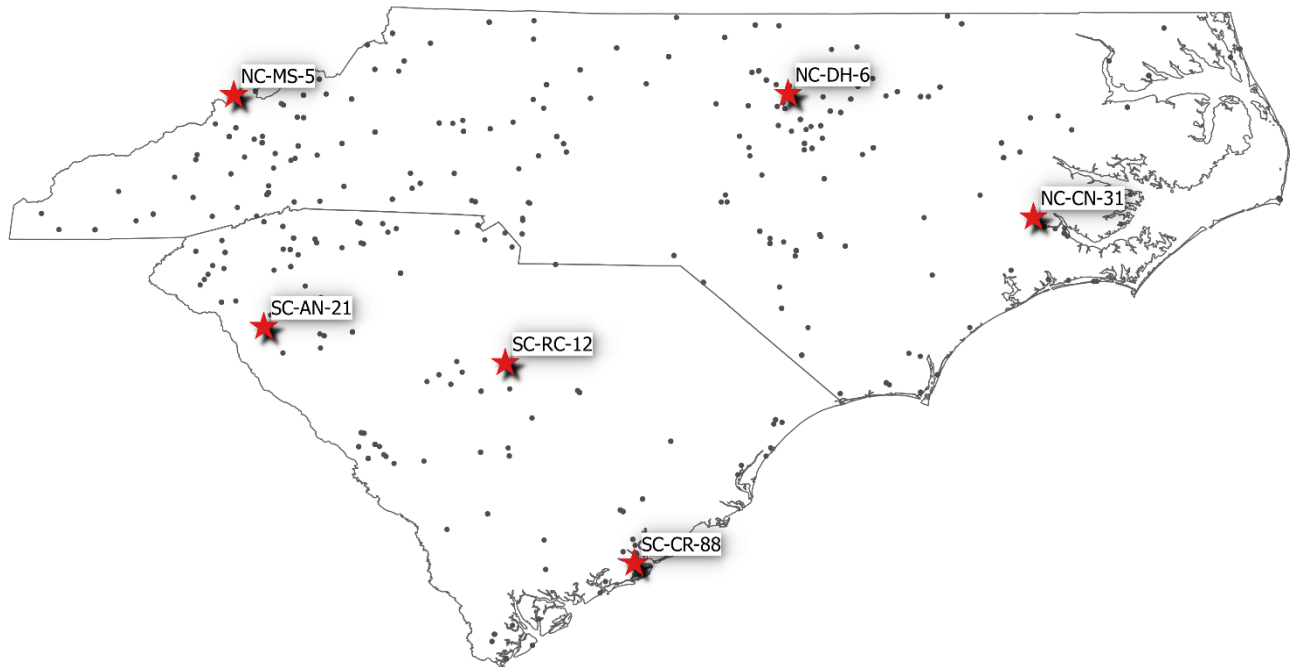


## Case Study Observers

Six observers were selected as case studies due to demonstrated consistency in submitting condition monitoring reports (number and frequency) and inclusion of a variety of information in their reports.

