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Orientation: Ocean Observation and Global Change
 Specialization Area: Ocean Observation
 Research Area: 1.1 Physical Oceanography



PhD project: **Lagrangian and inertial transport in atmospheric and chaotic flows**

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 Dr. Florian Huhn (ETH Zürich)

Summary: The goal of this doctoral thesis is the study of transport and motion of particles in flows with different spatio-temporal scales; from planetary scales to micro-scales. We use a dynamical systems approach to characterize the flow structures in terms of coherence, duration and shape in different mediums, focusing on the role of that they have on the advective transport in the atmosphere, chaotic flows and experimental turbulent flows. Also, we study the nature of particles focusing on the role that inertial effects play on the problems mentioned.

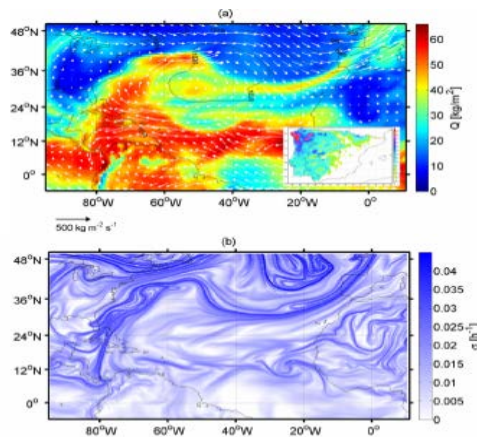


FIG. 1. (a) Atmospheric river event on October 15, 1987 in terms of the
 (b) Backward FTLE field for the same date and the flow given by Eq. (4).