

# Managing drawdowns with CAOS and HIDE

Why we believe the Alpha Architect Tail Risk ETF (CAOS) and High Inflation & Deflation ETF (HIDE) offer a compelling defense against fast and slow crashes

#### **Standardized Returns** as of 9/30/2025

			YT	-D	1 '	∕r.	Annualiz Total I	zed 3 Yr. Return	Annualiz Total I	ed 5 Yr. Return	Annualiz Total I	ed 10 Yr. Return		ed Return eception	Expense	Ratios
Name	Ticker	Inception Date	NAV	Mkt.	NAV	Mkt.	NAV	Mkt.	NAV	Mkt.	NAV	Mkt.	NAV	Mkt.	Gross	Net
Tail Risk	CAOS	8/14/2013	2.33%	2.28%	3.50%	3.54%	8.54%	8.55%	1.84%	1.84%	3.48%	3.49%	3.56%	3.57%	0.73%1	0.63%
High Infl. & Defl.	HIDE	11/16/2022	3.93%	4.05%	0.69%	0.66%							1.97%	2.08%	0.34%2	0.29%

The performance data quoted represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investor's shares, when sold or redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance quoted. For performance data current to the most recent month end, please call 215.882.9983 or visit www.alphaarchitect.com/funds.

Source: Alpha Architect, YCharts. Investing involves risk, including the loss of principal. Past performance does not guarantee future results. Returns are annualized total returns, except for those periods of less than one year, which are cumulative. Market price returns are based upon the closing composite market price and do not represent the returns you would receive if you traded shares at other times. A fund's NAV is the sum of all assets less any liabilities, divided by the number of shares outstanding. The Adviser has contractually agreed to waive receipt of its management fees to the extent necessary to offset any acquired fund fees and expenses relating to the Fund's investment in the Alpha Architect 1-3 Month Box ETF. Any AFFE associated with Fund investments in any other acquired funds are not included in the fee waiver. In its sole discretion, the Fund's Board of Trustees may terminate this Waiver Agreement only by a majority vote of the "non-interested" trustees of the Trust (as defined in the 1940 Act). <sup>2</sup>The Adviser has contractually agreed to waive all or a portion of its management fee until at least November 15, 2025, from exceeding 0.29% of its daily net assets.

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#### **TOPICS COVERED**

Where are we now?

The two types of drawdowns

How CAOS attempts to diversify during fast crashes

How **HIDE** attempts to diversify during **slow crashes** 

Where **CAOS** and **HIDE** fit in a model portfolio

Next steps

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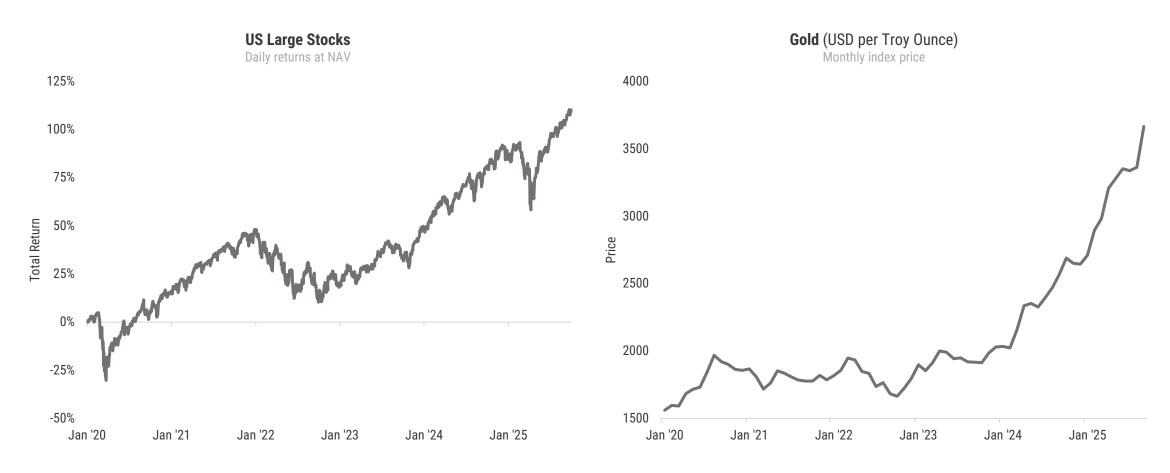
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## We're seeing new highs across the marketplace

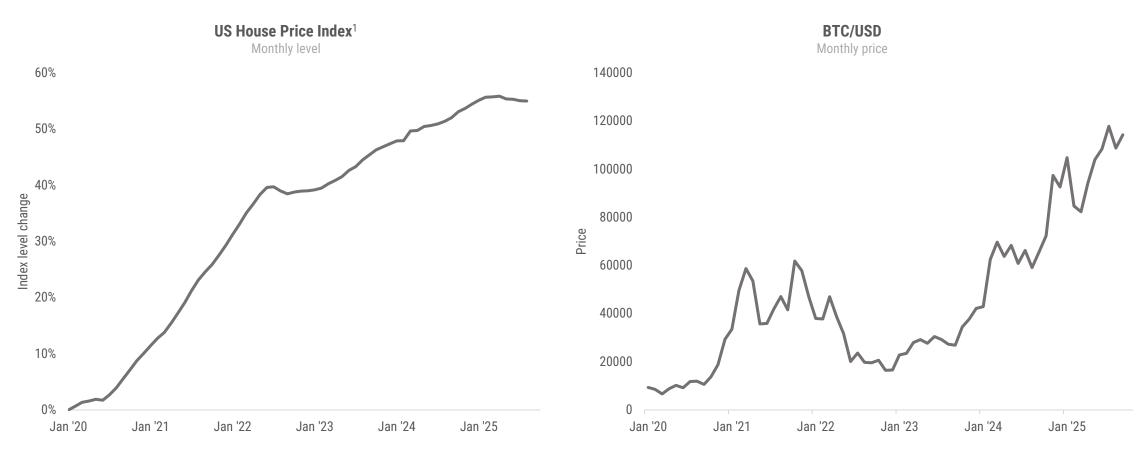
US stocks<sup>1</sup> and Gold<sup>2</sup> have hit new highs



Source: YCharts, Gold Council, Alpha Architect. 1/1/2020 - 9/30/2025. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including the potential loss of principal.** 1US Large Blend ("stocks," US stocks," "stock market") represented by a category average. Categories determined by YCharts. You cannot directly invest in a category average. See definitions and important note on category average methodology. 1Gold represented by Gold Price per troy ounce in US Dollars. Returns are derived from sources believed to be accurate but are not guaranteed.

# We're seeing new highs across the marketplace

Home prices have surged since 2020; Bitcoin recently new highs



Source: YCharts, CryptoCompare, Alpha Architect. 1/1/2020 - 9/30/2025. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS.** Investing involves risk, including the potential loss of principal. ¹The US House Price Index, as provided by the Federal Housing Finance Agency, measures changes in prices for residential houses. This index may help in estimating changes in mortgage defaults, housing affordability, and other housing-related metrics. ²Bitcoin is a decentralized digital currency that enables peer-to-peer transactions without a central authority, recorded securely on a public blockchain. Denominated in US Dollars. Returns are derived from sources believed to be accurate but are not quaranteed.

# Is your portfolio combat ready?

Chaotic environments + emotion + stress = bad-decision making!





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# Drawdowns can be fast or slow... be ready for both!

We define fast crashes as stocks falling -10% or worse in 60 days or less; slow crashes to be -10% or worse in 6 0 days or more.



Source: YCharts, Alpha Architect. 1/1/2020 – 6/30/2025. Daily returns. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS.** Investing involves risk, including the potential loss of principal. <sup>1</sup>US Large Blend ("stocks," US stocks," "stock market") represented by a category average. <u>See definitions.</u> Categories determined by YCharts. You cannot directly invest in a category average. **Fast crash** defined as a loss from peak-to-trough of -10% or greater in 60 days or more. **Max drawdown** ("max loss") measures the largest peak-to-trough decline in an investment's value before a new peak is reached, showing the worst historical loss. Returns are derived from sources believed to be accurate but are not guaranteed.

# CAOS and HIDE seek to diversify both types of drawdowns

Be prepared now for whatever type of drawdown is next.

