

12th meeting of the *World Forum of Catastrophe Programmes* in Madrid

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1. Introduction: The *World Forum of Catastrophe Programmes* (WFCP)

The WFCP is a group of insurance systems that present interests in common (without having legal status or being legally registered) and which connects various insurance programmes for natural catastrophes that are being run in different countries across the world and involve some sort of public participation (such as public companies, private co-insurance or reinsurance pools, or some other type of format). All the programmes which freely wish to join the WFCP as members share in common the fact that the respective public administrations intervene in national insurance markets in some way to try to increase insurance cover against natural catastrophes, thus fostering the availability of cover and the affordability of insurance. In this respect, all the members of the WFCP are *Protection Gap Entities* (PGEs) in the insurance world, as per the definition coined by Professor Paula Jarzabkowski and her team, which they themselves explain in another article in this same issue of Consorsegueros magazine.

From 25 to 28 September 2018, the Consorcio de Compensación de Seguros (CCS) staged the 12th meeting of the *World Forum of Catastrophe Programmes* (WFCP) in Madrid.

The first meeting and starting point of the WFCP was held in San Francisco in April 2006 to coincide with activities to commemorate the first centenary of the famous earthquake which devastated the city. The number of members steadily increased and they found it immensely useful to have this forum open to them, where they could exchange their experiences of common problems that they face and mull over possible alternative ways to deal with them, which is why these meetings have been staged on an annual basis since then.

The WFCP's main virtue lies in the fact that it is an informal forum where participation is voluntary and attendees (normally CEOs and/or senior management at member organisations) can discuss matters which affect them in a relaxed and confidential atmosphere, such as claims handling, items of cover, solvency, co-existence and harmonisation

with the private market, regulatory aspects, experiences following impactful losses, prospective studies, etc.). In summary, this kind of fluid contact has worked in favour of strengthening ties between programmes that are similar and sometimes neighbours.

Current members of the WFCP are:

California Earthquake Authority, CEA (California, USA). Programme backed by the State of California and private management which provides earthquake insurance to residential properties and which is taken out as an optional extension of home-owner's insurance. The programme was set up after the Northridge earthquake of 1994, which placed California's insurance market under excessive strain. Start year: 1996.

Caribbean Catastrophe Risk Insurance Facility, CCRIF. This is a system that was set in train by the World Bank and other donors which provides parametric insurance through a private not-for-profit company (CCRIF SPC.) for 20 member states all within the Caribbean and Central America region. It currently covers hurricanes, earthquakes and heavy rainfalls. Parametric insurance is automatically triggered when certain thresholds are passed and compensation is paid out to the governments of the countries suffering losses, normally to provide emergency aid and under the previously arranged conditions. Established in 2007.

Caisse Centrale de Réassurance, CCR (France). The CCR is a public reinsurer which manages the French natural catastrophe insurance system (CatNat). The system is widely spread and has almost full penetration, while it covers a broad range of losses from uninsurable risks, such as flooding, earthquakes, volcanoes or landslides. Year of foundation of the CatNat system: 1982, with business origins that date from 1946.

Consorcio de Compensación de Seguros, CCS (Spain). With a background that goes back to 1941, the CCS manages a system covering "Extraordinary Risks" (natural catastrophes and terrorism) and such cover is mandatorily included in policies for property damage and personal injury issued by private insurers. Year of establishment of the current CCS: 1954.

Natural Catastrophe Insurance of Iceland, NTI (Iceland). Previously known as Iceland Catastrophe Insurance (ICI), NTI is a public enterprise that offers cover against earthquakes, volcanic eruptions, snow avalanches, landslides and floods. The insurance is mandatory for all buildings in the country and for most infrastructure. Private insurers sell the catastrophe policy of NTI (independent) and transfer the collected premiums to NTI. Year of creation of ICI: 1975.

