

**WORLD METEOROLOGICAL ORGANIZATION**

RA I/WG/PIW/Doc. 5.1(1)

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**REGIONAL ASSOCIATION I  
(AFRICA)**

(5.IX.2006)  
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**WORKING GROUP ON PLANNING AND  
IMPLEMENTATION OF WWW IN REGION I**

ITEM: 5

Original: ENGLISH

FIFTH SESSION

NAIROBI, KENYA, 25–29 SEPTEMBER 2006

### **Integrated Observing System (IOS)**

#### ***Status of GOS implementation and operation in Region I***

*(Submitted by the Secretariat)*

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#### **Summary and Purpose of Document**

This document contains information on the status of operation/implementation of the Global Observing System (GOS) in Region I.

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#### **ACTION PROPOSED**

The meeting is invited to consider the status of the operation of the Global Observing System in Region I together with the report of the Rapporteur on Regional Aspects of the Global Observing System. It is invited to develop appropriate recommendations to enhance the relevant observing systems to meet regional and global requirements.

- Appendices: I. List of stations comprising the RBSN in Region I  
II. List of stations comprising the RBCN in Region I
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**DISCUSSION*****SURFACE-BASED SUBSYSTEM OF THE GOS****Regional Basic Synoptic Network (RBSN)*

1. Since the last session of RA I/WG/PIW (2001) and in accordance with the decision of the thirteenth session of RA I (Mbabane, Swaziland, 2002) which approved a total of 611 surface (SYNOP) stations in the RBSN, the number of stations has basically remained unchanged. The number of RBSN upper-air (TEMP) stations too remained almost unchanged with the closure of a single station reducing the total number of stations from 92 to 91. The current approved RBSN list (July 2006) as adjusted by the WMO Secretariat in accordance with the station change information provided by RA I members is comprised of 715 (SYNOP, TEMP (RW) and PILOT (W)) reporting stations in total (see Appendix I). This session may wish to consider proposing an updated RBSN list for consideration at the fourteenth session of RA I, which is scheduled for early 2007.

2. The status of implementation of RBSN surface synoptic and upper-air stations according to information provided by Members are presented in Tables I and II. The level of implementation of the RBSN synoptic stations in the region that make eight observations per day has remained around 60 per cent since the establishment of a revised RBSN in 2002 (XIII-RA I). The percentage of non-operational synoptic stations too remained unchanged at 2 per cent (10 stations) of the RBSN during the same period.

**Table I**

Status of implementation<sup>1</sup> of surface synoptic stations in the RBSNs (Global and Region I) and results of the Annual Global Monitoring (AGM) of the Operation of the WWW availability of SYNOP data at MTN centres - October 2005 compared to those in 2002/2004

Year	Total number of stations in the RBSN	Stations making at least 8 observations per day (0000, 0300, 0600, 0900, 1200, 1500, 1800 and 2100 UTC)	Stations making observations at the main standard hours (0000, 0600, 1200 and 1800 UTC) per day	Stations making some observations daily	Stations not yet established or otherwise non-operational	Percentage of SYNOP reports received against number of reports expected (AGM)
2002	588	399 (68%)	60 (10%)	125 (21%)	4 (1%)	50%
2004	611	366 (60%)	61 (10%)	174 (28%)	10 (2%)	52%
2005	611	370 (61%)	61 (10%)	170 (27%)	10 (2%)	55%
<b>Global 2005</b>	4169	3002 (72%)	377 (9%)	580 (14%)	210 (5%)	78%

<sup>1</sup>as committed to by Members in Weather Reporting (WMO-No. 9) Volume A.

3. The level of implementation of the RBSN upper-air stations making two soundings per day has remained consistent at around 23 per cent (radiowind) and 25 per cent (radiosonde) since 2002. The percentage of non-operational upper-air stations remains a concern at 26 per cent (27 radiowind stations) and 24 per cent (22 radiosonde stations).

**Table II**

Status of implementation<sup>1</sup> of RBSN upper-air stations and results of the Annual Global Monitoring (AGM) of the Operation of the WWW availability of TEMP data at MTN centres - October 2005 compared to those in 2002/2004  
(W = Radiowind, R = Radiosonde)<sup>2</sup>

Year	Total number of stations in the RBSN		Number of stations making observations at the 2 main standard hours (0000 and 1200 UTC) per day		Number of stations making at least one observation per day		Number of stations not yet established or otherwise non-operational		Percentage of TEMP reports received against number of reports expected (AGM)	
	<b>Region I</b>									
	W	R	W	R	W	R	W	R		
2002	106	91	24 (23%)	24 (26%)	53 (50%)	48 (53%)	29 (27%)	19 (21%)	27%	
2004	105	92	24 (23%)	23 (25%)	53 (50%)	46 (50%)	28 (27%)	23 (25%)	35%	
2005	104	91	24 (23%)	23 (25%)	53 (51%)	46 (51%)	27 (26%)	22 (24%)	35%	
<b>Global 2005</b>	882	799	571 (65%)	551 (69%)	216 (24%)	198 (25%)	96 (11%)	50 (6%)	70%	

<sup>1</sup>as committed to by Members in Weather Reporting (WMO-No. 9) Volume A.

<sup>2</sup>all radiosonde (R) stations are also included in the total number of radiowind (W) stations - they are not independent. The difference provides the number of upper-air stations that make wind observations only, a total of 13 stations in RA I (2005).

4. According to the results of the Annual Global Monitoring (AGM) as reflected in Tables I and II, the percentage of SYNOP reports from RA I actually received at MTN centres since 2002 (XIII-RA I) has shown a positive trend from 50 per cent up to 55 per cent in 2005. The percentage of TEMP reports received during this period in comparison with expected reports from RBSN stations has stabilized around 35 per cent after a low of 27 per cent in 2002. The existing gaps in the observational data coverage continued to be mainly due to the absence of observations or telecommunication problems and due to obsolete equipment, lack of consumables and spare parts. A more detailed analysis is presented under Doc. 4.1.

#### *Regional Basic Climatological Network (RBCN)*

5. In accordance with the decision of the thirteenth session of RA I (Mbabane, Swaziland, 2002) a new RBCN consisting of 637 CLIMAT and 28 CLIMAT TEMP

reporting stations was established and approved as recommended by the RA I/WG/PIW (2001). This network includes GCOS Surface Network (GSN) and the GCOS Upper- Air Network (GUAN) stations, supplemented by other CLIMAT and CLIMAT TEMP reporting stations needed to meet national and regional requirements. The current approved RBCN list (July 2006) as adjusted by the WMO Secretariat in accordance with the station change information provided by RA I members remained unchanged at 665 stations in total (see Appendix II). Similar to the RBSN list, this session may wish to consider proposing an updated RBCN list for consideration at the fourteenth session of RA I.

6. The status of implementation of RBCN list of stations reporting CLIMAT and CLIMAT TEMP according to information provided by Members is presented in Tables III and IV. With the rationalization and establishment of the new RBCN since 2002 (XIII-RA I), the contribution of RA I to the global RBCN constitute 24 per cent and 6 per cent in providing CLIMAT and CLIMAT TEMP reports respectively. The level of implementation of stations reporting CLIMAT is around 65 per cent in 2005 showing a positive increase in comparison to around 62 per cent in the years 2002/2004. The implementation of stations reporting CLIMAT TEMP reached 96 per cent in 2005, an increase from 89 per cent in 2002.

**Table III**

Status of implementation<sup>1</sup> of RBCN (CLIMAT) reporting stations and results of the Annual Global Monitoring (AGM) of the Operation of the WWW availability of CLIMAT data at MTN centres - October 2005 compared to those from 2002 – 2005

Year	Total number of stations in the RBCN		Total number of stations implemented		Maximum number of CLIMAT reports received against number of reports expected (AGM)	
	RA I	Global	RA I	Global	RA I	Global
2002	616	2575	368 (60%)	1836 (71%)	194 (31%)	1600 (62%)
2003	637	2595	393 (62%)	1968 (76%)	166 (26%)	1599 (62%)
2004	637	2600	392 (62%)	1966 (76%)	186 (29%)	1679 (65%)
2005	637	2682	413 (65%)	2167 (81%)	186 (29%)	1790 (67%)

<sup>1</sup>as committed to by Members in Weather Reporting (WMO-No. 9) Volume A.

**Table IV**

Status of implementation<sup>1</sup> of RBCN (CLIMAT TEMP) reporting stations and results of the Annual Global Monitoring (AGM) of the Operation of the WWW availability of CLIMAT TEMP data at MTN centres - October 2005 compared to those from 2002 –2005

Year	Total number of stations in the RBCN		Total number of stations implemented		Maximum number of CLIMAT TEMP reports received against number of reports expected (AGM)	
	RA I	Global	RA I	Global	RA I	Global
2002	19	511	17 (89%)	398 (78%)	12 (63%)	361 (71%)
2003	28	512	27 (96%)	386 (75%)	15 (54%)	343 (67%)
2004	28	507	25 (89%)	326 (64%)	15 (54%)	347 (68%)

2005	28	502	27 (96%)	411 (82%)	9 (32%)	325 (65%)
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<sup>1</sup>as committed to by Members in Weather Reporting (WMO-No. 9) Volume A.