	Alpha Architect Tail Risk ETF  CAOS	Alpha Architect High Inflation & Deflation ETF HIDE
Drawdown use case	Fast: -10% or worse in 60 days or less	Slow: -10% or worse in 60 days or more
Return profile	Aggregate bond-like return with built-in fast crash diversification solution	Simpler, lower volatility trend-following managed futures
Portfolio composition	Options	ETF-of-ETFs
Investment approach	Three options trades work together to attempt to generate positive uncorrelated returns:  • Fast crashes: put options 30-60% out-of-the-money <sup>1</sup> • Steady, short-term returns: box spreads <sup>2</sup> • Potential upside: put spreads <sup>3</sup>	Trend-following signals applied to three ETFs to attempt to generate positive uncorrelated returns:  • Deflationary: US Intermediate Government Bonds  • Inflationary: Diversified Commodities  • Hybrid inflation/deflation: REITs

For illustrative purposes only. ¹Out-of-the-money put options are put options with a strike price far below the current market price of the underlying asset. CAOS often targets put options that are 30-60% out-of-the-money. A put option is a financial contract that grants the buyer the right, but not the obligation to sell a security at a stipulated price (the "strike.") ²A box spread combines a long call and short put at one strike with a short call and long put at another strike. The difference between the "synthetic" long and "synthetic" short can be calibrated to generate a return approximating the risk and return profile of an ultrashort bond. ³A put spread is an options trading strategy where one simultaneously sells a near-the-money put option and buys a further out-of-the-money put option on the same underlying on the same expiration date.

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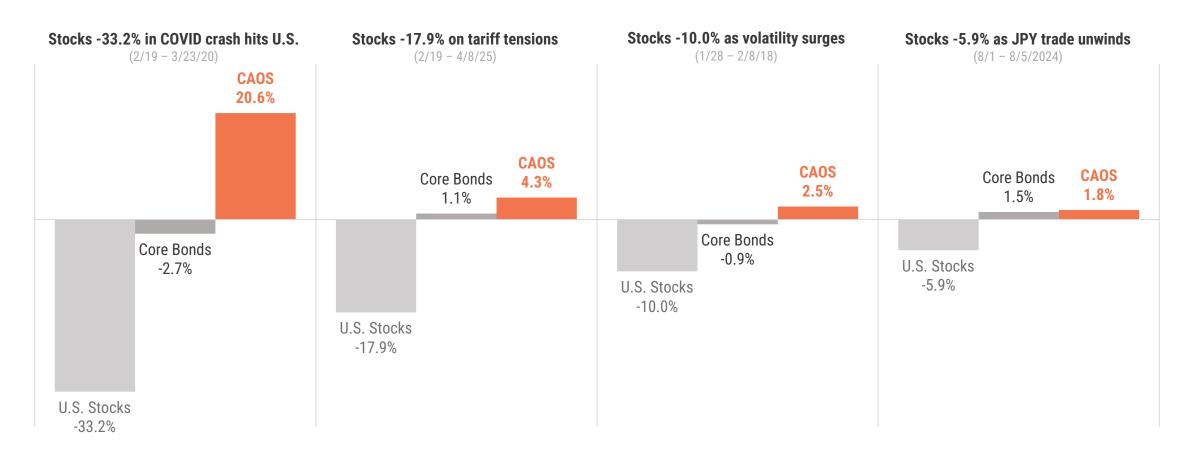
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### **CAOS** outperforms bonds in fast crashes

When stocks sell off, investors expect diversifiers offset losses. CAOS has produced positive returns in the last five significant crashes.



Source: YCharts, Alpha Architect. 8/15/2013 – 9/30/2025. Daily returns at NAV. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS.** Investing involves risk, including potential loss of principal. U.S. stocks and Core Bonds represented by category averages. See definitions. Categories defined by YCharts. You cannot directly invest in a category average. Periods selected represent periods when stocks experienced a fast crash, i.e., a decline in value of -10% or more in 60 days or less. "JPY Unwind" example selected to illustrate a period of sudden, macro risk. Periods are peak to trough and sorted by degree of US Large Blend loss. Returns are derived from sources believed to be accurate but are not guaranteed.

# Positive long-term returns since inception

Competitive results relative to bonds with built-in fast crash diversification over 10+ years



Source: YCharts, Alpha Architect. 8/14/2013 - 9/30/2025. Daily returns at NAV. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including the potential loss of principal.** ¹Core Bonds represented by a category average. Categories determined by YCharts. You cannot directly invest in a category average. See definitions. CAGR (Compound Annual Growth Rate) is the average yearly rate at which an investment grows over a specified period, assuming profits are reinvested each year. Returns are derived from sources believed to be accurate but are not guaranteed.

# Low correlation across the portfolio

Since inception, CAOS features low correlation<sup>1</sup> to stocks, bonds, and alternatives like managed futures.

	CAOS	US Lg. Blend	Core Bonds	Managed Futures
CAOS	1.00			
US Lg. Blend	0.14	1.00		
Core Bonds	0.03	-0.03	1.00	
Managed Futures	-0.03	0.09	-0.18	1.00

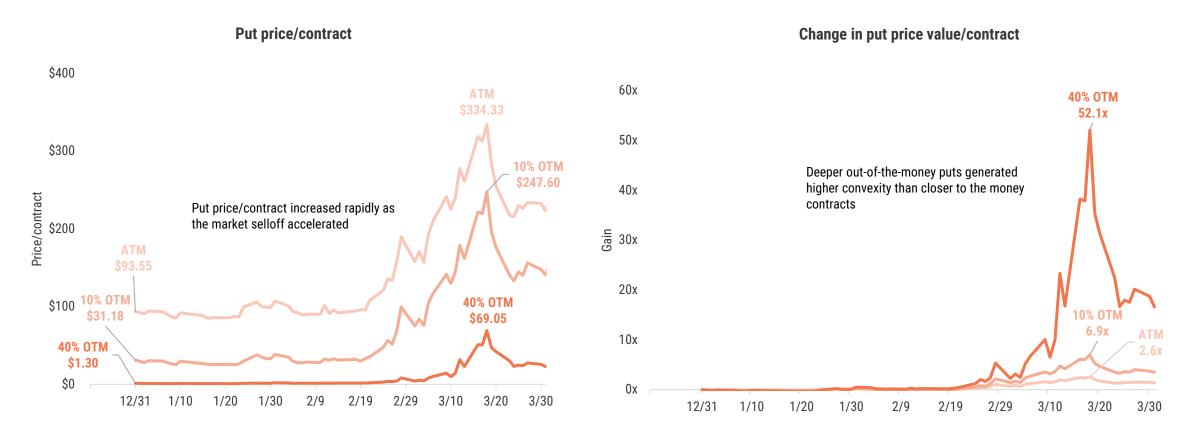
Source: YCharts, Alpha Architect. 8/14/2013 – 9/30/2025. Daily returns at NAV. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including potential loss of principal.** ¹Correlation measures the degree to which two variables move in relation to each other. Higher correlation implies a tighter relationship. See definitions.

#### **HOW DOES CAOS INVEST**

CAOS = OTM + BOX + PUT PUTS + SPREADS + SPREADS

# Cheaper put options mean greater convexity in a selloff, historically

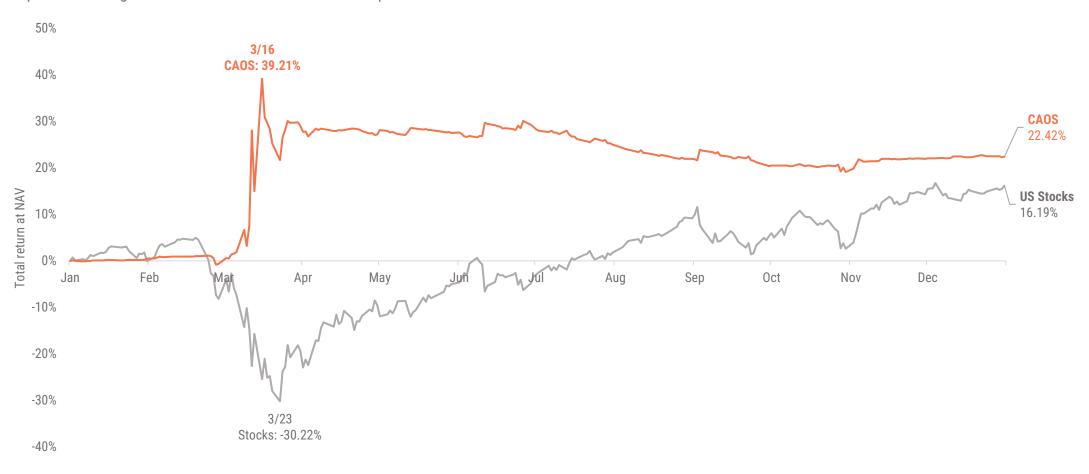
CAOS maintains a strategic allocation to deeply discounted puts (30-60% OTM) to capture rapid convexity when markets accelerate downward.



