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60 million people in metropolitan France

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On 1st January 2004, the population of metropolitan France was estimated to be 59.9 million, plus a further 1.8 million living in the French overseas departments, bringing the total to 61.7 million [1]. The mainland population increased by nearly 266,000 people (+ 0.4%) in 2003. This was slightly down on 2003 due to a slight fall in the surplus of births over deaths (the same level of births but slightly more deaths) combined with a slight fall in net migration (surplus of immigration over emigration) as estimated by Insee (table page 3).

◆ Population doubled in two centuries

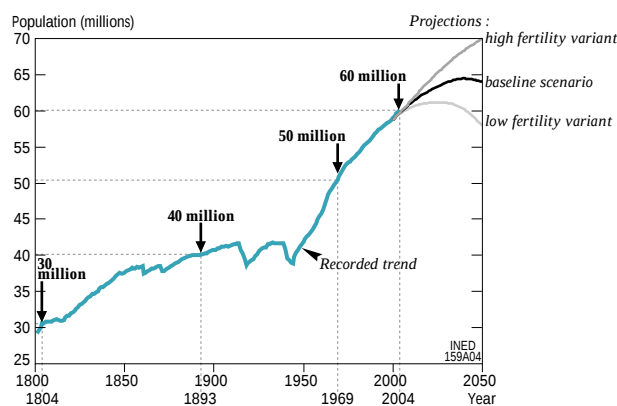
The population of metropolitan France is likely to top the 60 million mark in May 2004, having doubled in 200 years from the 30 million at which it stood in 1804 (figure 1).

These were not two centuries of steady population growth, as comparatively sustained growth in the first half of the 19th century gradually slowed down after 1850. Not until 1893 did the population rise above 40 million. Slow growth in the following decades brought pre-war France to a population of 41.6 million in 1914. The combination of war deaths and a birth slump reduced the population to 38.5 million in 1918. Driven mainly by immigration, it rose to top 40 million again in 1924. Growth again slowed at the end of the 1920s, and the population stagnated at 41.5 million throughout the 1930s. Then the Second World War brought the population down to just under 39 million in 1944.

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Liberation produced another population spurt: it rose above 40 million for the third time in 1946, then moved into a phase of unprecedentedly rapid growth. Driven by the baby boom and a wave of labour immigration, the population cleared 50 million in 1969 and will exceed 60 million in 2004. Although the baby boom came to an end in 1973, and immigration largely petered out in 1974, their growth impacts continued to be felt for several decades more as the baby boomers attained parenthood, sustaining a relatively high level of births. But they are gradually being replaced as parents by the smaller post-baby-boom cohorts, which could produce a downturn in births in the years ahead. Population ageing, by contrast, will produce an upturn in deaths. Failing a new baby boom or a return to considerably higher than current immigration levels, growth is set to lose momentum, and there is no

Figure 1 – Two-century population trend (metropolitan France)



Sources: Insee [2]; Daguet, 1995 [3]; Brutel and Omalek, 2003 [4].

certainly that the metropolitan population will reach 70 million, not in the near future at least. Insee projects continued growth to just short of 65 million in 2040, decreasing thereafter [4]. This is the so-called baseline scenario, where the period fertility rate levels off at average parity 1.8. The high variant—stabilizing at 2.1 children per woman—predicts a slower rate of growth decline, with the 70 million population mark being crossed in 2050. The low variant of parity 1.5, by contrast, would bring a faster rate of slowdown in growth, with the population never rising above 61 million and falling from 2025, returning to 58 million by 2050.

◆ Life expectancy stagnated with the August 2003 heat wave

There were an estimated 550,000 deaths in 2003, 4% more than in 2002. This is partly due to population increase and ageing, but more so to the exaggerated mortality peak in August 2003: 56,500 deaths, or nearly 15,000 more than the 41,300 average for August 2000, 2001 and 2002 (figure 2 and box page 4). Life expectancy at birth has lengthened on average by two to three months a year for several decades. The excess mortality of August 2003 cancelled out the mortality trend gains, and life expectancy at birth has stagnated compared to 2002, standing at 75.9 years for males and 82.9 years for females in 2003—a very slight improvement for males (75.8 years in 2002) and a slight setback for females (83.0 years in 2002). This is because the heat wave exacted a heavier toll in terms of female than male mortality. The question is whether those who died were effectively at death's door anyway, and the heat wave simply precipitated their death by weeks or

months, or whether they still had several years of life ahead of them. If the former, the August mortality peak should have been counterbalanced by a trough in the months after. But it was not—the September, October and November 2003 death rates were as high as in the three previous years, even higher in December 2003 because of a major flu epidemic (figure 2). So the heat wave did exact a death toll among people who were certainly vulnerable, but probably had a fair length of life left. But it may also have weakened some who died not immediately but within a few months, inflating mortality levels in the closing months of 2003.

