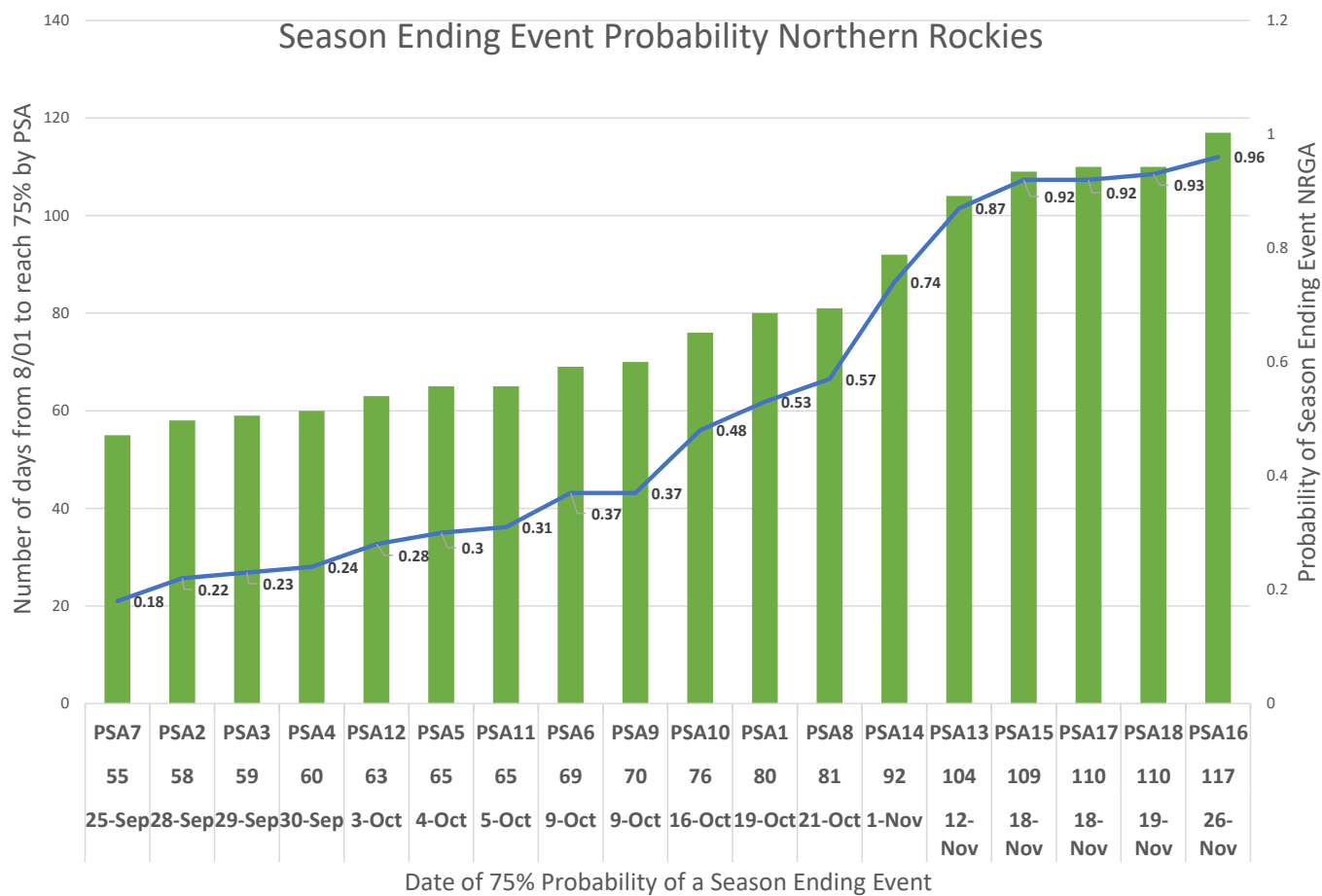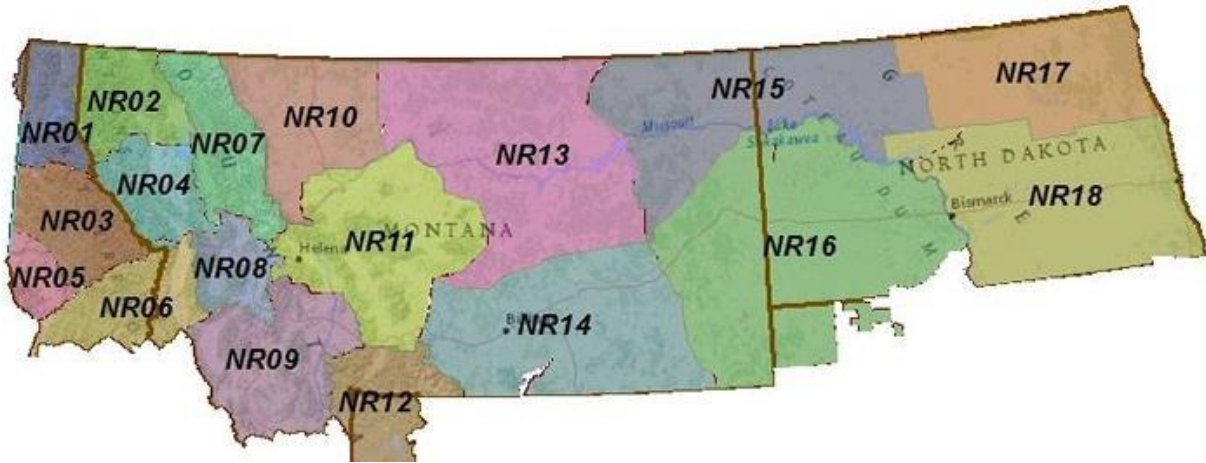The Northern Rockies Season Ending Chart was developed by selecting the date from each PSA term file that the 75 precentile of a season ending event would occur. Using Fire Family Plus the dates were added to a term file to determine the probability of season ending event for the Northern Rockies Geographic Area. Fuel Model Y and a start date of August 1 as the beginning of the term was used for the analysis. The term report and graph were used to determine the % probability and the number of days past August 1 for each PSA.

The X axis of the chart is the PSA and Date the 75% was reached.
The Y axis is the number of days from August 1 that each individual PSA reached its 75 percentile and is represented by the Green bars.
The Z axis is the probability of a season ending event occuring across the NRGA as a whole and is represented by the Blue Line.

Season Ending Event Probability Northern Rockies

	PSA7	PSA2	PSA3	PSA4	PSA12	PSA5	PSA11	PSA6	PSA9	PSA10	PSA1	PSA8	PSA14	PSA13	PSA15	PSA17	PSA18	PSA16
	55	58	59	60	63	65	65	69	70	76	80	81	92	104	109	110	110	117
	25-Sep	28-Sep	29-Sep	30-Sep	3-Oct	4-Oct	5-Oct	9-Oct	9-Oct	16-Oct	19-Oct	21-Oct	1-Nov	12-Nov	18-Nov	18-Nov	19-Nov	26-Nov

Date of 75% Probability of a Season Ending Event

(Left axis) Number of days from 8/01 to reach 75% by PSA

(Right axis) Probability of Season Ending Event NRGA

Line values: 0.18, 0.22, 0.23, 0.24, 0.28, 0.3, 0.31, 0.37, 0.37, 0.48, 0.53, 0.57, 0.74, 0.87, 0.92, 0.92, 0.93, 0.96

PSA#   PSA NAME

NR01   Northern Idaho Panhandle
NR02   Northwestern Montana
NR03   Southern Idaho Panhandle
NR04   Western Montana
NR05   Camas Prairie Idaho
NR06   North Central Idaho & Bitterroot/Sapphire Mountains
NR07   Glacier National Park & Wilderness Areas
NR08   Southwest Montana, West of Continental Divide
NR09   Big Hole- Southwest Montana, East of Continental Divide
NR10   Northern Front Range
NR11   West Central Montana
NR12   South Central Montana & Yellowstone National Park
NR13   Northern Plains & Missouri River Breaks
NR14   Southern Montana (Bighorn/Powder River)
NR15   Northeastern Montana & Northwestern North Dakota
NR16   Southeastern Montana & Southwestern North Dakota
NR17   Northeastern North Dakota
NR18   Southeastern North Dakota

NR01 Northern Idaho Panhandle
Season Ending Graph and Report

FireFamily Plus Term Report
Station: SIG - NR01
Term Name: NR01y Season Ending
Season Start Day: 8\1
Data Years: 2002 - 2017
Alpha: 6.006158
Beta: 0.013504
R-Squared: 0.979467

Comment:
Fuel Model Y Timber used for season ending. Date selected when ERC reached the 60th Percentile and did not recover for the given year

Term Dates

| Year	Day	#Days	Comment
2002	10/26	86	
2003	10/11	71	
2004	8/20	20	
2005	9/29	59	
2006	10/14	74	
2007	9/29	59	
2008	10/29	90	
2009	10/11	71	
2010	10/17	77	
2011	10/ 2	62	
2012	9/14	45	
2013	10/11	71	
2014	10/11	71	
2015	10/23	83	
2016	9/29	60	
2017	10/17	77	

Key Probabilities

Probability	Date
0.25	October 01
0.50	October 10
0.75	October 19
0.90	October 26
0.99	November 05

FF+5.0 build 20191211 08/23/2019-13:16

SIG - NR01
2002 - 2017
Waiting Time to Term Event

Probability

Day of Year

- Empirical
— Estimated

FF+5.0 build 20191211 08/23/2019-13:16
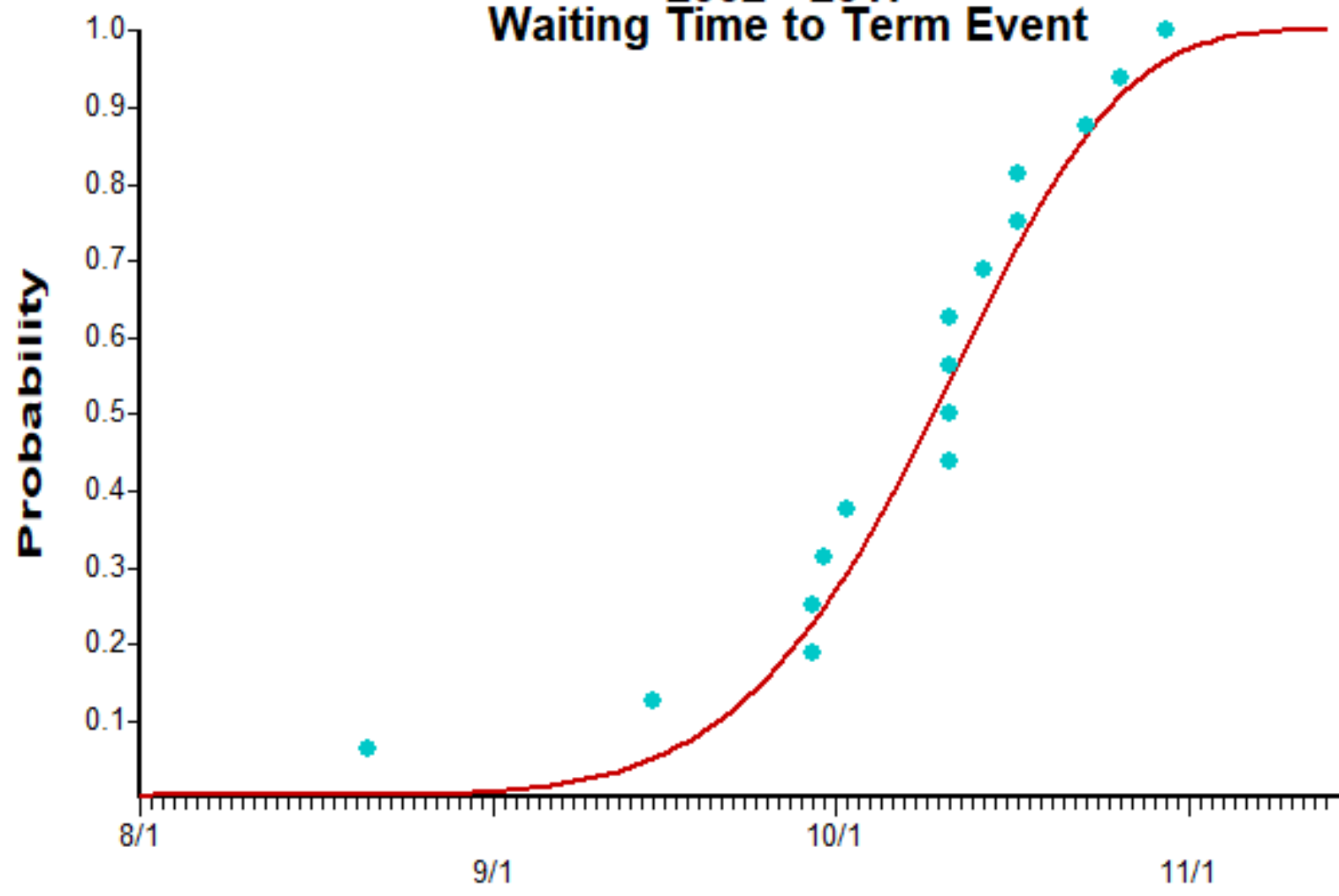
NR02 Northwestern Montana
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR02_2
Term Name: NR02 Season Ending
Season Start Day: 8\1
Data Years: 2001 - 2017
Alpha: 2.097626
Beta: 0.020444
R-Squared: 0.965566

Comment:
Did not use BC Baldy in this data set.

Term Dates

Year	Day	#Days	Comment
2001	10/ 8	68	
2002	9/14	44	
2003	10/ 5	65	
2004	8/17	17	
2005	9/ 8	38	
2006	9/14	44	
2007	9/20	50	
2008	8/17	17	
2009	10/ 5	65	
2010	8/26	25	
2011	9/17	47	
2012	10/ 8	69	
2013	8/23	22	
2014	8/11	10	
2015	10/ 5	65	
2016	9/ 2	33	
2017	9/17	47	

Key Probabilities

Probability	Date
0.25	August 29
0.50	September 12
0.75	September 28
0.90	October 13
0.99	November 11

FF+5.0 build 20191211 08/13/2019-14:32

SIG - NR02_2
2001 - 2017
Waiting Time to Term Event
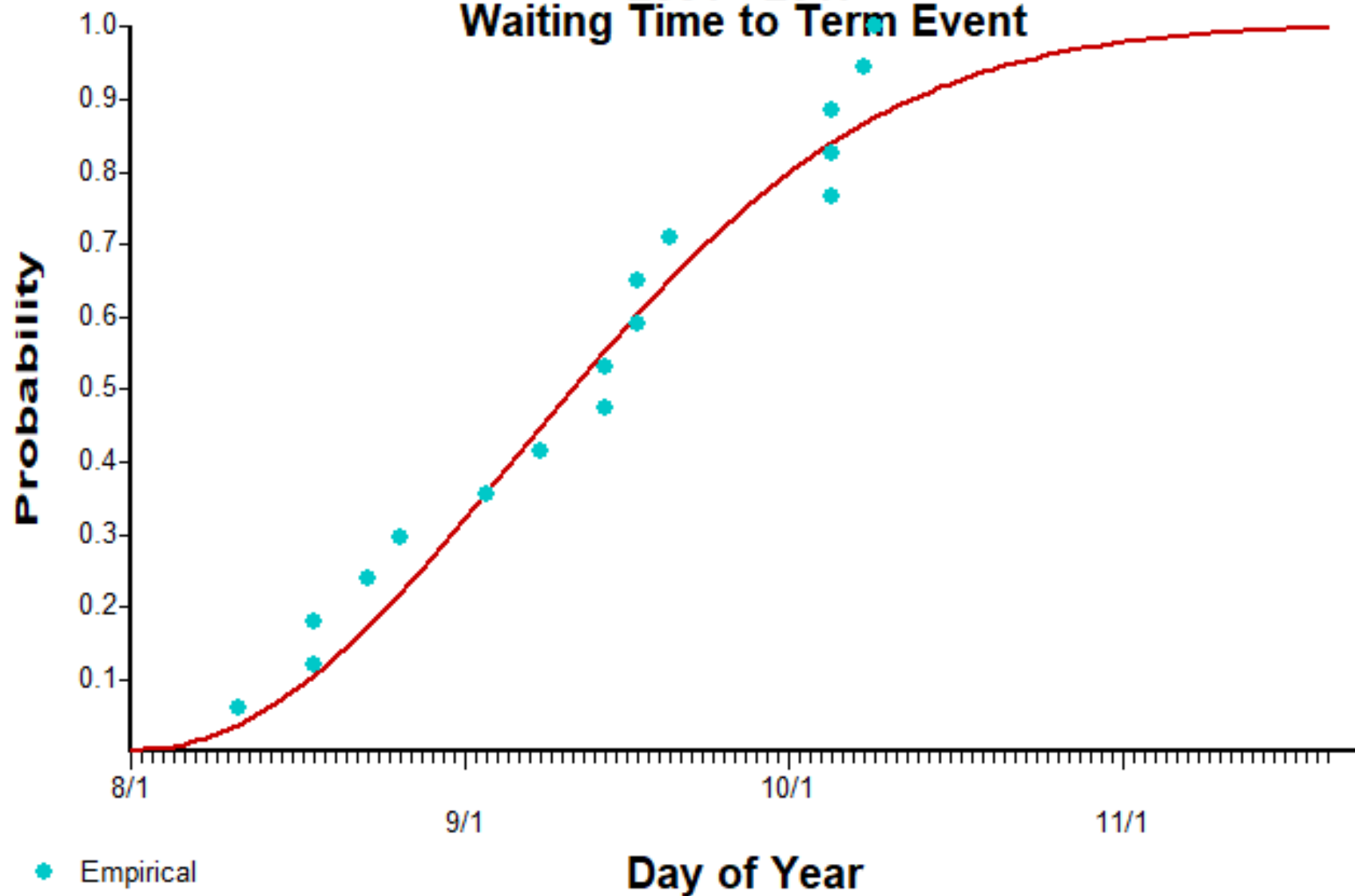
Probability

