Comparison between the October 2024 Valencia Floods and the Main Flood Events in the Time Series for the Period 1971 to 2024

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Introduction

This article compares the main figures for the flooding caused by the cut-off low (DANA[1]) in Valencia in October 2024 to those for the other major floods of the historical data series of Consorcio de Compensación de Seguros (CCS) in the coverage of extraordinary risks.

The criteria used to determine the figures for the number of claims and the economic amounts of compensation shown in this article — both for the 2024 Valencia flood and for other flooding events — ensure that the different events are comparable with one another and that the information is useful for decision-making and efficient risk management.

The data in this article may differ from other analyses of the 2024 Valencia Floods carried out by CCS, which, pursuing different objectives, adopt other approaches.

The October 2024 Valencia Floods are special and differ from the other floods covered by CCS over its lifetime. Their losses are unprecedented in terms of both the number of claims and the compensations paid.

Specifically, for the purposes of this article, regarding the number of claims, only those that have resulted in payment or in provisions for losses pending settlement or payment are taken into account, excluding those that have been rejected or cancelled; and, as for compensation, the amounts recorded include payments made and provisions pending settlement and payment, updated to constant euros as at 31/12/2024.

It is intended to highlight the similarities and differences between the recent floods and earlier ones in terms of vulnerability and certain management parameters.

The 10 largest Floods in the time series for the period 1971-2023 compared to the October 2024 Valencia Floods

We have selected the largest flood events in the historical time series for the past 54 years based on the data published in "Statistics. Extraordinary Risks. Data Series for 1971-2024", available on the CCS website.

[1] DANA" is a Spanish acronym for "Depresión Aislada en Niveles Altos", meaning cut-off low.

The 10 largest flood events in the CCS's available data series are set out below in chronological order, leaving the 2024 Valencia Floods aside for later consideration:

Amounts in euros as of 31 December 2024

Order No.	YEAR of occurence	MONTH of occurence	Place of occurence	No. of Claims	COMPENSATIONS	MEAN COST
1st	1982	October	Valencia Region	9,136	270,742,531	29,635
2nd	1983	August	Basque Country	25,664	1,004,654,201	39,146
3rd	1987	November	Valencia Region	18,800	354,558,254	18,859
4th	1989	November	Andalusia and Valencia Region	7,548	198,410,515	26,287
5th	1997	June	Basque Country	5,701	135,480,529	23,764
6th	2000	October	Valencia Region and Murcia Region	8,939	123,556,509	13,822
7th	2007	October	Valencia Region	10,790	116,938,110	10,838
8th	2012	September	SE Mainland Spain	25,650	268,054,435	10,450
9th	2019	September	SE Mainland Spain	56,510	536,059,462	9,486
10th	2023	September	Toledo Province and Madrid Region	20,234	175,996,613	8,698
	TOTAL			**188,972**	**3,184,451,160**	**16,851**

Table 1.

To interpret the data properly, the following should be taken into account:

- The number of claims is the number of claims recorded net of claims cancelled and rejected.
- The compensations are the total sums paid out and set aside as provisions pending settlement and payment.
- Losses include the three types of losses covered by the CCS: property damage, business interruption, and personal injuries.
- The coverage offered has not been uniform over the entire data series considered. Specifically, the differences for floods are:

  i. Until 1987 indemnities included direct losses produced by rainfall, which were excluded following the approval of the first Extraordinary Risks Regulation under Spanish Royal Decree 2022/1986, of 29 August, which entered into force on 1 January 1987. Therefore, the losses for the first two events selected include coverage of rain damage.

  ii. Coverage of business interruption was added to the CCS's system of extraordinary risk covers on 25 February 2004, the date of entry into force of the second Extraordinary Risks Regulation enacted by Spanish Royal Decree 300/2004, of 20 February. Therefore, this cover is included in the last four events but not in the earlier events.

  iii. Coverage through the life insurance line (exclusively or primarily death) was added by the Spanish Royal Decree 1265/2006, of 8 de November and is included in the last four flood events considered.

  iv. The deductibles applied by CCS have also varied over the time period considered. Information on changes in the deductibles is available in issue 18 of CCS's Digital Magazine.

v. Final Provision Three in the Spanish Insurer and Reinsurer Management, Supervision, and Solvency Act [Royal Decree 1060/2015, of 20 November added a compulsory surcharge for the motor third-party liability insurance line, impacting the last two events.

These differences in coverage should be noted but do not detract from the validity of the comparison of the different flood events either among themselves or with the October 2024 Valencia Floods. Furthermore, as stated in the tables, all values have been updated, that is, expressed in current euros as of 31 December 2024.

