WMO Headings for Gridded LAMP (GLMP) Products

WMO headings have the format of T₁T₂A₁A₂ii CCCC

1. The CCCC for all Gridded LAMP (GLMP) product WMO headings is KMDL.

2. The T₁ for all GLMP products is L.

3. The T₂ represents the weather element type designator. Values for 0-hour observation T₂ are:
   - A = temperature at sensor height (nominally, 2 m)
   - B = dew point temperature at sensor height (nominally, 2 m)
   - C = ceiling height
   - D = visibility
   - E = opaque sky cover
   - F = wind speed (nominally, 10 m)
   - G = wind direction (nominally, 10 m)

   Values for 1-25 hour forecast T₂ are:
   - K = temperature at sensor height (nominally, 2 m)
   - L = dew point temperature at sensor height (nominally, 2 m)
   - M = ceiling height
   - N = visibility
   - O = opaque sky cover
   - P = wind speed (nominally, 10 m)
   - Q = wind direction (nominally, 10 m)

   Note that T₂ skips letters between 0-hour observation and 1-25 forecast grids so that elements can be added in the future and subsequent to the appropriate list, observations or forecasts.

4. The A₁ designates the geographical area. This implementation is over CONUS only and therefore
   - A₁=U

5. As there are multiple grids for GLMP 0-hour temperature and dew point elements and there is the possibility of multiple grids for the GLMP elements in the future (i.e. forecast
probability grids), A₂ for individual element headers will represent those multiple grids per element. The ii will represent the cycle time for the observation grids and number of hours past cycle time for the forecast grids.

6. Since there will be multiple GRIB2 messages for the GLMP forecast grids in the same file, they will be grouped under a superheader where the A₂ and ii will be “Z” and “98”, respectively, when being routed to the tgftp at the TOC for NDGD. As there will only be one grid per header for the GLMP observations, superheaders will not be necessary for those grids.

**GLMP 0-hour observation grids:**

LAUAIi KMDL - Temperature
LAUBii KMDL - Temperature Error Estimation
LBUIi KMDL - Dew Point
LBUBii KMDL - Dew Point Error Estimation
LCUAIi KMDL - Ceiling Height
LDUAIi KMDL – Visibility
LEUAIi KMDL – Opaque Sky Cover
LFUAIi KMDL – Wind Speed
LGUAIi KMDL – Wind Direction

ii = valid UTC hour (00-23)

**GLMP 1-25 hour forecast grids:**

LKUAIi KMDL - Temperature
LLUAIi KMDL - Dew Point
LMUAIi KMDL - Ceiling Height
LNUAIi KMDL – Visibility
LOUAIi KMDL – Opaque Sky Cover
LPUAII KMDL – Wind Speed
LQUAIi KMDL – Wind Direction

ii = forecast projection (01-25)
Table 1: Superheaders and individual headers and product sizes for Gridded LAMP products. Gridded LAMP products with individual headers commenced routing to experimental NDGD on August 22, 2011. Gridded LAMP observational grid products, which have individual headers, and Gridded LAMP forecast grid products, which will have individual headers as well as super headers, will be routed to operational NDGD, the Satellite Broadcast Network, and NOAAPORT beginning on December 17, 2012.

