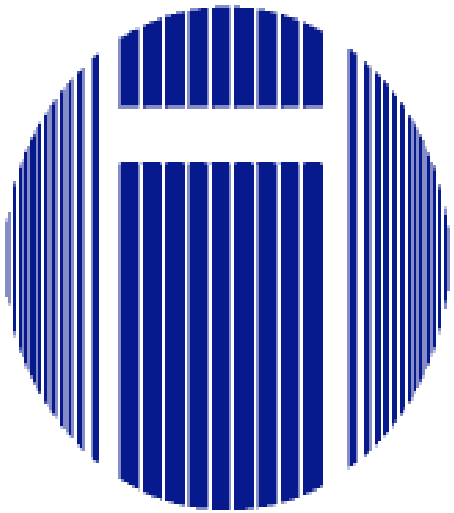


Intercontinental de Seguros

Su tranquilidad es nuestro compromiso.

A New Millenium

March 17-22, 2002

Cancún, México

XXVIIth

International Congress of Actuaries

WELCOME

A New Challenge for Actuaries

DOMINICAN REPUBLIC
INSURANCE HISTORY

Until 1963 all insurance services were provided by local agencies of international insurance companies.

- Commercial Union
- Royal Insurance Company
- The Continental
- General Accident
- Etc.

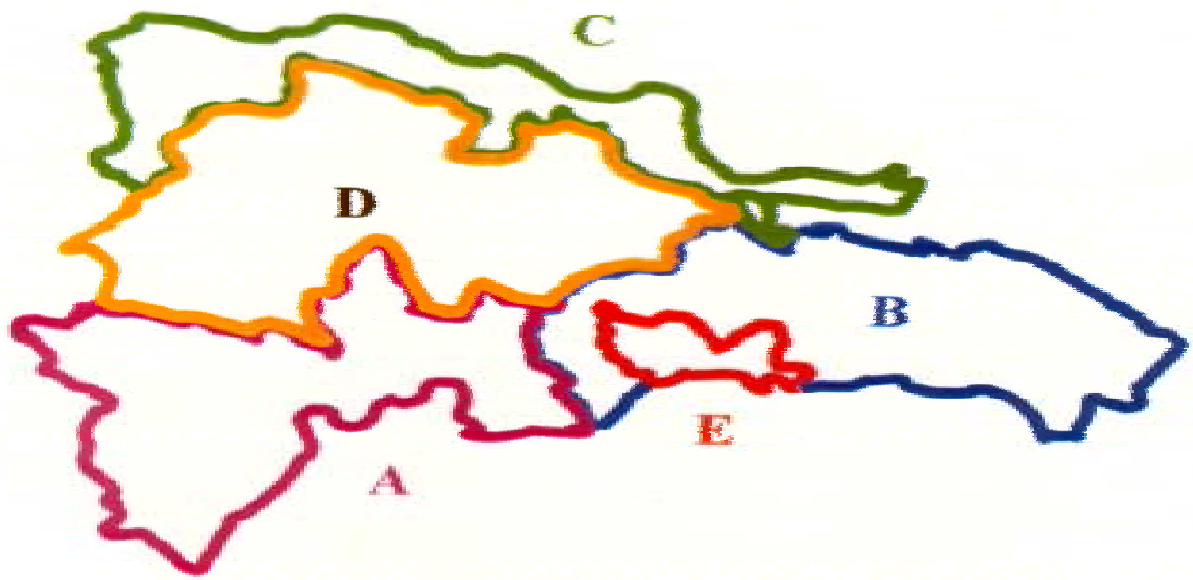
In 1964 the first private Dominican insurance company was established and from that date on many more started operating.

- Compañia National de Seguros 1964
- Seguros America 1968
- Universal de Seguros 1970
- Intercontinental de Seguros 1974

These companies were established with the total supervision and help of the main reinsures at that time (which still are) Swiss-re, Munich-re.

All catastrophic assumptions and calculations, PML, EML, were established by these reinsures based on the crest a maps and studies.

Based on the studies our island was divided into 5 catastrophic zones ABCD and E.