Norsk Naturskadepool (Norway, Norwegian Natural Perils Pool). Pool which extends coverage of risks insured to loss such as flooding, storms, landslides, avalanches, earthquakes and volcanic eruptions. Year established: 1980.

Statens Naturskadefond (Norway, Norwegian National Fund for Natural Damage Assistance). This is a state fund that covers damage to uninsurable property. It is tied to the Ministry of Agriculture. How the Norwegian system works was described in detail in issue [number 2 of the magazine Consorsegueros Digital](#). Year of commencement in operation: 1961.

Earthquake Commission, EQC (New Zealand). State insurer that covers loss from earthquakes, tsunamis, landslides and hydrothermal activity affecting residential properties. The operation of the insurance extent is very similar to that of the Spanish system and was described in detail in issue [number 5 of the magazine Consorsegueros Digital](#). Year created: 1944.

Flood Re (UK). Recently created pool for reinsuring residences with a high risk of flooding in the UK. Private, although it has public funding via a levy on all insurance contracts for its start-up. It is intended to be a temporary instrument (25 years) until the market is fully able to provide affordable insurance to such properties, as was described in the [relevant article in edition number 8 of the magazine Consorsegueros Digital](#). Year established: 2016.

Pool-ul de Asigurare Impotriva Dezastrelor Naturale, PAID (Romania, Mandatory Natural Disaster Insurance Pool). Private pool that manages the Romanian natural disaster insurance system, which provides (mandatory) cover against earthquakes, landslides and flooding affecting residential properties. Year of commencement of activities: 2008.

Interkantonaler Rückversicherungsverband, IRV (Intercantonal Reinsurance Company, Switzerland). Not-for-profit company that reinsures Cantonal monopolies of mandatory Swiss catastrophe insurance (valid in all Cantons but seven). Although conditions vary among Cantons, the Cantonal monopolies generally cover flooding, storms, hail, landslides, avalanches rockfalls and earthquakes (subject to conditions). Year founded: 1910.

Taiwan Residential Earthquake Insurance Fund, TREIF (Taiwan). Organisation that manages the Pool for Residential Earthquake Insurance and Risk Transfer. TREIF is a not-for-profit organisation which reinsures all earthquake insurance taken out on the island. Year established: 2001.

Programmes from Japan, Turkey and Thailand have also taken part at various WFCP conferences, as well as representatives from public insurance agencies from Philippines and Indonesia and several international bodies (World Bank, OECD, Insurance Europe, etc.).

2. Evolution and history of the WFCP

The initiative to create the WFCP arose from previous contacts among various national programmes for insuring natural catastrophes, although here we should perhaps make special mention of three key figures: Asgeir Asgeirsson of Iceland Catastrophe Insurance (ICI), David Middleton of the New Zealand Earthquake Commission (EQC) and Daniel Marshall of the California Earthquake Authority (CEA), who coordinated among themselves to organise the WFCP's founding meeting. Indeed, inspired by the centenary of the 1906 San Francisco earthquake and in the context of the Commemorative Conference for the centenary, on 20 April 2006 the first official WFCP meeting took place in San Francisco, which was attended by the abovementioned ICI, EQC and CEA, as well as the *Consortio de Compensación de Seguros* (CCS), the *Caisse Centrale de Réassurance* (CCR) from France, and the *Norsk Naturskadepool* from Norway. Also in attendance at this first meeting was a delegation from the Hawaii Hurricane Relief Fund (HHRF).



Right from the start, the informal nature of the meeting became clear, as did its suitability for discussing matters such as the coverage in each system, the procedures for loss-adjustment and paying out against claims, cooperation with the private sector and each system's ability to foment mitigation measures in relation to natural catastrophes. In no case are decisions taken that represent intrusion into the programmes of member countries or interfere with the rules of free competition. Action as a lobby is evidently excluded from the purpose of the WFCP.

