High-Frequency, multi-elemental stream concentrations timeseries as a tool for catchment flowpath identification

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Ophélie Fovet, Arnaud Blanchouin, Laure Cordier, Solenn Cotel, Mikaël Faucheux, Paul Floury, Colin Fourtet, Sophie Guillon, Yannick Hamon, Hocine Henine, Patrice Petitjean, Anne-Catherine Pierson-Wickman, Marie-Claire Pierret, Jérôme Gaillardet

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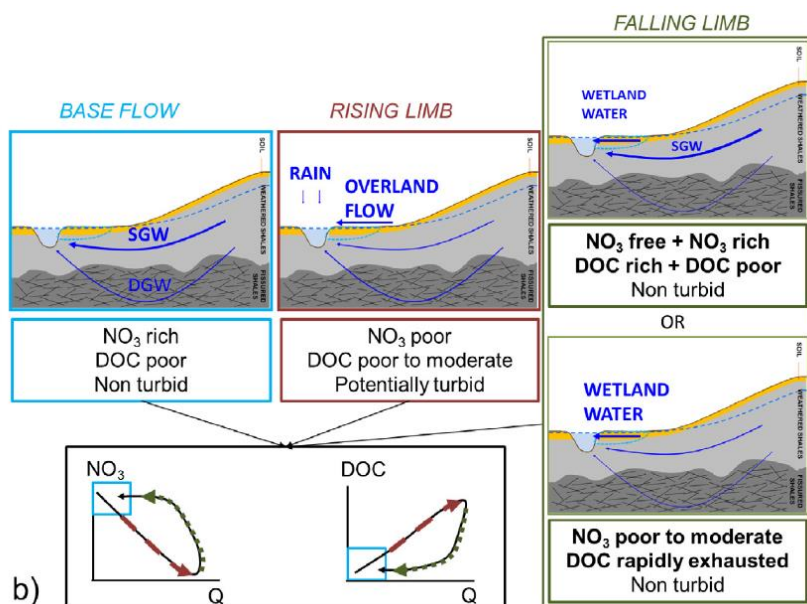
3 Riverlabs

- Details

  - Labs in the field (Floury et al., 2017)

  - 3 contrasting catchments

    - Forested (0.8 km²)

    - Crop+diary/pig farming (5 km²)

    - Crop- & woodland (40 km²)

  - Longterm (> 1y)

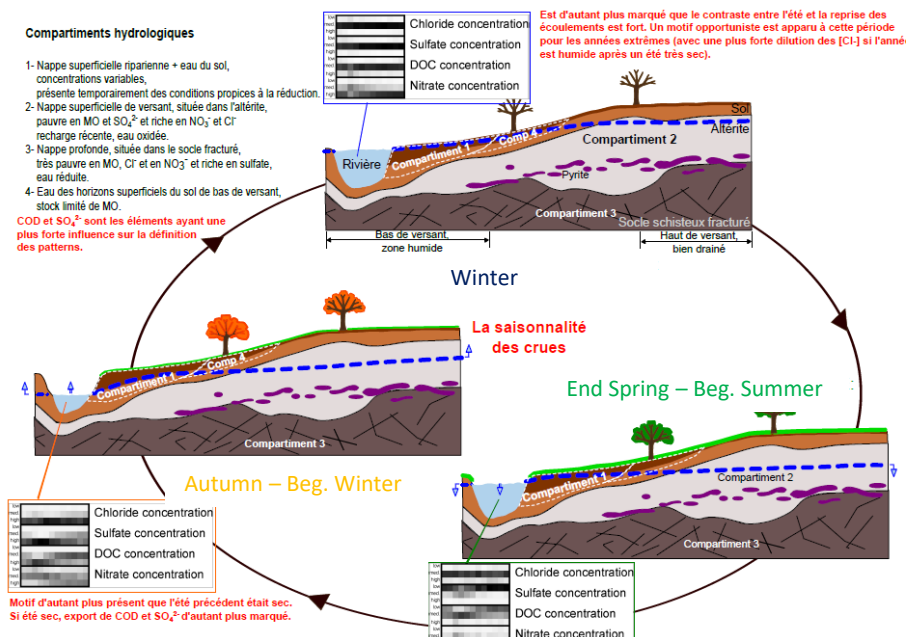 - High-frequency (< 1h)

