

# Instrat® Analysis

## North Carolina FAIR Plan Coastal + Inland Results

### Per Occurrence PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$18,860,419	\$552,461,167	\$572,217,015
500	\$15,635,848	\$458,629,523	\$474,265,371
250	\$11,763,787	\$332,727,107	\$342,676,773
100	\$6,967,335	\$190,983,004	\$196,678,287
50	\$4,310,236	\$119,173,565	\$123,032,569
20	\$1,716,940	\$48,225,059	\$50,101,356

### Annual Aggregate PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$19,755,847	\$624,097,167	\$642,426,847
500	\$16,029,717	\$473,351,944	\$486,006,461
250	\$12,350,497	\$351,741,322	\$364,236,479
100	\$7,347,910	\$197,144,001	\$203,849,288
50	\$4,535,900	\$125,747,973	\$130,180,808
20	\$1,810,788	\$50,906,762	\$53,355,704

Average Annual Loss	\$374,562	\$10,593,605	\$10,968,168
Standard Deviation	\$1,559,556	\$45,398,524	\$46,936,942
100 Yr PML:Premium	4.5	7.7	7.45
Implied HU Loss Ratio	24.1%	42.6%	77.1%

<u>Exposure Summary:</u>	<u>Commercial</u>	<u>Personal</u>	<u>Combined</u>
TIV	\$288,077,174	\$4,574,540,104	\$4,862,617,278
Premium	\$1,556,012	\$24,848,728	\$26,404,740
Policy Count	1,748	66,522	68,270
Location Count	2,859	81,308	84,167

### Modeling Notes:

1. Frequency represents the near term ("stochastic"/"WSST") view.
2. Demand surge ("loss amplification") is included in both models.
3. Storm surge is excluded in both models.

# Instrat® Analysis

## North Carolina FAIR Plan Inland Results

### Per Occurrence PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$5,891,492	\$83,344,057	\$86,878,986
500	\$4,427,679	\$71,905,498	\$76,509,852
250	\$3,384,632	\$51,794,066	\$55,400,843
100	\$1,891,363	\$30,067,223	\$31,857,157
50	\$1,026,068	\$16,023,674	\$17,008,960
20	\$370,093	\$6,657,472	\$7,065,025

### Annual Aggregate PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$5,983,045	\$93,249,894	\$96,508,706
500	\$4,604,353	\$76,301,281	\$79,549,884
250	\$3,554,546	\$56,255,007	\$60,463,723
100	\$1,973,365	\$30,628,100	\$32,748,807
50	\$1,068,549	\$16,202,574	\$17,460,745
20	\$392,034	\$7,026,480	\$7,406,505

Average Annual Loss	\$87,637	\$1,480,694	\$1,568,331
Standard Deviation	\$435,942	\$6,736,885	\$7,133,555
100 Yr PML:Premium	2.5	3.0	2.95
Implied HU Loss Ratio	11.8%	14.7%	24.7%

<u>Exposure Summary:</u>	<u>Commercial</u>	<u>Personal</u>	<u>Combined</u>
TIV	\$200,615,018	\$2,260,613,041	\$2,461,228,059
Premium	\$743,663	\$10,072,248	\$10,815,911
Policy Count	1,250	38,368	39,618
Location Count	2,104	49,260	51,364

### Modeling Notes:

1. Frequency represents the near term ("stochastic"/"WSST") view.
2. Demand surge ("loss amplification") is included in both models.
3. Storm surge is excluded in both models.

# Instrat® Analysis

## North Carolina FAIR Plan Coastal Results

### Per Occurrence PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$14,852,576	\$487,652,176	\$502,521,728
500	\$12,673,043	\$420,533,425	\$433,627,678
250	\$9,481,646	\$294,118,689	\$303,436,341
100	\$5,365,263	\$172,702,096	\$177,253,251
50	\$3,350,352	\$104,257,844	\$107,143,489
20	\$1,350,144	\$40,636,787	\$42,162,719

### Annual Aggregate PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$15,188,836	\$529,356,500	\$546,321,006
500	\$12,900,365	\$425,443,822	\$438,310,549
250	\$9,604,511	\$304,340,863	\$312,884,285
100	\$5,667,437	\$181,561,527	\$187,816,504
50	\$3,502,517	\$108,330,845	\$111,602,225
20	\$1,411,278	\$43,389,281	\$44,813,778

Average Annual Loss	\$286,925	\$9,112,911	\$9,399,836
Standard Deviation	\$1,228,793	\$39,787,064	\$41,000,154
100 Yr PML:Premium	6.6	11.7	11.37
Implied HU Loss Ratio	35.3%	61.7%	74.6%

<u>Exposure Summary:</u>	<u>Commercial</u>	<u>Personal</u>	<u>Combined</u>
TIV	\$87,462,156	\$2,313,927,063	\$2,401,389,219
Premium	\$812,349	\$14,776,480	\$15,588,829
Policy Count	498	28,154	28,652
Location Count	755	32,048	32,803

### Modeling Notes:

1. Frequency represents the near term ("stochastic"/"WSST") view.
2. Demand surge ("loss amplification") is included in both models.
3. Storm surge is excluded in both models.

