

# INVESTOR PRESENTATION

# WAVEFRONT GLOBAL DIVERSIFIED PROGRAM

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Presentation data as of **August 31, 2023**

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**2003**

WFGAM was established

**Toronto**

Head Office

## About WaveFront

Global Diversified Program

**WaveFront Global Asset Management Corp. is a Canadian global asset management company based in Toronto.**

- WaveFront operates in North America, and through partnerships in Hangzhou, China and Seoul, Korea.
- WaveFront is registered in Canada with the Ontario Securities Commission (OSC) and in the United States with the Commodity Futures Trading Commission (CFTC).
- Research relationships with faculty at the University of Waterloo and Princeton University.
- Investment products and services include:
  - Managed Futures
  - Multi-strategy, Multi-asset class All-Weather Fund
  - Equity hedge overlays
  - Factor-driven equity long and hedged equity (China A shares)
  - Factor-driven multi-strategy (Korea)

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## About WaveFront

Global Diversified Program

# History of WaveFront

### March 2003

Integrated Managed Futures Corp. ("IMFC") is founded as the managed futures division of IAM Corp., one of Canada's leading alternative investment managers.

### May 2009

Following a +47% net return in 2008, the WaveFront Global Diversified Portfolio launched as a mutual fund.

### April 2013

WaveFront Capital Management L.P. ("WFCM") founded, focused on China and Emerging Markets led by Mark Adams and Dr. Burton Malkiel.

### October 2015

WFCM enters into an agreement to sub-advise a China A share equity strategy for Hwabao WP Fund Management Co., Ltd.

### September 2017

IMFC acquires WFCM and changes its name to WaveFront Global Asset Management Corp. ("WFGAM")

### December 2017

WFGAM enters into joint-venture with J.Royal Asset Management Corp., creating Jun Feng Investment Management (Hangzhou) Co., Ltd. ("JunFeng"), a China domiciled investment management firm.

### October 2018

WFGAM launches, with its partners in JunFeng, Mandate No.2, one of China's earliest equity hedge funds.

### November 2019

The WaveFront All-Weather Fund is launched as a next generation hedge fund combining a diversified balanced portfolio with an alpha overlay.

### September 2020

WFGAM and AGF launch joint-venture asset management firm AGFWave Asset Management Inc.

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## About WaveFront

Global Diversified Program

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# WaveFront Team



**Robert Koloshuk** | Managing Principal

- Previously Senior Strategist and Director of Trading with WaveFront.
- B.A. (Honours), University of Guelph.



**Patrick MacDonald** | Managing Principal

- Previously Executive Vice President, Ross Smith Asset Management, Founding Principal and Investment Advisor Aspen Rock Wealth Management Group at TD Wealth.
- B. Comm.(Finance), University of Alberta. Member of the NFL Alumni Association (Former Player).



**Mark Adams, CFA** | Managing Principal & Portfolio Manager

- Member, Investment Committee of AlphaShares, LLC, a firm he co-founded along with Dr. Burton Malkiel. Previously Chief Operating Officer Barra Rogers Casey, Senior Portfolio Manager for Active Investment Adviser.
- B.Sc. ( Economics), University of Pennsylvania, B.A., (Fine Arts) University of Pennsylvania. Chartered Financial Analyst.



**Roland Austrup** | Chairman & Managing Principal

- Previously CEO, Chief Investment Officer and Director of WaveFront, Investment Advisor, BMO Nesbitt Burns., Commodities Broker, Scotia McLeod.
- Director, Master of Quantitative Finance program, University of Waterloo, member AIMA (Canada) Managed Futures Committee.
- B.A. (Honours), University of Western Ontario.

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# Investment Philosophy & Approach

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We believe financial markets remain heavily influenced by pervasive behavioral biases and structural issues which give rise to indeterminate number of persistent and predictable investment opportunities.

Our success is based on applying a data-driven, scientific approach to observing and analyzing market behavior to identify and capture those opportunities that can generate long-term, repeatable sources of positive return for our clients.

## Investment Principles

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### Diversification

A portfolio with diversified exposure to independent factors and characteristics across multiple asset classes can generate repeatable long-term returns which are uncorrelated from traditional long-only equity and bond investments

1

### Systematic

Diversified exposure is best achieved through a diverse set of independent trading algorithms based on empirical evidence collected from rigorous fundamental and statistical research

1

### Risk Management

Significant manager alpha can be achieved with an emphasis on superior portfolio construction and risk management practices

## About WaveFront

Global Diversified Program

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# Research Partner

**WaveFront has exclusive research agreements with faculty in the Department of Statistics and Actuarial Science in the Faculty of Mathematics at the University of Waterloo - the world's first and largest faculty of mathematics – enabling us ongoing access to world class data-mining and mathematical modeling resources.**

**Dr. Adam Kolkeiwcz** has been an advisor to WaveFront since 2003, and is a Professor in the Department of Statistics and Actuarial Science at the University of Waterloo. Over the last ten years he has been teaching courses in the Master in Statistics-Finance program, Canada's premier Master's program in quantitative finance. He is an Associate Chair for Graduate Studies and a founding member of the Institute for Quantitative Finance and Insurance. Dr. Kolkiewicz's holds a Masters in Math from the Technical University of Wroclaw and a Ph.D. from the University of Waterloo.