<table>
<thead>
<tr>
<th>Element</th>
<th>Superheader</th>
<th>Product Headers</th>
<th>Geographical Area</th>
<th>No. of Products per cycle</th>
<th>Projections (hr)</th>
<th>Estimated maximum Bytes per header/cycle *</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-hr Observed Temperature</td>
<td>N/A</td>
<td>LAUAii KMDL ii = valid hour in UTC (00-23)</td>
<td>CONUS</td>
<td>1</td>
<td>N/A</td>
<td>1MB/1MB</td>
</tr>
<tr>
<td>Error Estimate of 0-hr Observed Temperature</td>
<td>N/A</td>
<td>LAUBii KMDL ii = valid hour in UTC (00-23)</td>
<td>CONUS</td>
<td>1</td>
<td>N/A</td>
<td>0.75MB/0.75MB</td>
</tr>
<tr>
<td>0-hr Observed Dew Point</td>
<td>N/A</td>
<td>LBUAii KMDL ii = valid hour in UTC (00-23)</td>
<td>CONUS</td>
<td>1</td>
<td>N/A</td>
<td>1MB/1MB</td>
</tr>
<tr>
<td>Error Estimate of 0-hr Observed Dew Point</td>
<td>N/A</td>
<td>LBUBii KMDL ii = valid hour in UTC (00-23)</td>
<td>CONUS</td>
<td>1</td>
<td>N/A</td>
<td>0.75MB/0.75MB</td>
</tr>
<tr>
<td>0-hr Observed Ceiling Height</td>
<td>N/A</td>
<td>LCUAii KMDL ii = valid hour in UTC (00-23)</td>
<td>CONUS</td>
<td>1</td>
<td>N/A</td>
<td>1MB/1MB</td>
</tr>
<tr>
<td>0-hr Observed Visibility</td>
<td>N/A</td>
<td>LDUAii KMDL ii = valid hour in UTC (00-23)</td>
<td>CONUS</td>
<td>1</td>
<td>N/A</td>
<td>1MB/1MB</td>
</tr>
<tr>
<td>0-hr Observed Opaque Sky Cover</td>
<td>N/A</td>
<td>LEUAla KMDL ii = valid hour in UTC (00-23)</td>
<td>CONUS</td>
<td>1</td>
<td>N/A</td>
<td>1MB/1MB</td>
</tr>
<tr>
<td>0-hr Observed Wind Speed</td>
<td>N/A</td>
<td>LFUAla KMDL ii = valid hour in UTC (00-23)</td>
<td>CONUS</td>
<td>1</td>
<td>N/A</td>
<td>1MB/1MB</td>
</tr>
<tr>
<td>0-hr Observed Wind Direction</td>
<td>N/A</td>
<td>LGUAla KMDL ii = valid hour in UTC (00-23)</td>
<td>CONUS</td>
<td>1</td>
<td>N/A</td>
<td>1MB/1MB</td>
</tr>
<tr>
<td>Forecasted Temperature</td>
<td>LKU98 KMDL</td>
<td>LKUAii KMDL ii = forecast projection (01-25)</td>
<td>CONUS</td>
<td>25</td>
<td>1-25 (in increments of 1 hour)</td>
<td>0.8MB/20MB</td>
</tr>
<tr>
<td>Forecasted Dew Point</td>
<td>LLU98 KMDL</td>
<td>LKUAii KMDL ii = forecast projection (01-25)</td>
<td>CONUS</td>
<td>25</td>
<td>1-25 (in increments of 1 hour)</td>
<td>0.8MB/20MB</td>
</tr>
<tr>
<td>Forecasted Ceiling Height</td>
<td>LMU98 KMDL</td>
<td>LMUAii KMDL ii = forecast</td>
<td>CONUS</td>
<td>25</td>
<td>1-25 (in increments of 1 hour)</td>
<td>1MB/25MB</td>
</tr>
<tr>
<td>Forecasted Visibility</td>
<td>LNUZ98 KMDL</td>
<td>LNUAii KMDL ii = forecast projection (01-25)</td>
<td>CONUS</td>
<td>25</td>
<td>1-25 (in increments of 1 hour)</td>
<td>1MB/25MB</td>
</tr>
<tr>
<td>-----------------------</td>
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<td>---------------------------------------------</td>
<td>-------</td>
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<td>-------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Forecasted Opaque Sky Cover</td>
<td>LOUZ98 KMDL</td>
<td>LOUAii KMDL ii = forecast projection (01-25)</td>
<td>CONUS</td>
<td>25</td>
<td>1-25 (in increments of 1 hour)</td>
<td>0.8MB/20MB</td>
</tr>
<tr>
<td>Forecasted Wind Speed</td>
<td>LPUZ98 KMDL</td>
<td>LPUAii KMDL ii = forecast projection (01-25)</td>
<td>CONUS</td>
<td>25</td>
<td>1-25 (in increments of 1 hour)</td>
<td>0.8MB/20MB</td>
</tr>
<tr>
<td>Forecasted Wind Direction</td>
<td>LQUZ98 KMDL</td>
<td>LQUAii KMDL ii = forecast projection (01-25)</td>
<td>CONUS</td>
<td>25</td>
<td>1-25 (in increments of 1 hour)</td>
<td>1MB/25MB</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>184</td>
<td></td>
</tr>
</tbody>
</table>

* Note: since file sizes differ by day depending on the actual weather and therefore the values encoded, this is an estimate for what the largest size might be.