



LOSS MODELLING
FRAMEWORK

Openness drives resilience in an increasing uncertain world

The Democratisation of Cat Models

Dickie Whitaker- CEO

**We believe in a world where
knowledge is open, shared and is
accessible to people everywhere**

Dickie Whitaker Bio

Background

- 40 Years insurance Industry focus to support analytics to understand risk
- Worked Globally based in London & US
- 1994 helped start cat modelling company EQECAT
- 1999 Director Intermediary systems limited.
- 2006 started Lighthill Risk Network to centralise funding for academia
- 2009 GC Securities Ltd - Board Member (FSA Controlled Function 1)
- Finance KTN CEO (Innovate UK)
- 2012 Started Oasis Loss Modelling Framework
- 2014 Started Oasis Hub Ltd
- 2022 Started Journal for catastrophe risk and resilience

Grants

- 2009 won Innovate UK grant to run network for Finance
- 2011 Climate KIC project
- 2017 Oasis Platform for Climate and Catastrophe Risk Assessment – Asia BMU
- 2017 Oasis Innovation Hub for Catastrophe and Climate Extremes Risk Assessment <https://cordis.europa.eu/project/id/730381>

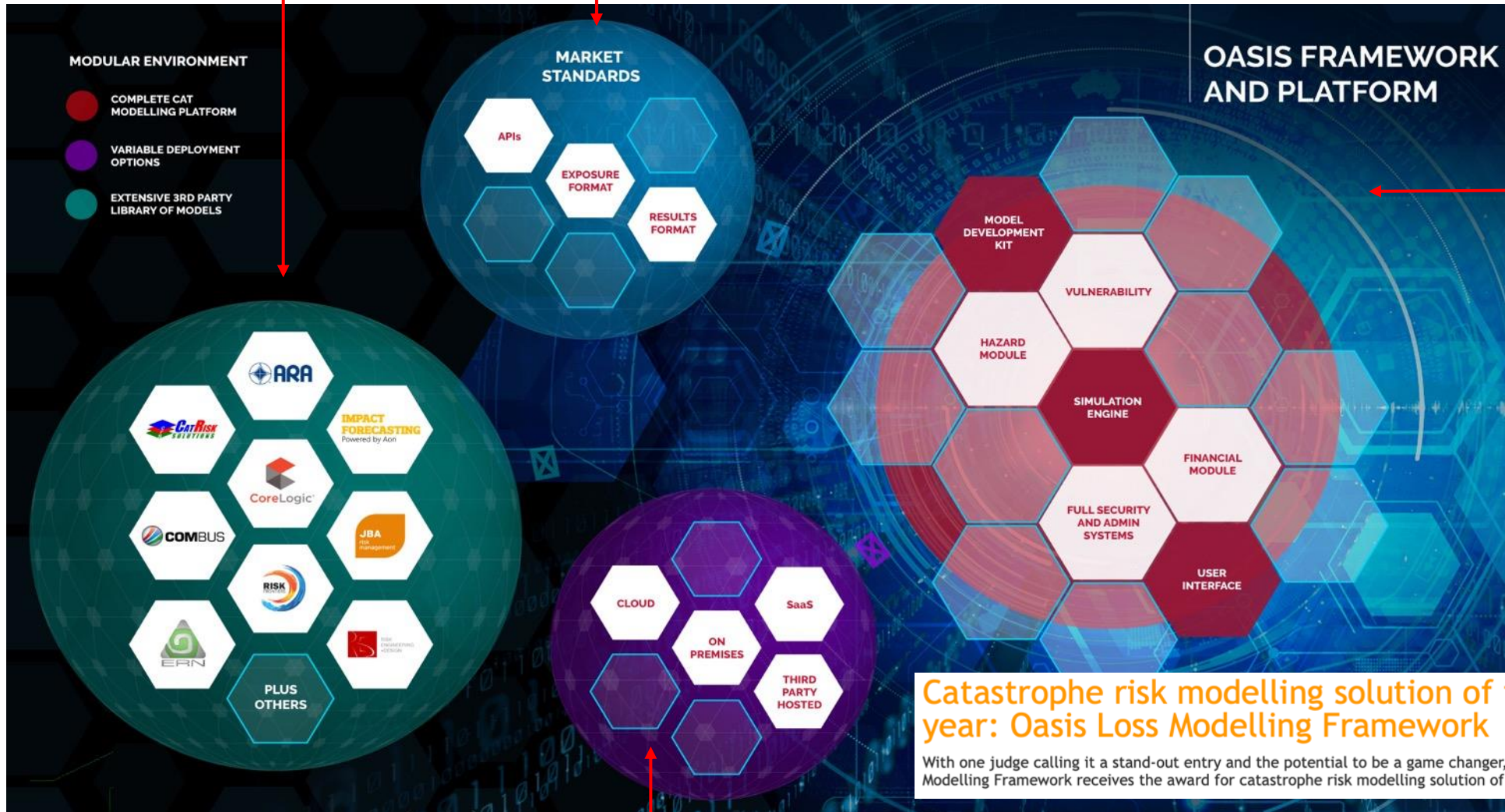
Advisory positions – past and present

- UK's Satellite Applications Advisory Board
- UK actuarial Institute Research & Thought Leadership Committee
- Expert Group for the Global Risk Assessment Framework (GRAF), UNISDRR
- NERC (Natural Environmental Research council) innovation Advisory Board
- The Centre for Risk Studies Cambridge University
- Cabot Institute advisory board.
- EU Climate Adaption mission assembly member
- Insurance development forum risk modelling steering board
- Global Resilience Index Initiative steering board
- Consultative Advisory Group (CAG) member of the Climate Resilient Local Infrastructure Centre (CReLIC), Local Government Engineering Department (LGED), Bangladesh

Stimulates model choice

Maintains standards

Maintains software platform



Catastrophe risk modelling solution of the year: Oasis Loss Modelling Framework