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# Our Strategy

Built on the long view of market  
fundamentals, investment first principles  
& risk management.

## Our Strategy

Global Diversified Program

# Global Investment Program

An absolute return, global investment program that applies systematic trading strategies to identify and profit from long-term, fundamentally driven sources of return across a globally diversified universe of financial and commodity markets.

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Since launching in 2007, we have delivered consistent, long-term positive returns, uncorrelated to traditional long equity and bond investments.

**We have achieved these results through multiple market and economic environments by:**

- 1 Systematically constructing portfolios that capture long term, fundamentally-driven sources of return,
- 2 Deploying capital across a globally diversified universe of financial and commodities markets, and
- 3 Remaining intensely focused on rigorous risk controls to keep volatility and drawdowns in a range that we deem to be an acceptable threshold for our clients

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**Our  
Results**

Global Diversified Program

**Program  
Performance**

Performance is past performance and does not guarantee future results. Performance data quoted represents past performance; past performance does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance of the fund may be lower or higher than the performance quoted.

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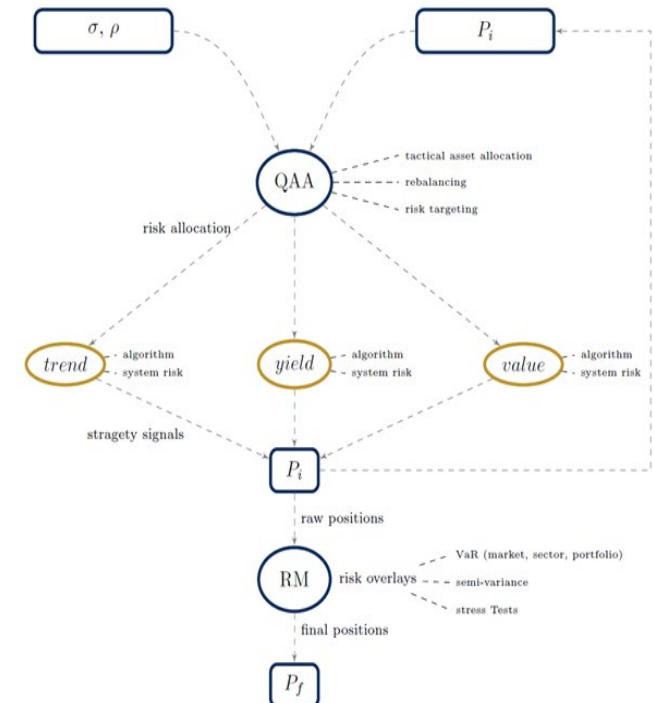
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**Performance & Risk Summary** | as at August 31, 2023  
(Annualized if over a year)

	3 MOS	YTD	1 Year	3 Year	5 Year	Since Inception	Sharpe Ratio	Sortino Ratio
WaveFront Global Program	-3.23%	-3.20%	-3.90%	15.80%	12.58%	6.31%	0.39	0.75
BTOP 50 Index	0.66%	-1.08%	-0.66%	9.48%	6.53%	3.00%	0.43	0.69
SocGen CTA Index	-0.31%	-3.32%	-4.31%	8.80%	5.50%	3.35%	0.40	0.64

We seek to identify and exploit persistent and predictable fundamental factors and structural characteristics, most notably momentum, yield and value, across a globally diversified universe of financial and commodities markets.

1. **Quantitative Asset Allocation (QAA)** model systematically constructs a risk budget utilizing multiple correlation and volatility factors
2. **Investment Modules (Trend, Yield & Value)** comprised of investment and system risk algorithms generate independent trading signals from market data
3. **Independent trading signals** combine with QAA risk budget to generate an **interim 'portfolio'** of raw positions
4. **Market and portfolio risk overlays**, including historical/hypothetical stress tests are applied to interim portfolio to generate final positions.
5. **Portfolio construction** applies various trade execution methods to ensure minimal transaction costs and slippage.