The events listed in Table 1 have been ranked in order of total indemnities below:

Amounts in euros as of 31 December 2024

Order No.	YEAR of occurence	MONTH of occurence	Place of occurence	No. of Claims	COMPENSATIONS	MEAN COST
1st	1983	August	Basque Country	25,664	1,004,654,201	39,146
2nd	2019	September	SE Mainland Spain	56,510	536,059,462	9,486
3rd	1987	November	Valencia Region	18,800	354,558,254	18,859
4th	1982	October	Valencia Region	9,136	270,742,531	29,635
5th	2012	September	SE Mainland Spain	25,650	268,054,435	10,450
6th	1989	November	Andalusia and Valencia Region	7,548	198,410,515	26,287
7th	2023	September	Toledo and Madrid Region	20,234	175,996,613	8,698
8th	1997	June	Basque Country	5,701	135,480,529	23,764
9th	2000	October	Valencia Region and Murcia Region	8,939	123,556,509	13,822
10th	2007	October	Valencia Region	10,790	116,938,110	10,838
	TOTAL			**188,972**	**3,184,451,160**	**16,851**

Table 2.

The data for the floods in question using the same criteria as above are:

Amounts in euros as of 31 December 2024

Order No.	YEAR of occurence	MONTH of occurence	Place of occurence	No. of Claims	COMPENSATIONS	MEAN COST
11th	**2024**	**October**	**Valencia Region**	**209,470**	**4,964,113,446**	**23,689**

Table 3.

Based on this information it can be noted that:

a. Comparing the most costly event in Table 2 (the 1983 flood in the Basque Country) with the 2024 Valencia Floods, the compensations paid out for the latter were 394% higher. This evidences the economic efforts CCS has had to make to cover the 2024 floods and the destructive power of the event.

b. Comparing the flood event with the most claims in Table 2 (the flood in southeast Mainland Spain of 2019), with the 2024 Valencia Floods, the total claims filed for the latter were 271% higher. This evidences the enormous claim handling work CCS has had to put in to cover this flood.

c. Comparing the number of claims and compensations paid out for all 10 floods in Table 2, with the 2024 Valencia Floods, the number of claims filed for the latter was 11% higher and the total compensations paid out were 56% higher than all 10 combined. This evidences the scale of the 2024 floods.

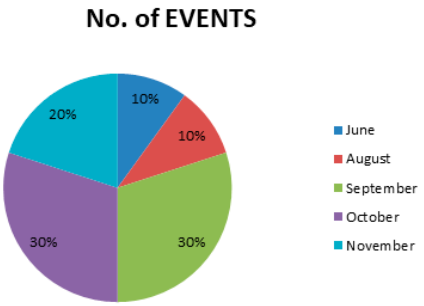
d. Looking at the mean costs, that of the Valencia Floods (23,698 euros) was higher than the average for the 10 floods in Table 2 (16,851 euros) but was lower than for 4 of the earliest floods (the 1982 Valencia Region flood, the 1983 Basque Country flood; the 1989 flood in Andalusia and Valencia Region, and the 1997 Basque Country flood).

e. Geographically, seven of the ten events selected involved the Valencia Region. The "Statistics. Extraordinary Risks. Data Series for 1971-2024" has published a spread sheet with the geographical breakdown of the 2024 Valencia Floods by post code, available on the CCS website.

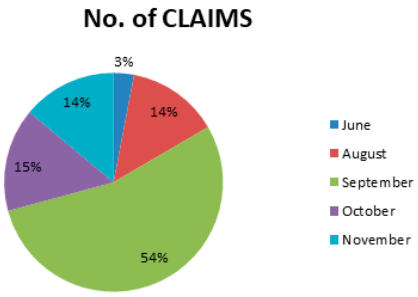
f. The month of occurrence in 80% of these events was September, October, or November, and those events accounted for 83% of claims and 64% of compensations paid. The highest mean cost was for the 1983 Basque Country flood that took place in August.

MONTH	No. of EVENTS	No. of CLAIMS	COMPENSATIONS	MEAN COST
June	1	5,701	135,480,529	23,764
August	1	25,664	1,004,654,201	39,146
September	3	102,394	980,110,510	9,572
October	3	28,865	511,237,150	17,711
November	2	26,348	552,968,769	20,987
	10	188,972	3,184,451,160	16,851

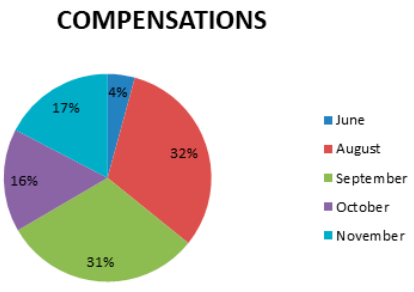
Table 4.



