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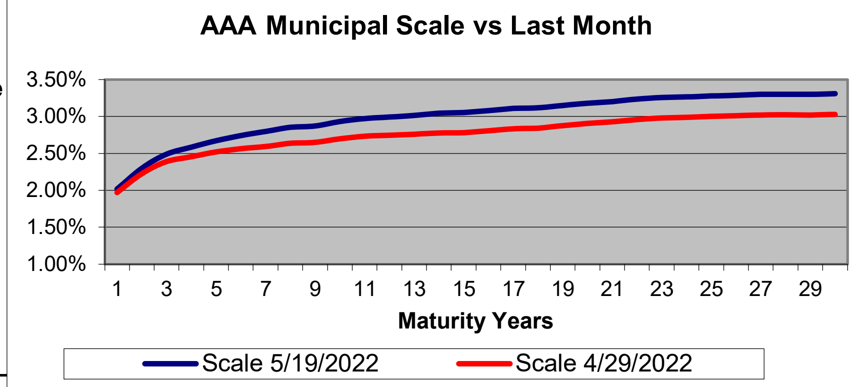
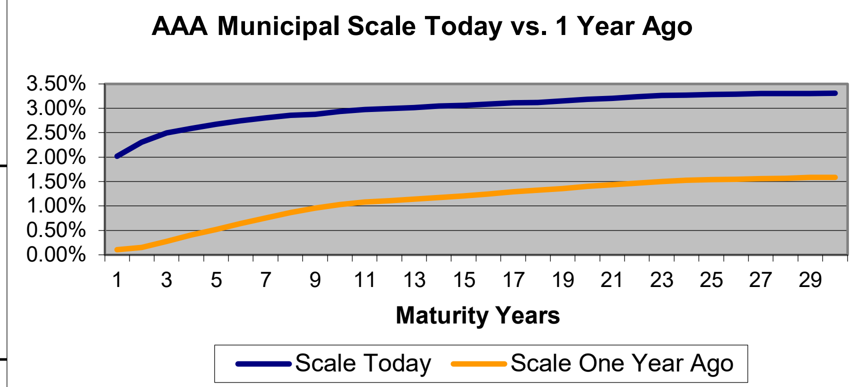
5/19/22

AAA Municipal Yield Curve and Historical Analysis

	Up-to-Date Yields			Month End Yields			
	Mo 5	Day 19	Year 2022	Mo 4	Day 29	Year 2022	Change In Yield
	Scale in Blue			Scale in Red			
1	2023	2.02%	%UST	2023	1.97%	%UST	0.05%
2	2024	2.30%	88%	2024	2.23%	82%	0.07%
3	2025	2.49%		2025	2.39%		0.10%
4	2026	2.59%		2026	2.46%		0.13%
5	2027	2.67%	94%	2027	2.52%	85%	0.15%
6	2028	2.74%		2028	2.57%		0.18%
7	2029	2.80%		2029	2.59%		0.21%
8	2030	2.85%		2030	2.64%		0.22%
9	2031	2.87%		2031	2.65%		0.22%
10	2032	2.93%	103%	2032	2.70%	92%	0.23%
11	2033	2.97%		2033	2.73%		0.24%
12	2034	2.99%		2034	2.75%		0.25%
13	2035	3.01%		2035	2.76%		0.25%
14	2036	3.04%		2036	2.78%		0.27%
15	2037	3.06%	106%	2037	2.78%		0.27%
16	2038	3.08%		2038	2.81%		0.27%
17	2039	3.11%		2039	2.83%		0.27%
18	2040	3.12%		2040	2.84%		0.27%
19	2041	3.15%		2041	2.88%		0.27%
20	2042	3.18%	108%	2042	2.91%		0.27%
21	2043	3.20%		2043	2.93%		0.28%
22	2044	3.24%		2044	2.96%		0.28%
23	2045	3.26%		2045	2.98%		0.28%
24	2046	3.27%		2046	2.99%		0.28%
25	2047	3.28%	109%	2047	3.00%		0.28%
26	2048	3.29%		2048	3.01%		0.28%
27	2049	3.30%		2049	3.02%		0.28%
28	2050	3.30%		2050	3.02%		0.28%
29	2051	3.30%		2051	3.02%		0.28%
30	2052	3.31%	109%	2052	3.03%	101%	0.28%



