

## **Products Covered**

A wide variety of insurance products

can be modeled:

- Individual Life
- Group Life
- All forms of Personal Accident:
  - Bulk ADB
  - Group AD&D
  - Voluntary AD& D
  - Credit Card
- Workers' Compensation



Monitor exposure by state or city to reduce potential risk to a book of business.

## **CSP Accumulation Model**

- A&H Specific
- Flexible
- Dynamic
- Continuously updated and improved



*Consulting Services  
of Princeton, LLC*

## ***Catastrophe Accumulation Model***



*Consulting Services  
of Princeton, LLC*

**1200 Lenox Drive  
Suite 103  
Lawrenceville, NJ 08648**

**Telephone: 609-883-6100  
Fax: 609-883-6111  
<http://www.cspllc.us>**

# What is an Accumulation Model?

Since September 11th, the insurance industry has become more concerned about the accumulation of their exposures to catastrophic events.

An Accumulation Model is designed to measure a company's total exposure in the event of a catastrophic occurrence. It can help control exposure and enable the company to intelligently purchase reinsurance to limit their overall risk.

CSP's model includes all stages of development including exposure mapping, a deterministic stage and probabilistic loss estimates.

## Exposure Mapping

Information typically gathered:

Subject premium:

-by product line

-by state

The CSP model converts subject premium into volume in force and lives exposed using detailed industry data.

Actual distribution of lives can be input if available.

The model can also be adapted to cover international exposures with country specific data in place of state specific data.

## How is this information used?

Within each state, the CSP model distributes the total number of lives exposed across various possible locations. These include:

- Skyscrapers
- Stadiums
- Bridges and Tunnels
- Airplanes and Cruise Ships
- Nuclear Reactors

The CSP model includes over 480 structures subject to concentration of risk, as well as over 600 cities with the most dense populations.

## Deterministic



Catastrophic events which are monitored include both natural and man-made disasters, such as:

- Earthquake, flood & hurricane
- Bombs
- Air crashes
- Radiological, biological and chemical attacks.

Natural disasters are assumed to occur randomly. Man made disasters are assumed to occur at peak occupancy times.

## Probabilistic

The frequency of natural disasters is based on historical data. The CSP model is flexible with respect to the frequency of man made disasters and allows variable assumptions for comparison purposes.

The probability of death or injury for each catastrophic event is based on the following:

- Natural Disasters—historical data
- Man-made Disasters—estimated radius of damage and footprint for an event.

## Advantages of Model

Unlike modified property based models, the CSP Accumulation Model was designed specifically for Life, AD&D, Workers' Compensation and other related A&H insurance products.

The CSP model can be tailored to the specific risk tolerance of the insurer. It allows for modifications in assumed frequency of catastrophic events. It can be adjusted to analyze the effect of alternative retentions on various catastrophic scenarios. It also provides ranges of loss estimates for sensitivity analysis and comparison.