The stability properties of per-and polyfluoroalkyl substances (PFAS) made them desirable for manufacturing. PFOA and PFOS are the most studied and detected PFAS. PFAS found to persist in the environment and human body, led to accumulation and exposure became associated with negative health outcomes. PFOA and PFOS were phased out of production, but they continue to be present in the environment. Common products containing PFAS include fire-fighting foams, cleaning products, stain and water-repellent fabrics. GenX was used to replace PFOA, but its use resulted in water contamination of concern within the NC coast. PFAS are associated with preeclampsia and reduced birth weight. PFAS significantly alters the expression of epigenetic regulatory machinery in placental trophoblast cell line JEG-3. Alterations include genes related to histone phosphorylation, demethylation, ubiquitination, and deacetylation. Protein expression was also altered after exposure to PFAS treatments. Significant alterations found in the expression of EMAGs, for Aurora A kinase (AURKA) and Protein Arginine Methyltransferase 3 (PRMT3), after PFAS treatments. Additional research is needed to determine long-term human health effects due to PFAS exposure and the role of EMAGs.