

30th Meridian – ‘The Cape to Cairo’

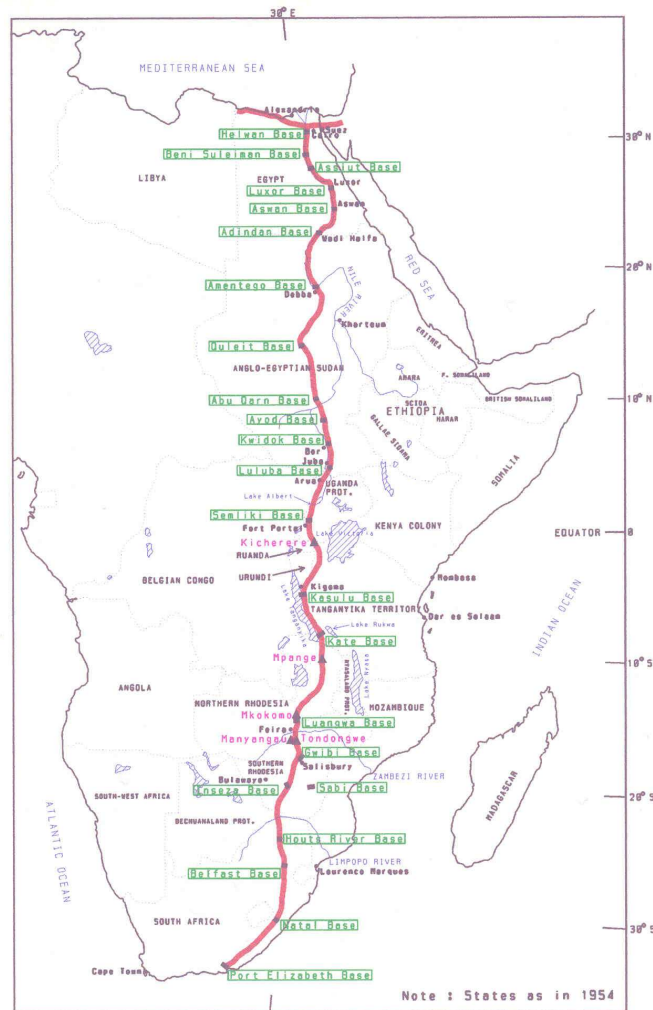


Figure 3. The African Arc of the 30th Meridian (1883 - 1954)

Conceived by (Sir) David Gill in 1879 the arc stretches from “The Cape to Cairo” i.e. from Cape Colony to Egypt passing through 11 other countries (today’s national boundaries) as it goes.

It has a length of just over 64^o of arc and about 7100 km (4438 miles).

It has 608 main survey stations with 23 baselines and 42 astronomical stations.

David Gill arrived in South Africa 25th May 1879 and brought with him a great interest in the shape of the earth as well as a passionate belief in the value of establishing, as quickly as possible in any developing country, a sound framework of geodetic triangulation on which to base any future topographical or cadastral work. In his Report of 1896 Gill said that



Sir David Gill FRS
1843-1914



BUFFELSPONTEIN and THE ARC OF THE 30th MERIDIAN

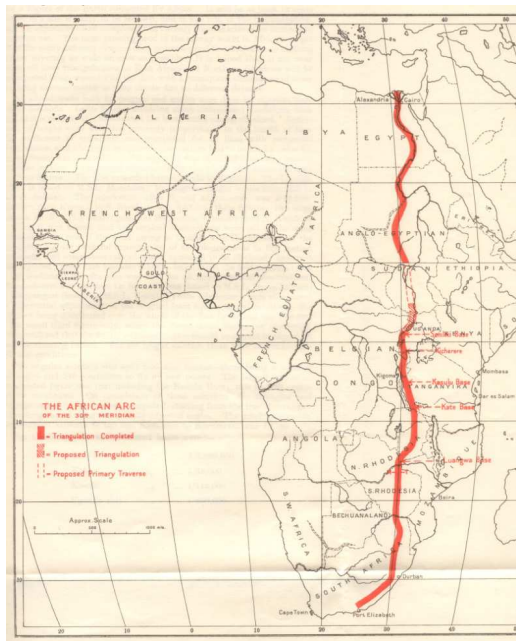
This beacon represents the Southern most point of a chain of triangles Measured along the 30th meridian through Botswana, Mozambique, Zimbabwe, Zambia, Tanzania, Burundi, Uganda, the Democratic Republic of Congo, Sudan and ending near Cairo in Egypt. The purpose of the measurement was to determine the size and shape of the Earth. Prior to 1999 the beacon was also the origin of the geodetic survey of South Africa.