Day of Year

- Empirical
- Estimated

FF+5.0 build 20191211 08/13/2019-14:32

NR03 Southern Idaho Panhandle
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR03
Term Name: NR03
Season Start Day: 8\1
Data Years: 2001 - 2017
Alpha: 3.687816
Beta: 0.018747
R-Squared: 0.985300

Comment:
3 day period and the 60th percentile was used to select the date that the ERC did not recover above for each year

Term Dates

| Year	Day	#Days	Comment
2001	10/ 5	65	
2002	9/14	44	
2003	10/ 8	68	
2004	8/20	20	
2005	9/ 8	38	
2006	9/17	47	
2007	9/26	56	
2008	9/17	48	
2009	9/26	56	
2010	8/29	28	
2011	9/23	53	
2012	10/11	72	
2013	9/11	41	
2014	9/17	47	
2015	10/ 5	65	
2016	8/29	29	
2017	9/14	44	

Key Probabilities

Probability	Date
0.25	**September 09**
0.50	**September 19**
0.75	**September 29**
0.90	**October 07**
0.99	**October 21**

FF+5.0 build 20191211 08/12/2019-13:46

SIG - NR03
2001 - 2017
Waiting Time to Term Event

- Empirical
- Estimated

Day of Year

FF+5.0 build 20191211 08/12/2019-13:46
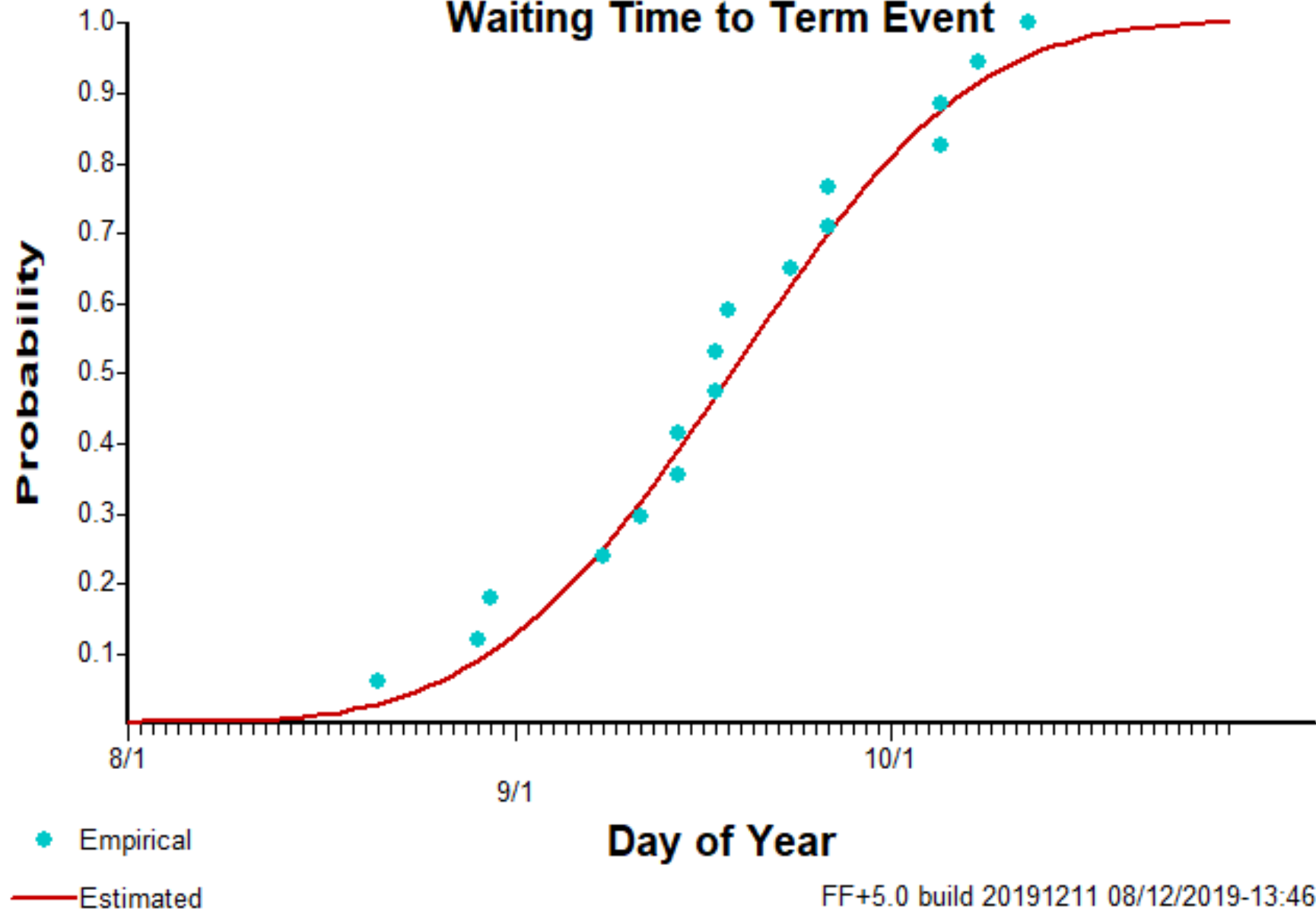
NR04 Western Montana
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR04
Term Name: NR04 Season Ending
Season Start Day: 8\1
Data Years: 2001 - 2017
Alpha: 2.308094
Beta: 0.019366
R-Squared: 0.958008

Comment:
Season ending Date selected where ERC did not recover above the 60th percentile

Term Dates
Year Day #Days Comment
2001 10/ 8   68
2002 8/20   19
2003 10/ 8   68
2004 8/17   17
2005 9/ 8   38
2006 9/11   41
2007 9/17   47
2008 8/17   17
2009 10/ 5   65
2010 8/26   25
2011 10/ 2   62
2012 10/11   72
2013 9/11   41
2014 9/23   53
2015 10/ 5   65
2016 9/ 2   33
2017 9/12   42

Key Probabilities
Probability   Date
 0.25   September 01
 0.50   September 15
 0.75   September 30
 0.90   October 15
 0.99   November 10

FF+5.0 build 20191211 08/12/2019-14:06

SIG - NR04
2001 - 2017
Waiting Time to Term Event

Probability

Day of Year

- Empirical
- Estimated

FF+5.0 build 20191211 08/12/2019-14:06
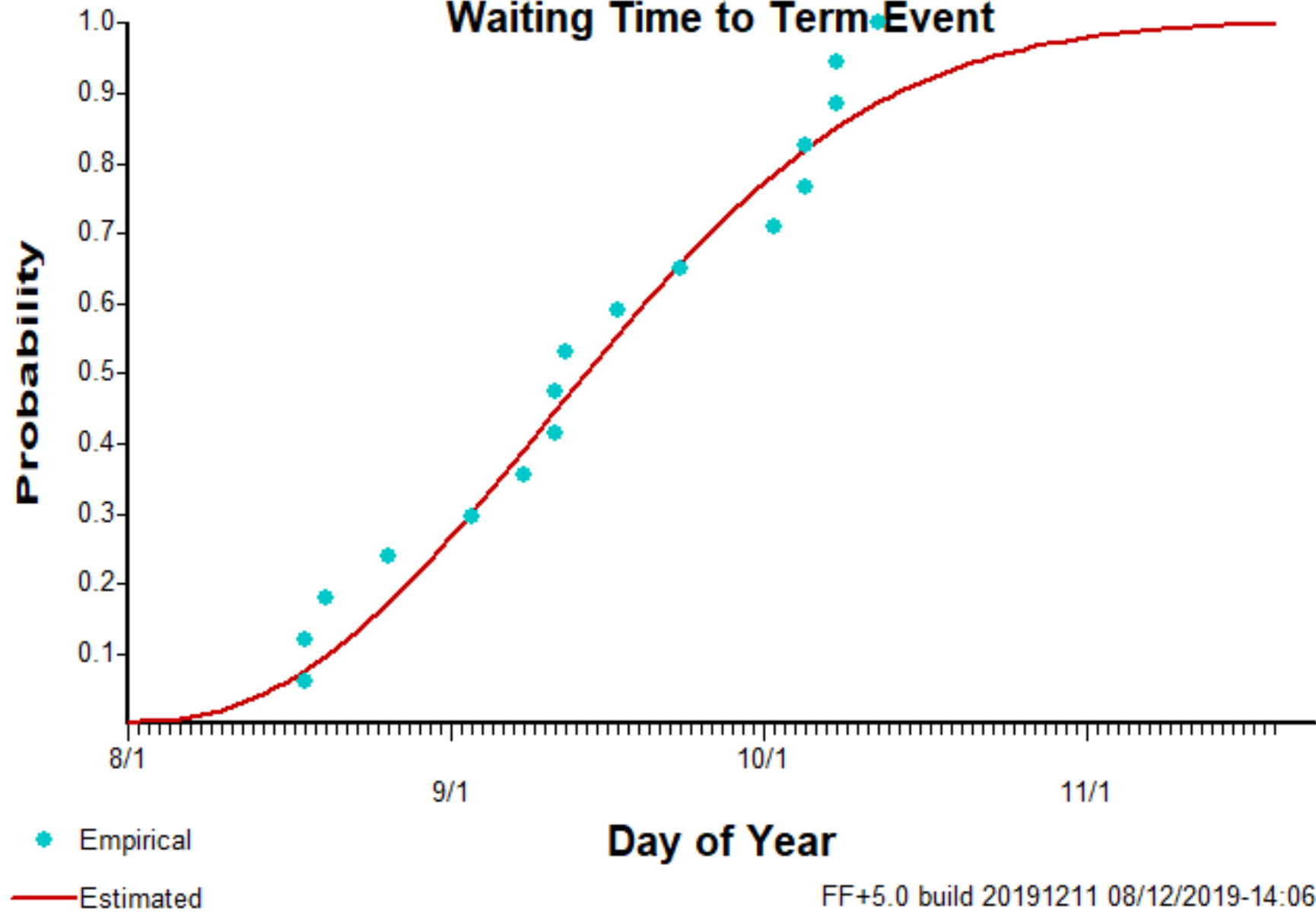
NR05 Camas Prairie of Idaho
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR05
Term Name: NR05 Season Ending
Season Start Day: 8\1
Data Years: 2001 - 2017
Alpha: 3.716620
Beta: 0.017085
R-Squared: 0.981326

Comment:
Season Ending analysis the date selected when the ERC reached 60 percentile and did not recover. August 1 through October 31

Term Dates

| Year	Day	#Days	Comment
2001	10/ 5	65	
2002	10/26	86	
2003	10/29	89	
2004	8/20	20	
2005	9/17	47	
2006	9/14	44	
2007	9/18	48	
2008	9/20	51	
2009	9/29	59	
2010	8/29	28	
2011	10/ 2	62	
2012	10/11	72	
2013	9/14	44	
2014	9/23	53	
2015	10/ 5	65	
2016	9/14	45	
2017	9/14	44	

Key Probabilities

Probability	Date
0.25	September 12
0.50	September 24
0.75	October 04
0.90	October 14
0.99	October 29

FF+5.0 build 20191211 08/12/2019-14:24

SIG - NR05
2001 - 2017
Waiting Time to Term Event

- Empirical
- Estimated

FF+5.0 build 20191211 08/12/2019-14:24
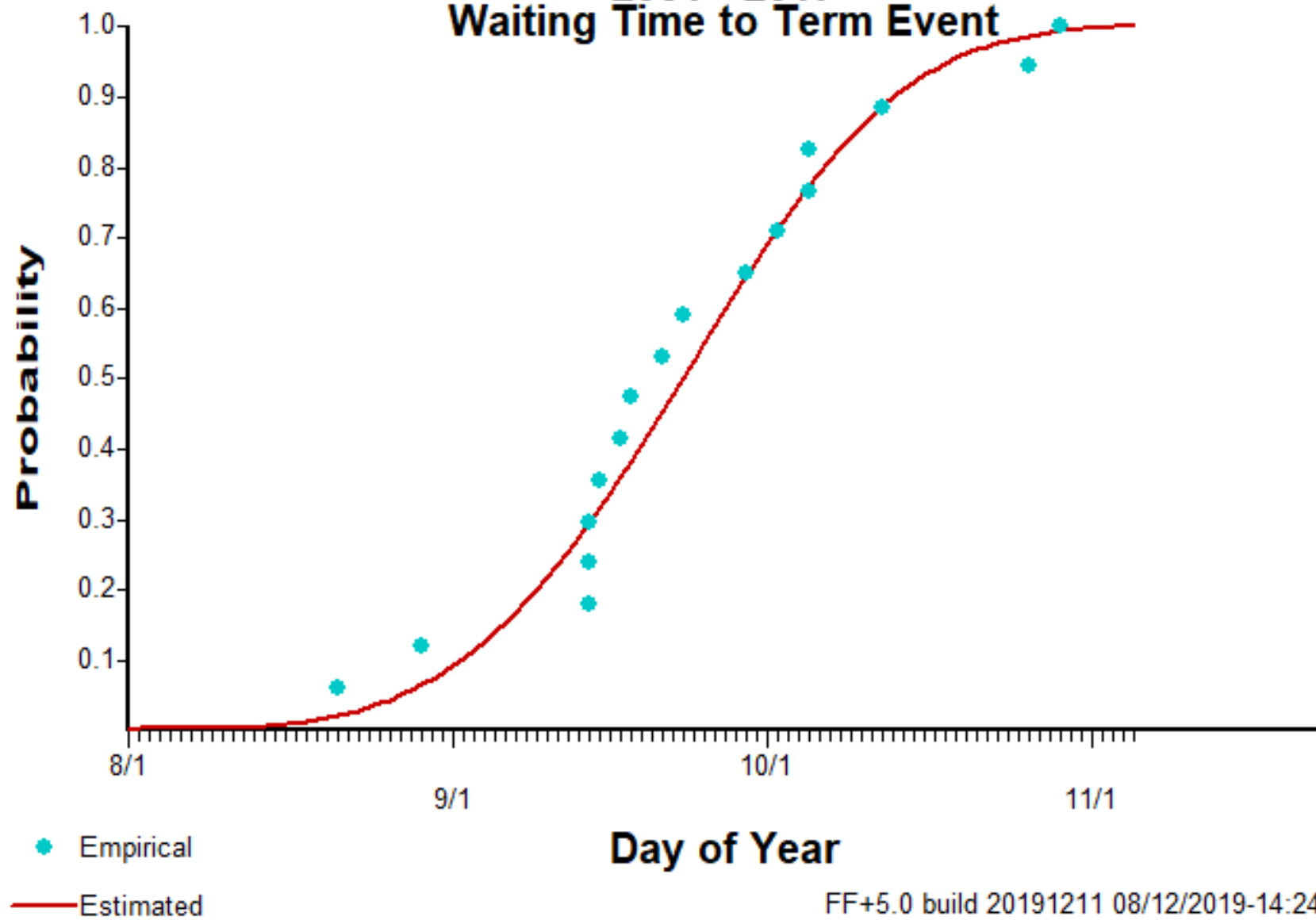
NR06 North Central Idaho & Bitterroot/Sapphire Mountains
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR06
Term Name: NR06
Season Start Day: 8\1
Data Years: 2000 - 2017
Alpha: 5.578070
Beta: 0.015498
R-Squared: 0.978654

Comment:
Fuel Model Y timber was used. A 3 day analysis period and selected date when the
indices did not recover above the 60th percentile for the given year