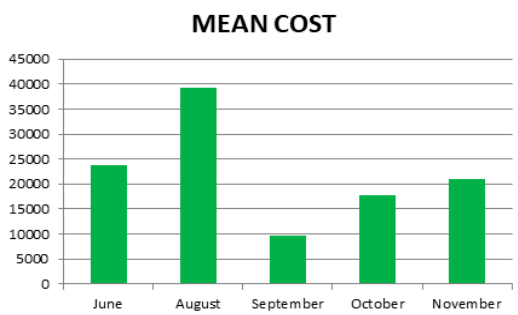
Graph 1.



Graph 2.



Graph 3.



Graph 4.

The number of claims and the total compensations for events that have taken place in October will climb sharply when the 2024 Valencia Floods are added.

MONTH	No. of EVENTS	No. of CLAIMS	COMPENSATIONS	MEAN COST
June	1	5,701	135,480,529	23,764
August	1	25,664	1,004,654,201	39,146
September	3	102,394	980,110,510	9,572
October	4	238,335	5,475,350,596	22,973
November	2	26,348	552,968,769	20,987
	11	398,442	3,184,451,160	16,851

Table 5.

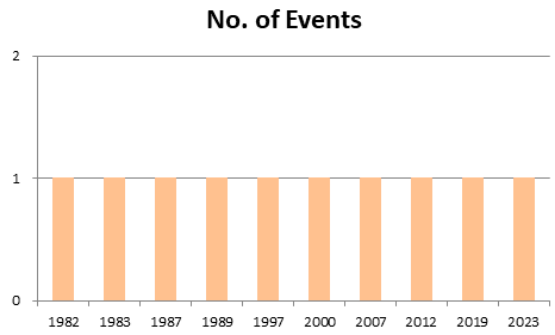
g. To analyse annual occurrence the data for the 10 events have been grouped by 10-year periods, and this appears to show that following a decrease in the number of claims and total compensations in 1990-1999 and 2000-2009, losses have risen starting in 2010. The rise for the number of claims was steeper than for total compensations, since the mean cost has clearly followed a downward trend.

This uptick can be expected to be still higher when the data for the 2024 Valencia Floods have been added and depending on what happens in the remaining years of the 10-year period for 2020-2029.

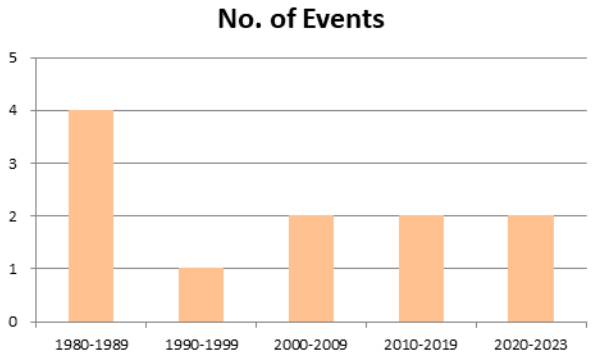
DECADE	No. of EVENTS	No. of CLAIMS	COMPENSATIONS	MEAN COST
1980-1989	4	61,148	1,828,365,501	29,901
1990-1999	1	5,701	135,480,529	23,764
2000-2009	2	19,729	240,494,619	12,190
2010-2019	2	82,160	804,113,898	9,787
2020-2023	1	20,234	175,996,613	8,698
	10	188,972	3,184,451,160	16,851

Table 6.

No single year in the time series of events considered has had more than one major flood, but there have been 10-year periods with up to four of the most severe events:

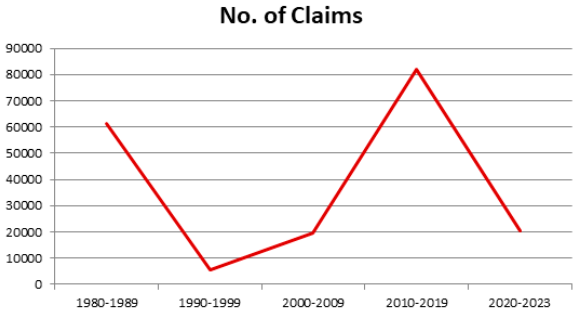


Graph 5.