The project was initiated by Sir David Gill, the Astronomer Royal at the Cape in 1879 and the final measurements were completed in the Sudan 1954. The arc, known as the Arc of the 30th Meridian, can be connected across the Mediterranean Sea through Crete and Belarus to a similar arc measured through Europe terminating at North Cape in Norway. The European arc is known as the Struve Arc and together these two arcs cover nearly 105° in latitude which is over 11650 Km in length.

This plaque was unveiled by the President of the Institute of Professional Land Surveyors of the Eastern Cape, Mr C J Bollaert-Davies, on 8 June 2004, 125 years after the initiation of the project and 50 years after the completion of measurements.

**Plaque celebrating the 125th Anniversary of
its conception and 50th Anniversary of its
completion**

Date	Task
26 Sept 1879	Sir David Gill sends a memo to the Governor of South Africa....



26th September 1879

.....A plan of value in a geodetic sense as contributing to our knowledge of the form and dimensions of the earth. The general principle of which is that upon which the Great Trigonometrical Survey of India is founded, viz the construction of chains of triangles in meridian and longitude series, and along coast and boundary lines.....

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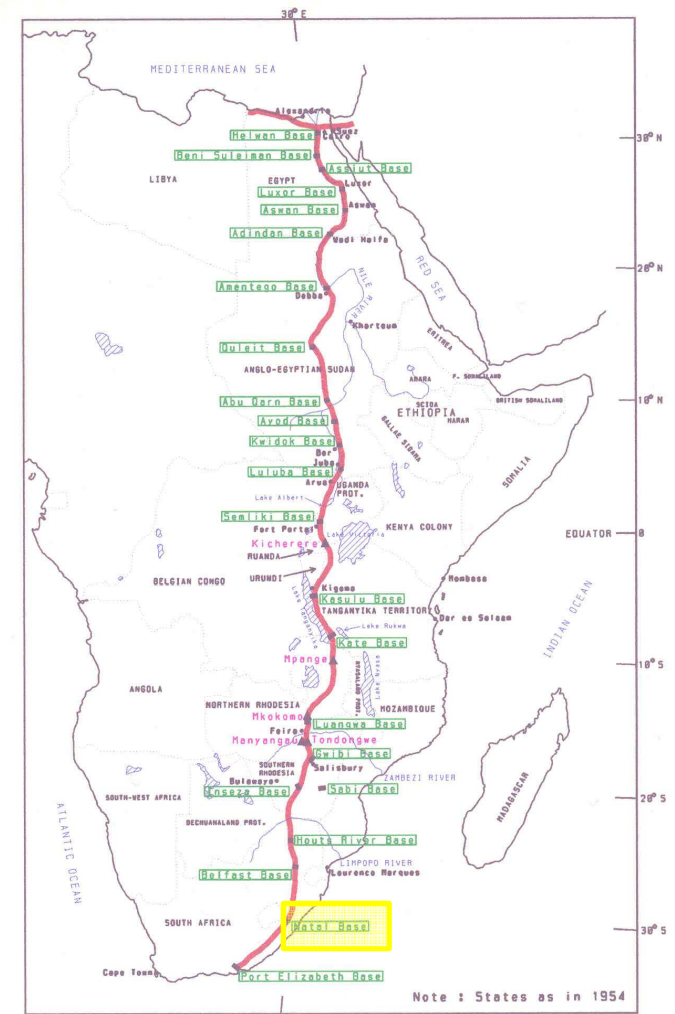


