BigFoot
LAI Seasonal Trajectory
Grassland

Year: 2002
Site: TUND (Alaska, USA)
Biome: Arctic Tundra

![Graph showing LAI trajectory for grass in 2002 at TUND, with a peak at midsummer.](image-url)
BigFoot
Meteorological Inputs

Year: 2002
Site: TUND (Alaska, USA)
Biome: Arctic Tundra

Precipitation (cm)

Minimum Temperature (°C)

Maximum Temperature (°C)

Vapor Pressure Deficit (kPa)

Shortwave Radiation (MJ m\(^{-2}\) d\(^{-1}\))

PAR (MJ m\(^{-2}\) d\(^{-1}\))
BigFoot
GPP Comparison
BigFoot vs. Tower

Year: 2002
Site: TUND (Alaska, USA)
Biome: Arctic Tundra

```
Day of Year
0 60 120 180 240 300 360

GPP (gC m^-2 d^-1)
0
1
2
3
4
```

```
GPP (gC m^-2 d^-1)

Tower
BigFoot
```

```
RMSE = 0.27
```

```
Tower GPP (gC m^-2 d^-1)
0 1 2 3 4

BigFoot GPP (gC m^-2 d^-1)
0 1 2 3

0 1 2 3 4
```

```
0
1
2
3
4
```
BigFoot GPP Comparison
BigFoot vs. MODIS

Year: 2002
Site: TUND (Alaska, USA)
Biome: Arctic Tundra

BigFoot GPP (gC m\(^{-2}\) d\(^{-1}\))

MODIS GPP (gC m\(^{-2}\) d\(^{-1}\))

Day of Year

GPP (gC m\(^{-2}\) d\(^{-1}\))

MODIS
BigFoot

RMSE = 0.49

MODIS GPP (gC m\(^{-2}\) d\(^{-1}\))

BigFoot GPP (gC m\(^{-2}\) d\(^{-1}\))

RMSE = 0.49
BigFoot
NPP Comparison
BigFoot vs. MODIS

Year: 2002
Site: TUND (Alaska, USA)
Biome: Arctic Tundra

BigFoot MODIS

NPP (gC m\(^{-2}\) yr\(^{-1}\))

<table>
<thead>
<tr>
<th></th>
<th>BigFoot</th>
<th>MODIS</th>
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</thead>
<tbody>
<tr>
<td>NPP</td>
<td>60</td>
<td>80</td>
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</table>

The graph compares NPP (net primary productivity) for BigFoot and MODIS, with MODIS showing significantly higher productivity compared to BigFoot.
BigFoot Carbon Flux Comparison
BigFoot vs. MODIS

Year: 2002
Site: TUND (Alaska, USA)
Biome: Arctic Tundra

![Carbon Flux Comparison Graph](image)

- **BigFoot vs. MODIS**
- **Carbon Flux (gC m⁻² yr⁻¹)**
  - Net Primary Production
  - Autotrophic Respiration

- **Legend**
  - Black: Net Primary Production
  - Gray: Autotrophic Respiration
BigFoot
Meteorological Comparison
Tower vs. DAO*

Year: 2002
Site: TUND (Alaska, USA)
Biome: Arctic Tundra

PAR (MJ m\(^{-2}\) d\(^{-1}\))

<table>
<thead>
<tr>
<th></th>
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<th>DAO</th>
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<tbody>
<tr>
<td>03</td>
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<td>15</td>
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Minimum Temperature (°C)

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<tr>
<td>-40</td>
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<td>0</td>
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<td>20</td>
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Vapor Pressure Deficit (kPa)

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<tr>
<td>0.0</td>
<td>0.2</td>
<td>0.4</td>
</tr>
<tr>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
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* DAO – Data Assimilation Office
BigFoot
LAI Comparison
BigFoot vs. MODIS

Year: 2002
Site: TUND (Alaska, USA)
Biome: Arctic Tundra
Year: 2002
Site: TUND (Alaska, USA)
Biome: Arctic Tundra

BigFoot
LUE Comparison
BigFoot vs. MODIS

![Graph showing Light Use Efficiency (gC MJ⁻¹) over Day of Year for BigFoot and MODIS. The graph displays a comparison between the two models over the course of a year, with peaks and troughs indicating variations in LUE throughout the year.]