Source: Arin Risk Advisors, Alpha Architect. 1/1/2020 – 3/31/2020. Option value. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including the potential for loss of principal.** ¹At-the-money (ATM) put option is a put option with a strike price equal (or very close) to the current price of the underlying asset. ³40% out-of-the-money (OTM) put option is a deeply discounted put option with a strike price roughly 40% below the current price of the underlying asset. Values presented are derived from sources believed to be accurate but are not quaranteed. Visit funds alphaarchitect.com/caos/ for current holdings.

# We monetized our put position in 2020

The portfolio management team has discretion to monetize positions as market conditions warrant.



Source: YCharts, Alpha Architect. 1/1/2020 – 3/31/2020. Daily returns at NAV. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including the potential for loss of principal. ¹US Large Blend** ("stocks," "stocks," "stock market") represented by a category average. Categories determined by YCharts. You cannot directly invest in a category average. See definitions. Returns are derived from sources believed to be accurate but are not quaranteed.

# How often should you rebalance using CAOS?

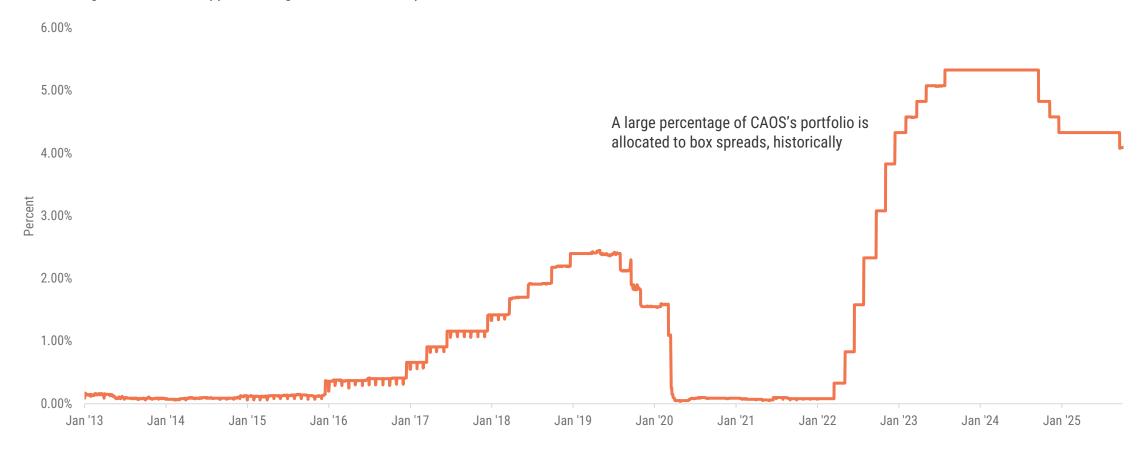
Historically, a 60/20/20<sup>1</sup> portfolio has generated annualized returns of approx. 9% since inception, regardless of rebalancing frequency.



Source: YCharts, Alpha Architect. Daily returns at NAV. 8/15/2013 – 3/31/2025. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including the potential for loss of principal.** Returns presented are compounded annualized return (CAGR). ¹60/20/20 portfolio rebalanced annually on 12/31 with a 10% band. Since common inception. ¹60/20/20 consists of 60% US Large Blend category average, 20% Core Bonds category average, and 20% CAOS. <u>See definitions.</u> Returns are derived from sources believed to be accurate but are not guaranteed.

# Box spreads returns tend to track fed funds<sup>1</sup>

A box spread combines a long call and short put at one strike with a short call and long put at another strike. The difference between the "synthetic" long and "synthetic" short can be structured to generate a return approximating the risk and return profile of an ultrashort bond.



Source: YCharts. 1/1/2013 – 10/13/2025. Daily. ¹Federal funds rate is the interest rate at which banks and credit unions lend reserve balances to each other overnight, set by the Federal Reserve as a key tool to influence monetary policy, control inflation, and manage economic growth. You cannot directly invest in an index or category average.

## **Bull put spreads are CAOS's "secret sauce"**

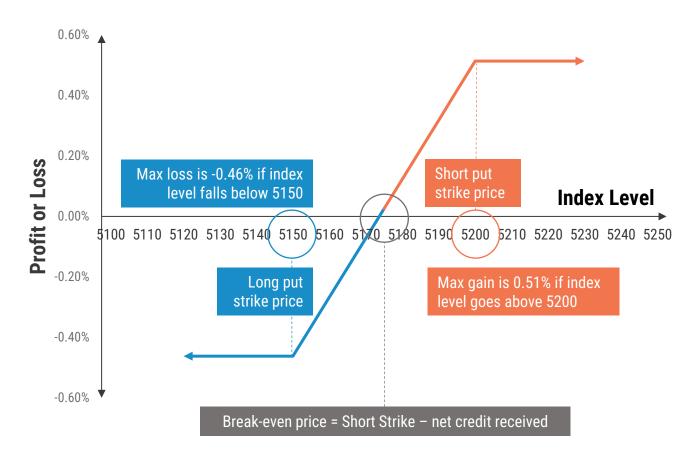
Historically, bull put spreads profit when the underlying is trending sideways or upward. They offer a risk-defined way to potentially profit from generally positive market direction.

#### Trade example

Date 4/15/2024

**A. Index level** 5,123.41

Strike	B. Total Payoff	Gain or Loss ( <mark>B/A</mark> )
5,150	-\$23.68	-0.46%
5,250	\$26.32	0.51%



For illustrative purposes only. Source: Alpha Architect. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including the potential for loss of principal.** Holdings are subject to change. Please click here or visit alphaarchitect.com/caos/ for up-to-date holdings information.

## **CAOS** has outperformed bonds in six of eleven years

CAOS beat both bonds and stocks in 2015 and 2020.

Year	US Lg. Blend	Core Bonds	CAOS
20131	10.58%	0.77%	6.06%
2014	12.85%	5.92%	2.96%
2015	0.77%	0.46%	3.43%
2016	11.44%	2.84%	0.95%
2017	22.21%	3.57%	4.75%
2018	-4.14%	-0.12%	-6.36%
2019	30.47%	8.64%	3.20%
2020	16.19%	8.00%	22.42%
2021	26.87%	-1.49%	2.83%
2022	-18.76%	-12.95%	-14.14%
2023	24.70%	5.77%	13.30%
2024	23.64%	1.73%	5.24%
2025 YTD	13.82%	6.24%	2.33%

Source: YCharts, Alpha Architect. 8/14/2013 – 9/30/2025. Annualized daily returns at NAV. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including potential loss of principal.** Years ("2020," "2021," et. al.) represent the annual returns for the given period. See definitions. Categories determined by YCharts. You cannot directly invest in a category or index. ¹Returns represent a partial year that cover 8/14/2013 – 12/31/2013.

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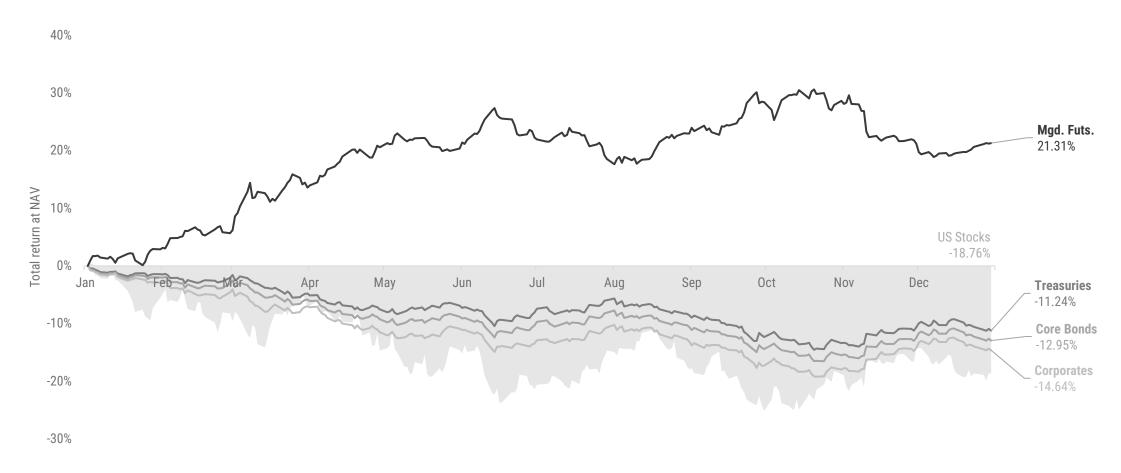
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# Managed futures outperformed in 2022...

