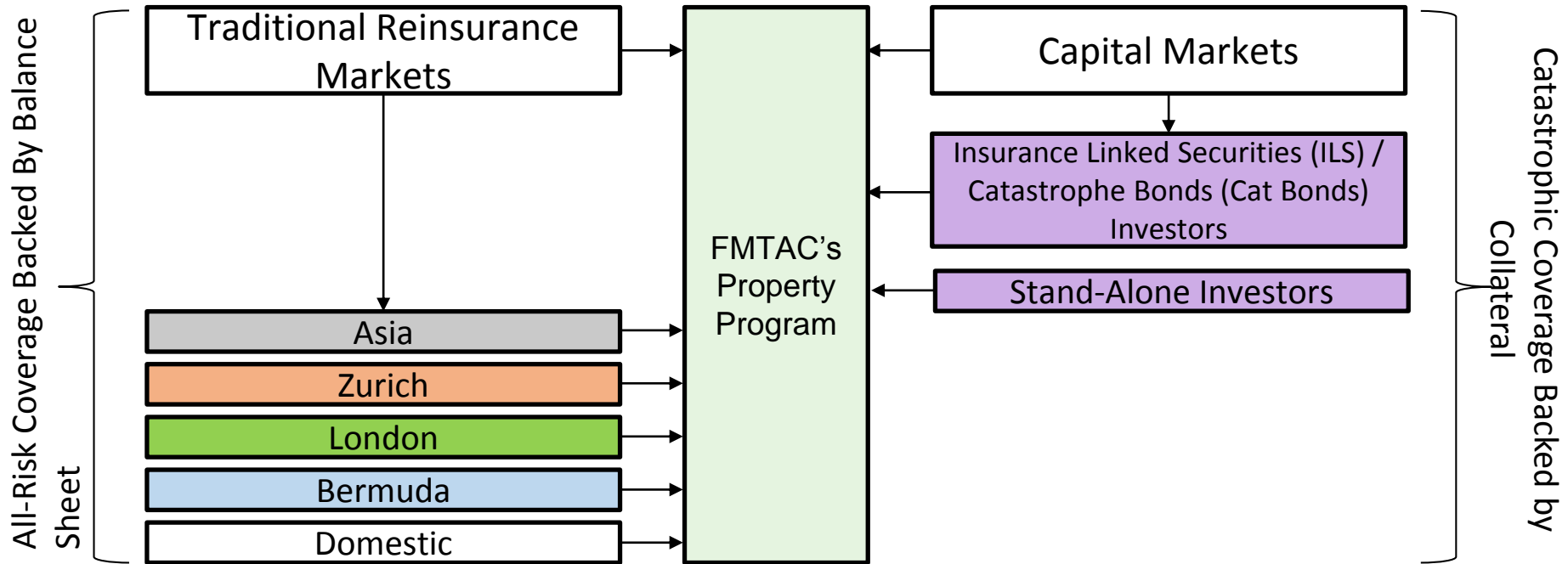


# MTA Capital Markets-Based Reinsurance Overview

Climate Change:  
Response and Resilience Leadership Forum  
– November 2019



# Two Markets for Property Reinsurance



- Due to increased cost of traditional reinsurance post Sandy, FMTAC and the MTA turned to the ILS markets to reduce their reinsurance costs
- To create additional savings above and beyond market declines, FMTAC employs a strategy of maximizing tension/competition inside each market, as well as between the two markets