7. The results of the Annual Global Monitoring (AGM) as reflected in Tables III and IV show that the number of CLIMAT and CLIMAT TEMP reports actually received compared to the number of reports expected has shown stability since the establishment of the RBCN in 2002 (XIII-RA I). CLIMAT reports have stabilized around 29 per cent in 2004/5 while the percentage of CLIMAT TEMP reports remained just above 50 per cent in 2003/4. However, due to improved software and monitoring criteria adopted in 2005 the percentage of CLIMAT TEMP reports received is recorded at a low of 32 per cent during the October 2005 AGM. Overall in 2005, the percentage of reports received at MTN Centres from RA I against the global average number of CLIMAT and CLIMAT TEMP reports received was 10 per cent and 3 per cent respectively. A more detailed analysis is presented under Doc. 4.1.

8. In order to increase the availability of climatological data, further efforts by Members should be made to ensure that their operational observing stations compiled and transmitted the CLIMAT/CLIMAT TEMP messages according to existing regulations. The Secretariat initiated the preparation of special guidance material related to the operational procedures and practices to be used in the field by observers and technicians in compiling and transmitting CLIMAT and CLIMAT TEMP messages over the GTS. This document (about 100 pages with illustrations, tables and graphics) which explains step by step the whole procedure of compiling and transmitting CLIMAT and CLIMAT TEMP reports is produced in four languages and is being distributed to users on CD-ROM; via the WMO Web site and also as a printed copy. For better implementation of the above guidance material in practice, a sub-regional training seminar on CLIMAT and CLIMAT TEMP reporting was organized in Casablanca, Morocco (December 2005) in cooperation with GCOS.

### ***Other networks, including sea stations***

#### ***Marine observations***

9. According to submissions to WMO Publication number 47, Members had recruited a total of about 69 VOS ships in early 2006, most of them under the South African flag. This represents about 3% of the global total. It should be noted that very few ships were recruited by RA I Members and that very few observations from those ships have been distributed on the GTS. Fortunately, ships recruited by countries from other WMO Regional Associations did report many observations from the area of interest to the Association. However, it also should be noted that there are large areas in the Atlantic Ocean and the Indian Ocean, especially in the Gulf of Guinea, and the Arabian Gulf where ship reports are very sparse and where no other in situ marine observing systems such as drifting buoys are available.

10. The ship owners and masters' concerns should be taken into account regarding availability of VOS ship's positions on public web sites not controlled by NMHS. They justify their concerns because of piracy acts in certain regions as well as because of commercial competitiveness reasons (e.g. fisheries). Because of this situation, ship owners and masters may withdraw their vessels from the VOS scheme. The International Chamber of Shipping recently explained that it would certainly prefer to find a solution that addresses shipowners' concerns and at the same time continues to support the excellent work of the

forecasting and weather reporting services. This serious problem, if not adequately addressed, could therefore ultimately lead to a substantial decrease in the number of recruited VOS ships and threaten the programme. EC-LVIII (Geneva, June 2006), adopted resolution 3.4.4/2 (EC-LVIII) – Ship owners and masters' concerns with regard to VOS data exchange. Resolution authorized in particular a trial period of one year for Members to mask the ship's call signs from FM-13 SHIP reports, provided that they provide access to a secured database with ship's identification. At the same time, the Council requested the Secretary-General, to establish a high level dialogue on the issue, involving in particular affected Members, shipping companies, IMO, ICS, JCOMM, CBS, and to report at the fifty-ninth session of the Executive Council in 2007. It is recommended that a unique ship identification is absolutely needed for (i) delayed mode and real-time quality monitoring, (ii) quality information feedback from monitoring centres to the ship operators or Port Meteorological Officers, and (iii) global climate studies. Quality monitoring activities are being undertaken by (i) RSMC, Exeter, as CBS Lead centre for the quality monitoring of surface marine data, (ii) VOSclim RTMC for the real time monitoring of VOSclim data, and (iii) operational data assimilation centres (black listing, and automatic bias correction). The Working Group noted that some countries not from RA I were already implementing ship's call sign masking schemes.

11. While ship reports reasonably adequately cover the major shipping lanes (e.g. Cape of Good Hope to Western African coasts, and Cape of Good Hope to Singapore), moored and drifting buoys play an important role in providing observations from the remaining large ocean areas. The Working Group noted with satisfaction that (i) the International South Atlantic Buoy Programme (ISABP), and (ii) the International Buoy Programme for the Indian Ocean, both coordinated through the DBCP, have succeeded in substantially increasing the deployment of drifting buoys in the South Atlantic and the Indian Ocean respectively, and hence the availability of data from these platforms on the GTS. The global drifter array has now reached completion with about 1250 buoys maintained worldwide. About 350 of these do report air pressure, mainly in extra-tropical regions. About 288 drifting buoys and 15 moored buoys did provide 20952 and 4625 real-time observations on the GTS in June 2006 in the ocean area included in the region from 60S to 35N and from 30W to 80E. Coverage of RA I waters is now adequate, especially the South Atlantic south of 30S. However, the Working Group noted that the DBCP had reported at its twenty-first meeting (Buenos Aires, October 2005), that the drifting buoy data timeliness was poor in the South Atlantic Ocean as less than 60% of the data collected by Argos through its global system were received in real time in a region between 35S and 5N (30% in the Gulf of Guinea, 80% in most of the rest of the world oceans). It noted that the DBCP recommended installation of an Argos Local User Terminal on Saint Helenas and the connection of the existing LUT at Gough Island to the Argos global network of receiving stations.

12. The PIRATA project has deployed a network of moored buoys in the equatorial Atlantic. PIRATA is now in consolidation phase, and intended to demonstrate the utility of the data for climate forecasting and operational meteorology. Southwest extension of PIRATA is now in place and the Southeast and Northeast extensions are being under review.

13. The Working Group noted the quality monitoring efforts and quality information feedback mechanisms that had been put in place under the Data Buoy Cooperation Panel (DBCP) and the JCOMM Ship Observations Team. It noted

that the RMS of the differences between observational data and ECMWF first guess field had decreased substantially in the last 10 years to now reach a level of about 1.2 hPa globally. It noted that the DBCP Evaluation Group was overseeing the development and testing of drifting buoys equipped with thermistor strings in support of hurricane forecast applications. The DBCP is now in the process of documenting its calibration procedures. The SOT was also addressing instrument standardization and calibration and a small *ad hoc* Task Team was established to liaise with IOC and CIMO and compile information on existing activities, procedures and practices within JCOMM, to communicate with the manufacturers on new technologies and recognized problems, to provide guidance on instrument testing and intercomparison, and to publish related information via JCOMM Technical Document series.

14. The Working Group noted the results of the DBCP data users and Technology workshop (Reading, UK, 27-28 March 2006). It was pleased to hear that the Association had been strongly represented at the workshop by representatives of Kenya, Mauritius, Nigeria, Senegal, and South Africa, and that the workshop had recommended that the DBCP should organize a training course for buoy data and buoy operation, targeting African and Western Indian Ocean region, in cooperation with IODE/ODINAfrica. The latter will be discussed at the twenty-second DBCP session in La Jolla, USA, 16-20 October 2006.

#### ***AMDAR programme***

15. The Southern African Regional AMDAR programme is now operational, and particularly since October 2005, the coverage over the region increased to 3000+ reports (South African Airways alone are now producing ~3400/day), as its contribution to the observing system in the region. The coverage has now been extended further with the implementation of the Agreement between Norway and SAWS on the provision of E-AMDAR data over areas not covered by the SAA aircraft. It is important to note that data provided by this pilot project is also providing data over Eastern Africa.

16. A Workshop is planned for November of this year in Kenya in order to extend the programme to East Africa. Efforts continue to encourage Middle Eastern Members and airlines to resume their stalled efforts of creating a regional programme that would benefit also eastern African Members and some of the smaller island states.

#### ***SPACE-BASED SUBSYSTEM OF THE GOS***

17. Primary geostationary coverage of Region I is performed by the first spacecraft of the EUMETSAT Meteosat Second Generation series (MSG-1), now renamed Meteosat-8, which was launched on 28 August 2002 and became fully operational on 29 January 2004. The spacecraft provides full-disk images of the Earth and atmosphere every 15 minutes in 12 spectral Visible and Infrared channels. The spacecraft is operated at 3.4°W but the images are rectified to the nominal 0° longitude location before dissemination.

18. The second satellite of the same series (MSG-2) was successfully launched on 21 December 2005. After in-orbit commissioning at 6.5°W it will become Meteosat-9 and will provide back-up for Meteosat-8 at 0° for the primary coverage of Europe, Africa and the Eastern Atlantic.

The first generation Meteosat-7 was operated at 0° longitude in parallel with Meteosat-8 until 14 June 2006, in order to allow sufficient time to the users for a smooth transition from the first to the second generation.

19. Additional coverage of the Eastern part of Region I has been provided since July 1998 by the Indian Ocean Data Coverage mission (IODC), relying on the first generation satellite Meteosat-5 relocated at 63° E. Meteosat-5 had been in orbit since March 1991 and was used for an exceptionally long time. It has to be deactivated and deorbited in the course of 2007. The IODC mission will be taken over by Meteosat-7 in December 2006, once this satellite will be relocated from 0° to its new position over the Indian Ocean.