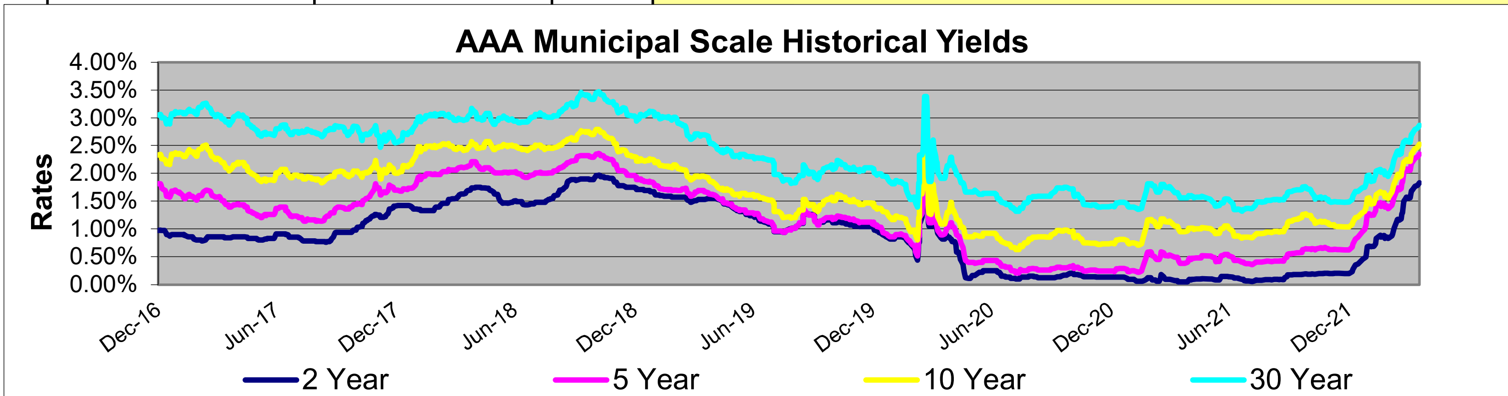


U.S. Treasury Benchmark Yields

	5/19/22	4/29/22	Year Ago
2 Year:	2.61%	2.72%	0.15%
5 Year:	2.84%	2.96%	0.83%
10 Year:	2.84%	2.94%	1.63%
30 Year:	3.05%	3.00%	2.34%

Historical High and Low Yields (Past 5-Years)

AAA Municipals	Low	High	U.S. Treasuries	Low	High
1 Year:	0.05%	2.51%	1 Year:	0.04%	2.73%
2 Year:	0.06%	2.52%	2 Year:	0.11%	2.97%
5 Year:	0.21%	2.71%	5 Year:	0.19%	3.09%
10 Year:	0.63%	2.94%	10 Year:	0.47%	3.24%
30 Year:	1.32%	3.47%	30 Year:	0.96%	3.46%



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GENOA ASSET MANAGEMENT   F/m Acceleration

