What to expect when you’re expecting......a hurricane
By Mark Ford, BlueGrace Logistics

At BlueGrace Logistics, we are experts on hurricanes. Situated in the Tampa Bay area of Florida, we mark our calendars for the beginning of the hurricane season on June 1st and breathe a sigh of relief at the end, November 1st. Through a series of direct hits (Irma) and near misses (Dorian) in the last 2 years, we have developed a cadence for preparing and responding to significant storms that disrupt the supply chain in Florida, the Southeast, and occasionally the Mid-Atlantic seaboard. With the season underway, we’ve created a detailed guide on the impact that hurricanes, natural disasters, and weather-related disruptions (think polar vortex) can have on the transportation industry. Since many companies have multiple locations, which are subject to seasonal interruptions, our experiences will help others become well versed to “weather the storm” when these emergencies occur.

Whether a hurricane or a deep-freeze, the playbooks are pretty much the same for every natural disaster or severe weather-related headache that occurs on our soil. The entire shipping industry doesn’t shut down because a specific area is being impacted by Mother Nature. But your business can be severely impacted if you aren’t properly prepared to deal with both the preparation before and the subsequent aftermath of these events.

Seasons versus Seasonality

It’s probably best to start off by distinguishing natural disasters from other shifts in the freight market that are more predictable, for example, seasonality. Seasonal shifts occur at roughly the same time every year, in the same areas. Customers embrace for freight to rifle through their routing guides to the spot market, and some carriers scramble to strategically position their trucks to reap the rewards. Brokers get a renewed hope of coming through for a customer they’ve been trying to land for years. The level of the impact is sometimes hard to exactly gauge, but the variance isn’t as drastic because you can plan for it, and you plan for it yearly.

Not the same can be said for natural disasters. Even though advances in weather technology make natural disasters easier to see coming, they are much harder to prepare for. There are also more items to cover in order to be properly prepared. Some are obvious and those are easier to prepare and plan ahead of time. But we’ll also address items that tend to be more derivative in nature, or a by-product of the actual event, since these are often ignored during the planning and execution phases.

FEMA, Pre-Positioning, and Response – Impacts on Supply and Spot Rates

Following a black swan weather event, whether it be a hurricane; forest fires; tornados; or a polar vortex, shippers will face changing supply chain capacity shortages and fluctuating rates. Rate changes are a reflection of increased or decreased demand in certain locations. Obviously, areas where shipping comes to a halt will put a strain on inbound rates from other locations. Meanwhile, rates for outbound freight originating from an affected area will decline. It’s a complex issue, and it recurs almost monthly.
Every season subjects the supply chain to new weather-related risks, and disruptions are almost certain. FEMA and other organizations work to pre-position their own supply chains to enable a rapid response, but such proactive measures could take countless trucks and drivers off the roads. The effects are immutable and can have a serious, lasting impact on business continuity. As a result, shippers need to understand why disaster relief stimulates these changes in the local, regional, domestic and global supply chains, how major storms impact market rates and a few best practices to maintain operability despite the demand-driven price changes.

1. Disaster Relief Effectively Doubles Demand for Trucks Used in the Effort

A common misconception about disaster recovery is that an event occurring hundreds or thousands of miles away from your company and distribution centers will not affect your supply chain. Shippers may feel safe and secure in their current locations, but the supply chain is a circular creature. Disruptions and changes in one area will have an impact across the country, and to an extent, on a global scale.

What happens in other areas that you have to prepare your internal staff, as well as educate your customers because the impacts can be just as severe. There are organizations like FEMA that aim to service those physically impacted by the Act of God itself. This comes in the form of what’s called disaster relief freight. Not only does this freight enter the marketplace at premium rates, but some of it calls for trucks to be pre-positioned in advance, and potentially contracted out for periods of time that could last up to a month or more. Drivers carry the initial loads to a staging location and then may stay for weeks to do shuttle runs once the damage is assessed.

Unfortunately, the heightened demand for drivers and capacity to move disaster freight have a direct effect on the whole supply chain, not just the local area. This is known as the inverse effect of capacity flowing to disaster relief freight.

