Prewave

Supply Chain Risk Analysis

5 June 2026 · Summer Outlook

El Niño Summer 2026

Supply Chain Risk Outlook for Europe: What Will Happen and What to Do

RISK LEVEL

MEDIUM–HIGH: El Niño confirmed; 80% probability June–August, 90%+ through November (WMO, 2 June 2026)

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ISSUED	HORIZON	RISK LEVEL	AUDIENCE
5 June 2026	June – September 2026	Medium–High	Supply chain and procurement teams at manufacturing and industrial companies

1 The Confirmed Outlook

On 2 June 2026 the World Meteorological Organization (WMO) issued its official El Niño/La Niña Bulletin for June–August 2026. Key facts:

- **80% probability** of El Niño conditions emerging June–August 2026.
- **90%+ probability** it continues through at least November 2026.
- **Strength:** at least moderate, possibly strong: Pacific subsurface temperatures exceed 6 °C above average.
- **Above-normal temperatures** forecast for nearly all land areas June–August.

> *"We need to prepare for a potentially strong El Niño event — which will exacerbate drought and heavy rainfall and increase the risk of heatwaves both on land and in the ocean."*
>
> CELESTE SAULO, WMO SECRETARY-GENERAL · 2 JUNE 2026 · WMO.INT

For Europe specifically: drought risk is highest over Iberia, France, Italy, the Balkans and Central Europe (Climate Impact Company, 2026). Flash flooding risk is highest near the Alps, Central Europe and the Balkans, where thunderstorms break heatwaves (Severe Weather Europe, 2026).

2 What Will Actually Happen: And Why It Matters

Each hazard below follows a documented impact chain drawn from the 2022 Rhine low-water crisis and comparable European flood events. These are not projections: they are known consequences of the conditions now forecast.

Drought: Rhine and inland waterway collapse

What drought means for the Rhine: Approximately 80% of Germany's inland waterway freight moves on the Rhine. When sustained heat lowers water levels at the Kaub bottleneck below 75 cm, barges cannot load more than 25% of their rated capacity. Below 40 cm, navigation becomes near-impossible. This is not a hypothetical: it happened in 2022 and again in 2025.

The cost impact is immediate: During the 2022 low-water period, barge freight rates on the Rotterdam–Karlsruhe route rose from approximately €5/tonne to over €40/tonne: an 8× increase. When barges are unavailable or uneconomic, shippers turn to road and rail, but in 2022 trucks and rail cars were already at full capacity. There was no easy fallback (Sources: CNBC, ICIS).

What this means for manufacturing operations

- **Raw material flows** (chemicals, plastics, steel inputs, coal) arrive in smaller batches or not at all.
- **Just-in-time production schedules break** when component deliveries are delayed by weeks, not days.
- **Production curtailments are real:** in 2022 the world's largest integrated chemicals facility at Ludwigshafen was forced to curtail output due to Rhine low water (ICIS, 2022).
- **Energy supply is affected:** Rhine low water restricted coal deliveries to German power plants in 2022, tightening grid capacity during peak heat demand (CNBC, 2022).

THE IMPACT CHAIN

Flash flooding: Alpine and Central European freight corridors

What flooding means for road and rail: When heat domes break along Alpine ridge boundaries, they produce intense, concentrated rainfall on drought-hardened ground. Soil that cannot absorb water generates rapid runoff. Roads and rail lines in valleys (which is where they must run) wash out quickly. Northern Italy, Austria, Slovenia and the Balkans are the highest-risk zones.

What this means for manufacturing operations

- **Road freight across Northern Italy and Slovenia** (critical corridors for components moving between Central and Southern European industrial clusters) can be cut with little warning.
- **When primary corridors close,** detours add transit days to routes that were already tightly scheduled.
- **The modal trap:** if flooding closes roads *and* rail is disrupted, emergency air freight becomes the only option for time-critical parts. Air cargo rates spike immediately when multiple shippers compete for limited capacity.

