

LEGISLATIVE REPORT

- Subject:** Air Cooling Needs of Each School Complex and Use of Alternative Cooling Methods
- Reference:** Senate Resolution 104, SD1; House Resolution 204, HD1
- Action Requested:** Requests the DOE to study air cooling needs of each school complex and to review the feasibility of using alternative air cooling methods, and develop a strategic plan for air cooling methods in public schools. Submit a final report to the 2008 Legislature.
- DOE Report:** In 2006, Senate Resolution 104, SD1, and House Resolution 204, HD1, requested that the Department of Education (DOE) conduct a study to determine the air cooling needs of each school complex and review the feasibility of using alternative air cooling methods such as fans, heat reduction, insulation, and energy efficient individual air conditioning wall units, and develop a strategic plan for air cooling methods in public schools.
- Findings:** While the DOE concurs with the intent of the resolution, funding for the evaluation needs to be provided. We estimate that the cost for such an evaluation to be approximately \$900,000, which would include information on needed electrical upgrades statewide as requested in the resolution. This sum is based on an average of approximately \$3,500 per school. While a statewide evaluation is ideal, should the total sum not be available, the DOE recommends focusing the evaluation on the warmest schools as funds permit.
- As a first step, the DOE has revised and updated the system by which we determine a school's priority in the DOE's air conditioning project list (see attached). At the time the original ranking system was established in the 1990s, there were limited sources of data available. The new ranking takes advantage of all the data currently available and also utilizes a new scientifically based methodology to determine rankings.
- Recommendations:** The DOE recognizes that although the preferred option would be central air conditioning systems, should funding or other limitations preclude this, the DOE has begun looking at alternative methods to cool classrooms. These are methods that may be more cost effective within specific environmental conditions and may include those listed below:

- A. Insulation of building components
- B. Ceiling fans
- C. Solar vents
- D. Wall unit air conditioning
- E. Split system air conditioning
- F. Central air conditioning
- G. Thermal storage systems

Because each of these options are most advantageous within specific ranges of temperature and other conditions, the next phase in this evaluation would be determining which options would be best in a variety of differing conditions. We envision the evaluation proposed in this resolution to be the means to achieve this determination.