## Our Strategy

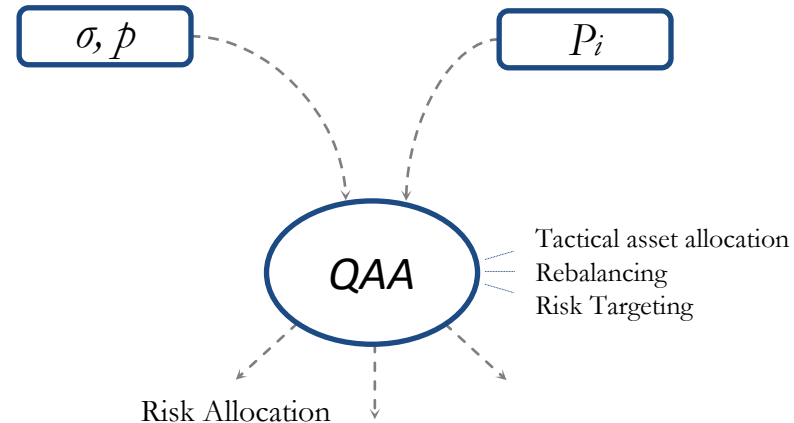
Global Diversified Program

# Quantitative Asset Allocation

Account for the dynamic nature of volatility and correlation over time as well as the inability to reliably forecast returns in the short term from historical returns.

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Superior portfolio construction is rooted in quantitative asset allocation models that account for the dynamic nature of volatility and correlation to determine the portfolios risk budgeting framework.

### Inputs:

- Long-term measures of market and sector correlations
- GARCH-inspired heuristics for volatility forecasting
- Expected portfolio profile based on IMFC Bayesian learning framework

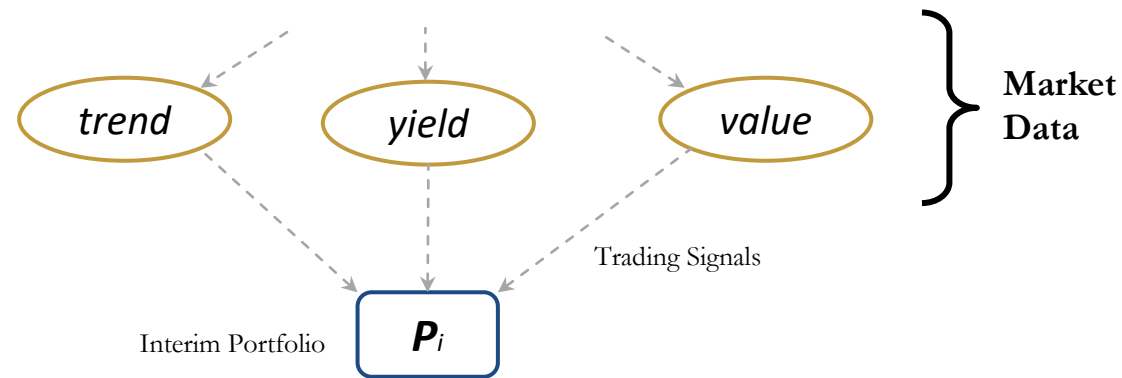
# Investment Modules

Modular framework by design

Multiple independently generated investment modules currently exist and many more can be added horizontally

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Independent modules combine the current risk budgeting framework with the trading signals to generate an interim 'portfolio'. Each module includes investment algorithms (trading heuristics) and heuristics for controlling the embedded system risk.

## Inputs:

- Enhanced, less path-dependent trend signals; data & signal smoothing, self-correcting, adaptive to market conditions
- Multiple value measures drive directional exposure: Technical measures, Intrinsic value, Supply/Demand
- Multiple yield measures drive directional exposure; commodity basis, currency carry, rates, yield curve, earnings & yield

## Our Strategy

Global Diversified Program

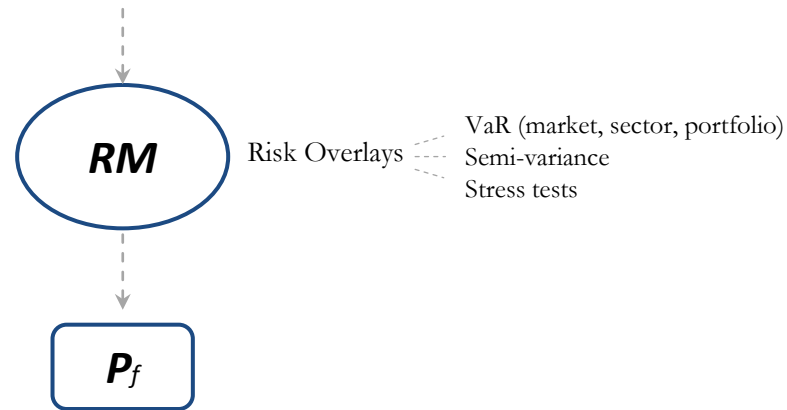
# Risk Management

Maintain a stable and well diversified risk level.

