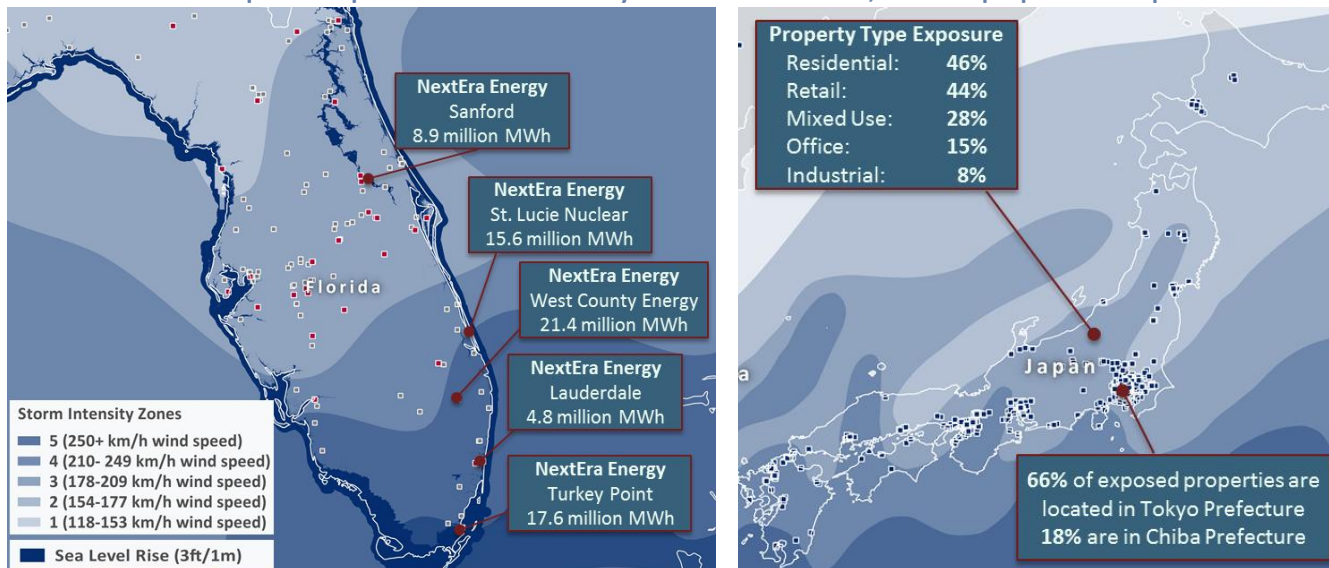


KEY FINDINGS

- We provide a framework that measures the **investment implications of rising seas and extreme weather for investors with long-lived fixed assets in their portfolios**. Using geospatial analysis and a highly localized dataset of approximately 60,000 properties and 8,000 power plants, we found that Asia-Pacific properties and U.S. east coast power plants are particularly at risk.
- U.S. property owners are buffered from sea level rise through geographic diversification, but inland flooding and severe storms still pose a broad risk to assets. **Approximately 30% of US IMI property owners have more than half of their properties in flood-prone regions.**
- In Japan and Hong Kong, of the properties that have a combined exposure to sea level rise and increasing storm intensity, **approximately 43% are residential properties and 36% are retail properties.**
- **In Australia, approximately 30% of properties covered by the Australia Investable Market Index are identified as being exposed to severe weather.** These properties are concentrated in Brisbane and Perth and are predominantly office and industrial properties.
- Thermal power generators are typically located near large bodies of water, which makes them particularly exposed to flooding and extreme weather. **Approximately 60% of total power production in the US IMI is exposed to a high risk of flooding and 33% has high exposure to tropical storms.**

FIGURE 1 Examples of exposure to storm intensity for utilities in Florida, USA and properties in Japan.



Sources: SNL Financial, NOAA, MunichRe, Center for Hazards and Risk Research (Columbia University), MSCI ESG Research

COMPANIES MOST EXPOSED TO RISING SEAS AND SEVERE WEATHER



FRAMEWORK

Through geospatial analysis and using detailed location data, we assessed the exposure of U.S. power generators and global property owners to sea level rise, flooding (including storm surge), and extreme weather, which are likely to pose greater risks as a result of climate change.