It was decided to hold the meetings annually and so the *Consortio de Compensación de Seguros* hosted the second meeting of the WFCP, which took place in Madrid on 17 September 2007. Besides representatives of the bodies mentioned above, this meeting was attended by senior management from the Caribbean Catastrophe Risk Insurance Facility (CCRIF), the Norwegian National Fund for Natural Damage Assistance, the Swiss Cantonal Reinsurance Confederation, the Taiwan Residential Earthquake Program (TREIF) and the Turkish Catastrophe Insurance Pool (TCIP), which was undergoing its establishment phase at the time. At the meeting the CCS presented the work that it was undertaking to publish a comparative analysis of systems for insuring natural catastrophes with public involvement. Issues were also broached with respect to the mandatory nature of coverage or the relevance of flat rates or those in keeping with the level of risk. It was also at this meeting when the project for a website for the WFCP was presented and its scope, as well as setting up contact with other institutions, such as the OECD, for monitoring purposes and making studies into how the insurance industry handles natural catastrophes. The CCS volunteered to host and design the WFCP website.

The third WFCP meeting took place in Hveragerði, Iceland on 25 and 26 June 2008. Representatives came to it from Japan Earthquake Reinsurance (JER) and Romania, as well as delegations from the OECD and the World Bank. At the meeting, the CCS publication "Natural Catastrophes Insurance cover: A diversity of systems"¹ was presented in both its Spanish and English versions. Likewise, a prototype of the website which the CCS dedicated to the WFCP was presented. There was a specific point of discussion on risk transfer mechanisms and other matters were debated, such as the possibility of exchanging information generated by catastrophe models among members or comparing rating systems.

It could be stated that the fourth WFCP meeting in Taipei (Taiwan) from 28 to 30 September 2009 was when the Forum really came of age. Representatives of the insurance public sector from Indonesia and Philippines were also invited, as well as the Australian Reinsurance Pool Corporation (ARPC). Given that, besides natural risks, some member systems such as the CCS also cover political and social risks, establishing links with other systems that cover terrorism, which is the case of the ARPC, was a logical option, given that these systems face problems that are very similar to those in natural catastrophe insurance. Other initiatives were presented at the meeting, such as the Global Earthquake Model (GEM) backed by the OECD. Once again, the meeting gave members the opportunity to swap notes on experiences in facing up to new challenges or guidance on the reforms that systems need. Consideration was also given to the question of whether to make premiums a risk indicator or not and relating this to the philosophy of the various different systems: principles such as those of mutualisation, prevention, adverse selection and boosting penetration via the various mechanisms for weighing up whether or not it is a good idea to make catastrophe insurance mandatory. Other issues came up, such as the possibility of extending the terms of reinsurance contracts to over one year so as to be in a better position to manage catastrophic risks.

On 12 and 13 October 2010 Bucharest (Romania) hosted the Forum's fifth meeting. On this occasion the guests at the meeting were the European Insurance Committee (the predecessor of Insurance Europe), GAREAT (management of the insurance and reinsurance of the risks of attacks and acts of terrorism in France) and the UK's Smith School of Enterprise and the Environment. Of particular interest among the presentations by members was that from Iceland, which that very year had suffered the eruption of the Eyjafjallajökull volcano, which, although it only caused insured losses in the country to the value of 2.3 million dollars, caused estimated losses to the air transport industry of 1.7 billion

(1) Consorcio de Compensación de Seguros (2008); Natural Catastrophes Insurance Cover. A Diversity of Systems (https://www.consorseguros.es/web/documents/10184/48069/CCS_Natural_Catastrophes_Insurance_Cover.pdf/d7cf67cc-9591-476b-87d9-728e6a57ca60).

dollars on account of the closure of the airspace in a considerable part of Europe over several days. There was a change of Chair of the World Forum at this meeting, which had been occupied since its foundation by David Middleton of the EQC, this passing to Ignacio Machetti, the then General Manager of the CCS. Likewise, at the meeting, Romania, which had up until then been an observer at the WFCP, became a member of the Forum.

