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Climate Change and Airports

What will climate change mean for low-lying airports?

AS 2019 ended, reports from both Climate Central and Nature portrayed what appears to be an alarming yet growing trend: The climate change models have been wrong, the news is far worse than imagined, and the changes are coming far sooner than thought.

The goal of the Paris Climate Agreement, from which the United States exited Nov. 4, is to keep global temperatures well below 2 degrees Celsius above pre-industrial levels, or 3.6 degrees Fahrenheit. Studies suggest 2 degrees Celsius is the tipping point, or point of no return for the planet from which the result is warmer temperatures, melting ice, rising sea levels and a changing biosphere. (Alaska, Rhode Island and New Jersey have already reached that tipping point incidentally). By 2050, sea level rise will be visually noticeable to the 300 million people who will be displaced from their homes in coastal cities worldwide. To give a sense of how many people that is, population of the US today is around 330 million people.

Sadly, it may be too little, too late.

July of 2019 was the hottest month in recorded human history. 2019 itself was the second hottest year in recorded history, second only to 2016. The past 5 years have been the warmest recorded. Australia, engulfed in flames for weeks, may still be on fire by the time you read this. And, according to the World Bank, nearly 40 percent of the city of Jakarta will be flooded by changing weather patterns and sea level rise by 2030. That's only 10 years from now.

While CO2 emissions from the global aviation industry (2 percent) accounts for far less than the fashion industry- who curiously are responsible for some 10 percent of global CO2 emissions- assignment of percentage causation is meaningless after the tipping point. While coastal cities worldwide will be the first to feel the effects (and already do in some cases), a review of SkyVector.com finds coastal cities in the U.S. are home to more than 450 airports and heliports with average field elevations below 10' Mean Sea Level (MSL). Some 150 of those airports are below 5' MSL.

How might those airports prepare? And what might lessees of those low-lying airports consider? Low lying airports and their lessees can begin by



planning to abandon their airport in the coming decades and incorporating leasing practices and provisions that acknowledge the reality of the situation. Yes, you read that right. It's time to start thinking about hospice care for at-risk airports. While the end of that 35-year lease term you're about to sign in an airport may seem distant, if your coastal airport is below 5' MSL, it may be completely erased by the ocean by that time or will be subject to regular flooding rendering it unusable before the expiration of the lease term.

As humans, our tendency is to rebuild after natural disasters, without ever asking the harder question: "Should we rebuild?" Perhaps the fairy tale of the three pigs is so engrained in us as children, we believe that as adults, if we just use stronger building materials, we'll eventually foil the plans of the big bad wolf. This time, bricks won't matter- especially when the insurance market is already starting to deem them uninsurable. So, what might hospice care for low-lying airports look like instead?

First, the FAA needs to acknowledge

ABOUT THE AUTHOR



DOUGLAS WILSON

Douglas Wilson is the president and founder of FBO Partners, LLC, an aviation consultancy providing business management advisory services to Fixed Base Operations (FBOs). Wilson can be reached at douglas.wilson@fbopartners.com



Flooding at airports may be an increasingly pressing issue due to more torrential flooding hitting airports situated in low lying areas.

PHOTO CREDIT: DENNIS WISS, AIRPORT DIRECTOR, SMARTT FIELD AIRPORT

Smartt Field Airport in Des Sioux, Mo., is located near the Mississippi River, making it susceptible to flooding when the river crests from heavy rain storms.

PHOTO CREDIT: DAVE DOHERTY, PRESIDENT, EAA CHAPTER 32



the Airport Improvement Program, grant monies from which carry a 20-year amortization schedule, deserves a fresh examination of how those dollars are allocated to at-risk airports vis a vis climate change. A brief review of the FAA's website for grants awarded to airports reveals no consideration is being made by the FAA with respect to the long-term viability of certain airports vying for those grant monies. In 2019 alone, Key West International Airport (EYW) received \$16.3 million in AIP funding for taxiway rehabilitation and related taxiway lighting improvements, plus noise mitigation efforts. The year prior some \$4.7 million were provided in AIP funding to improve the access road, as well as noise mitigation measures at EYW. Likewise in the past 24-months, the Louis B. Armstrong Airport (MSY) in New Orleans received a combined \$22 million in AIP funding to expand the apron. Both Key West International Airport and Louis B. Armstrong Airport have a surveyed elevation of 3' MSL or less. To be sure, according to FAA records,

the surveyed elevations for Runway 20 at MSY is actually below sea level.

Is deploying \$43 million worth of AIP monies to improvements in infrastructure at airports that may be underwater before those improvements are fully amortized a wise investment? Should the FAA require airports to more fully justify certain improvements for which they seek AIP funds if they fall below a certain MSL? These two airports are merely emblematic of the larger problem which is this: Hundreds of public-use airports are at risk to the most disastrous consequences of climate change, and the unique nature of both funding mechanisms and lease terms means decisions by FAA personnel, airport administrators and the private sector today must consider the long term viability of the airport itself.

This same critical-thinking exercise goes for what airports ask of their tenants in terms of investment at lease inception. A common practice for major airports in the U.S. is to require tenants to deploy a corresponding level of investment in the ground lease in the form of improvements,

which ultimately revert to the airport at the end of the lease term. For many airports, the investment requirement is formulaic- such as per square foot leased- and can run into the millions for tenants. Generally, and as alluded to in the Airport Compliance Manual, FAA Order 5190.6B, the FAA advances the notion that such improvements can be amortized over 30 years. To be sure, this is one of the justifications for longer term leases at airports- to allow the private sector enough time to amortize their investment. For at risk airports, a second recommendation is worthy of consideration: Shorter term tenant leases requiring little to no investment, or a formula reduction in the required investment by tenants at lease inception to acknowledge the obvious.

Finally, despite overwhelming scientific evidence of climate change, there remain naysayers who prefer politics over pragmatism. One must only assume these same persons believe one of the four forces of flight is sorcery, as opposed to say, Bernoulli's principle. If hardened in one's belief that climate change isn't real, then there should be no risk in amending the Force Majeure provision found in virtually every airport ground lease in existence. Perhaps modifying the provision to ensure not only is the tenant relieved of any and all obligations- including to rebuild- but the airport should be obligated to repay the unamortized portion of the private sector investment it required of the tenant at lease inception, especially since the airport was at risk in the first place. After all, is it really an Act of God if we bury our heads in the sand while the water rises? ▀