Disaster relief freight can come from various regions based on the organizations participating and/or companies donating to the cause. However, a good chunk tends to come from areas such as NJ, MD, NC, GA, AL, and TX, where the government has disaster relief fulfillment centers. When disaster relief freight hits the market, it takes a good amount of trucks out of these markets for extended periods of time. This capacity is also not available in other markets to haul the backhauls they normally take. In other words, it can completely disrupt the flow of freight in the directly impacted areas, but also in the areas that typically support the relief efforts.

As noted by DAT, the transportation industry enables the rebuilding, resupplying and support communities need to overcome the event. While prediction and weather models continue to evolve, they are not perfect. FEMA and other organizations will jump the moment predictions become likely an event will occur. Full truckload spot rates climb almost immediately as organizations take their freight to the road.

Throughout the storm, FEMA and such organizations move freight just beyond the storm zone to enable a rapid response. Inbound rates to the affected area can climb by double-digit percentages, and a domino effect takes hold. Market surcharges rose significantly after Hurricane Harvey devastated the Gulf. Nationally the average rate for dry vans, the most common trucks, rose to $1.90 per mile including fuel surcharges for the week ending Sept. 2, 2017, up 6.7% compared with the previous week before the Hurricane. Average diesel prices hit $2.68, up from $2.55 versus the previous week, according to the automobile club AAA, as reported in the Wall St. Journal.
2. Supply and Demand Also Trigger a Surge in Spot Rates.

Now, it’s not only the demand for more freight in disaster-stricken areas that affects the market. Customer behaviors also influence rates throughout the industry. When a disaster hits, organizations across the country ramp up efforts to raise money and supplies. While they may be operated by civilians, the increased demand contributes to a rush on the stores, comparable to a bank rush in anticipation of an economic recession. Meanwhile, road closures, limited capacity, emptying of store shelves, increased lead times, rejected loads, delayed shipments, and rising costs of goods stimulate a hard supply and demand chain reaction.

In fact, the effects of adverse weather can occur simply due to where and when disaster strikes. Consider the storm system that rolled through the Midwest in early spring 2019. According to DAT, van and reefer rates were slightly lower than the March averages, but flatbed rates rose. Among vans, load counts rose 5% in unaffected regions, including Chicago and Houston. This may allude to influx and demand for disaster relief rates. Meanwhile, loads declined sharply in Denver and Philadelphia, and spot rates rose across 26 trade lanes. It all depends on location and demand. Areas with lanes in the affected region will see higher rates. Those that have a greater percentage of unaffected lanes will likely see a slight decline, as rates throughout the industry react to the changing demand.

3. Higher Rates Take Months to Return to Pre-Disaster Levels.

The post-disaster rates took through peak season to recover. Delays in affected areas resulted in average transit durations of 10.17%. Volume dropped by at least 1,000 loads in the Florida area. The effects of Hurricane Harvey went much further than limiting available capacity. Remember, the hurricane resulted in the shutdown and damage to multiple oil refineries in the Gulf, as well as across Houston, home to one of the largest oil refineries and ports in the U.S. The resulting gas shortage led to the continued increase in fuel surcharges. Unfortunately, specific data remains uncertain as peak season surcharges overshadowed a usual return to pre-disaster levels. A simple search of online resources reveals nationwide higher gas costs for up to three weeks after the storm made landfall. Since carriers assess fuel surcharges based on nationwide diesel averages, as well as local costs, the same effects are seen in the logistics industry after a storm. Until gas prices return to pre-disaster levels, fuel surcharges will likely remain in place.

Another factor remains. Hurricanes, Nor’Easters, and Blizzards occur in a cyclic pattern. Throughout hurricane season, multiple may strike the same areas. The same thing happens in the Northeast from November through April regarding Nor’Easters. Lake-effect snowfall and the plunge of arctic air may paralyze whole swaths of the country, resulting in an immediate strain on available transportation capacity.