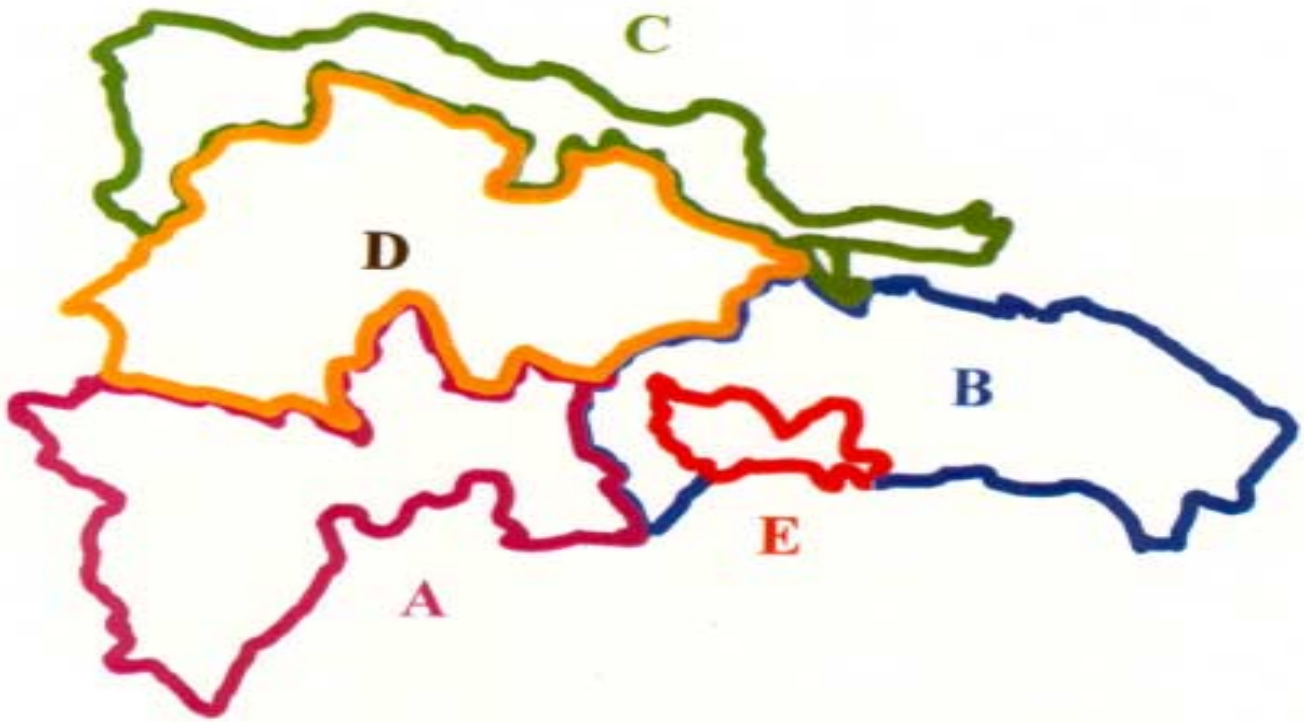
According to reinsurers suggestions insurance companies protected their retained portfolio based on a 10% PML of zone E.

In 1971 when the insurance law was created in the Dominican Republic the law required that for fire and allied perils portfolios companies had to buy cat protection, with a minimum of 5% of country aggregates.

Based on the reinsurers advises and the 1971 law requirements local insurance companies protected their retentions buying coverage between 5% and 10% of exposed aggregates.

DOMINICAN REPUBLIC
CAT ANALYSIS

Until the mid 1990's the Dominican market protected it's portfolio with the customary 10% of accumulations on zone e.



DOMINICAN REPUBLIC
CAT ANALYSIS

EQE through guy carpenter was the first company to approach our market in the mid 1990's to offer their services.

EQE tried to analyze the complete Dominican market through the private insurance association but the different insurance companies did not come to an agreement therefore Compañia Nacional de Seguros decided to run the study on its own.

EQE sent us their team of geophysicists, mathematicians and a list of information required to process the data for the analysis.

This was an excellent exercise for all the people involved in underwriting and statistics. As being the first time it took approximately 8-9 weeks to gather all the data and it took another 4-5 weeks to process it.

.We learned that our data base was not sufficient to run a thoroughly analysis.
The more information we can provide the more accurate the analysis is.
This situation convinced us that we had to upgrade our whole operating system.

