



## Resolving the variability of dissolved organic matter fluorescence in a temperate estuary and its catchment using PARAFAC analysis

Stedmon, Colin A., Stiig Markager

Limnol. Oceanogr., 50(2), 2005, 686-697 | DOI: 10.4319/lo.2005.50.2.0686

**ABSTRACT:** Excitation emission matrix fluorescence spectroscopy combined with PARAFAC analysis provides a fast and effective method of characterizing the fluorescent fraction of dissolved organic matter (DOM). Fluorescence measurements can be used as a tracer for quantitative and qualitative changes occurring in the DOM pool as a whole. An earlier study found that the fluorescence signal could be modeled by five fractions. This study presents an analysis on a considerably larger data set (>1,200 samples) resulting from a 1-yr sampling program in Horsens Estuary, Denmark. Eight fluorescent fractions were identified. Four biogenic terrestrial, two anthropogenic, and two protein-like fractions were identified. Analysis of covariation between the components identified source-specific fractions and the presence of common factors controlling the composition of terrestrial DOM exported from different catchments.

### Article Links

[Download Full-text PDF](#)

[Return to Table of Contents](#)

### Please Note

Articles in L&O appear in PDF format. Open access articles may be freely downloaded by anyone. Other articles are available for download to subscribers only, or may be purchased for \$10 per article. All L&O articles are moved into Open Access after three years.

