

May 2011

CBS Lead Centre Report On GSN and GUAN Sites for Region V

GCOS REPORT REGION V LEAD CENTRE

BACKGROUND & INTRODUCTION

RA V observational data sent through the GTS and reports from National Meteorological & Hydrological Services (NMHS) indicate that the overall vitality of the GCOS climate observation network in Region V, based on the number and regularity of CLIMAT bulletins, can be considered relatively healthy. That said, there has been little or no improvement since the last report.

The reasons a number of countries do not provide CLIMAT messages primarily reflect a lack of capability training in the preparation or sending these bulletins on the GTS. These issues are addressed in this report.

Within the next few years the Australian Bureau, as part of a broader project designed to improve climate change adaptation, will be installing a new database (CLiDE) in many of the island nations in the Pacific. The secure storage of electronic climate data is paramount to the NMHS as a provider of climate information (including adaptation responses). An added spin-off in this case is that in line with the Climate Data Management System strategy of WMO's Commission for Climatology, we will be attempting to install functionality to automatically generate CLIMAT messages from data archived in the database. This should overcome many of the training and capability issues.

CLIMAT STATISTICS RA V SITES

CLIMAT messages received by monitoring sites and NCDC are shown in Appendix 1. While most stations have been consistent, some stations have provided few or no CLIMAT messages this year. In some countries, such as Papua-New Guinea, the Solomon Islands, the Cook Islands and Tonga, there are few or no reports. In other countries, most stations report, but one or two of their complement of GCOS stations do not.

CLIMAT STATISTICS PROBLEM SITES

Comments on GCOS stations with few or no reports are found in Table 1*. In most cases where a station submits no reports, lack of training and knowledge is the problem which is quite different from countries that send some CLIMAT reports. The former is slowly being rectified in future through the CLiDE installation and training visits. Where countries send one but not all reports is usually an indicator of broken or unserviceable observation equipment.

The only complete solution is to visit these countries and undertake training in all aspects of specific CLIMAT observations, producing (preparations and deriving calculated quantities) and sending the reports.

* Note that if a country has multiple CLIMAT sites and at least one if these sites has CLIMAT then the NMHS is not mentioned, but comments on the missing site, where available, are embedded in the body of this report.

COMMENTS ON CLIMAT REPORTS (GSN Sites) Table 1

Station	Current Problems	Comments and needs
<ul style="list-style-type: none"> • 91503 Munda, Solomon Islands • 91517 Honiara, Solomon Islands 	<ul style="list-style-type: none"> • No CLIMAT reports sent 2010 	<ul style="list-style-type: none"> • Solomon Islands need training in the preparation and dissemination of CLIMAT
<ul style="list-style-type: none"> • 91610 Tarawa, Kiribati • 91490 Christmas Island 	<ul style="list-style-type: none"> • These Island nations need training in the preparation and dissemination of CLIMAT 	<ul style="list-style-type: none"> • CliDE recently installed.
<ul style="list-style-type: none"> • 91780 Vavau, Tonga • 91789 Nuku'alofa, Tonga 	<ul style="list-style-type: none"> • Station numbers may still not be correct. 	<ul style="list-style-type: none"> • Tonga has been without civil unrest for a number of years now. • The correct GCOS stations need to be confirmed and updated

COMMENTS ON UPPER AIR MESSAGES (GUAN)

Bauerfield (Vanuatu) and Penrhyn (Cook Islands) are not reporting upper air observations at all even though these stations are still GSN sites. It is suspected that Penrhyn may have a manning or resources issue as the GSN site at the same location is sending surface observations.

For further details see Table 3.

OTHER ISSUES

Issue: It is suspected that New Zealand bulletins may be compiled so soon after the end of the local-time month that the time in the header may be prior to 0000 UTC on the 1st of the following month. This may cause them to be considered to be in error on the GTS or in databases.

