Ode to an eddy

The mighty stream Agulhas
  Wends its wand'ring way
Down the coast of Afrik
  And on past Durban Bay[1].

Twas there we found The Eddy[2],
  Majestic and serene,
Cyclonically rotating:
  The best we've ever seen.
Its heart was cool yet shallow—
  Its motion slow and steady—
Its structure well-defined—
  Ah, yes, that was an eddy!

We know not of its birthplace,
  Nor when it first saw day,
But Gründlingh has a theory:
  They're born off Richards Bay[3].
The coastline at St Lucia
  Deflects the Mighty Flow,
And southwards in its wake
  The eddies form and grow.

Yet that's not all the answer,
  For other data shows
The inshore flow is governed
  By the weather-bringing "lows"[4,5].
These cells of falling pressure
  Arrive from west-sou-west
And bring the dreaded "busters"[6]
  Which the mariners detest.

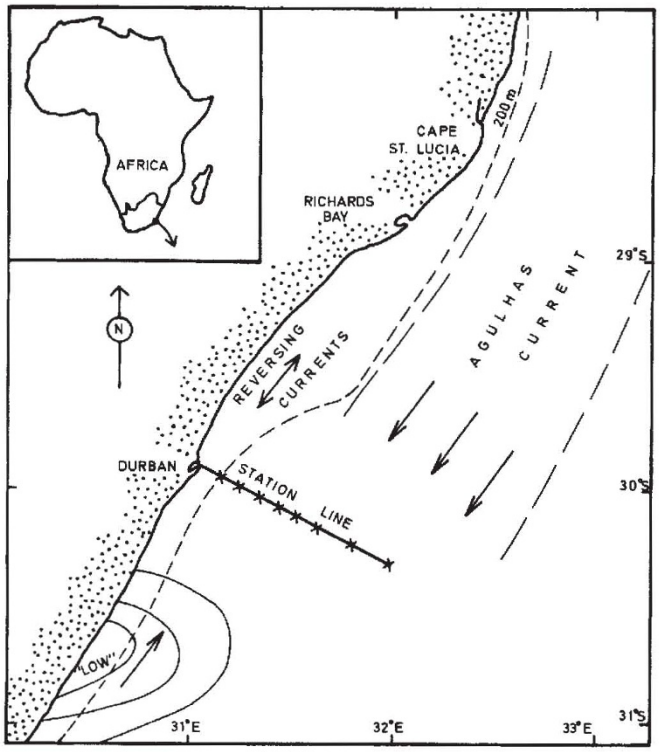

Fig. 1 Location chart, illustrating diagrammatically the general flow of the Agulhas Current, the reversing current on the continental shelf, the migration of a typical cyclonic cell from the south and the line of eight oceanographic stations. This line was occupied daily for the 5 d period February 19–23, 1973.

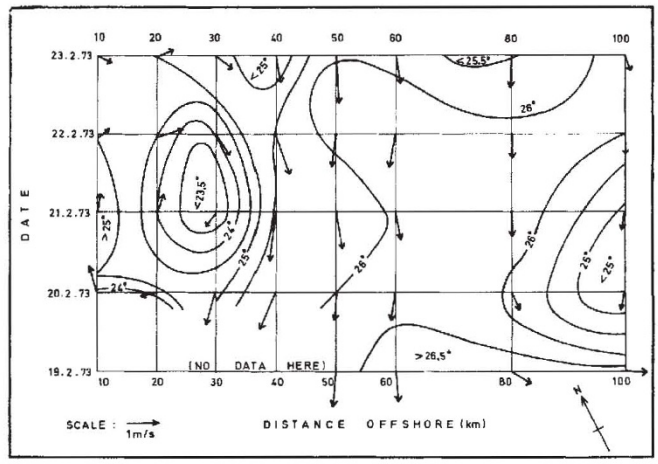

Fig. 2 The eddy is shown by the sea-surface temperature contours (½ °C intervals) and the current vectors measured at 10 m depth during the 5 d of the cruise.

And years of observation
  Along the eastern coast
Suggest that eddies form
  When pressure's down the most.
It therefore seems quite likely
  That instead of from the north
It's really from the south
  That the eddies issue forth.

Alas, our single section
  (Repeated occupation)
Did not show the direction
  Of eddy propagation.
Is it to north or south
  The eddies set their face?
Or maybe they are born
  and die in the same place[7]?

We're planning now a programme
  To show them in their glory.
We'll seek them—find them—track them—
  Until we know their story[8].

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[1] See the location chart in Fig. 1.
[2] Fig. 2. A more detailed publication on this and other eddies associated with the Agulhas Current is in preparation (at present they are described in various unpublished reports).
[3] Gründlingh, M. L., *Deep-Sea Res.*, **21**, 47–55 (1974).
[4] Anderson, F. P., Sharp, S. O., and Oliff, W. D., *Symp. Oceanography in South Africa*, Durban, 1970, paper H2, page 22.
[5] Pearce, A. F., *South African National Oceanographic Symp.*, Cape Town, 1973, page 28.
[6] The "lows" move up the coast from the south at intervals of a few days, and bring in their wake south-westerly winds; when these are of gale intensity, they are termed "busters".
[7] It is of course possible that standing eddies may be generated by the sudden change in the 200 m isobath north of Durban – there is evidence of semi-permanent patches of cooler water off Durban, shown by airborne radiation thermometer surveys.
[8] Eddies of a similar (?) nature associated with the Gulf Stream system have been described by Lee, T. N., dissertation, Florida State Univ. (1972).