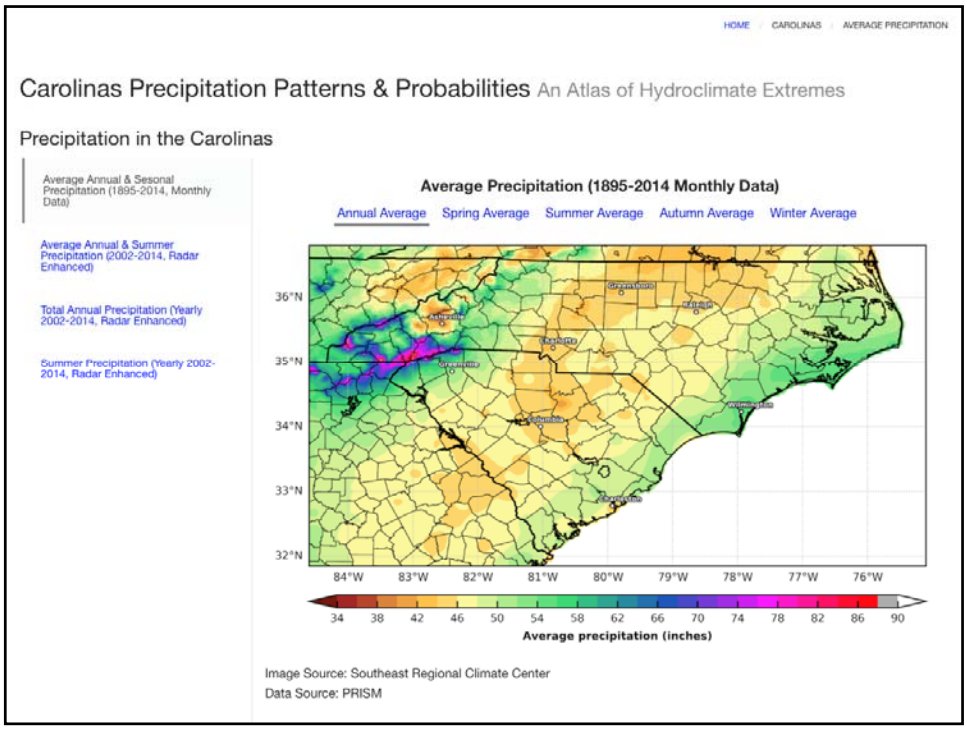
A Hydroclimate Extremes Atlas for the Carolinas

cisa.sc.edu/atlas



HOME / CAROLINAS / HEAVY PRECIPITATION

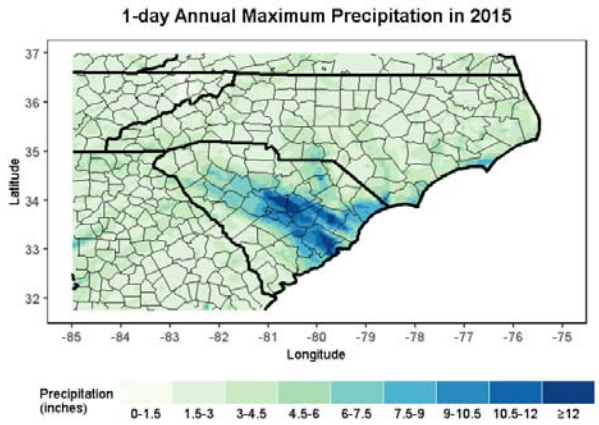
Carolinas Precipitation Patterns & Probabilities An Atlas of Hydroclimate Extremes

Heavy Precipitation in the Carolinas (1981 –)

Each grid cell is evaluated independently: precipitation maxima may occur on different days.