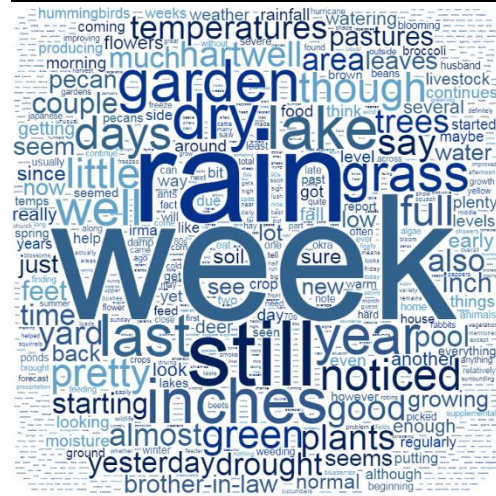


*Observers selected for case study are marked with red stars on map above.*

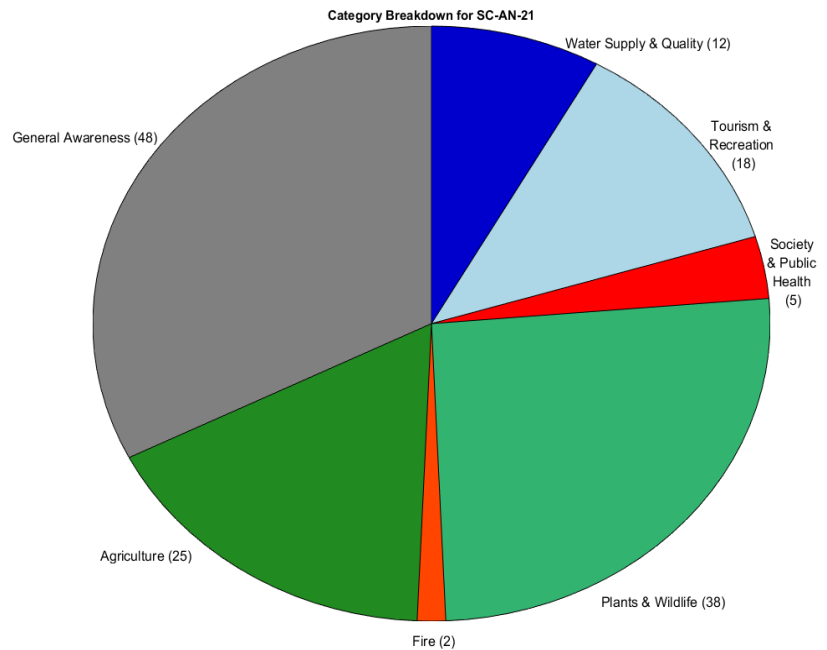
Each Observer page includes the following information:

- CoCoRaHS Station Name and Number
- Table of observer characteristics
- Word Cloud created using the observer's condition monitoring reports
- Results table from Condition Monitoring Scale Bar Analysis
  - The highest correlations between an observer's scale bar selections and the drought indices (SPI & SPEI) are highlighted. Time scales for the closest correlations vary by observer.
- Pie chart of condition monitoring report content with respect to the 10 impact reporting categories available to select on the CoCoRaHS Condition Monitoring report form and the National Drought Impact Reporter.
  - The number of category references refers to self-selected report categories in the observer's reports submitted between October 1, 2016 and October 10, 2017.
- Examples of the observers' condition monitoring reports

<b>County</b>	Anderson
<b>Watershed (HUC8)</b>	Upper Savannah River
<b>CoCoRaHS Observer Since</b>	July 19, 2009
<b>2016-2017 Water Year Days Reported</b>	354
<b>Condition Monitoring Reporter Since</b>	October 23, 2016
<b>Condition Monitoring Reports Submitted thru October 10, 2017</b>	49



Month	SPI to Scale Bar		SPEI to Scale Bar	
Duration	Pearson	Spearman	Pearson	Spearman
1	0.58	0.61	0.67	0.66
2	0.75	0.81	0.82	0.83
3	0.86	0.90	0.89	0.89
6	0.84	0.82	0.81	0.74
9	0.79	0.78	0.76	0.75
12	0.34	0.39	0.39	0.42



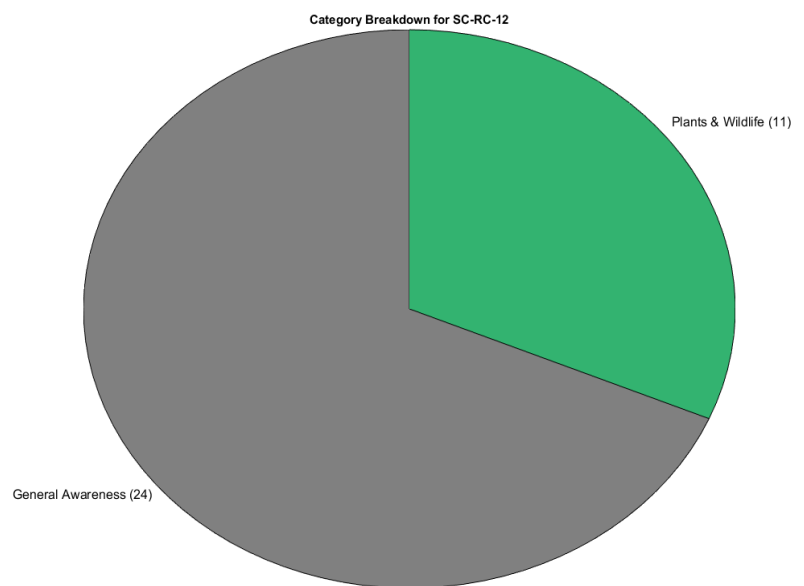
**January 1, 2017:** Happy New Year! This week as I was working in the garden I noticed that, even though we haven't had a ton of rain, the soil is still relatively damp. I guess the cooler temps have allowed the rain that we've had to stay in the soil longer. The pecan crop is harvested weighing in at about 230 pounds of cracked pecans! Obviously a dry October and November didn't affect it.

