Compare Temperature, NDVI, and Albedo among Different Land Covers

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July 21th
Localized Polygons (Replicas)
Replica 1
Replica 2
Replica 3
Replica 4
Date

- March
- April
- June
- July
- August
- Oct28
- Jan 27 (snow)
Variables

- Albedo_Liang
- Albedo_Tasumi
- Albedo_Mean
- Surface Temperature
- NDVI
- Air Temperature
- Temperature Difference (DT)
- Insolation
Albedo_Liang
Albedo_Tasumi

Albedo_Tasumi

Albedo_Tasumi

Albedo_Tasumi

Albedo_Tasumi

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Albedo_Tasumi

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Albedo_Tasumi

Albedo_Tasumi

Albedo_Tasumi

Albedo_Tasumi

Albedo_Tasumi

Albedo_Tasumi
Insolation (W/m²)
Air Temperature (K)
Air Temperature (K)

Two line graphs showing air temperature over months for different types of landcover:
- Conifer
- Deciduous
- Grass
- Urban
- Water

The graphs show peaks in temperature during specific months, with differences in temperature levels between the types of landcover.
Air Temperature (K)_replica 5

![Graph showing air temperature over months with different environments: Conifer, Deciduous, Grass, Urban, and Water. The graph indicates a peak in temperature around the 3rd month, with temperatures dropping significantly after the 6th month.]
Surface Temperature (K)
Temperature Difference (DT)
**ASTER**

- Bands: VNIR (3), SWIR (4-9), TIR (10-14)
- NDVI: \((\text{VIR}3-\text{VIR}2)/(\text{VIR}3+\text{VIR}2)\)
- Albedo (Liang, 2000)
  - \(0.484\alpha_1 + 0.335\alpha_3 - 0.324\alpha_5 + 0.551\alpha_6 + 0.305\alpha_8 - 0.367\alpha_9 - 0.0015\)
- Surface Temperature (Daytime and Night time)
<table>
<thead>
<tr>
<th>Short Name</th>
<th>Level</th>
<th>Parameter Name</th>
<th>Production Mode</th>
<th>Units</th>
<th>Absolute Accuracy</th>
<th>Relative Accuracy</th>
<th>Horizontal Resolution (m)</th>
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<tbody>
<tr>
<td>AST_06V</td>
<td>2</td>
<td>Decorrelation stretch - VNIR</td>
<td>routine</td>
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<td>N/A</td>
<td>N/A</td>
<td>15</td>
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<td>AST_06S</td>
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<td>Decorrelation stretch - SWIR</td>
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<td>N/A</td>
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<td>Decorrelation stretch - TIR</td>
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<td>AST_04</td>
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<td>on-demand</td>
<td>degrees C</td>
<td>1-2 C</td>
<td>0.3 C</td>
<td>90</td>
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<tr>
<td>AST_07</td>
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<td>Surface reflectance VNIR, SWIR</td>
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<td>4%</td>
<td>1%</td>
<td>15, 30</td>
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<td>AST_09</td>
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<td>Surface radiance VNIR, SWIR</td>
<td>on-demand</td>
<td>W/m²/sr/μm</td>
<td>2%</td>
<td>1%</td>
<td>15, 30</td>
</tr>
<tr>
<td>AST_09T</td>
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<td>Surface radiance TIR</td>
<td>on-demand</td>
<td>W/m²/sr/μm</td>
<td>2%</td>
<td>1%</td>
<td>90</td>
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<td>3%</td>
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<td>AST14DEM</td>
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<td>Digital elevation model (DEM)</td>
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<td>m</td>
<td>&gt;= 7 m</td>
<td>&gt;= 10 m</td>
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Table 3: ASTER Higher-Level Standard Data Products.