Event Length: 1-day events

Year: 2015



Data Source: 4-km gridded PRISM precipitation dataset, PRISM Climate Data

HOME / CAROLINAS / SPI GRIDDED MAPS / COMPARE SPI MAPS

Carolinas Precipitation Patterns & Probabilities An Atlas of Hydroclimate Extremes

Historical SPI Maps for the Carolinas

Drag slider to show more of each map

Left Side Map

SPI Length (months): SPI 1

Year: 2015

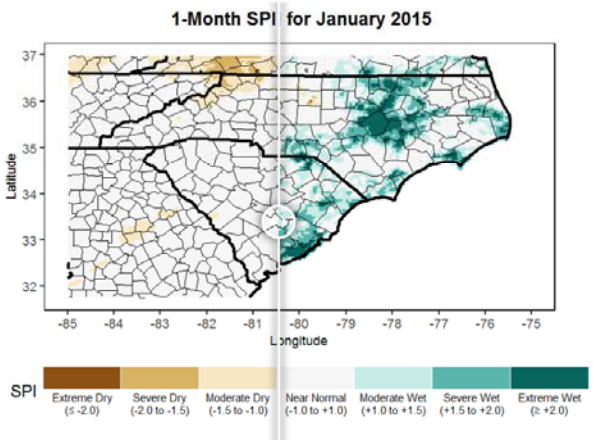
Month: January

Right Side Map

SPI Length (months): SPI 24

Year: 2015

Month: January



Data Source: 4-km gridded PRISM precipitation dataset, PRISM Climate Data

HOME / CLIMATE DIVISIONS IN THE CAROLINAS

Carolinas Precipitation Patterns & Probabilities An Atlas of Hydroclimate Extremes

Climate Divisions in the Carolinas

North Carolina

1. Southern Mountains
2. Northern Mountains
3. Northern Piedmont
4. Central Piedmont
5. Southern Piedmont
6. Southern Coastal Plain
7. Central Coastal Plain
8. Northern Coastal Plain

South Carolina

1. Mountain
2. Northwest
3. North Central
4. Northeast
5. West Central
6. Central
7. Southern

HOME / REGIONAL / AVERAGE MONTHLY PRECIPITATION

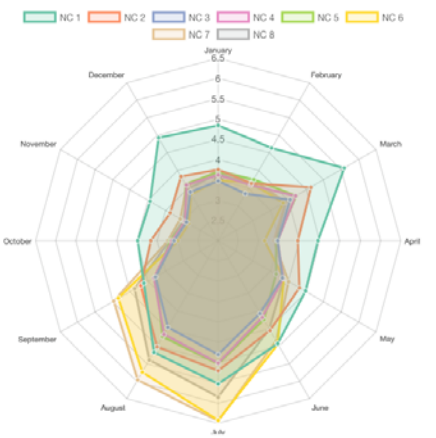
Carolinas Precipitation Patterns & Probabilities An Atlas of Hydroclimate Extremes