## SC-RC-12 (Columbia 6.7N)

<b>County</b>	Richland
<b>Watershed (HUC8)</b>	Lower Broad River
<b>CoCoRaHS Observer Since</b>	March 23, 2008
<b>2016-2017 Water Year Days Reported</b>	339
<b>Condition Monitoring Reporter Since</b>	November 10, 2013
<b>Condition Monitoring Reports Submitted through October 10, 2017</b>	37



Month	SPI to Scale Bar		SPEI to Scale Bar	
	Pearson	Spearman	Pearson	Spearman
1	0.57	0.59	0.59	0.62
2	0.52	0.58	0.47	0.56
3	0.39	0.44	0.35	0.35
6	0.58	0.62	0.46	0.48
9	0.58	0.52	0.47	0.41
12	0.13	0.12	0.06	0.05



**October 15, 2016:** For the first half of October, all of our precipitation (5.25") came from Hurricane Matthew. We see no evidence of water stress in any of our plant life. Even the plants in pots have required relatively little care. Growth has slowed, but we attribute that to significantly lower temperatures, especially at night.

**December 3, 2016:** After 15 straight zeros, we recorded 1.23" on November 30 and December 1. Again, because everything is going dormant, we don't see stress in plants. It was a good soaker, so it helped the soil, which was quite dusty.

**April 8, 2017:** We just completed the first week in April and already have close to 3". The lion's share of it fell in two intense and relatively quick-hitting thunderstorm events and, since so much water ran off, things don't seem exceptionally moist. No problems here with hail or twisters, but we've heard that folks west of here got one or both.

**October 7, 2017:** Reported our first rain this morning after 15 zeros. We've had 0.07" since Sep 14. The lawn looks stressed in most places; it probably would look worse, but milder temperatures at the end of the growing season have helped mitigate evaporation.

## SC-CR-88 (Charleston 2.0 S)

County	Charleston
Watershed (HUC8)	Stono River
CoCoRaHS Observer Since	November 21, 2013
2016-017 Water Year Days Reported	365
Condition Monitoring Reporter Since	December 1, 2013
Condition Monitoring Reports Submitted through October 10, 2017	52



Month	SPI to Scale Bar		SPEI to Scale Bar	
Duration	Pearson	Spearman	Pearson	Spearman
1	0.34	0.31	0.37	0.32
2	0.30	0.31	0.29	0.30
3	0.44	0.48	0.39	0.49
6	0.56	0.51	0.53	0.49
9	0.59	0.59	0.56	0.57
12	0.62	0.59	0.63	0.59

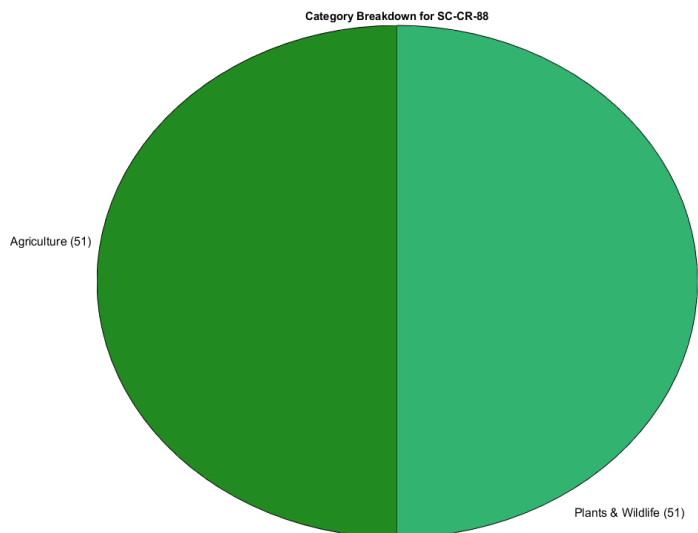
**October 23, 2016:** With no rain at all for two weeks since being soaked by Hurricane Matthew, the soil in the raised bed vegetable garden is dry enough to require supplemental watering.