4. Additional Effects of Relief Freight That Spread Through the Market.

Going back to the effects of location, the actual impact on transportation can be much more severe. According to Overdrive Online, a Nor’Easter in early March 2018 brought a ban on high-profile vehicles on Pennsylvania roadways. Empty straight trucks, large combination vehicles, tractors hauling empty trailers and some consumer vehicles were forbidden from driving. The goal was simple; staying off the roads saves lives. Unfortunately, this amounts to an inability to tap backhaul capacity for any trade lanes through the affected region. The effects are clear; a single supply chain disruption can amount to millions of lost dollars, delays in order fulfillment, out-of-stocks complaints, inability to secure basic human
necessities and contribute to increased mortality. It’s a grim situation, so shippers need to find solutions that enable continuity.

5. Best Practices for Enduring Sudden Spot Rate Hikes.

Speaking of weathering the storm, black swan weather events have a strong effect on truckload rates, but the effects can roll over to any mode or area. A modern supply chain is a global machine. Disruptions in one area will naturally lead to problems for other locations. As a result, shippers should follow a few best practices to ensure business continuity despite the surge in spot rates and limited capacity.

   a) **Consider working with a third-party logistics (3PL) provider to augment your available capacity and carrier options.**

   An amplified supply chain strategy means working with available partners to increase resources. Resources can range from transportation support through accounting. Outsourcing eliminates the burden of completing work in-house, but it still relies on efficiency in operation. Most importantly, working with a third-party puts the third-party’s buying and negotiating power at your fingertips, notes QuickBooks.

   b) **Explore intermodal and multimodal shipping options when the first chances of a storm’s arrival become apparent.**

   Intermodal and multimodal shipping are usually used interchangeably, but both offer unique advantages to getting around after a major weather event.

   c) **Increase the shipping budget through proactive, cost-saving measures through year-round operations.**

   Supply chain disaster planning is not an annual process; it must coincide with process improvement through all activities. Any activity may be subject to disruption following adverse weather events, and proactive, cost-saving measures, such as improved dock management and load planning will naturally lead to savings in the budget. Such savings must not be 100% logged into the company profile. Instead, a percentage should be allocated for use in handling stretches in the freight budget after a disaster. More importantly, gains in efficiency will build resiliency and agility, allowing the supply chain to flex to meet the demands after a disaster.

   d) **Get all supply chain partners on board with your supply chain disaster preparedness strategy.**

   Any supply chain disaster preparedness plan will fail if the organization operates independently and without supply chain collaboration. Since storms force a run on supply chain resources, failure to work as a cohesive network will lead to miscommunications and additional delays. Furthermore, partners may opt to leave your business out in the cold or rain, pardon the pun, resulting in additional disruptions.

   e) **Take advantage of automated transportation management systems (TMS) that provide integrated, real-time visibility into capacity, available truckers, and current rates.**

   Disaster management is a complex task, and it’s worsened when shippers lack the ability to review and execute changes in supply chain fulfillment immediately. Yes, leaders could always call and request a change of the order pickup or other details. However, that’s impractical and eats away at the ability to
maintain profitability after a storm. Automated processes provide real-time insight into the supply chain that’s necessary to enable business continuity.

f) Integrate legacy supply chain and transportation management platforms with new technologies, including driver communications’ systems, such as automated scheduling platforms, ELDs, and GPS.

The integration enables end-to-end transparency and improves the collaboration of available supply chain resources, including laborers, carriers, and truckers. Thus, shippers can respond proactively and help keep drivers and freight away from areas subject to restriction or other possible delays. Integration comes with additional benefits too, such as reducing supply chain costs and improving collaboration year-round. Since supply chains effectively reap greater profitability during non-disaster-prone seasons, they are more apt to maintain profitability and divert available resources to handle the surge in demand or limited resources after a disaster.

g) Keep informed of weather-related changes to trade lanes, damage to roadways, delays on major thoroughfares, and more impacts beyond localized supply chains.

Supply chains and logistics are an integral part of disaster response and recovery. Changes in trade lanes can lead to backups in other ports, resulting in delays for shipments that are even still in transit across the Atlantic Ocean, notes iContainers.

There are countless other ways shippers can work to mitigate higher costs following natural disasters. They have a common denominator—preparation before the storm and swift responsiveness. Therefore, and in addition to applying supply and spot rate best practices, shippers still need a complete storm survival strategy that’s up-to-date and aligned with your current operation.