Term Dates

Year	Day	#Days	Comment
2000	9/26	57	
2001	10/ 8	68	
2002	10/20	80	
2003	10/ 8	68	
2004	8/20	20	ERC
2005	9/14	44	
2006	10/ 2	62	
2007	9/20	50	
2008	9/29	60	
2009	10/ 5	65	
2010	10/ 2	62	
2011	10/ 3	63	
2012	10/11	72	
2013	9/20	50	
2014	10/ 5	65	
2015	10/17	77	
2016	9/17	48	
2017	9/17	47	

Key Probabilities

Probability	Date
0.25	**September 22**
0.50	**October 01**
0.75	**October 09**
0.90	**October 15**
0.99	**October 25**

FF+5.0 build 20191211 09/04/2019-13:39

SIG - NR06
2000 - 2017
Waiting Time to Term Event

Probability

Day of Year

- Empirical
— Estimated

FF+5.0 build 20191211 09/04/2019-13:39
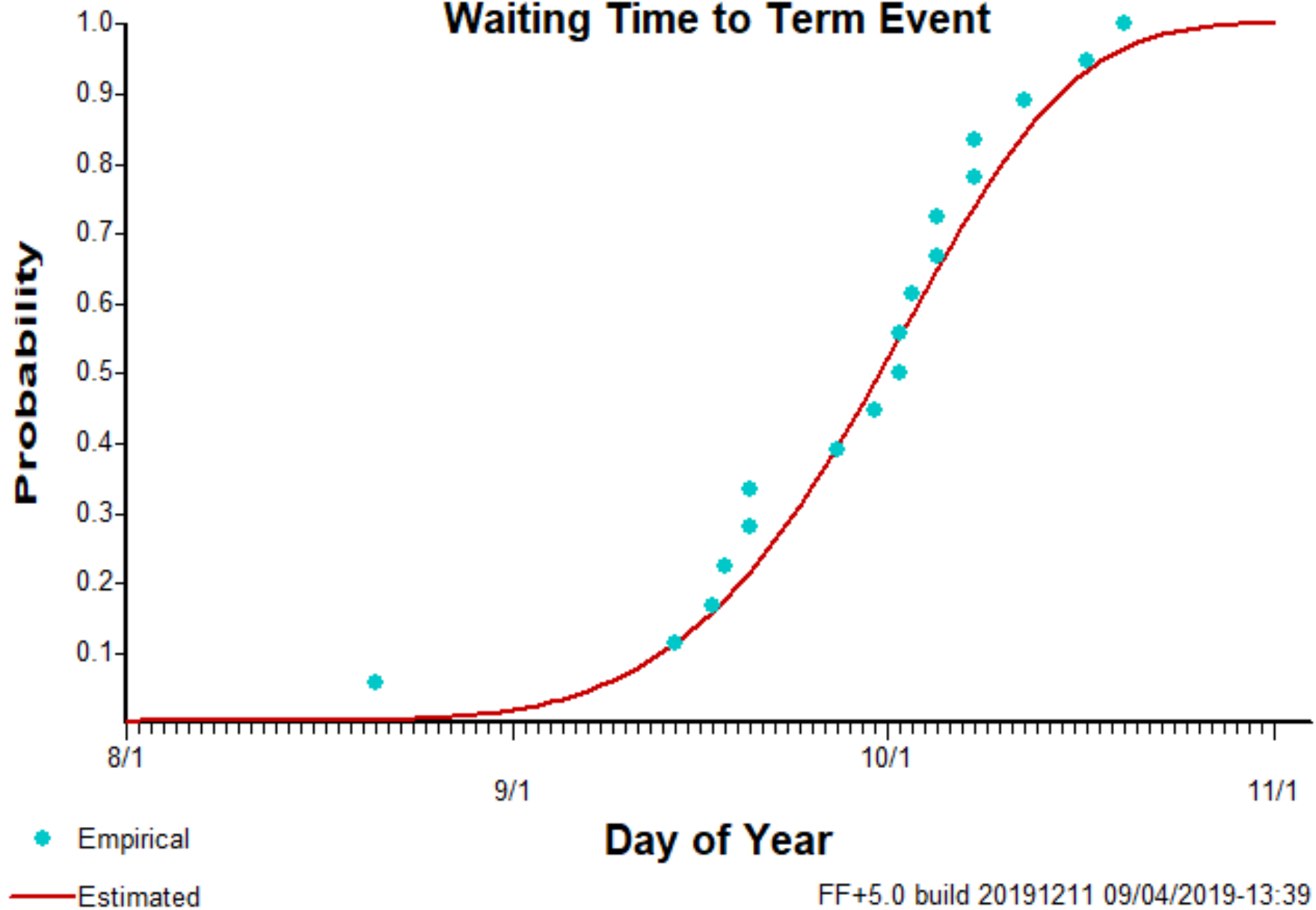
NR07 Glacier NP & Wilderness Areas
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR07
Term Name: NR Season Ending
Season Start Day: 8\1
Data Years: 2001 - 2017
Alpha: 1.985802
Beta: 0.021497
R-Squared: 0.972627

Comment:
3 day period for ERC season ending dates where the indice reaches the 60th percentile
and does not recover for a given year

Term Dates

Year	Day	#Days	Comment
2001	9/26	56	
2002	8/20	19	
2003	10/ 5	65	
2004	8/17	17	
2005	9/ 8	38	
2006	9/11	41	
2007	9/17	47	
2008	8/17	17	
2009	9/29	59	
2010	8/26	25	
2011	9/29	59	
2012	10/ 8	69	
2013	9/ 2	32	
2014	8/11	10	
2015	10/ 2	62	
2016	8/29	29	
2017	9/17	47	

Key Probabilities

Probability	**Date**
0.25	**August 26**
0.50	**September 09**
0.75	**September 25**
0.90	**October 11**
0.99	**November 10**

FF+5.0 build 20191211 09/04/2019-13:58

SIG - NR07
2001 - 2017
Waiting Time to Term Event
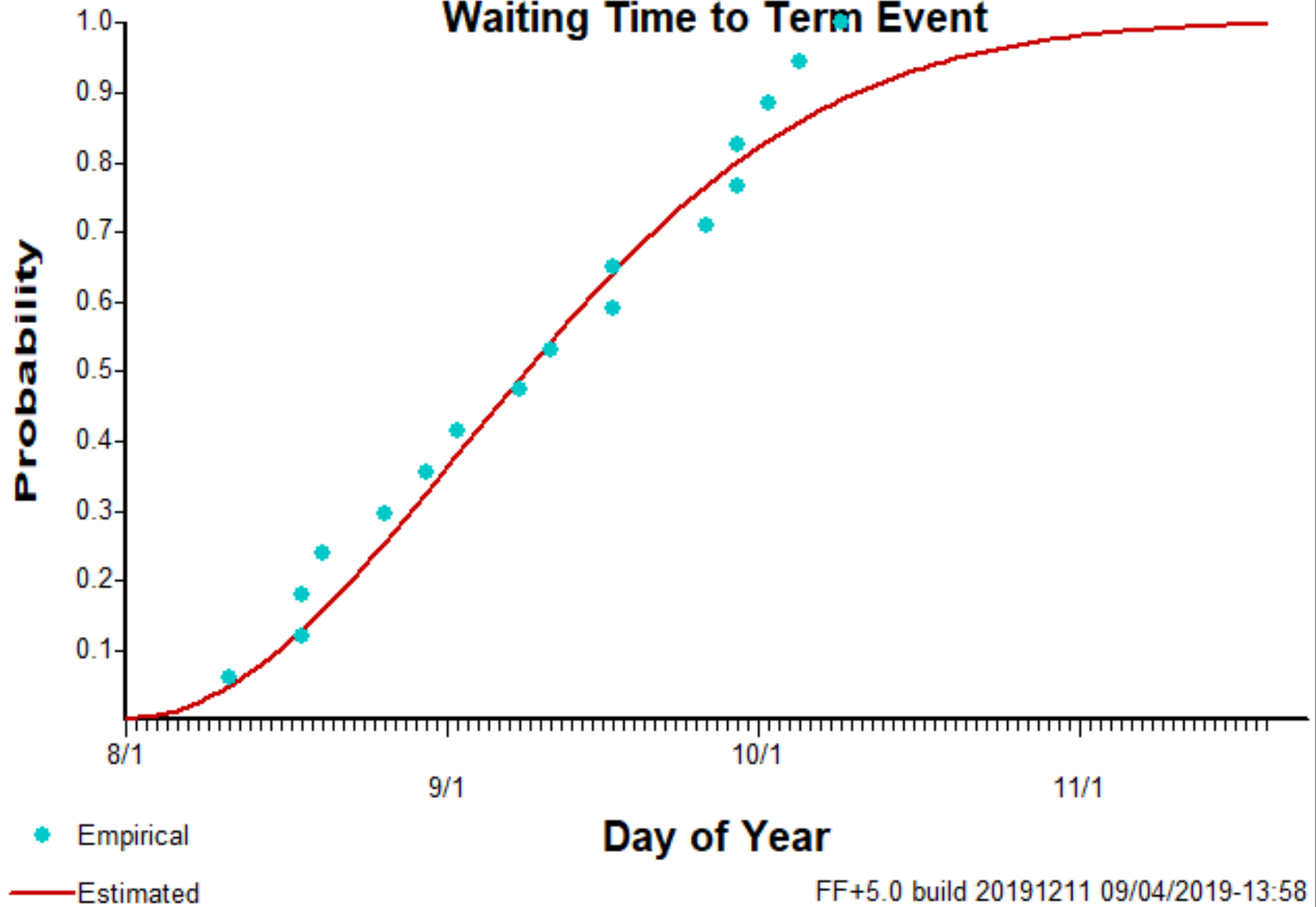
Empirical
Estimated

Day of Year

FF+5.0 build 20191211 09/04/2019-13:58

NR08 Southwest Montana, West of Continental Divide
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR08
Term Name: NR08 Season Ending
Season Start Day: 8\1
Data Years: 2002 - 2017
Alpha: 3.794203
Beta: 0.013592
R-Squared: 0.935354

Comment:
Season ending 3 day analysis of ERC date selected when the indices reached 60 percentile and did not recover

Term Dates
Year Day #Days Comment
2002 10/20   80
2003 10/26   86
2004   8/17   17
2005   9/11   41
2006 10/ 2   62
2007   9/17   47
2008   8/17   17
2009 10/ 2   62
2010 10/17   77
2011 10/ 2   62
2012 10/17   78
2013 10/26   86
2014 10/17   77
2015 10/17   77
2016   9/29   60
2017 10/29   89

Key Probabilities
Probability   Date
 0.25   September 23
 0.50   October 07
 0.75   October 21
 0.90   November 01
 0.99   November 20

FF+5.0 build 20191211 08/12/2019-14:54

SIG - NR08
2002 - 2017
Waiting Time to Term Event

Probability

Day of Year

- Empirical
— Estimated

FF+5.0 build 20191211 08/12/2019-14:54
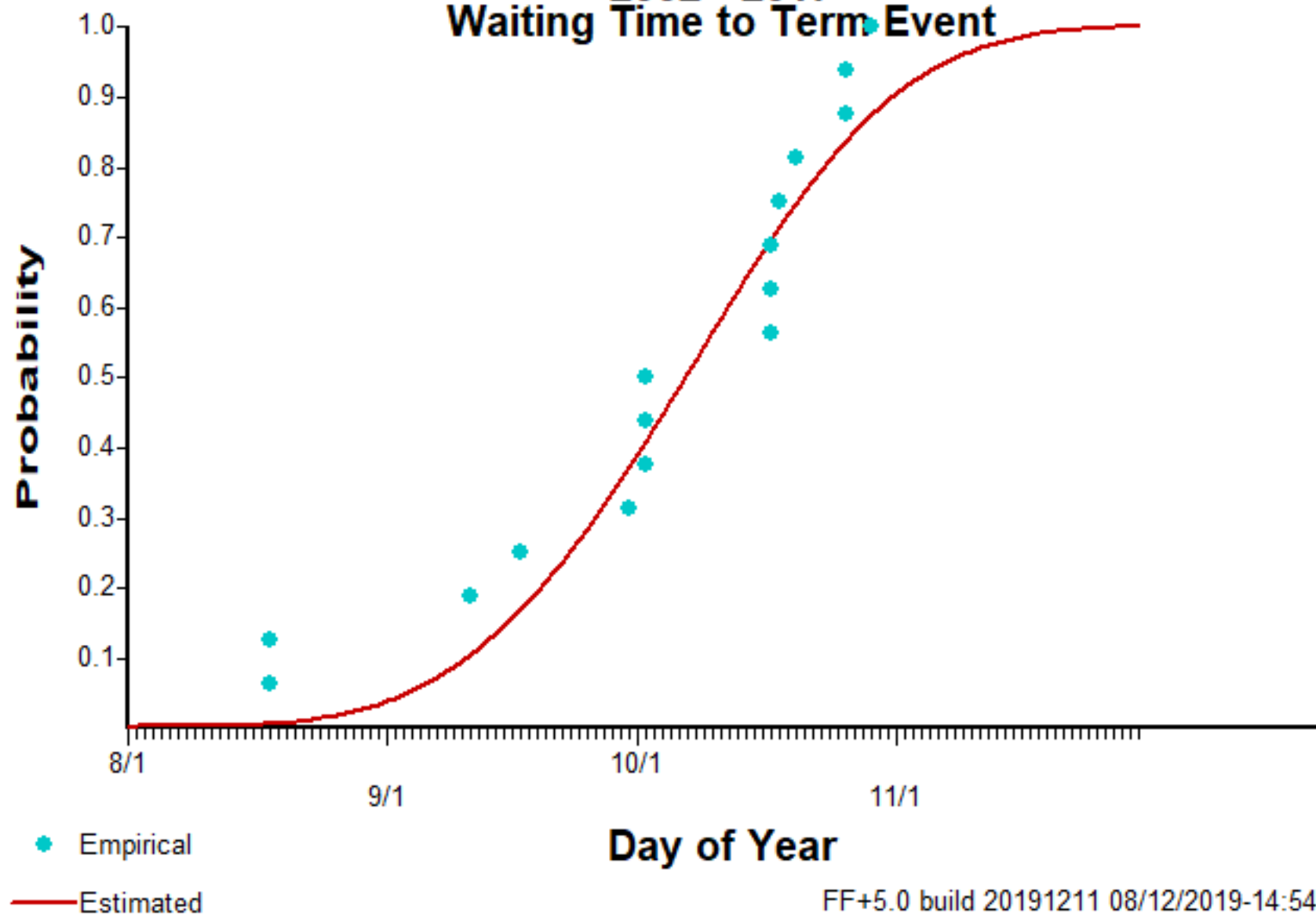
NR09w Big Hole-SW Montana, East of Continental Divide
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR09
Term Name: NR09w_SeasonEnding
Season Start Day: 10\1
Data Years: 2001 - 2017
Alpha: 4.894432
Beta: 0.021229
R-Squared: 0.972991

Comment:
Fuel Model w season ending in the non timbered areas of NR09 Combination of BI, 100
hr fm, and last large fire for given year. The latest date reached by the indicator.
BI 60% (18) reached and did not recover
100 hr fuel moisture above the 60% (8) and did not decline
Last large fire over 5 acres

Term Dates

Year	Day	#Days	Comment
2001	11/18	48	BI and 100 hr fuel moisture
2002	11/18	48	BI used
2003	11/27	57	BI used
2004	11/18	49	100 hr fuel moisture
2005	11/ 3	33	BI used
2006	11/ 8	38	100 hr fuel moisture
2007	11/18	48	100 hr fuel moisture
2008	11/18	49	BI used
2009	11/ 8	38	BI used
2010	11/ 8	38	100 hr fuel moisture
2011	11/ 3	33	BI and 100 hr Fuel moisture
2012	11/ 8	39	BI and 100 hr fuel moisture
2013	11/ 8	38	BI used
2014	11/13	43	100 hr fuel moisture
2015	10/28	27	100 hr fuel moisture
2016	11/23	54	100 hr fuel moisture
2017	12/13	73	BI used

Key Probabilities

Probability	Date
0.25	November 07
0.50	November 14
0.75	November 21
0.90	November 26
0.99	December 05