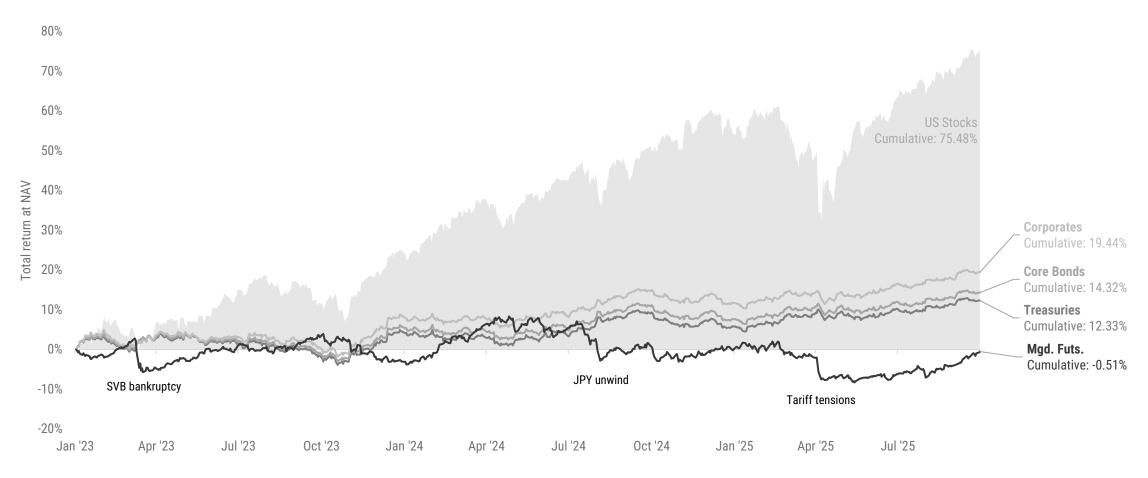
Trend-following managed futures funds thrived in 2022 as interest rates rose from 0.08% to 4.33% to combat rapidly rising inflation.



Source: YCharts, Alpha Architect. Daily returns at NAV. 1/1/2022 – 12/31/2022. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including the potential for loss of principal.** ¹US Stocks, Managed futures, Treasuries, Core Bonds, and Corporates represented by category averages. See definitions. Categories determined by YCharts. You cannot directly invest in a category or index. Returns derived from sources believed to be accurate but are not quaranteed.

### ...But have underperformed bonds since

Several whipsaw events appeared to have affected managed futures funds over this period, including the SVB bankruptcy, the JPY unwind, and the latest tariff tensions.

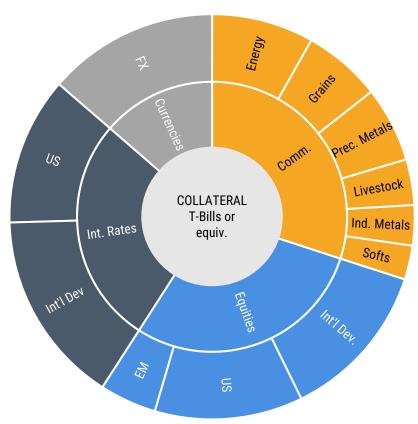


Source: YCharts, Alpha Architect. Daily returns at NAV. 1/1/2023 – 9/30/2025. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including the potential for loss of principal.** <sup>1</sup>US Stocks, Managed futures, Treasuries, Core Bonds, and Corporates represented by category averages. See definitions. Categories determined by YCharts. You cannot directly invest in a category or index. Returns derived from sources believed to be accurate but are not guaranteed.

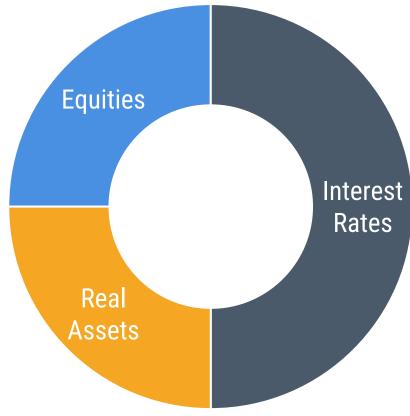
# A typical managed futures fund is often complex

Generally, a typical managed futures fund will trade global currencies, government bonds, commodities, and equity indices, with variations therein<sup>1</sup>.

#### Managed futures have many moving parts...



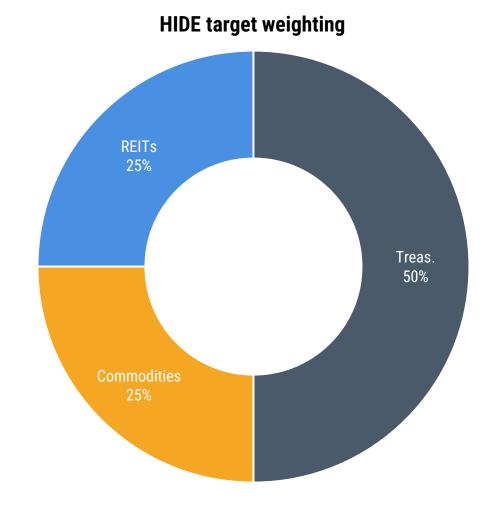
#### ...with three principal return drivers



For illustrative purposes only. Lefthand chart represents what we consider to be a typical managed futures portfolio. Righthand chart represents what we believe to be the principal return drivers for the trading portion of a typical managed futures strategy. For this example, we're ignoring collateral yield management strategies, manager-specific construction decisions, and leverage use

# HIDE seeks to offer a simpler alternative to a managed futures

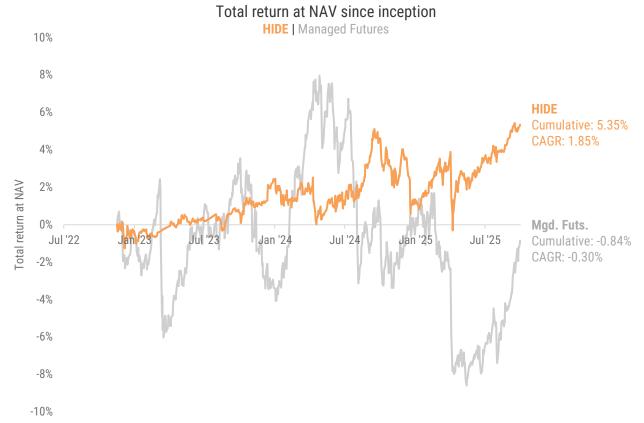
Our goal is to provide uncorrelated returns in a simpler, less volatile, and cheaper packager than managed futures



# Simpler, less volatile, cheaper managed futures

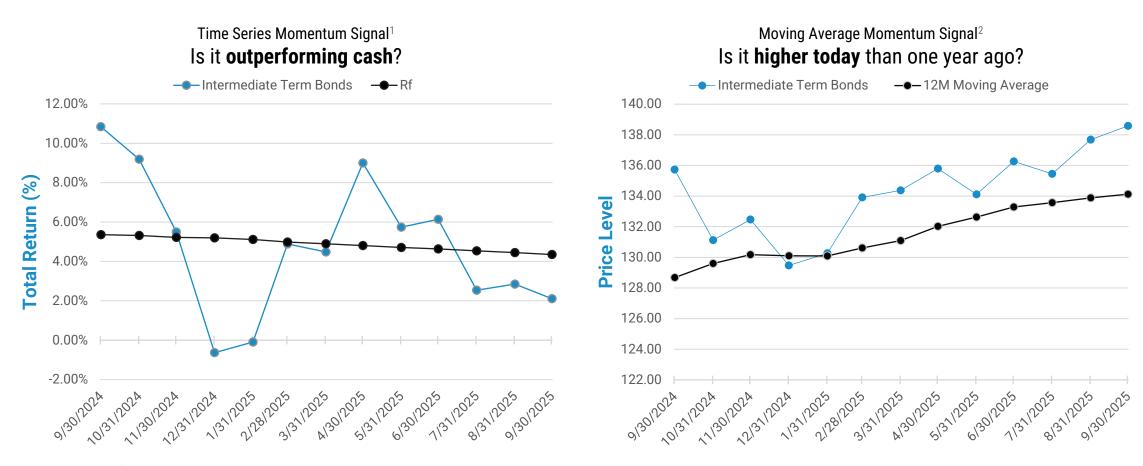
HIDE seeks to be managed futures made simple with easier to explain portfolio construction, lower risk, and competitive fees

	Managed Futures	HIDE
Portfolio composition	COMPLEX Global futures Long/short	<b>SIMPLER</b> ETF-of-ETFs Long/flat
Volatility <sup>1</sup> since inception	HIGHER 8.37%	LOWER VOLATILITY 3.84%
Max drawdown <sup>2</sup> since inception	HIGHER -15.34%	LOWER DOWNSIDE -5.15%
Net expense ratio	EXPENSIVE 1.76% avg.	<b>CHEAPER</b> 0.29%