# Instrat® Analysis

## North Carolina IUA Beach and Coastal Results

### Per Occurrence PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$1,397,073,329	\$10,203,106,838	\$11,534,036,922
500	\$1,209,277,402	\$8,744,557,708	\$9,980,466,822
250	\$897,747,365	\$6,184,124,833	\$7,134,400,146
100	\$543,410,340	\$3,394,504,376	\$3,974,939,523
50	\$329,303,081	\$2,027,780,421	\$2,353,757,222
20	\$135,005,095	\$842,858,569	\$982,261,788

### Annual Aggregate PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$1,449,672,087	\$10,710,374,864	\$12,060,348,397
500	\$1,292,332,362	\$8,861,720,874	\$10,155,274,685
250	\$952,945,629	\$6,307,768,677	\$7,368,838,913
100	\$582,806,543	\$3,574,524,930	\$4,170,444,469
50	\$343,014,047	\$2,143,368,876	\$2,488,291,628
20	\$144,155,432	\$910,163,477	\$1,057,693,893

Average Annual Loss	\$28,772,439	\$189,422,067	\$218,194,506
Standard Deviation	\$120,655,522	\$823,352,763	\$943,367,432
100 Yr PML:Premium	11.2	14.8	14.27
Implied HU Loss Ratio	59.3%	82.4%	39.0%

### Exposure Summary:

	<u>Commercial</u>	<u>Personal</u>	<u>Combined</u>
TIV	\$8,898,167,678	\$63,517,931,322	\$72,416,099,000
Premium	\$48,539,431	\$229,952,874	\$278,492,305
Policy Count	9,659	164,251	173,910
Location Count	23,221	168,010	191,231

### Modeling Notes:

1. Frequency represents the near term ("stochastic"/"WSST") view.
2. Demand surge ("loss amplification") is included in both models.
3. Storm surge is excluded in both models.

# Instrat® Analysis

## North Carolina IUA Beach Results

### Per Occurrence PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$540,589,146	\$3,306,512,661	\$3,870,159,849
500	\$439,541,606	\$2,640,407,565	\$2,999,316,339
250	\$369,343,540	\$1,911,613,036	\$2,282,594,146
100	\$204,567,393	\$1,131,007,645	\$1,321,366,127
50	\$132,424,626	\$716,032,696	\$852,861,932
20	\$55,297,224	\$304,429,482	\$361,428,655

### Annual Aggregate PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$579,383,112	\$3,426,916,376	\$4,070,023,556
500	\$460,737,734	\$2,688,829,880	\$3,176,023,823
250	\$380,501,314	\$1,935,021,839	\$2,309,859,135
100	\$218,578,472	\$1,187,974,142	\$1,407,444,658
50	\$140,354,924	\$764,229,066	\$916,386,064
20	\$58,399,114	\$322,411,541	\$385,218,146
Average Annual Loss	\$11,449,418	\$65,082,918	\$76,532,337
Standard Deviation	\$46,036,681	\$266,220,616	\$311,616,334
100 Yr PML:Premium	7.7	10.3	9.66
Implied HU Loss Ratio	43.2%	59.0%	36.5%

### Exposure Summary:

	<u>Commercial</u>	<u>Personal</u>	<u>Combined</u>
TIV	\$3,147,621,814	\$20,721,434,257	\$23,869,056,071
Premium	\$26,486,907	\$110,314,090	\$136,800,997
Policy Count	2,830	50,504	53,334
Location Count	6,645	52,568	59,213

### Modeling Notes:

1. Frequency represents the near term ("stochastic"/"WSST") view.
2. Demand surge ("loss amplification") is included in both models.
3. Storm surge is excluded in both models.

# Instrat® Analysis

## North Carolina IUA Coastal Results

### Per Occurrence PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$915,033,524	\$7,601,612,766	\$8,493,126,823
500	\$788,632,847	\$6,630,076,799	\$7,446,519,120
250	\$606,192,737	\$4,151,283,694	\$4,711,071,430
100	\$318,955,116	\$2,262,016,574	\$2,597,937,196
50	\$195,354,836	\$1,344,978,132	\$1,552,230,604
20	\$81,389,978	\$544,105,594	\$623,328,276

### Annual Aggregate PMLs:

Return Period	AIR		
	Commercial	Personal	Combined
1,000	\$973,577,418	\$7,995,517,361	\$8,941,270,951
500	\$835,423,478	\$6,745,106,925	\$7,598,249,176
250	\$617,484,029	\$4,223,751,779	\$4,838,984,204
100	\$334,751,342	\$2,430,539,621	\$2,789,719,719
50	\$204,578,852	\$1,400,060,370	\$1,608,272,400
20	\$84,394,015	\$574,758,163	\$653,942,077

Average Annual Loss	\$17,323,021	\$124,339,149	\$141,662,170
Standard Deviation	\$76,619,520	\$582,846,156	\$659,019,107
100 Yr PML:Premium	14.5	18.9	18.34
Implied HU Loss Ratio	78.6%	103.9%	32.3%

<u>Exposure Summary:</u>	<u>Commercial</u>	<u>Personal</u>	<u>Combined</u>
TIV	\$5,750,545,864	\$42,796,497,065	\$48,547,042,929
Premium	\$22,052,524	\$119,638,784	\$141,691,308
Policy Count	6,829	113,747	120,576
Location Count	16,576	115,442	132,018

### Modeling Notes:

1. Frequency represents the near term ("stochastic"/"WSST") view.
2. Demand surge ("loss amplification") is included in both models.
3. Storm surge is excluded in both models.