After the 2003 hiatus, barring anomalous events, expectation of life at birth in 2004 should return to the recent downward trend levels, resulting in a sharp improvement over 2003.

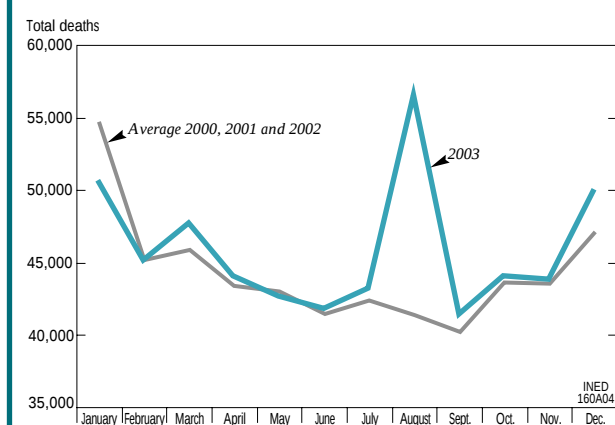
In the past ten years, life expectancy at birth has lengthened by 2.6 years for males and by 1.5 years for females. As male gains have outpaced female gains, the gender differential has fallen from 8.1 years in 1993 to 7.0 years in 2003.

◆ Births maintain their 2002 high

The total fertility rate of 1.89 children per woman in 2003 was little changed on 2002 (1.88). The slight rise counterbalances the slight drop in the number of reproductive age women (0.4%), while total births remained stable (760,000 births in 2003 in metropolitan France, against 762,000 in 2002).

Cohort fertility analysis reveals that 1953 cohort women who reached 50 in 2003 and so have completed childbearing had a mean number of 2.12 children. 1963 cohort women aged 40 in 2003 already had 2.03, and so will probably have at least 2.1 children by the time they reach 50, like their ten-year elders. Younger cohorts are still far from having completed their reproductive life, so any predictions as to their completed family sizes must remain in the realm of guesswork.

Figure 2 - Monthly distribution of deaths, 2003



Source: Insee.