20. Data and products from the Meteosat satellites are disseminated in near-real time via the EUMETCAST Digital Video Broadcast (DVB) system, which includes namely a dissemination flow in KU-band over Europe through the Hotbird-6 telecommunication satellite, complemented with a dissemination flow in C-band over a wider area including Region I, through the Atlantic-Bird-3 telecommunication satellite. The EUMETCAST broadcast service in C-band over Africa also supports the dissemination of meteorological products from the EUMETSAT central facility and from the network of Satellite Application Facilities (SAF), remote-sensing products from the SPOT/Vegetation instrument, as well as the Meteorological Data Distribution (MDD) and Data Collection Platforms (DCP) missions. Details on EUMETSAT data, products and delivery mechanisms can be found on EUMETSAT website (<http://www.eumetsat.int/>).

21. Most of the NMHS in Region I, as well as 4 sub-regional centres, were equipped with EUMETCAST receiving stations and associated processing capabilities through the PUMA project that was completed end 2005 and included also a strong training component. The PUMA project was complemented by bilateral actions through WMO trust fund for countries that were not eligible to the European Union funded PUMA project.

22. In addition to the geostationary satellite coverage, Region I benefits from the polar-orbiting coverage operationally provided by the United States satellites NOAA-17 on a morning orbit (10:20 descending node) and NOAA-18 on an afternoon orbit (13:40 ascending node), as well as the Chinese FY-1D (08:20, descending node) and the Russian Meteor-3M1 (09:15, ascending node). The launch of the European polar-orbiting METOP satellite is currently planned on 7 October. METOP is expected to provide operational coverage from a mid-morning orbit (9:30 descending node) and will have an extended payload including namely an advanced sounding package and an advanced scatterometer for ocean surface wind measurements.

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**LIST OF STATIONS COMPRISING THE REGIONAL BASIC SYNOPTIC  
NETWORK (RBSN) IN RA I – (JULY 2006)**

<b>INDEX</b>	<b>STATION NAME</b>	<b>OBSERVATIONS</b>
<b>ALGERIA</b>		
60355	SKIKDA	S
60360	ANNABA	S
60360	ANNABA	W
60390	DAR-EL-BEIDA	S
60390	DAR-EL-BEIDA	W R
60402	BEJAIA-AEROPORT	S
60419	CONSTANTINE	S
60419	CONSTANTINE	W
60445	SETIF	S
60475	TEBESSA	S
60490	ORAN-SENIA	S
60490	ORAN-SENIA	W
60506	MASCARA-MATEMORE	S
60511	TIARET	S
60525	BISKRA	S
60549	MECHERIA	S
60550	EL-BAYADH	S
60555	TOUGGOURT	S
60559	EL-OUED	S
60566	GHARDAIA	S
60571	BECHAR	S
60571	BECHAR	W R
60581	HASSI-MESSAOUD	S
60590	EL-GOLEA	S
60607	TIMIMOUN	S
60611	IN-AMENAS	S
60611	IN-AMENAS	W
60620	ADRAR	S
60620	ADRAR	W
60630	IN-SALAH	S
60630	IN-SALAH	W R
60640	ILLIZI	S
60656	TINDOUF	S
60670	DJANET	S
60680	TAMANRASSET	S
60680	TAMANRASSET	W R
60690	IN-GUEZZAM	S
<b>ANGOLA</b>		
66130	N'ZETO(AMBRIZETE)	S
66152	DUNDO	S

66160	LUANDA	S
66160	LUANDA	W R
66240	PORTO AMBOIM	S
66270	WAKU KUNGU (CELA)	S
66318	HUAMBO(NOVA LISBOA)	S
66390	LUBANGO(SA DA BANDEIRA)	S
66390	LUBANGO(SA DA BANDEIRA)	W R
66410	MENONGUE (SERPA PINTO)	S
66422	MOCAMEDES	S
66447	MAVINGA	S
66460	PEREIRA DE ECA	S
<b>ASCENSION ISLAND</b>		
61902	WIDE AWAKE FIELD (ASCENSION IS.)	S
61902	WIDE AWAKE FIELD (ASCENSION IS.)	W R
<b>BENIN</b>		
65306	KANDI	S
65319	NATITINGOU	S
65330	PARAKOU	S
65335	SAVE	S
65338	BOHICON	S
65344	COTONOU	S
<b>BOTSWANA</b>		
68024	GHANZI	S
68026	SHAKAWE	S
68029	KASANE	S
68032	MAUN	S
68032	MAUN	W R
68038	SUA-PAN	S
68040	LETLHAKANE	S
68040	LETLHAKANE	W R
68054	FRANCISTOWN	S
68148	MAHALAPYE	S
68226	TSHANE	S
68234	JWANENG	S
68240	SERETSE KHAMA INTERNATIONAL AIRPORT	S
68240	SERETSE KHAMA INTERNATIONAL AIRPORT	W R
68328	TSABONG	S
68328	TSABONG	W R
<b>BOUVET ISLAND</b>		
68992	BOUVET ISLAND	S
<b>BURKINA FASO</b>		
65501	DORI	S
65502	OUAHIGOUYA	S
65503	OUAGADOUGOU	S
65503	OUAGADOUGOU	W R

65505	DEDOUGOU	S
65507	FADA N'GOURMA	S
65510	BOBO-DIOULASSO	S
65516	BOROMO	S
65518	PO	S
65522	GAOUA	S
<b>BURUNDI</b>		
64390	BUJUMBURA	S
<b>CAMEROON</b>		
64851	MAROUA-SALAK	S
64860	GAROUA	S
64870	NGAOUNDERE	S
64880	BANYO	S
64890	MAMFE	S
64893	KOUNDJA	S
64900	YOKO	S
64901	BETARE-OYA	S
64910	DOUALA OBS.	S
64910	DOUALA R.S.	W R
64920	BAFIA	S
64930	BERTOUA	S
64950	YAOUNDE	S
64960	ABONG-MBANG	S
64971	KRIBI	S
<b>CANARY ISLANDS (SPAIN)</b>		
60018	TENERIFE/GUIMER	W R
60020	SANTA CRUZ DE TENERIFE, CMZ	S
60030	LAS PALMAS DE GRAN CANARIA/GANDO	S
60040	LANZAROTE/AEROPUERTO	S
<b>CAPE VERDE</b>		
8583	MINDELO	S
8589	PRAIA	S
8594	SAL	S
8594	SAL	W R
<b>CENTRAL AFRICAN REPUBLIC</b>		
64600	BERBERATI	S
64601	BOUAR	S
64605	BOSSEMBELE	S
64610	BOSSANGO	S
64650	BANGUI	S
64650	BANGUI	W R
64654	N'DELE	S
64655	BRIA	S
64656	BANGASSOU	S
64658	BIRAO	S

64659	OBO	S
64660	BAMBARI	S
64661	YALINGA	S
64665	MOBAYE	S
<b>CEUTA AND MELILLA (SPAIN)</b>		
60338	MELILLA	S
<b>CHAD</b>		
64700	NDJAMENA	S
64700	NDJAMENA	W R
64701	MAO	S
64705	BOUSSO	S
64706	MOUNDOU	S
64709	PALA	S
64750	SARH	S
64750	SARH	W
64751	ATI	S
64753	FAYA	S
64753	FAYA	W R
64754	AM-TIMAN	S
64756	ABECHE	S
64758	MONGO	S
<b>COMOROS</b>		
67002	HAHAYA INT. AIRPORT	S
67005	DZAOUZDI/PAMANZI (MAYOTTE)	S
<b>CONGO</b>		
64400	POINTE-NOIRE	S
64400	POINTE-NOIRE	W
64401	DOLISIE	S
64450	BRAZZAVILLE /MAYA-MAYA	S
64453	DJAMBALA	S
64456	MAKOUA	S
64458	OUESSO	S
64458	OUESSO	W
64459	IMPFONDO	S
64460	SOUANKE	S
<b>COTE D'IVOIRE</b>		
65528	ODIENNE	S
65536	KORHOGO	S
65545	BONDOUKOU	S
65548	MAN	S
65548	MAN	W
65555	BOUAKE	S
65557	GAGNOA	S
65562	DIMBOKRO	S
65578	ABIDJAN	S

65578	ABIDJAN	W R
65585	ADIAKE	S
65592	TABOU	S
65599	SASSANDRA	S
<b>DEMOCRATIC REPUBLIC OF THE CONGO</b>		
64005	MBANDAKA	S
64006	GEMENA	S
64008	BASANKUSU	S
64018	BASOKO	S
64040	KISANGANI	S
64040	KISANGANI	W R
64062	ISRO	S
64076	BUNIA	S
64108	BANDUNDU	S
64115	INONGO	S
64126	BOENDE	S
64146	LODJA	S
64155	KINDU	S
64180	BUKAVU	S
64184	GOMA	S
64207	MATADI	S
64210	KINSHASA/N'DJILI	S
64210	KINSHASA/N'DJILI	W R
64220	KINSHASA-BINZA	S
64222	KIKWIT	S
64228	TSHIKAPA	S
64235	KANANGA	S
64235	KANANGA	W R
64247	MBUJI-MAYI	S
64276	KONGOLO	S
64282	MANONO	S
64285	KALEMIE	S
64315	KAMINA/BASE	S
64328	KOLWEZI	S
64360	LUBUMBASHI-LUANO	S
<b>DIEGO GARCIA</b>		
61967	DIEGO GARCIA	S
61967	DIEGO GARCIA	W R
<b>DJIBOUTI</b>		
63125	DJIBOUTI	S
<b>EGYPT</b>		
62305	SALLUM PLATEAU	S
62306	MERSA MATRUH	S
62306	MERSA MATRUH	W R
62309	DABAA	S