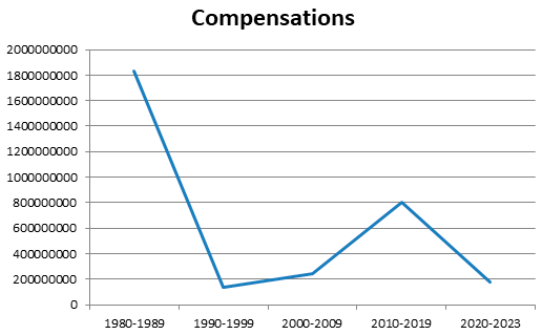


Graph 6.

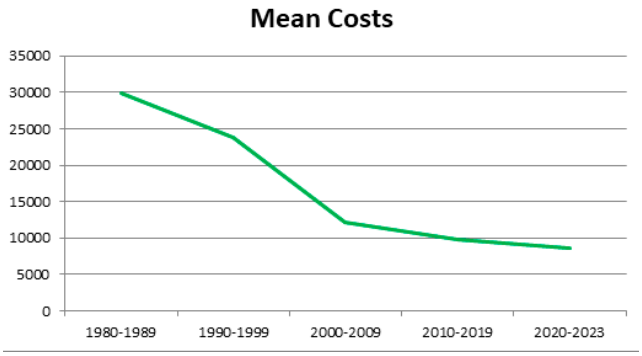
The main data have been plotted graphically by 10-year period below:



Graph 7.



Graph 8.



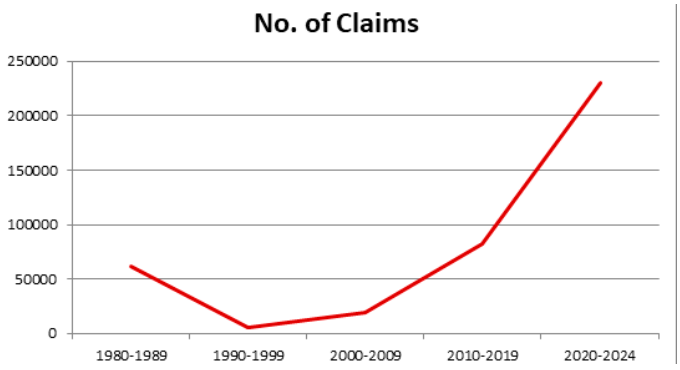
Graph 9.

Adding the data for the 2024 Valencia Floods yields the following values for the time series:

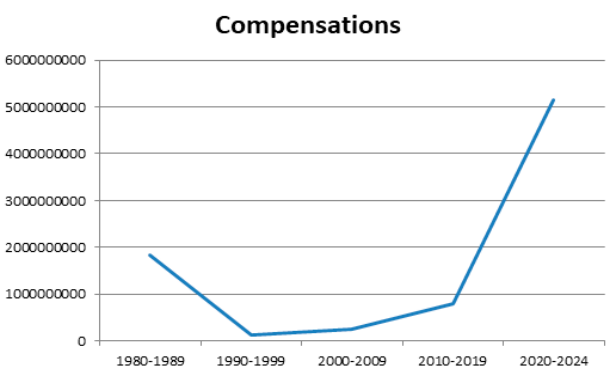
DECADE	No. of EVENTS	No. of CLAIMS	COMPENSATIONS	MEAN COST
1980-1989	4	61,148	1,828,365,501	29,901
1990-1999	1	5,701	135,480,529	23,764
2000-2009	2	19,729	240,494,619	12,190
2010-2019	2	82,160	804,113,898	9,787
2020-2023	2	229,704	5,140,110,059	22,377
	11	398,442	8,148,564,606	20,451

Table 7.

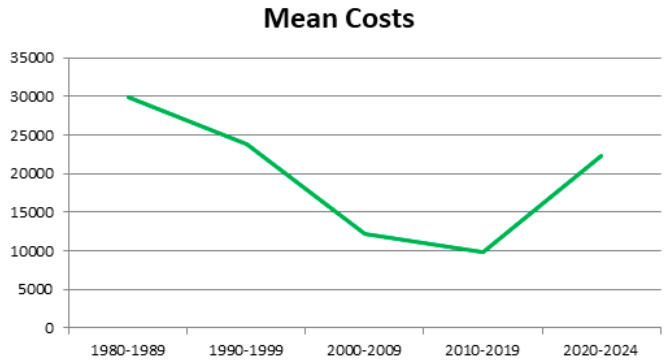
When the 2024 Valencia Floods data are added, the three graphs shown above look like this:



Graph 7 bis.