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Approx. Scale 1:35 000 000
 1cm = 350km

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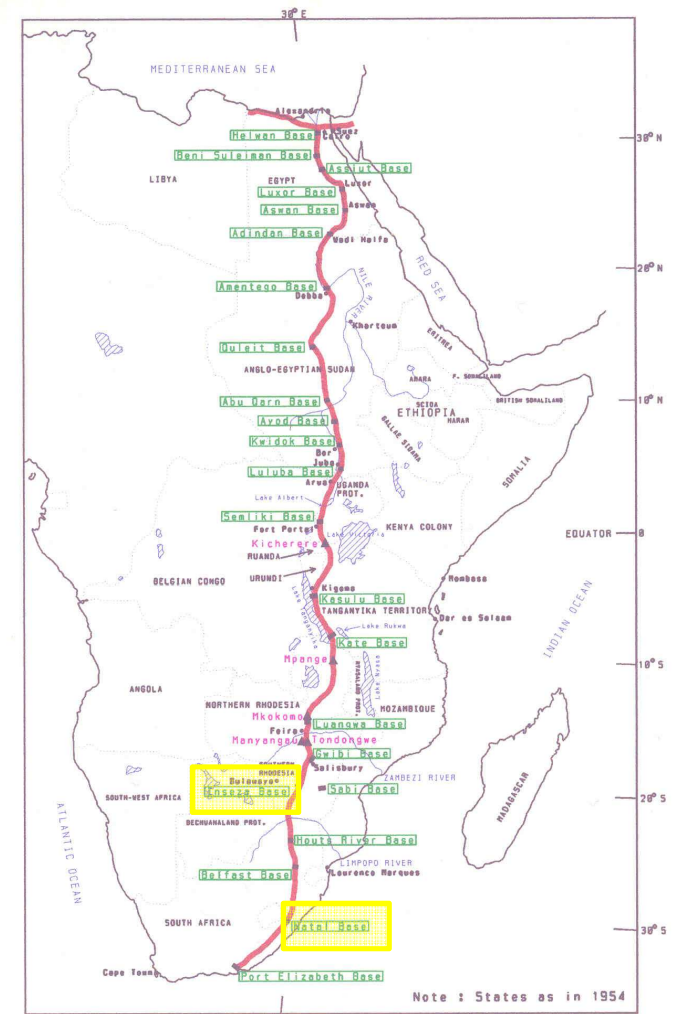


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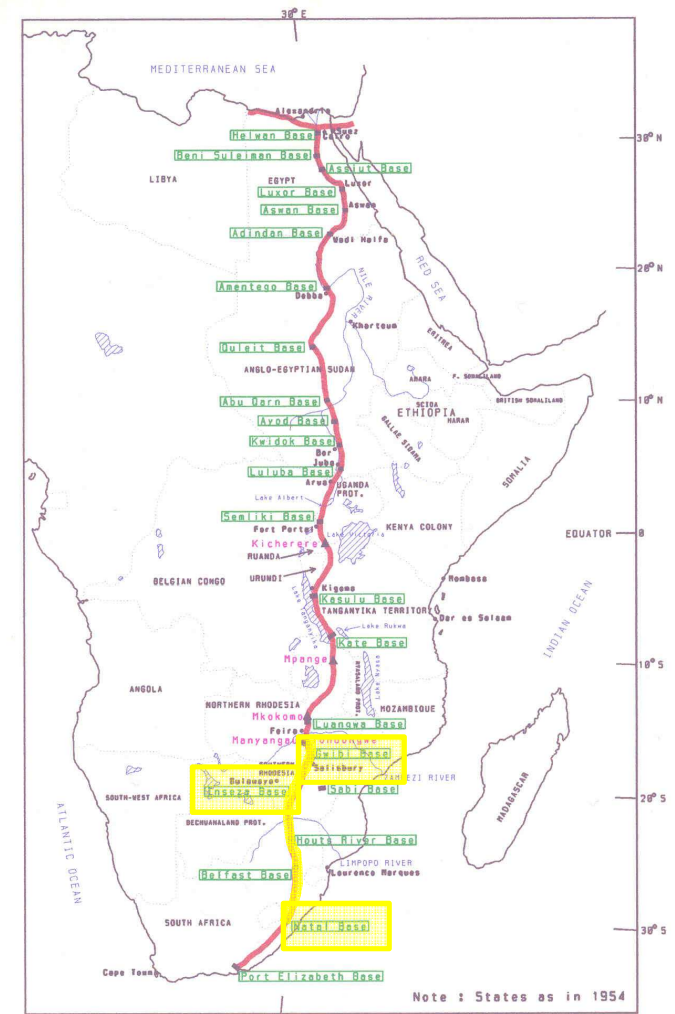