5/19/2022

One Year Calendar Roll Return

#	Year	MUNI AAA	BP Roll	NonCallable Modified Duration	1 Yr Return	Callable (10yr) Modified Duration	Callable (10yr) 1 Yr Return
1	2023	2.02	0	0.98	2.02%		
2	2024	2.30	29	1.91	2.85%		
3	2025	2.49	19	2.80	3.02%		
4	2026	2.59	9	3.64	2.93%		
5	2027	2.67	9	4.46	3.07%		
6	2028	2.74	7	5.24	3.10%		
7	2029	2.80	6	5.98	3.14%		
8	2030	2.85	5	6.70	3.22%		
9	2031	2.87	2	7.39	3.03%		
10	2032	2.93	6	8.06	3.41%		
11	2033	2.97	4	8.70	3.33%	8.05	3.30%
12	2034	2.99	2	9.31	3.17%	8.05	3.14%
13	2035	3.01	2	9.91	3.22%	8.05	3.18%
14	2036	3.04	3	10.48	3.36%	8.04	3.29%
15	2037	3.06	1	11.04	3.20%	8.04	3.16%
16	2038	3.08	2	11.57	3.37%	8.04	3.28%
17	2039	3.11	3	12.09	3.44%	8.03	3.33%
18	2040	3.12	1	12.59	3.24%	8.03	3.19%
19	2041	3.15	3	13.06	3.59%	8.03	3.42%
20	2042	3.18	3	13.52	3.56%	8.03	3.41%
21	2043	3.20	2	13.96	3.53%	8.02	3.39%
22	2044	3.24	3	14.39	3.69%	8.02	3.49%
23	2045	3.26	2	14.80	3.59%	8.02	3.44%
24	2046	3.27	1	15.21	3.38%	8.02	3.33%
25	2047	3.28	1	15.60	3.48%	8.01	3.38%
26	2048	3.29	1	15.98	3.45%	8.01	3.37%
27	2049	3.30	1	16.34	3.51%	8.01	3.41%
28	2050	3.30	0	16.71	3.34%	8.01	3.32%
29	2051	3.30	0	17.06	3.27%	8.01	3.29%
30	2052	3.31	1	17.40	3.48%	8.01	3.39%

Credit Spread to Similar AAA Yields

	AA	A	BBB
2-Year:	0.02%	0.12%	0.28%
5-Year:	0.05%	0.13%	0.46%
10-Year:	0.13%	0.27%	0.71%
30-Year:	0.18%	0.35%	0.71%

Taxable Equivalent Yield Table

35% Federal Rate   6% State Rate

42.70% Total Effective Rate (1)

In-State Municipal Rate (2)	Equivalent Out-of-State Muni Rate(3)	Equivalent Treasury Rate (4)	Equiv Corp Rate (5)
0.25%	0.27%	0.39%	0.41%
0.50%	0.53%	0.77%	0.82%
0.75%	0.80%	1.16%	1.23%
1.00%	1.06%	1.54%	1.64%
1.25%	1.33%	1.93%	2.05%
1.50%	1.60%	2.31%	2.46%
1.75%	1.86%	2.70%	2.87%
2.00%	2.13%	3.08%	3.28%
2.25%	2.39%	3.47%	3.69%
2.50%	2.66%	3.85%	4.10%
2.75%	2.93%	4.24%	4.51%
3.00%	3.19%	4.62%	4.92%
3.50%	3.72%	5.39%	5.74%
4.00%	4.26%	6.16%	6.56%

(1) Reflects deduction of state taxes on Federal return, includes 3.8% Net Inv't Tax
(2) Not subject to federal or state income taxes
(3) Subject to state income taxes, exempt from federal income taxes
(4) Subject to federal income taxes, exempt from state income taxes
(5) Subject to both federal and state income taxes

One Year Calendar Roll Down Return - Measures the total return for each year of maturity based on no change in interest rates and the yield curve remaining the same steepness. For example, a five year bond purchased today will be priced to the four year yield curve one year forward. The steeper the yield curve along with the value of 1 basis point, the greater the one year total return will be.

Taxable Equivalent Yield Table - Measures the comparable yield necessary for an equivalent out-of-state municipal bond, US Treasury obligation or fully taxable corporate bond. Client's Federal and State tax rates may be different than the information above which will affect the after-tax equivalent yield necessary to achieve the same rate as a fully tax-exempt in-state municipal bond.