62318	ALEXANDRIA/NOUZHA	S
62325	BALTIM	S
62332	PORT SAID/EL GAMIL	S
62337	EL ARISH	S
62337	EL ARISH	W R
62357	WADI EL NATROON	S
62366	CAIRO AIRPORT	S
62378	HELWAN	S
62378	HELWAN	W R
62387	MINYA	S
62393	ASYUT	S
62403	SOUTH OF VALLEY UNIVERSITY	S
62403	SOUTH OF VALLEY UNIVERSITY	W R
62405	LUXOR	S
62414	ASSWAN	S
62414	ASSWAN	W R
62417	SIWA	S
62420	BAHARIA	S
62423	FARAFRA	S
62423	FARAFRA	W R
62432	DAKHLA	S
62435	KHARGA	S
62440	ISMAILIA	S
62452	NEKHEL	S
62455	RAS SEDR	S
62459	EL TOR	S
62463	HURGUADA	S
62465	KOSSEIR	S
<b>EQUATORIAL GUINEA</b>		
64810	MALABO	S
64820	BATA (RIO MUNI)	S
<b>ERITREA</b>		
63021	ASMARA	S
63021	ASMARA	W R
63043	ASSAB	S
<b>ETHIOPIA</b>		
63330	MAKALE	S
63331	GONDAR	S
63333	COMBOLCHA	S
63334	DEBREMARCOS	S
63340	LEKEMTE	S
63402	JIMMA	S
63403	GORE	S
63450	ADDIS ABABA-BOLE	S
63450	ADDIS ABABA-BOLE	W R

63453	METEHARA	S
63460	AWASSA	S
63471	DIREDAWA	S
63474	ROBE/BALE	S
63478	GODE	S
63500	ARBA MINCH	S
63533	NEGHELLE	S
63533	NEGHELLE	W R
<b>GABON</b>		
64500	LIBREVILLE	S
64500	LIBREVILLE	W R
64503	MAYUMBA	S
64507	TCHIBANGA	S
64550	MOUILA	S
64551	LAMBARENE	S
64552	MITZIC	S
64556	MAKOKOU	S
64565	MOANDA	S
<b>GAMBIA</b>		
61701	BANJUL/YUNDUM	S
<b>GHANA</b>		
65401	NAVRONGO	S
65404	MOUILA	S
65416	BOLE	S
65418	TAMALE	S
65418	TAMALE	W R
65432	WENCHI	S
65437	KETE-KRACHI	S
65442	KUMASI	S
65445	SEFWI BEKWAI	S
65453	HO	S
65457	AKIM ODA	S
65467	TAKORADI	S
65472	ACCRA	S
65472	ACCRA	W R
65475	ADA	S
<b>GUINEA</b>		
61802	KOUNDARA	S
61809	LABE	S
61811	SIGUIRI	S
61816	BOKE	S
61818	KINDIA	S
61820	MAMOU	S
61829	KANKAN	S
61831	CONAKRY/GBESSIA	W R

61832	CONAKRY/GBESSIA	S
61833	FARANAH/BADALA	S
61834	KISSIDOUGOU	S
61847	MACENTA	S
61849	N'ZEREKORE	S
<b>GUINEA-BISSAU</b>		
61766	BISSAU (AEROPORTO INT. OSVALDO VIEIRA)	S
<b>KENYA</b>		
63612	LODWAR	S
63641	MARSABIT	S
63661	KITALE	S
63671	WAJIR	S
63695	MERU	S
63708	KISUMU	S
63714	NAKURU	S
63723	GARISSA	S
63723	GARISSA	W R
63740	NAIROBI/KENYATTA AIRPORT	S
63741	NAIROBI/DAGORETTI	W R
63772	LAMU	S
63793	VOI	S
63820	MOMBASA	S
<b>LESOTHO</b>		
68454	MASERU-MIA	S
<b>LIBYAN ARAB JAMAHIRIYA</b>		
62002	NALUT	S
62007	ZUARA	S
62008	YEFREN	S
62010	TRIPOLI INTERNATIONAL AIRPORT	S
62010	TRIPOLI INTERNATIONAL AIRPORT	W R
62016	MISURATA	S
62019	SIRTE	S
62053	BENINA	S
62053	BENINA	W R
62055	AGEDABIA	S
62056	SHAHAT	S
62059	DERNA	S
62062	TOBRUK	S
62103	GHADAMES	S
62103	GHADAMES	W R
62120	GARIAT EL-SHARGHIA	S
62124	SEBHA	S
62131	HON	S
62161	JALO	S
62176	GIARABUB	S



62200	OBARI	S
62212	GHAT	S
62259	TAZERBO	S
62271	KUFRA	S
62271	KUFRA	W R
<b>MADAGASCAR</b>		
67009	ANTSIRANANA	S
67012	FASCENE (NOSSI-BE)	S
67017	VOHEMAR	S
67019	ANALALAVA	S
67020	ANTSOHIHY	S
67023	SAMBAVA	S
67025	ANTALAHA	S
67027	MAHAJANGA	S
67037	BESALAMPY	S
67045	MAEVATANANA	S
67067	AMBOHITSILAOZANA	S
67072	SAINTE-MARIE	S
67073	MAINTIRANO	S
67083	IVATO	S
67083	IVATO	W R
67085	ANTANANARIVO	S
67095	TOAMASINA	S
67107	ANTSIRABE	S
67113	MAHANORO	S
67117	MORONDAVA	S
67131	MOROMBE	S
67137	FIANARANTSOA	S
67143	MANANJARY	S
67152	RANOHIRA	S
67157	FARAFANGANA	S
67161	TOLIARA	S
67197	TAOLAGNARO	S
67197	TAOLAGNARO	W R
<b>MADEIRA ISLANDS (PORTUGAL)</b>		
8521	FUNCHAL/S.CATARINA	S
8522	FUNCHAL	S
8522	FUNCHAL	W R
8524	PORTO SANTO	S
<b>MALAWI</b>		
67586	LILONGWE INT'L AIRPORT	S
67586	LILONGWE INT'L AIRPORT	W R
67693	CHILEKA	S
<b>MALI</b>		
61202	TESSALIT	S

61202	TESSALIT	W R
61214	KIDAL	S
61223	TOMBOUCTOU	S
61223	TOMBOUCTOU	W R
61226	GAO	S
61230	NIORO DU SAHEL	S
61233	NARA	S
61240	HOMBORI	S
61250	MENAKA	S
61257	KAYES	S
61265	MOPTI	S
61270	KITA	S
61272	SEGOU	S
61277	SAN	S
61291	BAMAKO/SENOU	S
61291	BAMAKO/SENOU	W R
61293	KOUTIALA	S
61296	BOUGOUNI	S
61297	SIKASSO	S
<b>MAURITANIA</b>		
61401	BIR MOGHREIN	S
61404	ZOUERATE	S
61415	NOUADHIBOU	S
61415	NOUADHIBOU	W R
61421	ATAR	S
61437	AKJOUJT	S
61450	TIDJIKJA	S
61461	BOUTILIMIT	S
61497	NEMA	S
61498	KIFFA	S
61499	AIOUN EL ATROUSS	S
<b>MAURITIUS</b>		
61974	AGALEGA	S
61986	ST. BRANDON (ST. RAPHAEL)	S
61986	ST. BRANDON (ST. RAPHAEL)	W
61988	RODRIGUES	S
61988	RODRIGUES	W
61990	PLAISANCE (MAURITIUS)	S
61995	VACOAS (MAURITIUS)	S
61995	VACOAS (MAURITIUS)	W R
<b>MOROCCO</b>		
60060	SIDI IFNI	S
60101	TANGER (AERODROME)	S
60105	LARACHE	S
60115	OUJDA	S

60127	TAZA	S
60135	RABAT-SALE	S
60141	FES-SAIS	S
60150	MEKNES	S
60155	CASABLANCA	S
60155	CASABLANCA	W R
60156	NOUASSEUR	S
60185	SAFI	S
60190	KASBA-TADLA	S
60195	MIDELT	S
60210	ERRACHIDIA	S
60210	ERRACHIDIA	W
60220	ESSAOUIRA	S
60230	MARRAKECH	S
60252	AGADIR AL MASSIRA	W R
60265	OUARZAZATE	S
<b>MOZAMBIQUE</b>		
67205	MOCIMBOA DA PRAIA	S
67215	PEMBA	S
67217	LICHINGA	S
67221	MARRUPA	S
67223	MONTEPUEZ	S
67229	ULONGUE	S
67231	CUAMBA	S
67237	NAMPULA	S
67237	NAMPULA	W R
67241	LUMBO	S
67261	TETE	S
67273	ANGOCHE	S
67283	QUELIMANE	S
67285	PEBANE	S
67295	CHIMOIO	S
67297	BEIRA	S
67297	BEIRA	W R
67308	CHICUALACUALA	S
67315	VILANCULOS	S
67323	INHAMBANE	S
67335	XAI XAI	S
67341	MAPUTO/MAVALANE	S
67341	MAPUTO/MAVALANE	W R
67346	CHANGALANE	S
<b>NAMIBIA</b>		
68010	OKAUKUEJO	S
68014	GROOTFONTEIN	S
68016	MOWE BAY	S
68018	RUNDU	S

