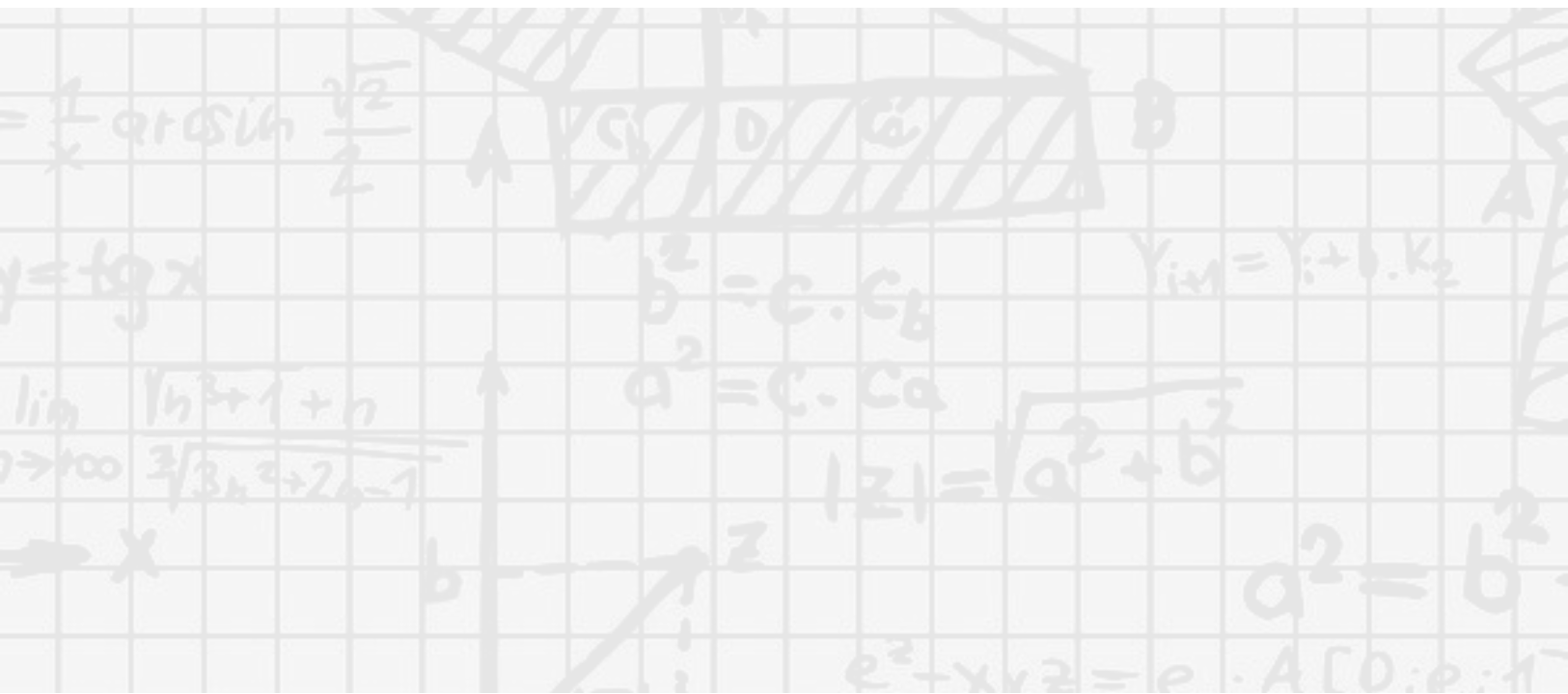


# Digital Asset Markets Report

2H June 2022



The S2F Intelligence report examines network fundamentals using on-chain analysis, technical tools, and proprietary indicators. We aim to provide insight into how digital assets perform during these unprecedented times. By recognizing trends in both momentum and volatility, we can identify opportunities while properly navigating uncertain market conditions.



## Macro Overview

- The S&P 500 and DJIA indexes have fallen -21.3% and -16.3% YTD, while the NASDAQ has declined by 30.1% in 2022. Equities markets are experiencing the worst first-half performance in more than 50 years. As equities prepare for earnings season, the Federal Reserve's guidance remains hawkish as market concerns of a recession increase along with global inflation levels.
- US household expectations for inflation recently matched May's record highs as the University of Michigan's consumer sentiment index reached a new all-time low reading of 50.2. This is the lowest level recorded by the survey dating back to the mid-1970s.
- Fed Chair Powell continues to forecast the need for an additional 50 bps or 75 bps hike at the next FOMC meeting in late July, with other central bank officials leaning towards 75 bps.
- Bitcoin lost 56.2% during Q2 of 2022 - the second-worst price performance since Q3 of 2011 when it fell by 68%. Likewise, Ethereum has lost 67.4% in Q2 - the worst price performance since the protocol's inception in 2015 as risk-on assets struggled to establish price support.



## Macro Performance

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- U.S. crude oil fell below \$100, reaching \$99.22 per barrel - oil continues its steady decline through the end of Q2.
- Gold has flipped slightly negative on the year -2.63% YTD.
- Commodities across all sectors remain elevated, with some reaching YoY extremes such as Lithium (+434%) and Eggs (+239%)
- Treasury yields saw a contraction, with the 2Y declining to 2.78%, the 10Y at 2.79%, and the 30Y falling to 3.04%. As many investors speculate on the Federal Reserve's capacity to maintain the current trajectory path of monetary policy, since the 1990's we have not seen the Fed pivot policy until the two-year treasury inflated protection securities (TIPS) real yield is positive.