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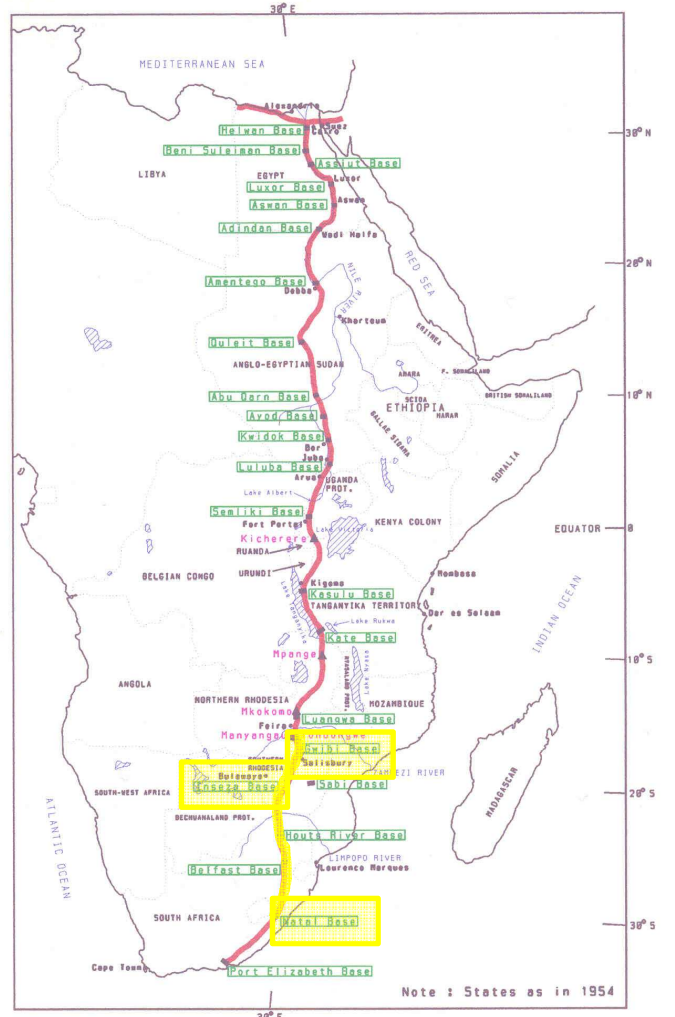