68098	WALVIS BAY AIRPORT	S
68102	SITRUSDAL	S
68106	GOBABEB	S
68110	WINDHOEK	S
68110	WINDHOEK	W R
68112	HOSEA KUTAKO INT'L APT	S
68116	GOBABIS	S
68212	HARDAP	S
68312	KEETMANSHOOP	S
<b>NIGER</b>		
61017	BILMA	S
61024	AGADEV	S
61024	AGADEV	W R
61036	TILLABERY	S
61043	TAHOVA	S
61045	GOURE	S
61049	N'GUIGMI	S
61052	NIAMEY-AERO	S
61052	NIAMEY-AERO	W R
61075	BIRNI-N'KONNI	S
61080	MARADI	S
61090	ZINDER	S
61091	MAGARIA	S
61096	MAINE-SOROA	S
61099	GAYA	S
<b>NIGERIA</b>		
65001	YELWA	S
65010	SOKOTO	S
65015	GUSAU	S
65019	KADUNA	S
65028	KATSINA	S
65030	ZARIA	S
65046	KANO	S
65046	KANO	W R
65064	NGURU	S
65073	POTISKUM	S
65082	MAIDUGURI	S
65123	MINNA	S
65123	MINNA	W R
65125	ABUJA	S
65134	JOS	S
65145	IBI	S
65167	YOLA	S
65201	LAGOS/IKEJA	S
65202	LAGOS/OSHODI	W R
65208	IBADAN	S

65215	OSHOGBO	S
65229	BENIN CITY	S
65243	LOKOJA	S
65250	PORT HARCOURT	S
65257	ENUGU	S
65264	CALABAR	S
65271	MAKURDI	S
<b>OCEAN ISLANDS (FRENCH) BETWEEN 0° and 30°S</b>		
61968	ILES GLORIEUSES	S
61970	ILE JUAN DE NOVA	S
61972	ILE EUROPA	S
61976	SERGE-FROLOW (ILE TROMELIN)	S
61976	SERGE-FROLOW (ILE TROMELIN)	W R
61980	SAINT-DENIS/GILLOT (REUNION)	S
<b>OCEAN ISLANDS (FRENCH) BETWEEN 30° and 60°S</b>		
61996	MARTIN DE VIVIES (ILE AMSTERDAM)	S
61996	MARTIN DE VIVIES (ILE AMSTERDAM)	W R
61997	ALFRED FAURE (ILES CROZET)	S
61998	PORT-AUX-FRANCAIS (ILES KERGUELEN)	S
61998	PORT-AUX-FRANCAIS (ILES KERGUELEN)	W R
<b>RWANDA</b>		
64387	KIGALI	S
<b>SAO TOME AND PRINCIPE</b>		
61931	S. TOME	S
61931	S. TOME	W
61934	PRINCIPE	S
<b>SENEGAL</b>		
61600	SAINT-LOUIS	S
61612	PODOR	S
61627	LINGUERE	S
61630	MATAM	S
61641	DAKAR/YOFF	S
61641	DAKAR/YOFF	W R
61679	KAOLACK	S
61687	TAMBACOUNDA	S
61687	TAMBACOUNDA	W R
61695	ZIGUINCHOR	S
61698	KOLDA	S
61699	KEDOUGOU	S
<b>SEYCHELLES</b>		
63980	SEYCHELLES INTERNATIONAL AIRPORT	S
63981	PRASLIN	S
63995	ALDABRA	S
<b>SIERRA LEONE</b>		
61856	LUNGI	S

<b>SOMALIA</b>		
63150	BORAMA	S
63160	BERBERA	S
63170	HARGEISA	S
63175	BURAO	S
63180	ERIGAVO	S
63200	ALULA	S
63210	BOSASO	S
63225	GARDO	S
63230	GALCAYO	S
63240	BELET UEN	S
63247	ISCIA BAIDOA	S
63250	BARDERA	S
63260	MOGADISCIO	S
63260	MOGADISCIO	W R
63270	CHISIMAI	S
<b>SOUTH AFRICA</b>		
68174	PIETERSBURG	S
68174	PIETERSBURG	W R
68242	MMABATHO	S
68255	RUSTENBURG	S
68262	PRETORIA	S
68263	PRETORIA (IRENE)	W R
68273	WITBANK	S
68289	NELSPRUIT	S
68296	SKUKUZA	S
68322	TWEE RIVIEREN	S
68331	KATHU	S
68342	OTTOSDAL	S
68350	POTCHEFSTROOM	S
68368	JOHANNESBURG INTNL. AIRPORT	S
68370	BETHAL	S
68385	PIET RETIEF	S
68438	KIMBERLEY	S
68449	FICKSBURG	S
68461	BETHLEHEM	S
68461	BETHLEHEM	W R
68491	CHARTERS CREEK	S
68496	CAPE ST. LUCIA	S
68512	SPRINGBOK	S
68512	SPRINGBOK	W R
68523	BRANDVLEI	S
68524	VANWYKSVLEI	S
68527	PRIESKA	S
68538	DE AAR	R
68545	VENTERSTAD	S

68546	ALI WAL NORTH	S
68580	CEDARA	S
68588	DURBAN INTNL. AIRPORT	S
68588	DURBAN INTNL. AIRPORT	W R
68618	CALVINIA	S
68624	FRASERBURG	S
68674	PORT ST JOHNS	S
68712	CAPE COLUMBINE	S
68723	LAINGSBURG	S
68727	BEAUFORT WEST	S
68737	GRAAFF-REINET	S
68814	DASSEN ISLAND	S
68815	LANGEBAAN	S
68816	CAPE TOWN INTNL. AIRPORT	S
68816	CAPE TOWN INTNL. AIRPORT	W R
68842	PORT ELIZABETH	S
68842	PORT ELIZABETH	W R
68858	EAST LONDON	S
68906	GOUGH ISLAND	S
68906	GOUGH ISLAND	W R
68994	MARION ISLAND	S
68994	MARION ISLAND	W R
<b>ST. HELENA ISLAND</b>		
61901	ST. HELENA IS.	S
61901	ST. HELENA IS.	W R
<b>SUDAN</b>		
62600	WADI HALFA	S
62640	ABU HAMED	S
62641	PORT SUDAN	S
62650	DONGOLA	S
62660	KARIMA	S
62680	ATBARA	S
62721	KHARTOUM	S
62721	KHARTOUM	W R
62730	KASSALA	S
62750	ED DUEIM	S
62751	WAD MEDANI	S
62752	GEDAREF	S
62760	EL FASHER	S
62760	EL FASHER	W R
62762	SENNAR	S
62770	GENINA	S
62771	EL OBEID	S
62781	EN NAHUD	S
62790	NYALA	S
62795	ABU NA'AMA	S

62801	RENK	S
62805	DAMAZINE	S
62809	BABANUSA	S
62810	KADOGLLI	S
62840	MALKAL	S
62880	WAU	S
62941	JUBA	S
<b>SWAZILAND</b>		
68396	MANZINI/MATSAPA AIRPORT	S
<b>TOGO</b>		
65352	MANGO	S
65361	SOKODE	S
65376	ATAKPAME	S
65387	LOME	S
<b>TUNISIA</b>		
60715	TUNIS-CARTHAGE	S
60715	TUNIS-CARTHAGE	W R
60723	BEJA	S
60725	JENDOUBA	S
60735	KAIROUAN	S
60745	GAFSA	S
60748	SIDI BOUZID	S
60750	SFAX EL-MAOU	S
60760	TOZEUR	S
60760	TOZEUR	W R
60765	GABES	S
60769	DJERBA MELLITA	S
<b>UGANDA</b>		
63602	ARUA	S
63630	GULU	S
63654	MASINDI	S
63658	SOROTI	S
63674	KASESE	S
63682	JINJA	S
63684	TORORO	S
63702	MBARARA	S
63705	ENTEBBE AIRPORT	W R
63726	KABALE	S
<b>UNITED REPUBLIC OF TANZANIA</b>		
63729	BUKOBA	S
63733	MUSOMA	S
63756	MWANZA	S
63791	KILIMANJARO AIRPORT	S
63801	KIGOMA	S
63801	KIGOMA	W R



63810	SINGIDA	S
63832	TABORA AIRPORT	S
63844	TANGA	S
63862	DODOMA	S
63866	MOROGORO	S
63887	IRINGA	S
63894	DAR ES SALAAM AIRPORT	S
63894	DAR ES SALAAM AIRPORT	W R
63932	MBEYA	S
63940	KILWA	S
63962	SONGEA	S
63971	MTWARA	S
63971	MTWARA	W R
<b>WESTERN SAHARA</b>		
60033	EL AAYOUNE	S
60096	DAKHLA	S
<b>ZAMBIA</b>		
67403	KAWAMBWA	S
67413	MBALA	S
67441	MWINILUNGA	S
67461	MANSA	S
67475	KASAMA	S
67477	MPIKA	S
67541	KASEMPA	S
67551	SOLWEZI	S
67561	NDOLA	S
67581	CHIPATA	S
67583	LUNDAZI	S
67599	MFUWE	S
67633	MONGU	S
67641	KAOMA	S
67663	KABWE	S
67665	LUSAKA INTERNATIONAL AIRPORT	S
67666	LUSAKA CITY AIRPORT	W R
67673	PETAUKE	S
67743	LIVINGSTONE	S
67753	CHOMA	S
<b>ZIMBABWE</b>		
67761	KARIBA	S
67765	KAROI	S
67774	HARARE (BELVEDERE)	W R
67775	HARARE (KUTSAGA)	S
67779	MOUNT DARWIN	S
67843	VICTORIA FALLS	S
67853	HWANGE NATIONAL PARK	S