Resolution : for action by Met Service NZ: With immediate effect (i.e., starting with the June 2011 bulletin) messaging systems are being changed to ensure that the bulletin is sent after 0000 UTC on the following month, with an appropriate header.

Issue: The current official GCOS GSN station listing for Paraparaumu is 93417 for, and Invercargill is 93844. The bulletin includes instead, reports for 93420 for Paraparaumu and 93845 for Invercargill. This change was made during 2010. This amendment reflects a change in station number, as the information had in fact been based for many years on AWS stations which had those newer numbers.

Resolution: for action by WMO and GCOS Secretariat to amend the GCOS GSN records to (a) replace "93417 PARAPARAUMU AERODROME" by "93420 PARAPARAUMU AERO AWS", and (b) replace "93844 INVERCARGILL AIRPORT" by "93845 INVERCARGILL AERO AWS". Details on all stations are included in the updated Vol. A. All GSN station latitudes, longitudes and elevations to be checked and updated where necessary.

Issue: Planned upgrade of two GSN sites in Esperance and Albany (Australia) actually raises some risks to the detriment of GCOS network. The issue is mainly to do with the change in AWS type and thus affecting the consistency of observations from these sites as part of the overall network.

Resolution: Still looking into possible solutions. We are trying to get our Observations managers to carry out a change management process so as not to adversely affect the homogeneity and continuity of data. We are also requesting that the changeover not be affected until we are satisfied that the necessary work to ensure homogeneity is completed.

Issue: Issues with coding errors in the CLIMAT bulletins transmitted from Indonesia NMHS (BMKG).

Resolution: Attempts were made to develop contacts with appropriate officers through a recent International mission of delegates from BMKG. This is still in progress. Further, we have been advised that the Japan Meteorological Agency (JMA) will visit BMKG around the end of this month and that they will take the opportunity to provide them with some 'hands on training' in the preparation of CLIMAT bulletins

Table 2 RA V CLIMAT Reports Received by NCDC 2010

WMO	Station	Country	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
48620	SITIAWAN	MALAYSIA												
48657	KUANTAN	MALAYSIA												
91165	LIHUE, KAUAI	USA HAWAII												
91212	NWS AGANA, G	GUAM MARIANA IS												
91285	HILO HI, HAW	USA HAWAII												
91334	CHUUK, ECI	Pacific Is N. of Equator												
91348	POHNPEI, CAR	Pacific Is N. of Equator												
91366	KWAJALEIN/BU	Pacific Is N. of Equator												
91376	MAJURO/MARSH	Pacific Is N. of Equator												
91408	KOROR, PALAU	Pacific Is N. of Equator												
91413	YAP, CAROLIN	Pacific Is N. of Equator												
91490	CHRISTMAS IS	Independent												
91503	MUNDA	SOLOMON ISLANDS												
91517	HONIARA	SOLOMON ISLANDS												
91554	PEKOA AIRPOR	VANUATU												
91568	ANEITYUM	VANUATU												
91577	KOUMAC (NLLE	NEW CALEDONIA												
91592	NOUMEA (NLLE	NEW CALEDONIA												
91610	TARAWA	KIRIBATI												
91631	NANUMEA	TUVALU												
91643	FUNAFUTI	TUVALU												
91650	ROTUMA	FIJI												
91652	UDU POINT	FIJI												
91680	NADI AIRPORT	FIJI												
91699	ONO-I-LAU	FIJI												
91701	KANTON ISLAN	PHOENIX ISLAND												
91723	NUKUNONU	TOKELAU												
91753	HIHIFO (ILE	DETACHED ISLANDS												
91765	PAGO PAGO/IN	SAMOA												
91779	LUPEPAU'U	TONGA												
91789	NUKU'ALOFA	TONGA												
91802	PENRHYN AWS	COOK ISLANDS												
91812	PUKAPUKA AWS	COOK ISLANDS												
91824	HANAN AIRPOR	NIUE												
91831	AITUTAKI AWS	COOK ISLANDS												
91843	RAROTONGA	COOK ISLANDS												
91925	ATUONA	FRENCH POLYNESIA												
91929	BORA-BORA	FRENCH POLYNESIA												
91938	TAHITI-FAAA	FRENCH POLYNESIA												
91943	TAKAROA	FRENCH POLYNESIA												
91945	HEREHERETUE	FRENCH POLYNESIA												
91948	RIKITEA	FRENCH POLYNESIA												
91954	TUBUAI	FRENCH POLYNESIA												
91958	RAPA	FRENCH POLYNESIA												
91964	PITCAIRN ISL	DETACHED ISLANDS												
92014	MADANG W.O.	PAPUA NEW GUINEA												
92035	PORT MORESBY	PAPUA NEW GUINEA												
92044	MOMOTE W.O.	PAPUA NEW GUINEA												
93012	KAITAIA	NEW ZEALAND												
93292	GISBORNE AER	NEW ZEALAND												
93309	NEW PLYMOUTH	NEW ZEALAND												