We believe that these steps will help in bringing the DOE closer to establishing a strategic plan for cooling the public schools.

| School | Island | Relative Humidity | Apparent Temperature | | Cooling Load | Rank | Max Temp Rank | Overall Rank |
|---|--------|-------------------|----------------------|----------|--------------|------|---------------|--------------|
| | | | Min Temp | Max Temp | | 76 | | |
| Lokelani Intermediate | MA | 78.8 | 66.4 | 96.7 | 14.10 | 2 | 1 | 1 |
| Barbers Point Elementary | OA | 77.1 | 68.9 | 95.6 | 14.41 | 1 | 4 | 2 |
| Kihei Elementary | MA | 78.8 | 66.3 | 96.5 | 13.91 | 3 | 2 | 2 |
| Kaiulani Elementary | OA | 74.8 | 70.2 | 93.6 | 13.22 | 4 | 10 | 4 |
| Kalakaua Middle | OA | 74.8 | 70.2 | 93.6 | 13.22 | 4 | 10 | 4 |
| Kalihi-kai Elementary | OA | 74.8 | 70.2 | 93.6 | 13.22 | 4 | 10 | 4 |
| Likelike Elementary | OA | 74.8 | 70.2 | 93.6 | 13.22 | 4 | 10 | 4 |
| Moanalua Elementary | OA | 74.8 | 70.2 | 93.6 | 13.22 | 4 | 10 | 4 |
| Salt Lake Elementary | OA | 74.8 | 70.2 | 93.6 | 13.22 | 4 | 10 | 4 |
| Kaunakakai Elementary | MO | 84.8 | 68.8 | 94.4 | 13.20 | 10 | 8 | 10 |
| Aliamanu Elementary | OA | 74.8 | 70.1 | 93.4 | 13.03 | 11 | 16 | 11 |
| Aliamanu Middle | OA | 74.8 | 70.1 | 93.4 | 13.03 | 11 | 16 | 11 |
| Moanalua Middle | OA | 74.8 | 70.1 | 93.4 | 13.03 | 11 | 16 | 11 |
| Farrington High | OA | 74.8 | 70.0 | 93.4 | 12.93 | 14 | 19 | 14 |
| Shafter Elementary | OA | 74.8 | 70.0 | 93.3 | 12.84 | 15 | 22 | 15 |
| Fern Elementary | OA | 74.8 | 70.0 | 93.2 | 12.74 | 16 | 24 | 16 |
| Kalihi-waena Elementary | OA | 74.8 | 70.0 | 93.2 | 12.74 | 16 | 24 | 16 |
| Lanakila Elementary | OA | 74.8 | 70.0 | 93.2 | 12.74 | 16 | 24 | 16 |
| Central Middle | OA | 74.8 | 68.8 | 93.3 | 12.25 | 24 | 20 | 19 |
| Aiea Elementary | OA | 74.8 | 69.9 | 93.1 | 12.64 | 19 | 27 | 20 |
| Moanalua High | OA | 74.8 | 69.9 | 93.1 | 12.64 | 19 | 27 | 20 |
| Royal Elementary | OA | 74.8 | 68.8 | 93.2 | 12.16 | 25 | 23 | 22 |
| Kapalama Elementary | OA | 74.8 | 69.9 | 93.0 | 12.55 | 21 | 29 | 23 |
| Linapuni Elementary | OA | 74.8 | 69.9 | 93.0 | 12.55 | 21 | 29 | 23 |
| Aiea Intermediate | OA | 74.8 | 69.8 | 92.8 | 12.27 | 23 | 32 | 25 |
| Kawananakoa Middle | OA | 74.8 | 68.7 | 93.0 | 11.88 | 26 | 31 | 26 |
| Ala Wai Elementary | OA | 71.0 | 68.9 | 92.3 | 11.36 | 27 | 36 | 27 |
| Jefferson Elementary | OA | 71.0 | 68.9 | 92.3 | 11.36 | 27 | 36 | 27 |
| Lunalilo Elementary | OA | 71.0 | 68.9 | 92.3 | 11.36 | 27 | 36 | 27 |
| McKinley High | OA | 71.0 | 68.9 | 92.3 | 11.36 | 27 | 36 | 27 |
| Aina Haina Elementary | OA | 71.5 | 68.9 | 92.3 | 11.35 | 31 | 33 | 31 |
| Kahala Elementary | OA | 71.5 | 68.9 | 92.3 | 11.35 | 31 | 33 | 31 |
| Kalani High | OA | 71.5 | 68.9 | 92.3 | 11.35 | 31 | 33 | 31 |
| Kaimuki High | OA | 71.0 | 68.9 | 92.2 | 11.28 | 34 | 40 | 34 |
