

The Effects of Heavy Rain and Flooding on In-Ground Pool Integrity in South Louisiana

METAIRIE, LA, UNITED STATES, May 8, 2025 /EINPresswire.com/ -- In regions like Southeast Louisiana, where heavy rainstorms and seasonal flooding are routine, in-ground swimming pools face unique structural risks that are often underestimated. While most residential pools are built to withstand water exposure by design, the combination of high water tables, soil saturation, and prolonged flooding can cause significant and sometimes hidden damage to pool infrastructure.

According to [William Gunzburg](#), owner of [Kingfish Pools Inc.](#) in Metairie, understanding how water behaves beneath and around a pool shell is key to protecting its long-term integrity.

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Hydrostatic Pressure and Pool Shell Movement

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One of the primary concerns following heavy rainfall is the effect of hydrostatic pressure. When the ground becomes saturated, water builds up beneath the pool shell, especially in areas with high water tables like Jefferson Parish, Orleans Parish, and surrounding flood-prone zones. This underground water exerts upward force—known as hydrostatic pressure—against the pool structure.

If the pool is empty or under-filled during this time, it

becomes vulnerable to what is referred to as “floating” or “popping.” In these cases, the pool shell can shift or even lift from its original position due to the imbalance between external pressure and internal water weight.

Pools installed without adequate hydrostatic relief systems—such as properly designed drainage or relief valves—are particularly at risk.

Soil Erosion and Undermining

Excessive rainfall can also erode the soil supporting the pool structure. As water infiltrates the ground surrounding the pool, it can carry soil particles away, particularly near the pool’s plumbing trenches and foundation edges.

This process—called undermining—reduces the load-bearing capacity of the soil, leading to settling, cracking, or uneven shifting of the pool shell and deck. Visible symptoms often include pool deck separation, tile line fractures, or misaligned coping stones. Left unaddressed, this condition can develop into more serious structural failure over time.

The type of backfill material used during installation plays a large role in how water is absorbed and drained. In areas like Metairie, where clay-heavy soils retain water for extended periods, the risks are amplified compared to sandy or well-drained locations.

Floodwater Contamination and Chemical Imbalance

In addition to structural stress, flooding introduces contamination into pool systems. When floodwater enters a pool—either from surface runoff, overflowing drains, or direct rainfall—it brings with it organic debris, lawn chemicals, oils, and bacteria. These contaminants disrupt water chemistry, potentially clog filtration systems, and introduce harmful pathogens.

Even after the visible water is removed, the impact on pH balance, chlorine levels, and mineral content may persist. Continued imbalance can damage plaster, corrode metal fixtures, and reduce the lifespan of equipment such as pumps and heaters.

Cleaning and rebalancing a pool after a flood requires more than simply refilling with fresh water. It may involve draining, thorough inspection of plumbing lines, replacement of filters, and treatment with shock and algaecides to restore sanitary conditions.

Electrical Hazards

Submerged electrical components pose a serious risk after heavy flooding. Pool lights, automation systems, pumps, and heaters are often wired into ground-level or sub-grade circuits. If these systems are submerged, corrosion and electrical shorts can occur.

Before reactivating any powered pool system following a flood, it is critical that all connections and equipment be inspected by a licensed pool technician or electrician. Energizing wet systems without proper evaluation can lead to electrocution hazards or permanent equipment damage.

Preventive Design and Maintenance Strategies

To mitigate damage from excessive rain and flooding, in-ground pool systems in South Louisiana benefit from several design considerations:

Hydrostatic relief valves should be installed and maintained to prevent shell displacement.

Drainage systems should direct surface water away from the pool structure.

Deck slope and grading must encourage water runoff rather than ponding.

Sealed electrical enclosures and elevated equipment pads reduce water intrusion risk.

Backfill materials should be chosen based on permeability and soil stability.

Ongoing maintenance is equally important. Homeowners should monitor water levels during storms, avoid draining pools during rainy seasons, and check for signs of erosion, tile movement, or cracking.

Conclusion

In areas prone to heavy rainfall and flooding—such as Metairie, Kenner, New Orleans, and the broader Gulf South—the threat to in-ground pool structures extends beyond surface-level issues. Water pressure, soil instability, contamination, and electrical damage are all real and measurable risks.

The long-term performance of a pool system depends not only on initial installation but also on proper drainage, proactive maintenance, and prompt response to storm-related damage. Recognizing the warning signs and implementing preventative measures can help preserve structural integrity and protect investment over time.

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