Average Monthly Precipitation by Climate Division

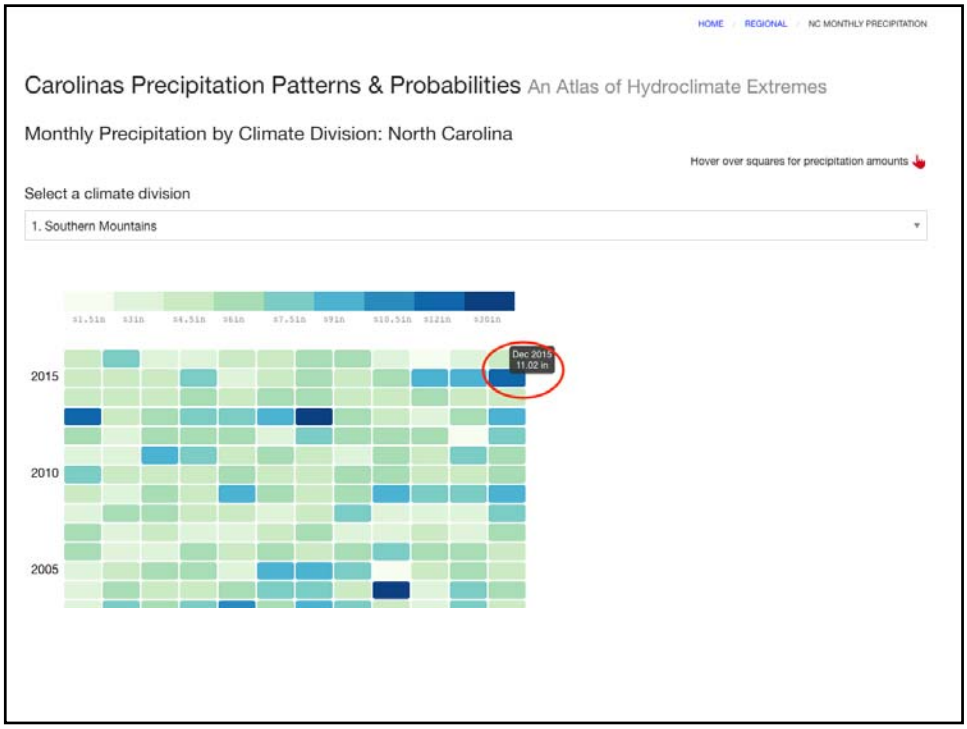
North Carolina

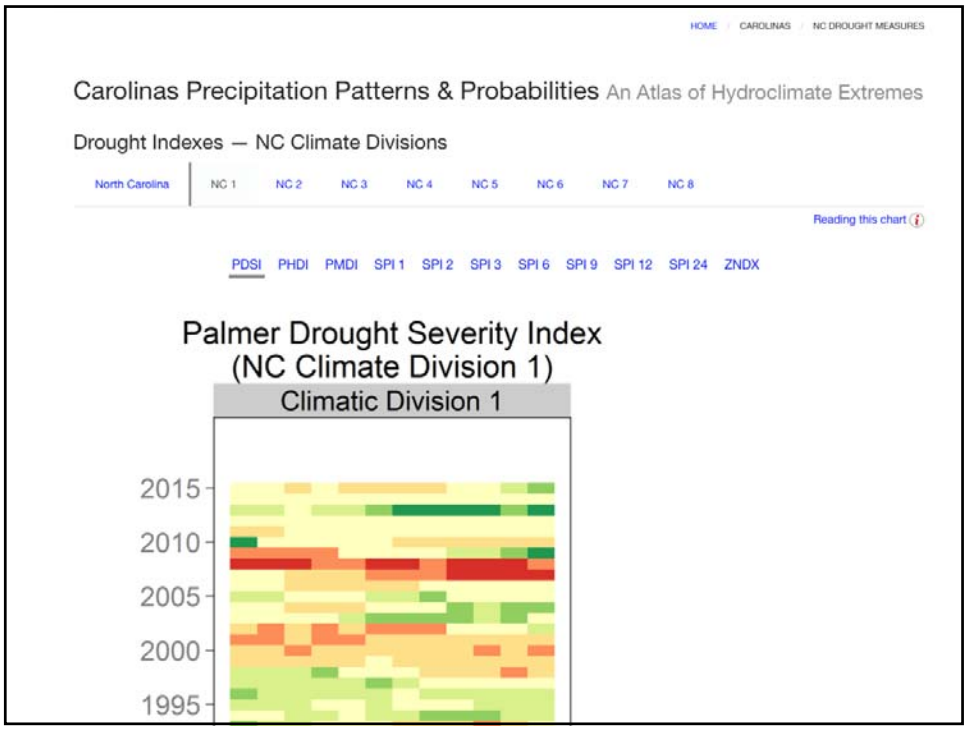
South Carolina

Click on legend items to hide or reveal data



Data Source: NOAA's Satellite and Information Service | National Environmental Satellite, Data, and Information Service (NESDIS)


HOME / REGIONAL / NC MONTHLY PRECIPITATION
Carolinas Precipitation Patterns & Probabilities An Atlas of Hydroclimate Extremes
Monthly Precipitation by Climate Division: North Carolina
Hover over squares for precipitation amounts
Select a climate division
1. Southern Mountains
≤1.5in ≤3in ≤4.5in ≤6in ≤7.5in ≤9in ≤10.5in ≤12in >12in
Dec 2015
11.02 in
2015
2010
2005

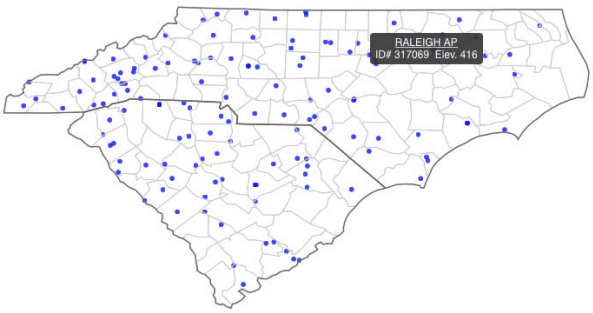

HOME / CAROLINAS / NC DROUGHT MEASURES
Carolinas Precipitation Patterns & Probabilities An Atlas of Hydroclimate Extremes
Drought Indexes — NC Climate Divisions
North Carolina
NC 1
NC 2
NC 3
NC 4
NC 5
NC 6
NC 7
NC 8
Reading this chart
PDSI PHDI PMDI SPI 1 SPI 2 SPI 3 SPI 6 SPI 9 SPI 12 SPI 24 ZNDX
Palmer Drought Severity Index
(NC Climate Division 1)
Climatic Division 1
2015
2010
2005
2000
1995

