

## CURRICULUM VITAE: **Hélène ÉTIENNE**

NATIONALITY: French

YEAR OF BIRTH: 1976

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### CURRENT POSITION

CLS (Collecte Localisation Satellites): Scientist Executive in the "In situ & Composites" Department of the Environmental Business Unit, CLS.

### EDUCATION

- 2003: PhD Thesis in Physical Oceanography, Toulouse University, France: Forecast error in ocean data assimilation. Ensemble method estimation in the North Atlantic
- 1999: M.Sc. in Oceanography, Toulouse University, France.
- 1998: B.S. in Physics, Toulouse University, France.

### WORK EXPERIENCE

*Since 2014:* Scientist Executive in the "In situ & Composites" Department of the Environmental Business Unit, CLS.

Development of a near real-time and hindcast analysis system of observed ocean currents (altimetry and in-situ) and operational maintenance for the CMEMS project (Multi Observation Thematic Assembly Center.)

R&D on wind slippage correction of the drifting buoys current database for the CMEMS In Situ Thematic Assembly.

2003-2014: Research Engineer in the Operational Oceanography Department - Space Oceanography Division (DOS), CLS.

Data assimilation expert: optimisation of the successive assimilation schemes of Mercator Ocean systems. Development of the validation procedures.

Contribution to the validation tools for the Mercator Ocean operational systems.

High resolution 2D ocean current operational system, including genetic algorithm optimisation, ensemble methods, data fitting: Oil & Gaz activities, pollution monitoring, marine security.

Regional ocean modelling configuration setup, based on NEMO, ROMS, HYCOM (initialization and open boundary conditions.)

1999 - 2003: Research Student in the Operational Oceanography Department - Space Oceanography Division (DOS). Study of model error in a quasi-geostrophic ocean model to improve the assimilation scheme.

### PUBLICATIONS

Lucas M., H. Etienne, E. Greiner, 2013: *Using satellite data to compute near-real-time sea surface velocities*, *Sea Technology*, Vol 54, N°3, 30-33.

Lucas M., H. Etienne, E. Greiner, M. Benkiran, 2012: *A new approach to surface currents monitoring*, *Journal of operational Oceanography*, vol 5, No 2

Etienne H., M. Benkiran, 2007: *Multivariate assimilation in MERCATOR project: new statistical parameters from forecast error estimation*, *J. Mar. Sys.* 65(1 - 4): 430 - 449, 2007.

Chanut J., Étienne H., 2005 : *Note d'actualité : Mercator, un support pour les modèles côtiers*, MERCATOR Newsletter, 18, 2-3.

Etienne H., Cousin R., 2004 : *Nouveaux paramètres d'assimilation pour le système multi-varié*, MERCATOR Newsletter, 14, 2 - 19.

Etienne H., Dombrowsky E., 2003: *Estimation of the optimal interpolation parameters in a quasi-geostrophic model of the Northeast Atlantic using ensemble methods*, *J. Mar. Sys.*, 40 - 41, 317 - 339.

Mouriño B., Fernández E., Etienne H., Hernandez F., Giraud S., 2003: *Significance of cyclonic Subtropical Oceanic Rings of Magnitude (STORM) eddies in the carbon budget of the euphotic layer in the subtropical northeast Atlantic*, *Journal of Geophysical Research*, 108, 3383 - 13:1-14.

Etienne H., 2003 : *Erreurs de prévision en assimilation de données océanographiques. Estimation par méthode d'ensemble et application à l'Atlantique Nord*. Thesis, Université de Toulouse, France.