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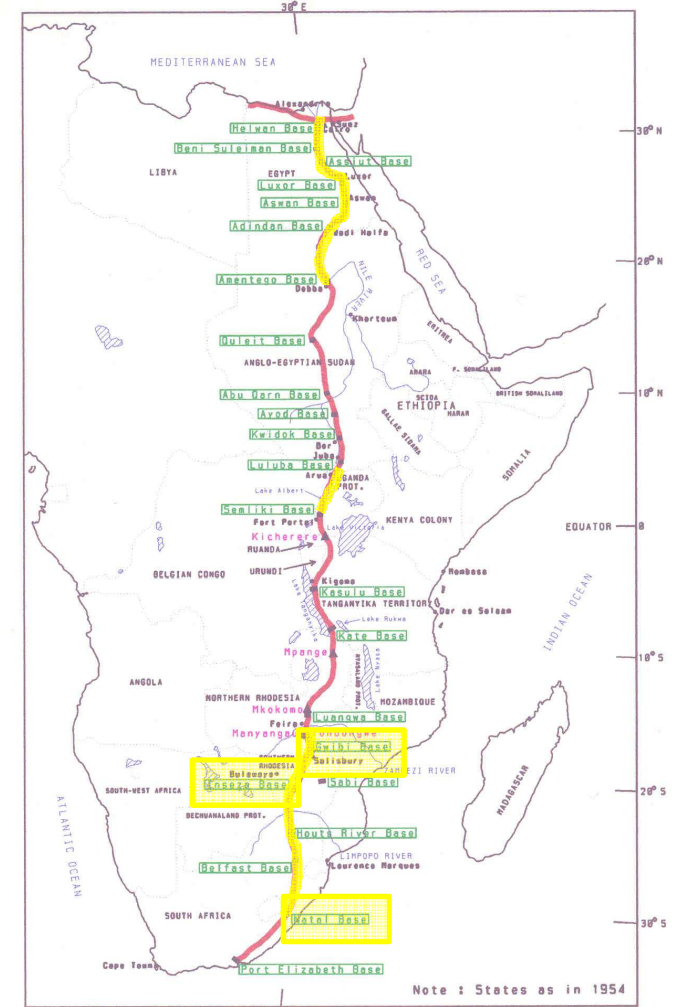


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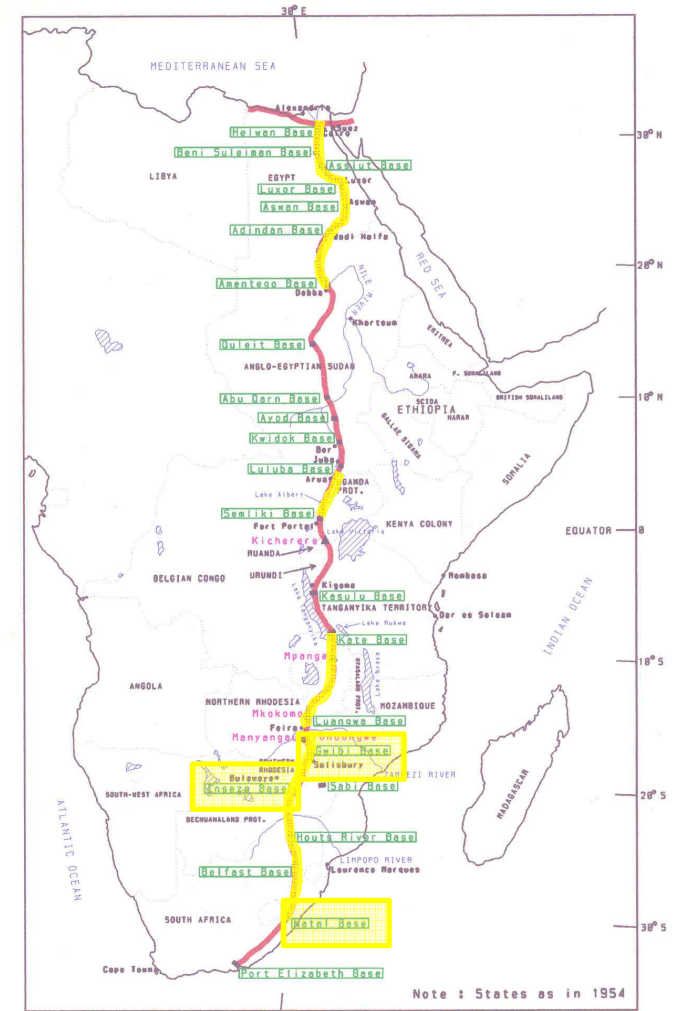