HOME / STATIONS IN THE CAROLINAS

Carolinas Precipitation Patterns & Probabilities An Atlas of Hydroclimate Extremes

Weather Stations in the Carolinas

Hover over points for station name and link



Source: Stations selected from the NWS and NWS cooperative stations in the Carolinas with long records (> 60 years) missing less than 10% of data.

North Carolina

- Albemarle
- Andrews
- Asheboro 2 W
- Asheville FAA AP
- Louisburg
- Lumberton
- Marion 2 NW
- Marshall

South Carolina

- Aiken 5SE
- Anderson
- Anderson FAA AP
- Antreville
- Gaston Shoals
- Givhans Ferry 2 ESE
- Great Falls
- Greenwood

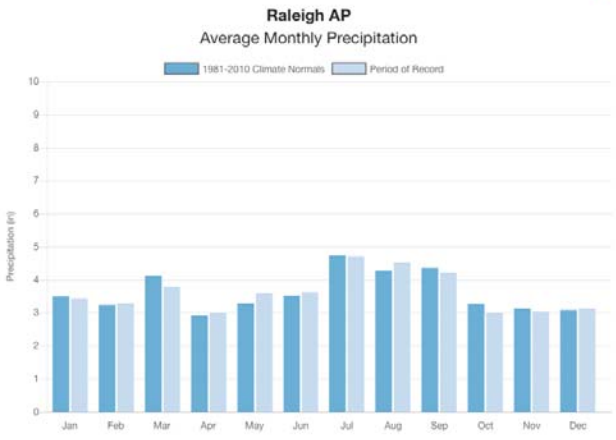
HOME / WEATHER STATIONS / RALEIGH AP

Carolinas Precipitation Patterns & Probabilities An Atlas of Hydroclimate Extremes

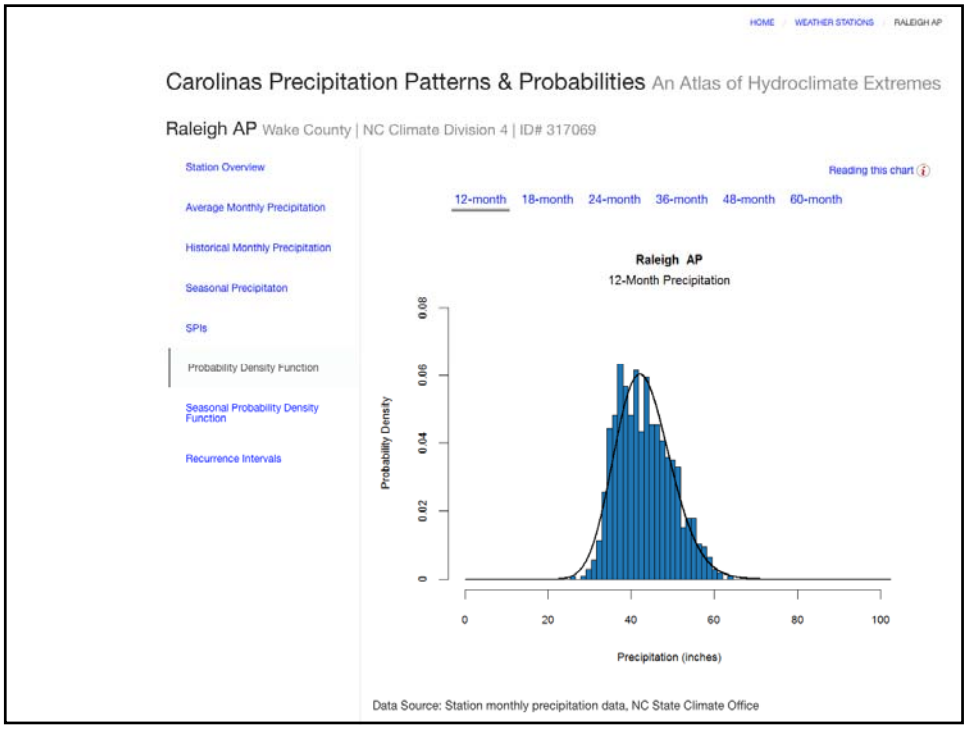
Raleigh AP Wake County | NC Climate Division 4 | ID# 317069

