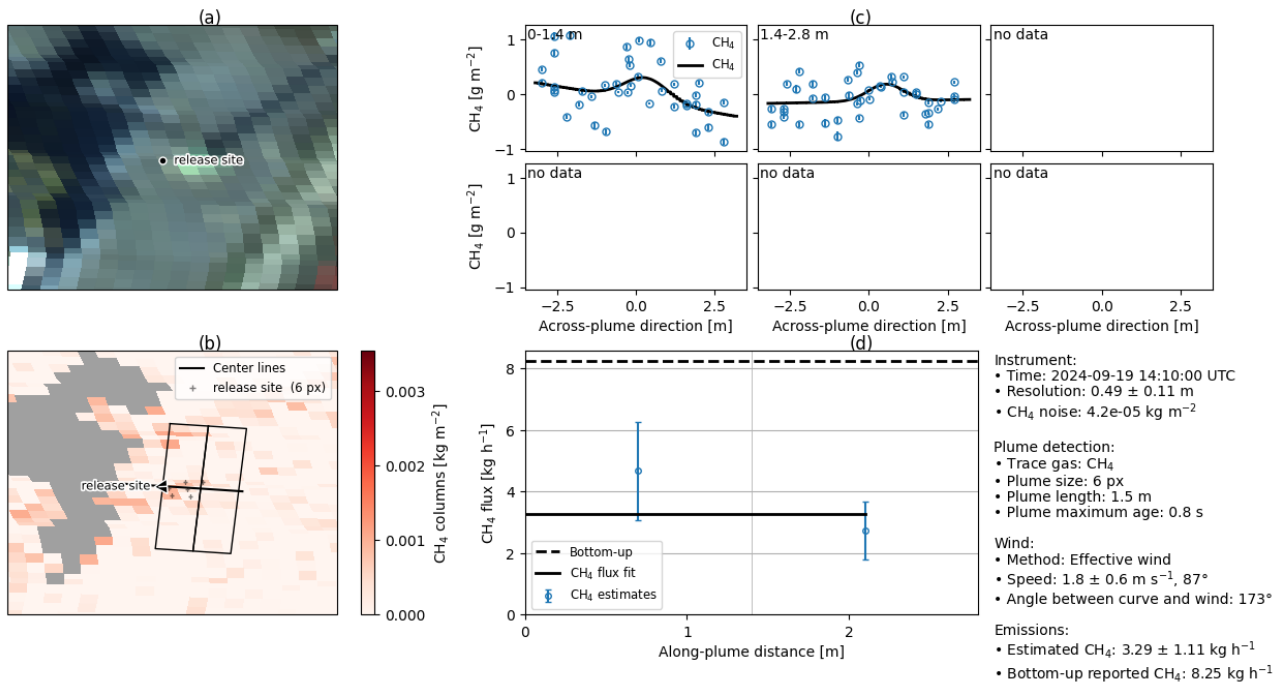
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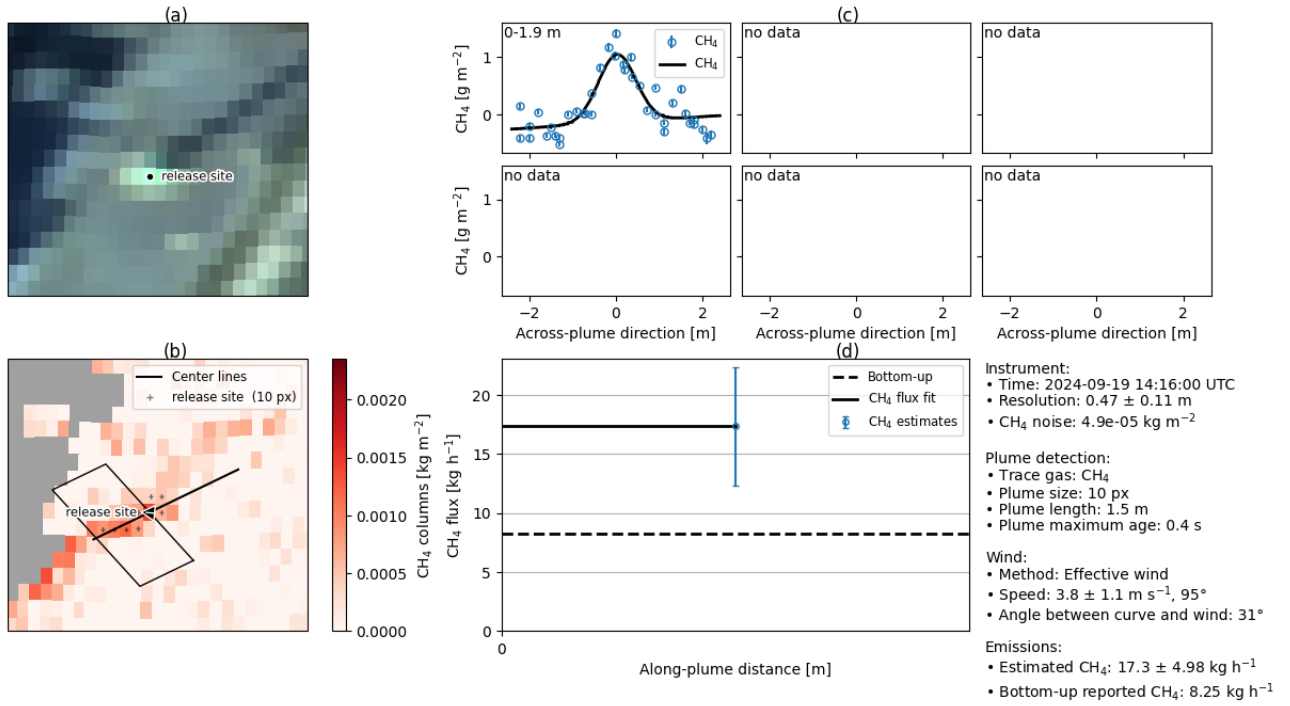