The sixth WFCP meeting was organised by the CCRIF in Montego Bay (Jamaica) from 24 to 27 October 2011. This meeting included a specific session on the large-scale catastrophes that had happened in the intervening period between meetings: the major earthquake and tsunami in eastern Japan, the sequence of earthquakes in Christchurch in New Zealand, and the earthquake in Haiti. There was likewise another special session on experiences and lessons learned in the Caribbean and another on new initiatives, mainly those relating to solutions to handle climate risks or launching catastrophe bonds. Analysis of the progress of other previous issues, such as the Global Earthquake Model, continued. Over this time joint work on systems of terrorism cover had been kept up, so this matter was also brought up at the meeting, with presentations by the CCS and GAREAT on a comparison of systems. The CCS also presented the case of the Lorca earthquake, which had taken place just a few months earlier and represented a major challenge for the institution. Finally, a steering committee for the WFCP was set up at this meeting, with a president and two vice-presidents. The president will be the organiser of the annual meeting and the vice-presidents will be the organisers of the previous and the next meetings. This will be a functional committee without any form of executive powers.

The seventh meeting took place in Spiez (Switzerland) from 24 to 27 September 2012. At this there was again lengthy discussion of matters such as the chain of earthquakes in Christchurch and the functioning of the EQC after such a stern test of the system from all points of view (performance of previous models, exchange of information with reinsurers, adjusting and claims handling, managing the expectations of those affected, etc.). Here issues also began to be debated concerning terrorism insurance platforms with the participation of the OECD, which would come to fruition years later with the creation of the International Forum for Terrorism Risk (Re)Insurance Pools (IFTRIP), now separated from the WFCP. Similarly, the Turkish representatives presented on the process of the development and founding of the TCIP (Turkish Catastrophe Insurance Pool), more or less simultaneously with the WFCP itself. In this case, as with the Romanian example, the attendance of the WFCP itself at the meetings provided valuable experiences for starting up the system. The meeting was also attended by other guest countries, such as Bulgaria or Italy, who explained the mechanisms for managing catastrophe risks in their jurisdictions from the insurance standpoint.

The Norwegian Natural Perils Pool (*Norsk Naturskadepool*) and the Norwegian National Fund for Natural Damage Assistance (*Statens Naturskadefond*) hosted the WFCP's eighth meeting in Ålesund (Norway) from 17 to 19 September 2013. Members presented their latest developments in risk geolocation and modelling, policyholder service and providing services for the industry, and there was a review of more recent loss event experiences, particularly the earthquakes in Japan and New Zealand. There was a presentation on Thailand's National Catastrophe Insurance Fund programme following the catastrophic flooding of 2011 which brought about serious losses for both the country and world industry. There was also a presentation of the Danish catastrophe damage compensation system.

Christchurch (New Zealand) was the venue where the EQC staged the ninth meeting of the WFCP from 22 to 26 September 2014, which provided a unique opportunity for members (representatives attended from California, Spain, France, Japan, Norway, Switzerland, Thailand, Taiwan, Turkey and New Zealand) to see for themselves the efforts to recover from the chain of earthquakes in 2010-11 *in situ* and to hear the experiences of everybody involved first hand (insurers, risk managers, associations for those affected, civil protection, reconstruction work, the council...). At the meeting it was finally decided to limit the scope of the WFCP to natural catastrophes and to suggest the setting up of a separate forum for terrorism insurance systems.

