DEPARTMENT OF DEFENSE EDUCATION ACTIVITY, PACIFIC
JAPAN DISTRICT SUPERINTENDENT'S OFFICE
Unit 5072 APO AP 96328-5072

Misawa Complex Schools Heat Stress Early Release Plan

June 13, 2013

The following is the agreed operating procedures for heat stress for the Misawa complex schools. These procedures are the culmination of collaborative work between the 35 FW and the educators of the Misawa complex schools.

OVERALL GOALS:

1. Protect Student/Faculty Health
2. Minimize Student/Faculty Discomfort
3. Minimize School Closure Days

ASSUMPTIONS/UNDERSTANDINGS:

- Plan will be publicized and distributed prior to beginning of each school year.
- Fans lack cooling effectiveness at temperatures > 90°F
- ASHRAE (American Society of Heating, Refrigeration and Air Conditioning Engineering) Thermal Comfort Zone is 77° – 83° F
- Cognitive function (attention span, knowledge retention, etc.) deteriorates at temperatures above 90° F
- Risk of heat stress illness/injury increases at temperatures > 100° F
- Calibrated weather stations are not available at each school. As a result, the most accurate and reliable information on weather conditions and predictions will be the 35 OSS. They will provide the weather information used to make decisions.
- The 35 OSS will provide the weather forecast to the schools each day Monday through Friday.
- The expectation is that parents will make arrangements for student care during these early releases. Schools will provide a safe area and supervision while awaiting arrival of the parent or caregiver.

PLANS FOR IMPLEMENTATION

Temperature measurements indicate that the interior heat index in the schools will reach or exceed 100° when the exterior temperature is at 85° degrees and/or the external heat index is greater than 100°.

During periods of high heat, the complex lead principal will coordinate with the 35 OSS Weather Flight to obtain weather predictions daily. This should be accomplished Monday through Friday (Decisions for Monday will be based on Friday's forecast).

It is expected that daily at or around 1100 (this time frame should allow for time to prepare written notifications to go home with students) the Weather Flight will provide the complex lead principal the following day's weather prediction. The decision will be made prior to the close of school for the following day. If the heat index is forecast to be at or exceed 100° for the next day, the complex coordinating principal (or their designee) will make the decision to schedule early release.

Lunches will be served to students on heat-related early release days. The scheduling will be left to individual campuses.

If schools are released early due to heat, all after-school student activities and practices will be canceled. Teachers will remain on duty for a full day and will engage in professional development in a climate-controlled setting.

Once a decision to schedule an early release has been made by the complex coordinating principal (or their designee), the following should be notified of the decision:

- Parents of all students (email, and/or hard copy)
- DoDEA Student Transportation Office
- Japan District Superintendent's Office
- Pacific Area Director's Office and Pacific Area PAO
- 35th Mission Support Group School Liaison or representative (who will notify the Command Post)
    - 35 FW Command Post will notify the following:
        - 35 SFS (to ensure safety for students being released)
        - AFN Misawa (allowing for decisions to be broadcast as soon as possible)
        - Public Affairs (information for 35 FW Web page and AFN Misawa Facebook)

MITIGATION STRATEGIES TO CONSIDER

The following mitigation strategies are not all-inclusive, nor are they mandatory. School officials are encouraged to develop site-specific heat mitigation protocols.

- Open windows in classrooms during the school day (in rooms with windows)
- Use of circulating fans in classrooms
- Allow students to bring bottled water into classrooms
- Minimization of use of electrical equipment (when/where feasible) to reduce heat generation
- "Heat Day" contingency lesson plans (require no use of peripheral aids like overhead projectors, smart boards, lab equipment, computers, etc.) that can be taught in relocated settings, if necessary
- Use of cold, wet towels by students/faculty/staff for temporary cooling (where feasible)

- Wear of tasteful summer clothing and shoes (unless prohibited for safety reasons – e.g., science labs)
- Cooling breaks 10 minutes every hour when external air temperature exceeds 75°F and 20 minutes every hour when heat index exceeds 85°
    - Campus variations in student enrollment and number of cooled rooms may make this difficult to implement
- Overnight ventilation of campuses by leaving upper story windows open (where feasible)
- Avoidance of rooms without windows (where feasible)
- Avoidance of upstairs rooms (where feasible)
- Awnings to shade rooms receiving direct sunlight (where feasible)

Start, Dismissal and Bus Departure Times by school for Early Release Days

	Teacher Start	Student Start	Student Dismissal	Bus Departure
Cummings	7:40 AM	8:00	12:00	12:07
Edgren	7:45	8:03	12:10	12:35
Sollars	8:05	8:15	12:20	12:27

Misawa Heat Stress Checklist for Schools

When the EXTERNAL TEMPERATURE exceeds 75°F:

1. The Misawa AB schools shall institute campus-specific heat mitigation protocols.
2. Ensure cooling fans are provided to rooms.
3. Ensure students have access to water in the classrooms.
4. Provide cooling relief to classes for 10 minutes every hour where logistically feasible.