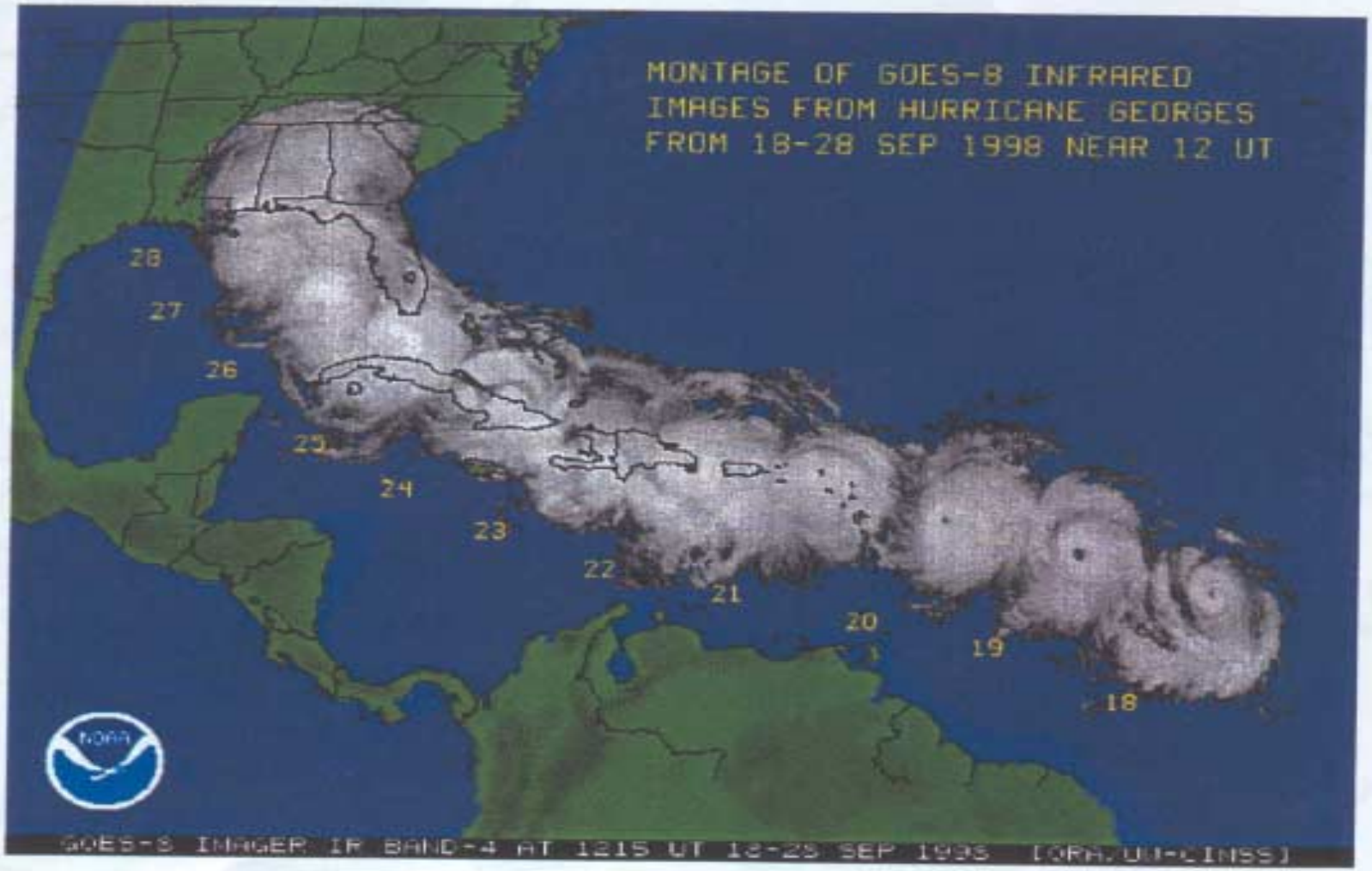
• This analysis helped us as primary writers really acknowledge the lack of requirements on part of the local authorities for quality of construction. Eventhough most of the existing portfolio of the company was of better than average construction.

•This analysis helped us have peace of mind in the sense that the PML being calculated for the protection of our portfolio was adequate. We had no major surprises.

•The analysis made us realize that a class 5 hurricane would have the same terrible impact as a major quake. Previous the study we would protect our portfolio with the higher levels quake only. After this study we protected our portfolio against both perils.

•The study not only gives us peace of mind, but also helps reinsurers view the situation of our portfolio and help them determine what limits they are willing to participate with ceding company.

•The different PML scenarios in our 1995 were tested with Hurricane George.