With one judge calling it a stand-out entry and the potential to be a game changer, Oasis Loss Modelling Framework receives the award for catastrophe risk modelling solution of the year.



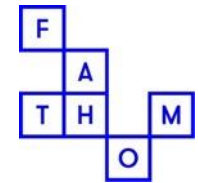
Flexible deployment options

Oasis Members



Oasis Projected Model Coverage

Over 100 models from various providers



* JBA – 'Global flood model' available on the Oasis platform (except Antarctica)
 CoreLogic – Committed in making all models available on the Oasis platform

Where can Oasis help countries and regulators.

- Lower the barriers to entry...costs and standards.
- Help understand and lower the protection gap.
- Help understand climate change
- Provide knowledge and insight to help with risk mitigation, adaptation, transfer
- Help assess capital needs in an informed way
- Bring local knowledge to global levels

Oasis Platform for Asia Climate and Catastrophe Risk Assessment

- Provide tools for risk management and climate change adaptation decisions to help government, businesses, homeowners and farmers manage the increasing costs of disasters.
- Quantify the costs of disasters through the co-development of open catastrophe risk models built to international standards (flood in the Philippines, cyclones in Bangladesh)
- Public-private partnership – bring together business, academia, national agencies to solve the problem
- Develop in-country capacity and ownership for climate and catastrophe risk modelling for the long-term

Supported by:

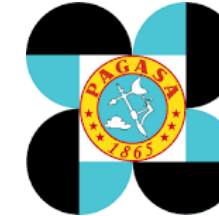


based on a decision of the German Bundestag

INTERNATIONAL CLIMATE INITIATIVE (IKI)



POTSDAM INSTITUTE FOR CLIMATE IMPACT RESEARCH



NATIONAL REINSURANCE CORPORATION OF THE PHILIPPINES



Willis Towers Watson



Components of the protection gap:

- Culture
- Risk information / capacity building
- Standards
- Uncertainty / Trust

Figure 1: Innovation curve: From destructive to regenerative approaches. UNDRR (2019).⁵