Table 2 RA V CLIMAT Reports Received by NCDC 2010

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93417	PARAPARAUMU	NEW ZEALAND												
93615	HOKITIKA AER	NEW ZEALAND												
93747	TARA HILLS	NEW ZEALAND												
93844	INVERCARGILL	NEW ZEALAND												
93947	CAMPBELL ISL	NEW ZEALAND												
93987	CHATHAM ISLA	NEW ZEALAND												
93994	RAOUL ISLAND	NEW ZEALAND												
94100	KALUMBURU	AUSTRALIA												
94120	DARWIN AIRPO	AUSTRALIA												
94131	TINDAL RAAF	AUSTRALIA												
94150	GOVE AIRPORT	AUSTRALIA												
94170	WEIPA AERO	AUSTRALIA												
94203	BROOME AIRPO	AUSTRALIA												
94212	HALLS CREEK	AUSTRALIA												
94238	TENNANT CREE	AUSTRALIA												
94260	BURKETOWN AI	AUSTRALIA												
94274	GEORGETOWN A	AUSTRALIA												
94287	CAIRNS AERO	AUSTRALIA												
94299	WILLIS ISLAN	AUSTRALIA												
94300	CARNARVON AI	AUSTRALIA												
94302	LEARMONTH AI	AUSTRALIA												
94312	PORT HEDLAND	AUSTRALIA												
94317	NEWMAN AERO	AUSTRALIA												
94326	ALICE SPRING	AUSTRALIA												
94332	MOUNT ISA AE	AUSTRALIA												
94340	RICHMOND POS	AUSTRALIA												
94346	LONGREACH AE	AUSTRALIA												
94367	MACKAY M.O	AUSTRALIA												
94380	GLADSTONE RA	AUSTRALIA												
94403	GERALDTON AI	AUSTRALIA												
94430	MEEKATHARRA	AUSTRALIA												
94461	GILES METEOR	AUSTRALIA												
94476	OODNADATTA A	AUSTRALIA												
94480	MARREE	AUSTRALIA												
94485	TIBOOBURRA P	AUSTRALIA												
94510	CHARLEVILLE	AUSTRALIA												
94517	ST GEORGE AI	AUSTRALIA												
94570	TEWANTIN RSL	AUSTRALIA												
94589	YAMBA PILOT	AUSTRALIA												
94601	CAPE LEEUWIN	AUSTRALIA												
94637	KALGOORLIE-B	AUSTRALIA												
94638	ESPERANCE	AUSTRALIA												
94653	CEDUNA AMO	AUSTRALIA												
94689	BROKEN HILL	AUSTRALIA												
94693	MILDURA AIRP	AUSTRALIA												
94711	COBAR MO	AUSTRALIA												
94802	ALBANY AIRPO	AUSTRALIA												
94821	MOUNT GAMBIER	AUSTRALIA												
94842	CAPE OTWAY L	AUSTRALIA												
94907	EAST SALE AI	AUSTRALIA												
94910	WAGGA WAGGA	AUSTRALIA												