FF+5.0 build 20191211 08/16/2019-11:01

SIG - NR09
2001 - 2017
Waiting Time to Term Event

Probability

Day of Year

- Empirical
- Estimated

FF+5.0 build 20191211 08/16/2019-11:01
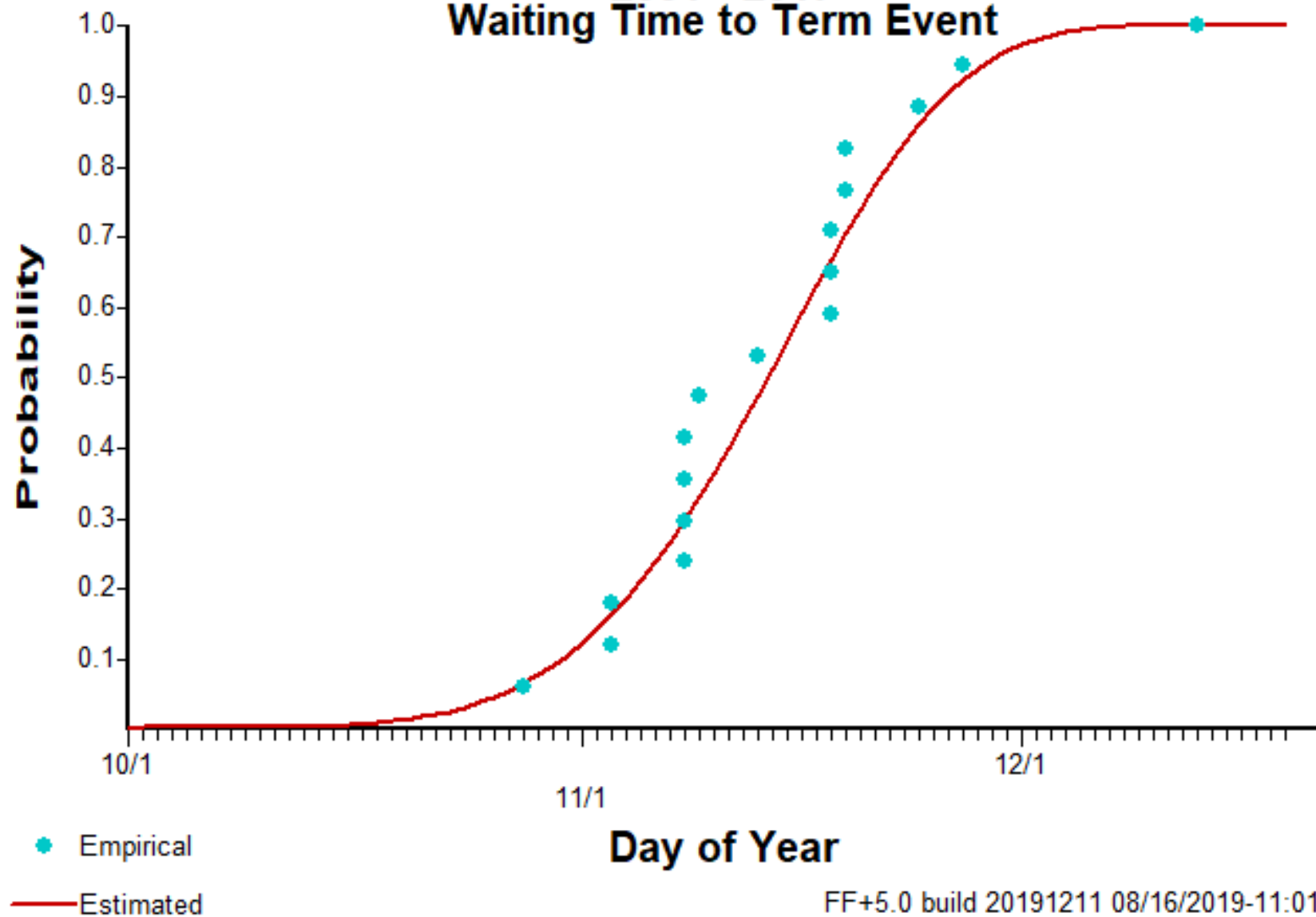
NR09y Big Hole-SW Montana, East of Continental Divide
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR09
Term Name: NR09 Season Ending y
Season Start Day: 8\1
Data Years: 2001 - 2017
Alpha: 2.178381
Beta: 0.016880
R-Squared: 0.965614

Comment:
Fuel model Y-Timber. Selected date that the ERC reached the 60th percentile and did
not recover for a given year

Term Dates
Year Day #Days Comment
| Year	Day	#Days	Comment
2001	10/ 2	62	
2002	8/20	19	
2003	10/26	86	
2004	8/14	14	
2005	9/14	44	
2006	9/14	44	
2007	9/14	44	
2008	10/ 2	63	
2009	9/29	59	
2010	10/ 2	62	
2011	10/ 2	62	
2012	10/14	75	
2013	9/ 2	32	
2014	8/11	10	
2015	10/14	74	
2016	9/ 2	33	
2017	10/31	91	

Key Probabilities

Probability	Date
0.25	September 04
0.50	September 21
0.75	October 09
0.90	October 27
0.99	November 29

FF+5.0 build 20191211 08/13/2019-08:44

SIG - NR09
2001 - 2017
Waiting Time to Term Event

Probability

Day of Year

- Empirical
- Estimated

FF+5.0 build 20191211 08/13/2019-08:44
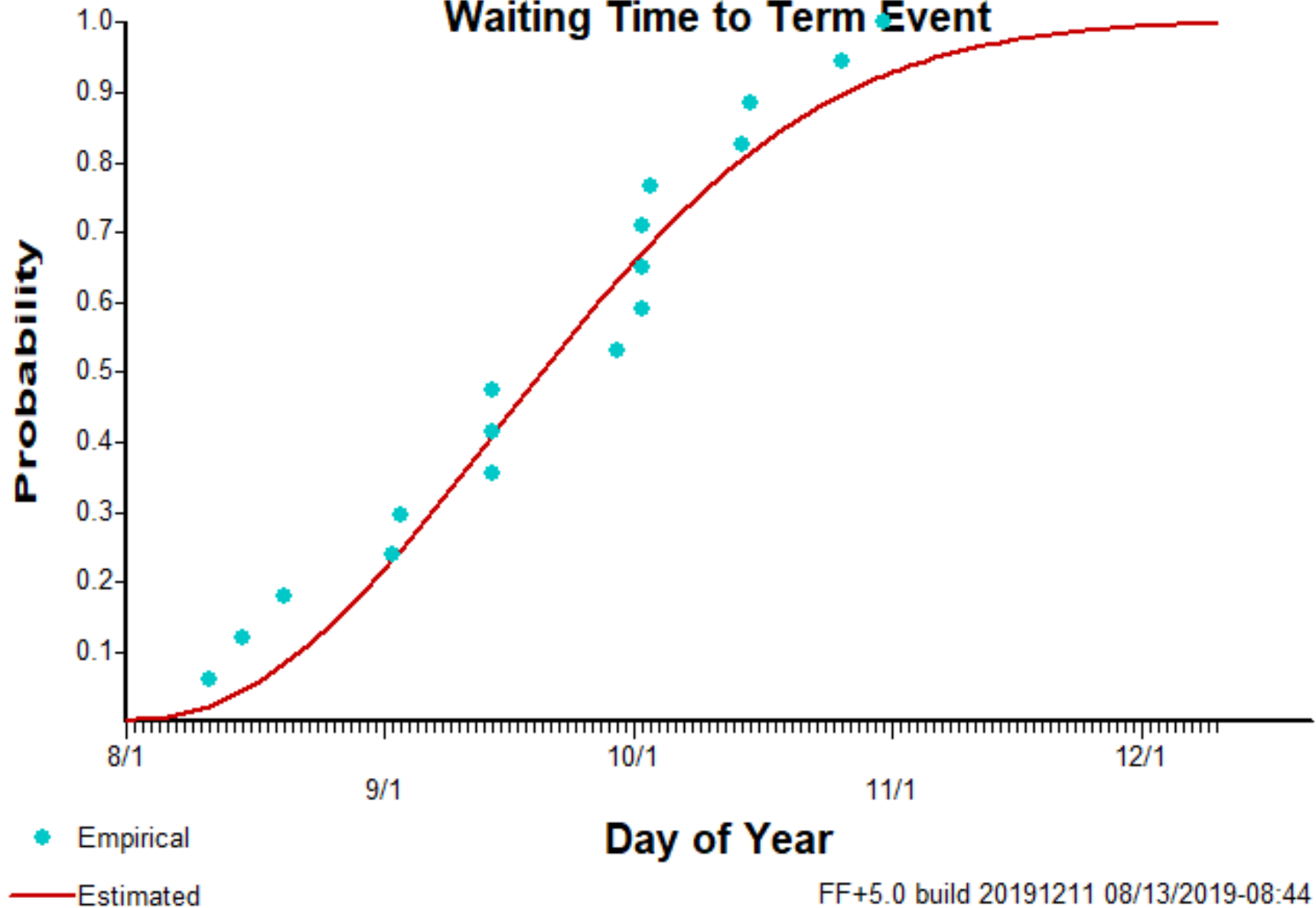
NR10w Northern Front Range
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR10
Term Name: NR10w_SeasonEnding
Season Start Day: 10\1
Data Years: 2002 - 2017
Alpha: 2.635148
Beta: 0.019736
R-Squared: 0.976487

Comment:
Determine season ending used a combination of BI, 100 hr fuel moisture, and last
large fire. Used Fuel Model W
BI below 60%(7) and did not recover
100 Hr fuel
moisture above the 60% (18) and did not lower
Last larger fire over 5 acres

Term Dates

Year	Day	#Days	Comment
2002	11/28	58	BI used
2003	10/28	27	BI and 100 hr fm used
2004	10/14	14	100 hr fuel moisture
2005	10/28	27	100 hr fuel moisture
2006	11/23	53	Last large fire
2007	11/29	59	Last large fire
2008	11/23	54	BI used
2009	11/ 8	38	Last large fire
2010	11/13	43	BI and 100 hr fm used
2011	10/23	22	BI and 100 hr fm used
2012	11/ 4	35	Last large fire
2013	11/19	49	Last large fire
2014	11/ 8	38	BI used
2015	12/ 9	69	Last large fire
2016	11/28	59	BI used
2017	12/17	77	Last large fire

Key Probabilities

Probability	Date
0.25	November 02
0.50	November 15
0.75	November 28
0.90	December 10
0.99	December 31

FF+5.0 build 20191211 08/16/2019-09:42

SIG - NR10
2002 - 2017
Waiting Time to Term Event

Probability

Day of Year

- Empirical
- Estimated

FF+5.0 build 20191211 08/16/2019-09:42
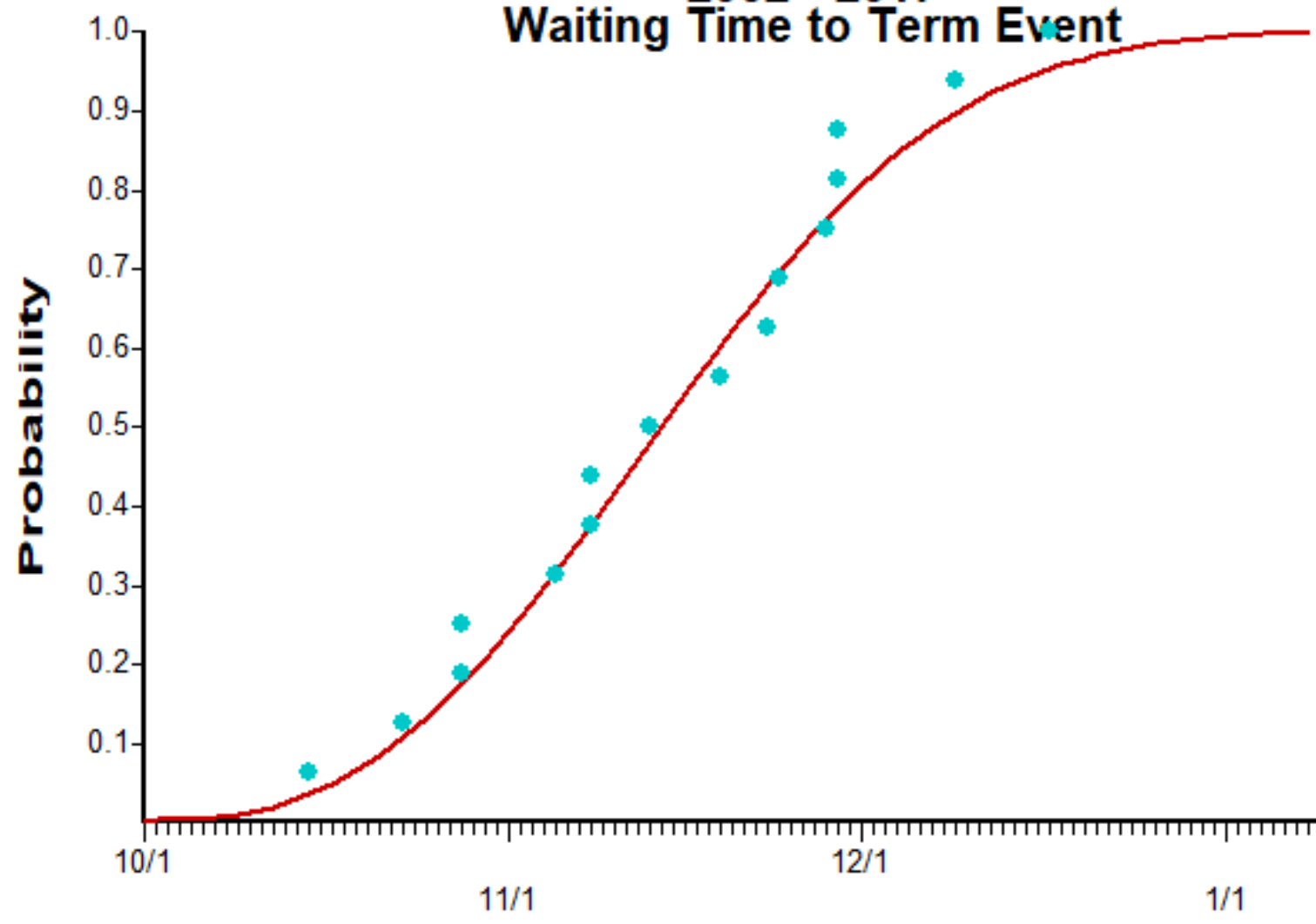
NR10y Northern Front Range
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR10
Term Name: NR10y Season Ending
Season Start Day: 7\15
Data Years: 2000 - 2017
Alpha: 3.071394
Beta: 0.011998
R-Squared: 0.989879

Comment:
Fuel model y-timber Selected date when the ERC drpped to 60% and did not recover

Term Dates

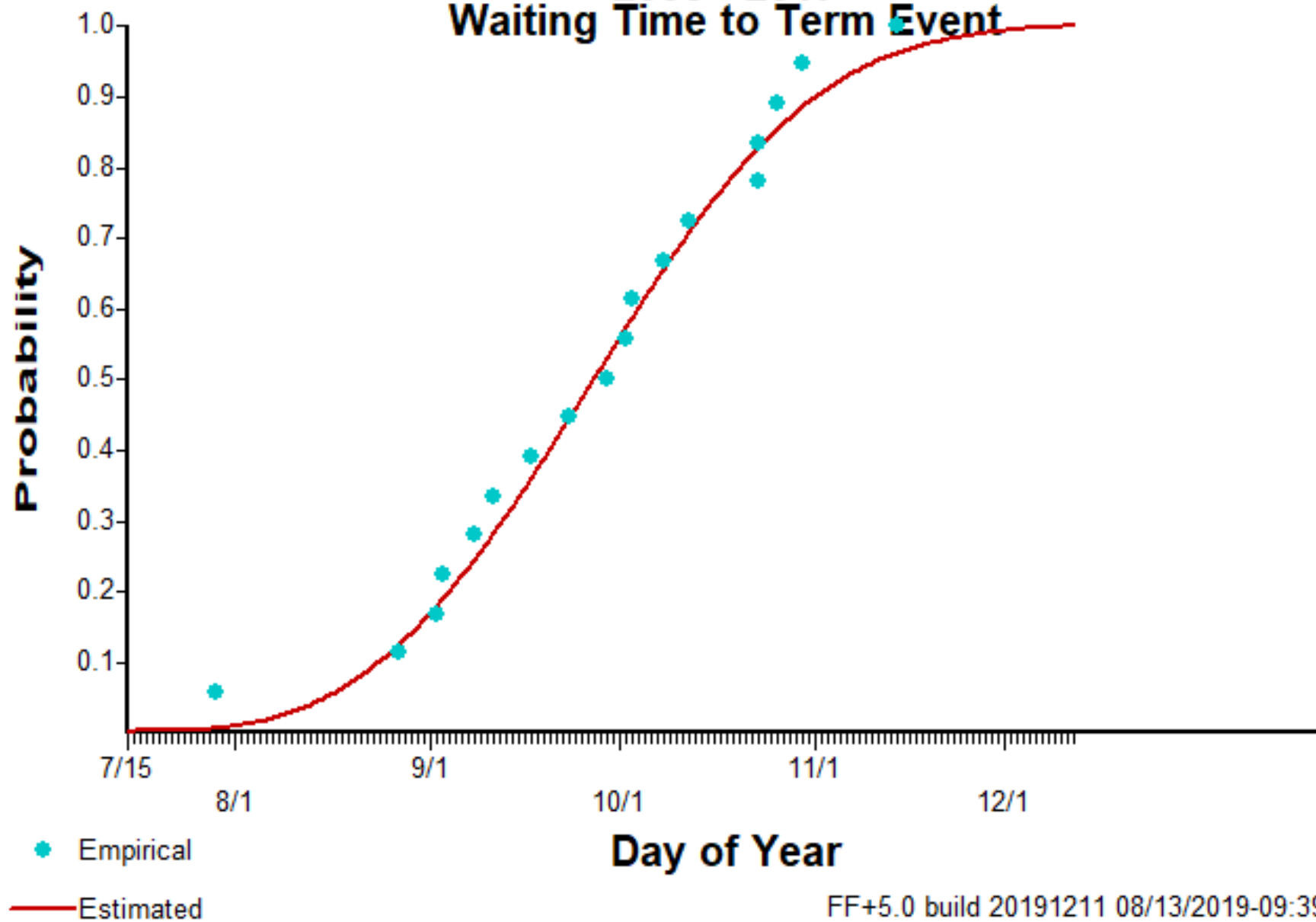| Year	Day	#Days	Comment
2000	8/26	43	
2001	10/ 8	85	
2002	7/29	14	
2003	10/26	103	
2004	10/11	89	
2005	9/ 8	55	
2006	9/11	58	
2007	9/17	64	
2008	10/29	107	
2009	9/29	76	
2010	10/23	100	
2011	10/ 2	79	
2012	10/ 2	80	
2013	9/ 2	49	
2014	9/23	70	
2015	10/23	100	
2016	9/ 2	50	
2017	11/14	122	