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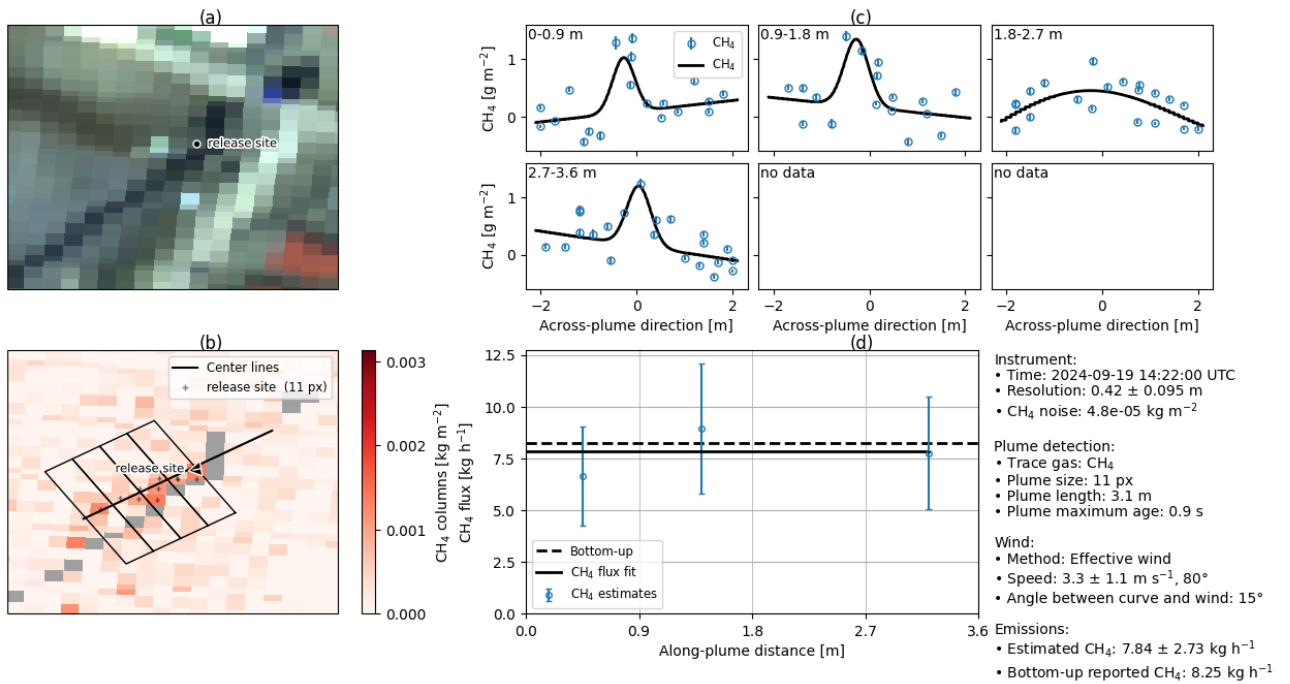
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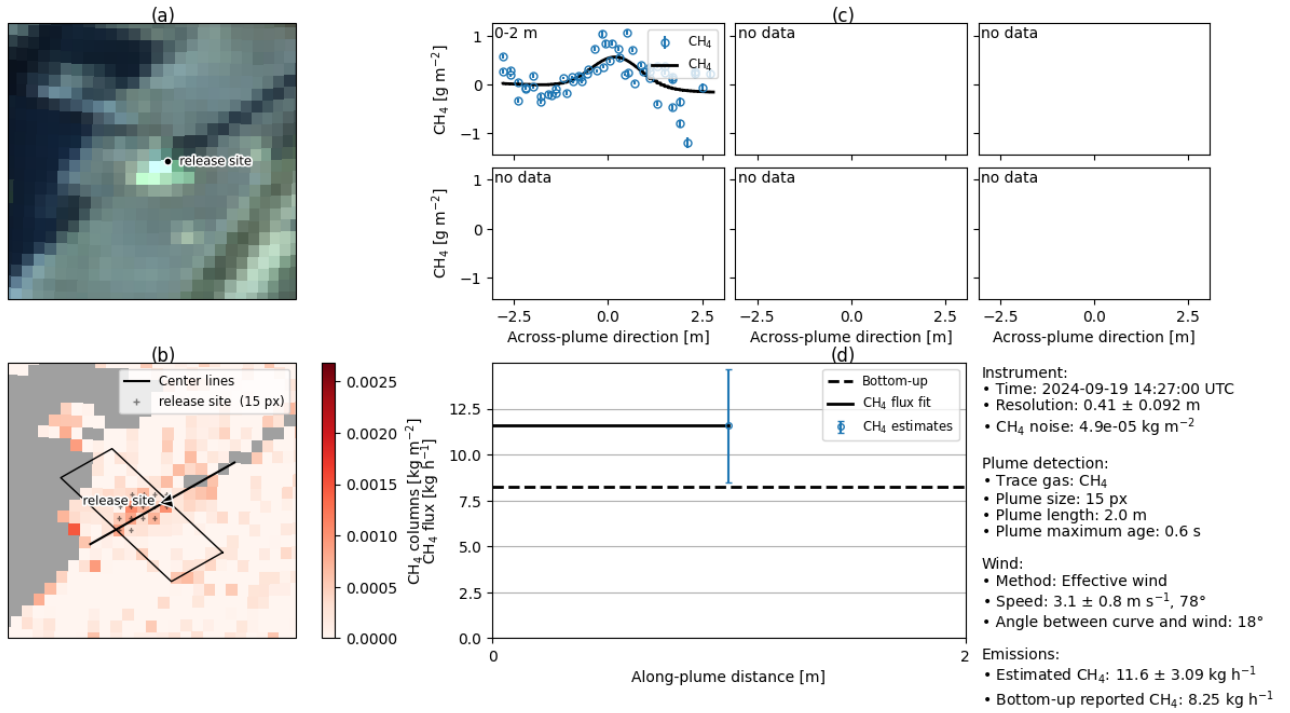