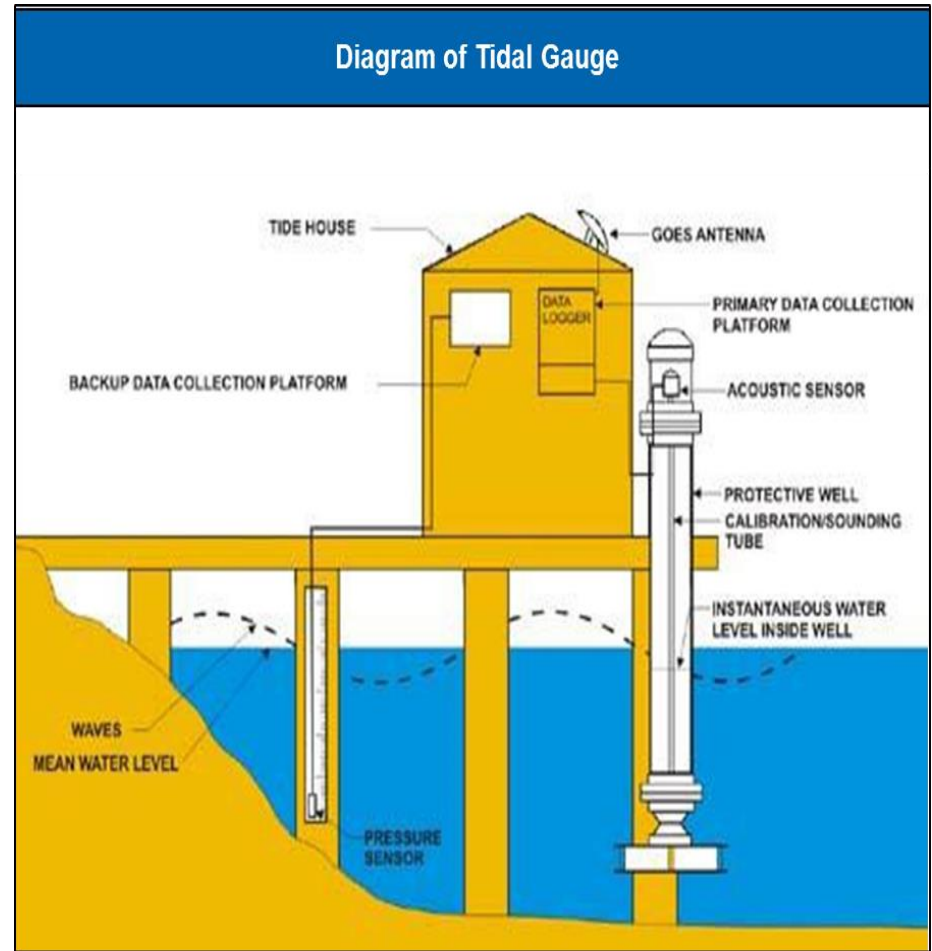
# ILS Transactions

- In 2013, FMTAC and the MTA issued a \$200 million catastrophe bond in the MetroCat Series 2013 transaction
  - The MetroCat Series 2013 note locked in three years of collateralized storm surge reinsurance protection
  - At 4.5%, the pricing spread of the note maximized favorable pricing and generated substantial savings to the MTA through lower cost on reinsurance and additional pressure on traditional markets
- In 2017, with MetroCat Series 2013 maturing, FMTAC issued a second catastrophe bond for \$125 million
  - The MetroCat Series 2017 note locked in three years of collateralized storm surge and earthquake reinsurance protection
  - The 2017 reinsurance program saw a 15% reduction in rate-on-line, of which 50% was attributable to MetroCat Series 2017



# Measuring Storm Surge

- MetroCat uses tidal gauges run by USGS and NOAA to measure storm surge
- Creates transparency for investors as data is automatically transmitted via satellite network and is publicly available
- USGS and NOAA are independent organizations not controlled by New York State or MTA
- Risk Management Solutions (“RMS”), the transaction Risk Modeller and Calculation Agent, entered into a Technical Assistance Agreement with USGS to provide additional backup mobile tidal gauges during the storms impacting MTA service area



# Storm Surge Trigger

Map of Calculation Locations



- ▣ Area A tidal gauges measure surge closely correlated with surge at MTA assets located near the Battery
- ▣ Area B tidal gauges measure surge closely correlated with surge at MTA assets located near Long Island Sound
- ▣ Because of bathymetry and other factors observed sea level in Area B tends to be higher than that in Area A

Area	Calculation Location	Agency	Observed Mean Tidal Range (ft)
A	The Battery	NOAA	4.53
A	Sandy Hook	NOAA	4.70
A	Rockaway Inlet	USGS	5.07
B	Kings Point	NOAA	7.17

- ▣ During the Event Period associated with a Named Storm, if either the Area A Event Index Value or the Area B Event Index Value reaches or exceeds pre-specified levels, a full principal reduction is triggered and collateral moves into the loss account