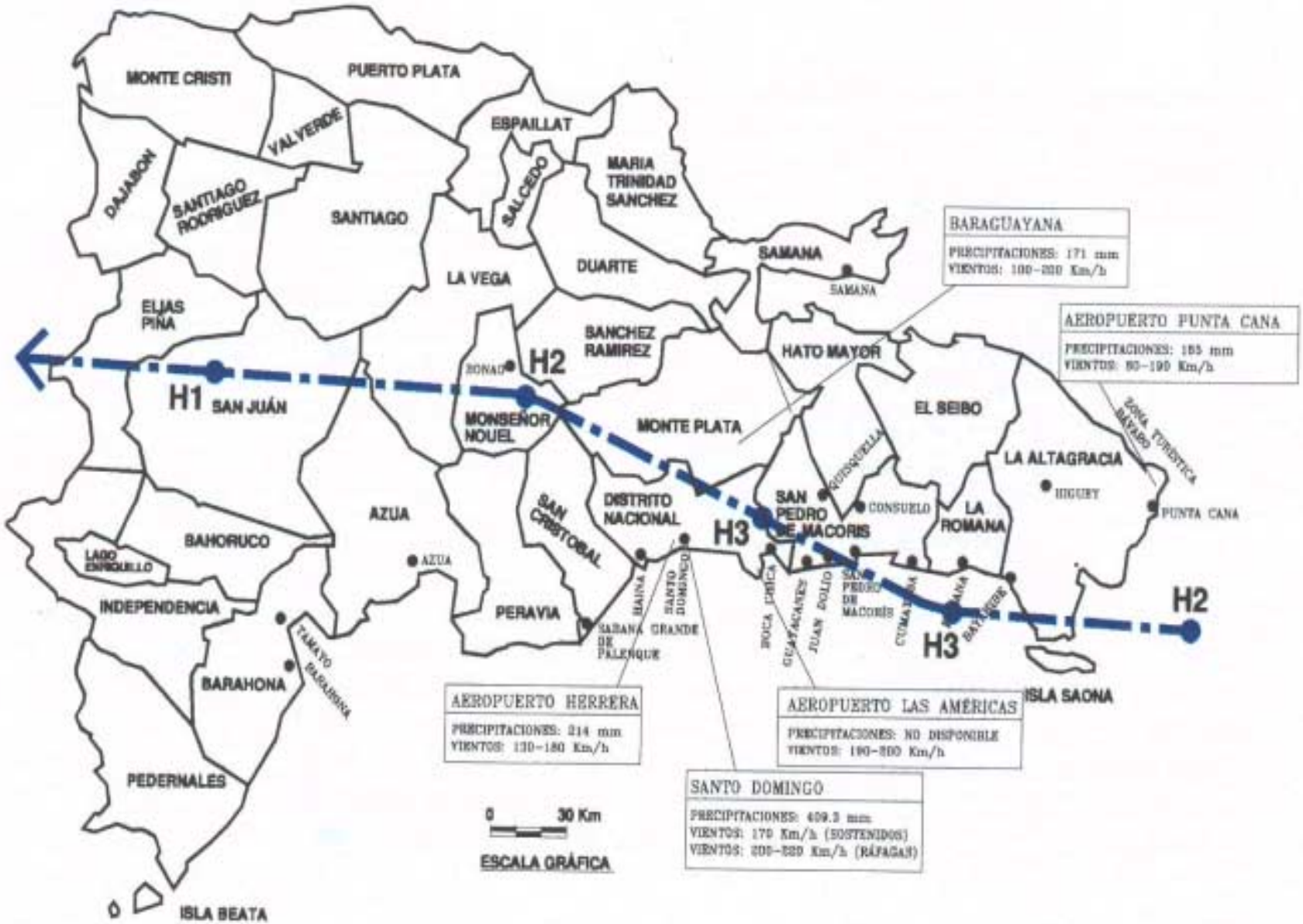


Above we can visualize Hurricane Georges path of destruction throughout the Caribbean.

Hurricane George

On September 22nd, 1998, Hurricane Georges approaches in the morning east coast of the Dominican Republic as category 2 storm. As soon as it hits land on the eastern tip of the island, the hotels in the Bavaro area (southeast coast) start suffering the wind and water damage. As the storm heads directly west and slightly north, it hits water again, which then intensifies its category in storm class
3. Hurricane Georges definitely hits land around 8 a.m. or 9:00 a.m. Near San Pedro de Macoris and continues its trajectory inland due slightly north at a very slow traveling speed.

The zones with main exposure in the island were hammered by heavy winds of approximately up to 200 km per hour. Each sector of the island was exposed to at least 6 hours of hurricane force winds because of the slow traveling speed of the storm. By the time the hurricane hits the mountainous zone of the country, the storm looses some strength and weakens into a category 2 storm and by the time it heads out west to Haiti, the storm keeps weakening and becomes a category 1 storm when it finally hit Haiti, but the damage was already done.