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94937	MORUYA HEADS	AUSTRALIA												
94967	CAPE BRUNY L	AUSTRALIA												
94995	LORD HOWE IS	AUSTRALIA												
94996	NORFOLK ISLA	AUSTRALIA												
94998	MACQUARIE IS	AUSTRALIA												
95322	RABBIT FLAT	AUSTRALIA												
95482	BIRDSVILLE A	AUSTRALIA												
95492	THARGOMINDAH	AUSTRALIA												
95541	INVERELL (RA	AUSTRALIA												
95625	CUNDERDIN AI	AUSTRALIA												
95646	FORREST	AUSTRALIA												
95670	RAYVILLE PAR	AUSTRALIA												
95719	DUBBO AIRPOR	AUSTRALIA												
95753	RICHMOND RAA	AUSTRALIA												
95784	TAREE AIRPOR	AUSTRALIA												
95805	CAPE BORDA A	AUSTRALIA												
95869	DENILIKUIN A	AUSTRALIA												
95916	CABRAMURRA S	AUSTRALIA												
95964	LOW HEAD	AUSTRALIA												
96073	SIBOLGA/PINA	INDONESIA												
96145	TAREMPA	INDONESIA												
96163	PADANG/TABIN	INDONESIA												
96413	KUCHING	MALAYSIA												
96441	BINTULU	MALAYSIA												
96465	LABUAN	MALAYSIA												
96491	SANDAKAN	MALAYSIA												
96745	JAKARTA/OBSE	INDONESIA												
96805	CILACAP	INDONESIA												
96925	SANGKAPURA (INDONESIA												
96995	CHRISTMAS IS	AUSTRALIA												
96996	COCOS ISLAND	AUSTRALIA												
97014	MENADO/ SAM	INDONESIA												
97146	KENDARI/WOLT	INDONESIA												
97240	MATARAM/SELA	INDONESIA												
97340	WANGAPU/MAU	INDONESIA												
97372	KUPANG/ELTAR	INDONESIA												
97502	SORONG/JEFMA	INDONESIA												
97560	BIAK/FRANS K	INDONESIA												
97686	WAMENA	INDONESIA												
97690	JAYAPURA/SEN	INDONESIA												
97724	AMBON/PATTIM	INDONESIA												
97900	SAUMLAKI/OLI	INDONESIA												
97980	MERAUKE/MOPA	INDONESIA												
98232	APARRI	PHILIPPINES												
98430	SCIENCE GARD	PHILIPPINES												
98444	LEGASPI	PHILIPPINES												
98755	HINATUAN	PHILIPPINES												
98836	ZAMBOANGA	PHILIPPINES												
98851	GENERAL SANTOS	PHILIPPINES												