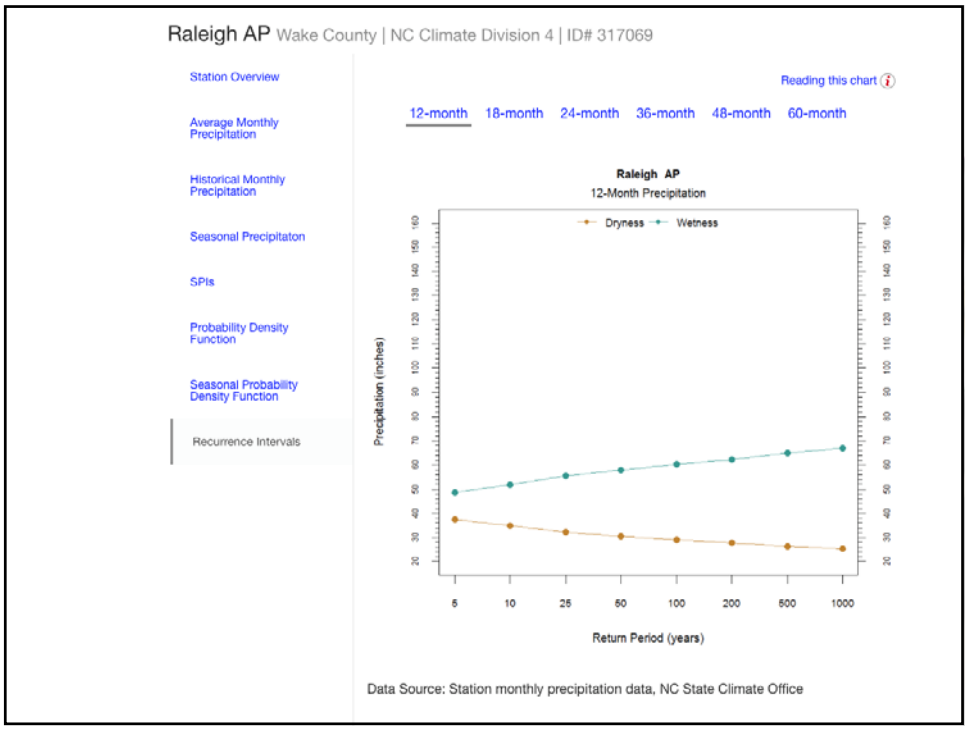
- Station Overview
- Average Monthly Precipitation
- Historical Monthly Precipitation
- Seasonal Precipitaton
- SPIs
- Probability Density Function
- Seasonal Probability Density Function
- Recurrence Intervals