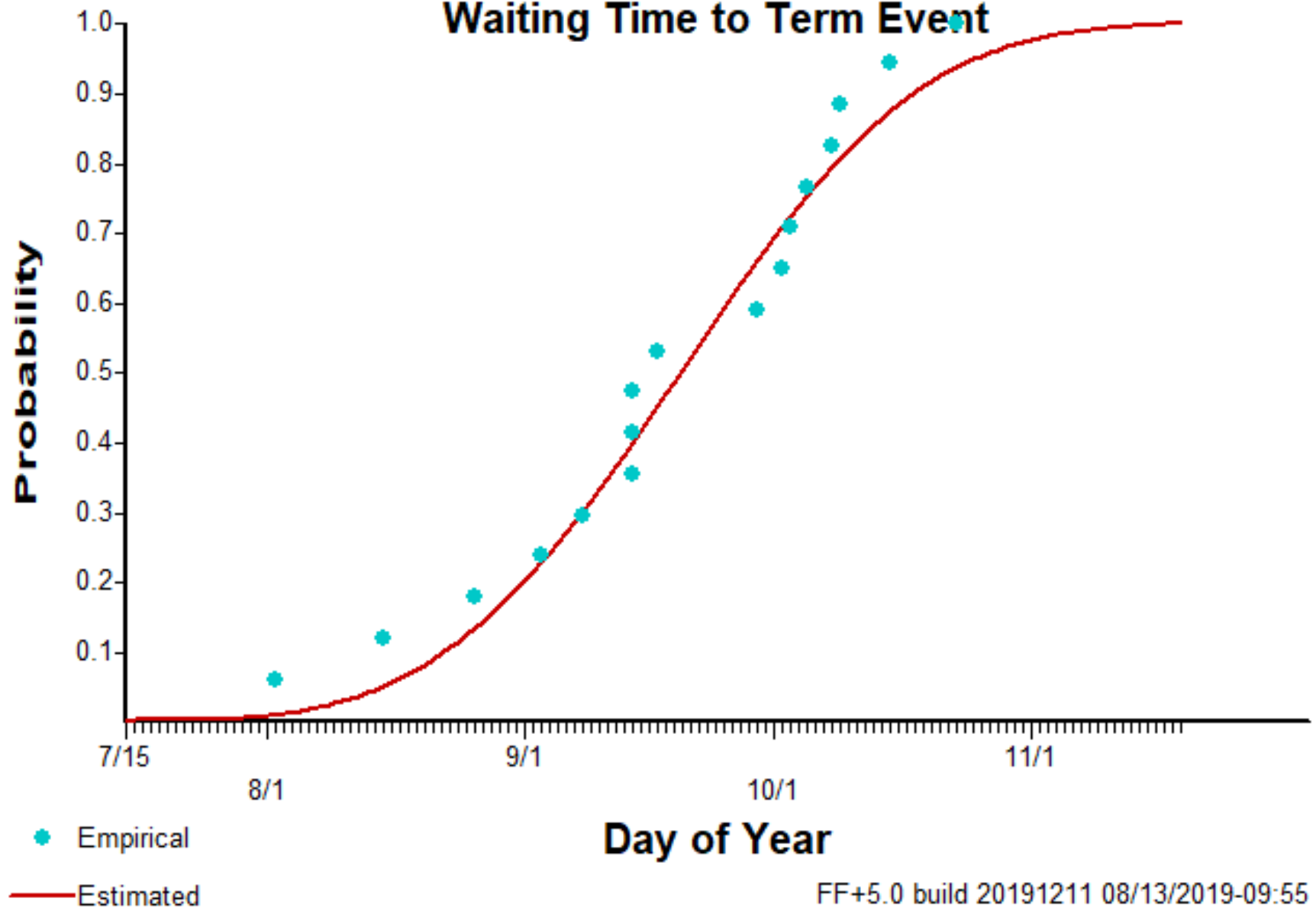**Key Probabilities**

Probability	Date
0.25	September 09
0.50	September 27
0.75	October 16
0.90	November 02
0.99	November 30

FF+5.0 build 20191211 08/13/2019-09:39

SIG - NR10
2000 - 2017
Waiting Time to Term Event

Probability

1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1

7/15   9/1   11/1
    8/1   10/1   12/1

Day of Year

• Empirical

— Estimated

FF+5.0 build 20191211 08/13/2019-09:39

NR11y West Central Montana
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR11
Term Name: NR11 Season Ending
Season Start Day: 7\15
Data Years: 2001 - 2017
Alpha: 3.415043
Beta: 0.013437
R-Squared: 0.970433

Comment:
Selected the date that the ERC reached the 60th percentile and did not recover

Term Dates
Year Day #Days Comment
2001 10/ 2   79
2002   8/ 2   18
2003 10/ 8   85
2004   8/14   31
2005   9/14   61
2006   9/14   61
2007   9/17   64
2008 10/ 2   80
2009   9/29   76
2010   8/26   42
2011 10/ 5   82
2012 10/ 8   86
2013   9/14   61
2014   9/ 8   55
2015 10/15   92
2016   9/ 2   50
2017 10/23   100

Key Probabilities
Probability   Date
 0.25   September 05
 0.50   September 20
 0.75   October 05
 0.90   October 19
 0.99   November 09

FF+5.0 build 20191211 08/13/2019-09:55

SIG - NR11
2001 - 2017
Waiting Time to Term Event

Probability

1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1

7/15   8/1   9/1   10/1   11/1

Day of Year

- Empirical
— Estimated

FF+5.0 build 20191211 08/13/2019-09:55

NR12y South Central Montana & Yellowstone NP
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR12
Term Name: NR12 SeasonEnding
Season Start Day: 7\15
Data Years: 2001 - 2017
Alpha: 3.696294
Beta: 0.013766
R-Squared: 0.975820

Comment:
Data set 2001-2017 Selected the date that the ERC reached 60 percentile and did not recover

Term Dates
Year Day #Days Comment

Year	Day	#Days	Comment
2001	10/ 2	79	
2002	9/ 5	52	
2003	10/23	100	
2004	8/14	31	
2005	9/ 8	55	
2006	9/14	61	
2007	9/17	64	
2008	10/ 2	80	
2009	9/29	76	
2010	10/ 5	82	
2011	10/ 2	79	
2012	10/11	89	
2013	9/ 2	49	
2014	8/ 2	18	
2015	9/29	76	
2016	9/ 8	56	
2017	9/11	58	

Key Probabilities

Probability	Date
0.25	September 05
0.50	September 19
0.75	October 03
0.90	October 15
0.99	November 02

FF+5.0 build 20191211 08/13/2019-10:23

SIG - NR12
2001 - 2017
Waiting Time to Term Event

Empirical

Estimated

Day of Year

Probability

FF+5.0 build 20191211 08/13/2019-10:23
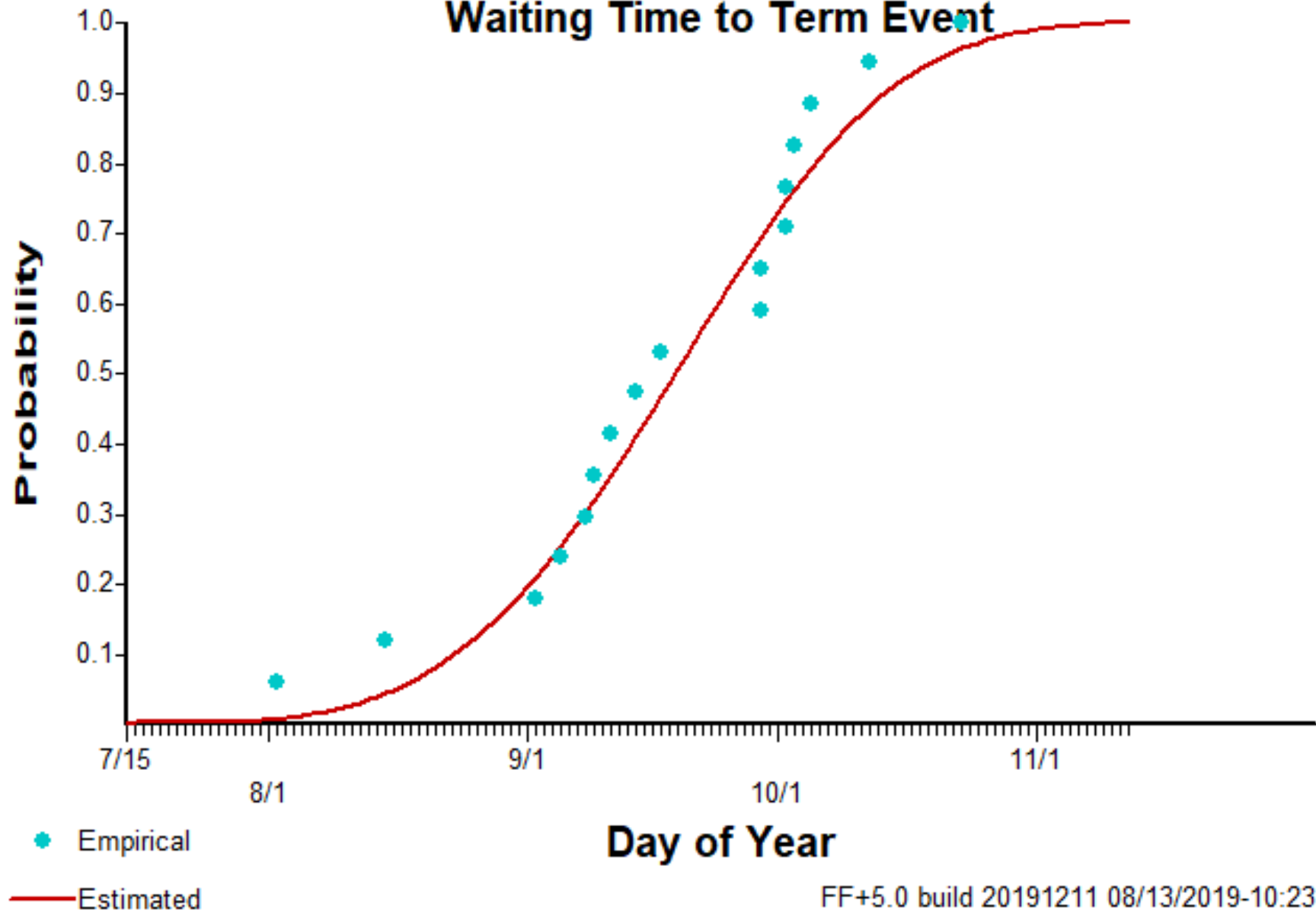
NR13w Northern Plains & Missouri Breaks
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR13
Term Name: NR13_SeasonEnding_G
Season Start Day: 10\1
Data Years: 2002 - 2017
Alpha: 3.805209
Beta: 0.018497
R-Squared: 0.934678

Comment:
For grass fuel types used a combination of BI 100 hr fuel moistures and last large fire over 5 acres
BI reached the 60th percentile (7) and did not recover for the year
Fuel Moistures reached the 60th percentile and did not recover
Last fire that reached 5 acres or more for the given year
Used the latest date

Term Dates

Year	Day	#Days	Comment
2002	12/13	73	100 hr fuel above 60%
2003	10/28	27	100 hr fuel above 60%
2004	11/18	49	BI below 60%
2005	11/23	53	Bi below 60%
2006	11/23	53	last fire over 5 acres
2007	11/23	53	100 hr fuel above 60%
2008	11/ 7	38	BI below 60%
2009	10/23	22	100 hr fuel above 60%
2010	11/18	48	100 hr fuel above 60%
2011	11/13	43	BI below 60%
2012	12/13	74	100 hr fuel above 60%
2013	11/19	49	Last fire over 5 acres
2014	11/23	53	Last fire over 5 acres
2015	12/ 9	69	BI below 60%
2016	11/23	54	BI below 60%
2017	10/17	16	Last fire over 5 acres

Key Probabilities

Probability	Date
0.25	November 09
0.50	November 20
0.75	November 29
0.90	December 08
0.99	December 21

FF+5.0 build 20191211 08/15/2019-14:11

SIG - NR13
2002 - 2017
Waiting Time to Term Event

Probability

Day of Year

- Empirical
- Estimated

FF+5.0 build 20191211 08/15/2019-14:11
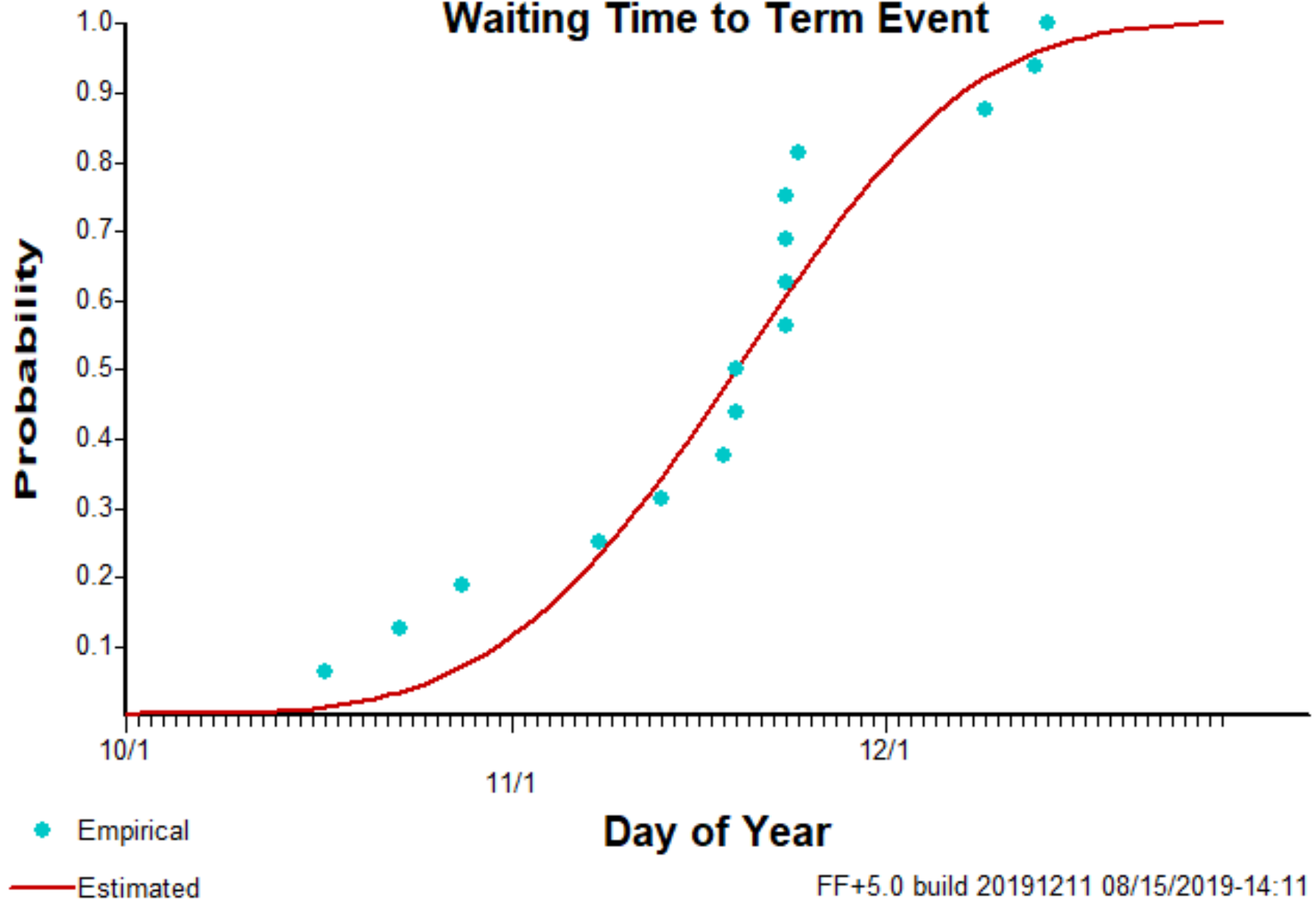
NR13y Northern Plains & Missouri Breaks
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR13
Term Name: NR13y_SeasonEnding
Season Start Day: 8\1
Data Years: 2000 - 2017
Alpha: 3.523538
Beta: 0.010704
R-Squared: 0.978104

Comment:
Season ending using the Y timber model. Date selected when the ERC hit the 60th percentile and did not recover.