REPORT CONTENT

Executive Summary

AUTHORS

Daniel Rogatschnig, Cape Town

Cyrus Lotfipour, New York

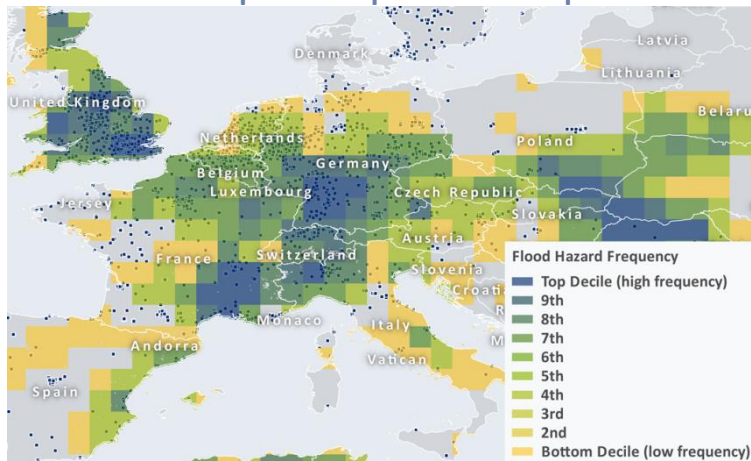
Morgan Ellis, Sydney

Climate Change Impacts: Rising Waters and Extreme Weather in Focus

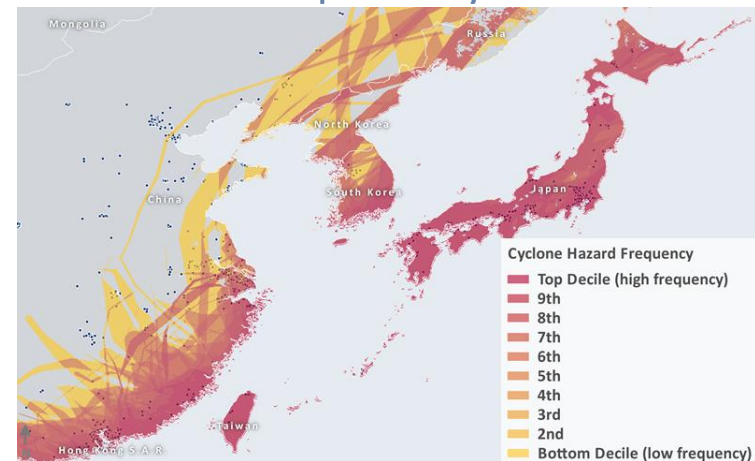
According to the Intergovernmental Panel on Climate Change (IPCC), the rising concentration of greenhouse gas emissions is likely contributing to global warming and may result in intensified extreme storm events and sea level rise. Under the highest emissions scenario, **the IPCC projects that mean sea level will rise by 52-98 cm by the year 2100**. Even under the most optimistic scenario of aggressive greenhouse gas emissions reductions, the IPCC still projects sea level rise of 28-61 cm by 2100. In the worst case scenario 1 meter rise in sea level, entire island nations are likely to experience catastrophic storm surge and seawater inundation.

The risk to investors is less clear due to the fact that flooding occurs on a highly localized level, information on the location of fixed assets is sparse, and elevation data requires complex analysis. However, **our internal mapping capabilities and access to comprehensive data sets on global properties and electric power generation provides a means of gauging portfolio exposure to sea level rise, flooding, and storm surge**. Our focus on the real estate and electric power industries is in part attributed to the long lives associated with their assets and the potential to be impacted by climate change over the next several decades.

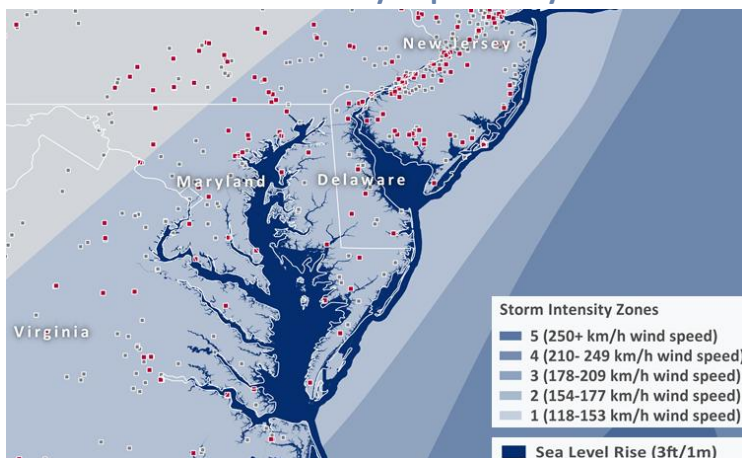
Flood-prone Properties in Europe



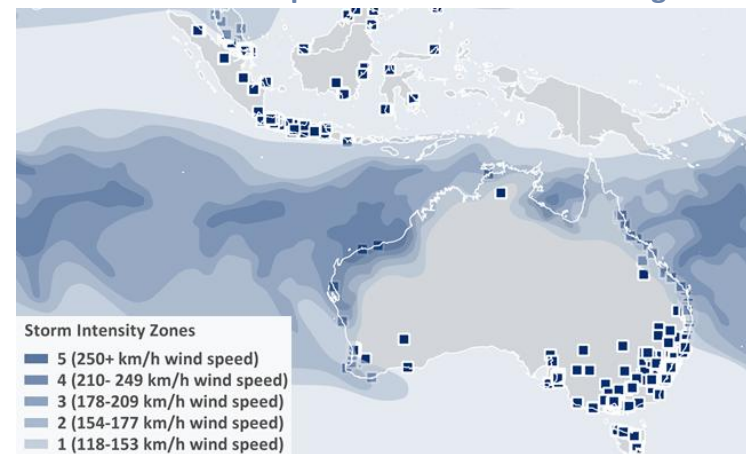
East Asia Properties in Cyclone Paths



U.S. Power Plants Potentially Impacted by Sea Level Rise



Australian Properties at Risk of Storm Surge



Sources: SNL Financial, NOAA, MunichRe, Center for Hazards and Risk Research (Columbia University), MSCI ESG Research

Contact Us

esgclientservice@msci.com

Americas

+1.212.804.5299

Europe, Middle East & Africa

+44.207.618.2510

Asia Pacific

+612.9033.9339

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¹As of March 31, 2014, as reported in June 2014, by eVestment, Lipper and Bloomberg