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POPULATION OF FRANCE

PROVISIONAL ESTIMATE ON 1 JANUARY 2004

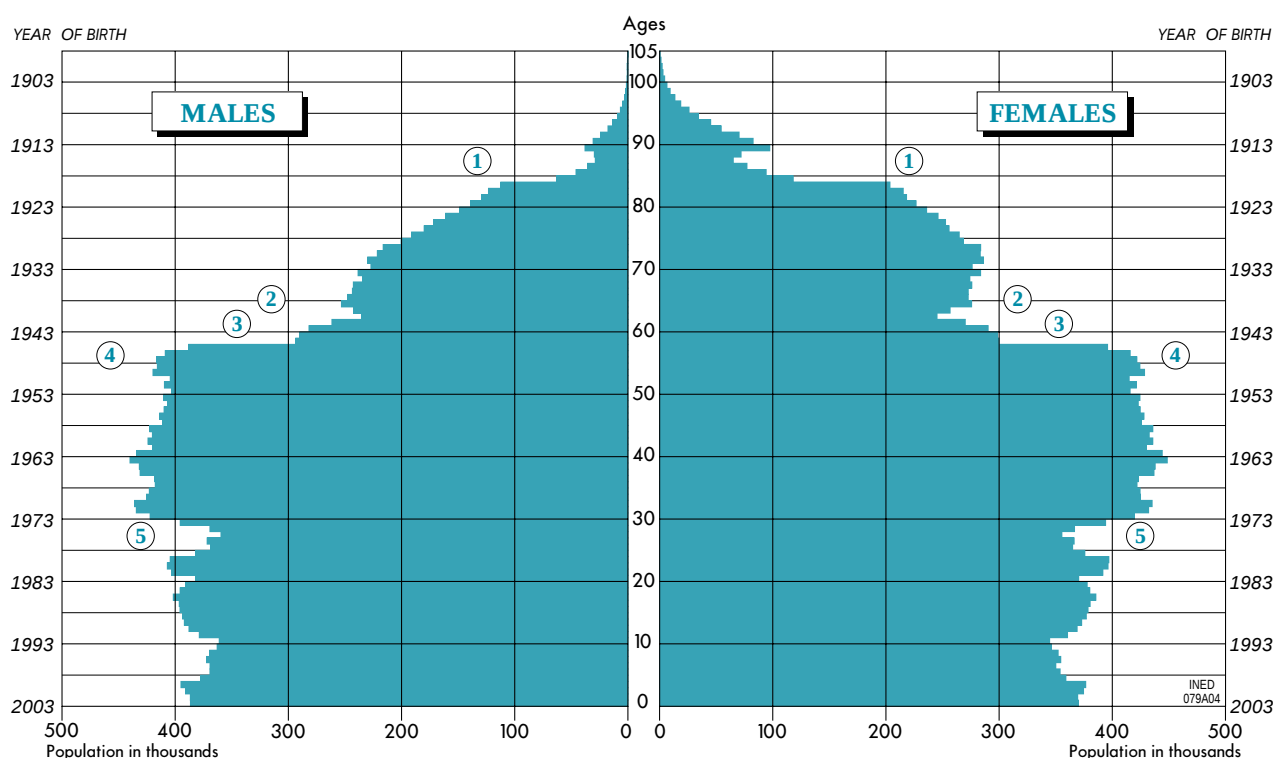


Table - Population indicators from 1950 to 2003, metropolitan France

	1950	1960	1970	1980	1990	1994	1995	1996	1997	1998	1999	2000	2001(p)	2002(p)	2003(p)
Births (m)	858	816	848	800	762	711	730	734	727	738	745	775	771	762	760
Deaths (m)	530	517	540	547	526	520	532	536	530	534	538	531	531	534	550
Natural increase (m)	328	299	308	253	236	191	198	199	196	204	207	244	239	227	211
Net migration (m)	35	140	180	44	80	50	40	35	40	45	45	50	60	65	55
Total growth (m)	362	439	488	297	316	241	238	234	236	249	252	294	299	292	266
Birth rate (t)	20.5	17.9	16.7	14.9	13.4	12.3	12.6	12.7	12.5	12.6	12.7	13.2	13.0	12.8	12.7
Death rate (t)	12.7	11.3	10.6	10.2	9.3	9.0	9.2	9.2	9.1	9.1	9.2	9.0	9.0	9.0	9.2
Infant mortality rate (r)	51.9	27.4	18.2	10.0	7.3	5.9	4.9	4.8	4.7	4.6	4.3	4.4	4.5	4.1	4.1
Total fertility rate (e)	2.93	2.73	2.47	1.94	1.78	1.65	1.71	1.73	1.73	1.76	1.79	1.88	1.89	1.88	1.89
Life expectancy:															
male (a)	63.4	67.0	68.4	70.2	72.7	73.7	73.9	74.1	74.6	74.8	75.0	75.3	75.5	75.8	75.9
female (a)	69.2	73.6	75.9	78.4	80.9	81.8	81.9	82.0	82.3	82.4	82.5	82.8	82.9	83.0	82.9
Marriages (m)	331	320	394	334	287	254	255	280	284	271	286	298	288	279	273
Marriage rate (t)	7.9	7.0	7.8	6.2	5.1	4.4	4.4	4.8	4.9	4.6	4.9	5.1	4.9	4.7	4.6
Population (1) (m)	42010	45904	51016	54029	56893	57753	57936	58116	58299	58497	58749	59043	59342	59635	59900
Under 20(1) (m)	12556	14665	16748	16419	15632	15084	15058	15056	15027	15018	15015	15003	14988	14977	15009
65 and above (1) (m)	4727	5288	6174	7541	8036	8686	8858	9011	9164	9285	9414	9522	9631	9727	9806
Under 20 (1) %	29.9	31.9	32.8	30.4	27.5	26.1	26.0	25.9	25.8	25.7	25.6	25.4	25.3	25.1	25.1
65 and above (1) %	11.3	11.5	12.1	14.0	14.1	15.0	15.3	15.5	15.7	15.9	16.0	16.1	16.2	16.3	16.4

(a) in years - (e) children per woman - (m) in thousands - (p) provisional - (r) per 1,000 live births - (t) per 1,000 population - (1) at year-end.

• Note: The population estimates for the period 1990-98 were adjusted to establish consistency between the censuses of 1990 and 1998.

Source : Insee.

