



International Civil Aviation Organization

WORKING PAPER

**SOUTH SUDAN-SUDAN TASK FORCE
FIFTH MEETING (SSS TF/5)**

(Virtual, 17 September 2025)

Agenda Item 02: - Report on the Coordination of FIR Boundaries

**Boundary Definition of Revised Khartoum FIR and New Juba
FIR**

(Presented by The Republic of South Sudan)

SUMMARY

This paper recalls the work of TF/1, TF/2, TF/3, TF/4 and the Boundary Technical Team Working Group. It presents a definition of the revised Khartoum FIR and proposed Juba FIR that meets the ICAO requirement to use whole seconds, and the results of a review of the boundary points. It updates the boundary to include feedback from surrounding FIRs.

Action by the meeting is in paragraph 3

1. Introduction

1.1 In 2012, Sudan and South Sudan agreed to split the Khartoum Flight Information Region (FIR) into two parts to create the Juba FIR. This east-west split line is defined by four points and a partial 50NM arc around the location of the previous Malakal VOR.

1.2 Four Sudan-South Sudan Task Force (SSS TF) meetings have been held to prepare for the establishment of the Juba FIR. In addition, the SSS Task Force Boundary Technical Team carried out a detailed check and review of all proposed boundary points.

1.3 The resulting proposed Juba FIR has been coordinated with surrounding FIRs for comment; all surrounding FIRs have confirmed no objection. This working paper details the results of the comments received. This working paper only refers to the definition of FIR boundaries. It specifically does not refer to sovereign airspace or sovereign country land boundaries and cannot be invoked for that purpose.

1.4 In the previous SSS-TF meeting (SSS-TF/4), FIR Boundary Points T1- T4 were all agreed upon, as recorded in the meeting minutes. The next step was for the submission of a joint PfA to ICAO HQs for the delineation of the FIR.

2. Discussion

2.1 The Khartoum FIR (Flight Information Region) is adjacent to 10 other FIRs (*see Figure 1*). They are Tripoli, Cairo, Jeddah, Asmara, Addis Ababa, Nairobi, Entebbe, Kinshasa, Brazzaville, and N'Djamena FIRs.