## On-Chain Analysis

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- **MVRV Cohorts Indicator:** Signals when Short- and Long-Term Holders and general MVRV ratios fall < below 1.0 - indicating undervaluation in the price of Bitcoin. All prior BTC bear market bottoms have been established under these conditions (2012, 2015, 2019, 2020).
- **Bitcoin Historical Extremes:** BTC price is at levels only seen three times before - once during the bottom of the 2015 cycle and twice in March of 2020 during the Covid market crash. Since June 14th, 16/17 days have been at historical extremes.



## Technical Levels

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- **Bitcoin:** Bitcoin is battling to find support at the prior cycle's 2017 ATH after it fell below it during a violent liquidation event earlier this month.
- **Ethereum:** Contagion from over-leveraged market participants led to a cascade of liquidation in ETH during Q2. This led price to briefly fall below the \$1K level, but it has since found support above this region.



## Momentum & Sentiment

Pages 4-5

- **pMV momentum model:** The model remains in cash currently after a brief shift in exposure to ETH.
- **Alt-season indicator:** The indicator is currently showing that there is more strength in Altcoins vs. Bitcoin.
- **Delta risk:** The indicator remains at its highest level of risk-off conditions for Bitcoin but recently started to decline for Ethereum - however, it still carries a high-risk value.



## Money Flows & Themes

Pages 6 -7

- **S2F Top/Bottom Cycle Indicator:** The recently engineered indicator has managed to signal historical tops in Bitcoin price action of the prior market cycles while accurately identifying the start of cycle bottom formation. In addition, the Top/Bottom indicator printed the first signal since 2020 on June 13, 2022, indicating a possible bottom has begun to form.
- **Market Cycle Confluence :** The S2F Macro models show historical confluence surrounding the formation of a market cycle bottom in Bitcoin. While the Caution & Accumulation Channel and the Top Bottom could still signal lower levels, establishing this current cycle's bottom has begun, and market participants are nearing the heart of optimal accumulation. In addition, the accumulation channel indicator identifies clear buying opportunities, which also align with statistically oversold periods using the Bitcoin Power Law model.

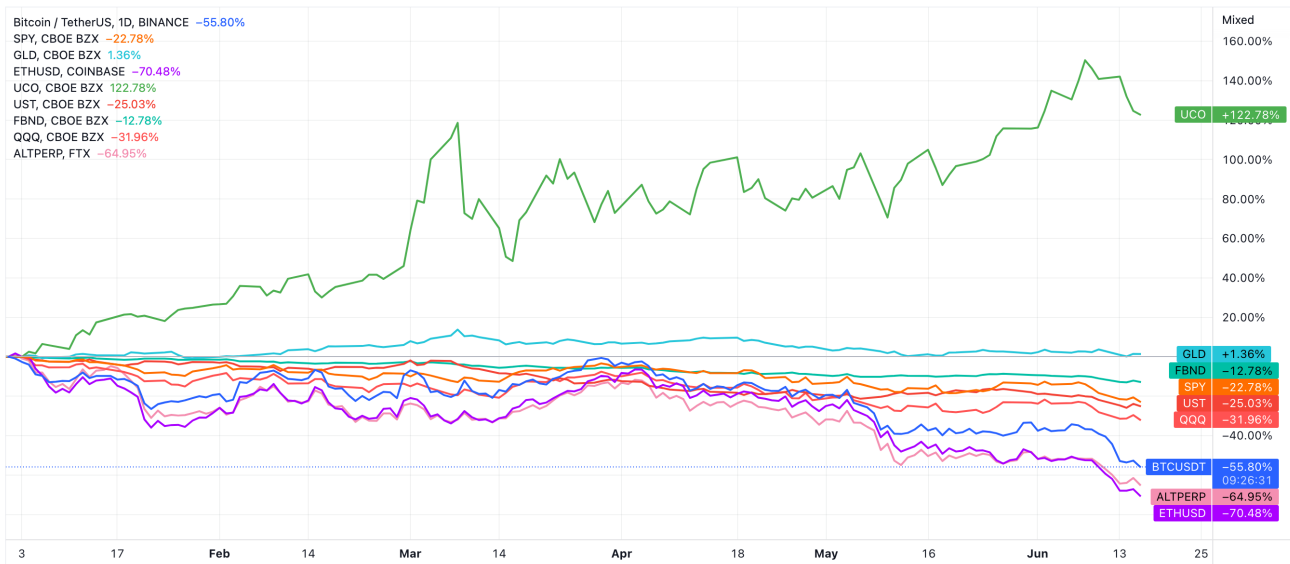


## Notable News

Page 8

- Bitcoin, Ethereum, Layer One, and Other Headlines.