Minimize the likelihood of tail risk exceeding acceptable threshold.

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Throughout the investment process, focusing intensely on rigorous risk controls to keep volatility in a range that we deem to be an acceptable threshold for our clients, while ensuring our portfolio reflects the most efficient allocation of risk and capital.

### Inputs:

- Dampen the effect of market shock risk by curtailing market and sector VaR
- Dampen portfolio tail events by semi-variance constraints and portfolio VaR limits
- Manage “model risk” of IMFC’s risk budgeting framework (QAA) by semi-variance constraints
- Minimize event risk via stress testing and options hedging



## Our Strategy

Global Diversified Program

# True Global Diversification

Exposure to value, yield and trend across a diversified portfolio of equity indices, global sovereign investment grade debt, major currencies and commodities.

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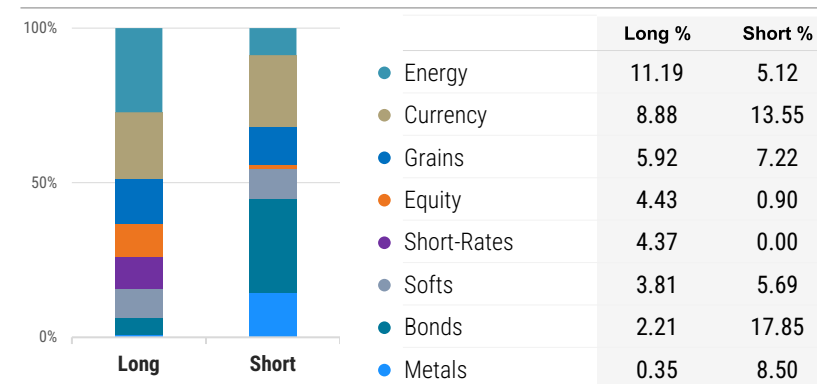
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## WaveFront Global Diversified Program – Portfolio Summary

### PORTFOLIO SUMMARY (AS OF AUGUST 31, 2023)

#### Sector Exposure (by risk exposure)



#### Top 5 Long\*

	Risk %	Margin %
Mexican Peso	3.31	5.27
EUR/JPY CME	3.29	5.30
Gas Oil	3.22	1.52
SFE 90-Day Bank Bills	3.05	5.05
No.2 Heat Oil	2.19	1.44

#### Top 5 Short\*

	Risk %	Margin %
Wheat	5.68	1.99
Japanese Yen	4.49	4.88
US 5yr Notes	4.37	3.23
Coffee C	4.26	4.07
Aluminum HG	3.99	6.35

\* based on % of total portfolio risk

## Our Strategy

Global Diversified Program

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# Well Defined Competitive Advantages

Proven track record of delivering consistent, long-term positive returns throughout multiple market and economic cycles that is uncorrelated to traditional equity and bond markets.

Robust risk management framework based on low levels of risk exposure and broad diversification seek to provide insulation from market shocks while delivering stable attractive returns.

Dedicated statistical research program in collaboration with the Faculty of Mathematics at the University of Waterloo enables ongoing access to world class data-mining and mathematical modeling resources.

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The background of the slide is a blurred image of a financial chart, likely a candlestick or line chart, with various colored lines (blue, green, red) and a grid of dashed lines. The chart appears to be showing price movement over time. The overall tone is professional and data-driven.