MONTE CRISTI
PUERTO PLATA
VALVERDE
ESPAILLAT
DAJABON
SANTIAGO RODRIGUEZ
SANTIAGO
SALCEDO
MARIA TRINIDAD SANCHEZ
LA VEGA
DUARTE
SAMANA
SAMANA
ELIAS PIÑA
SANCHEZ RAMIREZ
HATO MAYOR
BONAO
H2
H1 SAN JUÁN
MONSEÑOR NOUEL
MONTE PLATA
EL SEIBO
LA ALTAGRACIA
HIGUEY
AZUA
SAN CRISTOBAL
DISTRITO NACIONAL
SAN PEDRO DE MACORIS
CONSUELO
LA ROMANA
PUNTA CANA
BAHORUCO
LAGO ENRIQUILLO
AZUA
INDEPENDENCIA
PERAVIA
H3
H2
BARAHONA
PEDERNALES
ISLA BEATA
ISLA SAONA
BARAGUAYANA
PRECIPITACIONES: 171 mm
VIENTOS: 100-200 Km/h
AEROPUERTO PUNTA CANA
PRECIPITACIONES: 185 mm
VIENTOS: 80-190 Km/h
AEROPUERTO HERRERA
PRECIPITACIONES: 214 mm
VIENTOS: 130-180 Km/h
AEROPUERTO LAS AMÉRICAS
PRECIPITACIONES: NO DISPONIBLE
VIENTOS: 190-800 Km/h
SANTO DOMINGO
PRECIPITACIONES: 409.3 mm
VIENTOS: 170 Km/h (SOSTENIDOS)
VIENTOS: 200-220 Km/h (RÁFAGAS)
0 30 Km
ESCALA GRÁFICA

Our country withstood more than 17 hours of hurricane force winds and heavy rainfall. The most affected areas, of course, unfortunately and regretfully were the countryside and the poor people without adequate protection or shelter. The rural and poor areas suffered immensely, as much as agriculture and countryside infrastructure. All these were and shall be helped by international aid, foreign loans and by the sympathy of the population that can help with something, locally and abroad.

Original estimates calculate the total loss in the country of approximately us$2 billion dollars. Of the two billion dollars, us$500 million were insured and did received compensation from the insurance and reinsurance market.S the most affected areas were tourist hotels and resorts located in Bavaro, Punta Cana (far east coast) and La Romana (Casa de Campo). The agroindustrial industries near to San Pedro de Macoris and Santo Domingo, communication companies throughout the country with the major concentration in Santo Domingo and towards the south eastern coast.

In the cities of Santo Domingo, San Pedro de Macoris and La Romana, many businesses were affected, especially, the major free zones in the country. The structural damages were considerable but the heavy losses were caused by water damage from the storm to contents such as stocks, machinery, equipment and fixtures. Structural damages was very heavy in La Romana and San Pedro, but contents damage was present throughout the island. Below please find a more detailed trajectory of the hurricane path.

Of the us$500 million dollars insured losses, Compañia Nacional de Seguros was affected with approximately us$128 million dollars.

Our loss was distributed as follows: 20% our retention, 60% affected our surplus treaties and the remaining 20% is recovered from the facultative reinsurance market.

Our comments on this storm are the following:

1 Our catastrophic study performed by EQE in 1995 really helped us very much because it gave us an initial accurate extraction of our projected losses. Because of this, we had decided to produce a follow up study updating the 1995.

We really think that this cat selection tool is very helpful and according to the parameters it reflects, we base our reinsurance program on. The 1995 study was not more precise because this storm followed an abnormal path (westward completely) therefore the path of a category 3 storm hits 3 cat. Zones (two with heavy aggregates) was somewhat higher that the ones calculated by the cat study in 1995.