| Washington Middle | OA | 71.0 | 68.9 | 92.2 | 11.28 | 34 | 40 | 34 |
| Kuhio Elementary | OA | 71.0 | 68.9 | 92.1 | 11.19 | 36 | 42 | 36 |
| Waikiki Elementary | OA | 71.0 | 68.9 | 92.1 | 11.19 | 36 | 42 | 36 |
| Hokulani Elementary | OA | 71.0 | 68.8 | 92.0 | 11.02 | 39 | 45 | 38 |
| Webbing Elementary | OA | 74.8 | 69.4 | 91.8 | 11.17 | 38 | 47 | 39 |
| Wilson Elementary | OA | 71.5 | 68.7 | 91.9 | 10.83 | 41 | 46 | 40 |
| Kahakai Elementary | HA | 76.1 | 69.7 | 91.5 | 11.00 | 40 | 49 | 41 |
| Kaimuki Middle | OA | 71.0 | 68.7 | 91.8 | 10.76 | 42 | 48 | 42 |
| Aliiolani Elementary | OA | 71.0 | 68.5 | 91.5 | 10.43 | 43 | 50 | 43 |
| Liholiho Elementary | OA | 71.0 | 68.4 | 91.2 | 10.10 | 44 | 52 | 44 |
| Liliuokalani Elementary | OA | 71.0 | 68.3 | 91.0 | 9.94 | 46 | 54 | 45 |
| Makakilo Elementary | OA | 71.5 | 67.8 | 91.2 | 9.85 | 47 | 53 | 45 |
| Red Hill Elementary | OA | 74.8 | 68.9 | 90.8 | 9.95 | 45 | 55 | 45 |
| Ewa Elementary | OA | 60.2 | 68.9 | 90.0 | 9.31 | 48 | 58 | 48 |
| Kealakehe High | HA | 76.1 | 69.0 | 89.9 | 9.28 | 49 | 60 | 49 |
| Kaleiopuu Elementary | OA | 71.5 | 66.5 | 90.4 | 8.67 | 59 | 56 | 50 |
| Hickam Elementary | OA | 60.2 | 70.2 | 89.2 | 9.19 | 51 | 68 | 51 |
| Mokulele Elementary | OA | 60.2 | 70.2 | 89.2 | 9.11 | 52 | 70 | 52 |
| Nimitz Elementary | OA | 60.2 | 70.2 | 89.2 | 9.11 | 52 | 70 | 52 |
| Pearl Harbor Kai Elementary | OA | 60.2 | 70.2 | 89.2 | 9.11 | 52 | 70 | 52 |
| Waimalu Elementary | OA | 60.2 | 70.2 | 89.2 | 9.11 | 52 | 70 | 52 |
| Kekaha Elementary | KA | 67.5 | 67.0 | 89.9 | 8.44 | 62 | 62 | 56 |
| Waimea Canyon Elementary & Intermediate | KA | 67.5 | 67.0 | 89.9 | 8.44 | 62 | 62 | 56 |
| Waimea High | KA | 67.5 | 67.0 | 89.9 | 8.44 | 62 | 62 | 56 |
| Nanakuli Elementary | OA | 58.9 | 68.7 | 89.2 | 8.50 | 61 | 69 | 59 |
| Makalapa Elementary | OA | 60.2 | 70.0 | 88.9 | 8.82 | 56 | 77 | 60 |
| Pearl Harbor Elementary | OA | 60.2 | 70.0 | 88.9 | 8.82 | 56 | 77 | 60 |
| Haleiwa Elementary | OA | 77.2 | 64.0 | 90.1 | 7.60 | 79 | 57 | 62 |
| Eleele Elementary | KA | 67.5 | 66.6 | 89.2 | 7.74 | 72 | 67 | 63 |

| School | Island | Relative Humidity | Apparent Temperature | | Cooling Load | Rank | Max Temp Rank | Overall Rank |
|---------------------------------|--------|-------------------|----------------------|----------|--------------|------|---------------|--------------|
| | | | Min Temp | Max Temp | | 76 | | |
| Nanakuli High & Intermediate | OA | 58.9 | 68.5 | 89.0 | 8.23 | 66 | 74 | 64 |
| Radford High | OA | 60.2 | 69.9 | 88.8 | 8.68 | 58 | 87 | 65 |
| Waiialua Elementary | OA | 77.2 | 63.9 | 89.9 | 7.46 | 86 | 61 | 66 |
| Pohakea Elementary | OA | 60.2 | 67.3 | 88.9 | 7.73 | 73 | 75 | 67 |
| Kaaawa Elementary | OA | 78.7 | 72.3 | 88.0 | 9.24 | 50 | 100 | 68 |