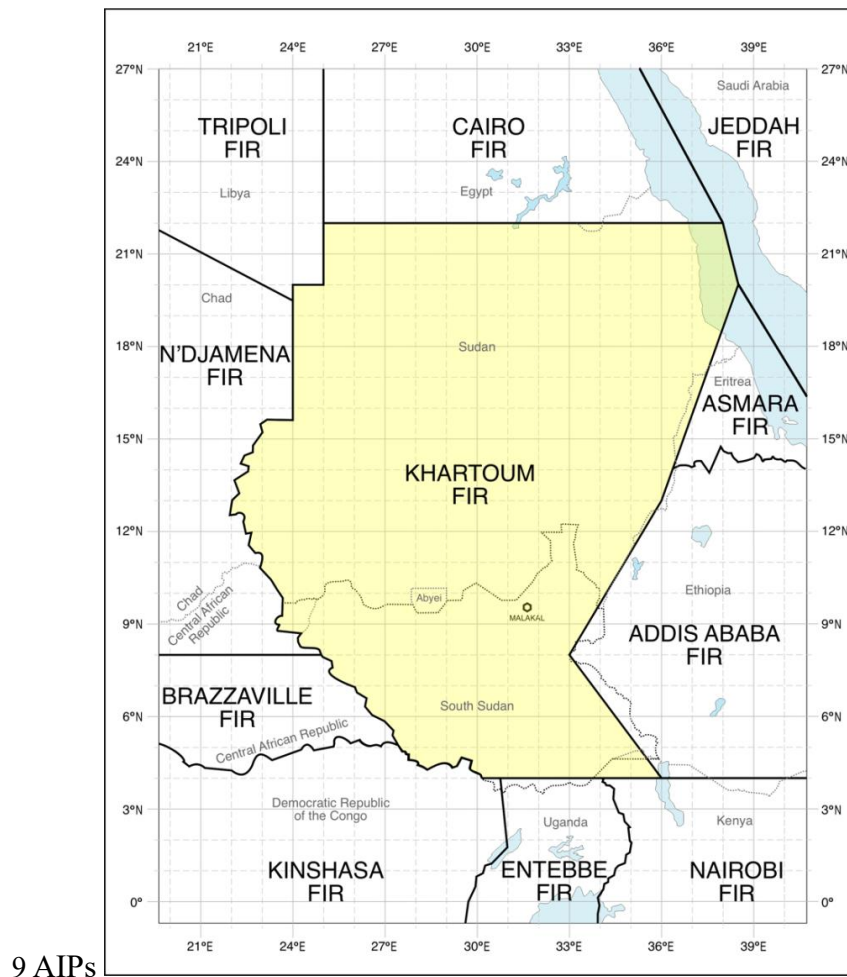


Figure 1: Khartoum FIR and Surrounding FIRs

2.2. During the Second Meeting of the ICAO South Sudan-Sudan Task Force (SSS-TF/2), a boundary Task Force was set up to conduct a detailed review and validation of the FIR boundaries. Using Aeronautical Information Publications (AIPs) received from the following FIRs a review was conducted as shown in Table 1.

Table 1: AIPs Reviewed

Reviewed	AIP for	COUNTRY	AGENCY
YES	CAIRO FIR	Egypt	Egypt CAA
YES	JEDDAH FIR	Saudi Arabia	SANS
NO	ASMARA FIR	Eritrea	Eritrean CAA
YES	ADDIS ABABA FIR	Ethiopia	Ethiopia CAA
YES	NAIROBI FIR	Kenya	Kenya CAA
YES	ENTEBBE FIR	Uganda	Uganda CAA
NO	KINSHASA FIR	Democratic Republic of the Congo	CAA of DRC
YES	BRAZZAVILLE FIR	Central African Republic	ASECNA
YES	N'DJAMENA FIR	Chad	ASECNA
NO	TRIPOLI FIR	Libya	Libya CAA
YES	SUDAN FIR	Republic of Sudan	Sudan CAA

2.3 In the Sudan AIP, ENR 2.1-1, the Khartoum FIR lateral boundary is defined using the following 12 points, as well as following country boundaries. The Sudan AIP definition of the Khartoum FIR is shown in Table 2 below.

Table 2: Khartoum FIR from the Sudan AIP

Point	KHARTOUM FIR BOUNDARY in SUDAN AIP	ADJOINING FIR(s)	
1	22°00'00"N, 025°00'00"E	CAIRO	TRIPOLI
2	22°00'00"N, 038°00'00"E	CAIRO	JEDDAH
3	20°00'00"N, 038°30'00"E	JEDDAH	ASMARA
4	13°00'00"N, 036°00'00"E	ADDIS ABABA	
5	08°00'00"N, 033°00'00"E	ADDIS ABABA	
6	04°00'00"N, 036°00'00"E	ADDIS ABABA	NAIROBI
7	04°00'00"N, 030°12'16"E	KINSHASA	
	SUDAN/CONGO (DRC)	KINSHASA	
	SUDAN/CENTRAL AFRICAN REPUBLIC	BRAZZAVILLE	N'DJAMENA
	SUDAN/CHAD	N'DJAMENA	
8	15°42'12"N, 023°59'21"E	N'DJAMENA	
9	15°42'27"N, 024°00'00"E	N'DJAMENA	
10	19°30'00"N, 024°00'00"E	N'DJAMENA	TRIPOLI
11	20°00'00"N, 024°00'00"E	TRIPOLI	
12	20°00'00"N, 025°00'00"E	TRIPOLI	
1	22°00'00"N, 025°00'00"E	Point of beginning	