67861	GOKWE	S
67867	GWERU	S
67867	GWERU	W
67869	KADOMA	S
67881	RUSAPE	S
67964	BULAWAYO (GOETZ OBSY.)	W R
67965	BULAWAYO AIRPORT	S
67969	WEST NICHOLSON	S
67975	MASVINGO	S
67977	BUFFALO RANGE	S
67983	CHIPINGE	S
67991	BEITBRIDGE	S

**LIST OF STATIONS COMPRISING THE REGIONAL BASIC CLIMATOLOGICAL NETWORK (RBCN) IN RA I - JULY 2006**

INDEX	STATION NAME	CLIMAT	CLIMAT TEMP	GSN	GUAN
<b>ALGERIA</b>					
60351	JIJEL-ACHOUAT	X			
60355	SKIKDA	X			
60360	ANNABA	X			
60390	DAR-EL-BEIDA	X		X	
60402	BEJAIA-AEROPORT	X			
60419	CONSTANTINE	X			
60444	BORDJ-BOU-ARRERIDJ	X			
60445	SETIF	X			
60468	BATNA	X			
60475	TEBESSA	X			
60490	ORAN-SENIA	X			
60506	MASCARA-MATEMORE	X			
60511	TIARET	X			
60525	BISKRA	X			
60531	TLEMCEN-ZENATA	X			
60549	MECHERIA	X			
60550	EL-BAYADH	X			
60555	TOUGGOURT	X			
60559	EL-OUED	X			
60566	GHARDAIA	X			
60571	BECHAR	X			
60580	OUARGLA	X			
60581	HASSI-MESSAOUD	X			
60590	EL-GOLEA	X		X	
60607	TIMIMOUN	X			
60611	IN-AMENAS	X		X	
60620	ADRAR	X			
60630	IN-SALAH	X			
60640	ILLIZI	X			
60656	TINDOUF	X			
60670	DJANET	X			
60680	TAMANRASSET	X	X		X
60690	IN-GUEZZAM	X			
<b>ANGOLA</b>					
66130	N'ZETO(AMBRIZETE)	X			
66152	DUNDO	X		X	
66160	LUANDA	X		X	
66240	PORTO AMBOIM	X			
66305	LOBITO	X			

66318	HUAMBO(NOVA LISBOA)	X			
66422	MOCAMEDES	X		X	
<b>ASCENSION ISLAND</b>					
61902	WIDE AWAKE FIELD (ASCENSION IS.)	X	X		X
<b>BENIN</b>					
65306	KANDI	X		X	
65319	NATITINGOU	X			
65330	PARAKOU	X			
65335	SAVE	X		X	
65338	BOHICON	X			
65344	COTONOU	X			
<b>BOTSWANA</b>					
68024	GHANZI	X			
68026	SHAKAWA	X			
68029	KASANE	X			
68032	MAUN	X		X	
68038	SUA-PAN	X			
68040	LETLHAKANE	X			
68054	FRANCISTOWN	X			
68148	MAHALAPYE	X			
68226	TSHANE	X			
68234	JWANENG	X			
68240	SERETSE KHAMA INTERNATIONAL AIRPORT	X			
68328	TSABONG	X			
<b>BOUVET ISLAND</b>					
68992	BOUVET ISLAND	X			
<b>BURKINA FASO</b>					
65501	DORI	X		X	
65502	OUAHIGOUYA	X			
65503	OUAGADOUGOU	X			
65505	DEDOUGOU	X			
65507	FADA N'GOURMA	X			
65510	BOBO-DIOULASSO	X			
65516	BOROMO	X		X	
65518	PO	X			
65522	GAOUA	X			
<b>BURUNDI</b>					
64390	BUJUMBURA	X			
<b>CAMEROON</b>					
64851	MAROUA-SALAK	X			
64860	GAROUA	X			
64870	NGAOUNDERE	X		X	
64880	BANYO	X			
64890	MAMFE	X			

64893	KOUNDJA	X			
64900	YOKO	X			
64910	DOUALA OBS.	X	X		X
64920	BAFIA	X			
64930	BERTOUA	X			
64950	YAOUNDE	X			
64960	ABONG-MBANG	X			
64971	KRIBI	X			
<b>CANARY ISLANDS (SPAIN)</b>					
60001	HIERRO/AEROPUERTO	X			
60005	LA PALMA/AEROPUERTO	X			
60010	IZANA	X		X	
60018	TENERIFE/GUIMER		X		X
60020	SANTA CRUZ DE TENERIFE, CMZ	X			
60030	LAS PALMAS DE GRAN CANARIA/GANDO	X			
60035	FUERTEVENTURA/AEROPUERTO	X			
60040	LANZAROTE/AEROPUERTO	X		X	
<b>CAPE VERDE</b>					
08583	MINDELO	X		X	
08589	PRAIA	X			
08594	SAL	X			
<b>CENTRAL AFRICAN REPUBLIC</b>					
64600	BERBERATI	X			
64601	BOUAR	X			
64605	BOSSEMBELE	X			
64610	BOSSANGOA	X			
64650	BANGUI	X			
64654	N'DELE	X			
64655	BRIA	X			
64656	BANGASSOU	X			
64658	BIRAO	X			
64659	OBO	X			
64660	BAMBARI	X			
64661	YALINGA	X			
64665	MOBAYE	X			
<b>CEUTA AND MELILLA (SPAIN)</b>					
60338	MELILLA	X		X	
<b>CHAD</b>					
64700	NDJAMENA	X		X	
64701	MAO	X			
64702	BOL-BERIM	X			
64705	BOUSSO	X			
64706	MOUNDOU	X		X	
64709	PALA	X			

64750	SARH	X			
64751	ATI	X		X	
64753	FAYA	X		X	
64754	AM-TIMAN	X		X	
64756	ABECHE	X			
64758	MONGO	X			
<b>COMOROS</b>					
67002	HAHAYA INT. AIRPORT	X			
67005	DZAOUDZI/PAMANZI (MAYOTTE)	X			
<b>CONGO</b>					
64400	POINTE-NOIRE	X			
64401	DOLISIE	X			
64450	BRAZZAVILLE /MAYA-MAYA	X			
64453	DJAMBALA	X			
64456	MAKOUA	X			
64458	OUESSO	X			
64459	IMPFONDO	X		X	
64460	SOUANKE	X			
<b>COTE D'IVOIRE</b>					
65560	DALOA	X			
65563	YAMOOUSSOUKRO	X			
65594	SAN PEDRO	X			
65528	ODIENNE	X		X	
65536	KORHOGO	X			
65545	BONDOUKOU	X			
65548	MAN	X			
65555	BOUAKE	X			
65557	GAGNOA	X			
65562	DIMBOKRO	X			
65578	ABIDJAN	X	X		X
65585	ADIAKE	X		X	
65592	TABOU	X			
65599	SASSANDRA	X		X	
<b>DEMOCRATIC REPUBLIC OF THE CONGO</b>					
64005	MBANDAKA	X			
64006	GEMENA	X			
64008	BASANKUSU	X			
64018	BASOKO	X			
64040	KISANGANI	X		X	
64062	ISRO	X			
64076	BUNIA	X			
64108	BANDUNDU	X			
64115	INONGO	X			
64126	BOENDE	X			
64146	LODJA	X		X	
64155	KINDU	X			

64180	BUKAVU	X			
64184	GOMA	X			
64207	MATADI	X			
64210	KINSHASA/N'DJILI	X			
64220	KINSHASA-BINZA	X			
64222	KIKWIT	X			
64228	TSHIKAPA	X			
64236	KANANGA	X			
64247	MBUJI-MAYI	X			
64276	KONGOLO	X			
64282	MANONO	X		X	
64285	KALEMIE	X			
64315	KAMINA/BASE	X			
64328	KOLWEZI	X			
64360	LUBUMBASHI-LUANO	X			
<b>DIEGO GARCIA</b>					
61967	DIEGO GARCIA	X			
<b>DJIBOUTI</b>					
63125	DJIBOUTI	X			
<b>EGYPT</b>					
62305	SALLUM PLATEAU	X			
62306	MERSA MATRUH	X	X	X	
62309	DABAA	X			
62318	ALEXANDRIA/NOUZHA	X			
62325	BALTIM	X			
62332	PORT SAID/EL GAMIL	X			
62337	EL ARISH	X	X		
62357	WADI EL NATROON	X			
62366	CAIRO AIRPORT	X			
62378	HELWAN		X		
62387	MINYA	X			
62393	ASYUT	X			
62403	SOUTH OF VALLEY UNIVERSITY		X		
62405	LUXOR	X			
62414	ASSWAN	X	X		X
62417	SIWA	X		X	
62420	BAHARIA	X		X	
62423	FARAFRA	X	X		
62432	DAKHLA	X		X	
62435	KHARGA	X			
62440	ISMAILIA	X			
62452	NEKHEL	X			
62455	RAS SEDR	X			
62459	EL TOR	X			
62463	HURGUADA	X		X	
62465	KOSSEIR	X			