Term Dates

Year	Day	#Days	Comment
2000	10/23	84	
2001	11/20	111	
2002	9/29	59	
2003	10/26	86	
2004	11/15	107	
2005	9/29	59	
2006	11/20	111	
2007	11/17	108	
2008	11/ 2	94	
2009	11/29	120	
2010	11/29	120	
2011	10/ 5	65	
2012	10/17	78	
2013	10/14	74	
2014	9/20	50	
2015	10/17	77	
2016	9/ 2	33	
2017	10/29	89	

Key Probabilities

Probability	Date
0.25	**October 06**
0.50	**October 25**
0.75	**November 12**
0.90	**November 28**
0.99	**December 24**

FF+5.0 build 20191211 08/13/2019-11:05

SIG - NR13
2000 - 2017
Waiting Time to Term Event

Probability

Day of Year

- Empirical
— Estimated

FF+5.0 build 20191211 08/13/2019-11:05
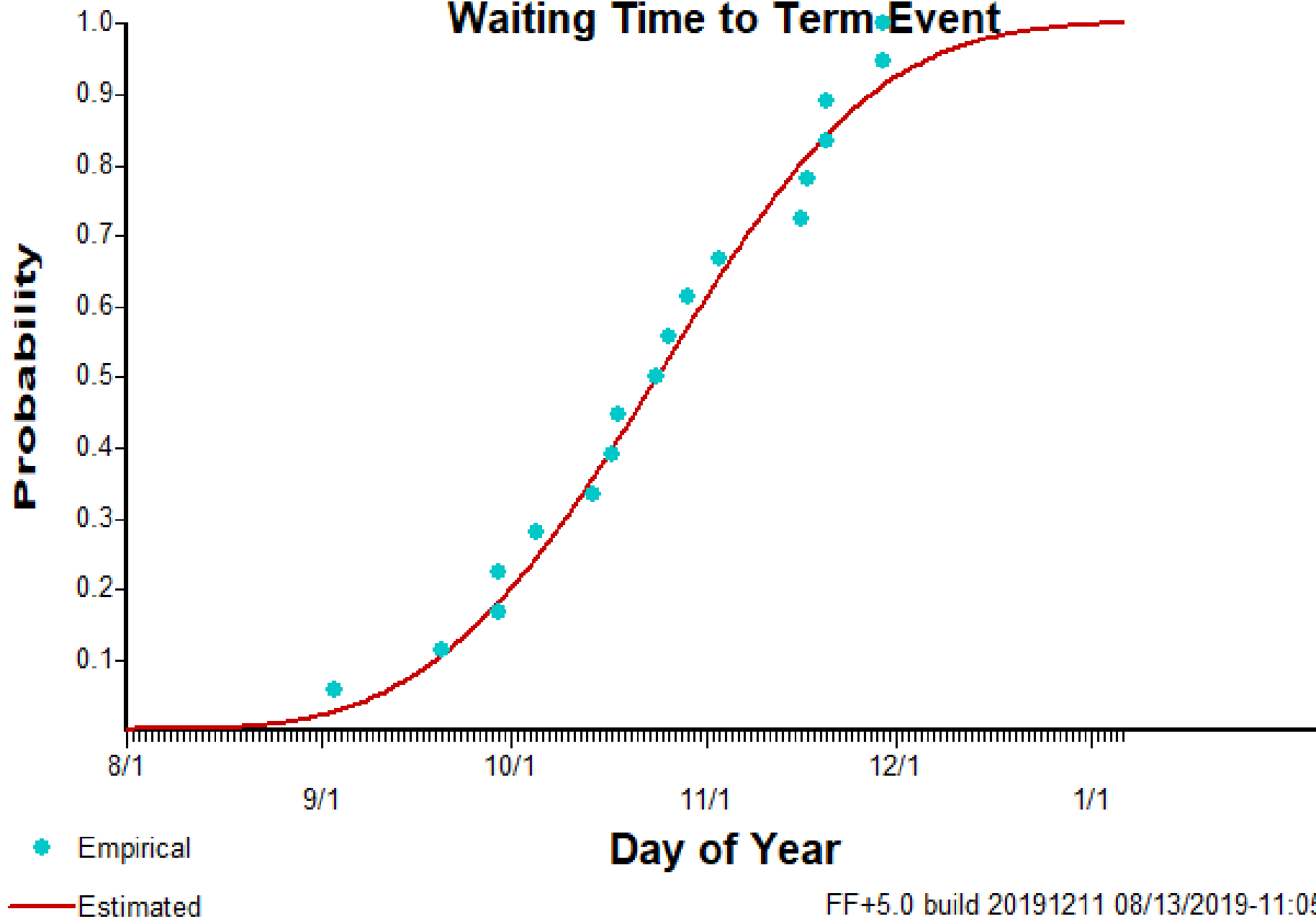
NR14w Southern Montana (Big Horn/Powder River)
Season Ending Graph and Report

Station: SIG - NR14
Term Name: NR14w_SeasonEnding
Season Start Day: 10\1
Data Years: 2001 - 2017
Alpha: 3.592761
Beta: 0.019225
R-Squared: 0.971726

Comment:
Fuel Model w used a combination of BI, 100 hr fuel moistures and last large fire
BI reached the 60% (24) and did not recover
100 Hr fuel moisture 60% (18) and did not drop below
Last larger fire over 5 acres in size

Term Dates

| Year	Day	#Days	Comment
2001	12/18	78	Last large fire
2002	10/23	22	100 hr fuel moistures used
2003	10/28	27	100 hour fuel moistures used
2004	11/23	54	100 hour fuel moistures used
2005	11/ 8	38	100 hour fuel moistures used
2006	11/21	51	Last large fire
2007	11/23	53	100 hour fuel moistures used
2008	11/ 3	34	100 hour fuel moistures used
2009	11/23	53	100 hour fuel moistures used
2010	11/13	43	100 hour fuel moistures used
2011	11/ 3	33	100 hour fuel moistures used
2012	11/ 8	39	100 hour fuel moistures used
2013	11/18	48	100 hour fuel moistures used
2014	11/23	53	Last large fire
2015	12/ 9	69	Last large fire
2016	11/18	49	100 hour fuel moistures used
2017	12/10	70	Last large fire

Key Probabilities

Probability	Date
0.25	November 07
0.50	November 17
0.75	November 27
0.90	December 06
0.99	December 20

FF+5.0 build 20191211 08/16/2019-14:48

SIG - NR14
2001 - 2017
Waiting Time to Term Event

Day of Year

- Empirical
- Estimated

FF+5.0 build 20191211 08/16/2019-14:48
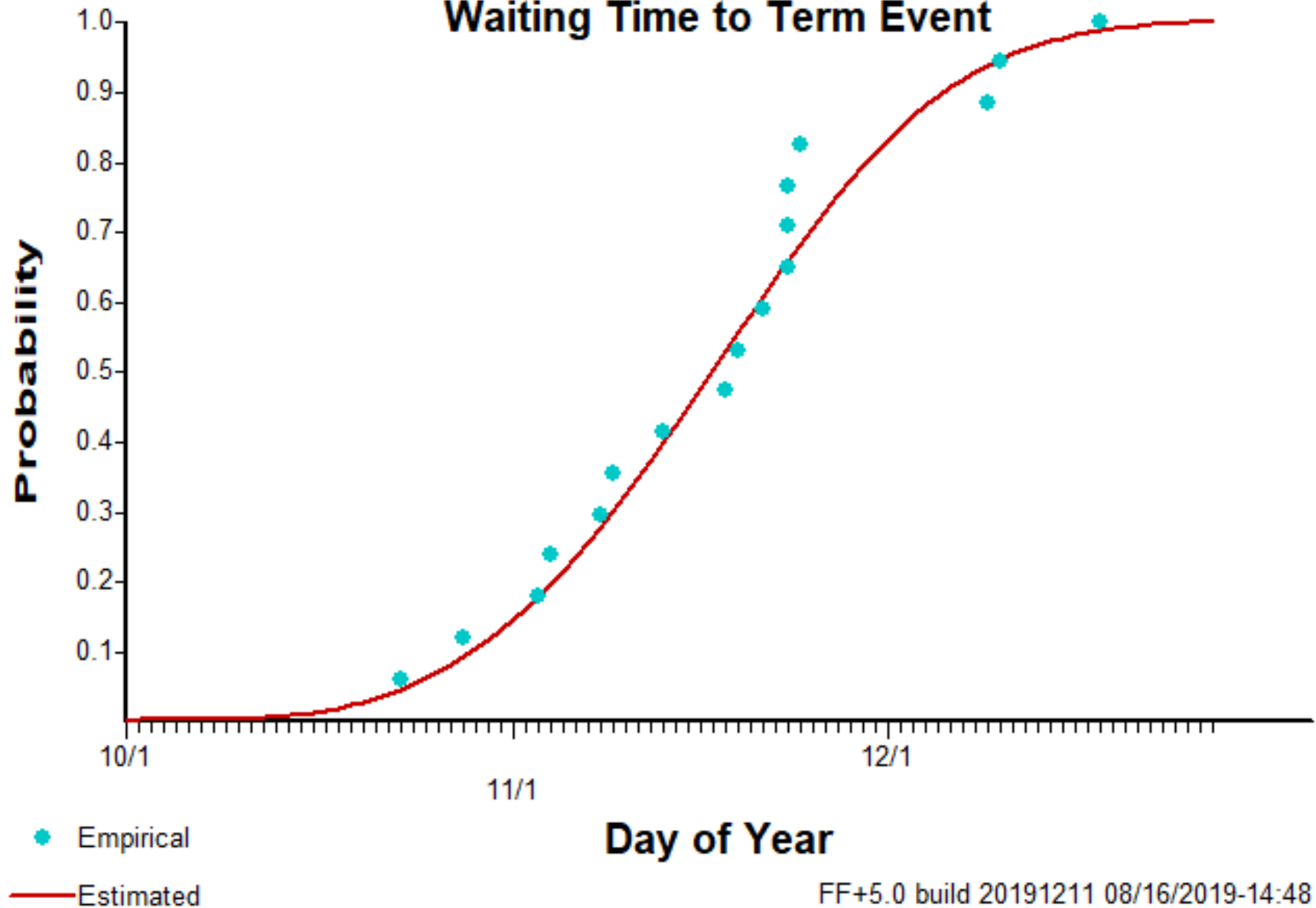
NR14y Southern Montana (Big Horn/Powder River)
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR14
Term Name: NR14y Season Ending
Season Start Day: 8\1
Data Years: 2000 - 2016
Alpha: 3.617712
Beta: 0.011980
R-Squared: 0.984254

Comment:

Term Dates

Year	Day	#Days	Comment
2000	9/29	60	
2001	11/17	108	
2002	9/17	47	
2003	10/26	86	
2004	10/11	72	
2005	10/26	86	
2006	9/14	44	
2007	11/17	108	
2008	10/ 5	66	
2009	10/ 2	62	
2010	11/ 5	96	
2011	10/ 5	65	
2012	10/14	75	
2013	9/23	53	
2014	11/ 8	99	
2015	10/17	77	
2016	11/14	106	

Key Probabilities

Probability	Date
0.25	September 30
0.50	October 16
0.75	November 01
0.90	November 15
0.99	December 07

FF+5.0 build 20191211 08/13/2019-12:52

SIG - NR14
2000 - 2016
Waiting Time to Term Event

Probability

Day of Year

- Empirical
- Estimated

FF+5.0 build 20191211 08/13/2019-12:52
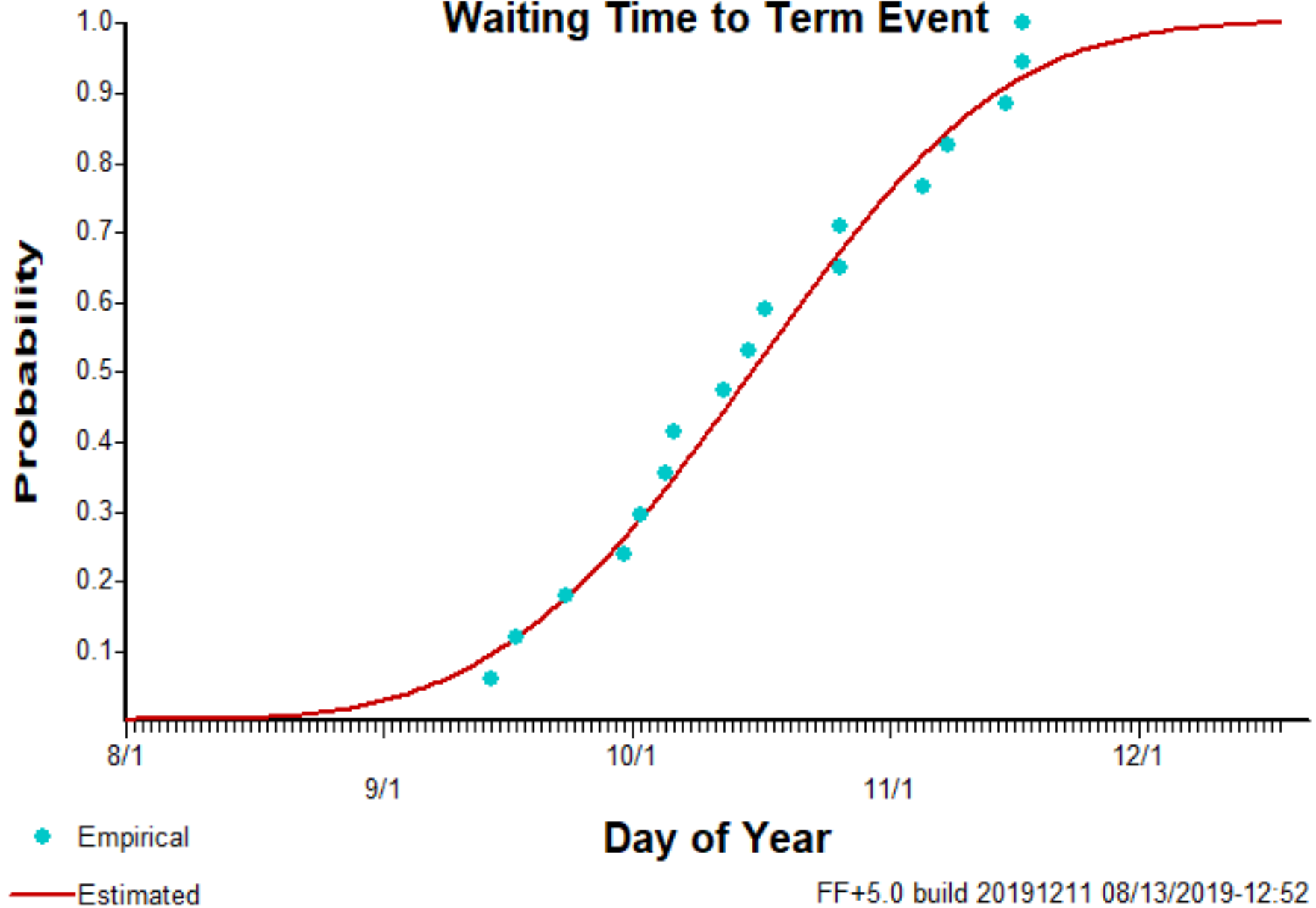
NR15w Northeast Montana & Northwest North Dakota
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR15
Term Name: NR15 Season Ending
Season Start Day: 10\1
Data Years: 2001 - 2017
Alpha: 3.238808
Beta: 0.016611
R-Squared: 0.964620

Comment:
Fuel model W was used for season ending a combination of 100 hr fuel moistures and last large fire.
BI so low that it was not used.
100 hr fuel moisture reached the 60th percentile and did not decline for the given year
Last large fire over 5 acres

