

Extending the time series of Atlantic
Meridional Overturning backwards in time
using historical measurements

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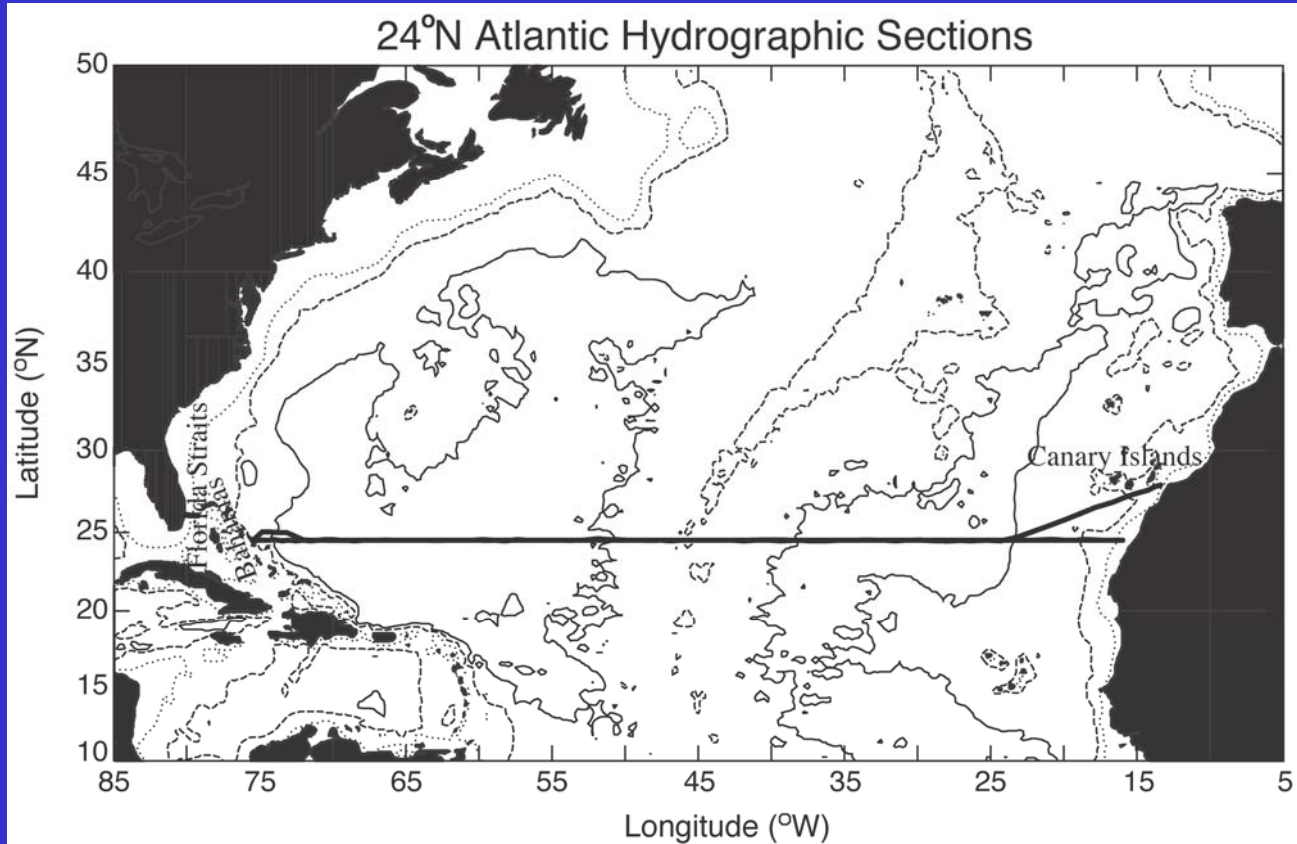
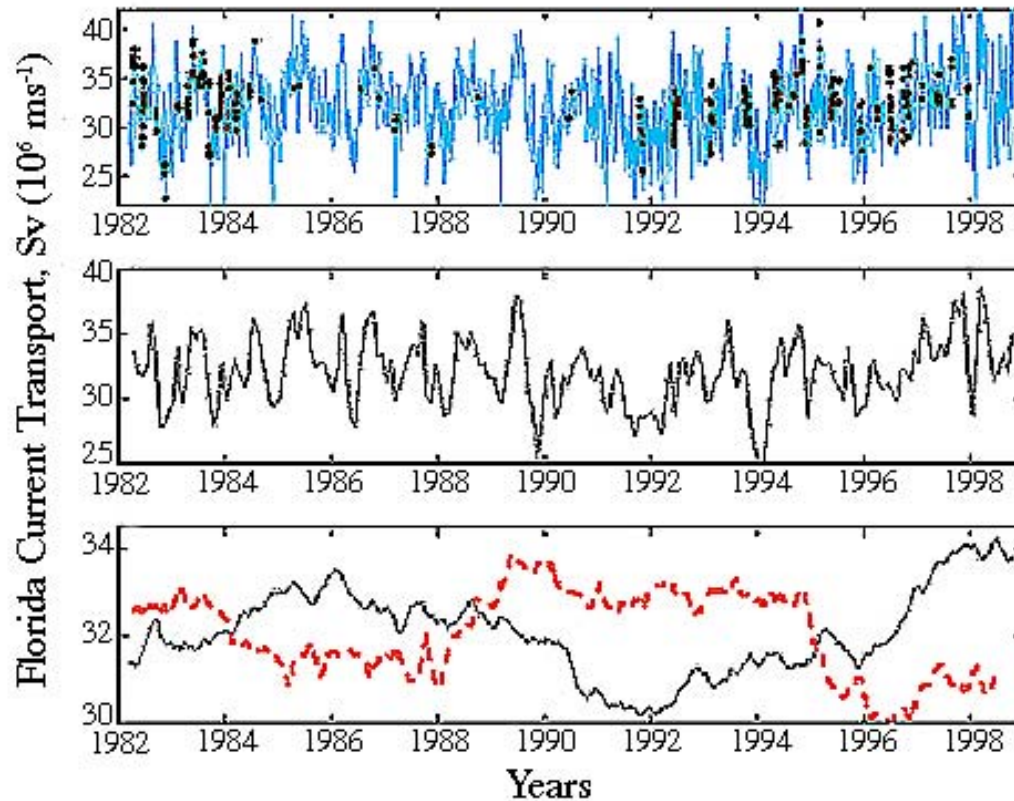