| Pearl Ridge Elementary | OA | 60.2 | 69.9 | 88.7 | 8.54 | 60 | 92 | 69 |
| Campbell High | OA | 60.2 | 67.3 | 88.9 | 7.67 | 74 | 79 | 70 |
| Ewa Beach Elementary | OA | 60.2 | 67.3 | 88.9 | 7.67 | 74 | 79 | 70 |
| Ilima Intermediate | OA | 60.2 | 67.3 | 88.9 | 7.67 | 74 | 79 | 70 |
| Kaimiloa Elementary | OA | 60.2 | 67.3 | 88.9 | 7.67 | 74 | 79 | 70 |
| Scott Elementary | OA | 60.2 | 69.8 | 88.6 | 8.40 | 65 | 94 | 74 |
| Waiialua High & Intermediate | OA | 77.2 | 63.8 | 89.6 | 7.18 | 96 | 66 | 75 |
| Aiea High | OA | 60.2 | 69.7 | 88.3 | 8.12 | 67 | 97 | 76 |
| Lehua Elementary | OA | 60.2 | 67.2 | 88.8 | 7.61 | 78 | 86 | 76 |
| Highlands Intermediate | OA | 58.8 | 69.7 | 88.0 | 7.83 | 71 | 101 | 78 |
| Lahaina Intermediate | MA | 64.4 | 66.3 | 88.9 | 7.32 | 88 | 84 | 78 |
| Nahienaena Elementary | MA | 64.4 | 66.3 | 88.9 | 7.32 | 88 | 84 | 78 |
| Waipahu Elementary | OA | 60.2 | 67.2 | 88.7 | 7.48 | 83 | 89 | 78 |
| Waipahu High | OA | 60.2 | 67.2 | 88.7 | 7.48 | 83 | 89 | 78 |
| Waipahu Intermediate | OA | 60.2 | 67.2 | 88.7 | 7.48 | 83 | 89 | 78 |
| Makaha Elementary | OA | 72.9 | 68.1 | 88.4 | 7.59 | 80 | 96 | 84 |
| August Ahrens Elementary | OA | 60.2 | 67.1 | 88.6 | 7.35 | 87 | 93 | 85 |
| Waiiau Elementary | OA | 58.8 | 69.5 | 87.7 | 7.56 | 81 | 102 | 86 |
| Kainalu Elementary | OA | 73.5 | 72.3 | 86.9 | 8.12 | 68 | 117 | 87 |
| Mokapu Elementary | OA | 73.5 | 72.3 | 86.9 | 8.12 | 68 | 117 | 87 |
| Honowai Elementary | OA | 60.2 | 67.0 | 88.4 | 7.23 | 95 | 95 | 89 |
| Aikahi Elementary | OA | 73.5 | 72.3 | 86.7 | 7.96 | 70 | 123 | 90 |
| Pearl City Elementary | OA | 58.8 | 67.1 | 88.2 | 7.07 | 97 | 98 | 91 |
| Kapaa Elementary | KA | 78.0 | 70.3 | 87.0 | 7.29 | 90 | 112 | 92 |
| Kapaa High | KA | 78.0 | 70.3 | 87.0 | 7.29 | 90 | 112 | 92 |
| Kapaa Middle | KA | 78.0 | 70.3 | 87.0 | 7.29 | 90 | 112 | 92 |
| Kaumualii Elementary | KA | 78.0 | 70.3 | 87.0 | 7.29 | 90 | 112 | 92 |
| Kalaheo Elementary | KA | 76.9 | 64.8 | 88.2 | 6.34 | 107 | 99 | 96 |
| Pearl City Highlands Elementary | OA | 58.8 | 66.7 | 87.6 | 6.48 | 103 | 104 | 97 |
| Kohala High & Elementary | HA | 76.1 | 67.4 | 87.2 | 6.36 | 104 | 108 | 98 |
| Kohala Middle | HA | 76.1 | 67.4 | 87.2 | 6.36 | 104 | 108 | 98 |
| Kalaheo High | OA | 73.5 | 72.1 | 86.3 | 7.49 | 82 | 132 | 100 |
| Molokai High & Middle | MO | 84.8 | 66.0 | 87.7 | 6.31 | 111 | 103 | 100 |
| Kilohana Elementary | MO | 64.4 | 69.6 | 87.0 | 6.91 | 100 | 116 | 102 |
| Kamakahaiei Middle | KA | 76.9 | 70.3 | 86.8 | 7.07 | 98 | 121 | 103 |
| Kauai High | KA | 76.9 | 70.3 | 86.8 | 7.07 | 98 | 121 | 103 |
| Kealakehe Elementary | HA | 76.1 | 67.6 | 87.1 | 6.32 | 109 | 110 | 103 |
| Kealakehe Intermediate | HA | 76.1 | 67.6 | 87.1 | 6.32 | 109 | 110 | 103 |
| Pearl City High | OA | 58.8 | 68.9 | 86.8 | 6.56 | 101 | 120 | 107 |
