3. Seasonal Forecasting and Energy
High and Low Temperature Climatology for Kodiak, AK

PADO Climatology

Instantaneous time series

Normalized Frequency

Normalized Frequency

Normalized Frequency

Normalized Frequency

Normalized Frequency

Normalized Frequency

Normalized Frequency
100-Day Moving Average

100-Day Moving Average
JFM Precipitation Distribution for Climate Div. #093 (S CA)

- 90th Percentile: 90% of the historical observations for this location and season lie below this value.
- 87th Percentile: 67% of the historical observations for this location and season lie below this value.
- 50th Percentile: 50% of the historical observations for this location and season lie below this value.
- 33rd Percentile: 33% of the historical observations for this location and season lie below this value.
- 10th Percentile: 10% of the historical observations for this location and season lie below this value.
Operational Configuration for CFSv2 real time forecasts

- 9 month run (4)
- 1 season run (3)
- 45 day run (9)

CFSv2 monthly T2m probability forecast for Mar2017

IC: 20Feb2017
IC: 21Feb2017
IC: 22Feb2017
IC: 23Feb2017
IC: 24Feb2017
IC: 25Feb2017
IC: 26Feb2017
IC: 27Feb2017
IC: 28Feb2017
Seasonal Temperature Skill at 0.5 month lead

Better than climatology

No Skill

Worse than climatology

Peng et al. 2012

Seasonal Precipitation Skill at 0.5 month lead

Peng et al. 2012
New York State HDDs and CDDs

Data Source: NYSERDA

Year

Degree Days (F)

Consumption (GW/capita)

HDD + CDD
Residential Consumption per Capita

Data Source: NYSERDA
Seasonal Cycle of Electricity Load (MW)

a. NYC/Long Island
b. Capital District

January and July NYC/LI Electricity Load and Dry-Bulb Temperature 5 pm

a. January
b. July

Adamchick (2015) M.S. Thesis
Malaria endemicity

Target areas for malaria prevention measures based on seasonal rainfall

Cairns et al. 2012
### Table 1. Selected scenarios representing water management, ranching, and wildland fire management decision-making situations in the southwest United States.

<table>
<thead>
<tr>
<th>Decision-making situation</th>
<th>When forecasts issued (months)</th>
<th>Season of interest (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water management scenario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td>Aug–Oct</td>
<td>Dec–May</td>
</tr>
<tr>
<td>Winter, upper Colorado</td>
<td>Dec–Apr</td>
<td>Jan–Sep</td>
</tr>
<tr>
<td>Winter, lower Colorado</td>
<td>Dec–Feb</td>
<td>Jan–May</td>
</tr>
<tr>
<td>Spring</td>
<td>Dec–May</td>
<td>Jun–Sep</td>
</tr>
<tr>
<td>Cattle ranching scenario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summer</td>
<td>Apr–May</td>
<td>Jul–Sep</td>
</tr>
<tr>
<td>Winter</td>
<td>Oct–Nov</td>
<td>Dec–Mar</td>
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<tr>
<td>Fire management scenario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td>Jan–Mar</td>
<td>Apr–Jul</td>
</tr>
</tbody>
</table>

**Diagram:**

The diagram illustrates normal conditions with convective circulation and a thermocline. The equator is marked with a specific latitude, and the diagram includes arrows indicating the direction of circulation. The longitude labels are 120°E and 80°W.
El Niño Conditions

La Niña Conditions
DJF Temperatures

El Niño Anomalies

La Niña Anomalies

DJF Precipitation

El Niño Anomalies

La Niña Anomalies
SST Anomaly in Nino 3.4 Region (5N-5S, 120-170W)

Mid-Feb IRI/CPC Model-Based Probabilistic ENSO Forecast

National Centers for Environmental Information / NESDIS / NOAA

International Research Institute for Climate and Society @ Columbia University