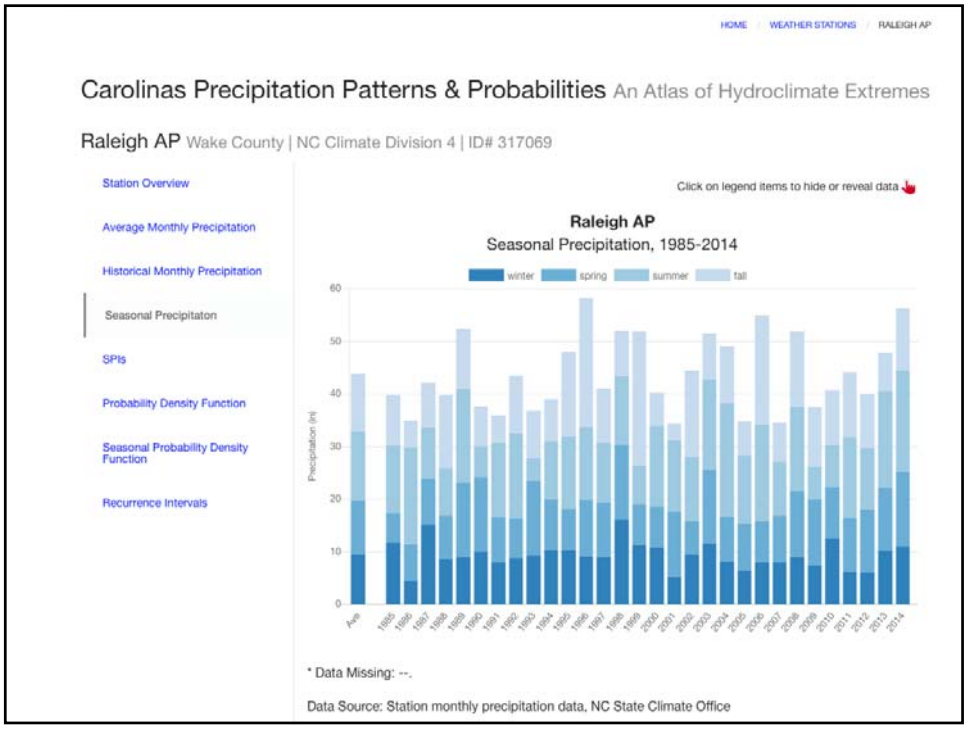
Click on legend items to hide or reveal data