THE IMPACT CHAIN

3 Lessons From Past Events

The 2022 Rhine low-water crisis and the 2023 Slovenian floods are the two most directly comparable events to what is now forecast. The table below documents what happened in each case and what it revealed about supply chain vulnerabilities. The conditions driving those events are the same conditions now forecast for summer 2026.

RISK AREA	WHAT HAPPENED	WHAT IT REVEALED
Tier 2 chemical visibility	Rhine low water, August 2022. BASF's Ludwigshafen complex (the world's largest integrated chemical site) curtailed output when barge deliveries of raw materials were cut. ICIS, 2022	Automotive customers had Tier 1 visibility but no Tier 2 exposure mapped. Force majeure notices from Tier 1 suppliers were the first signal most procurement teams received that their chemical inputs were Rhine-dependent.
Modal alternatives	Rhine low water, July–September 2022. As barge capacity fell, shippers turned to road and rail. By late July both were fully booked. Logistics providers stopped taking new contracts. CNBC, 2022	There was no fallback available at any price once the crisis was visible. The window to arrange alternatives closed within days of Rhine levels first dropping: not weeks.
Alpine & Slovenian corridor routing	Flash flooding, Slovenia, August 2023. CIMOS (brake systems), TPV (seat assemblies) and TAB (batteries) halted production. Volkswagen cut shifts at German plants within days. KLS Ljubno factory was destroyed; battery production took 10 weeks to restart. Automotive Logistics, September 2023	Tier 1 suppliers in the Slovenian–Alpine corridor feed directly into German and Central European final assembly. A single flooding event simultaneously hit braking, seating and battery supply for multiple OEMs with no pre-positioned alternatives.
Production sequencing	Rhine low water, 2022. Manufacturers who had not pre-adjusted build schedules attempted to rebalance mid-crisis, when barge freight was 8× normal cost and logistics capacity was already exhausted.	Reactive sequencing changes under full market pressure compounded losses. Plants that had pre-adjusted absorbed the same Rhine closure with significantly less line-stop exposure than those that had not.

Lessons from past events (continued)

RISK AREA	WHAT HAPPENED	WHAT IT REVEALED
BCP duration assumptions	Rhine low water, July–September 2022. The Rhine remained below critical thresholds for approximately 60 days: roughly four times longer than most Tier 1 business continuity plans had modelled.	Plants that exhausted buffer stock in week three had no documented escalation path. The extended-duration scenario had not been planned for, and halts followed without further options.
Energy & logistics coupling	Rhine low water, summer 2022. Low water simultaneously restricted coal barge deliveries to power plants and cut industrial raw material supply. TenneT issued capacity warnings for parts of Germany during peak heatwave demand weeks. CNBC, 2022	Energy curtailment risk and supply chain disruption arrived together, not sequentially. Manufacturing plants faced both pressures at once, with no slack in either system to absorb the other.
Insurance speed	Post-Rhine crisis, 2022–2023. Companies that filed standard business interruption claims entered damage assessment processes lasting several months. Payments arrived after production had resumed and crisis-period cashflow decisions had already been made.	For assembly lines that halt within days of a parts disruption, the assessment timeline of standard BI insurance is too slow to affect the production decision. Liquidity speed was the variable that determined outcomes, not total coverage amount.
Input sourcing concentration	Rhine low water, summer 2022. Polymer buyers who had pre-qualified supply sources outside the Rhine corridor were able to switch within 2–3 weeks. Buyers who remained sole-source dependent faced either the full 8× freight premium or outright unavailability with no alternative.	The divergence in outcomes between buyers who had and had not qualified alternatives was entirely determined before the crisis started. No qualification work completed after Rhine levels began falling resulted in a viable switch during that event.

4 Additional Sources We Can Recommend

Rhine gauge at Kaub	WSV (German waterways authority). Below 75 cm = 25% barge capacity. Below 40 cm = navigation near-impossible.
WMO monthly bulletin	Updated El Niño/La Niña bulletins at wmo.int.
MeteoAlarm	meteoalarm.org: Red Alert for Alpine or Central European freight corridors

If you come across sources relevant to this topic, feel free to share them with us.

5 Sources

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Book Your Supply Chain Vulnerability Assessment

Talk to an Expert