Figure 1. The 24°N hydrographic section occupied in 1957, 1981, 1992 and 1998. The 1957 and 1992 sections extended eastward into the African coast while the 1981 and 1998 sections extended northeastward past the Canary Islands to the African coast.

Florida Straits Transport: Baringer and Larsen (2001)



- a) daily transport from the cable voltages (blue line) and in situ observations used for calibration/voltage offsets monitoring (solid circles)
- b) monthly mean transport from the cable voltages
- c) two-year running mean (solid line) of the daily transport values, including the monthly mean NAO index of *Hurrell and Loon* [1997] (dashed line) rescaled to have same mean and variance as cable transport.

Lavin, Bryden and Parrilla (1998)

Transport by unit depth: 1992:—, 1981:--, 1957:....

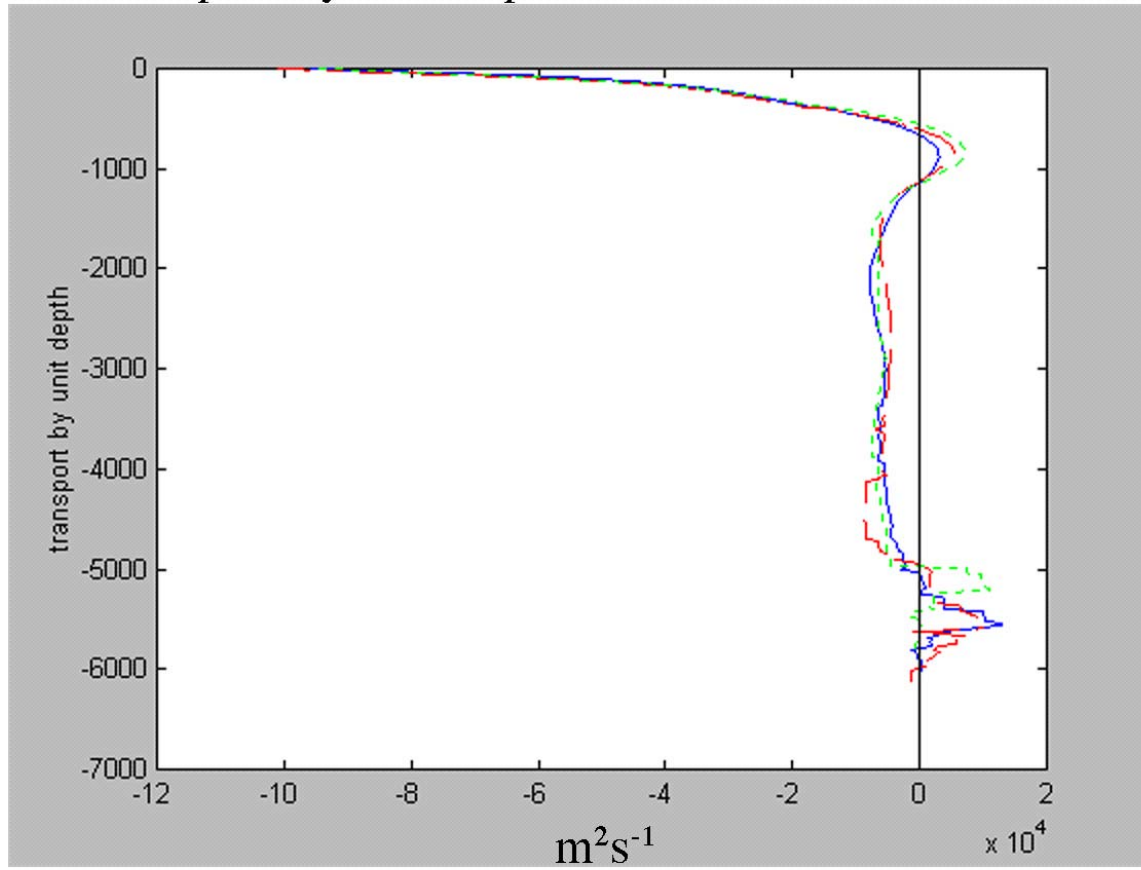
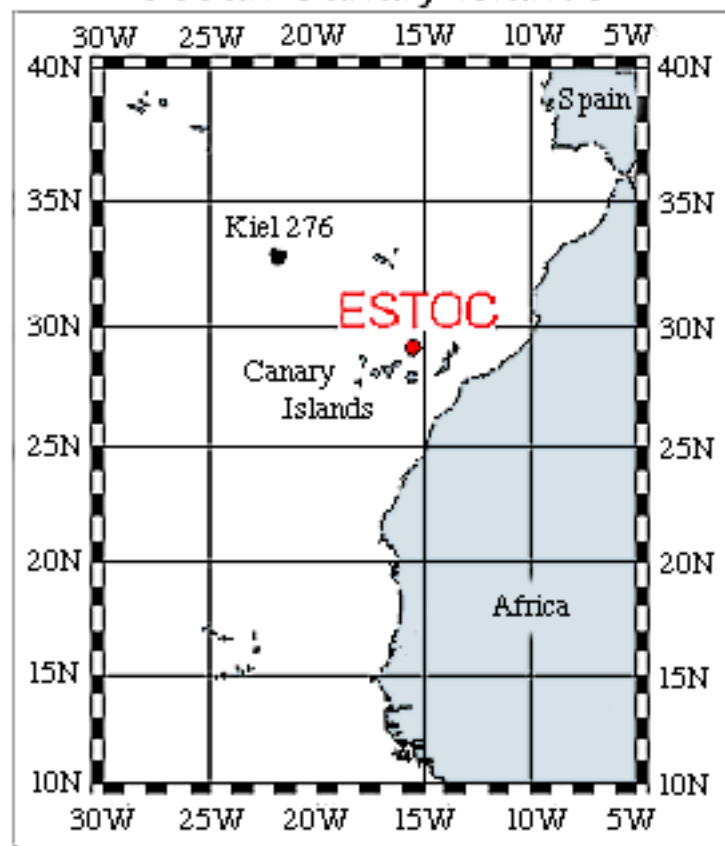


Figure 5.1. Zonally-averaged geostrophic meridional volume transport per unit depth at 24.5°N across the transatlantic section for the three cruises, 1992 (solid blue), 1981 (dashed red) and 1957 (dotted green).