# Our Results

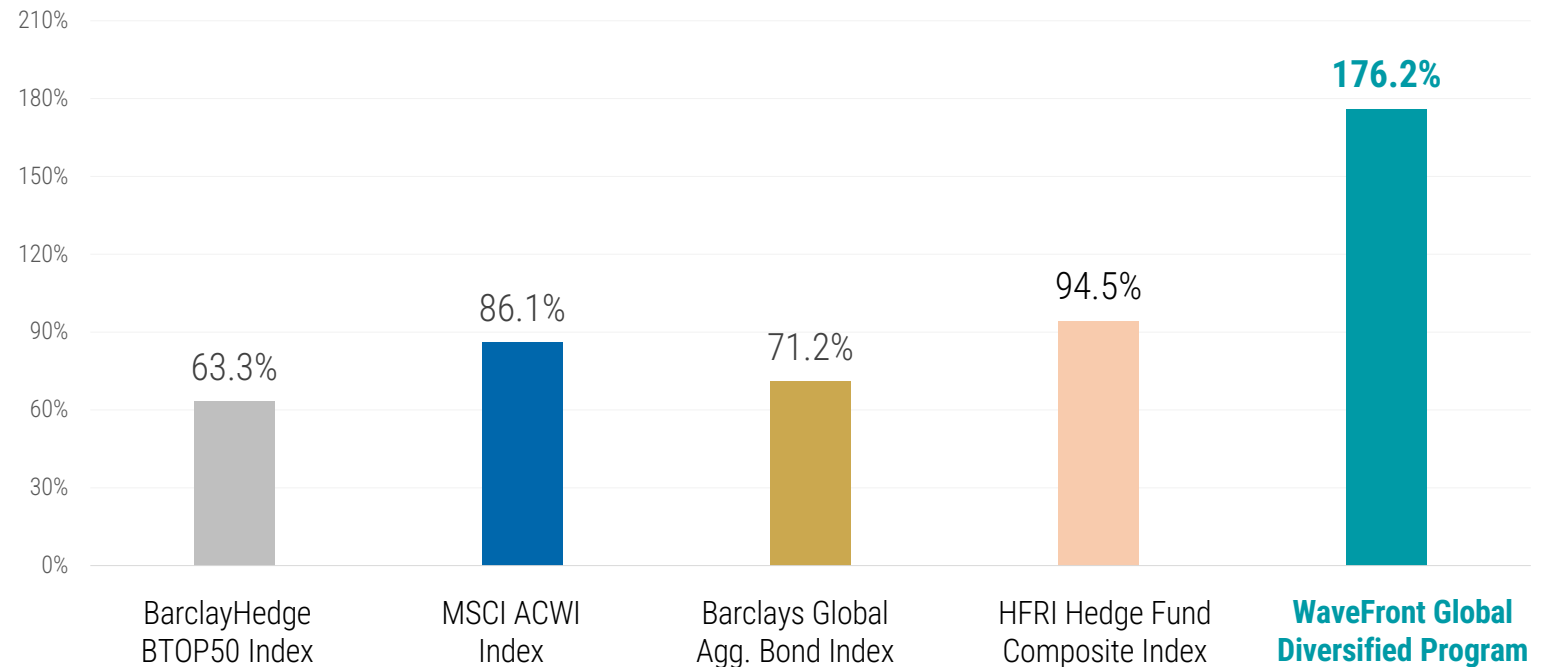
Since launching in 2007, the WaveFront Global Diversified Program has delivered superior risk-adjusted returns.

## Our Strategy

Global Diversified Program

# Superior Performance versus Global Markets

WaveFront vs. Equity, Bond & Peer Group since 02/2007



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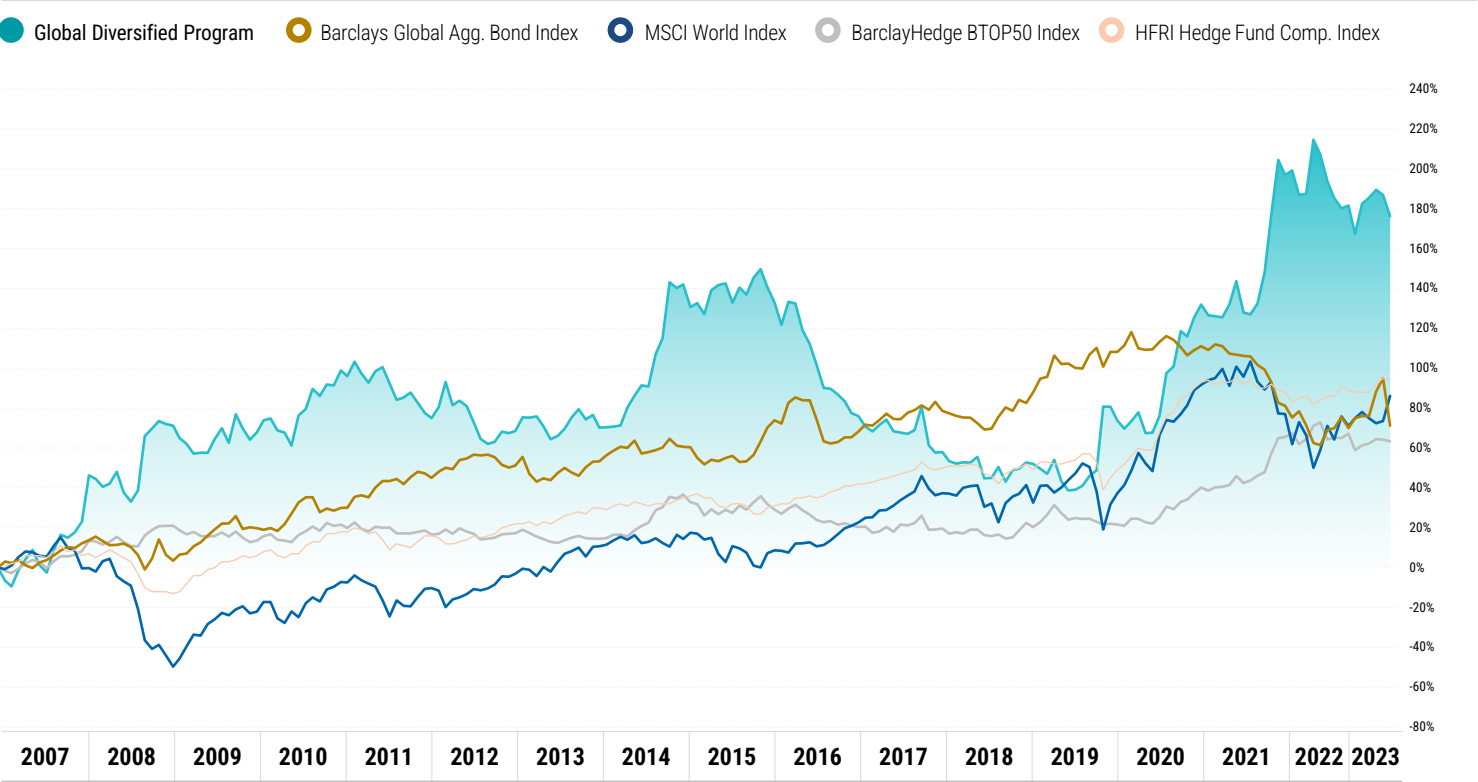
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**Our  
Results**

