U.S. Dep't. of Commerce / OMAO / NOAA / Aircraft Operations Center

FLT ID: 20140212N1	From: KSUU	To: KSUU
FLT #:	Blk In: 2119 Z	Lnd Time: 2114 Z
ETD: 1730Z	Blk Out: 1707 Z	T/O Time: 1712 Z
ETE: 5+30	Total Blk: 4.2	Total Flt: 4.0
Sponsoring Org: ESRL	Program: PAR	Purpose: IVT

AOC Flight Crew

Aircraft Commander: MOYERS	SSA: DEFEO
Co-Pilot: MANSOUR MacINTYRE	AVAPS: SMITH / RICHARDS
Navigator: /	Scientists: RYAN SPACKMAN (ESRL)
Flight Eng: /	Scientists ALAN WHITE (ESRL)
Flt Director: HENNING	Scientists Capt Rebecca STONE (USN)
SEB: / /	Scientists:

Crew Chief: Visitors: / / STA 1020.8

	A/C - Takeoff	Wx Station - Takeoff	A/C - Land	Wx Station - Land
Pressure	#2 1021.2	STA 1021.9	1019.8	4/0 1658 30.23 / 1758 30.22 / land 2058 30.20 2158 30.19

AS REQUIRED BY ORM	YES / NO	REMARKS
VOLCANIC ASH		
SCIENCE MISSION WITHIN BOUNDARY LAYER		
LACK OF PRECIPITATION		
RELATIVE HUMIDITY AT OR ABOVE 80%		
LARGE AIR-SEA TEMPERATURE GRADIENT		
HIGH SURFACE WINDS		
LONG FETCH AND/OR DURATION OF SFC WIND		
SEA SALT ACCRETION FORECAST		
SEA SALT ACCRETION OBSERVED		

Dropsondes	15	Good: 15	Bad: ~~0~~	Sent: 15	
AXBT		Good:	Bad:	Sent:	

List other data sources in Remarks section

Remarks (Storm VDM Identifier, Mission ID, Fix Times)	Fix #	VDM Ob Num	Fix Time / SLP
Storm Number Identifier (VDM): (ie: AL072012)			
TCPOD/WSPOD Mission ID: WXWXE ATMOSRIVERD (ie: NOAA2 2418A SANDY)			

Remarks:

3 45 126

2 42 126

39 ~~39~~ 12445

5 38 124 30

1 37 124

12K KSMF

N49RF ERROR SUMMARY

Atmos Rivers #4

KSUU > KSUU 12 Feb 2014

Flight ID: 20140212N1

Sensor or system	Number or Name
Static Pressure Probe	PSM.2
Dynamic Pressure Probe	PQM.2
Total Temperature Probe	TTM.4
Dewpoint Temp. Probe	TDM.2
Vertical Accelerometer	AccZI.1
Altimeter	AltGPS.3
INE Selection	1
Differential Attack Pressure Probe	PDALPHA.2
Differential Sideslip Pressure Probe	PDBETA.2
Dynamic Attack Pressure Probe	PQALPHA.2
Dynamic Sideslip Pressure Probe	PQBETA.2
Constants File	49cal102
Flight Directory	acdata/MET/2014/20140212N1

Notes:

TDM.1 and TDM.2 are both not rated for use under -50 deg C and cannot be considered reliable for dew points colder than -50C. TDM.1 exceeded the ambient temperature for the entire segment at 38K. During the segment from 17K to 20K TDM.2 performed very well. TDM.1 began trending with TDM.2 at 17K after approx 1942z. TDM.2 is used for post processing.

TTM.3 continues to display an oscillation with a magnitude of about 0.6 to 0.8 degrees C and a period of about 120 seconds at high altitude. The magnitude of the TTM.3 oscillation becomes much larger at lower altitudes and warmer conditions. TTM.4 was selected for Total Temperature in post processing. TTM.4 displays a much smaller oscillation (less than 0.1 deg C) with a much shorter period (about 10 to 20 seconds). The TTM.4 oscillation is only seen at high altitude (38K) and was not observed during the 17-20K segment. TTM.1 is about a degree colder than the other total temps at both high altitude and the lower segment.

Vertical Winds (UWZ.d and DPJ_WSZ (Jorgensen solution)) should show a mean value of near zero for any prolonged period. During the 38K segment, mean values for UWZ.d and DPJ_WSZ were -0.02 and -0.09 m/s respectively. At 17-20K there was an unacceptably large negative bias of -0.67 and -0.61 m/s. Previous wind calibration flights have not included these lower altitudes resulting in these large biases.

	Takeoff (1712Z)	**Landing (2114Z)**
Aircraft Static Pressure	1021.2 mb	1019.8 mb
Corrected Tower Pressure	1021.9 mb	1020.8 mb

All 15 dropsondes deployed were good and transmitted.

Flight Director: Richard Henning
Phone #: (813) 828-3310 ext. 3086

AOC GPS Dropwindsonde Log

Flight ID: 20140212N1 Flight Director: _____

Mission ID: WXWX Storm/Track: _____ Pg ___ of ___

Ch. #	Drop #	Sonde ID	Drop Time (UTC)	Lat (°N)	Lon (°W)	Wx Cond.	SFC Prs (mb)	Ob #	L5/R5	Last Winds R5 (ht, ws, wd)	Last Winds L5 (ht, ws, wd)	Sent Time/KWBC (UTC)
1	1	5167	1734 –					1				✓
2	2	5020	1744 –					2				✓
3	3	5023	1752+ –					3				✓
4	4	5051	1757 –					4				✓
1	5	5131	1801 –					5				✓
2	6	5145	1805 –					6				✓
*5	7	5024	1809+					7				✓
*6	8	5192	1813+					8				✓
42N→ *7	9	5032	1819					9				✓
*8	10	5139	1823					10				✓
1	11	5021	1848					11				✓
2	12	5319	1851					12				✓
3	13	5132	1855					13				✓
4	14	5143	1900					14				✓
*5	15	5142	1903+					15				✓

