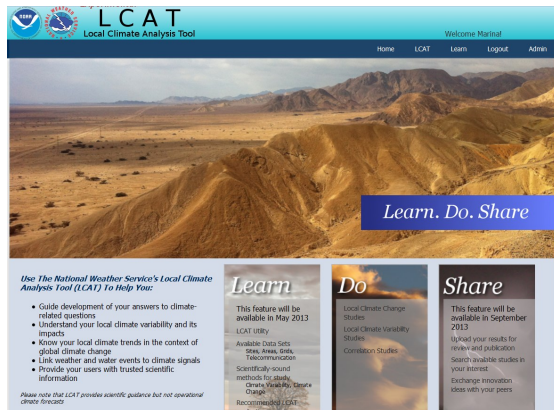


Local Climate Analysis Tool (LCAT)

What is LCAT?

LCAT is an online interactive tool that enables NOAA offices and technically savvy users to conduct regional and local climate studies using state-of-the-art station and reanalysis gridded data and best practices for climate analysis.



Why LCAT?

LCAT will better enable NOAA to respond to the needs of the American public.

LCAT supports and enhances NOAA's ability to access, manipulate, and interpret local climate data, facilitate development of forecasts making weather-climate linkages, and characterize climate variability and change impacts on various water and weather elements.

How is LCAT Useful?

LCAT will increase user competence in local climate impacts on water and weather elements. For example, LCAT can be used as a resource in providing information on weather and water extreme events linked to climate signals in a fast, scientifically sound way.



What will LCAT do?

- Identify climate variability and change impacts on weather and water elements
- Identify climate signals that impact coastal and marine ecosystems and resources
- Enhance climate studies and assessments with local impact information
- Provide easy-to-use interface for accessing NOAA climate data for regional and local studies
- Guide climate-informed water resources decisions
- Assist with graphics and interpretation through training features

LCAT produces on-the-fly reports of statistical analysis that allows quick response to user requests for climate information and data.

<http://nws.weather.gov/lcat/>

LCAT-1328118442_7036 Climate Change Impacts Report Save this output for later

Results

Data Statistics

Mean:	9.60 Degrees F
Median:	8.90 Degrees F
Mode:	4.0 Degrees F
Standard Deviation:	4.908

Trend Performance

Root Mean Square Error	
Hinge with anchor at 1975:	4.71
Exponentially Weighted Moving Average (Alpha=10):	4.16
CPC Optimal Climate Normal (10-Year Moving Average):	5.16

Time Series Analysis

Metadata

Data Set:	Climate Division Data	Climate Division ID:	17
Variable:	Average Temperature (degrees F)	Climate Division Territory:	Western North Dakota

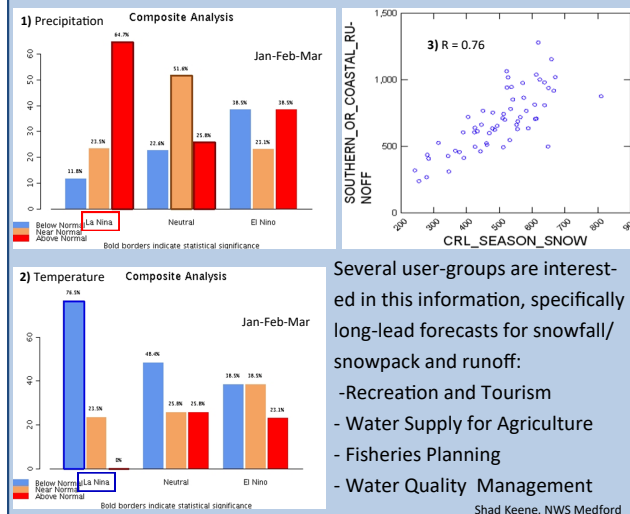
Request

Analysis Type:	Time Series Analysis	Parameters	
Time Scale:	3-Month Average (Seasonal)	Multiple trends requested by user:	
Time Period:	Dec-Jan-Feb	Trend #1:	Hinge (1975)
Data Period:	1950-2010	Trend #2:	OCU (10yr)
		Trend #3:	EWMA (10yr)

Rate of Change Based on Chosen Trends

Example: Crater Lake Snowfall, La Niña and LCAT

Typically during a La Niña event, (1) total precipitation is above normal and (2) average temperature is below normal. These conditions favor increased snowfall, which leads to above normal snowpack. Annual snowfall shows (3) good correlation with annual Southern Oregon Coastal runoff.



What are the Benefits of LCAT?