| Manana Elementary | OA | 58.8 | 66.6 | 87.4 | 6.26 | 116 | 106 | 108 |
| Lahainaluna High | MA | 64.4 | 65.5 | 87.6 | 6.11 | 120 | 105 | 109 |
| Wilcox Elementary | KA | 78.0 | 70.0 | 86.4 | 6.55 | 102 | 131 | 110 |
| Momilani Elementary | OA | 58.8 | 68.8 | 86.6 | 6.32 | 108 | 126 | 111 |
| Kailua Elementary | OA | 69.1 | 72.3 | 85.9 | 7.25 | 94 | 141 | 112 |
| Kahului Elementary | MA | 52.7 | 67.3 | 86.8 | 6.02 | 121 | 119 | 113 |
| Hahaione Elementary | OA | 71.5 | 69.5 | 86.3 | 6.29 | 112 | 133 | 114 |
| Koko Head Elementary | OA | 71.5 | 69.5 | 86.3 | 6.29 | 112 | 133 | 114 |
| Koloa Elementary | KA | 76.9 | 70.0 | 86.1 | 6.35 | 106 | 139 | 114 |
| Niu Valley Middle | OA | 71.5 | 69.5 | 86.3 | 6.29 | 112 | 133 | 114 |
| Pope Elementary | OA | 71.5 | 69.5 | 86.3 | 6.29 | 112 | 133 | 114 |
| Lihikai Elementary | MA | 52.7 | 67.2 | 86.6 | 5.81 | 128 | 124 | 119 |
| Maui High | MA | 52.7 | 67.2 | 86.6 | 5.81 | 128 | 124 | 119 |
| Kaiser High | OA | 71.5 | 69.5 | 86.1 | 6.16 | 117 | 140 | 121 |
| Maui Waena Intermediate | MA | 52.7 | 67.1 | 86.4 | 5.61 | 132 | 129 | 122 |
| Waihee Elementary | MA | 52.7 | 67.1 | 86.4 | 5.61 | 132 | 129 | 122 |
| Hauula Elementary | OA | 79.0 | 70.1 | 85.8 | 6.14 | 118 | 144 | 124 |
| Laie Elementary | OA | 79.0 | 70.1 | 85.8 | 6.14 | 118 | 144 | 124 |
| Kailua Intermediate | OA | 69.1 | 69.6 | 85.9 | 6.01 | 122 | 143 | 126 |

| School | Island | Relative Humidity | Apparent Temperature | | Cooling Load | Rank | Max Temp Rank | Overall Rank |
|-------------------------------------|--------|-------------------|----------------------|----------|--------------|------|---------------|--------------|
| | | | Min Temp | Max Temp | | 76 | | |
| Kamiloiki Elementary | OA | 71.5 | 69.3 | 85.9 | 5.91 | 124 | 142 | 127 |
| Kanoelani Elementary | OA | 58.8 | 66.0 | 86.5 | 5.40 | 138 | 128 | 127 |
| Sunset Beach Elementary | OA | 58.0 | 64.9 | 86.6 | 5.18 | 145 | 127 | 129 |
| Baldwin High | MA | 52.7 | 66.9 | 86.2 | 5.41 | 137 | 138 | 130 |
| Enchanted Lake Elementary | OA | 69.1 | 69.5 | 85.8 | 5.88 | 125 | 150 | 130 |
| Kaelepulu Elementary | OA | 69.1 | 69.5 | 85.8 | 5.88 | 125 | 150 | 130 |
| Waimanalo Elementary & Intermediate | OA | 69.1 | 69.5 | 85.8 | 5.88 | 125 | 150 | 130 |
| Kahuku High & Intermediate | OA | 79.0 | 70.0 | 85.7 | 6.00 | 123 | 153 | 134 |
| Keolu Elementary | OA | 69.1 | 69.5 | 85.7 | 5.76 | 130 | 155 | 135 |
| Kahuku Elementary | OA | 79.0 | 69.8 | 85.5 | 5.73 | 131 | 161 | 136 |
| Wailupe Valley Elementary | OA | 71.5 | 69.1 | 85.5 | 5.53 | 135 | 160 | 137 |
| Waianae High | OA | 58.9 | 68.2 | 85.6 | 5.31 | 140 | 156 | 138 |
| Iao Intermediate | MA | 52.7 | 66.6 | 85.8 | 5.02 | 152 | 146 | 139 |
| Hookena Elementary | HA | 76.1 | 62.5 | 86.2 | 4.42 | 163 | 137 | 140 |