The tenth meeting took place from 22 to 25 September 2015 in Paris (France). There was a new attendee at the meeting: Flood Re, the new British reinsurer for properties in zones at flooding risk, which had even asked to join the WFCP before commencing activities. Likewise, a description was given of African Risk Capacity (ARC), which is a pan-African catastrophe insurance system that was created by modelling itself on the CCRIF in the Caribbean. Among the members' presentations, the rethinking of the Swiss system was introduced, integrating the Cantonal Reinsurance

Confederation with the earthquake insurance pool inside a larger structure that reinforces the triple role of mandatory Swiss catastrophe insurance: insurance, prevention and intervention (training of fire brigades for example). By the same token, the CCRIF outlined its project of expanding towards Central America. The host of the meeting, France's CCR, gave an interesting sequence of presentations on its work on modelling the risks it covers, as well as tools adapted to predicting the impact of hydro-meteorological phenomena locally or for swift loss-adjusting. The meeting was complemented with a technical visit to the flood emergency management system of the Louvre gallery, which was to be put to the test only one year later. At the meeting it was also proposed that the WFCP's website needed to be updated.

There were subsequently hard times overall for the WFCP. Meetings were due to be held in Turkey in 2016 and in Thailand in 2017. Nonetheless, political instability and security problems in the Eurasian country meant it was impossible to hold the 2016 meeting. On top of this, the Thai public flood insurance programme was stopped by the very state which had set it up five years earlier, so the WFCP lost both a member and the chance to stage the 2017 meeting in Thailand. The other members responded though and, given the fluid relations achieved among them, they managed to come together at a new conference in Taiwan, which represented the re-emergence of the Forum and the relaunch of activities following a fraught and delicate situation.

The eleventh Forum meeting thus took place from 26 to 28 September 2017 in Taipei (Taiwan). There was no doubt that its chief merit was restoring contact among members, who at all times upheld the usefulness of keeping open this forum for dialogue and mutual enlightenment. The TREIF management team deserves special recognition for making themselves available, and their swiftness and effort in organising this meeting. It was joined by the UK's Flood Re as a full member of the WFCP, who presented a round-up of its first year in operation for those in attendance. The CEA described its reinsurance system and other members, such as Norway, presented on legislative news, or organisational innovations, such as developments in the reorganisation of the Swiss system that had been previously introduced in Paris.

Thusfar the WFCP had functioned through rules based on tradition and the decisions that had been taken at each meeting. Yet, from the 2016 "crisis" onwards the idea was put forward that it would be a good idea to draft a set of basic rules on how it should function in writing, so in Taipei it was decided that members should draw up a Memorandum of Understanding (MoU) to set such rules in stone. In Taipei the CCS also took on the responsibility for organising the following meeting in Madrid in 2018, for which reason the CCS took up the presidency of the Forum at the end of the Taiwan meeting.

3. 12th meeting of the WFCP

Over the period during which the CCS held the presidency of the WFCP it set out to make the most of the new momentum given to the Forum after the Taiwan meeting and consolidate it. To this end certain new measures were taken with the consensus of all the members. Firstly, a committee was set up to draft the MoU on which all of the members sat and which was headed up by Daniel Marshall of the CEA. Meetings were held via videoconference between those that required physical attendance to discuss this and other matters, such as the project (also assumed by the CCS) to update the website available to the forum and give it a full makeover.

3.1. Attendees

So, on 25 September 2018 a welcome reception was given for those attending the twelfth WFCP meeting, in Madrid. Top-ranking representatives attended this from the California Earthquake Authority (CEA); the *Caisse Centrale de Réassurance* (CCR); the Caribbean Catastrophe Risk Insurance Facility (CCRIF); the Natural Catastrophe Insurance of Iceland (NTI); the *Norsk Naturskadepool* and the *Statens Naturskadefond* from Norway; Switzerland's *Interkantonalen Rückversicherungsverband* (IRV); Flood Re from the UK; Romania's *Pool-ul de Asigurare Impotriva Dezastrelor Naturale* (PAID); and the Taiwan Residential Earthquake Insurance Fund (TREIF), besides the *Consorcio de Compensación de Seguros* (CCS).



3.2. Opening

The meeting was officially opened on the 26th by the General Manager of Insurance and Pension Funds and President of the CCS, Sergio Álvarez Camiña, who stressed the high strategic value of the World Forum for the CCS and in his opinion, for all members, as a basic tool for sharing experiences, learning from each other and establishing stronger synergies and partnership efforts.