**December 11, 2016:** With more than 2 inches of rain mid-week, water stood in low places like storm ditches for a day or so but soaked in well after that. Plants in the vegetable garden are doing well.

**March 19, 2017:** Continuing weeks with very limited rainfall leaves soil quite dry. Supplemental watering in the vegetable garden is required both for new transplants and for newly planted seed beds.

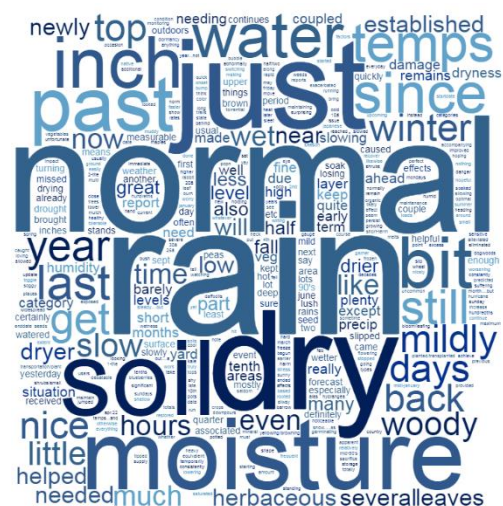
**July 20, 2017:** With several weeks of multi-inch rain, the ground is now saturated, with water standing in low places like storm water ditches.

**September 3, 2017:** Standing water again. Plants in the vegetable garden continue to do well except that frequent rain all Summer has meant more damage from mildew diseases that thrive in wet conditions.

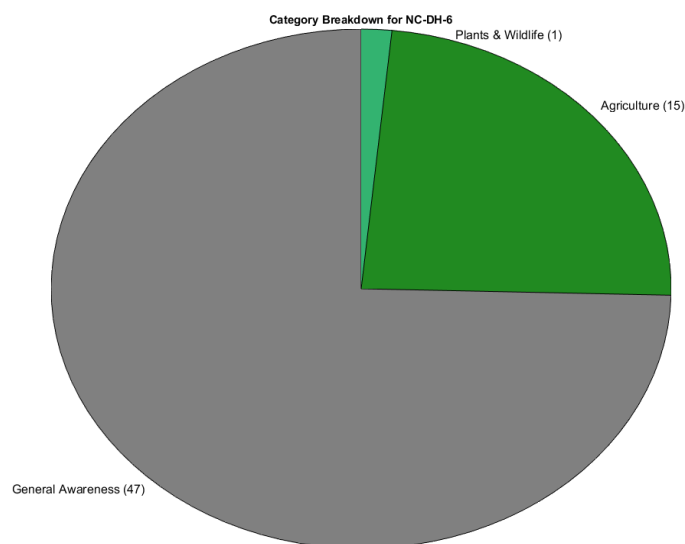


**NC-DH-6 (Durham 1.2 NW)**

<b>County</b>	Durham
<b>Watershed (HUC8)</b>	Haw River
<b>CoCoRaHS Observer Since</b>	September 5, 2007
<b>2016-2017 Water Year Days Reported</b>	364
<b>Condition Monitoring Reporter Since</b>	June 1, 2015
<b>Condition Monitoring Reports Submitted through October 10, 2017</b>	53



Month	SPI to Scale Bar		SPEI to Scale Bar	
Duration	Pearson	Spearman	Pearson	Spearman
1	0.61	0.59	0.56	0.56
2	0.37	0.33	0.32	0.27
3	0.26	0.24	0.22	0.24
6	0.07	-0.03	0.04	-0.04
9	0.42	0.40	0.40	0.39
12	0.54	0.49	0.55	0.49



**October 17, 2016:** Although no rain the past week the lots of soil moisture remains from the more than 5 1/2" or slow rain (Mostly Matthew), the week before.

**December 4, 2016:** With just .15" this week, and only .87" since Matthew (since 10/10, about 8 weeks) conditions remain dry. However, since most plant growth has slowed or stopped, very little effect. Even winter annuals seem to be looking healthy except in v. dry, sunny exposed areas.