Global Diversified Program

**Outperformed  
Stocks, Bonds  
and Peer  
Group**

**Cumulative Growth vs. Equity, Bond & Peer Group since 02/2007**



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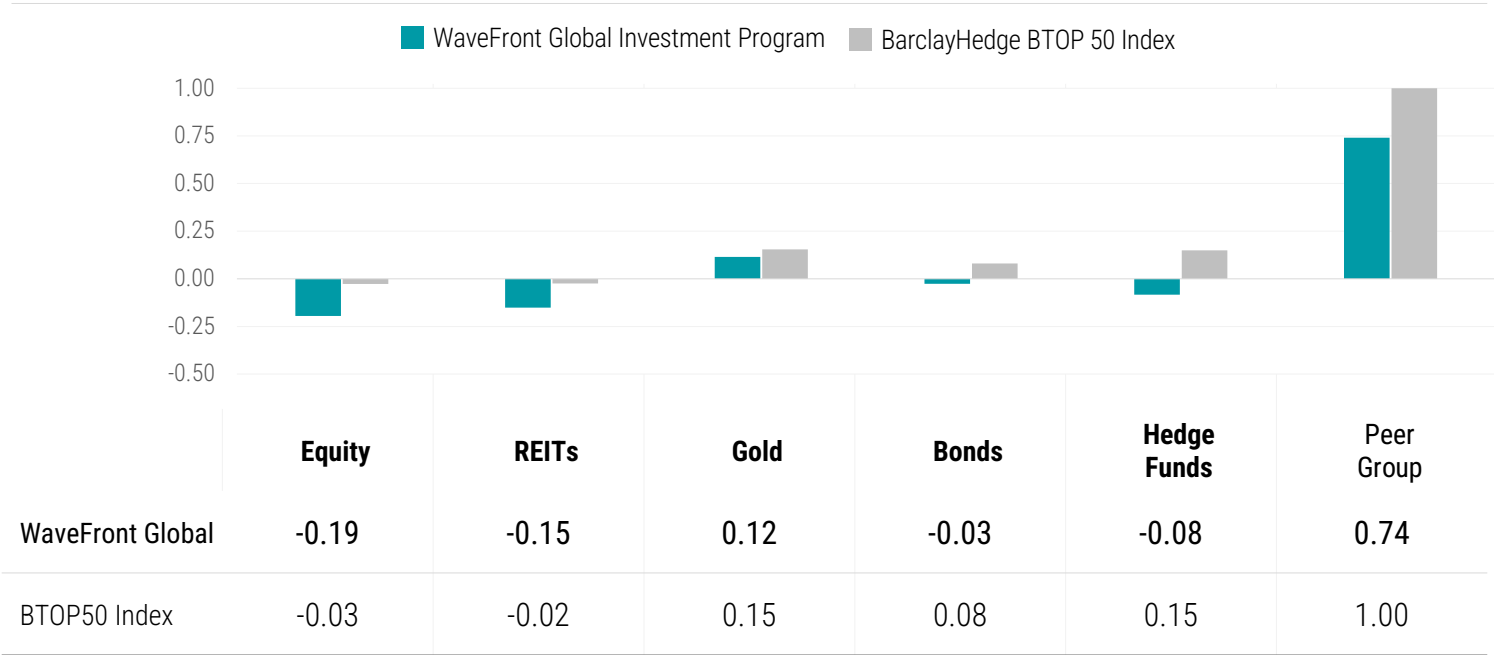


**Our  
Results**

Global Diversified Program

**Superior  
Diversification  
Benefits vs.  
Peers**

**WaveFront vs. BTOP50 Index Correlations to Major Indices since 02/2007**



Equity: MSCI World Index, REITs: FTSE NAREIT Index, Gold: GLS, Bonds: Barclays Global Aggregate Bond Index, Hedge Funds: HFRI Fund Weighted Composite Index, Peer Group: SocGen CTA Index.