The inaugural speech was given by Professor Paula Jarzabkowski of the Cass Business School, whose study on protection gap entities in catastrophe insurance set a framework of common interest for debate. Many members of the WFCP have taken part in this study and its content and conclusions were considered significant for all those in attendance, both those who have participated in the study and the rest, by providing a concise overview of the situation on this subject and thus facilitating comparison and the exchange of opinions. The content of her speech is perfectly set out by the professor and her partners in a separate article in this issue of Conorseguros Digital.

3.3. Member's presentations

Subsequently presentations were given by each of the members, where these had the feature in common of leaving points open to debate to encourage discussion and inspire interventions by the others. Certain points can be highlighted from among their presentations, which are always interesting: the CEA presented its funding structure and the boosting of its capacity as a result of recent legislative changes, as well as the potential “knock-on effect” on taking out earthquake insurance (which is not mandatory in California) which other high-impact catastrophes might have had, such as hurricanes, tornadoes and floods that have affected the United States in the past few years. Mention was also made of its retrofitting programme of structural reinforcement of properties, which also implies a fall in insurance premiums.

France's CCR presented on managing recent very high impact loss events, stressing from among these the incident in September 2017 when hurricane Irma hit the French Caribbean islands of St. Barts and Saint Martin, which brought about insured losses valued at 2 billion euros, of which the CCR bore over 80%. The CCR also presented the findings from its latest modelling according to the representative concentration pathway (RCP) of 8.5 (which refers to the worst case, though surely most realistic, scenario for developments as regards greenhouse gas emissions over this century). Previously, partly as a contribution to COP21, the CCR had carried out modelling according to the representative concentration pathway (RCP) of 4.5, which was explained by the authors of this in [another issue of this magazine](#). The modelling of expected loss according to this new scenario means a 50% worsening over the previous results.

CCRIF presented its new 2018-2021 strategy plan, which implies an increase in the scale of its activities which is ultimately intended to lend support to the Caribbean Community's goal of becoming the world's first climate-resilient region. Current members of CCRIF number 20, including three new members in the Caribbean (the British Virgin Islands, Montserrat and Saint Martin — Dutch part) and one in Central America (Nicaragua). The plan is to continue the programme's expansion among the countries in the Central American isthmus. CCRIF is also working on developing an agricultural insurance programme (specifically for drought) which, in this case, would not be directed at sovereign governments, as in the case of current parametric catastrophe insurance, but instead at individuals. This represents a significant turnaround in the orientation of this programme.

The Icelandic NTI explained the legislative changes that have affected it since July 2018, which range from the change of name for the institution to the fact that paying out compensation should be done ex post in relation to the repairs carried out by the owner after a loss event. Change also meant a decrease in deductibles for insured parties, although the minimum loss thresholds for claiming compensation were raised. These changes are expected to have a substantial impact on both the cost of compensation and the number of claims for this mandatory insurance for all buildings in the country.

The delegation from the Norwegian systems made a presentation in which, more than anything, they pointed out the high store they set on having belonged to the WFCP and attending its meetings. They have learned from other members and been able to implement aspects which have been built into the latest applicable legislation of 2017, as well as others such as process control systems. They also explained that the drought last summer (2018) in Norway, which was completely exceptional and unusual, brought with it a huge volume of claims and losses for the Norwegian National Fund for Natural Damage Assistance, which meant they had to make changes to their management methods and resources.

Romania's PAID explained the key characteristics of the extent of their losses and the financial arrangements they have in place to cater for them, as well as the optimisation process in progress for their reinsurance programme to make retention associated with it more flexible and to maximise protection. Among its top priorities is still to increase penetration and raise awareness of risk, for which purpose they are spending time and funds on seminars across the whole country.