<b>EQUATORIAL GUINEA</b>					
64810	MALABO	X			
64820	BATA (RIO MUNI)	X			
<b>ERITREA</b>					
63021	ASMARA	X		X	
63043	ASSAB	X			
<b>ETHIOPIA</b>					
63330	MAKALE	X			
63331	GONDAR	X			
63333	COMBOLCHA	X			
63334	DEBREMARCOS	X			
63340	LEKEMTE	X			
63402	JIMMA	X			
63403	GORE	X		X	
63450	ADDIS ABABA-BOLE	X	X		X
63453	METEHARA	X		X	
63460	AWASSA	X			
63471	DIREDAWA	X			
63474	ROBE/BALE	X			
63478	GODE	X			
63500	ARBA MINCH	X			
63533	NEGHELLE	X		X	
<b>GABON</b>					
64500	LIBREVILLE	X			
64501	PORT-GENTIL	X			
64503	MAYUMBA	X		X	
64504	COCOBEACH	X			
64507	TCHIBANGA	X			
64510	BITAM	X			
64550	MOUILA	X			
64551	LAMBARENE	X			
64552	MITZIC	X		X	
64556	MAKOKOU	X			
64565	MOANDA	X			
<b>GAMBIA</b>					
61701	BANJUL/YUNDUM	X			
61731	BASSE	X			
<b>GHANA</b>					
65401	NAVRONGO	X			
65404	MOUILA	X			
65416	BOLE	X			
65418	TAMALE	X			
65432	WENCHI	X			
65437	KETE-KRACHI	X			
65442	KUMASI	X			
65445	SEFWI BEKWAI	X			



65453	HO	X			
65457	AKIM ODA	X			
65467	TAKORADI	X			
65472	ACCRA	X			
65475	ADA	X			
<b>GUINEA</b>					
61802	KOUNDARA	X			
61809	LABE	X			
61811	SIGUIRI	X			
61816	BOKE	X			
61818	KINDIA	X			
61820	MAMOU	X			
61829	KANKAN	X			
61832	CONAKRY/GBESSIA	X			
61833	FARANAH/BADALA	X			
61834	KISSIDOUYOU	X			
61847	MACENTA	X			
61849	N'ZEREKORE	X			
<b>GUINEA-BISSAU</b>					
61766	BISSAU (AEROPORTO INT. OSVALDO VIEIRA)	X			
<b>KENYA</b>					
63612	LODWAR	X		X	
63624	MANDERA	X		X	
63661	KITALE	X		X	
63708	KISUMU	X			
63714	NAKURU	X			
63723	GARISSA	X		X	
63740	NAIROBI/KENYATTA AIRPORT	X		X	
63772	LAMU	X			
63793	VOI	X			
63820	MOMBASA	X		X	
<b>LESOTHO</b>					
68454	MASERU-MIA	X			
<b>LIBERIA</b>					
65660	ROBERTS FIELD	X			
<b>LIBYAN ARAB JAMAHIRIYA</b>					
62002	NALUT	X			
62007	ZUARA	X			
62008	YEFREN	X			
62010	TRIPOLI INTERNATIONAL AIRPORT	X		X	
62012	EL KHOMS	X			
62016	MISURATA	X			
62019	SIRTE	X			
62053	BENINA	X		X	

62055	AGEDABIA	X			
62056	SHAHAT	X			
62059	DERNA	X			
62062	TOBRUK	X			
62103	GHADAMES	X			
62120	GARIAT EL-SHARGHIA	X			
62124	SEBHA	X		X	
62131	HON	X		X	
62161	JALO	X			
62176	GIARABUB	X			
62200	OBARI	X			
62212	GHAT	X			
62259	TAZERBO	X			
62271	KUFRA	X		X	
<b>MADAGASCAR</b>					
67009	ANTSIRANANA	X		X	
67012	FASCENE (NOSSI-BE)	X			
67017	VOHEMAR	X			
67019	ANALALAVA	X		X	
67020	ANTSOHIHY	X			
67023	SAMBAVA	X			
67025	ANTALAHA	X		X	
67027	MAHAJANGA	X	X		
67037	BESALAMPY	X			
67045	MAEVATANANA	X			
67067	AMBOHITSILAOZANA	X			
67072	SAINTE-MARIE	X			
67073	MAINTIRANO	X		X	
67083	IVATO	X		X	
67085	ANTANANARIVO	X			
67095	TOAMASINA	X	X	X	
67107	ANTSIRABE	X			
67113	MAHANORO	X			
67117	MORONDAVA	X			
67131	MOROMBE	X			
67137	FIANARANTSOA	X			
67143	MANANJARY	X		X	
67152	RANOHIRA	X			
67157	FARAFANGANA	X			
67161	TOLIARA	X		X	
67197	TAOLAGNARO	X			
<b>MADEIRA ISLANDS (PORTUGAL)</b>					
08522	FUNCHAL	X	X		
08524	PORTO SANTO	X			
<b>MALAWI</b>					
67586	LILONGWE INT'L AIRPORT	X			

67693	CHILEKA	X		X	
<b>MALI</b>					
61202	TESSALIT	X		X	
61214	KIDAL	X			
61223	TOMBOUCTOU	X		X	
61226	GAO	X			
61230	NIORO DU SAHEL	X			
61233	NARA	X			
61235	YELIMANE	X			
61240	HOMBORI	X			
61250	MENAKA	X		X	
61257	KAYES	X			
61265	MOPTI	X			
61270	KITA	X		X	
61272	SEGOU	X			
61277	SAN	X			
61291	BAMAKO/SENOU	X			
61293	KOUTIALA	X			
61296	BOUGOUNI	X			
61297	SIKASSO	X		X	
<b>MAURITANIA</b>					
61401	BIR MOGHREIN	X		X	
61404	ZOUERATE	X			
61415	NOUADHIBOU	X		X	
61421	ATAR	X		X	
61437	AKJOUJT	X			
61442	NOUAKCHOTT	X			
61450	TIDJIKJA	X		X	
61461	BOUTILIMIT	X			
61489	ROSSO	X			
61492	KAEDI	X			
61497	NEMA	X		X	
61498	KIFFA	X			
61499	AIOUN EL ATROUSS	X			
<b>MAURITIUS</b>					
61974	AGALEGA	X			
61986	ST. BRANDON (ST. RAPHAEL)	X			
61988	RODRIGUES	X		X	
61990	PLAISANCE (MAURITIUS)	X		X	
61995	VACOAS (MAURITIUS)	X	X		X
<b>MOROCCO</b>					
60060	SIDI IFNI	X			
60101	TANGER (AERODROME)	X			
60105	LARACHE	X			
60106	CHEFCHAOUEN	X			
60107	AL HOCEIMA	X			

60115	OUJDA	X			
60127	TAZA	X			
60135	RABAT-SALE	X			
60141	FES-SAIS	X			
60150	MEKNES	X			
60155	CASABLANCA	X			
60156	NOUASSEUR	X		X	
60185	SAFI	X			
60190	KASBA-TADLA	X			
60191	BENI-MELLAL	X			
60195	MIDELT	X		X	
60210	ERRACHIDIA	X			
60220	ESSAOUIRA	X			
60230	MARRAKECH	X			
60252	AGADIR AL MASSIRA	X			
60265	OUARZAZATE	X		X	
60318	TETUAN/SANIA RAMEL	X			
60340	NADOR	X			
<b>MOZAMBIQUE</b>					
67205	MOCIMBOA DA PRAIA	X			
67215	PEMBA	X		X	
67217	LICHINGA	X			
67221	MARRUPA	X			
67223	MONTEPUEZ	X			
67229	ULONGUE	X			
67231	CUAMBA	X			
67237	NAMPULA	X			
67241	LUMBO	X			
67261	TETE	X			
67273	ANGOCHE	X			
67283	QUELIMANE	X		X	
67285	PEBANE	X			
67295	CHIMOIO	X			
67297	BEIRA	X		X	
67308	CHICUALACUALA	X			
67315	VILANCULOS	X			
67323	INHAMBANE	X		X	
67335	XAI XAI	X			
67339	MAPUTO OBSERVATORIO	X			
67341	MAPUTO/MAVALANE	X			
67346	CHANGALANE	X			
<b>NAMIBIA</b>					
68010	OKAUKUEJO	X			
68014	GROOTFONTEIN	X		X	
68016	MOWE BAY	X			
68018	RUNDU	X		X	