TABLE 1. Cruise summary including type of data used to calibrate the CTD data (B-bottle, H-historical) and the temperature sensor error given as the average difference between pre- and postcruise laboratory calibrations.

Cruise	Number of stations	Calibration	Maximum eastern extent (°W)	Temperature sensor error (°C)	Maximum depth (db ar)
Aug84	6	B	76.0	.002	2010
Apr85	10	H	76.3	.003	4130
Aug85	6	B	76.3	.001	4100
Jan86	11	B, H	76.1	.001	4880
Mar86	13	B	75.9	.001	4770
Jul86	8	B	75.9	.005	4800
Oct86	16	H	75.5	.005	4800
Mar87	17	B	74.0	.004	4870
Sep87	9	B	75.0	.004	4780
Mar88	1	B	75.5	.002	3300
Sep88	6	H	76.1	.002	4780
Feb89	15	H	74.5	.002	4800
Jan90	5	B	75.9	.005	4900
Jun90	14	B	71.0	.001	4900
Sep90	3	B	74.2	.001	4600
Jan91	9	B	75.5	.003	4900
Jun91	6	H	74.2	.002	4700
Sep91	7	B	73.1	.002	4900
Aug92	15	B	70.0	.001	5500
Jun93	8	B	71.6	.003	5400

European Station for Time-Series in the Ocean Canary Islands



Position of the ESTOC site where time series observations started in 1994. Also shown is the position of mooring *Kiel 276* where the *IFM Kiel* has maintained an annually relaunched current meter mooring since 1980, with additional biological/chemical JGOPS observations from 1993 to 1997.