| Kamaile Elementary | OA | 58.9 | 68.2 | 85.6 | 5.25 | 143 | 158 | 141 |
| Waianae Intermediate | OA | 58.9 | 68.2 | 85.6 | 5.25 | 143 | 158 | 141 |
| Hilo Intermediate | HA | 78.3 | 66.1 | 85.8 | 4.86 | 155 | 147 | 143 |
| Waiakea Elementary | HA | 78.3 | 66.1 | 85.8 | 4.86 | 155 | 147 | 143 |
| Waiakea Intermediate | HA | 78.3 | 66.1 | 85.8 | 4.86 | 155 | 147 | 143 |
| Kailua High | OA | 69.1 | 69.3 | 85.3 | 5.40 | 139 | 165 | 146 |
| Puohala Elementary | OA | 73.5 | 70.2 | 85.1 | 5.53 | 136 | 171 | 147 |
| Hanalei Elementary | KA | 64.1 | 70.7 | 84.9 | 5.55 | 134 | 177 | 148 |
| Olomana | OA | 69.1 | 69.1 | 85.1 | 5.16 | 146 | 170 | 149 |
| Waianae Elementary | OA | 58.9 | 64.0 | 85.7 | 4.33 | 164 | 154 | 150 |
| Maunaloa Elementary | MO | 84.8 | 64.9 | 85.6 | 4.44 | 162 | 157 | 151 |
| Kahaluu Elementary | OA | 73.5 | 70.1 | 84.8 | 5.28 | 141 | 179 | 152 |
| Parker Elementary | OA | 73.5 | 70.1 | 84.8 | 5.28 | 141 | 179 | 152 |
| Wailuku Elementary | MA | 52.7 | 66.3 | 85.4 | 4.65 | 160 | 162 | 154 |
| Paia Elementary | MA | 52.7 | 66.3 | 85.3 | 4.56 | 161 | 164 | 155 |
| Maunawili Elementary | OA | 69.1 | 69.0 | 85.0 | 5.05 | 151 | 175 | 156 |
| Castle High | OA | 73.5 | 70.0 | 84.7 | 5.16 | 147 | 181 | 157 |
| Kapunahala Elementary | OA | 73.5 | 70.0 | 84.7 | 5.16 | 147 | 181 | 157 |
| King Intermediate | OA | 73.5 | 70.0 | 84.7 | 5.16 | 147 | 181 | 157 |
| Waiahole Elementary | OA | 73.5 | 70.0 | 84.7 | 5.16 | 147 | 181 | 157 |
| Keaau Middle | HA | 78.3 | 65.7 | 85.1 | 4.31 | 167 | 166 | 161 |
| Waiakeawaena Elementary | HA | 78.3 | 65.7 | 85.1 | 4.31 | 167 | 166 | 161 |
| Hana High & Elementary | MA | 79.1 | 67.9 | 84.9 | 4.66 | 159 | 176 | 163 |
| Leihoku Elementary | OA | 58.9 | 63.8 | 85.4 | 4.07 | 172 | 163 | 163 |
| Ahuimanu Elementary | OA | 73.5 | 69.8 | 84.5 | 4.92 | 153 | 188 | 165 |
| Heeia Elementary | OA | 73.5 | 69.8 | 84.5 | 4.92 | 153 | 188 | 165 |
| Kaala Elementary | OA | 78.7 | 63.8 | 85.0 | 3.81 | 174 | 172 | 167 |
| Wheeler Elementary | OA | 78.7 | 63.8 | 85.0 | 3.81 | 174 | 172 | 167 |
| Wheeler Middle | OA | 78.7 | 63.8 | 85.0 | 3.81 | 174 | 172 | 167 |
| Pauoa Elementary | OA | 74.8 | 67.7 | 84.6 | 4.33 | 165 | 185 | 170 |
| Stevenson Middle | OA | 74.8 | 67.7 | 84.6 | 4.33 | 165 | 185 | 170 |
| Kaneohe Elementary | OA | 73.5 | 69.7 | 84.3 | 4.69 | 158 | 196 | 172 |
| Dole Middle | OA | 74.8 | 67.6 | 84.4 | 4.22 | 169 | 190 | 173 |
| Wahiawa Middle | OA | 78.7 | 63.7 | 84.9 | 3.72 | 181 | 178 | 173 |
| Kaewai Elementary | OA | 74.8 | 67.5 | 84.3 | 4.12 | 170 | 192 | 175 |
| Roosevelt High | OA | 74.8 | 67.5 | 84.3 | 4.12 | 170 | 192 | 175 |
| Kearnae Elementary | MA | 79.1 | 65.1 | 84.5 | 3.73 | 179 | 187 | 177 |
| Hale Kula Elementary | OA | 76.2 | 63.7 | 84.4 | 3.42 | 187 | 191 | 178 |