381
135
30

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N49RF AVAPS DROP LOG Lead Tech: Gabe Defeo

Project : Atmospheric Rivers 2014 Mission : AR4 Flight ID : 20140212N1

Take Off : 1712Z Landing : 2115Z Flt Dir : Henning Launcher S/N: —

Drop #	Sonde Serial #	Rcvr #	Press Offset	Launch Time	Operator	Charge $$ To	Comments	Good ?
1	112545 167	1	0	1734	TMR	PAR		✓
2	112815 020	2	0	1744				✓
3	112 815 023	3	.4	1752				✓
4	112 815 057	4	0	1757				✓
5	112 815 131	1	0	1801				✓
6	112815 145	2	0	1805				✓
7	112 815 024	5	0	1809	JS			✓
8	112 545 192	6	0	1814				✓
9	114 325 032	7	0	1819				✓
10	112 815 139	8	-.7	1823				✓
11	112 815 021	1	0	1848	TMR			✓
12	112455 319	2	-2.4	1851			Sonde press. low > 2mb	✓
13	112 815 132	3	0	1855				✓
14	112 815 143	4	-1.2	1900			Press. low > 1mb	✓
15	112 815 142	5	0	1903	JS			✓
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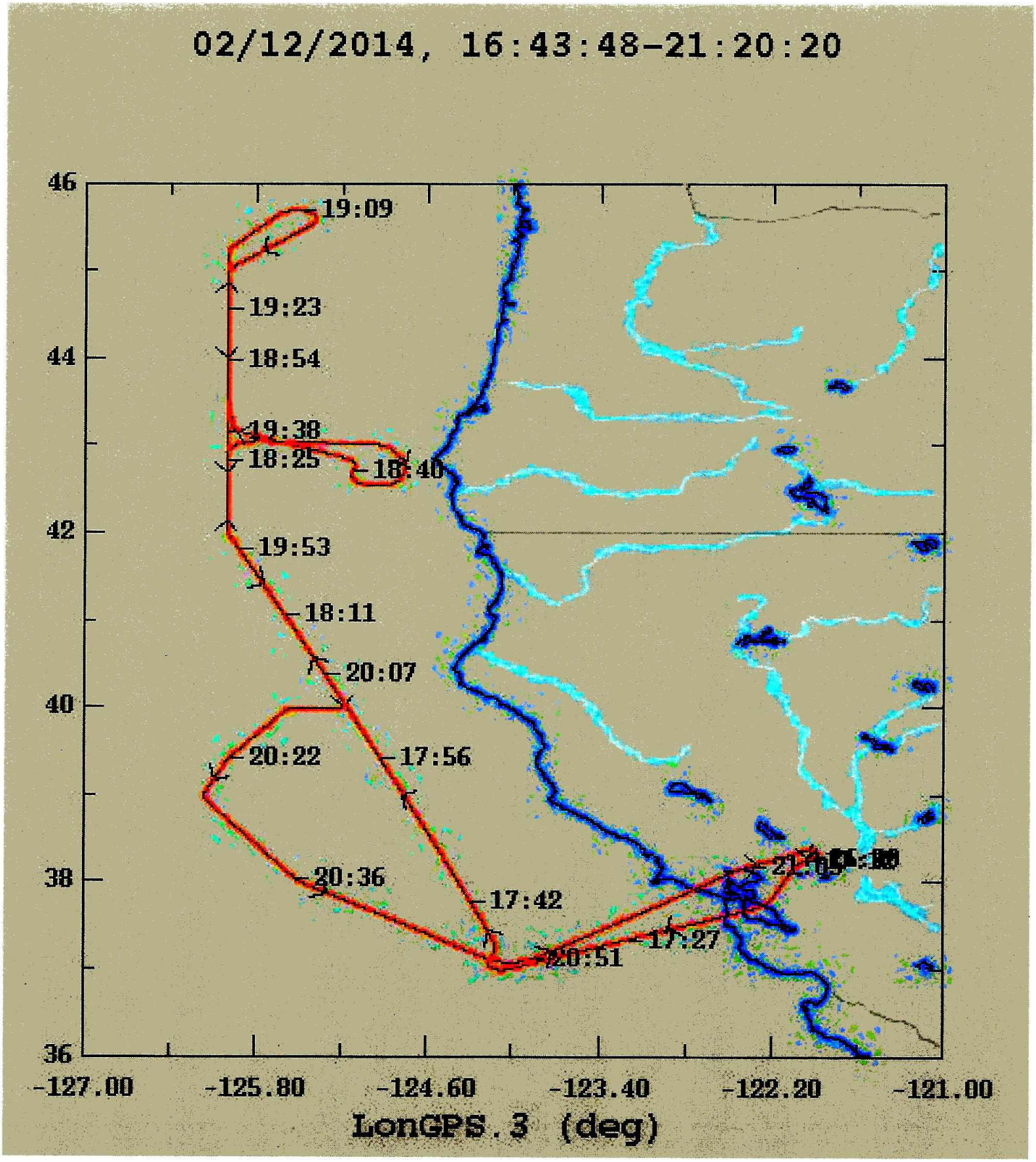
02/12/2014, 16:43:48-21:20:20
46
44
42
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38
36
19:09
19:23
18:54
19:38
18:25
18:40
19:53
18:11
20:07
20:22
17:56
20:36
17:42
20:51
17:27
-127.00
-125.80
-124.60
-123.40
-122.20
-121.00
LonGPS.3 (deg)