Graph 8 bis.



Graph 9 bis.

The 6 largest Floods in the time series for the period 1996-2023 compared to the October 2024 Valencia Floods

The last 6 of the 10 events discussed above have been separated out for further consideration, because more detailed data are available for these more recent events following installation of a computerised large event claim management system in 1996.

For instance, this system lets us break losses down by risk class (homes, offices, businesses, etc.).

The data for these six floods are:

Amounts in euros as of 31 December 2024

Order No.	YEAR of occurence	MONTH of occurence	Place of occurence	No. of Claims	COMPENSATIONS	MEAN COST
1st	1997	June	Basque Country	5,701	135,480,529	23,764
2nd	2000	October	Valencia Region and Murcia Region	8,939	123,556,509	13,822
3rd	2007	October	Valencia Region	10,790	116,938,110	10,838
4th	2012	September	SE Mainland Spain	25,650	268,054,435	10,450
5th	2019	September	SE Mainland Spain	56,510	536,059,462	9,486
6th	2023	September	Toledo Province and Madrid Region	20,234	175,996,613	8,698
	TOTAL			**127,824**	**1,356,085,659**	**10,609**

Table 8.

An aggregated breakdown by risk class is shown below:

Amounts in euros as of 31 December 2024

RISK CLASS	No. of Claims	%	Compensations	%	Mean Costs
Personal injury	24	0.0	1,171,233	0.1	48,801
Residential properties	75,281	58.9	564,651,096	41.6	7,500
Offices	867	0.7	40,083,814	3.0	46,233
Commercial properties	13,386	10.5	321,319,171	23.7	24,004
Industrial risks	3,036	2.4	224,547,069	16.6	73,961
Motor vehicles	35,162	27.5	169,564,317	12.5	4,822
Civil works	68	0.1	34,748,959	2.6	511,014
TOTAL	**127,824**	**100**	**1,356,085,659**	**100**	**10,609**

Table 9.

For the 2024 Valencia Floods, those same data are:

For the 2024 Valencia DANA, those same data are:

RISK CLASS	No. of Claims	%	Compensations	%	Mean Cost
Personal injury	184	0.1	9,484,000	0.2	50,543
Residential properties	59,252	28.3	1,069,221,717	21.6	18,045
Offices	828	0.4	54,740,010	1.0	66,111
Commercial properties	12,623	6.0	1,321,525,720	26.6	104,692
Industrial risks	4,197	2.0	1,256,543,692	25.3	299,391
Motor vehicles	132,357	63.2	1,200,308,231	24.2	9,069
Civil works	29	0.0	41,500,570	0.8	1,431,054
Associated expenses	-	-	10,789,505	0.2	-
TOTAL	**209,470**	**100**	**4,964,113,446**	**100**	**23,698**

Table 10.

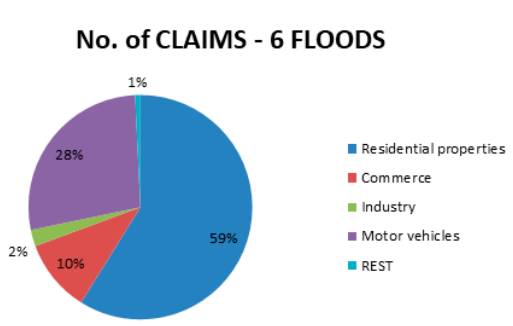
Comparing these two tables reveals certain apparent differences, summarised below:

- The number of personal injury victims was 667% higher for the 2024 Valencia Floods than for all of the 6 largest previous floods combined.

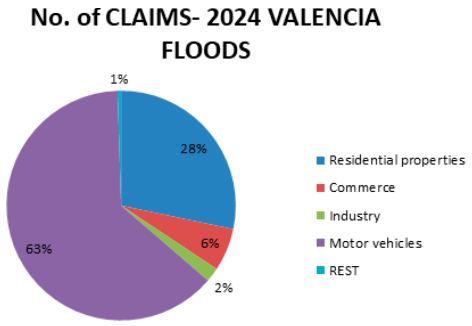
- The breakdown of the number of claims by risk class shows that for the last 6 floods the most claims were for damage to homes, while for the 2024 Valencia flood the largest number of claims was for vehicles. However, claims for homes plus vehicles combined and for businesses plus industrial plant combined were relatively comparable, as shown in the following table:

No. of CLAIMS	6 FLOODS	2024 VALENCIA FLOODS
HOMES + VEHICLES	86%	91%
COMMERCE + INDUSTRY	13%	8%
REST	1%	1%
TOTAL	**100%**	**100%**

Table 11.