| Maemae Elementary | OA | 74.8 | 67.3 | 83.9 | 3.77 | 177 | 201 | 178 |
| Naalehu Elementary & Intermediate | HA | 76.1 | 66.0 | 84.2 | 3.71 | 182 | 197 | 180 |
| Mauka Lani Elementary | OA | 71.5 | 64.2 | 84.3 | 3.43 | 186 | 194 | 181 |
| Noelani Elementary | OA | 71.0 | 67.6 | 83.8 | 3.76 | 178 | 203 | 182 |
| Kalihi-uka Elementary | OA | 74.8 | 67.2 | 83.9 | 3.72 | 180 | 202 | 183 |
| Kilauea Elementary | KA | 64.1 | 69.6 | 83.4 | 3.94 | 173 | 209 | 183 |
| Wahiawa Elementary | OA | 78.7 | 63.4 | 84.3 | 3.27 | 190 | 195 | 185 |
| Helemano Elementary | OA | 78.7 | 63.3 | 84.1 | 3.18 | 191 | 198 | 186 |
| Jarrett Middle | OA | 71.0 | 67.4 | 83.6 | 3.57 | 183 | 206 | 186 |
| Leilehua High | OA | 78.7 | 63.3 | 84.1 | 3.18 | 191 | 198 | 186 |
| Lincoln Elementary | OA | 74.8 | 67.1 | 83.6 | 3.53 | 184 | 205 | 186 |

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|---|--------|-------------------|----------------------|----------|--------------|------|---------------|--------------|
| | | | Min Temp | Max Temp | | 76 | | |
| Manoa Elementary | OA | 71.0 | 67.4 | 83.5 | 3.48 | 185 | 207 | 190 |
| Solomon Elementary | OA | 76.2 | 63.4 | 84.0 | 3.09 | 193 | 200 | 191 |
| Waikoloa Elementary | HA | 76.1 | 65.4 | 83.8 | 3.30 | 189 | 204 | 191 |
| Palolo Elementary | OA | 71.0 | 67.2 | 83.3 | 3.31 | 188 | 210 | 193 |
| Nuuanu Elementary | OA | 74.8 | 66.7 | 83.1 | 3.04 | 194 | 212 | 194 |
| Iliahi Elementary | OA | 78.7 | 62.9 | 83.4 | 2.70 | 200 | 208 | 195 |
| Kalihi Elementary | OA | 74.8 | 66.7 | 83.0 | 3.00 | 195 | 213 | 195 |
| Hilo Union Elementary | HA | 57.3 | 66.5 | 82.8 | 2.86 | 196 | 214 | 197 |
| Kapiolani Elementary | HA | 57.3 | 66.5 | 82.8 | 2.86 | 196 | 214 | 197 |
| Waiakea High | HA | 57.3 | 66.5 | 82.8 | 2.86 | 196 | 214 | 197 |
| Anuenue Elementary | OA | 71.0 | 66.8 | 82.7 | 2.81 | 199 | 220 | 200 |
| Pahoa High, Intermediate, & Elementary | HA | 78.3 | 64.3 | 82.8 | 2.51 | 204 | 217 | 201 |
| Kipapa Elementary | OA | 58.8 | 64.4 | 82.7 | 2.45 | 205 | 218 | 202 |
| Mililani High | OA | 58.8 | 64.4 | 82.7 | 2.45 | 205 | 218 | 202 |
| Haaheo Elementary | HA | 57.3 | 66.1 | 82.4 | 2.52 | 201 | 223 | 204 |
| Hilo High | HA | 57.3 | 66.1 | 82.4 | 2.52 | 201 | 223 | 204 |
| Kalaniana'ole Elementary & Intermediate | HA | 57.3 | 66.1 | 82.4 | 2.52 | 201 | 223 | 204 |
| Mililani-waena Elementary | OA | 58.8 | 64.3 | 82.6 | 2.39 | 207 | 221 | 207 |
| Honaunau Elementary | HA | 76.1 | 62.7 | 82.6 | 2.19 | 208 | 222 | 208 |
| DeSilva Elementary | HA | 65.0 | 65.0 | 82.1 | 2.17 | 209 | 228 | 209 |
| Kau High & Pahala Elementary | HA | 65.0 | 63.8 | 82.1 | 2.04 | 210 | 227 | 209 |
| Holualoa Elementary | HA | 76.1 | 62.0 | 81.6 | 1.60 | 214 | 231 | 211 |
| Mililani-uka Elementary | OA | 58.8 | 68.3 | 80.6 | 1.70 | 211 | 234 | 211 |