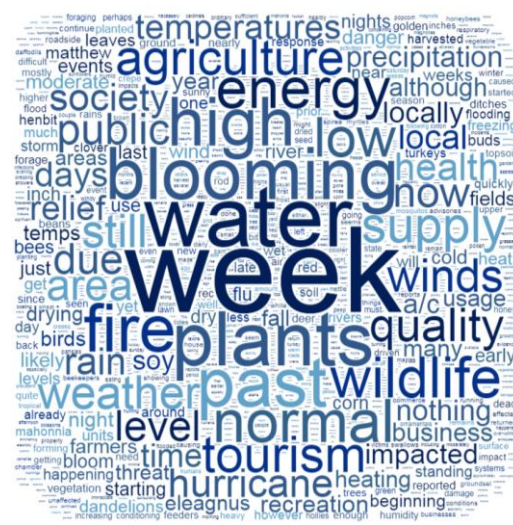
**February 26, 2017:** With no rain this week and only .97" for the month we have definitely reached the drier than normal category. This has been exacerbated by the much higher than normal temps, often 20° above normal. Am having to water newly planted garner seed (peas), and many of the newly planted/transplanted perennials (mostly woody), that we have put in this winter.

**May 28, 2017:** With 2.80" this week (and 6.58" for the month to date), we have slipped back into the mildly wet. Places where water stands are wet and even this all the rains have been nice and slow, there has been some run off due to the on occasion saturated top soil. Plant growth is lush!



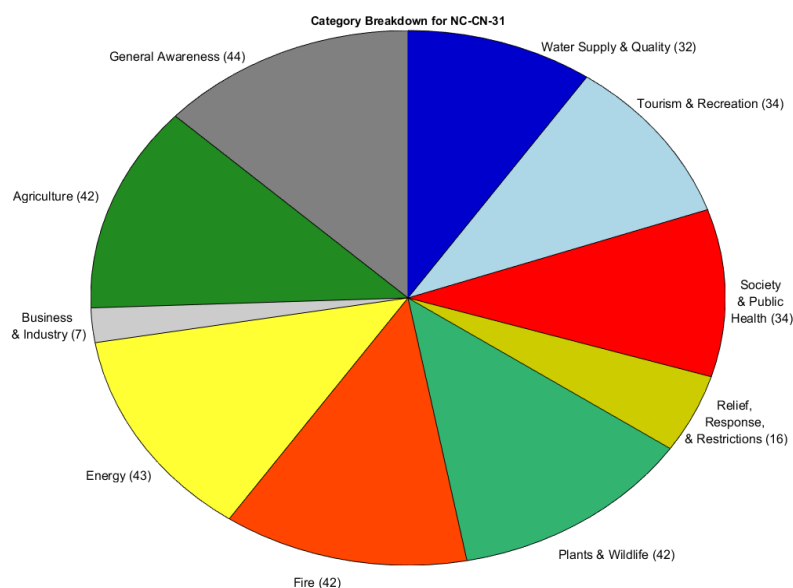
## NC-CN-31 (New Bern 8.8 W)

County	Craven
Watershed (HUC8)	Middle Neuse River
CoCoRaHS Observer Since	March 10, 2013
2016-2017 Water Year Days Reported	325
Condition Monitoring Reporter Since	May 17, 2013
Condition Monitoring Reports Submitted through October 10, 2017	50