  - Multi-elemental

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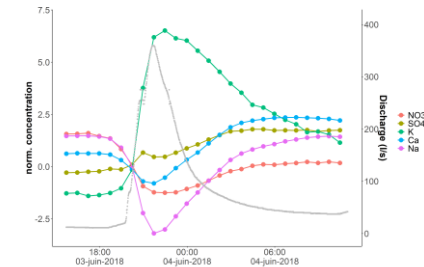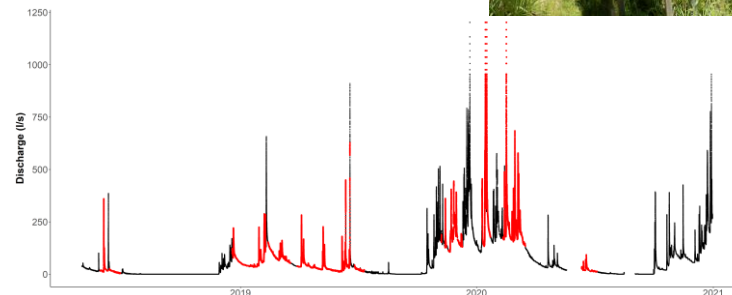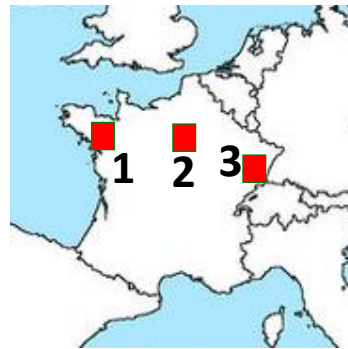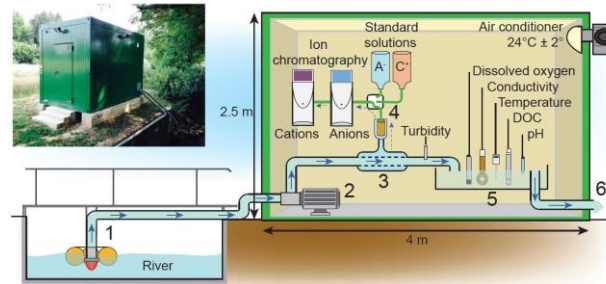
Previous perceptual models