2.4. A map indicating the 12 boundary points of the Khartoum FIR is shown in Figure 2.

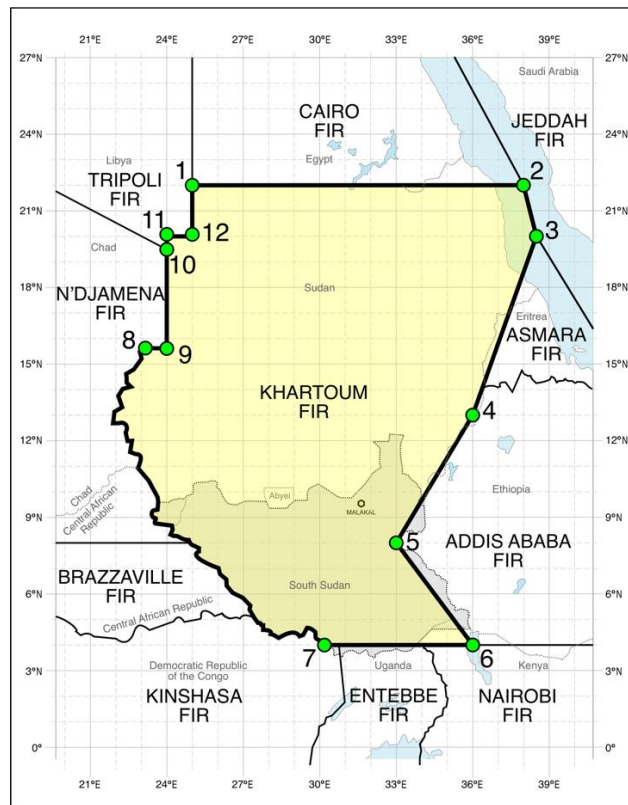


Figure 2: Khartoum FIR Boundary Points

2.5. In 2012, Sudan and South Sudan agreed to split the Khartoum FIR into two parts in order to create the Juba FIR. This east-west split line is defined by four points and a partial 50NM arc around the location of the previous Malakal VOR.

2.6. The second meeting of the Task Force on the Air Navigation Services and Delineation (TANS/D/2), held from 8 to 10 October 2012, recalled that Assembly Resolution A37-15 – Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation, Appendix M – Delimitation of air traffic services (ATS) airspace (subsequently superseded by Assembly Resolution A41-10 – Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation, Appendix G – Delimitation of air traffic services (ATS) airspace) stated that, inter alia, the limits of ATS airspace, whether over States' territories or over the high seas, shall be established on the basis of technical and operational considerations with the aim of ensuring safety and optimizing efficiency and economy for both providers and users of the services. As such, TANS/D/2 agreed upon the delineation of the boundary between Khartoum FIR and the South Sudan FIR, provisionally titled 'Juba FIR', defined as follows:

10°08'42.48"N 023°29'30.80"E 09°30'39.70"N 030°48' 42.00"E following an arc of a circle at a radius of 50NM centered on MLK (09°33'47.50"N 031°39'11.63"E) and ending at 10°19

37.61"N 032°00'00"E to 10°32'53.94"N 034°32'06.78"E 08°00'00"N 033°00'00"E 04°00'00"N 036°00'00"E 04°00'00"N 030°05'00"E 04°00'00"N 030°45'00"E then follow 47.50 sovereign boundary between South Sudan and Democratic Republic of the Congo and South Sudan and Central African Republic to 10°08'42.48"N 023°29'30.80"E

2.7. The east-west line definition is indicated by points T1, T2, T3, and T4, as shown on the map in Figure 3, on the following page. The TANSD/2 points were calculated to the hundredth of a second. The ICAO standard is to use only degrees, minutes, and whole seconds. A rounding of these points using whole seconds is shown below in Table 3, with the difference being only a few meters.

Table 3: TANSD/2 Points Rounded to Whole Seconds

PT	TANSD/2		TANSD/2 Points Rounded to Whole Seconds		Difference
	Latitude	Longitude	Latitude	Longitude	
T1	10°08'42.48"N	023°29'30.80"E	10°08'42.00"N	023°29'31.00"E	16 meters
T2	09°30'39.70"N	030°48' 42.00"E	09°30'40.00"N	030°48'42.00"E	9 meters
MLK	09°33'47.50"N	031°39'11.63"E	09°33'48.00"N	031°39'12.00"E	10 meters
T3	10°19'37.61"N	032°00'00.00"E	10°19'38.00"N	032°00'00.00"E	12 meters
T4	10°32'53.94"N	034°32'06.78"E	10°32'54.00"N	034°32'07.00"E	7 meters

2.8. Recalling SSS-TF/3-WP/3, a review of boundary points by the SSS Task Force Boundary Technical Team resulted in a more accurate alignment of points T1 and T4 with existing FIR boundaries. These agreed upon points are detailed in Table 4, and shown in Figure 3.