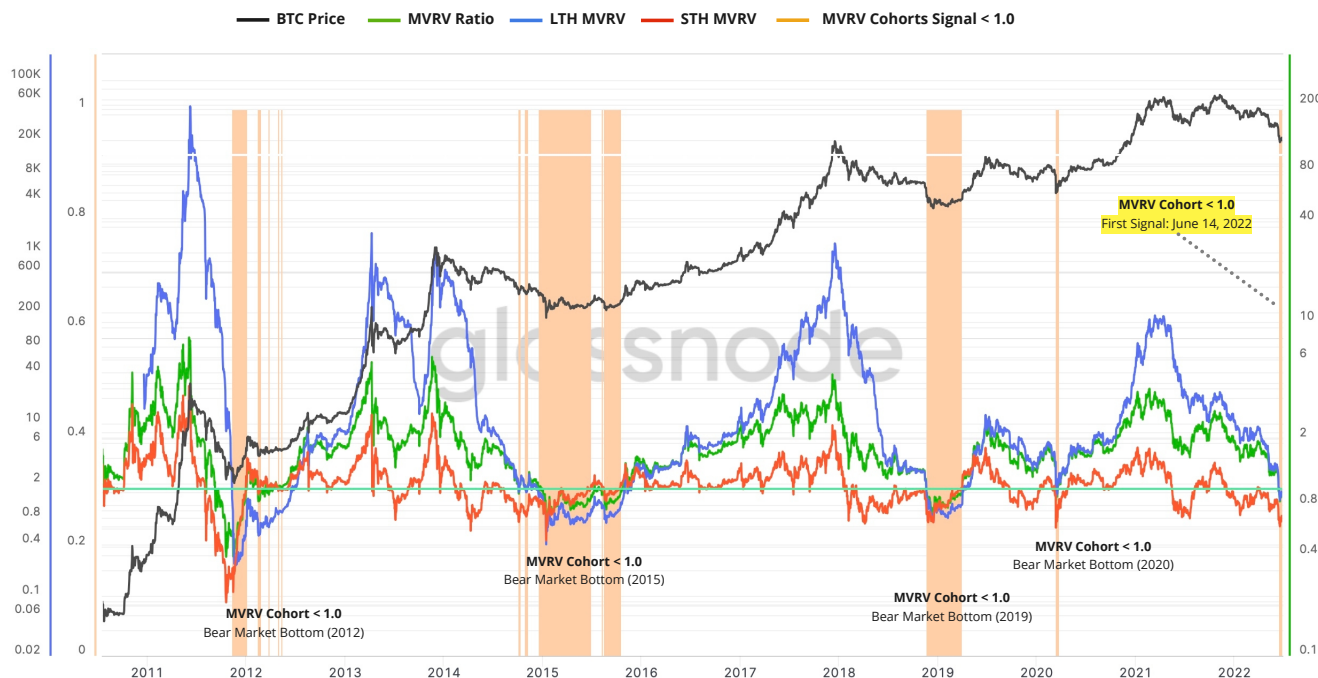
## 2022 Asset Returns



Asset	MtD*	QtD	YtD	Volatility (annualized)*	Sharpe (annualized)*	Correlation (to Bitcoin)**
Bitcoin	-48.6%	-57.3%	-58.5%	70.6%	-2.10	1.0
Ethereum	-62.4%	-69.2%	-71.8%	86.8%	-2.48	0.99
Altcoin Index	-48.7%	-59.8%	-65.0%	83.5%	-2.10	0.99
SPY	-8.6%	-16.3%	-20.4%	25.2%	-1.75	0.94
QQQ	-9.9%	-18.6%	-25.8%	32.5%	-1.75	0.91
GLD	-3.0%	-6.2%	0.1%	14.9%	0.00	0.84
UCO	1.3%	7.0%	88.9%	80.4%	2.06	-0.51
FBND	-1.6%	-5.7%	-10.6%	7.2%	-3.33	0.89
UST	0.4%	-8.2%	-19.6%	18.6%	-2.38	0.72

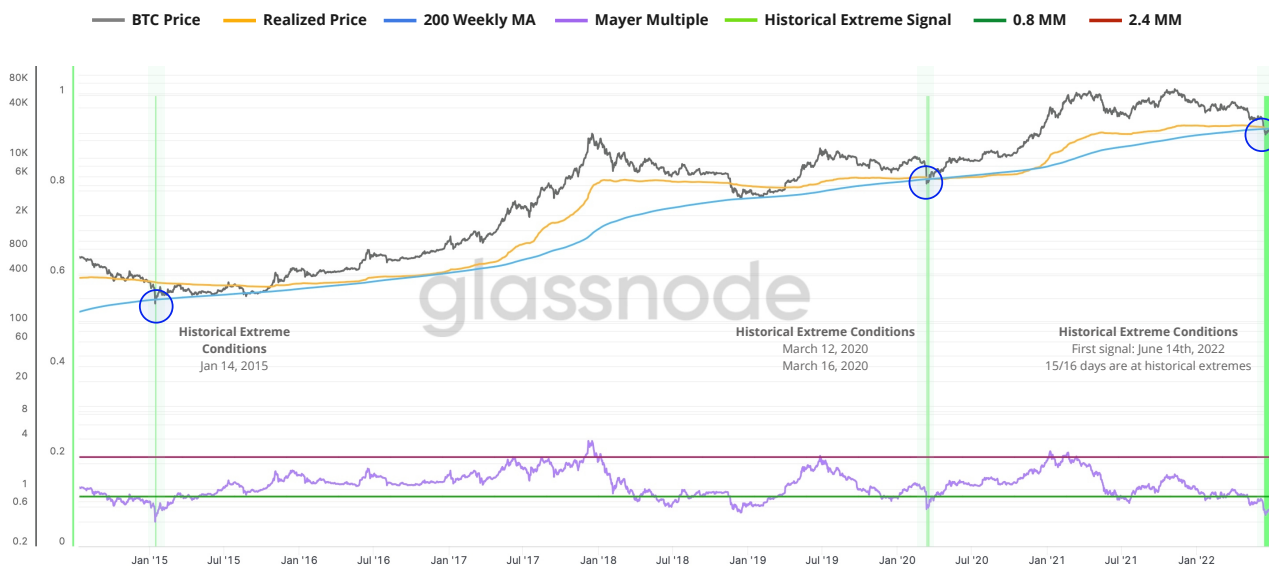
Sources: Glassnode, AlphaVantage  
 Assets: SPY = S&P500, QQQ = NASDAQ, GLD = Gold, UCO = Crude Oil, FBND = Total Bond Market, UST = 7-10 YR Treasury, Alt-Perp (FTX) = Altcoin Index  
 \*as of June 30, 2022  
 \*\*last 90 days

## MVRV Cohorts Indicator



- The MVRV indicator (green) is the ratio between market cap and realized cap. It indicates when the traded price is below a "fair value." The MVRV cohort indicator also considers the MVRV of both long-term holders (blue) and short-term MVRV (red).
- We see the MVRV cohort signal (peach) print when all MVRV values are < below 1.0 - indicating undervaluation in the price of Bitcoin. We have seen all prior BTC bear market bottoms established under these conditions (2012, 2015, 2019, 2020).