When the EXTERNAL TEMPERATURE exceeds 80°F:

1. A determination will be made, based on EXTERNAL TEMPERATURE forecast, to issue a possible school closure for the next day.
2. If the forecasted EXTERNAL TEMPERATURE is not to exceed 85°F:
    a. Continue to monitor EXTERNAL TEMPERATURE and ensure schools are following their heat mitigation protocols.
    b. Consider providing cooling relief for classes 20 minutes every hour where logistically feasible.

If the forecasted EXTERNAL TEMPERATURE will exceed 85°F (with a heat index of 100° or greater):

a. Determine if school closure will be accomplished same day.

b. Analyze forecast for next/following day. If the forecasted EXTERNAL TEMPERATURE is to exceed 85°F (with a heat index of 100° or greater), begin notifications of early school closure based on the DoDDS Heat Closure Schedule.

MISAWA EXTERNAL TEMPERATURE FORECAST LEGEND

ORANGE: Greater than or equal to 75 degrees
RED: Greater than or equal to 80 degrees
RED FILLED: Greater than or equal to 85 degrees

MISAWA HEAT INDEX FORECAST LEGEND

ORANGE: Greater than or equal to 90 degrees
RED: Greater than or equal to 95 degrees
RED FILLED: Greater than or equal to 100 degrees

Lois Rapp

Lois J Rapp

Japan District Superintendent

Heat Index Calculation and Chart

Temperature (in Fahrenheit)

Relative Humidity at Site

	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
100	84	87	91	95	99	103	107	112	116	121	126	132	137	143	149	155	161	168	174	181	188
99	84	87	91	94	98	102	106	111	116	120	125	131	136	142	147	153	160	166	172	179	186
98	84	87	90	94	98	102	106	110	115	120	124	130	135	140	146	152	158	164	171	177	184
97	84	87	90	94	97	101	105	110	114	119	124	129	134	139	145	151	157	163	169	176	182
96	83	87	90	93	97	101	105	109	113	118	123	128	133	138	144	149	155	161	167	174	180
95	83	86	90	93	97	100	104	108	113	117	122	127	132	137	142	148	154	160	166	172	179
94	83	86	89	93	96	100	104	108	112	116	121	126	131	136	141	147	152	158	164	170	177
93	83	86	89	92	96	99	103	107	111	116	120	125	130	135	140	145	151	157	162	169	175
92	83	86	89	92	95	99	103	106	111	115	119	124	129	133	139	144	149	155	161	167	173
91	83	86	89	92	95	98	102	106	110	114	118	123	127	132	137	143	148	154	159	165	171
90	83	86	88	91	95	98	102	105	109	113	117	122	126	131	136	141	147	152	158	164	170
89	83	85	88	91	94	98	101	105	109	113	117	121	125	130	135	140	145	151	156	162	168
88	83	85	88	91	94	97	101	104	108	112	116	120	125	129	134	139	144	149	155	160	166
87	83	85	88	91	94	97	100	104	107	111	115	119	124	128	133	138	143	148	153	159	164
86	83	85	88	90	93	96	100	103	107	110	114	118	123	127	132	136	141	146	152	157	163
85	83	85	87	90	93	96	99	102	106	110	113	117	122	126	130	135	140	145	150	155	161
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83	82	85	87	90	92	95	98	101	105	108	112	116	120	124	128	133	137	142	147	152	158
82	82	85	87	89	92	95	98	101	104	108	111	115	119	123	127	132	136	141	146	151	156
81	82	84	87	89	92	94	97	100	104	107	110	114	118	122	126	131	135	140	144	149	155
80	82	84	86	89	91	94	97	100	103	106	110	113	117	121	125	129	134	138	143	148	153
79	82	84	86	89	91	94	96	99	102	106	109	113	116	120	124	128	133	137	142	146	151
78	82	84	86	88	91	93	96	99	102	105	108	112	115	119	123	127	131	136	140	145	150
77	82	84	86	88	90	93	96	98	101	104	108	111	115	118	122	126	130	135	139	144	148
76	82	84	86	88	90	93	95	98	101	104	107	110	114	117	121	125	129	133	138	142	147
75	82	84	85	88	90	92	95	97	100	103	106	109	113	116	120	124	128	132	136	141	145
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69								95	97	100	102	105	108	111	115	118	122	125	129	133	137
68								94	97	99	102	105	108	111	114	117	121	124	128	132	136
67								94	96	99	101	104	107	110	113	116	120	123	127	131	135
66								93	96	98	101	103	106	109	112	115	119	122	126	129	133
65								93	95	98	100	103	105	108	111	114	118	121	125	128	132
64								93	95	97	99	102	105	108	110	114	117	120	123	127	131
63								92	94	97	99	101	104	107	110	113	116	119	122	126	130
62								92	94	96	98	101	103	106	109	112	115	118	121	125	128
61								91	93	96	98	100	103	105	108	111	114	117	120	124	127
60								91	93	95	97	100	102	105	107	110	113	116	119	123	126
59								91	93	95	97	99	102	104	107	109	112	115	118	122	125
58								90	92	94	96	99	101	103	106	109	111	114	117	120	124
57								90	92	94	96	98	100	103	105	108	111	113	116	119	123
56								90	92	93	95	98	100	102	105	107	110	113	115	118	122
55								89	91	93	95	97	99	101	104	106	109	112	114	117	120
54								89	91	93	94	96	99	101	103	106	108	111	114	116	119
53								89	90	92	94	96	98	100	103	105	107	110	113	116	118
52								88	90	92	94	96	98	100	102	104	107	109	112	115	117
51								88	90	91	93	95	97	99	101	104	106	108	111	114	116
50								88	89	91	93	95	97	99	101	103	105	108	110	113	115
49								88	89	91	92	94	96	98	100	102	105	107	109	112	115
48								87	89	90	92	94	96	97	100	102	104	106	109	111	114
47								87	88	90	92	93	95	97	99	101	103	105	108	110	113
46								87	88	90	91	93	95	96	98	100	103	105	107	109	112
45								87	88	89	91	92	94	96	98	100	102	104	106	109	111
44								86	88	89	91	92	94	96	97	99	101	103	106	108	110
43								86	87	89	90	92	93	95	97	99	101	103	105	107	109
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40								85	87	88	89	91	92	94	95	97	99	101	103	105	107
39								85	86	88	89	90	92	93	95	97	98	100	102	104	106
38								85	86	87	89	90	91	93	95	96	98	100	102	104	106
37								85	86	87	88	90	91	93	94	96	97	99	101	103	105
36								85	86	87	88	89	91	92	94	95	97	99	100	102	104
35								85	86	87	88	89	90	92	93	95	96	98	100	102	104
34								84	85	86	88	89	90	92	93	94	96	98	99	101	103
33								84	85	86	87	89	90	91	93	94	96	97	99	101	102
32								84	85	86	87	88	90	91	92	94	95	97	98	100	102
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30								84	85	86	87	88	89	90	92	93	94	96	97	99	101
29								84	85	86	87	88	89	90	91	93	94	95	97	98	100
28								84	84	85	86	88	89	90	91	92	94	95	97	98	100
27								83	84	85	86	87	88	90	91	92	93	95	96	98	99
26								83	84	85	86	87	88	89	91	92	93	94	96	97	99
25								83	84	85	86	87	88	89	90	91	93	94	95	97	98
24								83	84	85	86	87	88	89	90	91	92	94	95	96	98
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22								83	84	85	86	87	88	89	90	91	92	93	94	96	97
21								83	84	85	85	86	87	88	89	91	92	93	94	95	97
20								83	84	85	85	86	87	88	89	90	91	93	94	95	96
19	78	79	79	80	81	81	82	83	84	84	85	86	87	88	89	90	91	92	94	95	96
18	78	78	79	80	80	81	82	83	84	84	85	86	87	88	89	90	91	92	93	94	96
17	78	78	79	80	80	81	82	83	84	84	85	86	87	88	89	90	91	92	93	94	95