Perceptual, hydrological compartments

- soil water

- shallow/deep riparian water

- hillslope
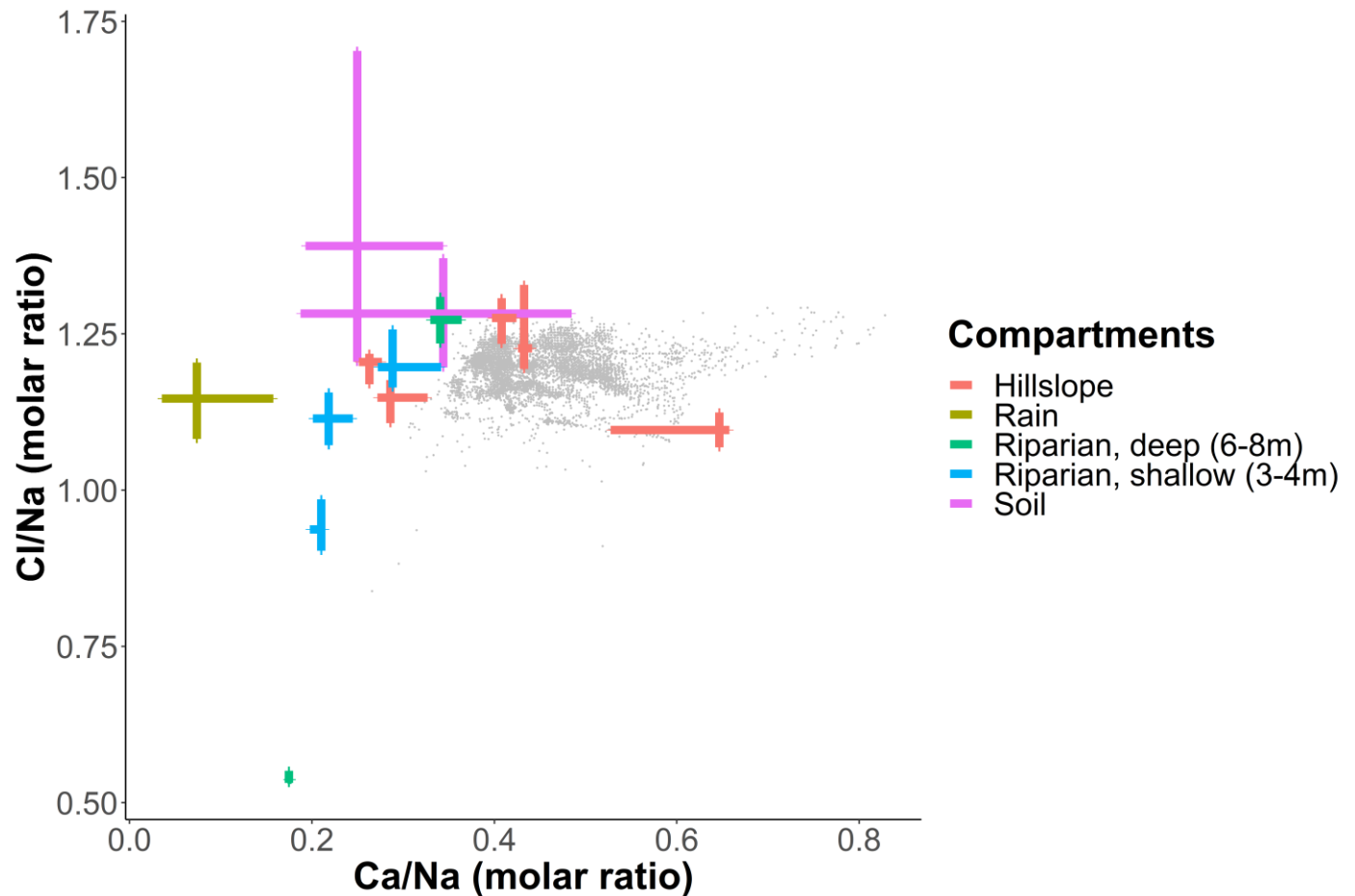

Fovet et al., 2018

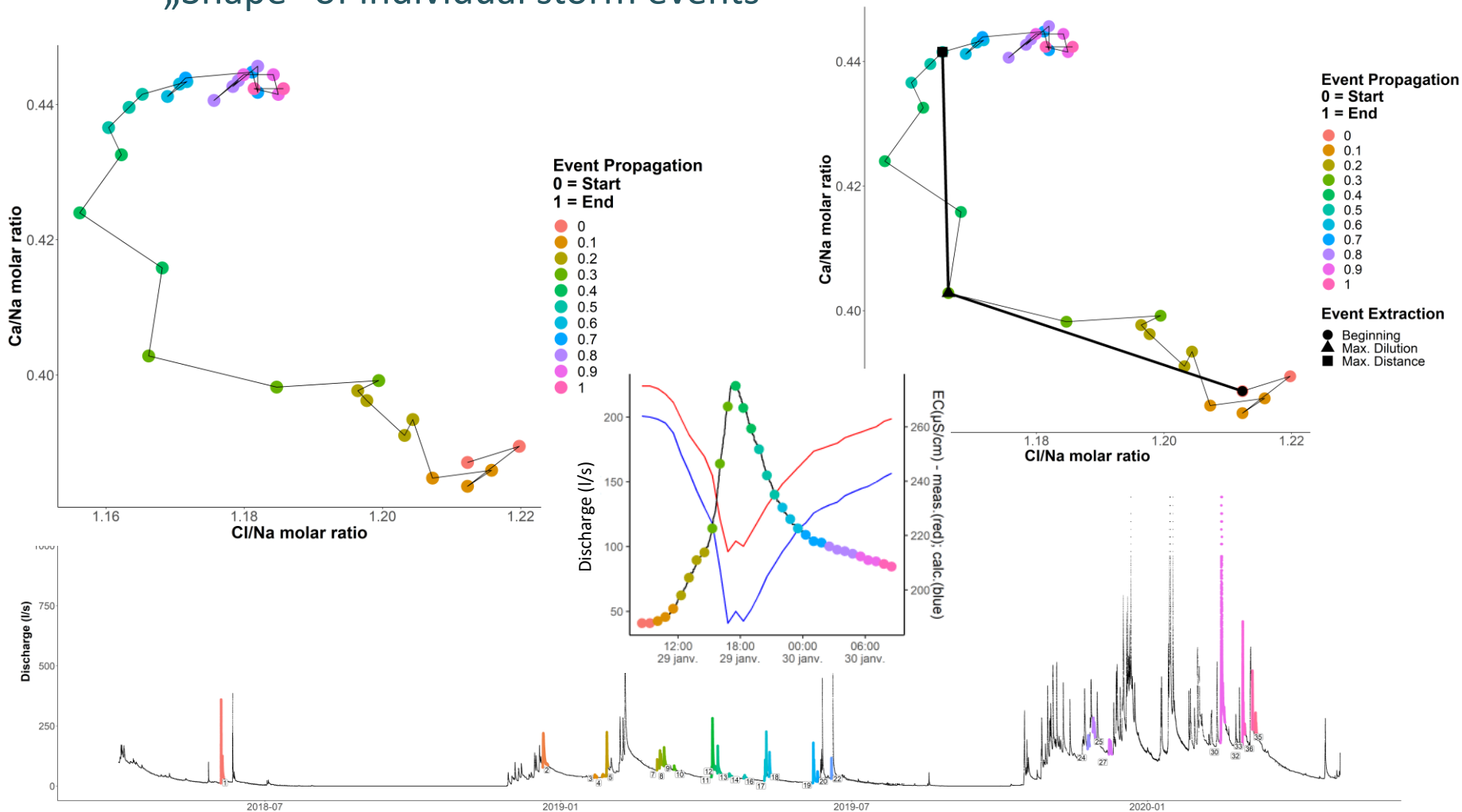Aubert, 2013

Chemistry of End-members (EM)