Term Dates

Year	Day	#Days	Comment
2001	12/18	78	Last large fire
2002	12/ 1	61	Last large fire
2003	10/28	27	100 hr fuel moisture used
2004	12/19	80	Last large fire
2005	11/23	53	100 hr fuel moisture used
2006	11/28	58	100 hr fuel moisture used
2007	11/23	53	100 hr fuel moisture used
2008	11/ 8	39	100 hr fuel moisture used
2009	12/ 2	62	100 hr fuel moisture used
2010	11/ 8	38	100 hr fuel moisture used
2011	11/29	59	Last large fire
2012	10/23	23	100 hr fuel moisture used
2013	11/18	48	100 hr fuel moisture used
2014	12/18	78	Last large fire
2015	12/ 8	68	Last large fire
2016	11/28	59	Last large fire
2017	10/17	16	Last large fire

Key Probabilities

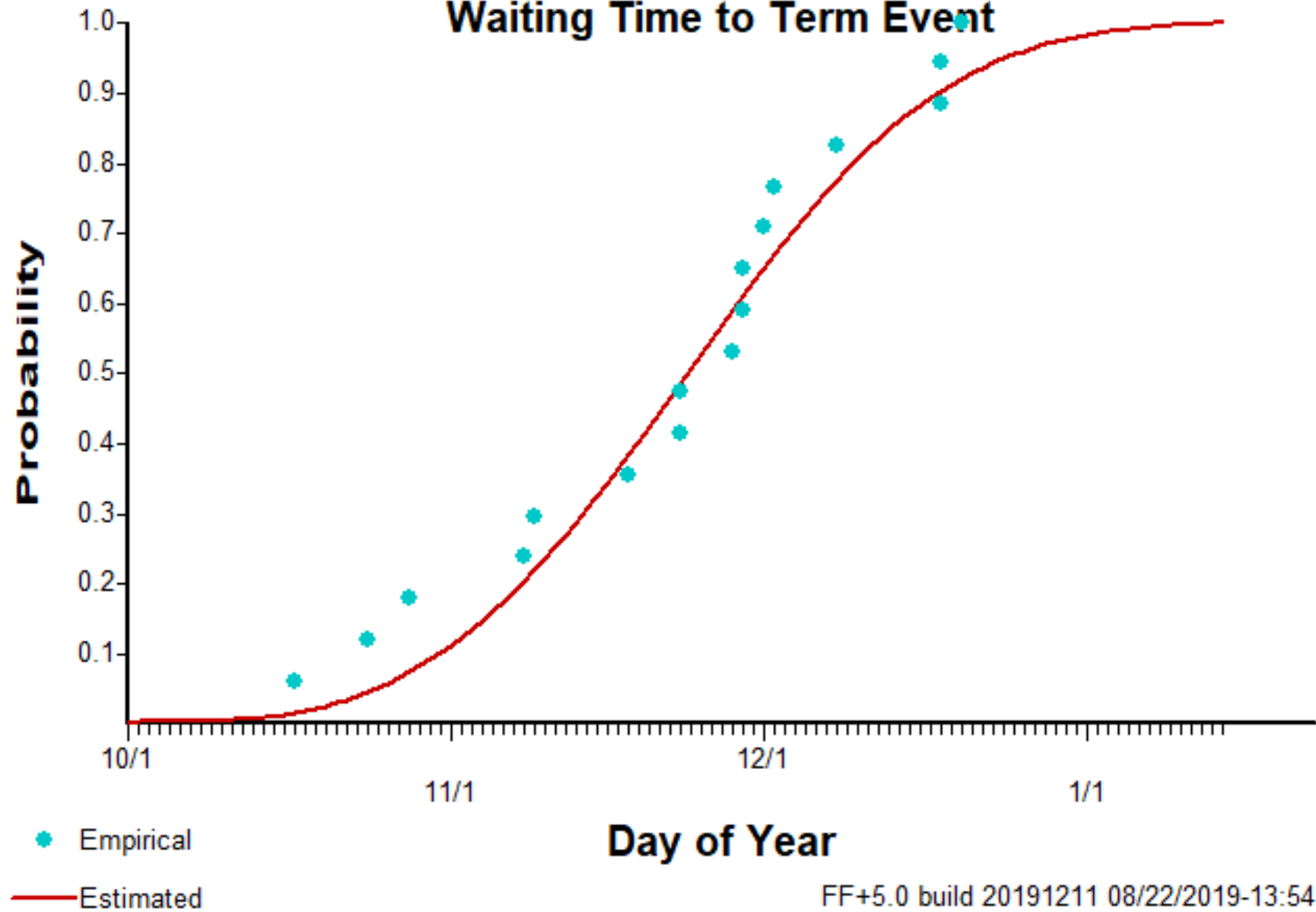| Probability	Date
0.25	November 11
0.50	November 24
0.75	December 07
0.90	December 18
0.99	January 06

FF+5.0 build 20191211 08/22/2019-13:54

SIG - NR15
2001 - 2017
Waiting Time to Term Event

- Empirical
- Estimated

Probability

Day of Year

FF+5.0 build 20191211 08/22/2019-13:54

NR15y Northeast Montana & Northwest North Dakota
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR15
Term Name: NR15y Season Ending
Season Start Day: 9\1
Data Years: 2001 - 2017
Alpha: 3.122353
Beta: 0.014379
R-Squared: 0.985557

Comment:
Fuel model y timber used for season ending. Date the ERC reached the 60th percentile
and did not recover

Term Dates

Year	Day	#Days	Comment
2001	11/29	89	
2002	10/11	40	
2003	10/26	55	
2004	11/20	81	
2005	11/ 2	62	
2006	9/14	13	
2007	11/17	77	
2008	11/ 2	63	
2009	11/23	83	
2010	10/23	52	
2011	11/ 5	65	
2012	10/20	50	
2013	10/ 8	37	
2014	11/ 2	62	
2015	10/17	46	
2016	11/26	87	
2017	12/26	116	

Key Probabilities

Probability	Date
0.25	**October 18**
0.50	**November 02**
0.75	**November 18**
0.90	**December 01**
0.99	**December 24**

FF+5.0 build 20191211 08/22/2019-14:19

NR16w Southeast Montana & Southwest North Dakota
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR16
Term Name: NR16w Season Ending
Season Start Day: 10\1
Data Years: 2001 - 2017
Alpha: 5.325409
Beta: 0.016880
R-Squared: 0.964455

Comment:
Fuel Model W was used for the term file for a season ending for the FSA. A combination of 100 hr fuel moistures,
BI and last large fire selecting the last date in the year that one of the indices was met or the last larger fire.
100 hr fuel moisture reached the 60% (17) and did not decline
BI reached the 60% and did not recover
Last large fire over 5 acres

Term Dates

Year	Day	#Days	Comment
2001	11/23	53	100 hr fuel moisture used
2002	12/13	73	BI used
2003	10/28	27	BI and 100 hr fuel moisture used
2004	11/23	54	Bi and 100 hr fuel moisture used
2005	11/23	53	BI used
2006	11/28	58	100 hr fuel moisture used
2007	11/22	52	100 hour fuel moisture used
2008	11/ 3	34	BI and 100 hr fuel moisture used
2009	12/ 3	63	100 hr fuel moisture used
2010	11/ 8	38	BI used
2011	11/29	59	Last large fire
2012	12/ 3	64	BI used
2013	11/15	45	Last large fire
2014	11/23	53	Last large fire
2015	12/ 8	68	BI used
2016	11/23	54	BI used
2017	12/13	73	BI used

Key Probabilities

Probability	Date
0.25	November 17
0.50	November 26
0.75	December 03
0.90	December 10
0.99	December 19

FF+5.0 build 20191211 08/21/2019-11:24

SIG - NR16
2001 - 2017
Waiting Time to Term Event

Probability

Day of Year

- Empirical
- Estimated

FF+5.0 build 20191211 08/21/2019-11:24
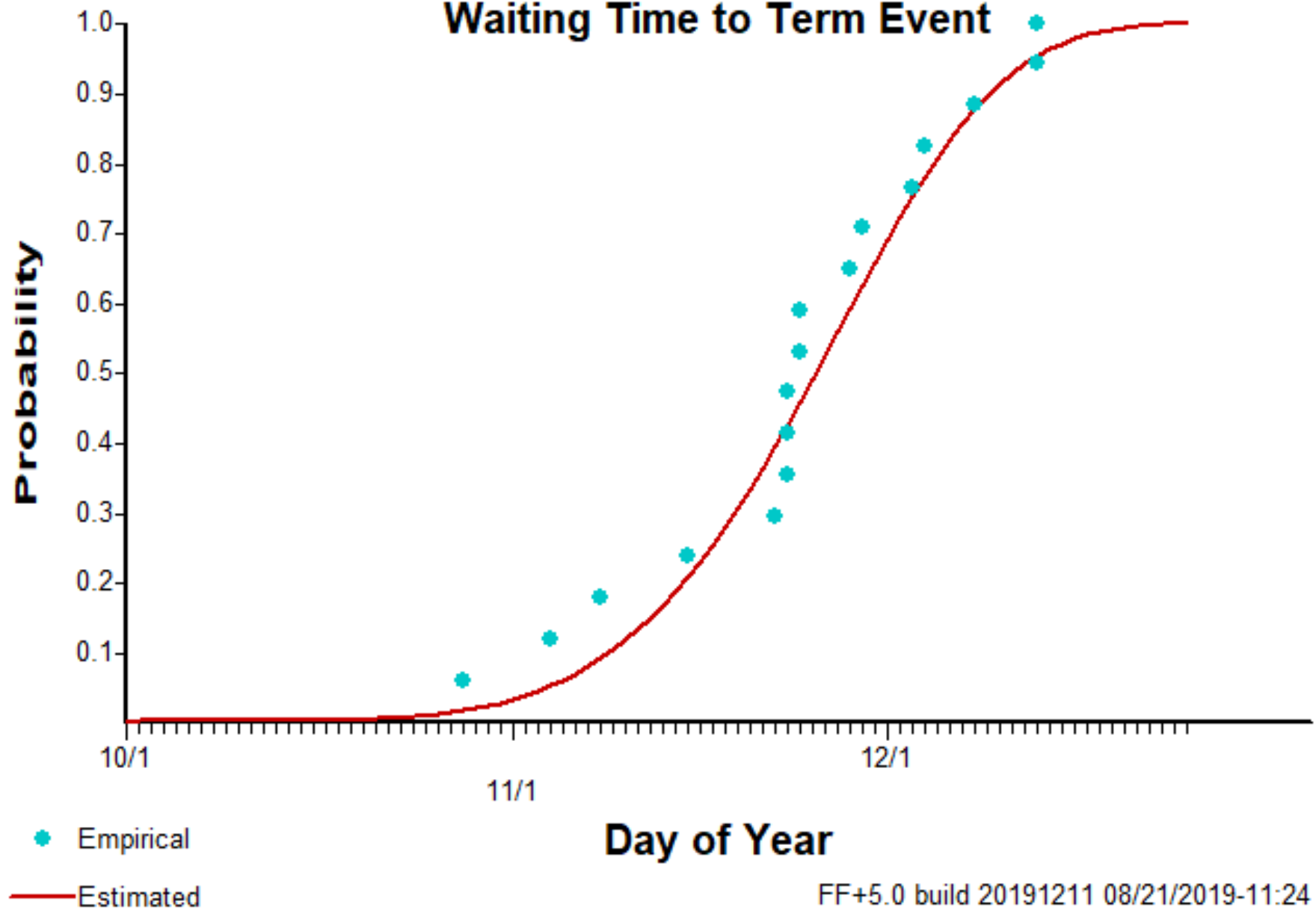
NR16y Southeast Montana & Southwest North Dakota
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR16
Term Name: NR16y Season Ending
Season Start Day: 8\1
Data Years: 2005 - 2016
Alpha: 5.746452
Beta: 0.009100
R-Squared: 0.967577

Comment:
Timber Fuel Model Y Date used when the ERC reached the 60th percentile and did not recover.

Term Dates

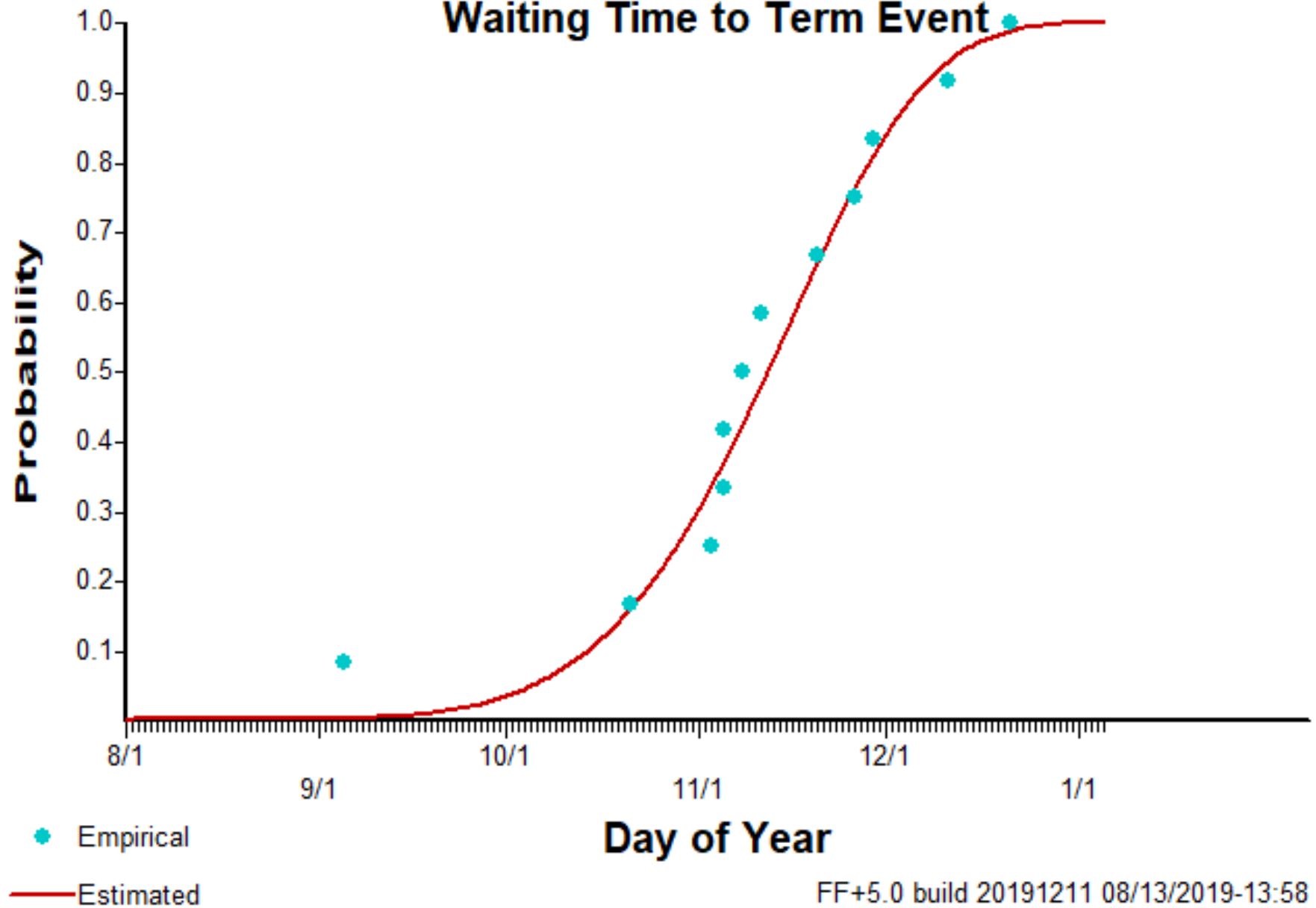| Year	Day	#Days	Comment
2005	11/ 8	99	
2006	11/26	117	
2007	11/20	111	
2008	11/ 2	94	
2009	11/29	120	
2010	11/ 5	96	
2011	11/11	102	
2012	10/20	81	
2013	9/ 5	35	
2014	11/ 5	96	
2015	12/11	132	
2016	12/20	142	

Key Probabilities

Probability	Date
0.25	October 29
0.50	November 13
0.75	November 26
0.90	December 07
0.99	December 23

FF+5.0 build 20191211 08/13/2019-13:58

SIG - NR16
2005 - 2016
Waiting Time to Term Event

NR17w Northeastern North Dakota
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR17
Term Name: NR17w Season Ending
Season Start Day: 10\15
Data Years: 2002 - 2017
Alpha: 3.069443
Beta: 0.022190
R-Squared: 0.964332

Comment:
Fuel Model W was used for season ending. A combination of 100 hr fuel moistures, BI and last larger fire was used
100 Hr fuel moisture reached 60% and did not decline
BI reached the 60% and did not recover
Last large fire over 5 acres.