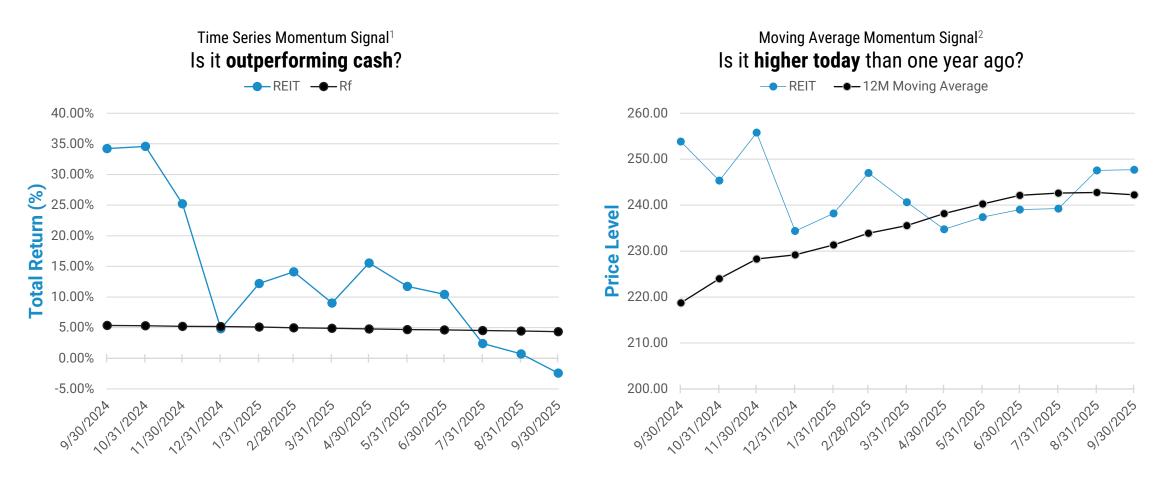
Source: YCharts, Alpha Architect. Daily returns at NAV. 11/16/2022 – 9/30/2025. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including the potential for loss of principal.** <sup>1</sup>Managed futures, represented by a category average. See definitions. Categories determined by YCharts. You cannot directly invest in a category or index. <sup>1</sup>Annualized standard deviation measures the yearly volatility of an investment's returns, showing how much they typically vary from the average. <sup>2</sup>Max drawdown is the largest peak-to-trough decline in an investment's value before a new peak is reached. **CAGR** (Compound Annual Growth Rate) is the average yearly rate at which an investment grows over a specified period, assuming profits are reinvested each year. Returns are derived from sources believed to be accurate but are not guaranteed. Returns derived from sources believed to be accurate but are not guaranteed.

# **Trend signals: Intermediate Gov't Bonds**



Source: Alpha Architect. <sup>1</sup>Time series momentum signal measures the reference asset's total return relative to the current risk-free rate, e.g., Treasury bills. If returns are below the risk-free rate (black line), then the signal indicates either avoid or sell the reference asset. If returns are above the risk-free rate, then the signal indicates to either hold or buy the reference asset. <sup>2</sup>Moving average momentum signal compares the reference asset's current price to the reference asset's average monthly price, measured over a trailing 12-month window. If the current price is below the 12-month average (black line), then the signal indicates to either avoid or sell the reference asset. If the current price is above the 12-month average, then the signal indicates to either hold or buy the reference asset is an ETF in the Intermediate US Government Bond category. Holdings are subject to change. Visit funds.alphaarchitect.com/hide/ for current holdings.

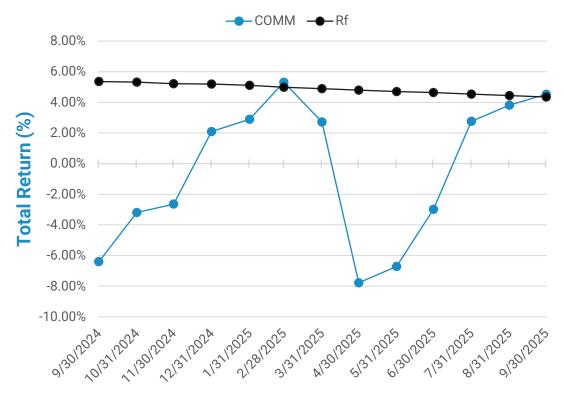
# **Trend signals: REITs**



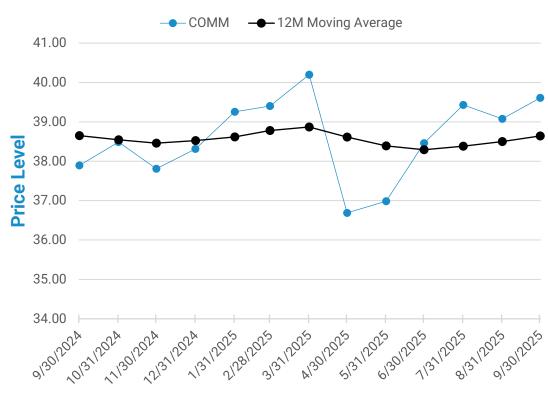
Source: Alpha Architect. <sup>1</sup>Time series momentum signal measures the reference asset's total return relative to the current risk-free rate, e.g., Treasury bills. If returns are below the risk-free rate (black line), then the signal indicates either avoid or sell the reference asset. <sup>2</sup>Moving average momentum signal compares the reference asset's current price to the reference asset's average monthly price, measured over a trailing 12-month window. If the current price is below the 12-month average (black line), then the signal indicates to either avoid or sell the reference asset. If the current price is above the 12-month average, then the signal indicates to either hold or buy the reference asset. The reference asset is an ETF in the Real Estate category. Holdings are subject to change. Visit funds.alphaarchitect.com/hide/ for current holdings.

# **Trend signals: Commodities**





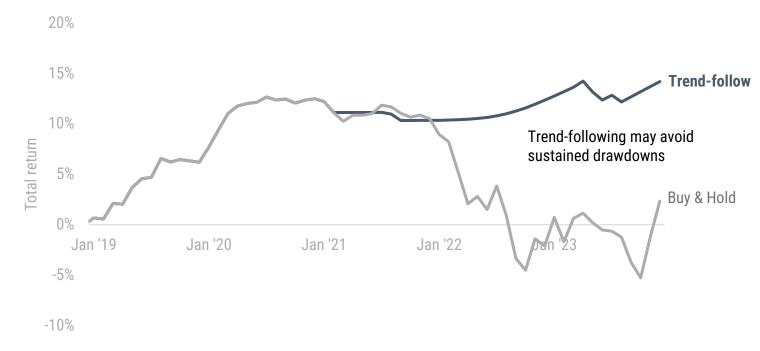
# Moving Average Momentum Signal<sup>2</sup> Is it **higher today** than one year ago?



Source: Alpha Architect. <sup>1</sup>Time series momentum signal measures the reference asset's total return relative to the current risk-free rate, e.g., Treasury bills. If returns are below the risk-free rate (black line), then the signal indicates either avoid or sell the reference asset. <sup>2</sup>Moving average momentum signal compares the reference asset's current price to the reference asset's average monthly price, measured over a trailing 12-month window. If the current price is below the 12-month average (black line), then the signal indicates to either avoid or sell the reference asset. If the current price is above the 12-month average, then the signal indicates to either hold or buy the reference asset. The reference asset is an ETF in the Diversified Commodities category. Holdings are subject to change. Visit funds.alphaarchitect.com/hide/ for current holdings.

#### **Buy & Hold vs. Trend-Following | Gov't Bonds**

Treasuries <sup>1</sup>	Buy & Hold <sup>2</sup>	Trend- follow <sup>3</sup>
CAGR	0.46%	2.69%
Annualized volatility	5.47%	2.00%
Max drawdown	-15.92%	-2.06%



Source: YCharts, Portfolio Visualizer, Alpha Architect. Monthly returns. 1/1/2019 – 12/31/2023. Past performance does not guarantee future results. Investing involves risk, including the potential loss of principal. For illustrative purposes only. ¹US Intermediate Government Bonds represented by the straight average return of the 50 largest open-ended funds (ETFs and mutual funds), based on assets under management (AUM), as of 7/31/2024, in the US Intermediate Government bond category. Intermediate-government portfolios have at least 90% of their bond holdings in bonds backed by the U.S. government or by government-linked agencies. This backing minimizes the credit risk of these portfolios, as the U.S. government is unlikely to default on its debt. In the event of multiple share classes, the share class with the most AUM is used. Categories determined by YCharts. You cannot invest directly in an index or category average. ²Buy & Hold represents the returns of the given category average or index if the investor had bought on the initial date and held through the given end date. ³Trend Following applies a 12-month simple moving average rule to the given time series. The tactical asset allocation model is invested in the selected assets when the adjusted close price of the asset is greater than or equal to the moving average, otherwise the specific portfolio allocation is invested in cash. Trades are executed using the end of month close price each month based on the end of month. Definitions for CAGR, Annualized Volatility, and Max Drawdown can be found in the disclosures.