Chemical signatures of hydrological compartments, based on perceptual model:

<u>Larger intra-EM variability than inter-EM variability -> EMMA??</u>

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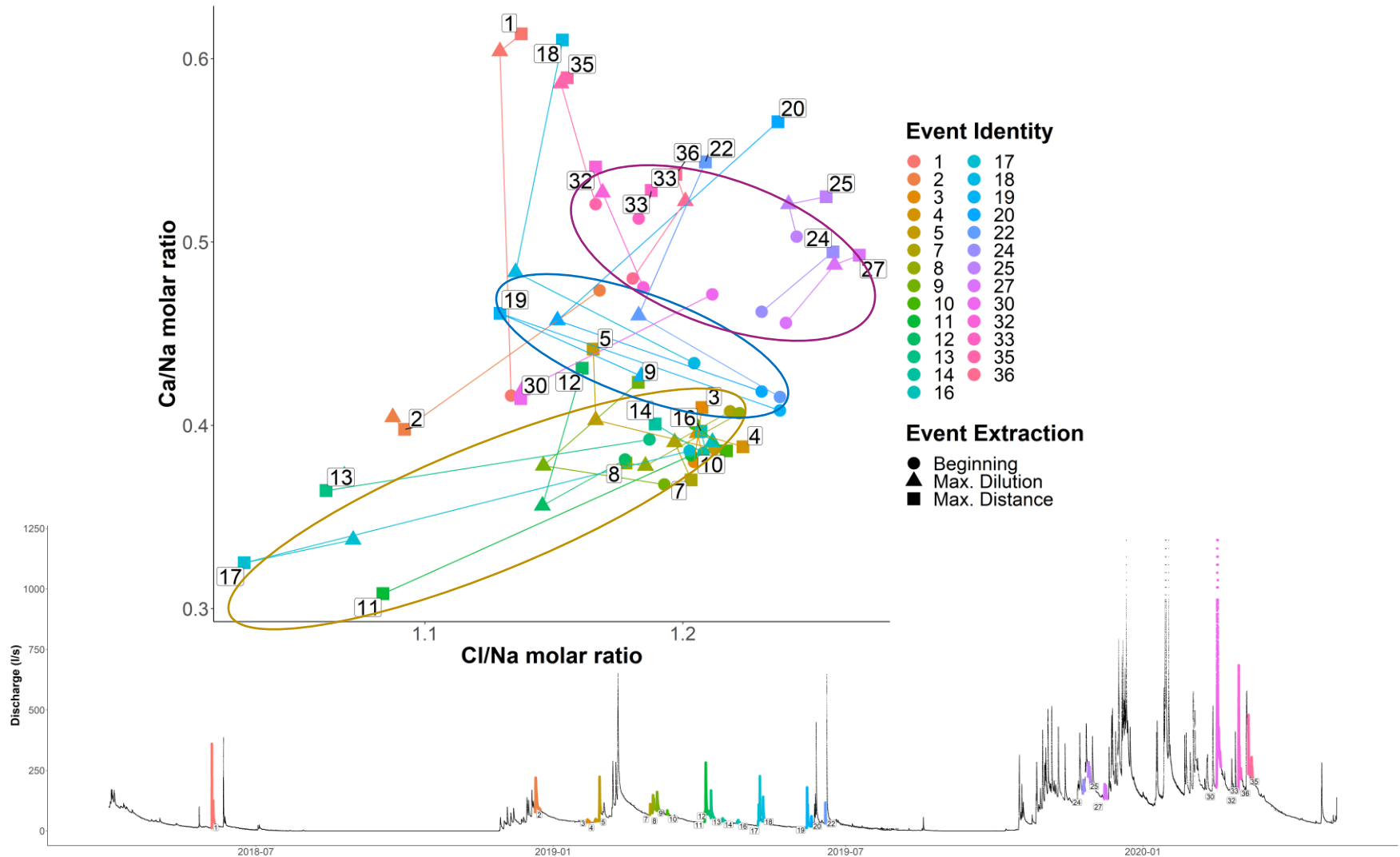High-Frequency, multi-elemental stream concentration timeseries as a tool for catchment flowpath identification
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Potential EMs based on stream concentrations?

„Shape" of individual storm events

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> **Thank you for your attention!**

For questions and discussion, please get in touch at:

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