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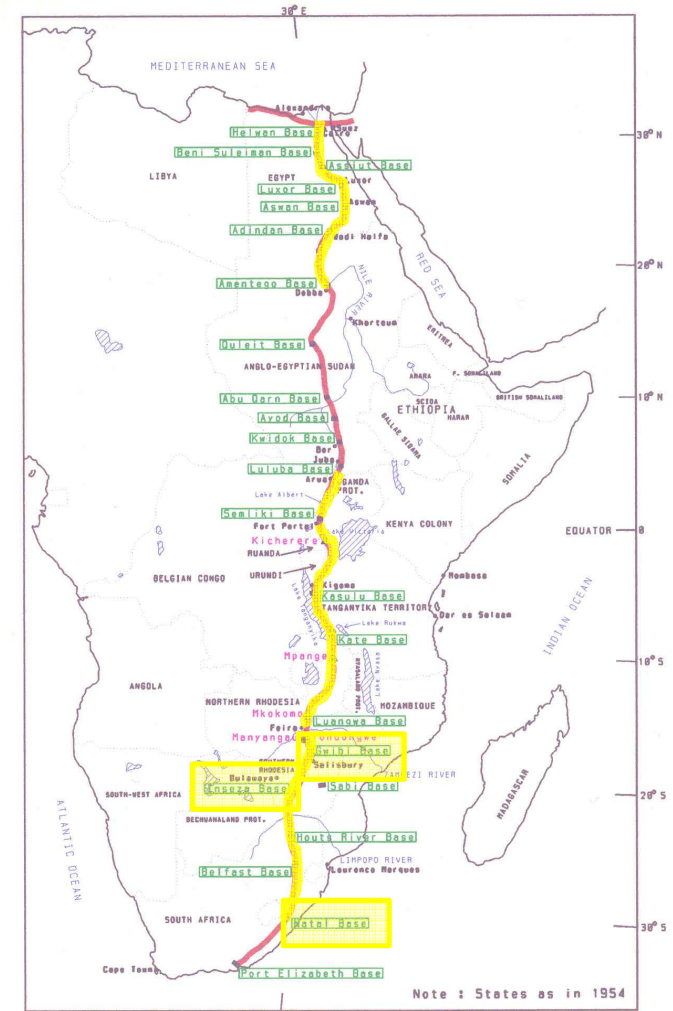


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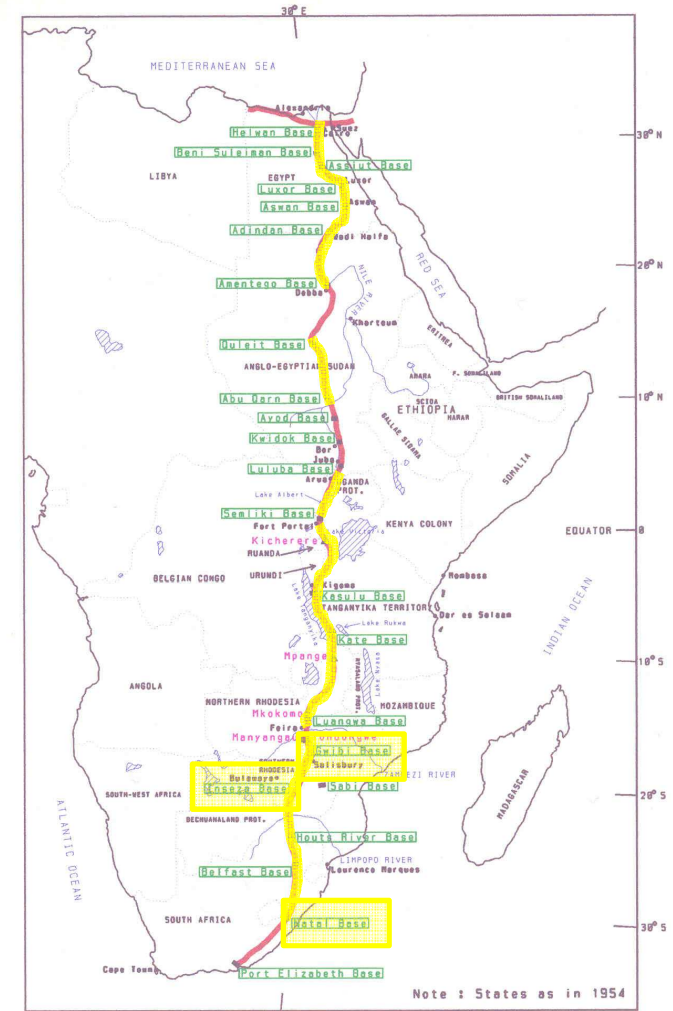