## BTC Extreme Historical Conditions



- The Mayer Multiple (purple) is the ratio of the price of Bitcoin (gray) divided by the 200-day moving average value. The indicator oscillates between 2.4 (red line) and 0.8 (dark green line) - it has been higher than its current metric, 98% of Bitcoin's entire history.
- The BTC Historical Extreme Signal (light green) occurs when the price of Bitcoin is below the 200 weekly moving average (blue), realized price (orange), and the Mayer Multiple is below 0.60. These conditions have only occurred on 0.16% of the days in Bitcoin's history.

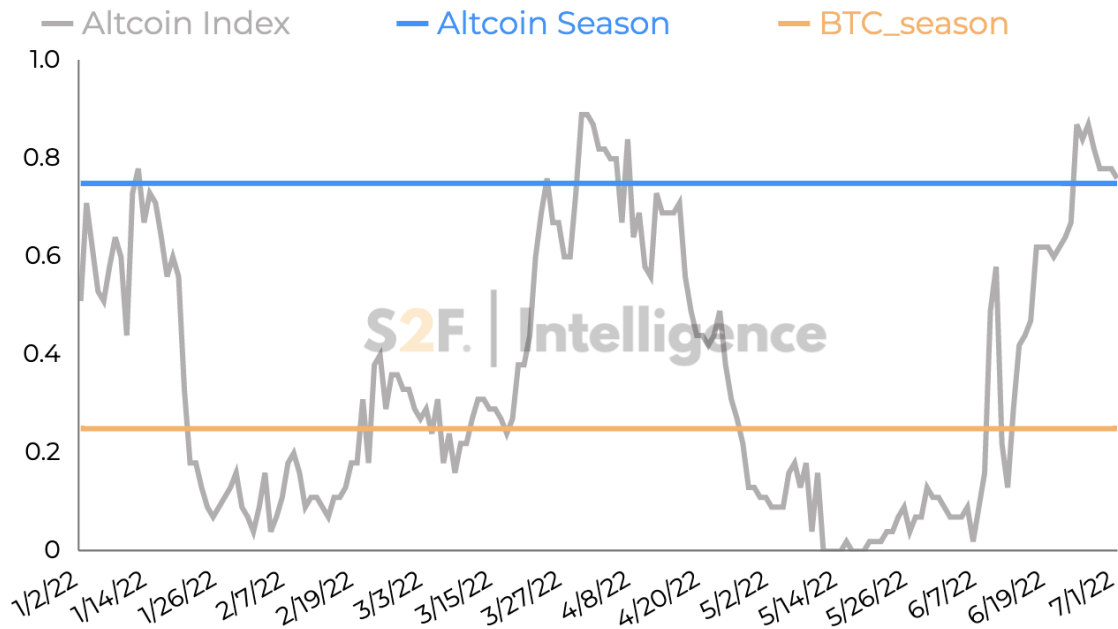
- **Bitcoin remains well below the 50d MA (blue) and has since been consolidating in the \$20k price range.** Bitcoin is battling to find support at the prior cycle's 2017 ATH after it fell below it during a liquidation cascade earlier this month.
- We would like to see \$20k become support, but we are prepared for any scenario should we descend lower.



- **Ethereum rallied briefly and has since settled around the \$1k support level.**
- Contagion from over-leveraged market participants has continued to embolden bears as ETH fell by nearly 70% during Q2 - the largest quarterly price decline since the protocol's inception.
- However, looking ahead to a potential Q3/Q4 merge, we believe ETH is at deep value levels when taking a long term perspective.

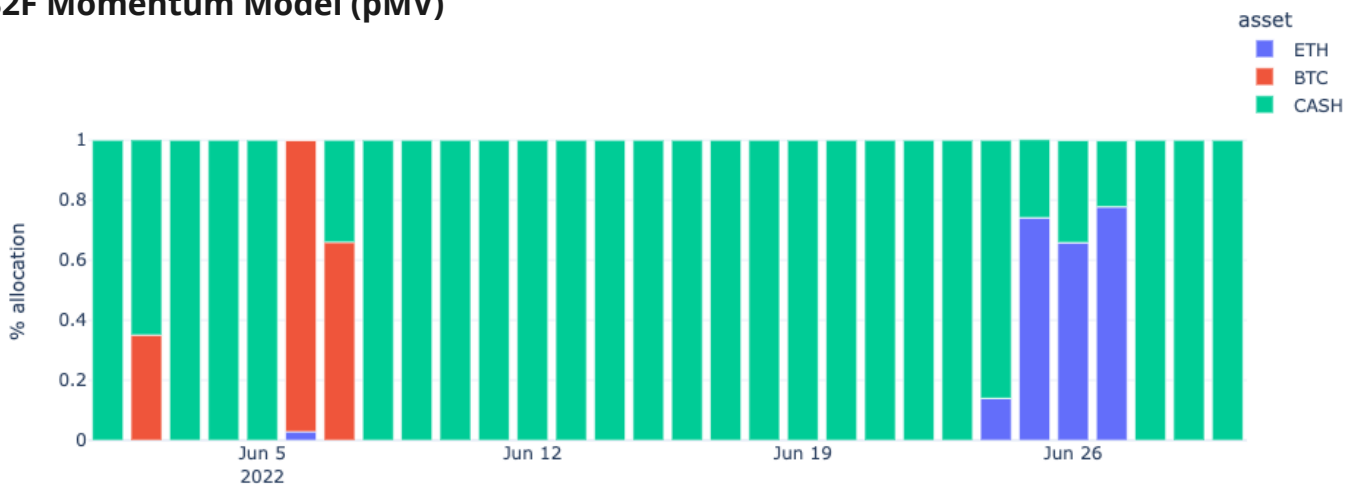


## S2F Alt-Season Indicator



The S2F Alt-Season Indicator is a proprietary model that measures the capital flows between Bitcoin and a basket of major Altcoins. This indicator is especially helpful in **identifying where strength resides** in the cycle and can **indicate what may happen next**. When the Index line (gray) is below the **orange line**, it signals relatively strong momentum favoring Bitcoin vs. Altcoins.