Hurricane (and winter storm) 3PL and HQ Survival Guide

The information and recommendations above are all macro in nature; they are designed to provide information about the market forces that will be impacted by a disruption in the supply chain. Turning to a micro view of a weather event, the following is a survival guide for any company headquarters or distribution centers in the path of a storm.

Here at BlueGrace, we have had a few experiences with hurricane evacuations. Our history has spanned from watching the National Hurricane Weather Center (NHOC) forecasts up until the last minute before watching storms turn and divert harmlessly, to nearly direct hits causing our Tampa HQ offices to lose power and Internet for days at a time. Each new event brings new learnings, and we have documented all of our preparations in hopes of passing along our best practices. Mitigating risk in the case of a work stoppage is a serious business. We have broken our recommendations into 3 categories:

1) Structural Preparedness
2) Staff Flexing
3) Business Intelligence
4) Contingency Plan

There may be more factors for your specific location than are present on the list, but these are the more critical ones we always take into account with each occurrence.
1) Structural Preparedness

Structural preparedness refers to your ability to utilize the physical building(s) your employees work in and the systems they use to do their job when an event occurs. Basic questions must be answered well in advance of a potential outage:

Does your building have a backup plan for electricity?
Does your building have a backup plan for Internet access?
If the answer is no, can your employees access your operating and phone systems remotely?

Likely (and hopefully), your company is accessing all of its systems from a web-based platform. At BlueGrace, our cloud-based platform can withstand any impact on our company’s fortunes. Ask yourself whether your customers and carriers will feel any negative effect if and when employees work remotely or if locations are down. Similarly, we would suggest that any and all systems and software being utilized by your employees should be hosted in the cloud and none of your networks or servers are co-located locally. Rising water or high winds, from hurricanes, river flooding, tornadoes, or winter storms can all create havoc and tear apart buildings nationwide. If you maintain physical servers embedded in your actual company location, you are a serious risk of downtime due to potential damage in a storm. Cloud-based hosting for either your proprietary or 3rd-party software is a must-have solution today. Whether your employees work from home or you have an alternative location set-up for an emergency, it is imperative that you create system access from anywhere an Internet connection is available.

Taking flexibility to the next level involves providing your customers, partners, or vendors with the ability to reach you via phone, even if your physical headquarters is unavailable to your staff. BlueGrace has experimented and perfected a solution for this issue with a 3rd party app from our phone vendor. Known as a softphone, all of our business phone lines can be forwarded at a moment’s notice to an employee’s cell phone. This duplication creates a seamless transition when an evacuation is required. When calls come into our toll-free 800 number and are routed by our IVR to an employee’s desk phone, the calls are diverted and transferred to the respective employee’s cell phone. In addition, any outbound calls from the cell phone to customers are displayed as coming from our own business lines. The sophistication of this set-up allows the full functionality of our hard-wired phone system. We can continue to:

- Make and take calls using our business phone numbers
- Park and transfer calls to different softphone app users
- Send and receive business texts
- Maintain call groupings for call routing
- Maintain access to
  - Voicemail and call history
  - Status of active users
  - Call monitoring and coaching functionality

Both cloud hosting and softphones are relatively quick and inexpensive solutions. However, there are additional ways to reduce the risk that require a long-term investment of multiple office locations, which may only be available to larger companies with 50 or more employees. While this increases the chances annually that a single location will experience a weather event that disrupts operations, it also increases your flexibility to manage staff and resources to mitigate the issues arising from any of those locations becoming disabled. For example, when a hurricane impacts one region, such as Tampa, you can flex your customer service and sales departments using staff in non-impacted cities.
Employees should be cross-trained on roles that may not already exist in those offices. And managers should be prepared to spike the hours of employees who work in a department that overlaps with HQ to accommodate an additional influx of call and/or email volume.