Graph 10.



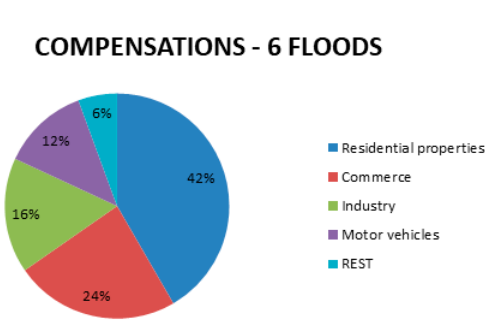
Graph 11.

- Compensations by risk class for the 6 largest earlier floods were again highest for homes, but for the 2024 Valencia Floods indemnities were spread nearly evenly among homes, businesses, industrial plant, and vehicles.

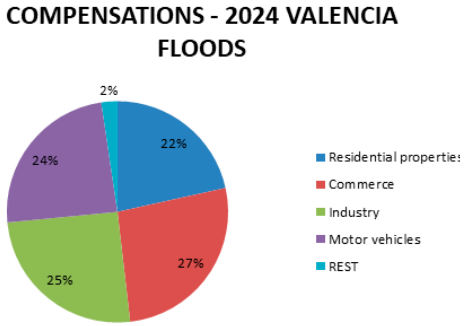
COMPENSATIONS	6 FLOODS	2024 VALENCIA FLOODS
HOMES + VEHICLES	54%	46%
COMMERCE + INDUSTRY	40%	52%
REST	6%	2%
TOTAL	**100%**	**100%**

Table 12.

For the 6 largest earlier floods, 13% of claims were for businesses plus industrial plant, which accounted for 40% of compensations, while for the 2024 Valencia Floods 8% of claims were for business plus industrial plant accounting for 52% of compensations, highlighting the vulnerability of these categories of risk in the floods considered.

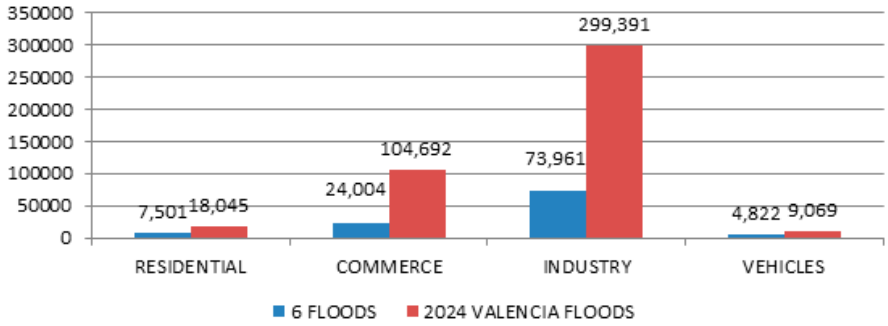


Graph 12.



Graph 13.

- Analysing the mean cost per claim by risk class shows the values for the 2024 Valencia Floods to be appreciably higher, partly because of measures involving reducing deductibles and rising vehicle valuations taken by CCS, but most of all because of greater vulnerability to exposure. A plot comparing the average costs is shown below:



Graph 14.

The percentage increase in mean cost by risk class for the 2024 Valencia Floods compared to the 6 previous floods considered was:

MEAN COST	INCREASE IN 2024 VALENCIA FLOODS COMPARED TO THE 6 FLOODS
RESIDENTIAL PROPERTIES	141%
COMMERCE	336%
INDUSTRY	305%
VEHICLES	88%
REST	41%
TOTAL	**123%**

Table 13.

Finally, times for filing claims with CCS after the event have been compared for the 2024 Valencia Floods and earlier floods.

For the earlier floods, we have taken the last two events, namely:

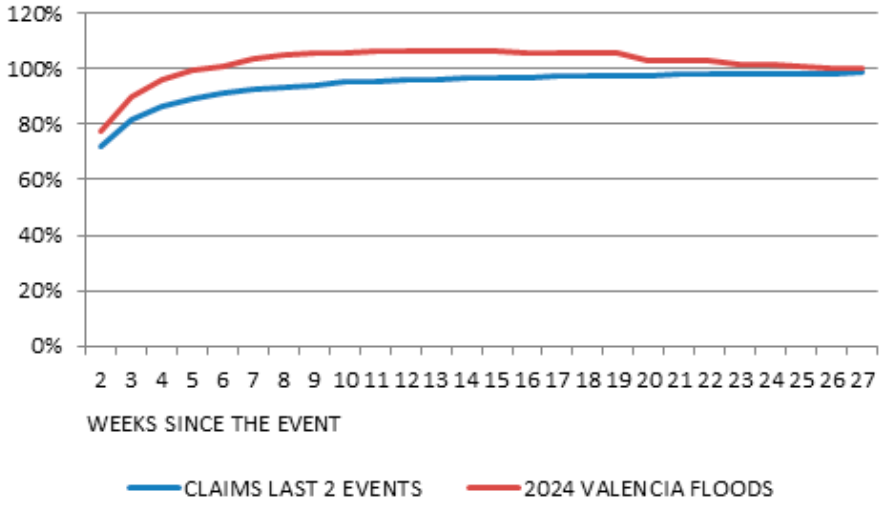
- SE Mainland Spain in September 2019 and

- Toledo Province and Madrid Region in September 2023.

And the Valencia Floods.

In the plot shown below we can see that filing times were shorter for the 2024 Valencia Floods even though the number of claims was much higher. The main reason for this was a series of measures taken by CCS to make it easier to file claims.

For instance, as shown in the following plot of filings by week, 78% of total claims had been filed for the 2024 Valencia Floods by the end of week 2 compared with 68% for the other two cut-off low-related flood events.



Graph 15.

In some weeks, the total claims filed for the 2024 Valencia Floods were greater than 100% of the final total. This was because there was duplicate processing of claims due to the special nature of this event, though this was corrected as the weeks went by.

Other data on the October 2024 valencia floods

The CCS publication "Statistics. Extraordinary Risks. Data Series 1971-2024" available on CCS website contains additional information on:

- Losses (number of claims and compensations) by insurance line, i.e., property damage, business interruption and personal injury.

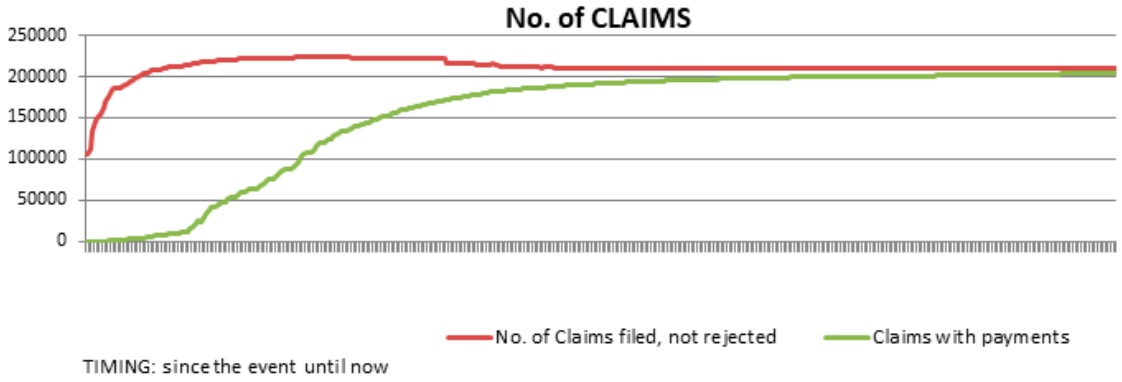
- Losses by risk class were broken down further, e.g., by industrial sector, namely, the food, automobile, electricity, paper manufacturing, and chemical sectors, etc., and the same has been done for other basic risk categories.

- There is a spread sheet in the "Statistics. Extraordinary Risks. Data Series 1971-2024" giving a breakdown by risk class and post code concerned.

To conclude, below are some figures depicting some data on the 2024 Valencia Floods from the time it occurred up to the present:

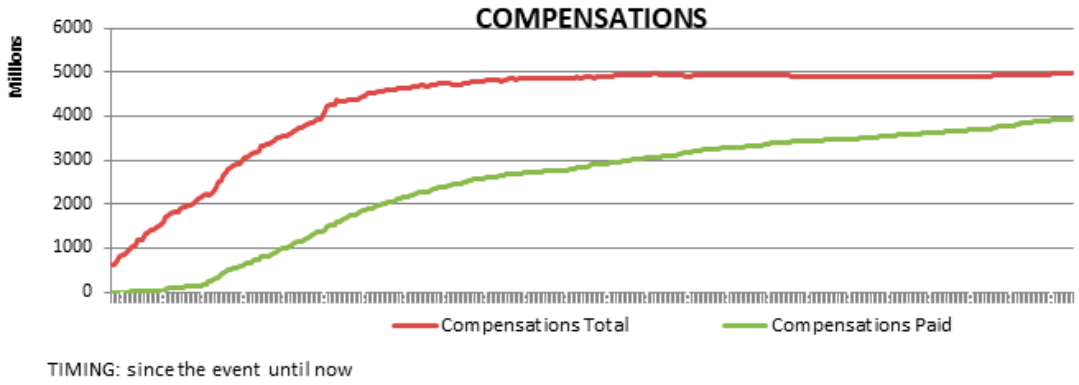
The first plot shows the number of claims filed over time and the number of claims resulting in payouts.