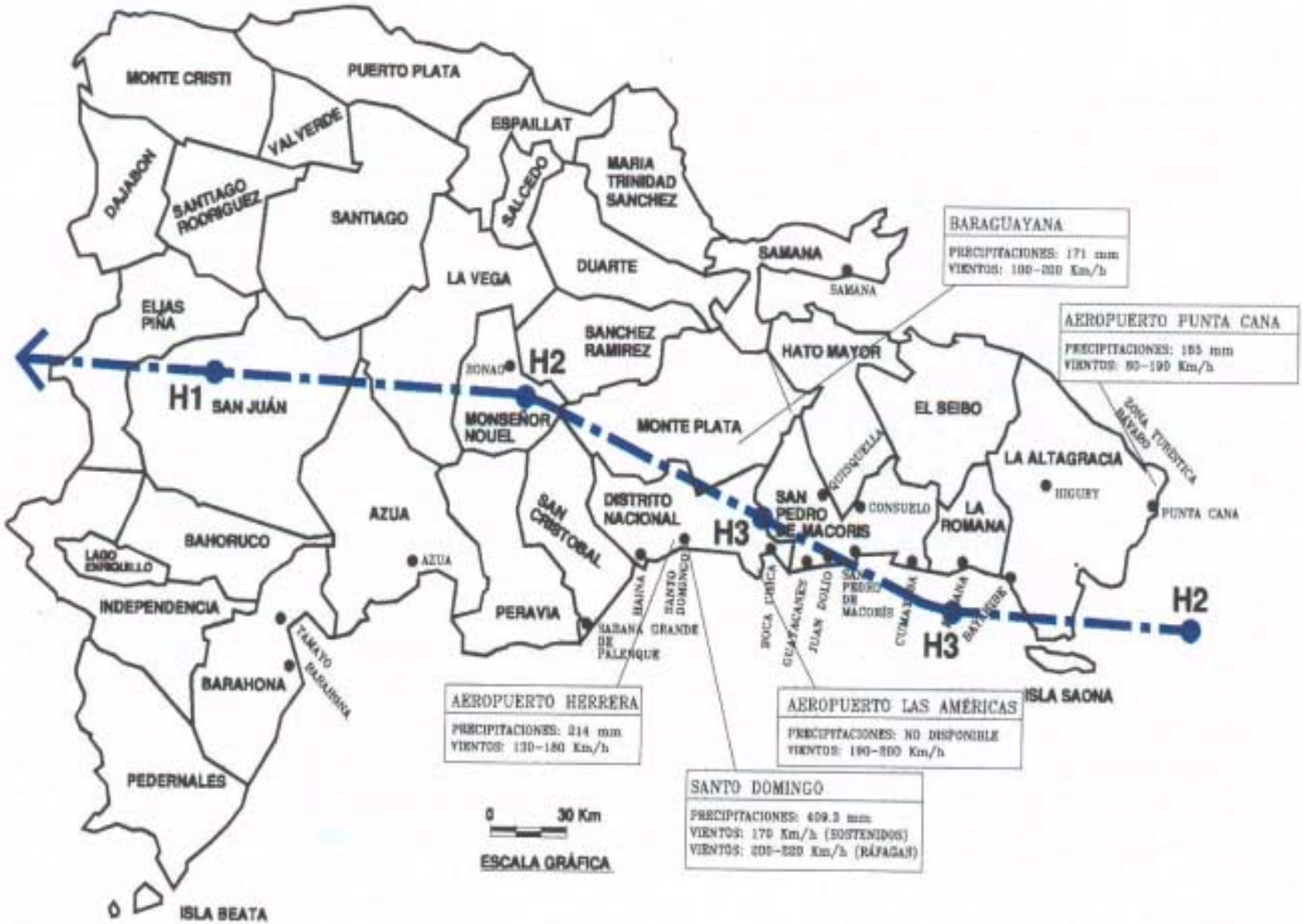
COMPARISON BETWEEN CAT STUDY AND ACTUAL LOSS.

According to the 1995 CAT Analysis a category 2 storm would cause less than 2% damage of aggregates and a CAT 3 would cause less more than 2% and less than 4% damage of aggregates.

•Hurricane Georges caused approximately 5.36% PML loss which differed some from the 1995 study.

•The reason for this was the trajectory of the strom and the speed it traveled.

•The 1995 study analyzed three stroms, Hurricane David (CAT 5 1978) Hurricane San Zenon (CAT 5 1930) and Hurricane Gilbert (CAT 2 1980). The paths of these storms differed totally than hurricane Georges therefore the loss outcome of the storm differed some compared with the analysis.