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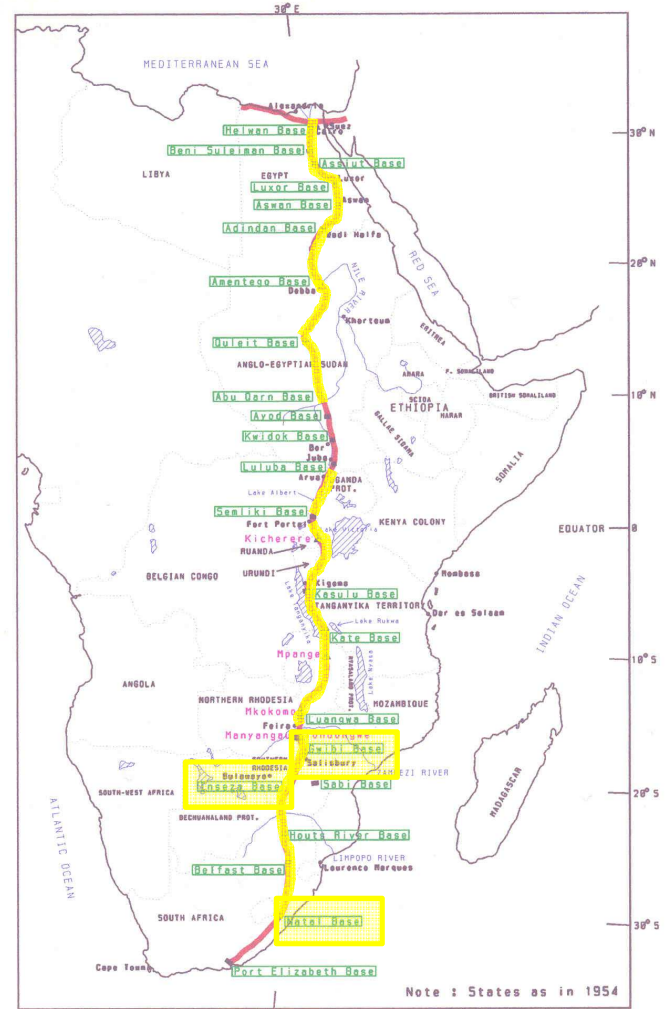


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1954	US Army complete Arc in Sudd area (South Sudan and Northern Uganda)	

