

## **Representation of Florence (September 2006).**

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Florence started as a tropical cyclone in the Atlantic Easterlies in early September 2006, followed the East-Coast of Northern America undergoing Extratropical transition (ET) and then re-intensified as a extra-tropical cyclone and finished it's life-cycle merging with another cyclone at the Southern tip of Greenland. A particularity of Florence and of it's ET were that there was little or no skill diminution in the ECMWF global forecasts and therefore its high resolution (T799) Analysis provide a reliable dataset. Based on these operational analysis, the life-cycle of Florence is described, both qualitatively following the methodology of Klein et al., (2000) and the quantitative phase space as defined by Hart (2002). The stages of the transition of Florence are be compared following the two methods.

Further, emphasis is set on the meridional water transport associated with Florence, and its structural change is described following the changes during Florence's life-cycle.