Table 3 RA V Upper Air Reports Received by NCDC Last Half 2010

WMO	STATION	OBS	LVLS	00Z	12Z	OTH	AVGPRS	>100	>50	>10	>5	TEMPS	DPDS	WINDS
48698	SINGAPORE/CHANGI AP	875	66544	196	327	352	257	514	415	258	96	24759	24759	51422
91212	AGANA, GUAM	343	26737	171	172	0	38	307	290	176	1	16171	16140	15995
91285	HILO/LYMAN, HI	354	49235	175	175	4	11.5	352	348	280	0	31256	27176	24242
91334	CHUUK	364	31008	182	181	1	27.2	342	330	266	5	18247	18239	18626
91376	MAJURO ATOLL	366	31069	184	182	0	19.3	351	338	271	5	18602	18589	18389
91408	KOROR	380	33302	180	180	20	21.3	367	348	284	1	19316	19315	20557
91517	HONIARA	147	14813	147	0	0	38.6	142	133	0	0	6425	3576	11056
91557	BAUERFIELD	0	0	0	0	0	0	0	0	0	0	0	0	0
91592	TONTOUTA	363	20191	180	182	1	53.3	345	315	0	0	13214	8059	12437
91610	TARAWA	80	6285	79	0	1	71.4	66	60	30	1	3881	2080	3872
91643	FUNAFUTI	122	11802	122	0	0	13.3	121	118	78	0	7038	3808	7268
91680	NADI	361	16482	126	99	136	46.8	348	301	1	0	7482	5317	11448
91765	PAGO PAGO	366	30543	184	182	0	18	359	353	280	0	17428	17427	19483
91801	PENRHYN	0	0	0	0	0	0	0	0	0	0	0	0	0
91843	RAROTONGA	182	13652	182	0	0	14.1	181	179	133	0	7936	6268	8308
91925	ATUONA	245	10717	180	0	65	246.5	175	167	0	0	6558	3499	7070
91938	TAHITI-FAAA	372	20969	186	184	2	48.2	357	333	0	0	13443	7979	13164
91958	RAPA, AUSTRAL IS.	186	10047	0	0	186	75.8	165	156	0	0	6411	3797	6525
92035	PORT MORESBY, PAPUA	90	3096	69	0	21	273.3	49	2	0	0	1726	1224	1950
93417	PARAPARAUMU	367	21872	87	87	193	34.1	364	309	0	0	14981	14981	11681
93844	INVERCARGILL	551	24375	87	87	377	86	397	273	0	0	14386	14385	14675
93986	CHATHAM ISLAND	181	15146	34	0	147	23.8	178	163	13	0	7360	7041	10384
93997	RAOUL/KERMADEC IS.	180	14950	45	0	135	34.3	175	162	0	0	7475	5736	9915
94120	DARWIN, AU	729	60429	183	183	363	76.9	538	317	190	6	20858	16156	46209
94203	BROOME AP, AU	487	34071	183	138	166	76.2	357	183	162	4	10465	8057	27092
94294	TOWNSVILLE, AU	535	39999	182	179	174	85.1	380	211	154	1	13637	10502	30516
94299	WILLIS ISLAND	701	41041	177	173	351	96.4	450	188	160	1	11072	8453	33581
94302	LEARMONTH AP, AU	329	46398	167	161	1	36.9	305	286	143	5	17935	13863	34792
94461	GILES, AU	551	34734	184	185	182	95.7	336	185	174	16	10059	7749	28599
94510	CHARLEVILLE, AU	221	31738	184	37	0	19.3	215	208	165	12	11693	9101	24325
94610	PERTH AP, AU	725	53041	183	185	357	75.1	528	348	168	3	17650	14757	43101
94659	WOOMERA, AU	222	28665	176	22	24	12.3	197	193	151	4	10291	8708	22407
94975	HOBART AP, AU	720	47789	182	181	357	85.4	540	261	168	9	17104	16413	36995
94995	LORD HOWE IS, AU	367	28372	183	0	184	72.1	308	178	167	9	9450	8062	22393

Table 3 RA V Upper Air Reports Received by NCDC Last Half 2010

WMO	STATION	OBS	LVLS	00Z	12Z	OTH	AVGPRS	>100	>50	>10	>5	TEMPS	DPDS	WINDS
94996	NORFOLK IS, AU	482	23337	184	118	180	90.3	316	176	162	0	7451	6386	18874
94998	MACQUARIE IS, AU	366	36805	184	182	0	14.4	360	356	196	14	17255	15837	26428
96315	BRUNEI AP	661	28805	182	180	299	384.4	320	167	0	0	15062	14691	19326
96935	SURABAJA	643	39534	180	177	286	369.9	334	305	161	1	11662	5838	33725
96996	COCOS ISLAND	181	25068	174	6	1	28.5	169	164	158	21	11179	8434	17731
98223	LAOAG	181	27490	173	5	3	30	177	168	3	1	12257	12230	18384