It can be seen that as already mentioned above, a massive number of claims came in during the first weeks. As the losses were assessed, payouts began, and at this time payouts are still pending for only a small percentage of claims.



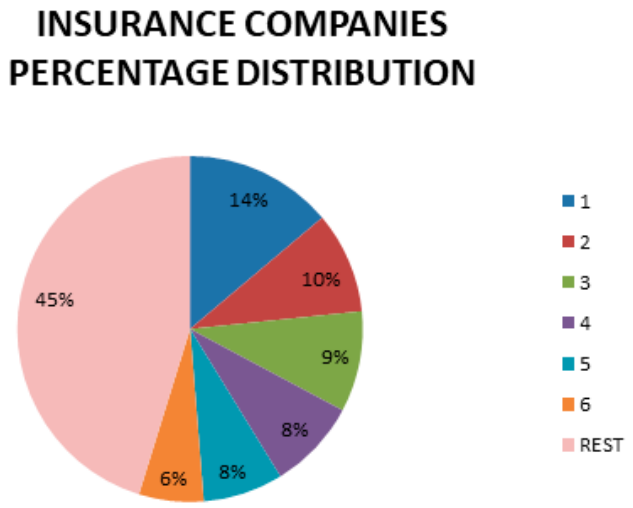
Graph 16.

The percentage of the compensations paid for the 2024 Valencia Floods has reached 80% of the total at the time of writing. The 20% remaining involve just 4% of the claims, in the main large insured losses that entail lengthy loss adjustment procedures.



Graph 17.

Policies issued by six insurers or insurance groups have accounted for 55% of the losses (4,964 million euros), with CCS paying out compensations amounting to between 300 and 687 million euros for each of the six.



Graph 18.

Conclusions

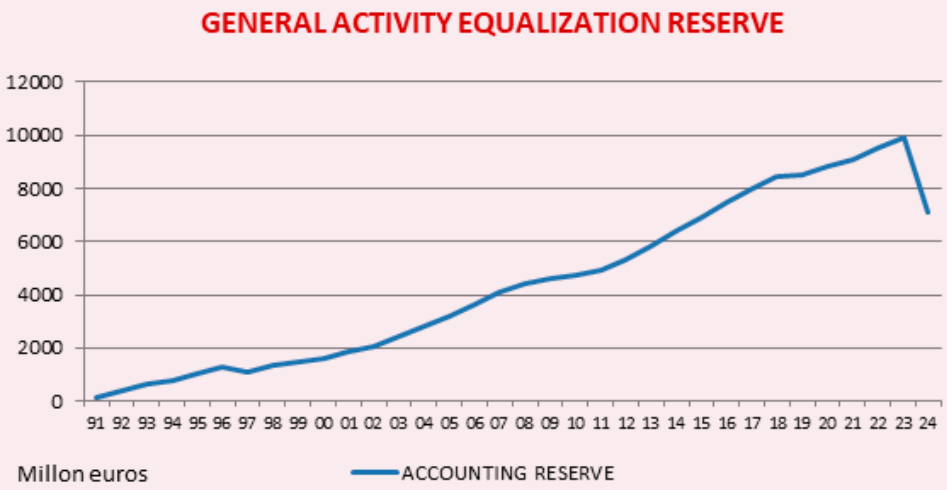
The October 2024 Valencia Floods are special and differ from the other floods covered by CCS over its lifetime. Their losses are unprecedented in terms of both the number of claims and the compensations paid.

Far from jeopardising the system of coverage of extraordinary risks by CCS, this event has showcased its strengths, in that:

i. CCS has proved to have sufficient funds to cover large events without having to resort to outside financing, and the entity has not had to increase its surcharge rates in 2025 or 2026;

ii. CCS has shown itself to have the requisite resolve and capacity to be able to handle large numbers of claims, either directly or with assistance from the industry, reaffirming the insurance sector's role in our country.

The condition of the equalization reserve set aside from CCS's general activities, including the extraordinary risk cover, over the course of the past 34 years provides further evidence of this:



Graph 19.