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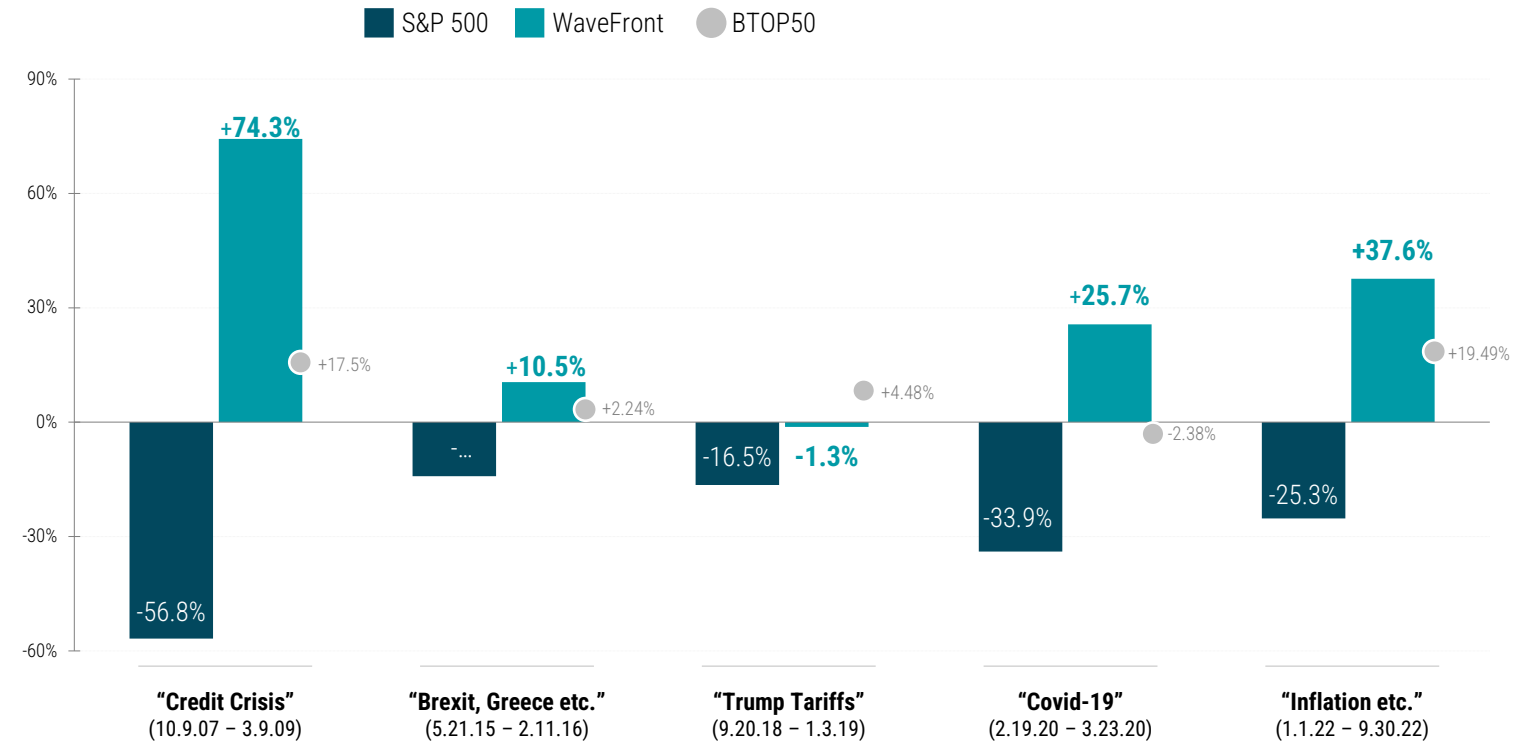
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## Our Results

Global Diversified Program

# Performance during market drawdowns.

### Performance During Recent Market Drawdowns\*



\* Data based on peak-to-trough daily close.