Under 95 degrees Heat Index

- All sports
  - Provide ample amounts of water. This means that water should always be available and athletes should be able to take in as much water as they desire.
  - Optional water breaks every 30 minutes for 10 minutes in duration
  - Ice-down towels for cooling
  - Watch/monitor athletes carefully for necessary action.

95 degrees to 99 degrees Heat Index

- All sports
  - Provide ample amounts of water. This means that water should always be available and athletes should be able to take in as much water as they desire.
  - Mandatory water breaks every 30 minutes for 10 minutes in duration
  - Ice-down towels for cooling
  - Watch/monitor athletes carefully for necessary action.
- Contact sports and activities with additional equipment
  - Helmets and other possible equipment removed if not involved in contact.
- Reduce time of outside activity. Consider postponing practice to later in the day.
- Re-check temperature and humidity every 30 minutes to monitor for increased Heat Index.

100 degrees to 104 degrees Heat Index

- All sports
  - Provide ample amounts of water. This means that water should always be available and athletes should be able to take in as much water as they desire.
  - Mandatory water breaks every 30 minutes for 10 minutes in duration
  - Ice-down towels for cooling
  - Watch/monitor athletes carefully for necessary action.
  - Alter uniform by removing items if possible
  - Allow for changes to dry t-shirts and shorts.
  - Reduce time of outside activity as well as indoor activity if air conditioning is unavailable.
  - Postpone practice to later in day.
- Contact sports and activities with additional equipment
  - Helmets and other possible equipment removed if not involved in contact or necessary for safety. If necessary for safety, suspend activity.
- Re-check temperature and humidity every 30 minutes to monitor for increased Heat Index.

Above 104 degrees Heat Index

- All Sports
  - Stop all outside activity in practice and/or play, and stop all inside activity if air conditioning is unavailable.