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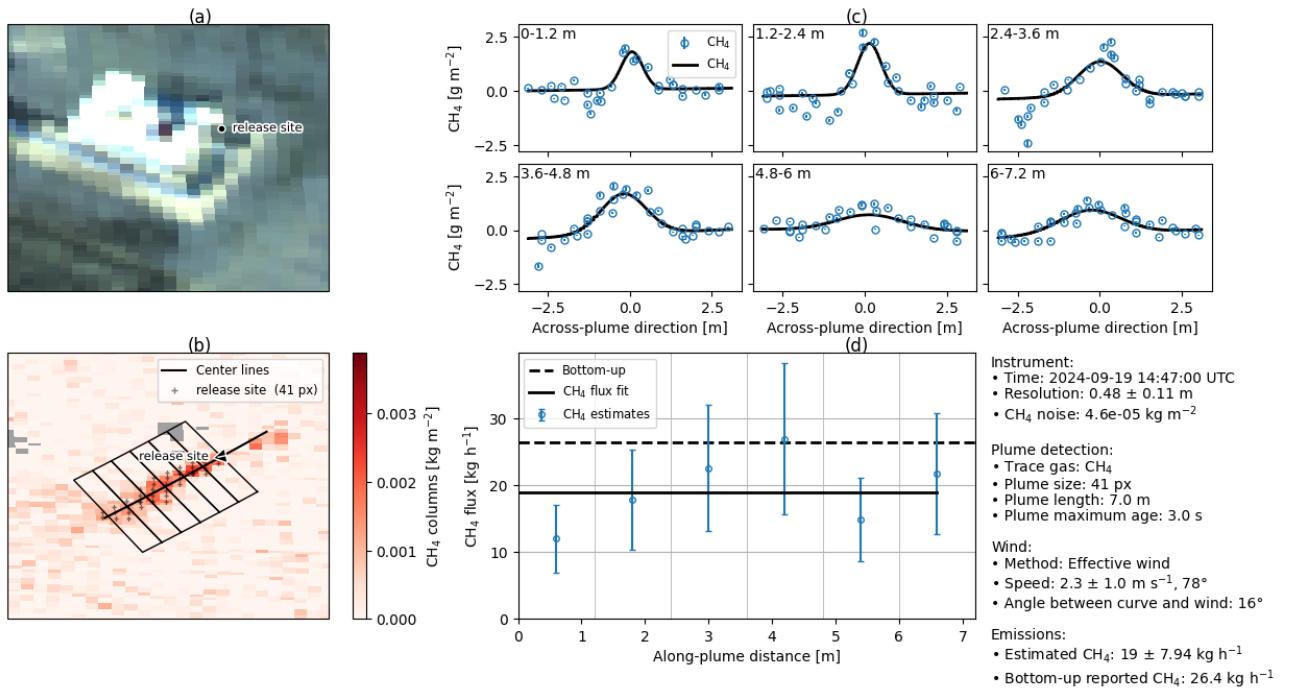
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