MONTE CRISTI
PUERTO PLATA
VALVERDE
ESPAILLAT
DAJABON
SANTIAGO RODRIGUEZ
SANTIAGO
SALCEDO
MARIA TRINIDAD SANCHEZ
LA VEGA
DUARTE
SAMANA
SAMANA
ELIAS PIÑA
SANCHEZ RAMIREZ
HATO MAYOR
BONAO
H2
H1 SAN JUÁN
MONSEÑOR NOUEL
MONTE PLATA
EL SEIBO
LA ALTAGRACIA
HIGUEY
AZUA
SAN CRISTOBAL
DISTRITO NACIONAL
SAN PEDRO DE MACORIS
CONSUELO
LA ROMANA
PUNTA CANA
BAHORUCO
LAGO ENRIQUILLO
AZUA
INDEPENDENCIA
PERAVIA
H3
H2
BARAHONA
PEDERNALES
ISLA BEATA
ISLA SAONA
BARAGUAYANA
PRECIPITACIONES: 171 mm
VIENTOS: 100-200 Km/h
AEROPUERTO PUNTA CANA
PRECIPITACIONES: 185 mm
VIENTOS: 80-190 Km/h
AEROPUERTO HERRERA
PRECIPITACIONES: 214 mm
VIENTOS: 130-180 Km/h
AEROPUERTO LAS AMÉRICAS
PRECIPITACIONES: NO DISPONIBLE
VIENTOS: 190-800 Km/h
SANTO DOMINGO
PRECIPITACIONES: 409.3 mm
VIENTOS: 170 Km/h (SOSTENIDOS)
VIENTOS: 200-220 Km/h (RÁFAGAS)
0 30 Km
ESCALA GRÁFICA

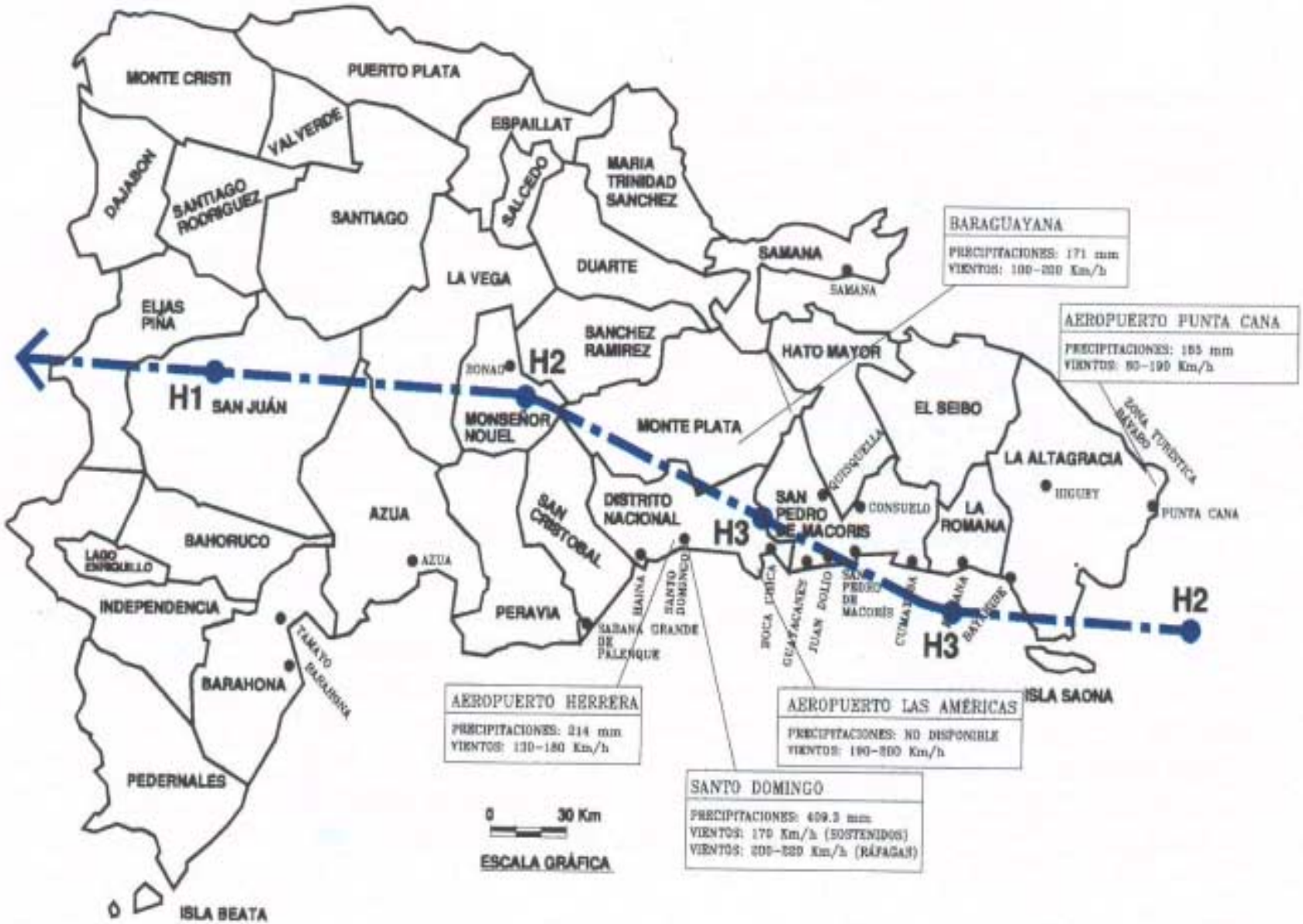
QUAKE

The quake analysis was based in different return periods and applied on the mayor faults under the island.