## S2F Momentum Model (pMV)

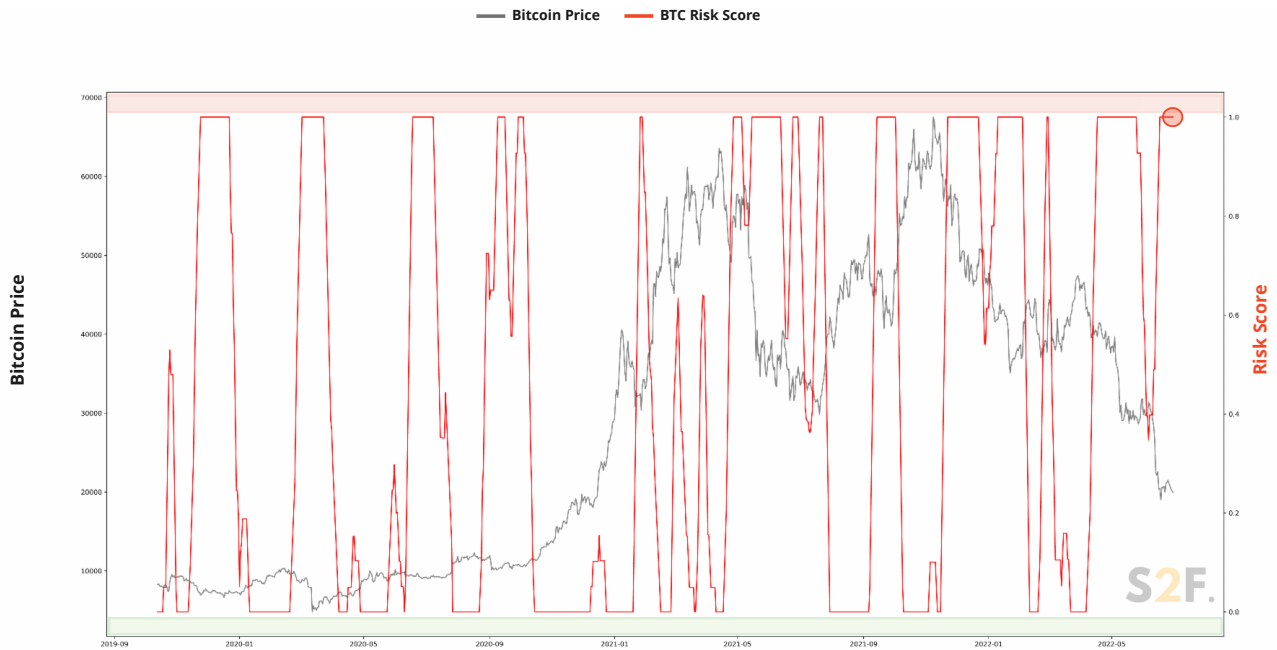


The S2F Momentum Model is a proprietary model that **compares the price momentum of BTC vs. ETH vs. USD** over a rolling window to suggest an optimal allocation of capital to each of these three assets. The entry and exit signals rely on two momentum indicators, one slow and one fast, to help determine portfolio over-or-underweight-ness in each of the three assets. The chart above shows the suggested daily allocation over the last 30 days.

