

Flood Insurance Program NFIP and the Private Markets

An Overview of Current and Future Conditions

NFIP Role in the Market

The timeline shows key events in the NFIP's history:

- Pre-1927:** The private sector offered flood insurance coverage.
- 1927:** The impact of the Great Mississippi Flood of 1927 caused the private sector to stop covering flood.
- 1968:** Congress passed the National Flood Insurance Act to create the National Flood Insurance Program.
- 1981 and 1976:** Current rating system developed jointly by the NFIP and private insurance industry based on best practices of the fire and home insurance sectors.
- 2005:** Hurricane Katrina - losses paid from Katrina were greater than the sum of all NFIP losses paid up to that point.
- 2006:** Hurricane Ike - borrowing authority increased to \$10.5B.
- 2012 & 2013:** Rigger-Waters Flood Insurance Reform Act of 2012 & WFAA 2013.
- Current:** Risk Rating 2.0 - NFIP pursuing initiative to overhaul flood insurance using retooling and policy terms.

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NFIP Legacy Rating System

- Established and not fundamentally changed since the 1970s
 - Adhered to the actuarial principles of the time
- Premium Evaluation Criteria
 - Flood zone
 - Occupancy type
 - Type of structure
 - Elevation relative to the Base Flood Elevation (BFE)
- MAPS
- Considered only two sources for the flood risk: river flooding and coastal flooding
- Considered flood water depths with a 1% probability of being met or exceeded each year; did not consider less frequent, but potentially more severe flooding


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Tools Continued

- Historical satellite data
- Near real time satellite data/persistent monitoring
- AI assessment scoring- proven over 90% predictive
- Stochastic Models
- Automated framework
- Visualization tools

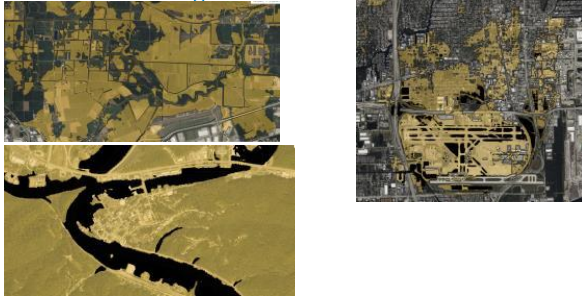
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Understanding Flood



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Persistent Monitoring



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FEMA RR2.0 - Example Premium Calculation

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Key Takeaway

- Using all of these tools to understand flood risks we can create a sustainable flood market

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State of the Market- Re-assessment of Capacity Deployment

Early 2022- Hardening property market leading (fct. in large property flood)

June 2022- Reinsurance renewals focused around FL

September/October 2022- Ian impacts US

Q4 2022- Market digesting Ian- Impacts to entire market

Q1 2023- Selective moratoriums, programs stop writing flood, in cases, more risk pushed to primary insurers, less flood on package business

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The Future market

- Private market opinion
 - FEMA has dominated the market
 - Private market is growing
 - Growth of 29% 2020 \$669.2 MM to 2021 \$881.5 MM (based on NAIC data)

NFIP - State of the Market Capacity

Overview of FEMA's Multi-Year Reinsurance Strategy

SUMMARY OF THE CAPITAL MARKET REINSURANCE PLACEMENTS

Year	Duration (in years)	Premium Paid for the first year	Coverage Issues
2019	Mar. 7, 2019 – Mar. 7, 2020	\$50.37 million	9% of losses between \$1 and \$5 billion 14.27% of losses between \$5 and \$10 billion
2020	Feb. 25, 2020 – Feb. 22, 2021	\$61.23 million	2.0% of losses between \$4 billion and \$7 billion 9% of losses between \$7 billion and \$1 billion and 12.0% of losses between \$1 billion and \$10 billion
2021	Feb. 25, 2021 – Feb. 22, 2022	\$75.44 million	12.0% of losses between \$4 billion and \$7 billion and 12.0% of losses between \$7 billion and \$10 billion
2022	Feb. 20, 2022 – Feb. 17, 2023	\$80.28 million	8.3% of losses between \$4 and \$7 billion 30% of losses between \$7 and \$10 billion

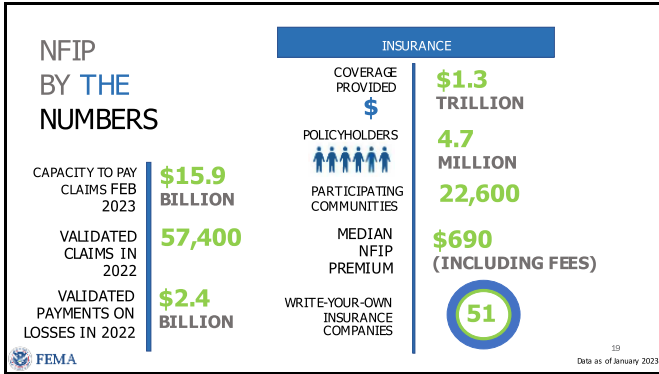
SUMMARY OF TRADITIONAL REINSURANCE PLACEMENTS

Year	Amount of Risk Transferred	Number of Reinsurers	FEMA Premium Paid
2020	\$92.5 million	13	\$92 million
2021	\$1,800 million	29	\$113 million
2022	\$1,220 million	32	\$105 million
2020	\$1.33 billion	27	\$20 million
2019	\$1.12 billion	26	\$18 million
2018	\$1.46 billion	26	\$10 million
2017	\$1,300 million	26	\$10 million

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NFIP Policy Count History

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NFIP Ratemaking – Current State/RR 2.0 Impact

Risk Rating 2.0 Implemented in October 2021 for new business and April 2022 for renewals
 Full year of renewals completed as of April 1, 2023
 NFIP Policy Count Decrease 2% between March 2022 and March 2023

Expectations of RR2.0 market impact
 Ease of doing business for WYOs due to improved technology in rating and loss reporting
 Redistribution of premium from low value/low risk to high value/high risk
 Increased stability in rates as the changes work themselves out.

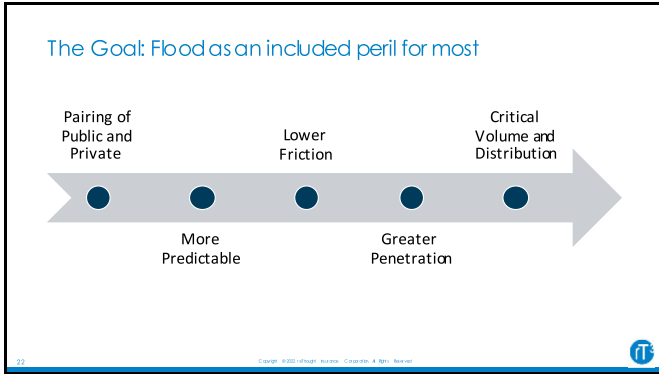
<https://www.fema.gov/flood-insurance/risk-rating>

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NFIP Future

- Improved modeling using Catastrophemodels that include flood sub perils and cover more geographic areas
- Enhancement of the rating algorithm
 - Levee rating
 - Erosion
 - RCBAP
- Improved data collection from WYOs (NAIC IIE)
- Incorporation of mitigation and climate change into the models
- Continued engagement with traditional commercial reinsurers and the CAT Bond market

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- ### Future Challenges and Opportunities
- Overcoming complacency
 - High value home brokers
 - Mortgage companies/Banks
 - Carriers
 - Citizens
 - 1Million (2022) to estimated 1.7Million (2023)
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