The crux of the presentation by the CCS was the rate reduction for extraordinary risks, its actuarial justification and the expected impact on the growth rate of the equalisation reserve. This change of rate was explained in an [article in the last edition of Consorsegueros Digital](#). Also presented was the global structure of those exposed to the risk of the CCS, developments in it of late, and the breakdown of claims incurred.

The Swiss representative presented the new corporate structure of its public catastrophe insurance, now included under the acronym of APIRE (Association of Public Insurance Companies for Real Estate), which encompasses both the IRV and the SPE earthquake insurance pool. This new structure continues to conserve the key trait of the mandatory and monopolistic Swiss insurance system in terms of its triple role of risk prevention, minimising losses (intervention) and paying out compensation (insurance). Still being debated is the earthquake insurance system, which is not currently linked to any policy but is instead based on a compensation fund which the insurers contribute to. The results of the project to map the risk of rain flooding for Switzerland were also presented, which features extremely precise modelling of zones with rainfall run-off and potential impacts.

TREIF presented on the consequences and management of the earthquake in Hualien (Taiwan), which happened on 6 February 2018. TREIF's first emergency response was delivered a mere 30 minutes after the earthquake struck and the first pay-outs for subsistence expenses were made just 14 hours afterwards, with the first pay-out for building damage coming on 8 February. Overall, losses assured and compensated by TREIF amounted to a little over 3 million dollars. TREIF is still working on fraud prevention by, for example, excluding illegal buildings from the system and reviewing the processes for taking out policies and performing loss adjustment. TREIF has embarked on a risk awareness programme which involves councils and schools across the entire island and also makes mass use of social networks.

Flood Re presented an assessment of its first two years of activity, which have coincided with an unusually calm period in terms of the number and extent of floods in the UK. This has allowed it to meet financial solvency targets much earlier than expected and facilitated consolidation of the system, which has already meant widening access to flood insurance and making it considerably cheaper for residential owners in floodable zones. Flood Re is now working on a transition plan, which should result in the creation of a sustainable market of affordable and readily available flood insurance for properties at risk. The presentation fuelled debate over the role of insurance in “building back better” and the opportunities of compensation not being used just to indemnify damage but also to enhance the resilience of the affected properties. There is a high probability that how members approach this issue will be a subject of interest at future meetings of the WFCP.



3.4. Approval of the MoU and new webpage

At this twelfth meeting of the Forum the WFCP's MoU was also unanimously approved. These rules on how it should be conducted define the Forum in black and white as an informal framework for cooperation where membership is free and open to all organisations concerned with managing natural risks in their respective jurisdictions, whether they are public or act on behalf of the public administration, and which offer insurance or reinsurance cover for such disasters, be they caused by a single risk (an earthquake for example) or a variety of those occurring naturally. Clarification is given in the MoU on how to participate, what the annual meetings are for, using the website and the way in which the presidency, role of secretary and vice-presidencies are assigned for the forum.

The members were also given a presentation on the prototype for the new website which the CCS has been working on over the past months. There is now an open period for members to contribute content in the run-up to the launch of the website, which is scheduled to take place in the coming months.

3.5. Scientific lectures and visits

The meeting was rounded off with a series of scientific talks and visits. Miguel Llorente of the Spanish Geological Survey (IGME) gave a talk on the need to estimate tsunami risk and the methodology for achieving this. This talk has resulted in another article in this edition of the magazine. Afterwards Roland Aznar of the state-owned enterprise *Puertos del Estado* (Ports of Spain) presented on a subject that had been proposed by members: the methodological complications in estimating the rise in the sea level caused by climate change. After referring to the activities of *Puertos del Estado* in the area of operational oceanography and climate modelling, his presentation gradually went into detail on the regionalisation of global models and the techniques for doing this. This point is of special interest in estimating the expected rise in average water levels arising from global warming in a virtually enclosed sea such as the Mediterranean. Here there are factors, such as the water that enters from the Atlantic through the Strait of Gibraltar, which play a highly significant role. In the particular case of this incoming water, it serves to offset excess evaporation in the Mediterranean