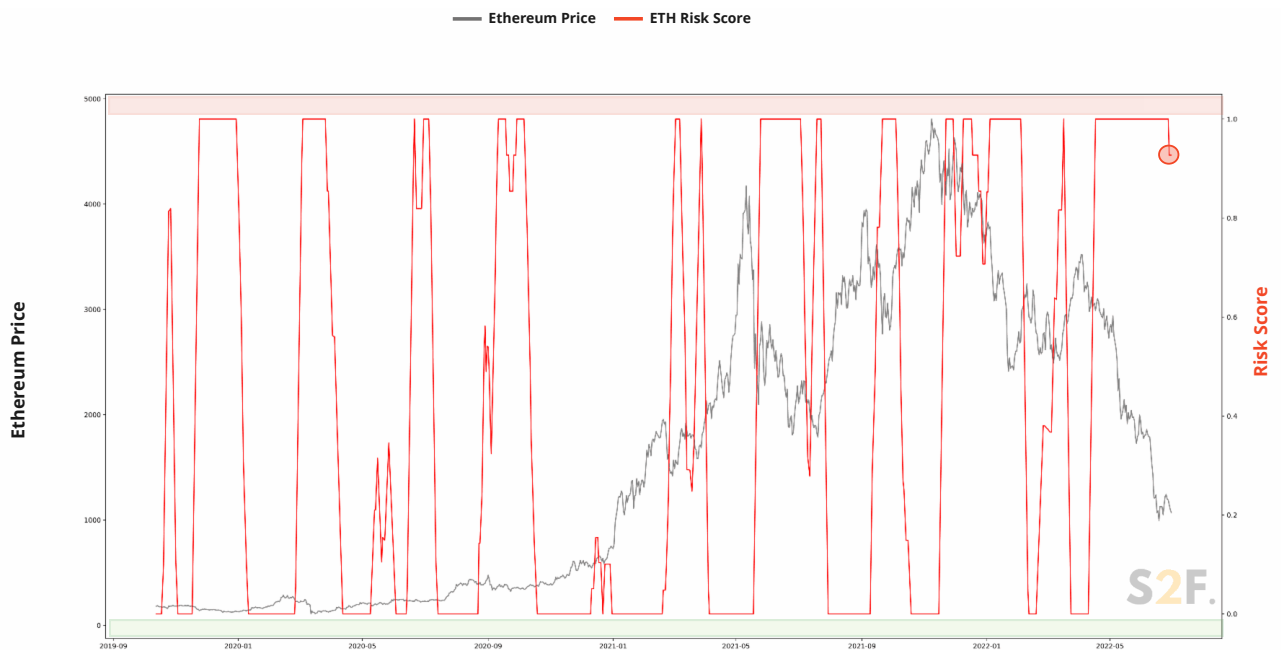
## Delta Risk Score

The Delta Risk Score is a proprietary model that **measures the probability of an imminent retracement in price**. The indicator's value (red line) oscillates between 0 and 1, with the former signaling low-risk while the latter determines high-risk conditions. The chart below shows both indicators and the underlying asset's price (grey line) since Q4 2019.

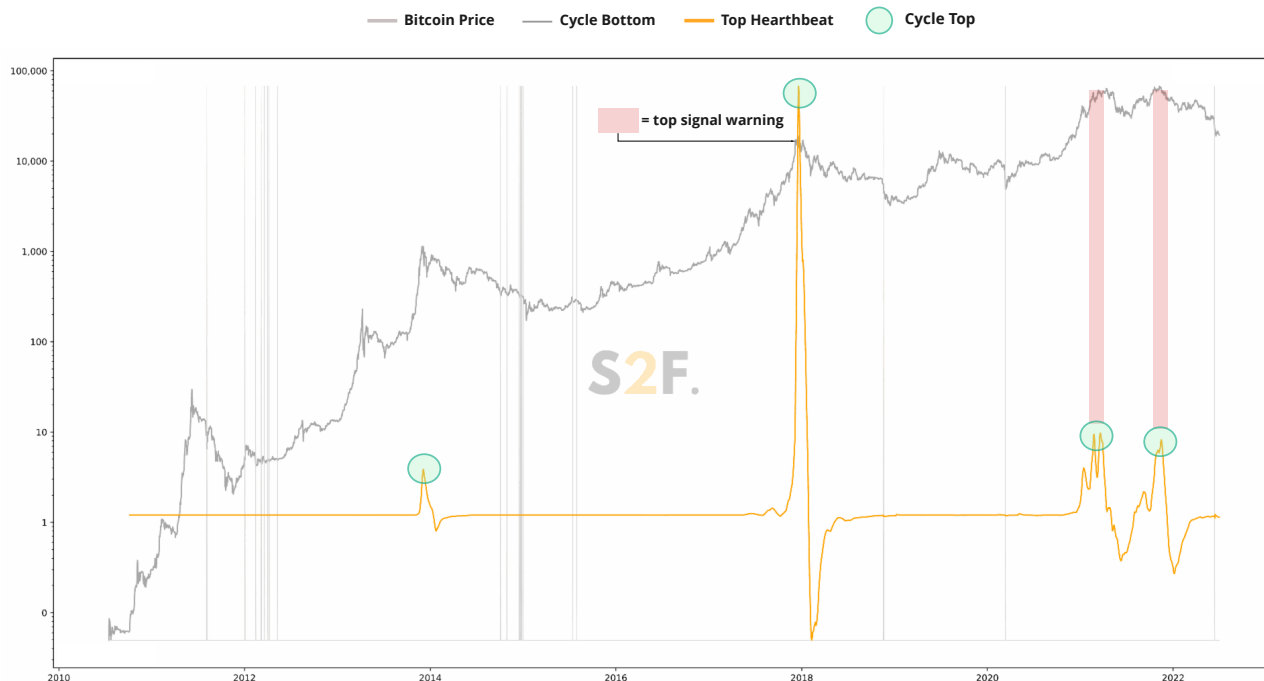
### Bitcoin



### Ethereum



## S2F Top/Bottom Cycle Indicator



- This newly developed proprietary indicator seeks to identify both the bottoms and tops of Bitcoin cycles. While this indicator printed several bottom indicator lines in 2012 and 2014-2015, the market has matured, and now we have seen only one bottom print for each of the three bottoms in the last four years.
- Similar to the bottom print is the top heartbeat. Comprised of several datasets, this robust model spikes as statistical tops are detected in price action. Backtested over Bitcoin logarithmic price data since inception shows a clear picture of tops and bottoms that we can use to inform our investment outlook.

2011-2012 Cycle Bottom	2014-2015 Cycle Bottom	2018-2019 Cycle Bottom	2020 Cycle Bottom
Cycle Bottom Signals: 8	Cycle Bottom Signals: 9	Cycle Bottom Signals: 1	Cycle Bottom Signals: 1
08/06/2011 @ \$6.51	10/04/2014 @ \$326.64	11/19/2018 @ \$4875.14	03/12/2020 @ \$4860.35
01/03/2012 @ \$4.88	10/29/2014 @ \$335.09		
02/14/2012 @ \$4.43	12/17/2014 @ \$321.59		
03/07/2012 @ \$4.92	12/21/2014 @ \$320.55		
03/19/2012 @ \$4.69	12/25/2014 @ \$319.69		
04/01/2012 @ \$4.82	12/27/2014 @ \$316.20		
04/07/2012 @ \$4.68	01/01/2015 @ \$314.02		
05/10/2012 @ \$4.86	07/15/2015 @ \$285.53		
	07/31/2015 @ \$284.82		

Currently: 2022 Start of Current Cycle Bottom - printed 1 signal so far on 06/13/2022 @ \$22,499.37