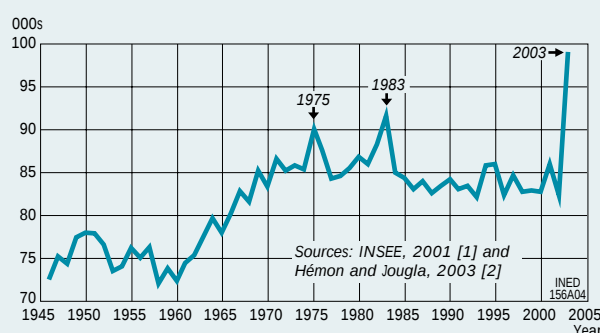
The August 2003 heat wave. How many died? Who died? (1)

In August 2003 France was hit by an unusual heat wave which had fatal consequences: 56,500 deaths occurred, 15,000 more than the 41,300 deaths averaged over August 2000, 2001 and 2002. Was the crisis uniform, or more severe in certain regions? Who was affected?

Ile-de-France and Centre worst hit

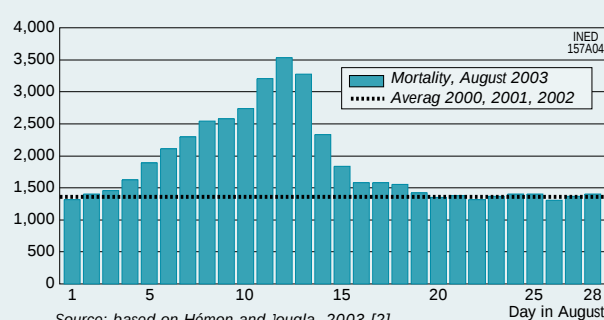
Total recorded deaths for July and August each year rose in the 1960s, largely due to an increase in the elderly population, but have been relatively stable for the past thirty years (at around 85,000 for the two months) (figure 1). Mortality peaks occurred in 1975 (90,000 deaths in July-August), 1983 (92,000) and 2003 (over 99,000). The last fatal heat wave of summer 1983 caused only half as many excess deaths as that of summer 2003.

Figure 1 - Deaths in July and August (France, 1946-2003)



2003's excess mortality started on 4 August and lasted for 15 days up to and including 18 August (figure 2), peaking on 11, 12 and 13 August with daily death totals two and a half times those of a "normal" summer day (estimated on July, August and September 2000 to 2002).

Figure 2 - Daily mortality, 1-28 August 2003

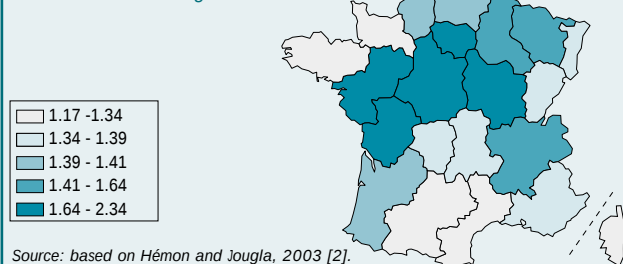


The crisis was not equally severe everywhere. The Ile-de-France and Centre regions were worst hit, with mortality more than doubling in the first 20 days of August (figure 3), while excess mortality in Basse-Normandie, Brittany, Languedoc-Roussillon and the Nord-Pas-de-Calais was not above 25%.

Excess mortality reached extremely high levels on particular

(1) This box is a partial reproduction of data available on the INED website (www.ined.fr/canicule).

Figure 3 - Ratio of actual to expected deaths from 1-20 August 2003



days, and in particular localities. The death total in Ile-de-France, for example, was more than six times its normal level on 12 August.

Older women most affected

Total deaths were 55% above the norm in the first 20 days of August. Older people were worst affected: excess mortality stood at 75% among the over-75s (table), with females more affected than males.

Table - Sex-age ratio of actual to expected deaths from 1-20 August 2003

Age	Men	Women	All
< 45 years	1.13	0.98	1.08
45-74	1.24	1.37	1.28
75 and over	1.55	1.89	1.75
All ages	1.38	1.73	1.55

Source: Hémon and Jouglu, 2003 [2].

Isolation: a key factor

There is a known particularly high risk of death on very hot summer days among people who live in top-floor/attic apartments or poorly insulated housing, those who are more susceptible to dehydration because of loss of thirst sensation or because they are taking desiccant drugs, and those living alone who receive no regular visitors [3].

Of the 12 million-odd French people aged 60 and over, approximately 300,000 (2.4%) are without a spouse, child or grandchild, or sibling [4]. Approximately 85,000 people have no close relatives and need assistance with activities of daily living. Isolation also affects people with close relatives who have no contact with them. This is the case with 5.3% of those aged 60 and over, and generally, older women are more often cut off from their close relatives than older men or younger women.

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