

Country Summary: Zambia

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1 Intro

These estimates are created using the BB8 model with Admin 2 estimates using a RW1xICAR interaction model with area-specific random slopes.

Zambia has 10 Admin 1 areas and 72 Admin 2 areas.

All uncertainty intervals displayed in subsequent figures are 95% intervals.

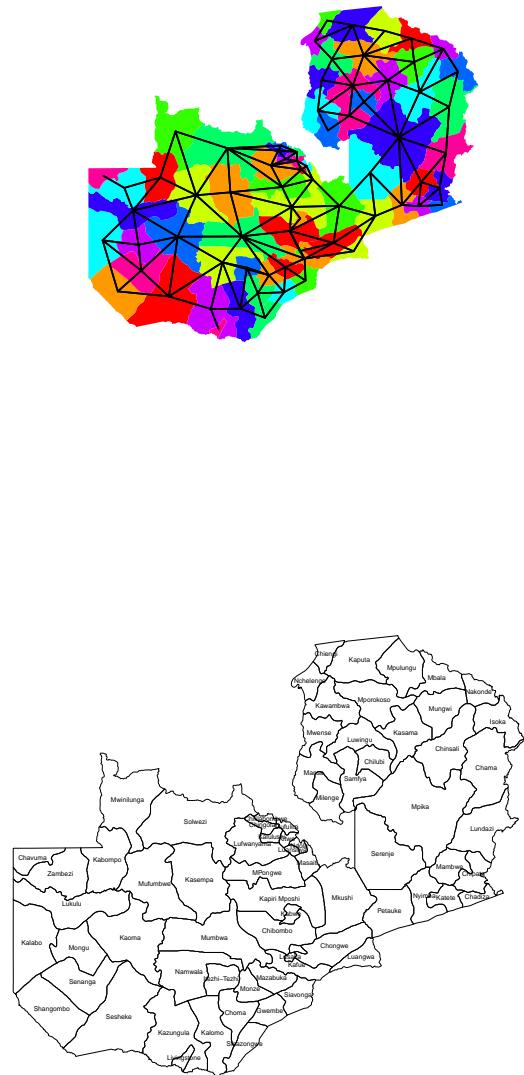


Figure 1: Top: The neighborhood structure of Admin 2 areas. Bottom: The names of Admin 2 areas.

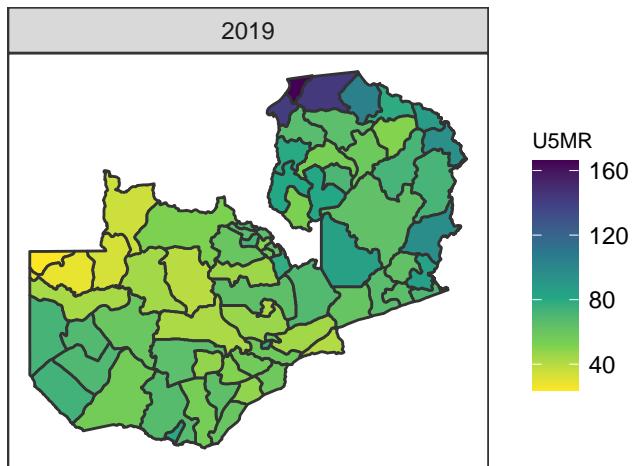


Figure 2: Median estimates of U5MR (deaths per 1000 children) in 2019.

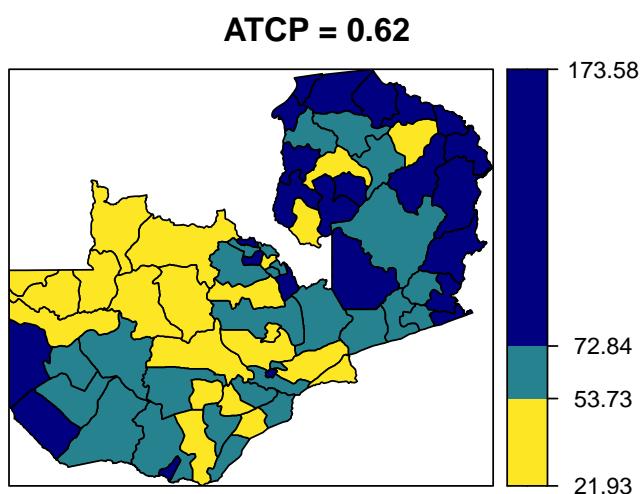
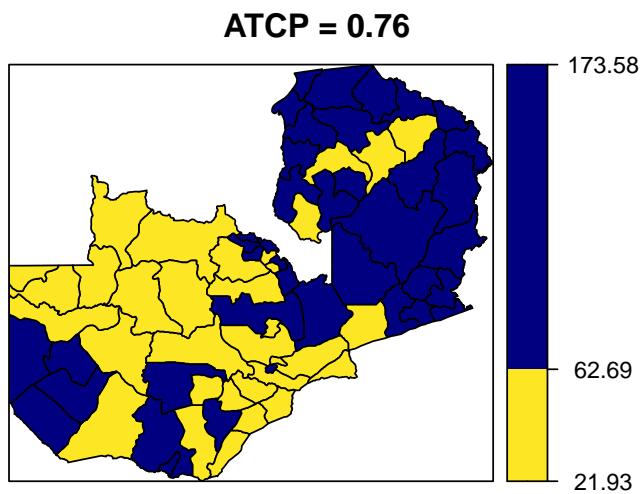