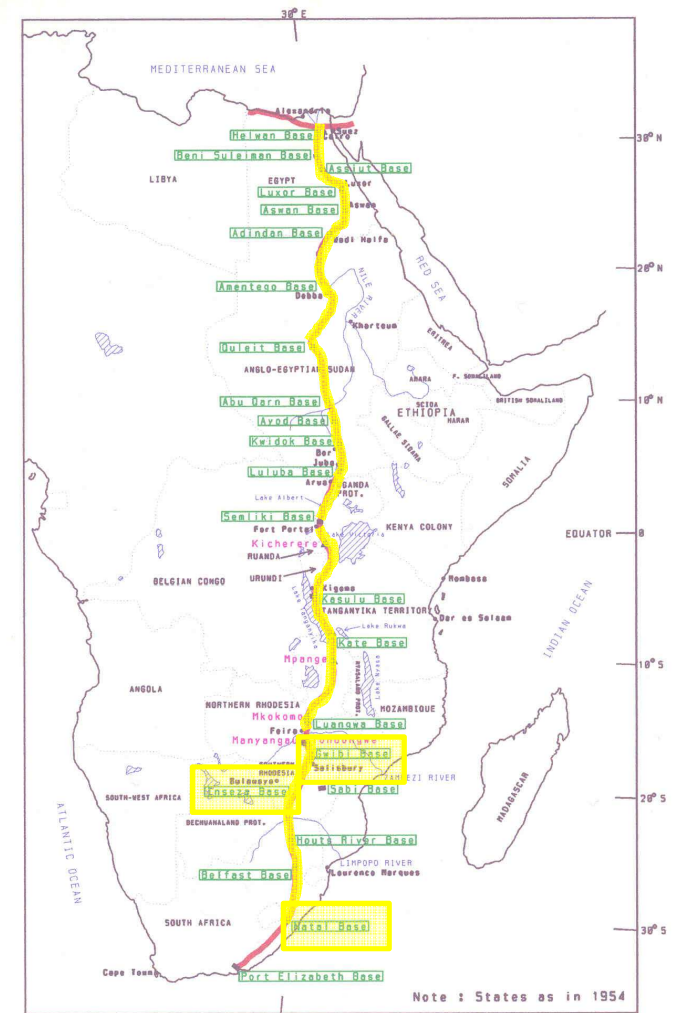


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Country (originally)	Stations	Bases	Points	
Libya	1		1 or 0	Connecting point to Greece (Crete)
Egypt	98	6	5	Has 2 connecting points to Greece (Crete)
Anglo-Egyptian Sudan	198	6	6	The Sudan. Now North and South Sudan
Uganda	29	1	3	
Congo	10	0	1 or 2	Belgian Congo. (Democratic Republic of Congo, was Zaire until May 1997))
Burundi	4		1	= Part of Belgian Congo
Tanganyika	55	2	3 or 4	= Tanzania = German East Africa
Northern Rhodesia	33	1	3	= Zambia
Portuguese East Africa	2		1	= Mozambique
Southern Rhodesia	62	2	3 or 4	= Zimbabwe
Bechuanaland	1		1	= Botswana
South Africa	116	4	5 or 6	
Totals	609	22	33 or 36	

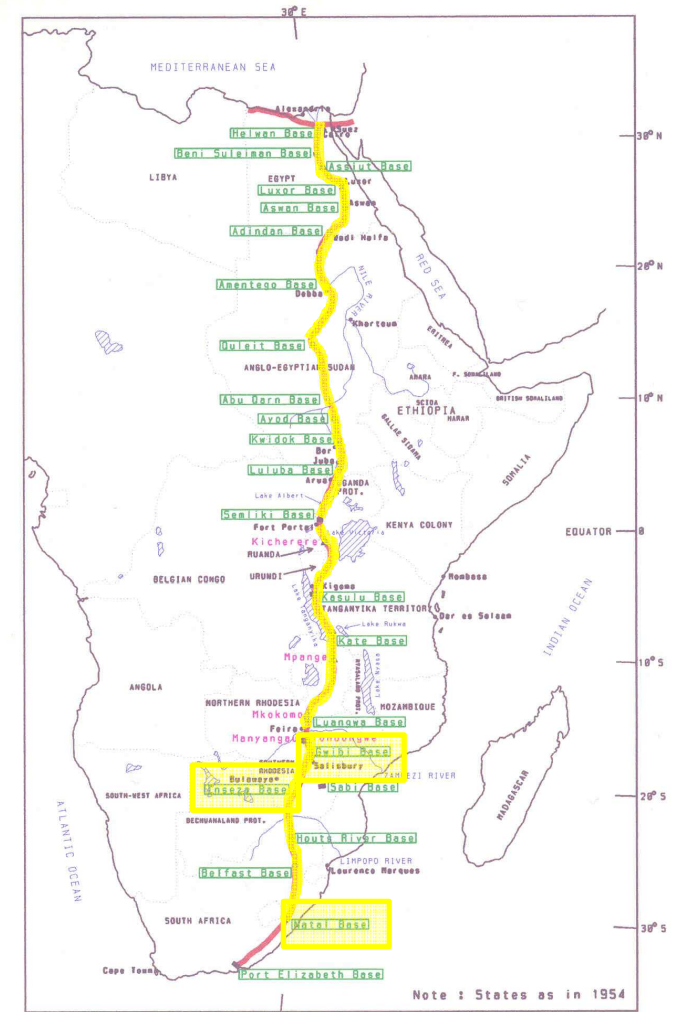


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