Similarly, offices that are not subject to hurricanes, but have their own seasonal weather risks, can be shut down temporarily, and their work diverted to another location. For example, the “polar vortex” that swept the Midwest and Canada in January 2019, resulted in our downtown Chicago office closing for an entire day due to safety precautions. While our suburban Chicago office remained open, those in the downtown (“Loop”) office primarily commute to work via train and walk from a station that is up to a mile from our office. This sudden winter storm created dangerous conditions outside that killed over 20 people in North America, so it was necessary to prevent employees from exposing themselves to critically low temperatures for more than a few minutes. Departments such as Carrier Sales were kept at home for a day until conditions were safe, and truckload operations tasks were completed by overlapping employees in Tampa. Other departments were sent to our Itasca office where flex space exists, and parking is located outside our Class A office building. This situation is the best of both worlds in terms of risk management. Not only do we have additional locations outside of our main Tampa Bay headquarters, but even our 2nd and 3rd largest offices have each other as backup sites to handle emergencies.

In addition to servers, phones, and building space, there are more precautions that you can also employ on your own. Many of these examples entail having back-ups to your back-ups. For example, our Tampa office is in a safe area, 30 miles from the Gulf of Mexico, in an office center surrounded by acres of parking, with no immediate threats from debris or flooding. However, the infrastructure in the Tampa Bay area, specifically power and cable, are subject to risk, and any outages from the local utility companies can and have negatively impacted our operations. Therefore, it is important for us (and ourselves) to take ownership of the ability to respond before the power company or Internet provider can react. To keep our local servers running, which power our desk phones and Internet access, we installed and regularly maintain a large generator. The system is tested quarterly and can power up to 40% of our building for 3 to 5 days on gas. Before the generator trips and begins running, we also maintain a battery backup for our systems, which immediately and seamlessly takes over should any loss of power occur. Between the battery and generator, there is no chance of any unforeseen power loss inside our HQ, regardless of what is occurring outside.

Continuing this theme, we have back-ups to our back-ups for our systems. BlueShip, which our customers use in a software as a service (SAAS) capacity, has multiple “instances” of its code spread across the country. There are three separate instances running simultaneously, two in the Eastern US, and one in the Western US. There are utilities installed on our servers which allow for the software to balance itself automatically across these multiple instances should any one of them suffer an outage. Beyond weather events, these instances are regularly activated when Internet outages occur nationwide to any of the companies providing the hardware which makes up the backbone of the Internet network. Server space and data, in general, has become a commodity. Gigabytes of space are available for pennies on the dollar, and this is an extremely inexpensive way to mitigate risk to a system that is the lifeblood of the company. Be sure that no matter what happens to your company, your software should always be opened for business.

2) Staff Flexing

Sometimes all the physical preparedness in the world isn’t enough. This is where training and staff flexing becomes critical. We made the decision a few years ago to sacrifice weeks, sometimes months,
of new employee profitability ramp for a longer, more comprehensive training period for newly hired employees. We do this for two reasons.

First, a more educated salesperson is more valuable to their clients, and therefore less easily replaced. Logistics is, after all, a relationship business. Despite the advent of the digital freight matching phenomenon, 90% of all supply chain transactions require human interaction. There are conversations and information exchanged between sales reps and customers, sales reps and operations, customer service teams and customers, carrier sales/procurement teams and carriers, and carrier teams with sales reps. All of these interconnected constituents benefit from a deeper understanding of the job and tasks that each other is performing in support of the company.

In addition to ensuring employees are better at their own role when they have focused training, in the case relevant to this whitepaper, they are able to step in and assist in servicing the customer when a disaster or weather even disrupts operations in one or more departments or company locations. When a hurricane strikes, or in any situation where a company is forced to be more responsive to market shifts, requiring economical or emergency relief, properly trained employees can step in a moment’s notice. Knowing enough to be dangerous in these situations is sometimes the difference between sinking or swimming (pardon the pun).

3) Business Intelligence

Business intelligence, in the context of a market impacting weather event, is the inherent understanding of how these disruptions impact the flow of freight in general. Access to data is critical to understand the effect of a hurricane, an arctic blast, or widespread forest fire. There will be macro-level impacts statewide, regionally, or potentially nationally depending on the scope of the storm. At a micro level, real-time business intelligence will detail what is happening to your specific freight. With a world-class data management and reporting platform, it’s easier to understand what’s happening in all of the impacted areas. Various levels of disruption will occur. Shippers like yourself may be forced to shut down facilities. Carrier pick-ups and deliveries will certainly be pushed back, rerouted, or canceled altogether. Even if they are not physically impacted directly, carriers are more reluctant to travel to the areas of destruction because of the lack of a reload coming back. If they do take on this risk, they will obviously increase their rates, and your prices will rise significantly beyond the traditional cost of service.