Table 4: TANSD/2 Boundary in Whole Seconds

TANSD/2 Boundary in Whole Seconds and Aligned with External Boundaries		
PT	Latitude	Longitude
T1	10°08'42"N	023°30'00"E
T2	09°30'40"N	030°48'42"E
MLK	09°33'48"N	031°39'12"E
T3	10°19'38"N	032°00'00"E
T4	10°32'54"N	034°31'45"E

2.9. The east-west TANSD/2 line (T1, T2, T3, and T4), defines the boundary between the revised Khartoum FIR and the new Juba FIR as shown in Figure 3.

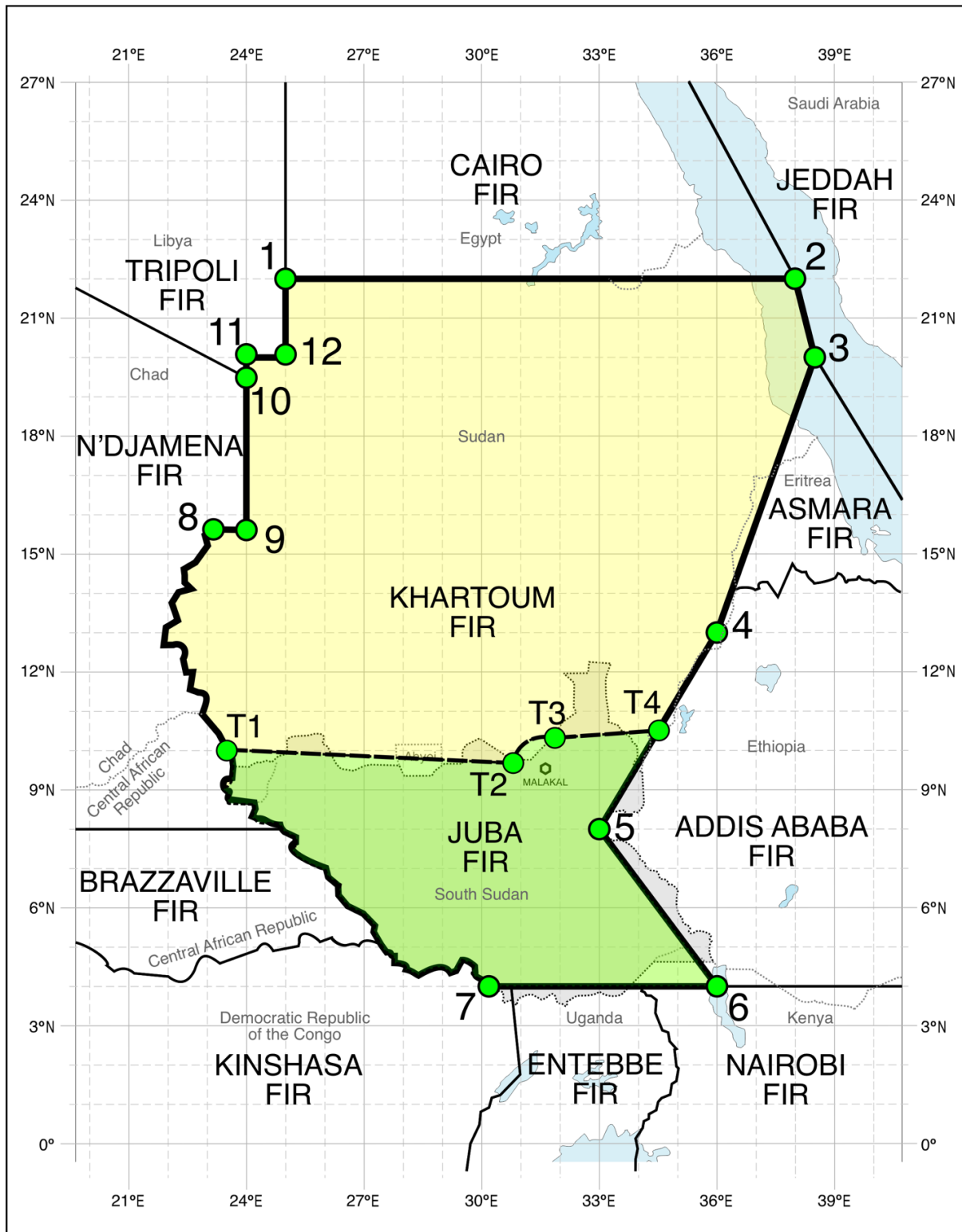


Figure 3: Khartoum FIR and Juba FIR Boundary Points

2.10. The surrounding FIRs / ANSPs were contacted to advise them of the proposal and to affirm the boundary points. All the surroundings affirmed no objection to the proposed FIR and its respective boundaries.

2.11. South Sudan validated points T4, 5, 6, 7, T1, that the DRC and CAR borders are acceptable, as well as validating with Entebbe and Nairobi that the existing 04°00'00"N latitude line will continue to be acceptable as a boundary between the FIRs.

2.12. Feedback was received from Uganda for the Entebbe FIR requesting the addition of two points along the 04°00'00"N latitude line. The resulting points labelled U1 and U2, have been added to the proposed FIR boundary description. These points do not affect the lateral dimensions of the Juba FIR and only clarify the points where the Entebbe FIR meets the Juba FIR. Points U1 and U2 are shown below in Figure 4.

