PA CHIRPS South Africa Bushveld

South Africa = 40% global palladium (vs 70% platinum). Same Eskom load-shedding + drought mechanic constrains palladium mine output. PA more affected by auto-demand cycle but supply-side SA risk premium still material.

David Stendahl · Market Lab Analytics · November 6, 2026

What this signal is

South Africa = 40% global palladium (vs 70% platinum). Same Eskom load-shedding + drought mechanic constrains palladium mine output. PA more affected by auto-demand cycle but supply-side SA risk premium still material.

The composite is bounded between minus one and plus one through tanh. On 1991-05-07 it reached its series maximum plus 0.794 and on 2025-01-14 its series minimum minus 1.000.

Today the composite reads near +0.70. See live page for current state.

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How the inputs compose

South Africa = 40% global palladium (vs 70% platinum). Same Eskom load-shedding + drought mechanic constrains palladium mine output. PA more affected by auto-demand cycle but supply-side SA risk premium still material.

The engine also computes four confirming features: five-day velocity, 60-day volatility regime, 60-day correlation with palladium returns, 63-day lag-1 autocorrelation.

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What the state-conditional returns have actually done

The palladium forward-60-day return baseline (unconditional) is mean plus 3.12 percent, median plus 2.74 percent.

> **Reference baseline (8,960 palladium-aligned forward-60-day windows over the live engine window)**

> Palladium forward-60-day return baseline: mean plus 3.12 percent, median plus 2.74 percent. Phase 0 source: Z4309 engine parquet joined with NYMEX palladium back-adjusted continuous closes.

Bushveld precip surplus (Phase +1), 4,508 trading days, returned on average plus 0.65 percent.

Normal (Phase +0), 1,427 trading days, returned on average plus 0.58 percent.

Bushveld precip deficit (Phase −1), 3,026 trading days, returned on average plus 2.87 percent.

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Three cases that frame how to read the signal

Case 1: 1991-05 composite series maximum

On 1991-05-07 the composite reached its series maximum plus 0.794. Palladium subsequent 60-day behavior aligned with the bushveld precip surplus regime pattern.

Case 2: 2025-01 composite series minimum

On 2025-01-14 the composite reached its series minimum minus 1.000. Palladium subsequent 60-day behavior aligned with the bushveld precip deficit regime pattern.

Case 3: March 2020 COVID shock window

The March 2020 COVID liquidity shock drove violent regime shifts across palladium drivers. The composite oscillated as the underlying mechanism repriced.

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How to use the signal today

This is a regime detector on a 60-day forward horizon.

Three best uses. First, as a regime filter for palladium exposure (Phase +1 equals bushveld precip surplus). Second, as a cross-check against positioning and price-momentum signals. Third, as a transition-window warning, pairing with price-based signals for conviction.

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Methodology notes

South Africa = 40% global palladium (vs 70% platinum). Same Eskom load-shedding + drought mechanic constrains palladium mine output. PA more affected by auto-demand cycle but supply-side SA risk premium still material.

The 1990 start reflects the earliest reliable source coverage.

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What this signal does not cover

Four caveats. The signal is a regime detector, not a timing signal. State-conditional means hold on average, not for every individual window. Regime persistence varies with macroeconomic backdrop. Individual windows can run much longer or shorter than mean sample. State-conditional edges are

backward-looking empirical averages. Future regimes may differ. The baseline is NYMEX palladium back-adjusted continuous (PA_1240BD).

Not investment advice. Signal readings and empirical statistics are derived from publicly available data sources. (c) 2026 David Stendahl.