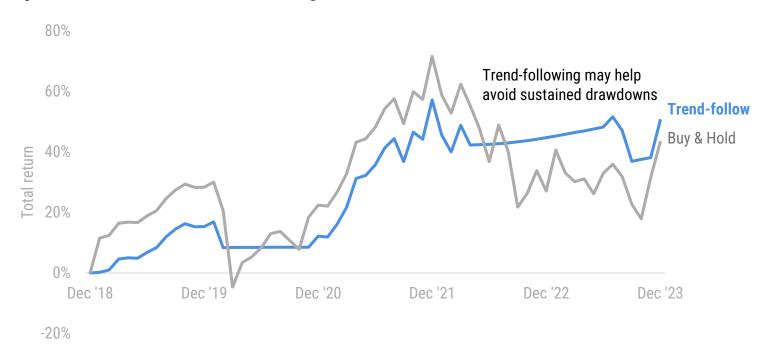
#### **Buy & Hold vs. Trend-Following | Commodities**

Commodities <sup>1</sup>	Buy & Hold <sup>2</sup>	Trend- follow <sup>3</sup>	100%
CAGR	8.54%	7.70%	- 75%  E 50% Trend-following may keep  Buy & Holo
Annualized volatility	15.80%	11.86%	up during rising markets  And lag during volatility  25%
Max drawdown	-25.24%	-16.28%	0% Jan '19 Jan '21 Jan '22 Jan '23
			-25%

Source: YCharts, Portfolio Visualizer, Alpha Architect. Monthly returns. 1/1/2019 – 12/31/2023. Past performance does not guarantee future results. Investing involves risk, including the potential loss of principal. For illustrative purposes only. ¹Commodities represented by the straight average return of the 50 largest open-ended funds (ETFs and mutual funds), based on assets under management (AUM), as of 12/6/2024, in the Commodities Broad Basket category. Broad-basket portfolios can invest in a diversified basket of commodity goods including but not limited to grains, minerals, metals, livestock, cotton, oils, sugar, coffee, and cocoa. Investment can be made directly in physical assets or commodity-linked derivative instruments, such as commodity swap agreements. In the event of multiple share classes, the share class with the most AUM is used. Categories determined by YCharts. You cannot invest directly in an index or category average ²Buy & Hold represents the returns of the given category average or index if the investor had bought on the initial date and held through the given end date. ³Trend Following applies a 12-month simple moving average rule to the given time series. The tactical asset allocation model is invested in the selected assets when the adjusted close price of the asset is greater than or equal to the moving average, otherwise the specific portfolio allocation is invested in cash. Trades are executed using the end of month close price each month based on the end of month. Definitions for CAGR, Annualized Volatility, and Max Drawdown can be found in the disclosures.

#### **Buy & Hold vs. Trend-Following | REITs**

REITs <sup>1</sup>	Buy & Hold <sup>2</sup>	Trend- follow <sup>3</sup>
CAGR	7.46%	8.52%
Annualized volatility	21.11%	11.35%
Max drawdown	-31.30%	-12.92%



Source: YCharts, Portfolio Visualizer, Alpha Architect. Monthly returns. 1/1/2019 – 12/31/2023. **Past performance does not guarantee future results. Investing involves risk, including the potential loss of principal. For illustrative purposes only.** <sup>1</sup>REITs represented by the straight average return of the 50 largest open-ended funds (ETFs and mutual funds), based on assets under management (AUM), as of 12/6/2024, in the Real Estate category. Real estate funds primarily invest in real estate investment trusts of various types. In the event of multiple share class with the most AUM is used. Categories determined by YCharts. You cannot invest directly in an index or category average <sup>2</sup>Buy & Hold represents the returns of the given category average or index if the investor had bought on the initial date and held through the given end date. <sup>3</sup>Trend Following applies a 12-month simple moving average rule to the given time series. The tactical asset allocation model is invested in the selected assets when the adjusted close price of the asset is greater than or equal to the moving average, otherwise the specific portfolio allocation is invested in cash. Trades are executed using the end of month close price each month based on the end of month.

# HIDE and CAOS feature low correlation across the portfolio

	CAOS	US Lg. Blend	Core Bonds	Managed Futures		HIDE	US Lg. Blend	Core Bonds	Managed Futures
CAOS	1.00				HIDE	1.00			
US Lg. Blend	0.14	1.00			US Lg. Blend	0.46	1.00		
Core Bonds	0.03	-0.03	1.00		Core Bonds	0.42	0.10	1.00	
Managed Futures	-0.03	0.09	-0.18	1.00	Managed Futures	0.13	0.23	-0.36	1.00

Source: YCharts, Alpha Architect. Lefthand table: 8/14/2013 – 9/30/2025. Daily returns at NAV. Righthand table: 11/16/2022 – 9/30/2025. Daily returns at NAV. PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including potential loss of principal. ¹Correlation measures the degree to which two variables move in relation to each other. Higher correlation implies a tighter relationship. See disclosures for US Stocks, Core Bonds, and Managed Futures category average definitions.

# Managing drawdowns with CAOS and HIDE

Why we believe the Alpha Architect Tail Risk ETF (CAOS) and High Inflation & Deflation ETF (HIDE) offer a compelling defense against fast and slow crashes

#### **TOPICS COVERED**

Where are we now?

The two types of drawdowns

How CAOS attempts to diversify during fast crashes

How **HIDE** attempts to diversify during **slow crashes** 

Where **CAOS** and **HIDE** fit in a model portfolio

Next steps

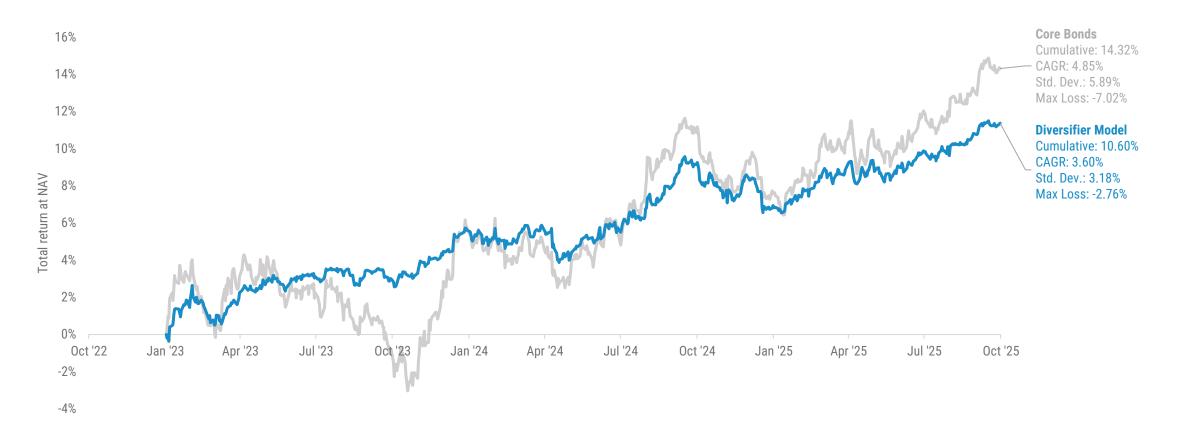
# **Target allocations**

	Ticker	Prospectus Exp. Ratio	0/100 <sup>1</sup>	<b>10/90</b> <sup>1</sup>	<b>20/80</b> <sup>1</sup>	<b>30/70</b> <sup>1</sup>	<b>40/60</b> <sup>1</sup>	<b>50/50</b> <sup>1</sup>	<b>60/40</b> <sup>1</sup>	<b>70/30</b> <sup>1</sup>	<b>80/20</b> <sup>1</sup>	90/10 <sup>1</sup>	100/0 <sup>1</sup>
S)	US Lg. Blend		-	3.90%	7.80%	11.70%	15.60%	19.50%	23.40%	27.30%	31.20%	35.10%	39.00%
US STOCKS	QMOM <sup>3</sup>	0.29%	-	1.30%	2.60%	3.90%	5.20%	6.50%	7.80%	9.10%	10.40%	11.70%	13.00%
SN	QVAL <sup>3</sup>	0.29%	-	1.30%	2.60%	3.90%	5.20%	6.50%	7.80%	9.10%	10.40%	11.70%	13.00%
	Fgn. Lg. Blend		-	1.80%	3.60%	5.40%	7.20%	9.00%	10.80%	12.60%	14.40%	16.20%	18.00%
INT'L STOCKS	IMOM <sup>3</sup>	0.39%	-	0.60%	1.20%	1.80%	2.40%	3.00%	3.60%	4.20%	4.80%	5.40%	6.00%
S T,LN	IVAL <sup>3</sup>	0.39%	-	0.60%	1.20%	1.80%	2.40%	3.00%	3.60%	4.20%	4.80%	5.40%	6.00%
	Div. Em. Mkt.		-	0.50%	1.00%	1.50%	2.00%	2.50%	3.00%	3.50%	4.00%	4.50%	5.00%
I.RS	Int. US Tsy		25.00%	22.50%	20.00%	17.50%	15.00%	12.50%	10.00%	7.50%	5.00%	2.50%	-
DIVERSIFIERS	CAOS <sup>3</sup>	0.63%	25.00%	22.50%	20.00%	17.50%	15.00%	12.50%	10.00%	7.50%	5.00%	2.50%	-
DIV	HIDE <sup>3</sup>	0.29%	50.00%	45.00%	40.00%	35.00%	30.00%	25.00%	20.00%	15.00%	10.00%	5.00%	-