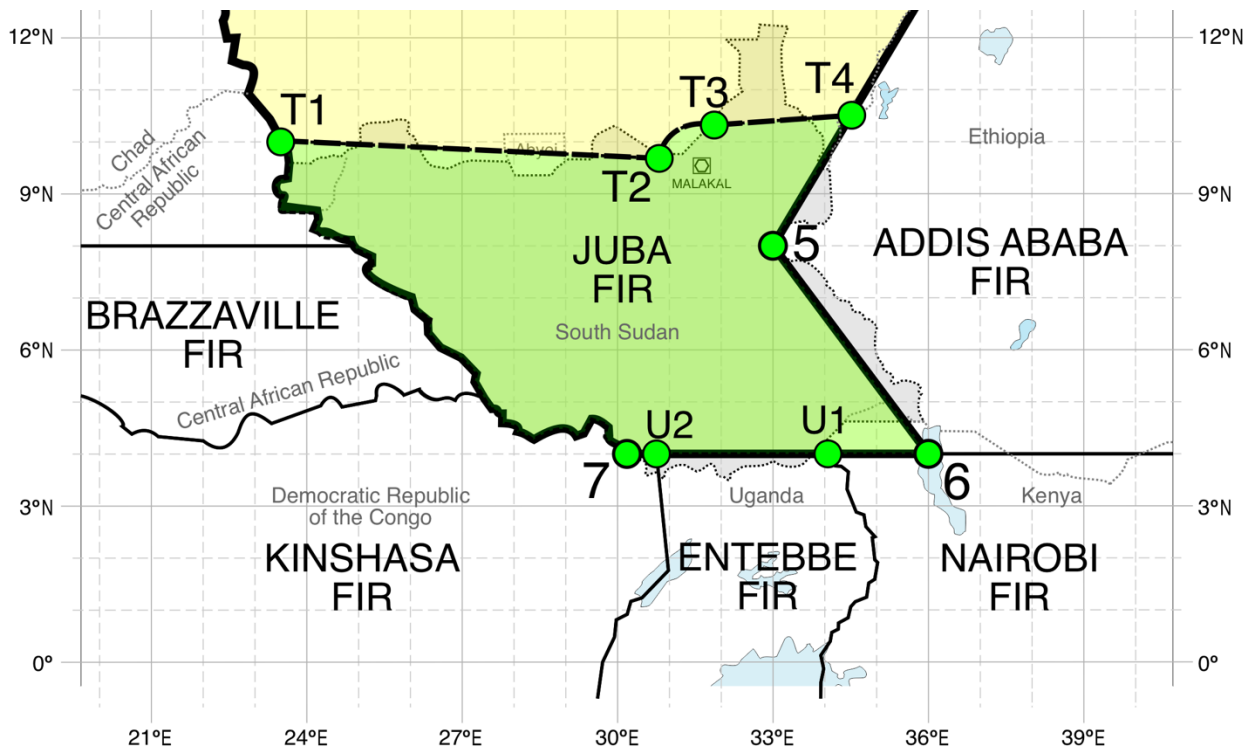


Figure 4: Addition of Points U1 and U2

The resulting Juba FIR boundary was modified to include points U1 and U2. There are no changes to the previous new Khartoum FIR definition. The complete FIR boundaries to establish the new Juba FIR are shown in Figure 5, and detailed in Table 5 for the Khartoum FIR, and Table 6 for the Juba FIR.