basin. Obviously, with respect to the Mediterranean Sea, a key role is also played by the steric element of the rise in the sea level, which is basically the change in volume brought about by the change in density, which is in turn mainly caused by thermal expansion of the liquid mass, and the eustatic component, meaning the increase in the water mass arising from glacial melting. Though of less importance, it could be that the atmospheric aspect, which consists of the effects of atmospheric pressure and the wind, plays a significant role in the Mediterranean Sea, given that expansion of the Saharan high-pressure zone more towards the north might cause a lowering of the sea level which partly counteracts the expected rise. On account of all this, the uncertainties associated with each one of these processes, and the ways of resolving them so as to be in a position to model them and thereby obtain forecasts, made his presentation of the greatest interest to those in attendance.

The meeting ended with a visit to the Centre for Hydrographic Studies at CEDEX, the Centre for Studies and Experimentation of Public Works. Besides receiving first-hand information on activities involving modelling for river overflows and demarcating floodable zones, which is also explained in an article in this edition of the magazine by those working on this, attendees had the chance to visit the laboratory of the Centre for Hydrographic Studies, which is a virtually unique facility with very few counterparts worldwide. There, physical models of hydraulic works and their environmental impact are made, which are also useful for validating the results from the numerical models.

3.6. Appraisal of the 12th meeting and next conference

To sum up, this twelfth WFCP meeting marked a major milestone in the history of the forum, having lent weight to the strong points of this channel for cooperation for catastrophe insurance systems with a philosophy and aims in common, while having once again prepared the ground for an exchange of information in a relaxed working atmosphere in a great spirit of cooperation. As from the conclusion of the conference, Natural Catastrophe Insurance of Iceland holds the presidency of the WFCP and is in charge of organising the forum's thirteenth meeting there.

We would not like to bring this article to an end without giving thanks to all of our colleagues at the CCS who have helped out in organising and running this meeting for their efforts, which have been vital to making a success of it, as well as to all the outside participants for making themselves available, as their superb presentations have substantially enriched the conference, and to all the members of the forum for their great involvement and commitment to this project.

4. In conclusion

The WFCP brings together, and is open to, programmes covering natural catastrophes from the world over involving some form of public participation. Two main observations can be highlighted from comparative study of them: on the one hand, the diverse nature of their systems and, on the other hand, the problems and challenges they face in common.

The diversity is attributable to the particular traits and wide-ranging assortment of situations which the various different countries present in key areas: risks to which they are vulnerable, the vulnerability level, economic development, the political and social structure, awareness of risks, insurance culture, how developed the insurance market is, etc. And evidently such diversity relates to the differences that can be observed in the programmes as regards virtually all of the elements that cover comprises. To name but a few: the difference in the participation of the private market and layers of the public sector; whether cover is mandatory or not; the natural risks covered; the types of damage that are compensable (to property and/or to one's person); the category of property to be protected (residential properties and/or commercial outlets and/or industrial premises, etc.); the setting of premiums (flat rate or adjusted rate according to risk); limits to compensation; whether or not a state guarantee is involved; whether an official declaration of a catastrophe is required; the possibility or not of setting up equalisation reserves, etc.

In conjunction with this, there are challenges in common in a large number of spheres, which the programmes obviously face up to in the context of their particular circumstances as mentioned, and which concern financial security and solvency (and instruments adapted for such purposes), managing claims incurred, damage mitigation (with the substantial impact of numerical models), cover penetration (whether types of cover are mandatory or not and price affordability), climate change, etc.

With regard to such diversity, the WFCP offers the programmes of members who have freely joined it a framework of relations (unfettered by formal structures and group action strategies) within which they can exchange experiences and ideas in the face of present and future challenges, and which implies managing viable and sustainable catastrophe cover programmes to serve the communities of human beings for which they were conceived.