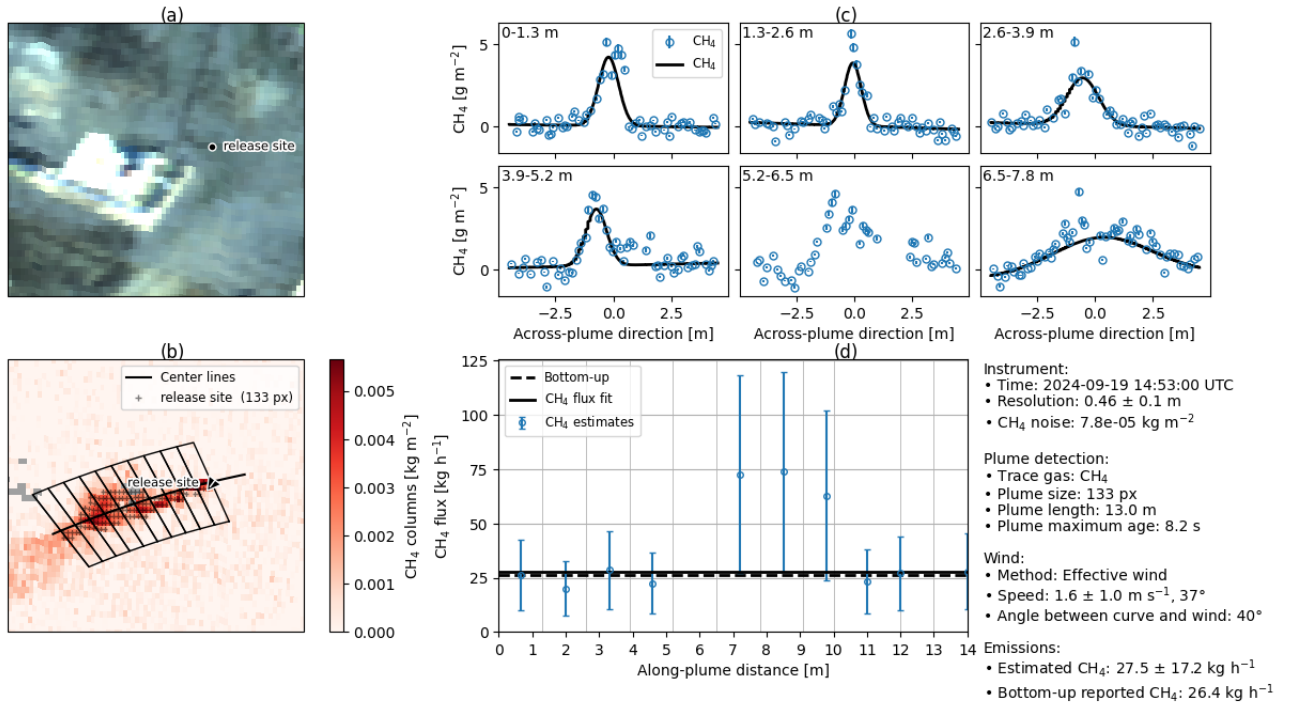
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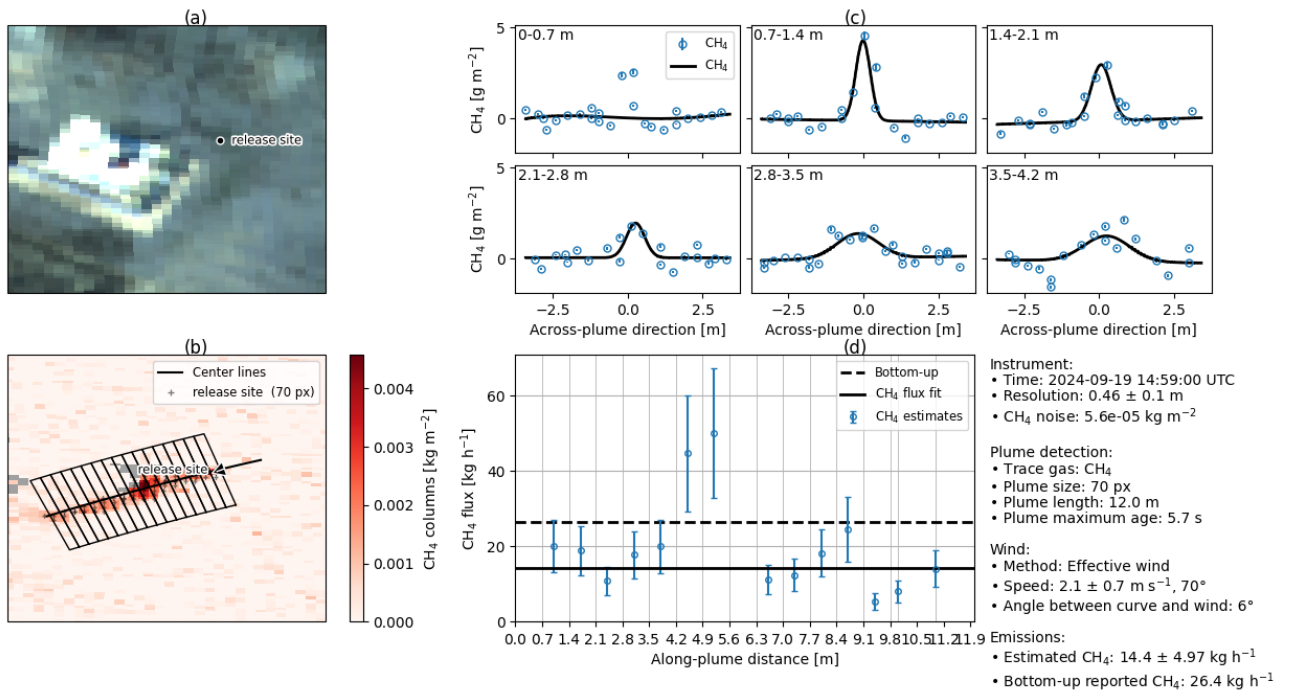