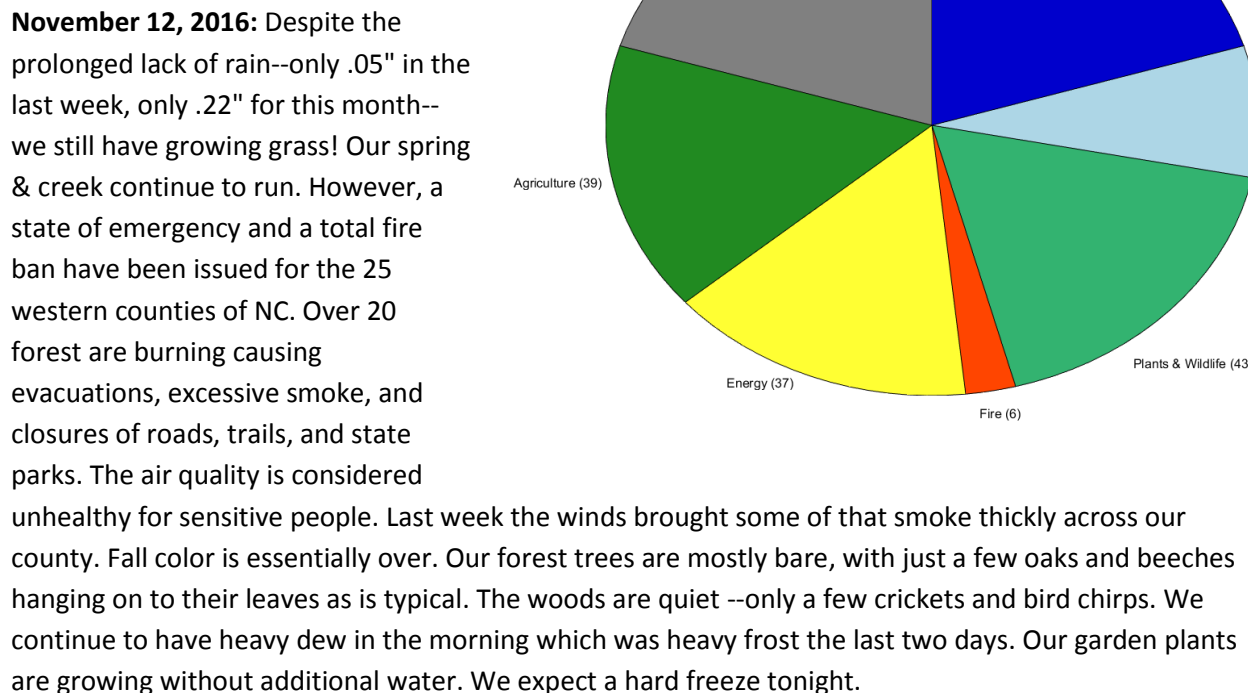
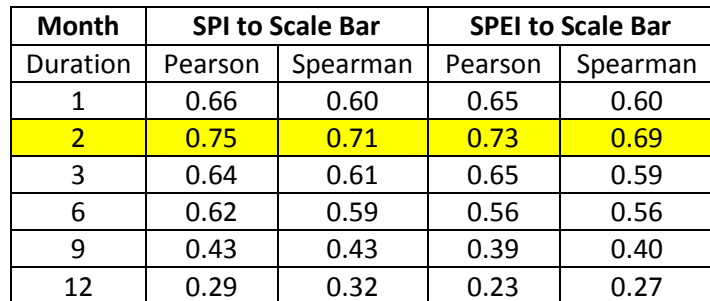
Month	SPI to Scale Bar		SPEI to Scale Bar	
	Pearson	Spearman	Pearson	Spearman
1	0.39	0.42	0.45	0.42
2	0.12	0.07	0.13	0.10
3	0.15	0.12	0.13	0.13
6	-0.03	-0.02	0.00	-0.02
9	-0.07	-0.13	-0.06	-0.13
12	-0.07	-0.11	-0.07	-0.08

**October 2, 2016:** abnormally wet: corn that wasn't harvested last week - is now standing in the fields which are wet; lower temps at night - but still hot and humid during the daytimes so Air Conditioners running; fire threat level must be low - everything is wet, and the fall dry leaves haven't really started yet; Blooming - morning glories / magnolias / golden rod / some eleagnus / wild aster / some groundsel; Does have abandoned their now 7 month or so old offspring / Squirrels are burrowing their finds into the ground; MOSQUITOS are AWFUL this year; leaves continue to change color and are beginning to fall - especially oak Tourism: mostly not impacted, although some events were held this week because previous weekend was impacted (mostly high school football games); Normal rivers are higher than normal.



**September 10, 2017:** This past week has seen a continuation of a couple nice days, followed by a day or so of rain. The rain accumulations have been enough to make it difficult to mow - standing water areas in some places. THIS was especially concerning as the original predicted forecast for Hurricane Irma's track was directly at our area. It is now MUCH REMOVED from our concerns. Pending the anticipated arrival of Hurricane Irma, the corn farmers were scrambling, on very wet ground, to harvest their crops prior to the anticipated storm;

<b>County</b>	Madison
<b>Watershed (HUC8)</b>	French Broad River
<b>CoCoRaHS Observer Since</b>	November 21, 2008
<b>2013-2014 Water Year Days Reported</b>	351
<b>Condition Monitoring Reporter Since</b>	June 26, 2014
<b>Condition Monitoring Reports Submitted through October 10, 2017</b>	49



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