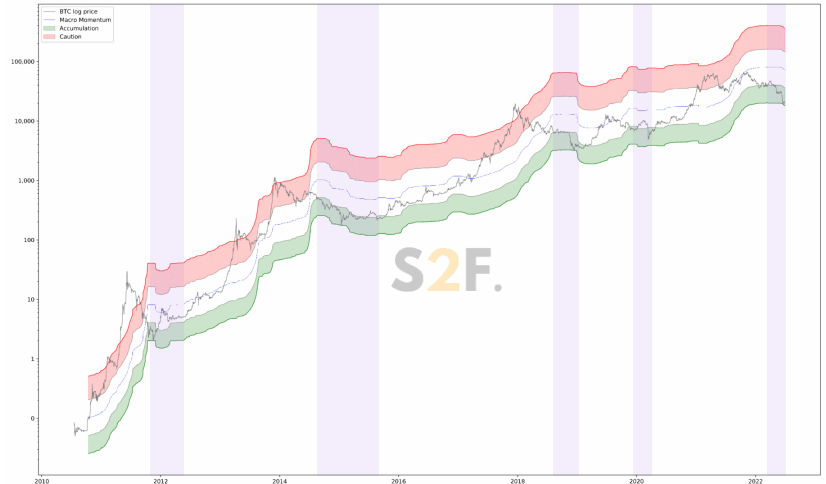


## Market Cycle Confluence

The S2F Macro models show historical confluence surrounding the formation of a market cycle bottom in Bitcoin. While both the Caution & Accumulation Channel and the Top Bottom could still signal lower levels, the process of establishing the current cycle bottom has begun, and market participants are in the heart of optimal accumulation.

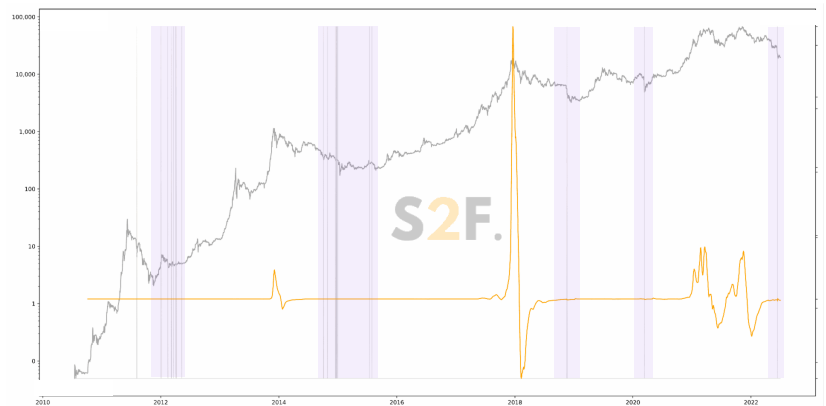
### Caution & Accumulation Channel

- The optimal accumulation channel is built upon the median realized prices for the 3m-2y cohort of holders.
- Optimal accumulation periods to dollar-cost average and take profit conditions are represented by the different colored channels. The accumulation channels (**green**) offer buying opportunities, and the caution channel (**red**) indicates overheated conditions.
- Notice the duration of these windows and how infrequent they are - often only presenting themselves several years apart. It appears that we are currently experiencing one of these optimal accumulation opportunities.



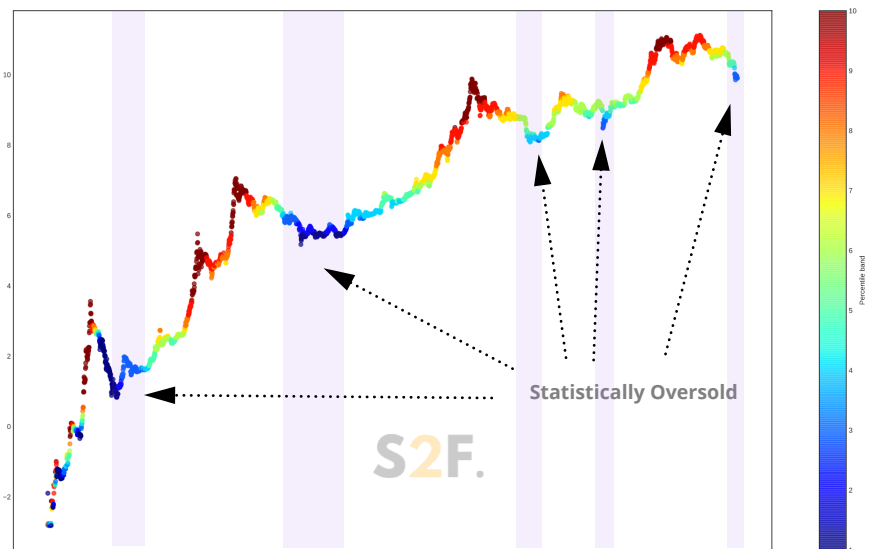
### S2F. TOP/BOTTOM

- The recently engineered indicator has managed to signal historical tops in Bitcoin price action of the prior market cycles while accurately identifying the start of cycle bottom formation.
- 2011-2012: **8** total bottom signals
- 2014-2015: **6** total bottom signals
- 2018: **1** cycle bottom signal
- 2020: **1** cycle bottom signal
- 2022: June 13th - **1** cycle bottom signal.
- Given the current macro conditions, it's entirely possible that this cycle's Top/Bottom Indicator fires > 1 bottom signal. Still, when paired with Accumulation Window, it confirms we are entering a period of historically optimal accumulation.



### Bitcoin Power Law

- The Bitcoin power law represents the relationship between the historical price of Bitcoin and the time since the first block was mined.
- Over time, the market price of BTC deviates from the "power law," and when the delta of spot price is too high relative to historical levels, we see percentile bands reach extremes. The **red percentile band signals overheated periods** of price action, while **dark blue indicates we are entering a new historical bottom** in price action.