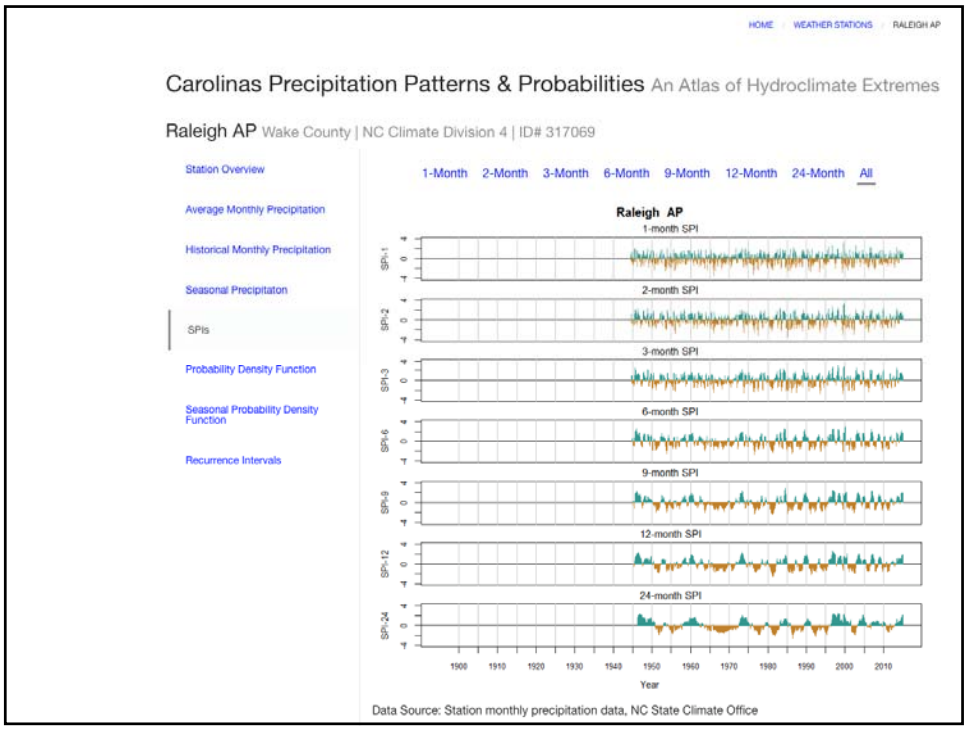


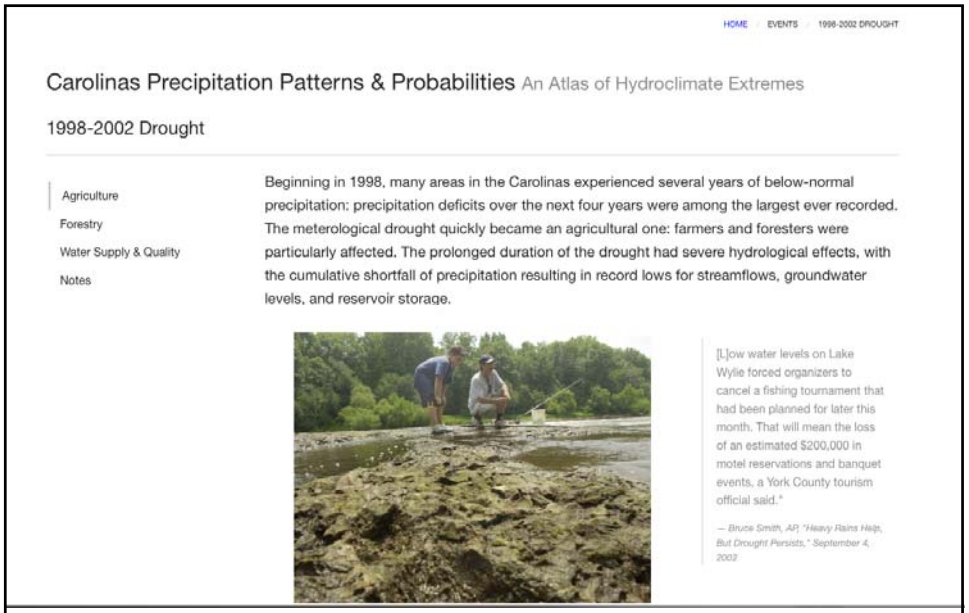
Data Source: Period of Record — Station monthly precipitation data, NC State Climate Office; Climate Normals (if available) — NOAA's National Centers for Environmental Information (NCEI)


HOME
WEATHER STATIONS
RALEIGH AP
Carolinas Precipitation Patterns & Probabilities An Atlas of Hydroclimate Extremes
Raleigh AP Wake County | NC Climate Division 4 | ID# 317069
Station Overview
Average Monthly Precipitation
Historical Monthly Precipitation
Seasonal Precipitaton
SPIs
Probability Density Function
Seasonal Probability Density Function
Recurrence Intervals
Reading this chart
12-month 18-month 24-month 36-month 48-month 60-month
Raleigh AP
12-Month Precipitation
Probability Density
0 0.02 0.04 0.06 0.08
0 20 40 60 80 100
Precipitation (inches)
Data Source: Station monthly precipitation data, NC State Climate Office


Raleigh AP Wake County | NC Climate Division 4 | ID# 317069
Station Overview
Average Monthly Precipitation
Historical Monthly Precipitation
Seasonal Precipitaton
SPIs
Probability Density Function
Seasonal Probability Density Function
Recurrence Intervals
Reading this chart
12-month 18-month 24-month 36-month 48-month 60-month
Raleigh AP
12-Month Precipitation
Dryness
Wetness
Precipitation (inches)
20 30 40 50 60 70 80 90 100 110 120 130 140 150 160
5 10 25 50 100 200 500 1000
Return Period (years)
Data Source: Station monthly precipitation data, NC State Climate Office


HOME / WEATHER STATIONS / RALEIGH AP
Carolinas Precipitation Patterns & Probabilities An Atlas of Hydroclimate Extremes
Raleigh AP Wake County | NC Climate Division 4 | ID# 317069
Station Overview
Average Monthly Precipitation
Historical Monthly Precipitation
Seasonal Precipitaton
SPIs
Probability Density Function
Seasonal Probability Density Function
Recurrence Intervals
Click on legend items to hide or reveal data
Raleigh AP
Seasonal Precipitation, 1985-2014
winter spring summer fall
Precipitation (in)
* Data Missing: --.
Data Source: Station monthly precipitation data, NC State Climate Office


HOME / WEATHER STATIONS / RALEIGH AP
Carolinas Precipitation Patterns & Probabilities An Atlas of Hydroclimate Extremes
Raleigh AP Wake County | NC Climate Division 4 | ID# 317069
Station Overview
Average Monthly Precipitation
Historical Monthly Precipitation
Seasonal Precipitaton
SPIs
Probability Density Function
Seasonal Probability Density Function
Recurrence Intervals
1-Month 2-Month 3-Month 6-Month 9-Month 12-Month 24-Month All
Raleigh AP
1-month SPI
2-month SPI
3-month SPI
6-month SPI
9-month SPI
12-month SPI
24-month SPI
Year
Data Source: Station monthly precipitation data, NC State Climate Office



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