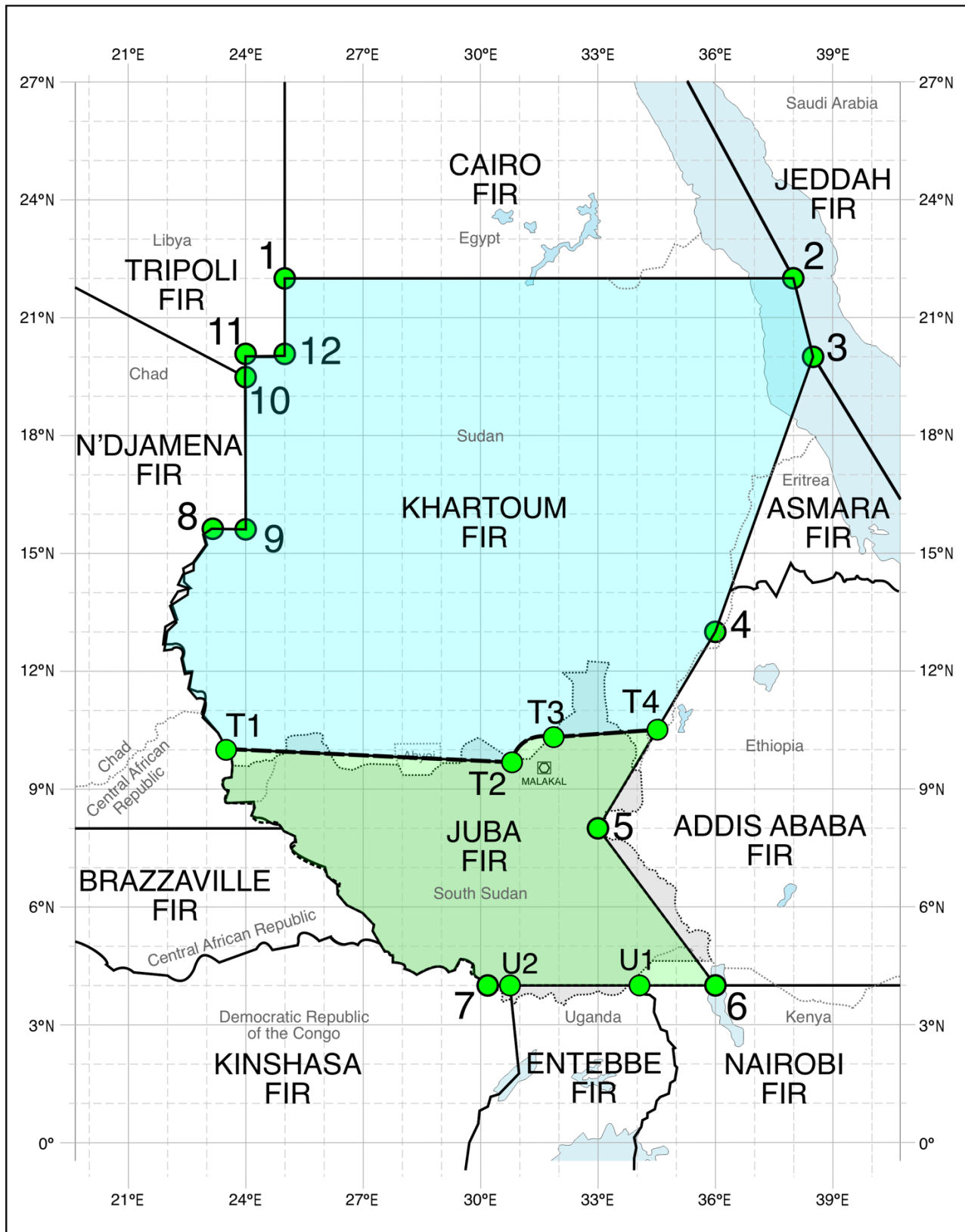


Figure 5: Khartoum and Juba FIR Boundaries

Table 5: Revised Khartoum FIR Boundary

Point	REVISED KHARTOUM FIR BOUNDARY DESCRIPTION	ADJOINING FIR(s)	
1	22°00'00"N, 025°00'00"E	CAIRO	TRIPOLI
2	22°00'00"N, 038°00'00"E	CAIRO	JEDDAH
3	20°00'00"N, 038°30'00"E	JEDDAH	ASMARA
4	13°00'00"N, 036°00'00"E	ADDIS ABABA	
T4	10°32'54"N, 034°31'45"E	ADDIS ABABA	JUBA
T3	10°19'38"N, 032°00'00"E	JUBA	
	COUNTER-CLOCKWISE ALONG A 50NM ARC CENTERED AT 09°33'48"N, 031°39'12"E (MLK)	JUBA	
T2	09°30'40"N, 030°48'42"E	JUBA	
T1	10°08'42"N, 023°30'00"E	JUBA	N'DJAMENA
	Along the SUDAN-CENTRAL AFRICAN REPUBLIC border	N'DJAMENA	
	Along the SUDAN-CHAD border	N'DJAMENA	
8	15°42'12"N, 023°59'21"E	N'DJAMENA	
9	15°42'27"N, 024°00'00"E	N'DJAMENA	
10	19°30'00"N, 024°00'00"E	N'DJAMENA	TRIPOLI
11	20°00'00"N, 024°00'00"E	TRIPOLI	
12	20°00'00"N, 025°00'00"E	TRIPOLI	
1	22°00'00"N, 025°00'00"E	Point of beginning	

Table 6: Juba FIR Boundary Coordinates

Point	JUBA FIR BOUNDARY DESCRIPTION	ADJOINING FIR(s)	
T1	10°08'42"N, 023°30'00"E	KHARTOUM	N'DJAMENA
T2	09°30'40"N, 030°48'42"E	KHARTOUM	