68098	WALVIS BAY AIRPORT	X			
68102	SITRUSDAL	X			
68106	GOBABEB	X		X	
68110	WINDHOEK	X	X	X	X
68112	HOSEA KUTAKO INT'L APT	X			
68116	GOBABIS	X			
68212	HARDAP	X			
68312	KEETMANSHOOP	X		X	
<b>NIGER</b>					
61017	BILMA	X		X	
61024	AGADEZ	X		X	
61036	TILLABERY	X			
61043	TAHOUA	X		X	
61045	GOURE	X			
61049	N'GUIGMI	X			
61052	NIAMEY-AERO	X	X		X
61075	BIRNI-N'KONNI	X			
61080	MARADI	X			
61090	ZINDER	X			
61091	MAGARIA	X			
61096	MAINE-SOROA	X		X	
61099	GAYA	X			
<b>NIGERIA</b>					
65001	YELWA	X			
65010	SOKOTO	X			
65015	GUSAU	X			
65019	KADUNA	X			
65028	KATSINA	X			
65030	ZARIA	X			
65046	KANO	X			
65064	NGURU	X			
65073	POTISKUM	X			
65082	MAIDUGURI	X			
65123	MINNA	X		X	
65125	ABUJA	X			
65134	JOS	X			
65145	IBI	X			
65167	YOLA	X		X	
65201	LAGOS/IKEJA	X			
65208	IBADAN	X			
65215	OSHOGBO	X			
65229	BENIN CITY	X			
65243	LOKOJA	X			
65250	PORT HARCOURT	X			
65257	ENUGU	X			
65264	CALABAR	X			

65271	MAKURDI	X			
<b>OCEAN ISLANDS (FRENCH) BETWEEN 0° and 30°S</b>					
61968	ILES GLORIEUSES	X			
61970	ILE JUAN DE NOVA	X			
61972	ILE EUROPA	X		X	
61976	SERGE-FROLOW (ILE TROMELIN)	X	X		X
61980	SAINT-DENIS/GILLOT (REUNION)	X			
<b>OCEAN ISLANDS (FRENCH) BETWEEN 30° and 60°S</b>					
61996	MARTIN DE VIVIES (ILE AMSTERDAM)	X	X	X	X
61997	ALFRED FAURE (ILES CROZET)	X		X	
61998	PORT-AUX-FRANCAIS (ILES KERGUELEN)	X	X	X	X
<b>RWANDA</b>					
64387	KIGALI	X			
<b>SAO TOME AND PRINCIPE</b>					
61931	S. TOME	X			
61934	PRINCIPE	X			
<b>SENEGAL</b>					
61600	SAINT-LOUIS	X			
61612	PODOR	X		X	
61627	LINGUERE	X			
61630	MATAM	X			
61641	DAKAR/YOFF	X	X		X
61666	DIORBEL	X			
61679	KAOLACK	X			
61687	TAMBACOUNDA	X		X	
61695	ZIGUINCHOR	X			
61697	CAP-SKIRRING	X			
61698	KOLDA	X			
61699	KEDOUGOU	X			
<b>SEYCHELLES</b>					
63980	SEYCHELLES INTERNATIONAL AIRPORT	X		X	
63981	PRASLIN	X			
63994	DES ROCHES	X			
63995	ALDABRA	X			
63996	FARQUHAR	X			
<b>SIERRA LEONE</b>					
61856	LUNGI	X		X	
<b>SOMALIA</b>					
63150	BORAMA	X			
63160	BERBERA	X			
63170	HARGEISA	X			
63175	BURAO	X			

63180	ERIGAVO	X			
63200	ALULA	X			
63210	BOSASO	X			
63225	GARDO	X			
63230	GALCAYO	X			
63240	BELET UEN	X			
63247	ISCIA BAIDOA	X			
63250	BARDERA	X			
63260	MOGADISCIO	X			
63270	CHISIMAIO	X			
<b>SOUTH AFRICA</b>					
68171	ALLDAYS	X			
68174	PIETERSBURG	X		X	
68181	TSHIPISE	X			
68185	LYDENBURG	X			
68191	PHALABORWA	X			
68242	MMABATHO	X			
68253	THABAZIMBI	X			
68262	PRETORIA	X			
68267	ERMELO	X			
68273	WITBANK	X			
68287	GRASKOP	X			
68289	NELSPRUIT	X			
68322	TWEE RIVIEREN	X			
68331	KATHU	X			
68342	OTTOSDAL	X			
68350	POTCHEFSTROOM	X			
68368	JOHANNESBURG INTNL. AIRPORT	X			
68370	BETHAL	X		X	
68385	PIET RETIEF	X			
68424	UPINGTON	X			
68438	KIMBERLEY	X		X	
68442	BLOEMFONTEIN AIRPORT	X			
68449	FICKSBURG	X			
68461	BETHLEHEM	X			
68491	CHARTERS CREEK	X			
68496	CAPE ST. LUCIA	X		X	
68512	SPRINGBOK	X			
68523	BRANDVLEI	X			
68524	VANWYKSVLEI	X			
68546	ALIWAL NORTH	X			
68580	CEDARA	X		X	
68588	DURBAN INTNL. AIRPORT	X	X		X
68618	CALVINIA	X		X	
68674	PORT ST JOHNS	X			

68712	CAPE COLUMBINE	X		X	
68727	BEAUFORT WEST	X			
68737	GRAAFF-REINET	X			
68816	CAPE TOWN INTNL. AIRPORT	X	X		X
68842	PORT ELIZABETH	X			
68906	GOUGH ISLAND	X	X		X
68994	MARION ISLAND	X	X		X
<b>ST. HELENA ISLAND</b>					
61901	ST. HELENA IS.	X	X		X
<b>SUDAN</b>					
62600	WADI HALFA	X		X	
62640	ABU HAMED	X		X	
62641	PORT SUDAN	X		X	
62650	DONGOLA	X		X	
62660	KARIMA	X			
62680	ATBARA	X			
62721	KHARTOUM	X	X		
62730	KASSALA	X		X	
62750	ED DUEIM	X			
62751	WAD MEDANI	X			
62752	GEDAREF	X			
62760	EL FASHER	X		X	
62762	SENNAR	X		X	
62770	GENINA	X		X	
62771	EL OBEID	X			
62781	EN NAHUD	X		X	
62790	NYALA	X			
62795	ABU NA'AMA	X			
62801	RENK	X			
62805	DAMAZINE	X			
62809	BABANUSA	X			
62810	KADOGLLI	X			
62840	MALKAL	X		X	
62880	WAU	X		X	
62941	JUBA	X		X	
<b>SWAZILAND</b>					
68396	MANZINI/MATSAPA AIRPORT	X			
<b>TOGO</b>					
65352	MANGO	X		X	
65361	SOKODE	X			
65376	ATAKPAME	X			
65387	LOME	X			
<b>TUNISIA</b>					
60710	TABARKA	X			
60714	BIZERTE	X			
60715	TUNIS-CARTHAGE	X			



60720	KELIBIA	X			
60723	BEJA	X			
60725	JENDOUBA	X		X	
60735	KAIROUAN	X			
60740	MONASTIR-SKANES	X			
60745	GAFSA	X			
60748	SIDI BOUZID	X			
60750	SFAX EL-MAOU	X			
60760	TOZEUR	X			
60765	GABES	X		X	
60769	DJERBA MELLITA	X			
<b>UGANDA</b>					
63602	ARUA	X			
63630	GULU	X			
63654	MASINDI	X			
63658	SOROTI	X			
63674	KASESE	X			
63684	TORORO	X			
63702	MBARARA	X			
63705	ENTEBBE AIRPORT	X			
63726	KABALE	X			
<b>UNITED REPUBLIC OF TANZANIA</b>					
63729	BUKOBA	X			
63733	MUSOMA	X			
63756	MWANZA	X			
63791	KILIMANJARO AIRPORT	X			
63801	KIGOMA	X			
63832	TABORA AIRPORT	X		X	
63844	TANGA	X			
63862	DODOMA	X		X	
63866	MOROGORO	X			
63887	IRINGA	X			
63894	DAR ES SALAAM AIRPORT	X		X	X
63932	MBEYA	X			
63962	SONGEA	X		X	
63971	MTWARA	X			
<b>WESTERN SAHARA</b>					
60033	EL AAYOUNE	X			
60096	DAKHLA	X			
<b>ZAMBIA</b>					
67403	KAWAMBWA	X			
67413	MBALA	X			
67441	MWINILUNGA	X		X	
67461	MANSA	X			
67475	KASAMA	X			
67477	MPIKA	X			

67541	KASEMPA	X			
67551	SOLWEZI	X			
67561	NDOLA	X			
67581	CHIPATA	X		X	
67583	LUNDAZI	X			
67599	MFUWE	X			
67633	MONGU	X		X	
67641	KAOMA	X			
67663	KABWE	X			
67665	LUSAKA INTERNATIONAL AIRPORT	X		X	
67673	PETAUKE	X			
67743	LIVINGSTONE	X		X	
67753	CHOMA	X			
<b>ZIMBABWE</b>					
67761	KARIBA	X			
67765	KAROI	X			
67775	HARARE (KUTSAGA)	X		X	
67779	MOUNT DARWIN	X			
67843	VICTORIA FALLS	X			
67853	HWANGE NATIONAL PARK	X			
67861	GOKWE	X			
67867	GWERU	X			
67869	KADOMA	X			
67881	RUSAPE	X			
67965	BULAWAYO AIRPORT	X		X	
67969	WEST NICHOLSON	X			
67975	MASVINGO	X			
67977	BUFFALO RANGE	X			
67983	CHIPINGE	X			
67991	BEITBRIDGE	X			