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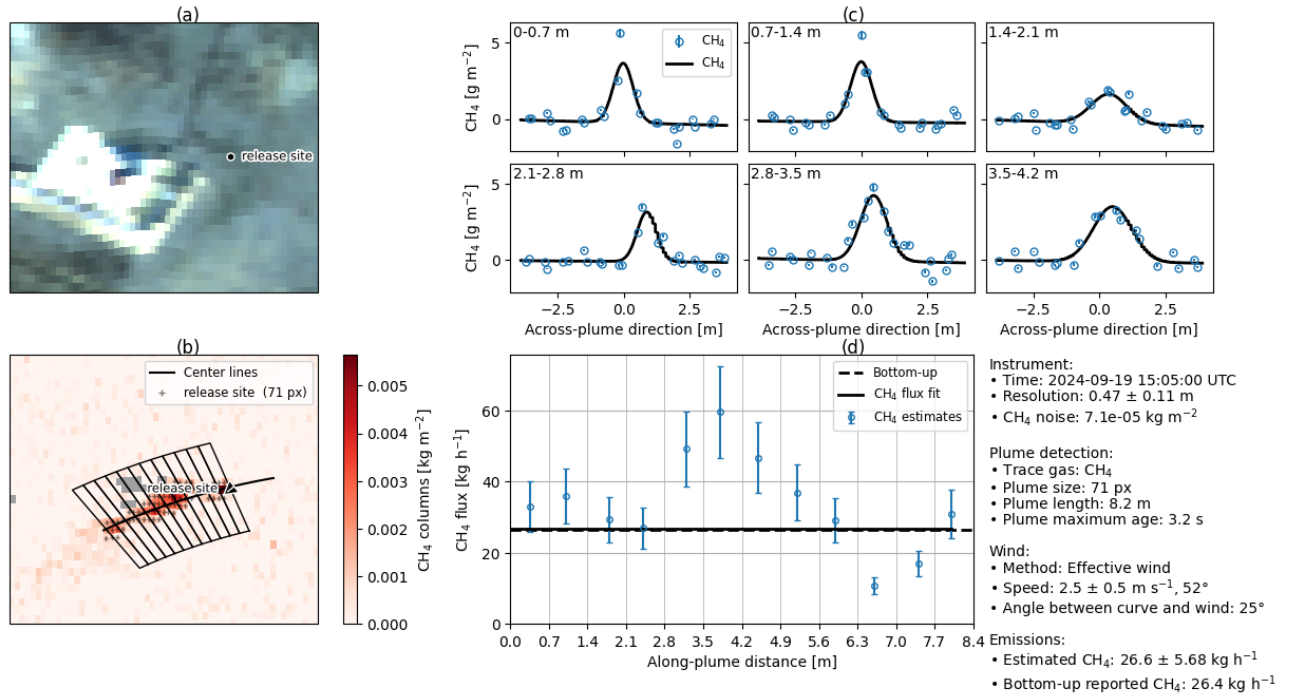
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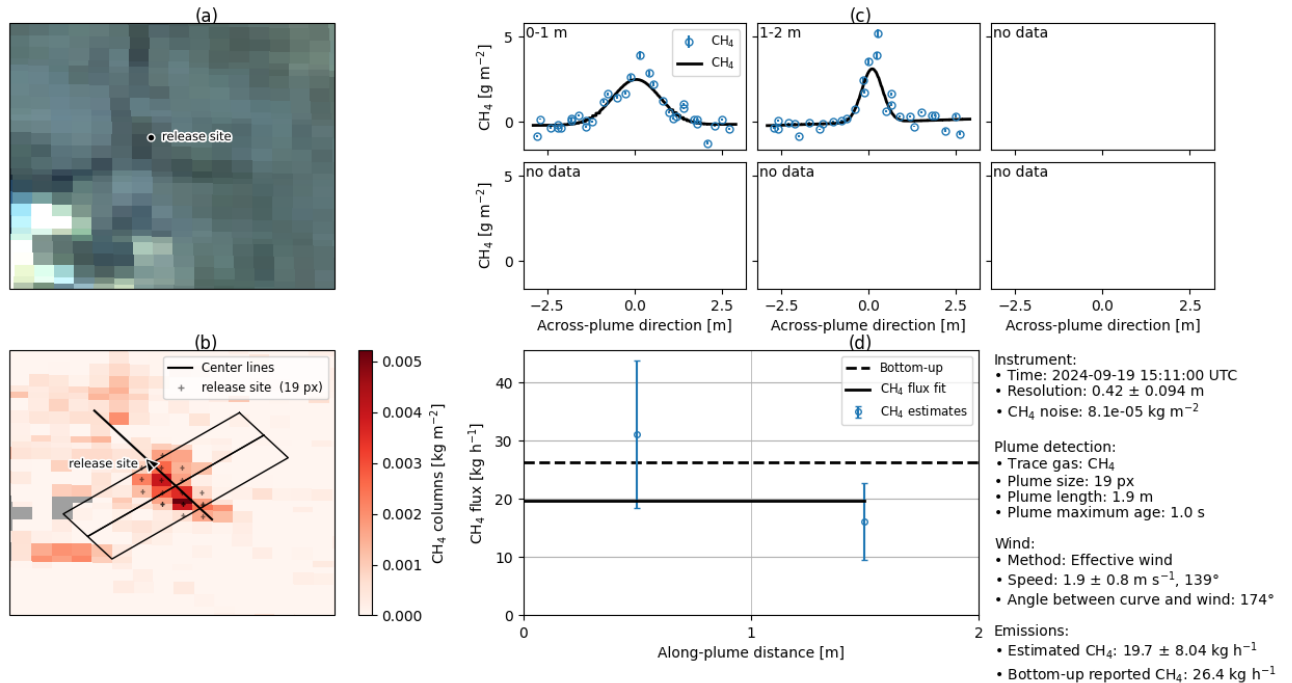
