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Insurance Industry Overview and the RAA Partnership: A Model for Other Industries?

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RAA

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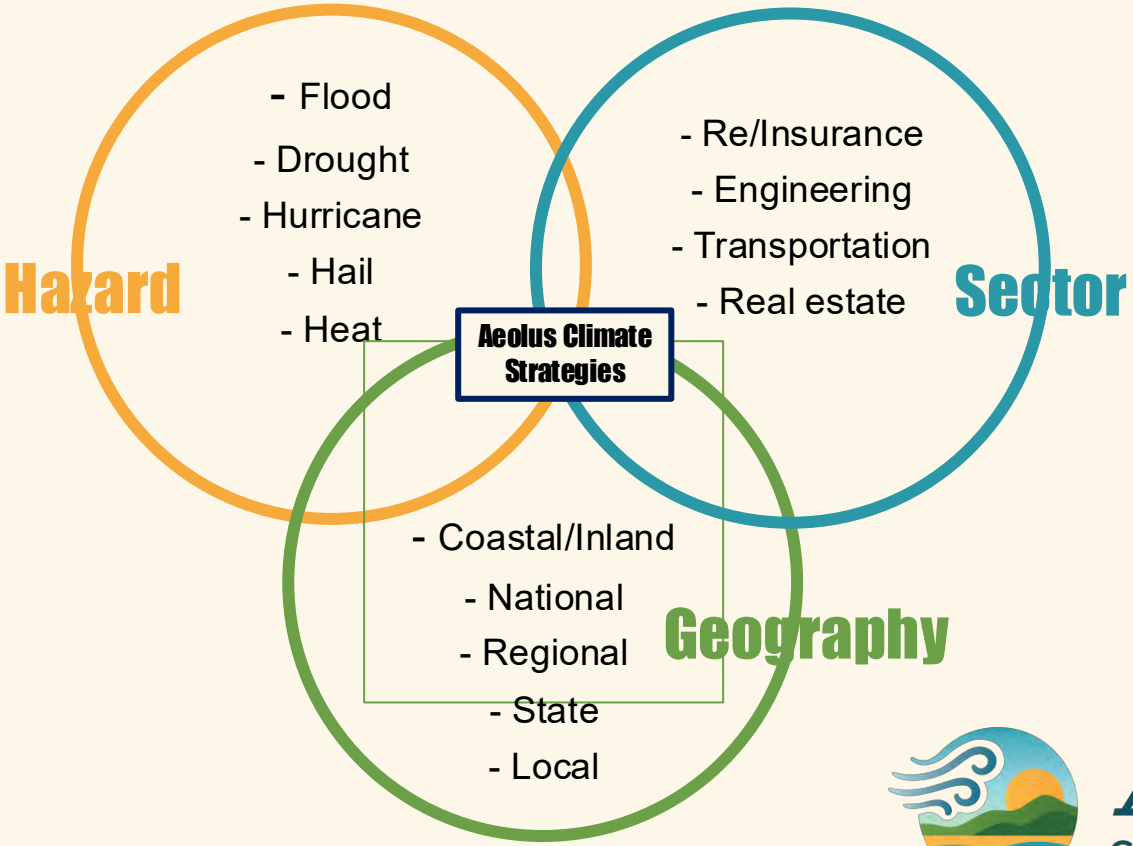
The Aeolus Climate Mission

To deliver science and information services to those making decisions about their risk in a changing climate.

We work with our trusted partners at regional, state and local scales, and across economic sectors, to co-develop tools and resources that meet climate information needs.



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Insurance and Reinsurance

Who are they?

- **Insurance companies** serve to offer financial policies to cover the weather and climate hazard risks to **homes, vehicles, businesses, agriculture, and more.**
- **Reinsurance companies** offer policies to insurance companies to insure the financial risk of company solvency.

The Industry Ecosystem

- Reinsurance companies
- Insurance companies (P&C, cat modeling, brokers)
- Specialty Insurers (excess and surplus lines)
- Catastrophe (cat) modeling companies
- Actuaries
- State Offices of Insurance Commissioners (regulators)
- Associations (e.g., RAA, NAIC, Triple-I, others)
- Academics

Figure 1: Reinsurance among the key private stakeholders of risk management
Source: Grossi and Kunreuther 2005; ERG 2014

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Climate Engagement: Insurance and Reinsurance

Support customer needs for climate science and information

WHAT	WHO	HOW	WHERE & WHEN
			
Major sector impacted by climate	**Companies and Associations; states, nonprofits**	**Being a trusted, responsive partner**	**Continuous engagement**
Insurance, transportation, energy, real estate, health, more	Power users and non-power users	Establish trust, be reliable, co-develop new solutions	Deepen understanding, offer technical assistance, support with co-development