	CLOCKWISE ALONG A 50NM ARC CENTERED AT 09°33'48"N, 031°39'12"E (MLK)	KHARTOUM	
T3	10°19'38"N, 032°00'00"E	KHARTOUM	
T4	10°32'54"N, 034°31'45"E	KHARTOUM	ADDIS ABABA
5	08°00'00"N, 033°00'00"E	ADDIS ABABA	
6	04°00'00"N, 036°00'00"E	ADDIS ABABA	NAIROBI
U1	04°00'00"N, 034°05'00"E	ENTEBBE	NAIROBI
U2	04°00'00"N, 030°45'00"E	ENTEBBE	KINSHASA
7	04°00'00"N, 030°12'16"E	KINSHASA	
	Along the SOUTH SUDAN-DEMOCRATIC REPUBLIC OF THE CONGO (DRC) border	KINSHASA	
	Along the SOUTH SUDAN-CENTRAL AFRICAN REPUBLIC border	BRAZZAVILLE	N'DJAMENA
	Along the SUDAN-CENTRAL AFRICAN REPUBLIC border	N'DJAMENA	
T1	10°08'42"N, 023°30'00"E	Point of beginning	

3. ACTION BY THE MEETING

The meeting is invited to:

- a) Confirm that the FIR Boundary Points 1-4 that were agreed upon in the previous SSS-TF meeting are still valid.
- b) Propose any correction needed to the FIR Boundary Points.
- c) Note that this paper only refers to the definition of FIR boundaries and specifically does not refer to sovereign airspace or sovereign surface boundaries and cannot be invoked for that purpose.