PULSE ATLAS

BY QUANT ATLAS

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IN A NUTSHELL

PULSEATLAS is a systematic volatility forecast dataset designed to quantify the average true range expansion and contraction pressure across global assets using structured price behavior, multi-scale volatility features, and a built-in conviction filter.

Each forecast is expressed through a directional volatility view, expansion or contraction, supported by forecast magnitude, an 80% prediction band, conviction tier, holding horizon, and realized outcome tracking fields.

The delivery of **PULSEATLAS** is a regular stream of volatility forecasts (represented by the average true range) on selected instruments. Forecasts are designed for multi-horizon workflows, typically evaluated over a 20 timestep window, with each observation accompanied by a high-conviction flag identifying the top decile of predicted volatility movement by asset.

USE CASES

- **Multi-horizon volatility feature:** The signals are added to the firm's feature library as medium-horizon ATR indicators designed for multi-horizon risk management and options desk workflows.

- **Volatility and sizing overlay:** Existing risk positions are checked against the model's expansion or contraction forecast, conviction tier, horizon, and magnitude estimate before adjusting position size or options exposure.

- **Portfolio risk construction:** The signals can be used to rank instruments by forecasted volatility regime, calibrate position sizing to expected ATR levels, and separate high-conviction vol expansion setups from lower-conviction forecasts.

- **Regime and holding period analysis:** Strategy performance is evaluated across the model's defined volatility states to determine whether internal execution or options models perform better when aligned with the broader multi-horizon ATR forecast.

DELIVERY METHODS

- Delivery is primarily structured through **R2**, the preferred channel for institutional clients requiring automated, reliable, and compliant data ingestion. Integration supports direct pipeline delivery with full version control, making it the recommended starting point. Quant Atlas also supports **S3** bucket delivery for teams operating within **AWS**-native data pipelines and **API** access for custom retrieval workflows. PDF and workbook reports are available for product validation and committee review.

- Core dataset outputs can be delivered in **CSV** or **JSON** format, depending on whether the client prefers tabular research files, systematic ingestion, or platform integration.

- The granularity and update frequency depend on the product and the selected asset universe. Some datasets are designed for hourly delivery, while others are more suitable for daily or slower institutional workflows. Frequency can be increased or reduced based on the client's requirements, provided that the change does not materially reduce signal quality, data stability, or validation reliability.

PERFORMANCE EVALUATION

- Refer to the **Performance** sample document for the evaluation process.
- For this type of dataset, key evaluation metrics are R-squared vs. random walk, directional accuracy by conviction tier, AUC score, calibration across horizons, signal decay rate, and per-asset verdict distribution.
- Stress testing is available in the document. Key stress tests include varying the ATR lookback window, extending the forecast horizon, and delaying signal entry to simulate real-world execution lag.
- A data dictionary is provided in the **Performance** sample document.

CONTACT US

You may reach us through the following means for any type of questions you have.

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