## Bitcoin

- United States Securities and Exchange Commission Chair Gary Gensler states that despite what his predecessors have said about other tokens, Bitcoin is the "only one" he feels comfortable publicly labeling a commodity.
- ProShares receives SEC approval to release their new ETF BITI - their new trading instrument, which features a short Bitcoin strategy.
- SEC rejects both the Grayscale and Bitwise Bitcoin ETF proposals - Grayscale has since responded by filing a legal challenge that asks the US Court of Appeals for DC to review the SEC's decision.
- The Bank for International Settlements (BIS) is allowing member banks to hold 1% of their reserves in Bitcoin. A 1% allocation from the global institution and its members would be an estimated (\$1.8 Trillion).

## Ethereum

- Developers prepare for the second of three public testnet merges as the beacon chain launches on Ethereum's Sepolia network - the public merge on testnet is expected to occur before July 6th.
- The Norwegian Government just announced its plans to release a solution on public Ethereum. Using the Layer 2 protocol Arbitrum, the European nation plans to launch a cap tables platform for unlisted companies.
- The Gray Glacier upgrade went live on the Ethereum mainnet. The hard fork upgrade pushes back the network difficulty bomb 100 days which forecasts a September/October merge date.
- Coinbase announces its support to integrate user withdrawals and deposits on the L2 Polygon network - users will be able to send ETH, MATIC, and USDC.
- ConsenSys announces partnership with StarkWare to bring L2 ZK-rollups to the popular browser extension and mobile application wallet, MetaMask. Infura has also added StarkNet to the Infura platform for faster and cheaper transactions in the Ethereum ecosystem

## Layer 1's

- Derivatives-focused DEX and popular L2 on Ethereum, dYdX, announced plans to migrate their upcoming v4 launch to the Cosmos ecosystem. Their v4 product will feature the Cosmos SDK architecture, and dYdX consensus will pivot from inheriting Ethereum L1 security to their own proof of stake blockchain security.
- Coinbase announces support for users to send and receive the stablecoin, USDC, on the Solana network.
- Layer one blockchain, Harmony's (ONE) Horizon bridge, was recently hacked for \$100 million worth of tokens - it is suspected the state-sponsored North Korean hacking organization, Lazarus Group, is behind the exploit.
- Solana Mobile, a subsidiary of Solana Labs, introduced Saga, their new Android smartphone optimized for Web 3.

## Other Headlines

- Crypto exchange operator FTX walked away from making a deal with troubled lending platform Celsius after reviewing the state of their finances - one source noted Celsius had a \$2 billion hole in its balance sheet.
- Voyager Digital reached an agreement with Alameda Ventures for a \$200 million loan and 15,000 BTC due to their exposure to Three Arrows Capital. Voyager issued a notice of default to 3AC, consisting of a loan for 15,250 BTC and \$350 million USDC - Voyager recently announced it would temporarily suspend trading, deposits, withdrawals, and loyalty rewards for users on 07/01.
- EU negotiators reach a provisional agreement on anti-money laundering rules that mandates tighter crypto regulation surrounding customers' identities. European Parliament and Council also covers 'unhosted' crypto wallets, held by individuals and not managed by a licensed exchange, for transactions exceeding €1,000.
- Crypto financing platform Nexo enlists Citigroup to assist with acquisitions and possible mergers between other potential crypto companies amidst current market volatility.
- Cryptocurrency futures exchange, CoinFLEX, suspends user withdrawals citing "extreme market conditions" as the company discusses a potential recovery token for investors.

**Alt-Season Indicator:** This indicator is based on a proprietary model that helps us identify the current market phase and adjust the allocation accordingly.

**Beacon Chain:** Is the current ETH 2.0 proof-of-stake blockchain. It was launched Dec 2020 and is the first iteration towards the new Ethereum 2.0 blockchain upgrade.

**Bitcoin Halving:** Is the process of halving the rewards of mining Bitcoin blocks. This event occurs after each set of 210,000 blocks is mined (blocks are mined every 10 minutes, so around 4-years).

**Consensus:** A consensus mechanism is a method for validating entries into a distributed database and keeping the database secure.

**Delta Gradient:** Metric measures the difference between the gradient of both spot price and the realised price. Shows the relative change in momentum between speculative value and true organic capital inflows.

**Epoch:** Ethereum 2.0 progresses in epochs, not blocks. An epoch is a bundle of up to 32 blocks that actors on the network (called validators) propose and attest to over a period lasting roughly 6.4 minutes.

**Ethereum Validator:** A validator is an entity that participates in the consensus of the Ethereum protocol. Users stake 32 ETH to become a validator. Validators are chosen at random to create blocks and are responsible for checking and confirming the network ledger.

**Liquidity Pool:** A liquidity pool allows depositors who provide digital assets to earn money from transaction fees generated by other users who buy and sell assets from the pool. Those transaction fees go back into the liquidity pool to further increase the value of your tokens and aid in growing the pool.

**Stablecoin:** Stablecoins attempt to maintain a constant exchange rate with fiat currencies, for example through a 1:1 U.S. dollar peg. stablecoin is typically a cryptocurrency collateralized by the value of an underlying asset. (Fiat, commodity, crypto, and sometimes algorithmically)

**Supply Staked:** Measures the amount of the digital asset that are locked up with network "validators", or miners, that process the protocol transactions. "Stakers", aka investors that stake, can earn coins as rewards in exchange for securing the network.

**TVL (Total Value Locked):** Representation of the total value of a crypto-asset that is "locked" in a DeFi (decentralized finance) application or smart contract. TVL can directly affect the yield and usability of these applications.

**Unspent Transaction (UTXO) :** An unspent transaction output (UTXO) is the technical term for the amount of digital currency that remains after a cryptocurrency transaction. UTXOs define where each blockchain transaction starts and finishes.

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