The last known quake in our island occurred in 1946 which means that each day the quake possibility grows.

According to the analysis our island has heavy quake exposure.

According to the portfolio analysis by EQE the PML for longer return periods can cause major damage just as a major storm.


MONTE CRISTI
PUERTO PLATA
VALVERDE
ESPAILLAT
DAJABON
SANTIAGO RODRIGUEZ
SANTIAGO
SALCEDO
MARIA TRINIDAD SANCHEZ
LA VEGA
DUARTE
SAMANA
SAMANA
ELIAS PIÑA
SANCHEZ RAMIREZ
HATO MAYOR
BONAO
H2
H1 SAN JUÁN
MONSEÑOR NOUEL
MONTE PLATA
EL SEIBO
LA ALTAGRACIA
HIGUEY
AZUA
SAN CRISTOBAL
DISTRITO NACIONAL
SAN PEDRO DE MACORIS
CONSUELO
LA ROMANA
PUNTA CANA
BAHORUCO
LAGO ENRIQUILLO
AZUA
INDEPENDENCIA
PERAVIA
H3
H2
BARAHONA
PEDERNALES
ISLA BEATA
ISLA SAONA
BARAGUAYANA
PRECIPITACIONES: 171 mm
VIENTOS: 100-200 Km/h
AEROPUERTO PUNTA CANA
PRECIPITACIONES: 185 mm
VIENTOS: 80-190 Km/h
AEROPUERTO HERRERA
PRECIPITACIONES: 214 mm
VIENTOS: 130-180 Km/h
AEROPUERTO LAS AMÉRICAS
PRECIPITACIONES: NO DISPONIBLE
VIENTOS: 190-800 Km/h
SANTO DOMINGO
PRECIPITACIONES: 409.3 mm
VIENTOS: 170 Km/h (SOSTENIDOS)
VIENTOS: 200-220 Km/h (RÁFAGAS)
0 30 Km
ESCALA GRÁFICA

MAJOR CONCLUSIONS

1 CAT analysis are positive to really comprehend the situation of a companies portfolio.

2 The lack of adequate necessary data required by analysis companies can affect the outcome of the conclusions.

3 The better data the more accurate the study, it helps a company decide how much protection a portfolio needs.

MAJOR CONCLUSIONS

4 Different CAT analysis companies have different results due to different criteria in analysis, therefore insurance companies have decision making in amount of protection to buy.

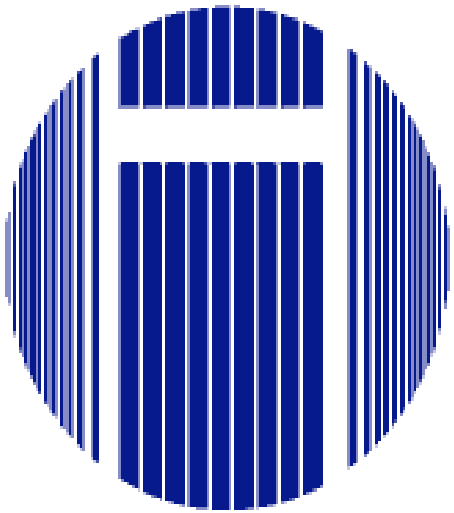
5 As an advise to other insurance companies it is better to think conservative, buy based on a higher PML and transfer cost to original rating.

MAJOR CONCLUSIONS

6 As a final thought, with the actual technology in the market and increasing availability of these services it is recommendable that insurance companies run this projections. This will help the insurance companies really understand their portfolios and it is also a great exercise for the people involved in underwriting statistics and finance.

It really helped us in the former company I worked for and we are going to contract this service in the actual company I work for.

All I have left to say is that I thank ICA /Guy Carpenter for inviting me as panelist for such an important event and that I am a very satisfied customer of this service it really works. Thanks



Intercontinental de Seguros

Su tranquilidad es nuestro compromiso.