Source: YCharts, Alpha Architect. As of 12/31/2024. **Past performance does not guarantee future results. Investing involves risk, including the potential loss of principal.** ¹If a ratio is used in the model's name, the ratio corresponds to the target percentage of equity and diversification strategies, including fixed income and alternative strategies, within the model. For example, "60/40" means the model targets 60% in equity exposure and 40% in a mix of diversification strategies. Asset allocation strategies do not assure a profit and do not protect against loss. Allocations for the model portfolios are targets and subject to change.

#### CAOS and HIDE anchor our diversifier model

Since common inception, the model has generated competitive returns with less volatility and significantly lower downside risk.



Source: YCharts, Alpha Architect. 11/16/2022 – 9/30/2025. Daily returns at NAV. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS. Investing involves risk, including the potential for loss of principal.** ¹Core Bonds represented by a category average. See definitions. Categories determined by YCharts. You cannot directly invest in a category or index. Returns derived from sources believed to be accurate but are not guaranteed.

# Drawdowns can be fast or slow... be ready for both!

We define fast crashes as stocks falling -10% or worse in 60 days or less; slow crashes to be -10% or worse in 6 0 days or more.



Source: YCharts, Alpha Architect. 1/1/2020 – 6/30/2025. Daily returns. **PAST PERFORMANCE DOES NOT GUARANTEE FUTURE RESULTS.** Investing involves risk, including the potential loss of principal. <sup>1</sup>**US Large Blend** ("stocks," US stocks," "stock market") represented by the average return at NAV of the 50 largest ETFs in the Large Blend category based on assets under management (AUM). These portfolios tend to invest across the spectrum of the largest and most influential publicly traded companies in the U.S. Large is assigned to stocks in the top 70% of the capitalization stack. Blend is assigned to portfolios where neither growth nor value characteristics predominate. Categories determined by YCharts. You cannot directly invest in a category average. **Fast crash** defined as a loss from peak-to-trough of -10% or greater in 60 days or less. **Slow Crash** defined as a loss from peak-to-trough decline in an investment's value before a new peak is reached, showing the worst historical loss. Returns are derived from sources believed to be accurate but are not guaranteed.

# Keep learning. Stay ahead.



#### Schedule a meeting.

Whether it's one question or a deep dive, we're happy to help. <u>Click here</u> to schedule a call with Jack Vogel, PhD. You may also email him at <u>info@alphaarchitect.com</u> to find a time.



#### Request an illustration.

Take our model portfolio for a test drive. To compare us to an existing model or to customize something in our current model, please complete this <a href="mailto:short portfolio">short portfolio</a> illustration request form. You may also email <a href="mailto:alex@alphaarchitect.com">alex@alphaarchitect.com</a>.



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#### **PROSPECTUS OFFER**

Investors should carefully consider the investment objectives, risk, charges, and expenses of the funds. This and other important information is in the indicated fund's prospectus, which can be obtained by calling (215) 882-9983 or by visiting www.funds.alphaarchitect.com. The prospectus should be read carefully before investing.

#### PRINCIPAL INVESTMENT RISKS

Management Risk. The Funds are actively managed and may not meet its investment objective based on the SubAdviser's success or failure to implement investment strategies for the Funds.

**Investment Risk.** When you sell your Shares, they could be worth less than what you paid for them. Therefore, you may lose money by investing in the Fund(s). The Fund(s) could lose money due to short-term market movements and over longer periods during market downturns. Securities may decline in value due to factors affecting securities markets generally or particular asset classes or industries represented in the markets. The value of a security may decline due to general market conditions, economic trends or events that are not specifically related to the issuer of the security, such as geopolitical events and environmental disasters. The value of a security may also decline due to factors that affect a particular industry or group of industries. During a general downturn in the securities markets, multiple asset classes may be negatively affected. Therefore, you may lose money by investing in the Fund(s).

**High Portfolio Turnover Risk.** The Fund(s)'s investment strategy may from time-to-time result in higher turnover rates. This may increase brokerage commission costs, which could negatively impact performance. Rapid portfolio turnover also exposes shareholders to a higher current realization of short-term capital gains, distributions of which would generally be taxed to you as ordinary income and thus cause you to pay higher taxes.

#### **Risks specific to HIDE**

Non-Diversification Risk. The Fund is non-diversified, meaning that it is permitted to invest a larger percentage of its assets in fewer issuers than diversified funds.

Commodity Risk. Investing in physical commodities is speculative and can be extremely volatile. Market prices of commodities may fluctuate rapidly based on numerous factors, including: changes in supply and demand relationships (whether actual, perceived, anticipated, unanticipated or unrealized); weather; agriculture; trade; domestic and foreign political and economic events and policies; diseases; pestilence; technological developments; currency exchange rate fluctuations; and monetary and other governmental policies, action and inaction. When the Fund obtains exposure to commodities through its investments in other underlying funds, it will be indirectly exposed to the foregoing risks.

Real Estate Investment Risk. Companies in the real estate sector include companies that invest in real estate, such as real estate investment trusts (REITs) and real estate management and development companies. Companies that invest in real estate are subject to the risks of owning real estate directly as well as to risks that relate specifically to the way that such companies operate, including management risk (such companies are dependent upon the management skills of a few key individuals and may have limited financial resources). Adverse economic, business or political developments affecting real estate could have a major effect on the value of an underlying fund's investments. Investing in real estate is subject to such risks as decreases in real estate values, overbuilding, increased competition and other risks related to local or general economic conditions, increases in operating costs and property taxes, changes in zoning laws, casualty or condemnation losses, possible environmental liabilities, regulatory limitations on rent, possible lack of availability of mortgage financing, market saturation, fluctuations in rental income and the value of underlying properties and extended vacancies of properties. Certain real estate securities have a relatively small market capitalization, which may tend to increase the volatility of the market price of these securities. Real estate securities have limited diversification and are, therefore, subject to risks inherent in operating and financing a limited number of projects. Real estate securities are also subject to heavy cash flow dependency and defaults by borrowers or tenants. The Fund's investments in REITs are subject to additional risks, such as poor performance by the manager of the REIT or failure by the REIT to qualify for tax-free pass through of income under the Code.

#### **Risks specific to HIDE**

**Fixed Income Risk.** The market value of fixed income securities will change in response to interest rate changes and other factors, such as changes in the effective maturities and credit ratings of fixed income investments. During periods of falling interest rates, the values of outstanding fixed income securities and related financial instruments generally rise. Conversely, during periods of rising interest rates, the values of such securities and related financial instruments generally decline. Fixed income investments are also subject to credit risk.

**Risk of U.S. Treasury Bills.** Direct obligations of the U.S. Treasury have historically involved little risk of loss of principal if held to maturity. However, due to fluctuations in interest rates, the market value of such securities may vary.

Fund of Funds Risk. Investment performance will largely depend on the investment performance of the selected underlying funds. An investment in the Fund(s) is subject to the risks associated with the underlying funds that then-currently comprise the Fund's portfolio. At times, certain of the segments of the market represented by the Fund's underlying funds may be out of favor and underperform other segments. The Fund will indirectly pay a proportional share of the expenses of the underlying funds in which it invests (including operating expenses and management fees), which are identified in the fee schedule above as "Acquired Fund Fees and Expenses."

#### **Risks common to CAOS**

Counterparty Risk. Counterparty risk is the risk that a counterparty to a financial instrument held by the Fund or by a special purpose or structured vehicle invested in by the Fund may become insolvent or otherwise fail to perform its obligations, and the Fund may obtain no or limited recovery of its investment, and any recovery may be significantly delayed. Exchange listed options, including FLEX Options, are issued and guaranteed for settlement by the Options Clearing Corporation ("OCC"). The Fund's investments are at risk that the OCC will be unable or unwilling to perform its obligations under the option contract terms. In the unlikely event that the OCC becomes insolvent or is otherwise unable to meet its settlement obligations, the Fund could suffer significant losses.