Key issues to consider

What standards are required for the use case you have

Exposure standards

Model standards

Results Standards

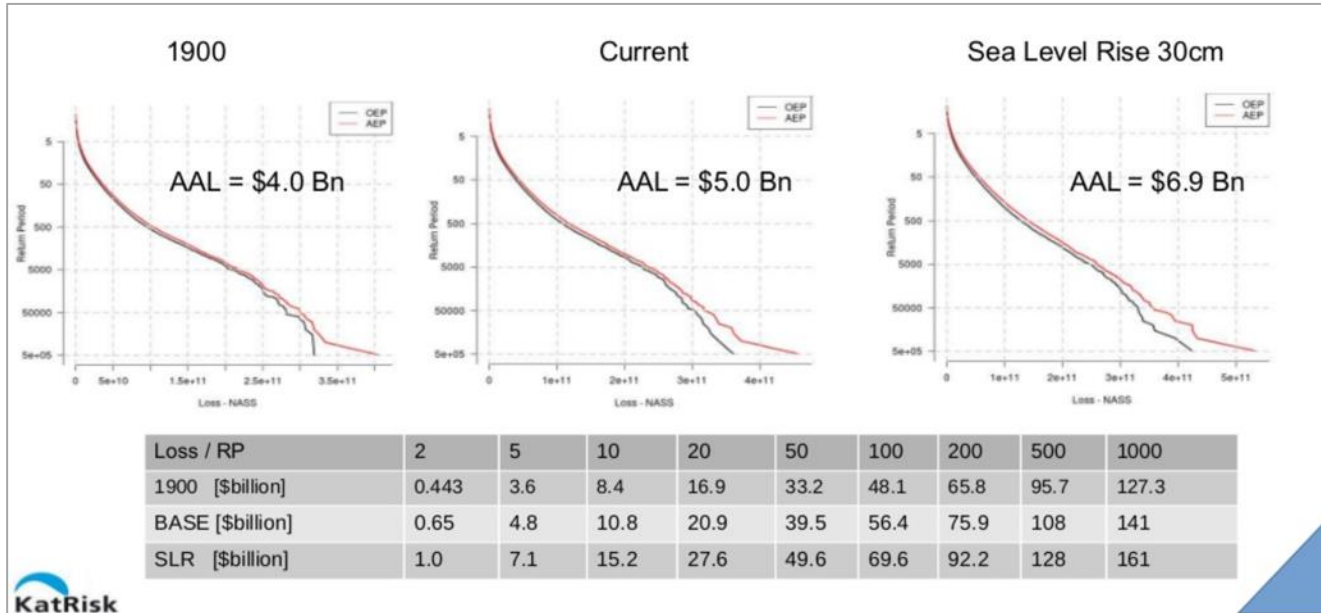
Climate change

http://lighthillrisknetwork.org/wp-content/uploads/2023/02/2022_CRC_BestPractices_ClimateChange_FINAL.pdf

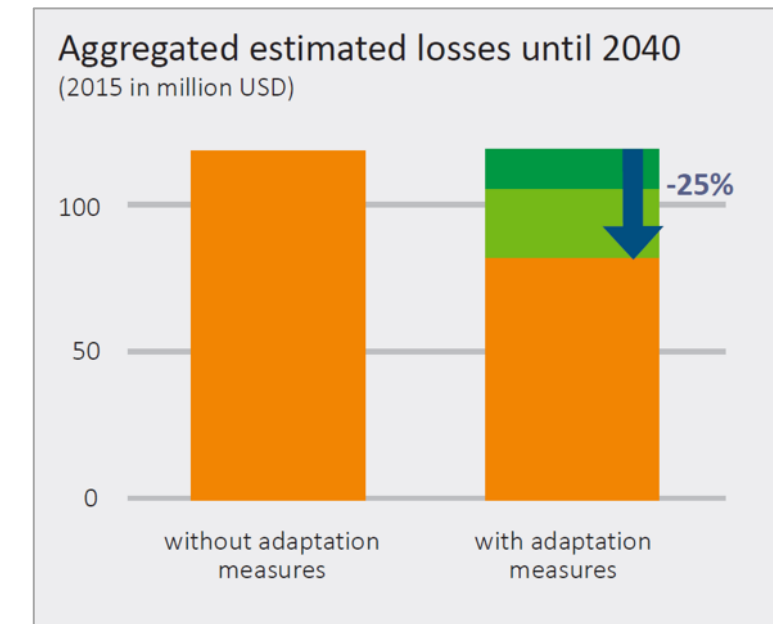


Modelling various climate change scenarios – what are the impacts?

Impact of a changing sea level modelled losses:



Run scenario models to include adaptation measures such as flood defenses or improved building codes, helps with planning or cost-benefit analysis



- Prof. Adam Sobel (et al.) (Columbia University, NY)
 - Columbia Hazard Model (CHAZ),
 - Statistical-Dynamical Downscaling Projections of Tropical Cyclone Activity in a Warming Climate: Two Diverging Genesis Scenarios
 - Historical and RCP 8.5 event sets

“What If” Scenarios

- Return Period Hazard Data
e.g. 50, 100 year, 200, 1000+ year flood zones
- “What if” scenarios and real-time event analysis:
 - What if a cat 4 hurricane hits?
 - What if Hurricane Katrina hits today?
 - **Event Response:** As a hurricane approaches landfall, what is the likely damage to my business?
 - What is the impact of climate change on these events?



20 yr return
period flood
zone



100 yr return
period flood
zone

Flood footprints ©KatRisk 2018

Oasis Contacts

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Oasis GitHub: <https://github.com/OasisLMF>