

# Paradex



Paradex provides industry insured loss estimates for catastrophe events, supporting the efficient, objective, and transparent placement of catastrophe risk in the insurance linked securities (ILS) market.

## KEY BENEFITS

- Minimal modeled basis risk
- Quick settlement
- High geographic resolution
- Faster transactions
- Reduced costs
- Objective and transparent calculation

## ILS APPLICATIONS

- Catastrophe bonds
- Industry loss warranties (ILWs)
- Derivatives

## REINSURANCE APPLICATIONS

- Event reporting
- Lloyd's RDS covers

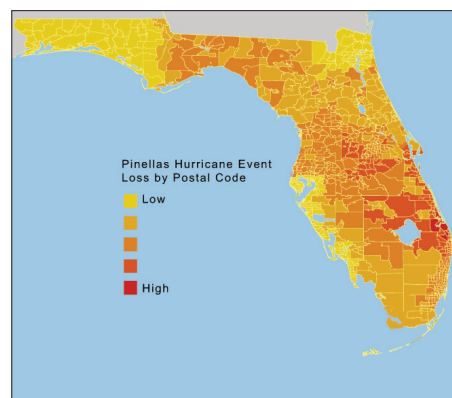
## RISK COVERAGE

- U.S. hurricane
- Europe windstorm
- U.S. earthquake

## THE PARAMETRIC SOLUTION

Paradex is a parametric loss index that estimates industry insured loss for windstorms in Europe and earthquakes and hurricanes in the U.S.

The Paradex service enables the fast and transparent transfer of catastrophe risk to the capital markets. Issuers benefit from indices tailored to their risks, minimized basis risk, and transactions that are fast to model. Investors benefit from standardized structures that are quick to settle and can be easily traded in the secondary market.



For the Lloyd's RDS Pinellas Hurricane event, structuring an ILW contract at postal code rather than state level resolution reduces the modeled expected loss nearly six times.

## PARADEX ADVANTAGES

### Reduced Basis Risk

Contracts are structured at high geographic resolution for a better match between price and the risk covered.

### Settlement Speed

Contracts settle in 40 business days or less for improved capital management and business planning, and reduced extension risk.

### Faster Transactions

Standardized documentation and calculation agent agreements reduce legal work and cost while increasing transactional speed.

### Objective and Transparent Triggers

Triggers are based on an industry loss index derived from predefined hazard parameters. Online event bulletins keep the market informed as events unfold.

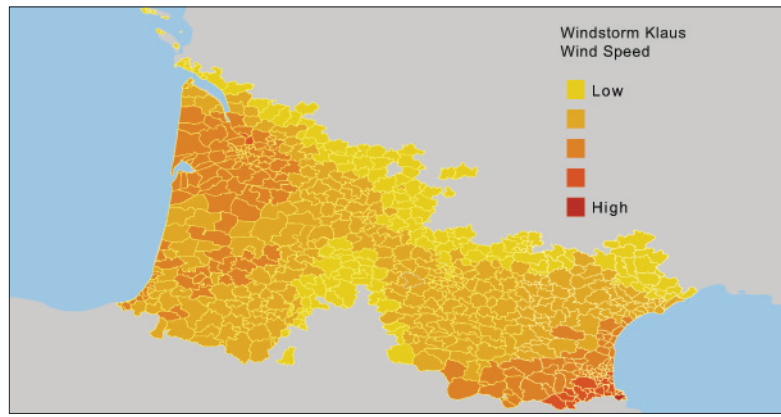
### Online Tools and Data

Paradex eliminates the need to establish third-party contracts with hazard data providers.

Online calculation tools allow confirmation of index calculations and assessment of historical scenarios.

*“With Atlas VI, Paradex enabled us to closely match our portfolio, which significantly reduced the basis risk. The transparency sets a new standard, demonstrated by investors’ appetite for the deal.”*

*-SCOR*



Paradex hazard footprint by postal code for Windstorm Klaus in January 2009. RMS issued an online event bulletin in 2 business days, followed by a Paradex industry index value with a breakdown by CRESTA zone and lines of business in 12 business days

## THE PARADEX FRAMEWORK

Contracts structured with Paradex as the trigger are based on hazard parameters, such as hurricane wind speed or earthquake ground shaking.

From these parameters, RMS derives industry loss indices by region and line of business. Hazard-to-index lookup tables translate hazard into index values. All indices can be tailored to specific regions to minimize basis risk.

Risk can be quantified using RMS models for the secure, transparent, and efficient structuring of financial transactions.

| Line of Business | Wind Gust (mph) | Index (USD) |
|------------------|-----------------|-------------|
| Residential      | 50              | 847,056     |
| Residential      | 51              | 952,082     |
| Residential      | 52              | 1,278,123   |
| Residential      | 53              | 1,330,744   |
| Residential      | 54              | 1,395,575   |
| Residential      | 55              | 2,619,930   |

Paradex hazard-to-index lookup table for postal code 33414, West Palm Beach, Florida

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## ILS APPLICATIONS

For all applications, RMS issues a Paradex event bulletin within 2 business days of a catastrophe event and a final index value within 40 business days.

### Catastrophe Bonds

The standardized Paradex process minimizes basis risk for the sponsor and reduces the time required to take a transaction to market. Paradex transactions can be easily re-modeled as industry loss triggers.

### Derivatives

Index values are available at a high geographic resolution and by line of business, enabling the structuring of customized transactions with the added benefit of fast settlement speeds.

### Industry Loss Warranties

Online event bulletins provide industry index values by region and line of business, providing the writers of ILW contracts the opportunity to cover specific areas of risk for more accurate pricing and to issue contracts that settle fast.

## CATASTROPHE RISK COVERAGE

### Paradex U.S. Hurricane

- Wind speed data from the WeatherFlow hurricane network, Florida Coastal Marine Program, and National Hurricane Center
- Real-time wind data available online
- Covers all modeled U.S. states at postal code resolution for residential, commercial, and automobile lines of business

### Paradex Europe Windstorm

- Wind speed data from World Meteorological Organization (WMO) approved weather stations
- Collection of historical wind data enables rigorous back-testing of historical event indices
- Covers all modeled countries in Europe at CRESTA zone resolution for residential, commercial, industrial, and agricultural lines of business

### Paradex U.S. Earthquake

- Ground shaking data from United States Geological Survey (USGS) ShakeMaps
- Covers all of the U.S. at postal code resolution for residential, commercial, automobile, and single family dwelling lines of business

*“The Paradex index represents an important step in developing a more liquid market for Europe windstorm risk.”*

*-Munich Re*