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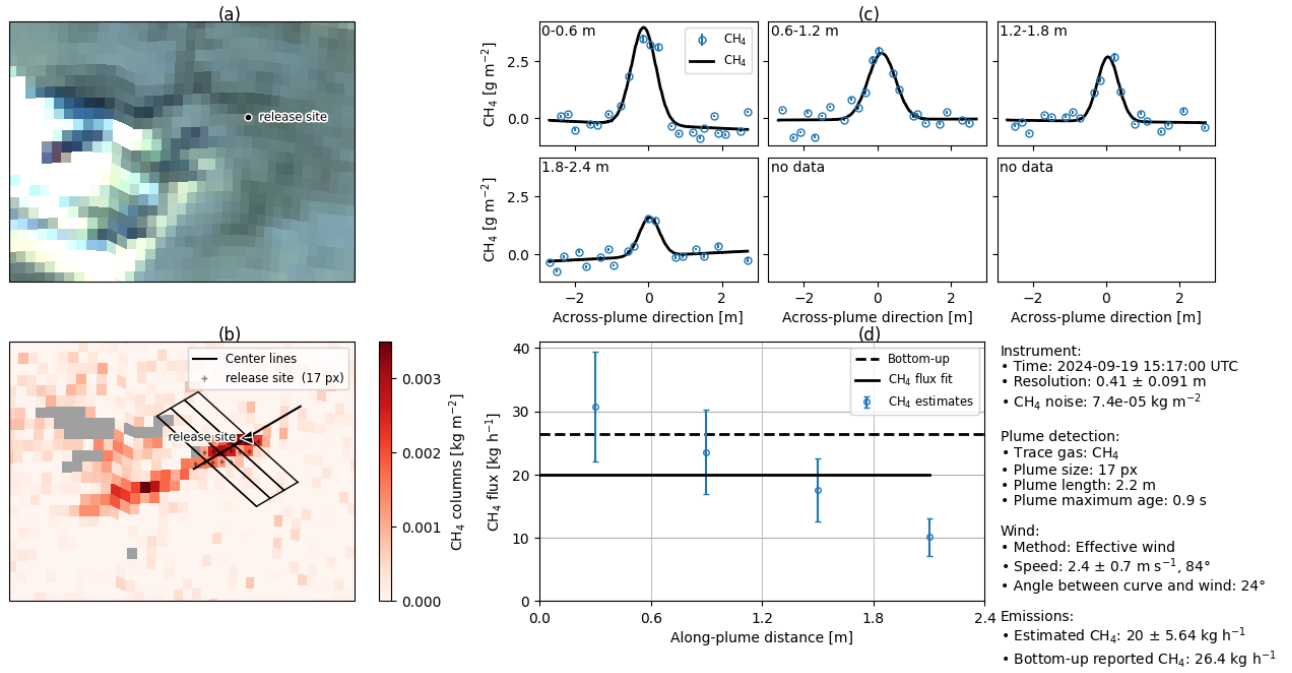
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