Term Dates
Year	Day	#Days	Comment
2002	12/16	62	Last large fire
2003	10/28	13	100 hr fuel moisture was used
2004	11/28	45	100 hr fuel moisture was used
2005	11/18	34	BI was used
2006	11/28	44	100 hr and BI was used
2007	11/23	39	100 hr fuel moisture was used
2008	11/28	45	100 hr fuel moisture was used
2009	11/28	44	100 hr fuel moisturer was used
2010	11/ 7	23	Last large fire
2011	12/13	59	100 hr fuel moisture was used
2012	11/ 1	18	Last large fire
2013	11/18	34	100 hr fuel moisture was used
2014	11/ 8	24	100 hr fuel moisture was used
2015	12/ 8	54	Last large fire
2016	11/28	45	100 hr fuel moisture was used
2017	12/ 3	49	BI was used

Key Probabilities
Probability	**Date**
0.25	**November 15**
0.50	**November 24**
0.75	**December 05**
0.90	**December 14**
0.99	**December 29**

FF+5.0 build 20191211 08/21/2019-14:04

SIG - NR11
2001 - 2017
Waiting Time to Term Event

Empirical

Estimated

Day of Year

Probability

FF+5.0 build 20191211 08/16/2019-13:07
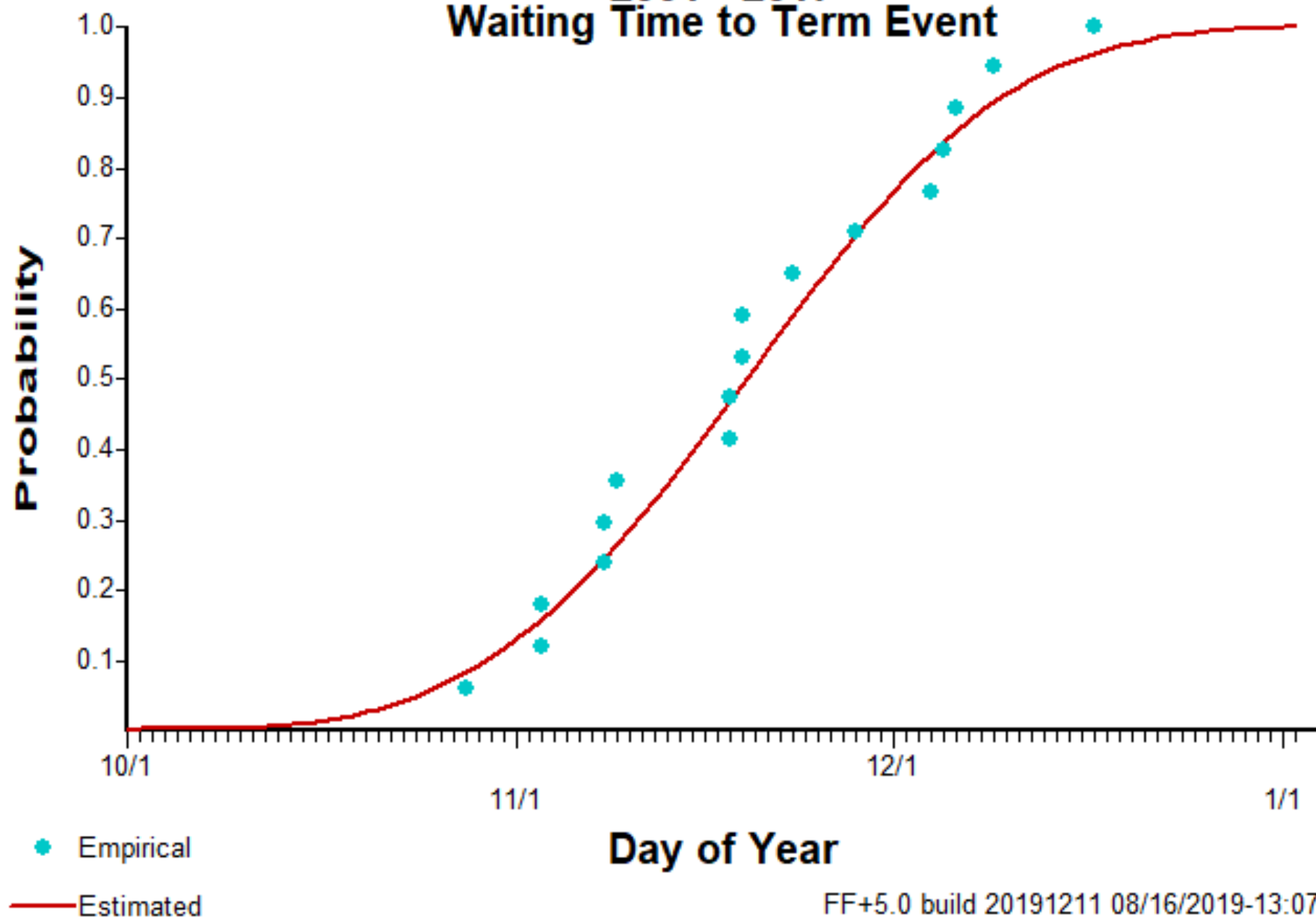
NR17y Northeastern North Dakota
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR17
Term Name: NR17y Seasonal Ending
Season Start Day: 10\1
Data Years: 2001 - 2017
Alpha: 2.346452
Beta: 0.023945
R-Squared: 0.981467

Comment:
Fuel model y Timber was used for season ending used a 3 day when the ERCs reached
the 60th percentile and did not recover for the given year.

Term Dates

| Year	Day	#Days	Comment
2001	10/20	19	Last day data for year
2002	10/14	13	
2003	10/29	28	
2004	11/23	54	
2005	11/11	41	
2006	11/11	41	
2007	11/20	50	
2008	11/ 2	33	
2009	11/26	56	
2010	10/23	22	
2011	11/14	44	
2012	10/17	17	
2013	11/11	41	
2014	11/ 5	35	
2015	10/20	19	
2016	11/14	45	
2017	12/26	86	

Key Probabilities

Probability	Date
0.25	October 26
0.50	November 06
0.75	November 18
0.90	November 30
0.99	December 21

FF+5.0 build 20191211 08/22/2019-10:36

SIG - NR17
2001 - 2017
Waiting Time to Term Event

Probability

Day of Year
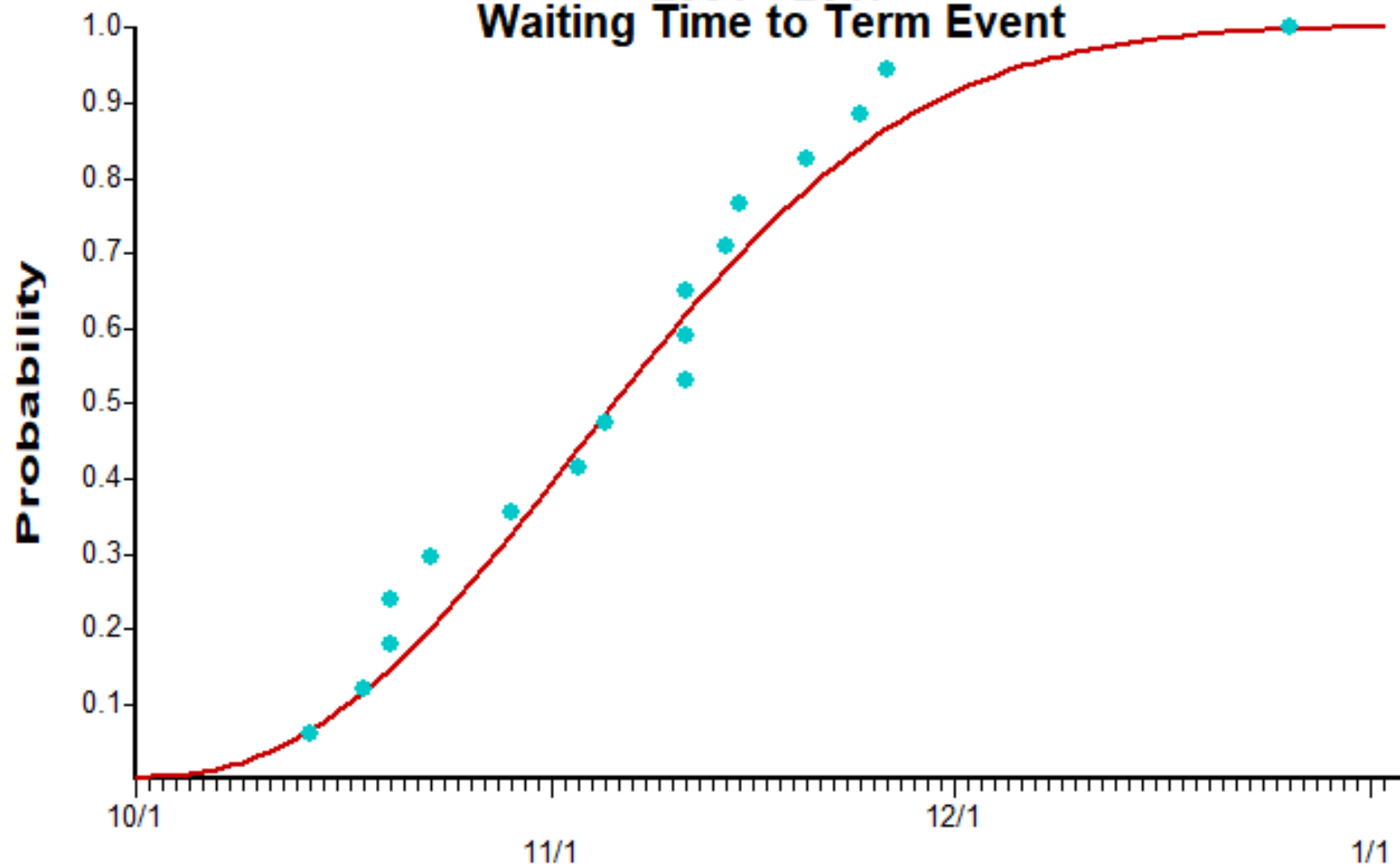
* Empirical

— Estimated

FF+5.0 build 20191211 08/22/2019-10:36

NR18w Southeastern North Dakota
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR18
Term Name: NR18w Season Ending
Season Start Day: 10\1
Data Years: 2001 - 2017
Alpha: 5.633618
Beta: 0.016643
R-Squared: 0.922539

Comment:
Used fuel model w for the Season Ending 5 day average with a combination of 100 hr fuel moisture, BI, and last large fire for a given year
100 hr fuel moisture when it reached the 60% and did not drop below for the remainder of the year.
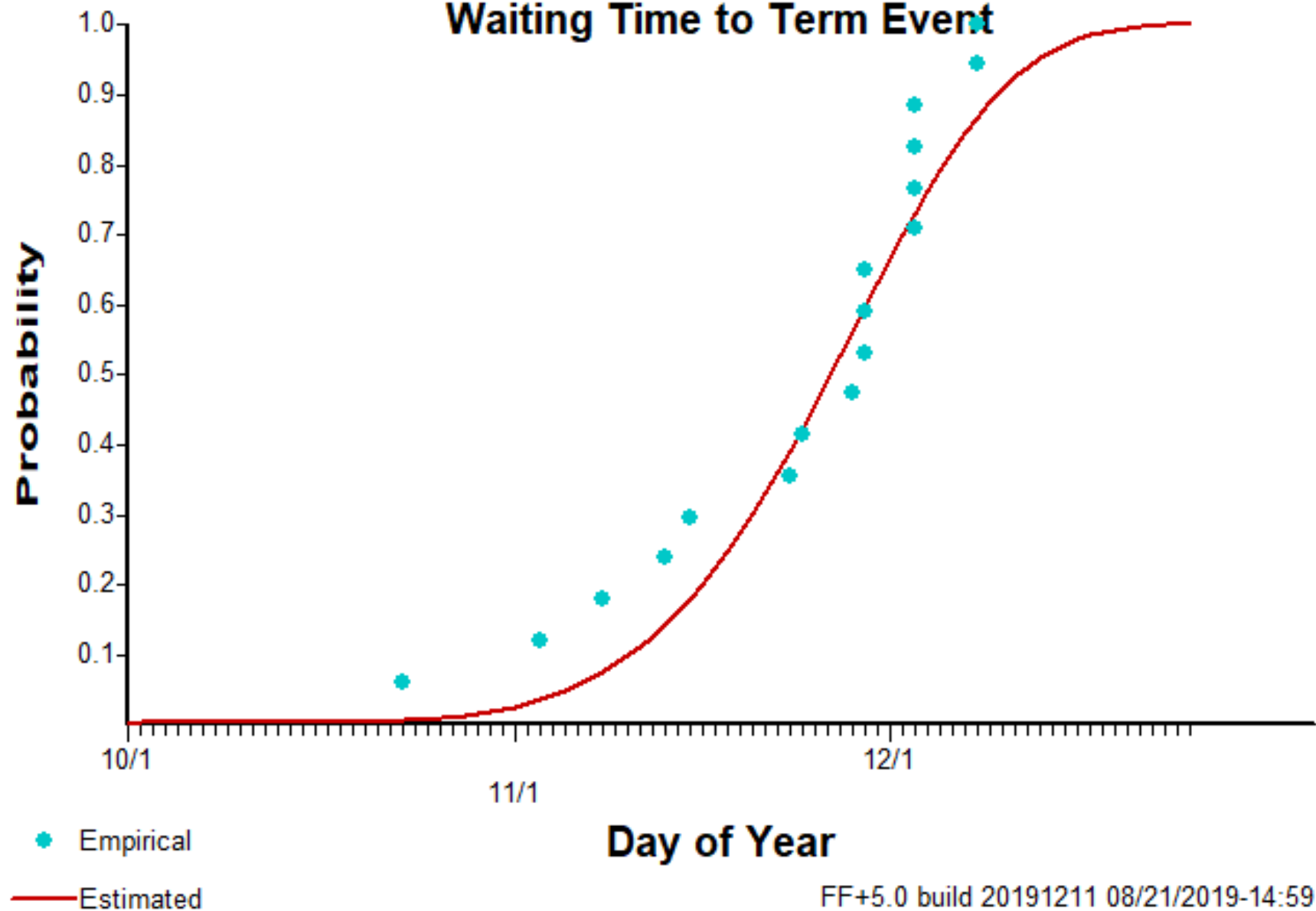BI 60th and it did not recover
Last large fire over 5 acres

Term Dates

Year	Day	#Days	Comment
2001	10/23	22	100 hr fuel moisture and BI
2002	12/ 3	63	Last large fire
2003	11/ 3	33	100 hr fuel moisture used
2004	11/28	59	100 hr fuel moisture used
2005	11/13	43	100 hr fuel moisture and BI used
2006	12/ 3	63	100 hr fuel moisture used
2007	11/28	58	100 hr fuel moisture used
2008	11/28	59	100 hr fuel moisture used
2009	12/ 3	63	100 hr fuel moisture used
2010	11/23	53	100 hr fuel moisture used
2011	11/29	59	Last large fire
2012	12/ 7	68	100 hr fuel moisture used
2013	11/15	45	100 hr fuel moisture used
2014	11/ 8	38	100 hr fuel moisture used
2015	12/ 8	68	Last large fire
2016	11/23	54	Last large fire and BI used
2017	12/ 3	63	BI used

Key Probabilities

Probability	Date
0.25	November 19
0.50	November 27
0.75	December 04
0.90	December 10
0.99	December 19

FF+5.0 build 20191211 08/21/2019-14:59

SIG - NR18
2001 - 2017
Waiting Time to Term Event

Probability

Day of Year

Empirical

Estimated

FF+5.0 build 20191211 08/21/2019-14:59

NR18y Southeastern North Dakota
Season Ending Graph and Report

FireFamily Plus Term Report

Station: SIG - NR18
Term Name: NR18y Season Ending
Season Start Day: 10\1
Data Years: 2001 - 2017
Alpha: 2.043439
Beta: 0.024099
R-Squared: 0.971987

Comment:
Fuel model Y Timber was used for season ending. A 3 day average where the ERC was at the 60th percentile and did not recover for the given year

Term Dates
Year Day #Days Comment
2001   10/17   16
2002   10/11   10
2003   10/26   25
2004   10/11   11
2005   11/11   41
2006   11/26   56
2007   11/20   50
2008   11/ 2   33
2009   11/23   53
2010   10/23   22
2011   11/17   47
2012   10/17   17
2013   11/ 5   35
2014   11/ 6   36
2015   11/14   44
2016   11/17   48
2017   12/14   74

Key Probabilities

Probability	Date
0.25	October 24
0.50	November 05
0.75	November 19
0.90	December 03
0.99	December 28

FF+5.0 build 20191211 08/22/2019-09:34