Selling or Writing Options. Writing option contracts can result in losses that exceed the seller's initial investment and may lead to additional turnover and higher tax liability. The risk involved in writing a call option is that there could be an increase in the market value of the underlying or reference asset. Valuation Risk. Some portfolio holdings, potentially a large portion of the Fund's investment portfolio, may be valued on the basis of factors other than market quotations. This may occur more often in times of market turmoil or reduced liquidity. Unlike most other ETFs, the Fund expects to effect a substantial portion of its creations for cash, rather than in-kind securities. The use of cash creations may also cause the Fund's shares to trade in the market at greater bid-ask spreads or greater premiums or discounts to the Fund's NAV. As a practical matter, only institutions and large investors, such as market makers or other large broker dealers, create or redeem shares directly through the Fund. Most investors will buy and sell shares of the Fund on an exchange through a broker-dealer. During market conditions in which short-term interest rates are at low levels, the Fund's yield can be very low, and the Fund may have a negative yield (i.e., it may lose money on an operating basis). During these conditions, it is possible that the Fund will generate an insufficient amount of income to pay its expenses. The Fund's investment strategy is expected to result in a higher portfolio turnover rate (100% or more). This will increase the Fund's brokerage commission costs, which could negatively impact the performance of the Fund. The Fund is a recently organized management investment company with no operating history. As a result, prospective investors have no track record or history on which to base their investment decision. There can be no assurance that the Fund will grow to or maintain an economically viable size.

**Box Spread Risk.** A Box Spread is a synthetic bond created by combining different options trades that have offsetting spreads (e.g., purchases and sales on the same underlying instrument, such as an index or an ETF, but with different strike prices). Counterparty Risk. Counterparty risk is the risk that a counterparty to a financial instrument held by the Fund may become insolvent or otherwise fail to perform its obligations, and the Fund may obtain no or limited recovery of its investment, and any recovery may be significantly delayed. Equity Securities Risk. Investments in securities whose performance is linked to that of equity securities, such as SPX Options, may fluctuate in value in response to many factors, including the activities of the individual issuers included in the Index, general market and economic conditions, interest rates, and specific industry changes. Such price fluctuations subject the Fund to potential losses.

#### Risks specific to CAOS

Limited Number of Authorized Participants, Market Makers and Liquidity Providers. The Fund has a limited number of financial institutions that may act as Authorized Participants ("APs"). Cash Creation Unit Risk. Unlike most other ETFs, the Fund expects to effect a substantial portion of its creations for cash, rather than in-kind securities. The use of cash creations may also cause the Fund's shares to trade in the market at greater bid-ask spreads or greater premiums or discounts to the Fund's NAV.

**FLEX Options Risk.** FLEX Options are exchange-traded options contracts with uniquely customizable terms like exercise price, style, and expiration date. Due to their customization and potentially unique terms, FLEX Options may be less liquid than other securities, such as standard exchange listed options.

**Derivatives Risk.** Derivatives are instruments, such as futures contracts, whose value is derived from that of other assets, rates, or indices. The use of derivatives for non-hedging purposes may be considered to carry more risk than other types of investments.

#### Note on category average methodology

Constituents of a given category are determined by YCharts. As of 4/30/2024, the calculation method used to determine the category average's returns changed to account for potentially different inception dates. Previously, a straight average of constituent funds' total return net asset value (NAV) was used to determine the category's average total return NAV; the percent change of the category average NAV was then used to calculate returns. As of 4/30/2024, total returns for the category are now found using a straight average of the total NAV return (percent change) for a given frequency (daily, weekly, monthly, etc.). There may be instances where the straight average of the constituent funds' NAV returns may be higher or lower than the straight average of the total NAV return. As of 4/30/2024, all category average returns are calculated using the straight average of the constituent funds' total NAV return for a given frequency.

#### Category average constituent selection criteria

Unless otherwise noted, the given category is represented by the 50 biggest funds based on assets under management (AUM). The AUM figure is point-in-time and is not retroactively applied to constituent funds. In the event fewer than 50 funds are available in a given category, all funds are used in to calculate returns. Funds that may have been open for investment over the given period but are no longer active are not included. The number of constituent funds in a given category average may affect represented returns. In the event of multiple share classes, the share class with the highest AUM is referenced. In the event of a duplicate ETFs and mutual funds from the same fund family, the ETF is referenced. Category returns are a straight average of the total return of the constituent funds over the given period.

Wherever possible, we reference the 50 biggest funds by AUM to provide what we believe to be a reasonable sample of the most popular strategies that includes a mix of passive and active approaches. The highest AUM funds tend to have more established track records, providing what we believe to be a reasonable basis for returns. We reference all funds in the category in the event there are fewer than 50 funds open for investment.

#### **Limited universe**

The information presented regarding peer ETFs may be based on a limited universe of comparable funds that we believe are relevant to the strategy, investment style, and asset class of this ETF. This comparison is not exhaustive and may exclude other funds that also offer similar exposures or strategies. Investors are encouraged to conduct their own research and consider other products in the marketplace that may provide comparable investment objectives or characteristics. Past performance is no guarantee of future results, and differences in fees, structures, or market conditions may lead to different outcomes between peer funds and this ETF. Investors should consider factors such as risk tolerance, fees, liquidity, and investment goals before making any investment decisions based on peer comparisons. This disclosure is not an endorsement of any peer fund, nor should it be interpreted as financial advice.

#### **Category averages referenced**

Commodities represented by the average returns at NAV of the 50 biggest open-ended funds (ETFs and mutual funds) based on assets under management (AUM) in the Commodities Broad Basket category. Commodities Broad Basket portfolios can invest in a diversified basket of commodity goods, including, but not limited to, grains, minerals, metals, livestock, cotton, oils, sugar, coffee, and cocoa. Investment can be made directly in physical assets or commodity-linked derivative instruments, such as commodity swap agreements. Category determined by YCharts.

Corporate Bonds ("Corporates") represented by the average returns at NAV of the 50 biggest open-ended funds (ETFs and mutual funds) based on assets under management (AUM) in the Corporate Bond category. Corporate bond portfolios concentrate on investment-grade bonds issued by corporations in US dollars, which tend to have more credit risk than government or agency-backed bonds. Category determined by YCharts.

Intermediate Government Bond ("Treasuries," "Int. Gov't Bonds") represented by the average returns at NAV of the 50 biggest open-ended funds (ETFs and mutual funds) based on assets under management (AUM) in the Intermediate Government Bond category. Intermediate-government portfolios have at least 90% of their bond holdings in bonds backed by the US government or by government-linked agencies. This backing minimizes the credit risk of these portfolios, as the US government is unlikely to default on its debt. Category determined by YCharts.

Managed Futures represented by the average returns at NAV of the largest open-ended funds (ETFs and mutual funds) in the Systematic Trend category, based on assets under management (AUM). Systematic-trend strategies primarily implement trend-following, price-momentum strategies by trading long and short liquid global futures, options, swaps, and foreign-exchange contracts. Categories determined by YCharts.

**REITs** represented by the average returns at NAV of the 50 biggest open-ended funds (ETFs and mutual funds) based on assets under management (AUM) in the Real Estate category. Real estate portfolios invest primarily in US REITs of various types. Securities that these portfolios purchase include debt securities, equity securities, convertible securities issued by real REITs and REIT-like entities. Category determined by YCharts.

**US Intermediate Core Bonds** ("Core Bonds," "Bonds") represented by the average returns at NAV of the 50 biggest open-ended funds (ETFs and mutual funds) in the Intermediate Core Bond category, based on assets under management. Intermediate-term core bond funds invest primarily in investment-grade US fixed-income issues, including government, corporate, and securitized debt, and hold less than 5% in below-investment-grade exposures. Categories determined by YCharts.

**US Large Blend** represented by the average return at NAV of the 50 largest ETFs in the Large Blend category based on assets under management (AUM). These portfolios tend to invest across the spectrum of US industries. Large is assigned to stocks in the top 70% of the capitalization stack. Blend is assigned to portfolios where neither growth nor value characteristics predominate. Categories determined by YCharts.

The Funds are distributed by PINE Distributors LLC. The Fund's investment adviser is Empowered Funds, LLC, which is doing business as ETF Architect. Alpha Architect, LLC serves as the Sub-adviser to the Fund. PINE Distributors LLC is not affiliated with ETF Architect or Alpha Architect, LLC.