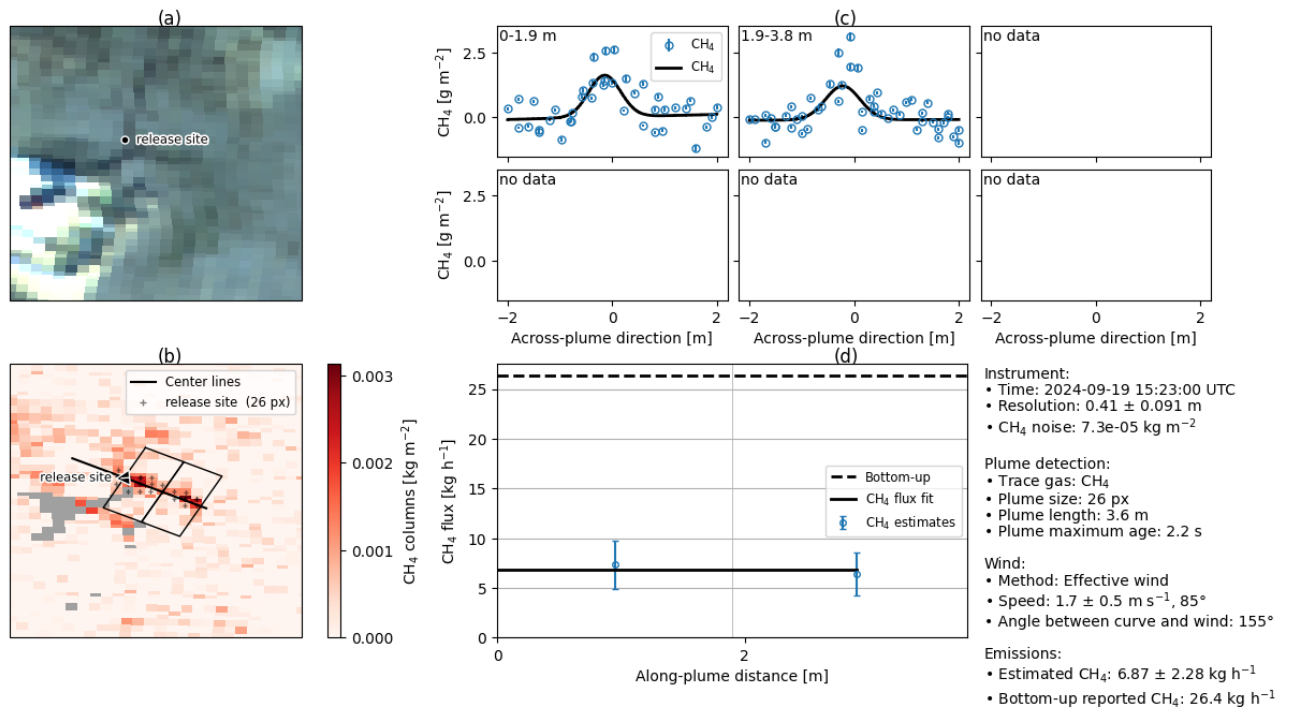
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M017_240919_FRA_Pau_Methane_3000ft_Line_10001_171711_000_rdn_csf_results



M017_240919_FRA_Pau_Methane_3000ft_Line_20001_172247_000_rdn_csf_results



M017_240919_FRA_Pau_Methane_3000ft_Line_10001_172850_000_rdn_csف_results