| Palisades Elementary | OA | 58.8 | 68.3 | 80.6 | 1.70 | 211 | 234 | 211 |
| Laupahoehoe High & Elementary | HA | 57.3 | 67.3 | 80.7 | 1.63 | 213 | 233 | 214 |
| Haiku Elementary | MA | 52.7 | 64.7 | 80.5 | 1.30 | 215 | 236 | 215 |
| Kaumana Elementary | HA | 65.0 | 63.2 | 80.1 | 0.98 | 216 | 238 | 216 |
| Konawaena Middle & High | HA | 76.1 | 60.9 | 80.3 | 0.93 | 217 | 237 | 216 |
| Paauiolo Elementary & Intermediate | HA | 65.0 | 65.5 | 79.6 | 0.90 | 218 | 239 | 218 |
| Honokaa High & Intermediate | HA | 65.0 | 64.8 | 78.9 | 0.60 | 219 | 241 | 219 |
| Pukalani Elementary | MA | 78.8 | 61.2 | 79.2 | 0.56 | 220 | 240 | 219 |
| Honokaa Elementary | HA | 65.0 | 64.5 | 78.6 | 0.48 | 221 | 243 | 221 |
| Mountain View Elementary | HA | 78.3 | 63.7 | 78.6 | 0.46 | 222 | 242 | 221 |
| Makawao Elementary | MA | 79.1 | 60.7 | 78.6 | 0.37 | 223 | 244 | 223 |
| Kalama Intermediate | MA | 78.8 | 60.5 | 78.4 | 0.33 | 224 | 245 | 224 |
| Lanai High & Elementary | LA | 64.4 | 62.8 | 78.0 | 0.27 | 225 | 246 | 225 |
| Kekaulike High | MA | 78.8 | 59.5 | 77.6 | 0.14 | 226 | 247 | 226 |
| Kula Elementary | MA | 78.8 | 56.7 | 77.5 | 0.11 | 227 | 248 | 227 |
| Waimea Elementary & Middle | HA | 76.1 | 57.7 | 77.3 | 0.08 | 228 | 249 | 228 |
| Holomua Elementary | OA | 60.2 | 67.2 | 88.7 | 0.00 | N/A | N/A | N/A |
| Iroquois Point Elementary | OA | 60.2 | 67.3 | 88.9 | 0.00 | N/A | N/A | N/A |
| Kaahumanu Elementary | OA | 71.0 | 68.9 | 92.1 | 0.00 | N/A | N/A | N/A |
| Kamalii Elementary | MA | 78.8 | 66.1 | 95.9 | 0.00 | N/A | N/A | N/A |
| Kamehameha III Elementary | MA | 64.4 | 67.5 | 91.3 | 0.00 | N/A | N/A | N/A |
| Kapolei Elementary | OA | 77.1 | 68.9 | 95.5 | 0.00 | N/A | N/A | N/A |
| Kapolei High | OA | 77.1 | 68.9 | 95.6 | 0.00 | N/A | N/A | N/A |
| Kapolei Middle | OA | 77.1 | 68.9 | 95.5 | 0.00 | N/A | N/A | N/A |
| Kauluwela Elementary | OA | 74.8 | 68.8 | 93.3 | 0.00 | N/A | N/A | N/A |
| Keaau Elementary | HA | 78.3 | 65.7 | 85.1 | 0.00 | N/A | N/A | N/A |
| Keaau High | HA | 78.3 | 65.7 | 85.1 | 0.00 | N/A | N/A | N/A |
| Keaukaha Elementary | HA | 57.3 | 66.8 | 83.3 | 0.00 | N/A | N/A | N/A |
| Keoneula Elementary (Ocean Point) | OA | 60.2 | 67.3 | 88.9 | 0.00 | N/A | N/A | N/A |
| Konawaena Elementary | HA | 76.1 | 61.2 | 80.7 | 0.00 | N/A | N/A | N/A |
| Maili Elementary | OA | 58.9 | 69.1 | 89.9 | 0.00 | N/A | N/A | N/A |
| Mililani Ike Elementary | OA | 58.8 | 63.7 | 81.9 | 0.00 | N/A | N/A | N/A |
| Mililani Mauka Elementary | OA | 58.8 | 64.0 | 82.3 | 0.00 | N/A | N/A | N/A |
| Mililani Middle | OA | 58.8 | 63.7 | 81.9 | 0.00 | N/A | N/A | N/A |
| Nanaikapono Elementary | OA | 58.9 | 69.1 | 90.0 | 0.00 | N/A | N/A | N/A |
| Puuhale Elementary | OA | 74.8 | 70.2 | 93.7 | 0.00 | N/A | N/A | N/A |
| Waikele Elementary | OA | 58.8 | 66.5 | 87.3 | 0.00 | N/A | N/A | N/A |