- Augments current climate reference materials with information pertinent to the local and regional levels as they apply to diverse variables appropriate to each locality.
- Closes a very critical gap in NOAA local climate services because it allows analysis of climate variables beyond average temperature and total precipitation.
- Utility by partners allows streamlined climate analysis and enhanced data sharing and communication.



LCAT: Five Areas of Analysis

1) Climate Change Impacts

- * Trend analysis
- * Rate of change

Is the temperature changing in my town?

2) Climate Variability Impacts

- * Compositing
- * Box plots

Can we expect more rainfall during La Nina events?

3) Drought Analysis & Impacts

- * Drought Index analysis

How does this year's drought compare to previous droughts?

4) Water Resources Applications

- * Snowfall analysis

What is the trend in snowfall in my area?

5) Attribution of Extreme Events

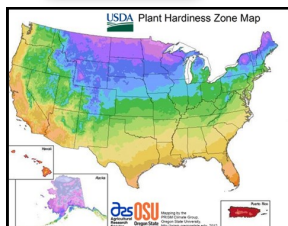
- * Degree day analysis

What are the risks for the energy sector in a changing climate?

Future of LCAT

Incorporation of special data sets will enhance Impact-based Decision Support Services (IDSS) capabilities by providing integrated environmental services and allowing users to study important climate-societal impacts including the following:

- * Arctic Analysis—coming soon
- * Reanalysis data—coming soon
- * Water/sea level
- * Wind and solar data
- * Extremes
- * Gridded model data
- * Health-related climate impacts



Contacts:

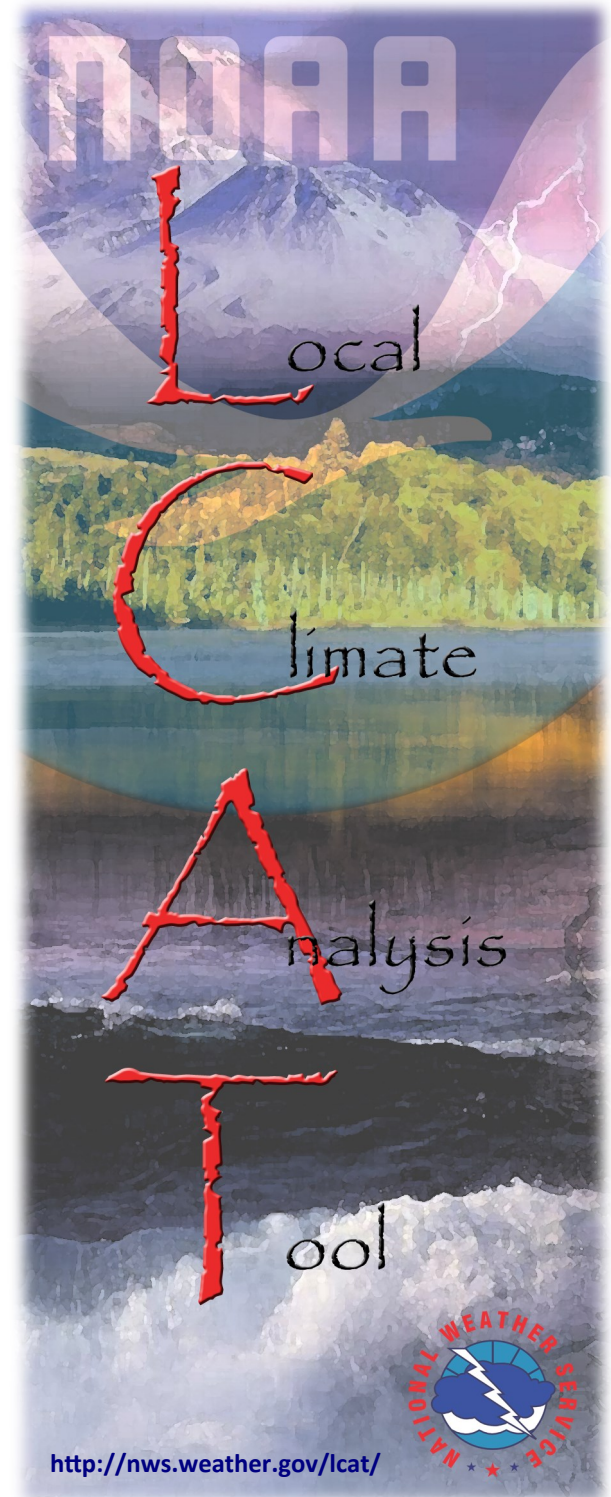
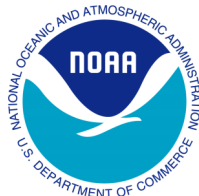
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Register for an account today!



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