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## Our Results

Global Diversified Program

**Consistently  
outperformed  
its peer group.**

### Annual Performance vs. Peer Group since 02/2007

2007*	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
WaveFront 17.69%	WaveFront 47.47%	Barc.CTA -0.10%	WaveFront 12.94%	WaveFront -2.10%	Barc.CTA -1.70%	WaveFront 10.03%	WaveFront 19.76%	WaveFront 10.20%	Barc.CTA -1.23%	SG CTA 2.48%	Barc.CTA -3.17%	BTOP 50 6.68%	WaveFront 40.07%	WaveFront 14.94%	WaveFront 25.66%	Barc.CTA 0.31%
Barc.CTA 7.64%	Barc.CTA 14.09%	WaveFront -2.14%	SG CTA 9.26%	Barc.CTA -3.09%	BTOP 50 -1.83%	BTOP 50 0.76%	SG CTA 15.66%	SG CTA 0.03%	SG CTA -2.87%	Barc.CTA 0.70%	BTOP 50 -4.61%	SG CTA 6.26%	Barc.CTA 5.43%	BTOP 50 10.17%	SG CTA 19.93%	BTOP 50 -1.08%
SG CTA 6.83%	BTOP 50 13.58%	SG CTA -4.30%	Barc.CTA 7.05%	BTOP 50 -4.25%	SG CTA -2.87%	SG CTA 0.73%	BTOP 50 12.34%	BTOP 50 -0.92%	BTOP 50 -4.45%	BTOP 50 -0.82%	SG CTA -5.83%	Barc.CTA 5.17%	BTOP 50 4.97%	SG CTA 6.08%	BTOP 50 13.77%	WaveFront -3.20%
BTOP 50 6.38%	SG CTA 13.07%	BTOP 50 -4.76%	BTOP 50 6.40%	SG CTA -4.45%	WaveFront -13.15%	Barc.CTA -1.42%	Barc.CTA 7.61%	Barc.CTA -1.50%	WaveFront -19.91%	WaveFront -10.95%	WaveFront -10.92%	WaveFront -6.29%	SG CTA 3.16%	Barc.CTA 5.03%	Barc.CTA 7.22%	SG CTA -3.32%

\* WaveFront Global Investment Program launched on February 1, 2007

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## Our Results

Global Diversified Program

# Proven track record since 2007

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## Monthly Performance Summary since 02/2007

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
2023	-1.81	0.52	-5.06	5.50	0.90	1.34	-0.51						<b>0.57</b>
2022	2.32	6.78	11.21	10.34	-2.47	0.77	-4.12	0.19	9.44	-2.32	-4.38	-2.88	<b>25.66</b>
2021	1.69	8.82	-1.22	4.44	2.85	-2.34	-0.19	-0.26	2.89	5.02	-6.46	-0.38	<b>14.94</b>
2020	3.46	2.00	21.46	-0.03	-3.80	-2.41	2.25	2.53	-5.85	0.13	5.00	12.20	<b>40.07</b>
2019	-4.92	4.07	0.48	2.09	-0.48	-1.57	-1.71	4.79	-7.03	-3.21	0.30	1.38	<b>-6.29</b>
2018	6.96	-10.73	-2.21	0.12	-2.87	-0.78	0.39	-0.11	1.90	-6.92	0.16	3.79	<b>-10.92</b>
2017	-1.52	-1.83	-3.22	-0.83	-2.99	-1.46	1.96	1.56	-3.35	-0.38	-0.40	1.10	<b>-10.95</b>
2016	3.60	1.72	-3.60	-3.23	-4.77	5.18	-0.31	-5.82	-3.13	-4.96	-5.68	-0.23	<b>-19.91</b>
2015	13.08	-1.18	0.76	-4.70	0.85	-2.37	5.30	1.06	0.34	-3.97	3.23	-1.46	<b>10.20</b>
2014	-2.85	1.26	-3.61	0.13	0.18	0.34	5.19	3.37	2.77	-0.31	8.50	3.82	<b>19.76</b>
2013	3.16	-0.52	0.69	4.04	-0.08	0.35	-2.87	-3.76	1.06	2.16	3.36	2.33	<b>10.03</b>
2012	-2.74	-2.75	-1.51	3.16	6.99	-6.02	1.22	-1.46	-4.51	-4.79	-1.50	0.63	<b>-13.15</b>
2011	-0.21	3.88	-1.43	3.73	-2.92	-2.32	2.96	1.03	-4.08	-4.29	0.67	1.32	<b>-2.10</b>
2010	-3.36	2.31	3.52	0.56	-3.44	-0.62	-3.88	9.37	1.80	5.63	-1.86	3.07	<b>12.94</b>
2009	-0.88	-0.47	-3.63	-1.84	-2.95	0.27	-0.04	4.39	3.31	-4.28	8.77	-3.99	<b>-2.14</b>
2008	4.59	18.84	-1.19	-2.77	1.07	4.26	-6.98	-3.39	4.26	19.65	2.26	2.23	<b>47.47</b>
2007		-6.55	-3.03	9.05	5.56	4.44	-7.01	-3.72	11.52	7.13	-1.25	2.27	<b>17.69</b>

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