4) Contingency Plan

Tying all of these preparations together is the key to a successful strategy for weathering a storm (puns are just rolling now.) Individually, each of these measures will point you in the direction of success, however, you need to take the time to create a written contingency plan, identify a plan administrator, and document a detailed list of emergency contacts that will be available in an emergency. Executives need a plan to communicate with each other and the company at large. Hurricanes and other significant weather events create chaos, and your company needs a plan in a place far in advance to stick together, even if you are physically separated.

This will require coordination across multiple departments and levels of authority. Typically, the leaders at the top of the organization are no longer the individuals who can actually implement security measures. Migrating software to a new server or posting messages via email, text, or an Intranet are not going to be handled by your Chief Information Officer, they will be handled by someone in their downline. Notifying employees of the who, what, where, when of any action plan requires detailed plans put in place long before the day a storm hits and causes disruption. All of these contacts and
procedures need to be captured on paper and posted online for anyone to retrieve at a moment’s notice. Like a public-school fire drill, companies need to be practicing their plans at least once a year.

Beyond these tactical measures, it is important for companies to create a company culture that emphasizes calm under pressure. One of the 5 core values at BlueGrace Logistics is “Embrace Chaos” and while it can be over-used at times to account for an abundance of issues, at the core of this idiom is the ability to have everyone pull together when the company is under fire. Hurricanes are a stressful time for families. Parents have children out of school, individuals have pets at home. There is a myriad of issues for every single employee to worry about beyond their job, so keep in mind that the plans you make to keep business operations open need to take into account that not everyone will be able to comply. Be open and honest about expectations and over-communicate with your employees on a daily or even hourly basis. Continuous updates reinforce that you have a plan in place, and that your decisions are not being made in haste without careful consideration. Education for everyone involved is critical to mitigating the downtime that will inevitably occur. Understand and accept that regardless of your preparations, things will not go smoothly, and expect the unexpected.

Wherever you publish company-wide documents, put a standard operating procedure in place for hurricanes (or your own specific weather risks.) A written document that includes the procedures, responsible individuals, and the contact information should be readily available long before you need it. Choose a day or weekend every year to meet to review the document and practice the plan. Fire up the generator and make sure it works. Get the team together on the weekend and go through the steps. Make sure the players on the team are all still around. Attrition occurs, employees leave, and they need to be replaced on the document. Successful employees get promoted or transferred, and their responsibilities change, so new faces may need to be added to the group. Better technology becomes available, and the number and methods of communication change. BlueGrace did not have an Intranet in 2018 when Irma hit, but it was available in 2019 for Dorian. Utilize and maximize the communication methods available to you and re-publish the new plan. Every employee should read, understand, and follow the plan to their best ability when it becomes necessary. An ounce of prevention is worth a pound of cure, and a written, practiced contingency plan will save time, assist in reducing stress, and give a company the greatest chance of maintaining its composure during a very dire situation.

**In Conclusion**

Weather events will happen, whether you like them or not and there isn’t a whole lot we can do about the actual event. Even if a black swan weather event should occur well outside your operational range, you can almost certainly expect there will be some repercussions and disruptions that happen to your own supply chain. Preparation is critical to minimizing the disruption and keeping operations flowing as smoothly as possible.

Working with your supply chain partners and making sure they understand and accept your disruption prevention plans can help to not only strengthen your working relationship, but also ensure that you won’t bail out of convenience. Ensure that your employees are well versed in company protocol for adverse weather conditions and that you have the physical infrastructure in place to keep operations flowing smoothly, even while the storm is wreaking havoc. Even if your operations are based in a location that doesn’t have “scheduled” weather events (hurricanes, tornados, wildfires) it pays to have a contingency plan and the appropriate infrastructure in place.
Having a 3PL partner in play can also make a considerable difference in your planning process and help shore up your defenses in areas where you may fall short during the more catastrophic weather events. Preparation and planning will only go so far when the weather turns ugly, but every little bit counts.

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