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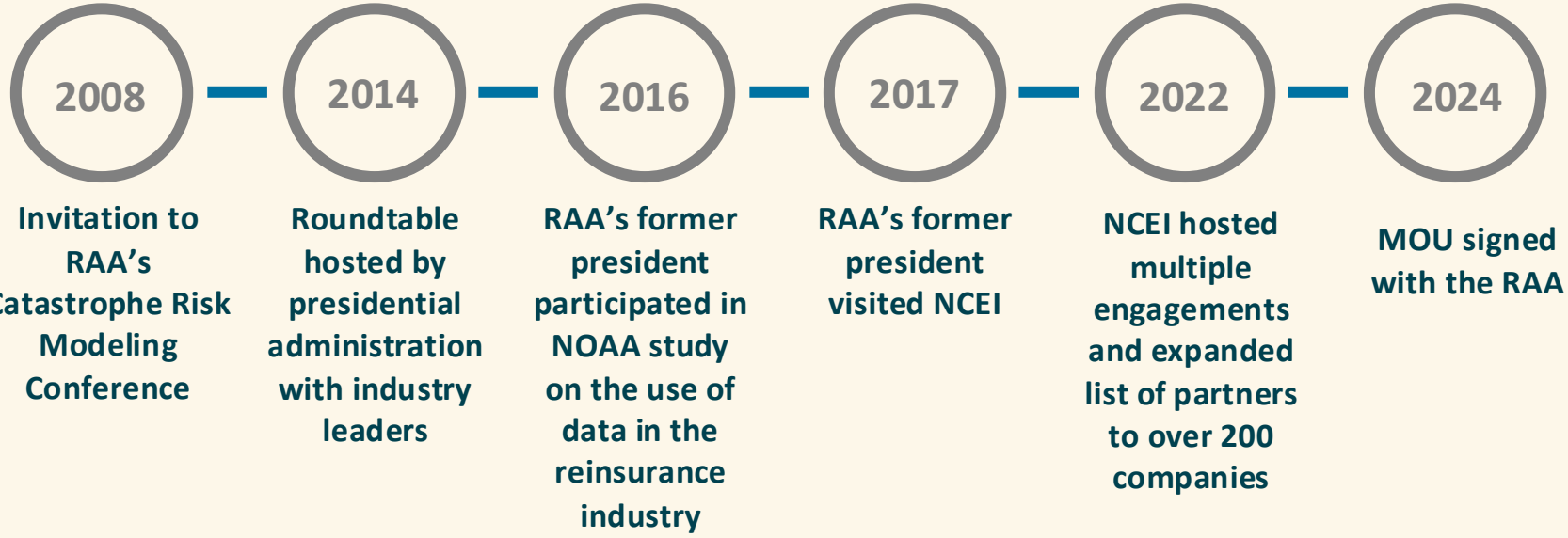
History of Engagement

For more than **15 years,** NOAA engaged with the Reinsurance Association of America (**RAA**), building a relationship, and gathering information needs.



Prioritization Project with RAA: Background

RAA member companies and affiliates rely on federal datasets to understand hazards and assess risk

RAA is advocating for key datasets that have recently become vulnerable to changes in quality and access

Aeolus Climate Strategies has deep expertise and relationships with both the industry and with federal agencies to assess dataset quality and risk to access

Audiences and the Need for Prioritization

- Companies (reinsurers, primary insurers, catastrophe modelers) need their collective voice expressed to federal agency leaders about the importance of their datasets to the industry
- Federal agencies are under pressure to streamline, and need to understand which datasets are most critical to the industry (among many audiences)
- Those working on data rescue and improved access need to consider which data are most important to core users

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Prioritization Methodology

- RAA members built a database of 150 critical data products to be vetted across the industry
- RAA partnered with Mecray to interview member companies and assess their most-used datasets
- Mecray held meetings 1v1 with company representatives to: familiarize them to the list of datasets, review the use of each in company business, add the frequency of access/use of each dataset, and consider a ranking system (most used 1-4) to express the criticality for the company

Considerations for Ranking

- Member companies were invited to use their own scoring methodology, and most used a ranking 1-4, or high-medium-low

- In each discussion, we unified around themes including:

  - Regulatory requirements
  - Foundational use across multiple perils
  - Availability of alternative datasets
  - Ability to reproduce the data as needed
  - Spatial distribution of the observations in the dataset

Results: Highest Ranked

Dataset	Ranked Highest
HURDAT2	All Respondents ✓
NHC Hurricane Track Forecasts	All Respondents ✓
NWS Historical hail reports	7 Highest/1 Medium
SPC Hail Reports	7 Highest/1 Medium
Latest Earthquakes	7 Highest/1 Low

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Results: High Ranking

Dataset	Also Ranked Highly
ERA5	6 Highest/2 Medium
GFS	
NWS historical straight-line wind reports	
NWS historical tornado reports	
SPC Wind Reports	

Results: Frequency of Access

- Relative importance to the industry was also a function of access rates, with some datasets accessed hourly or daily (vs once annually)
- Frequent access can be critical and is dependent on operational scale QA/QC and low latency

Dataset	Access Frequency
SPC Hail and Wind Reports	As frequently as hourly (also daily, weekly)
Damage Assessment Toolkit; GFS	Accessed daily by at least one respondent

Observations and Take-homes from the process

- Some datasets are required by law in states (FL and CA, for example) in order for companies to write policies there (HURDAT2 and NIFC fire perimeter)
- Datasets are used for model development, model validation, and real-time event tracking
- Some alternative datasets were offered, however very few are available
- The risk of losing access to critical federal datasets was discussed. Gaps in data collection, and the unknown quality of the data are of concern

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Lessons from the Industry

- The maturity of this sectoral relationship requires engagement expertise, product co-development, and effective delivery with technical assistance.

- A focus on this sector has significantly expanded to include relationships with all of the major players.

- The key is to seamlessly practice the entire Service Delivery model– blending engagement with responsive product development that meets their needs and delivers products they've requested.

Next Steps

- Coordination and collaboration with the Data Loss Working Group, and with others working in the data rescue effort, to share and consolidate prioritization criteria

- Develop a monitoring system to assess access, as well as quality of the datasets. While others are building fed data trackers, our proposal is to sleuth the ‘messy middle’ where the data are available, but the quality is degraded.

- Assessment of alternatives. Meet with vendors and insurers to determine if they are finding other sources for data (in situ, remote sensing, etc).

Thank you

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