Figure 3: Expression of uncertainty of U5MR (deaths per 1000 children) based on the average true classification probability (ATCP) in 2019.

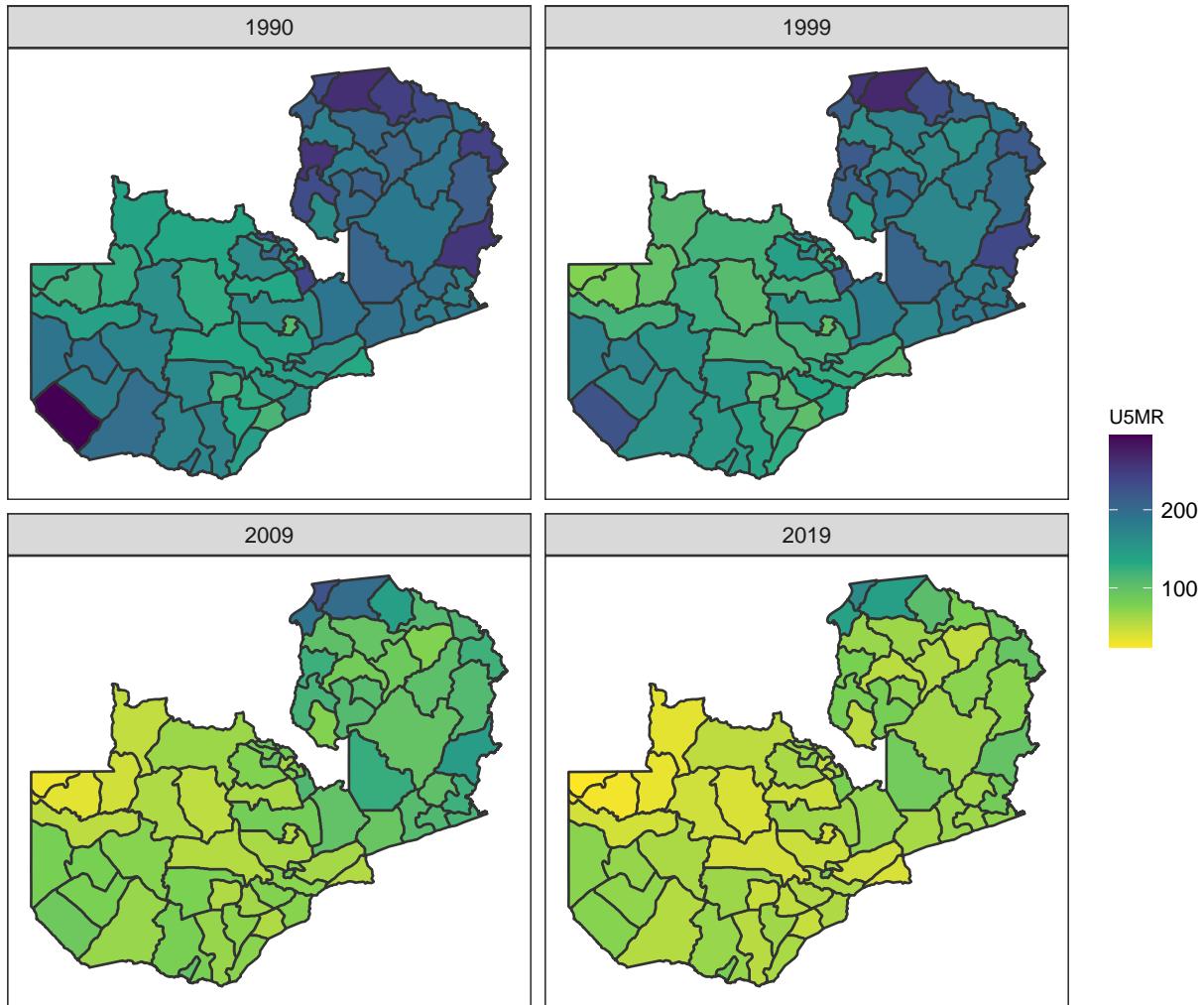
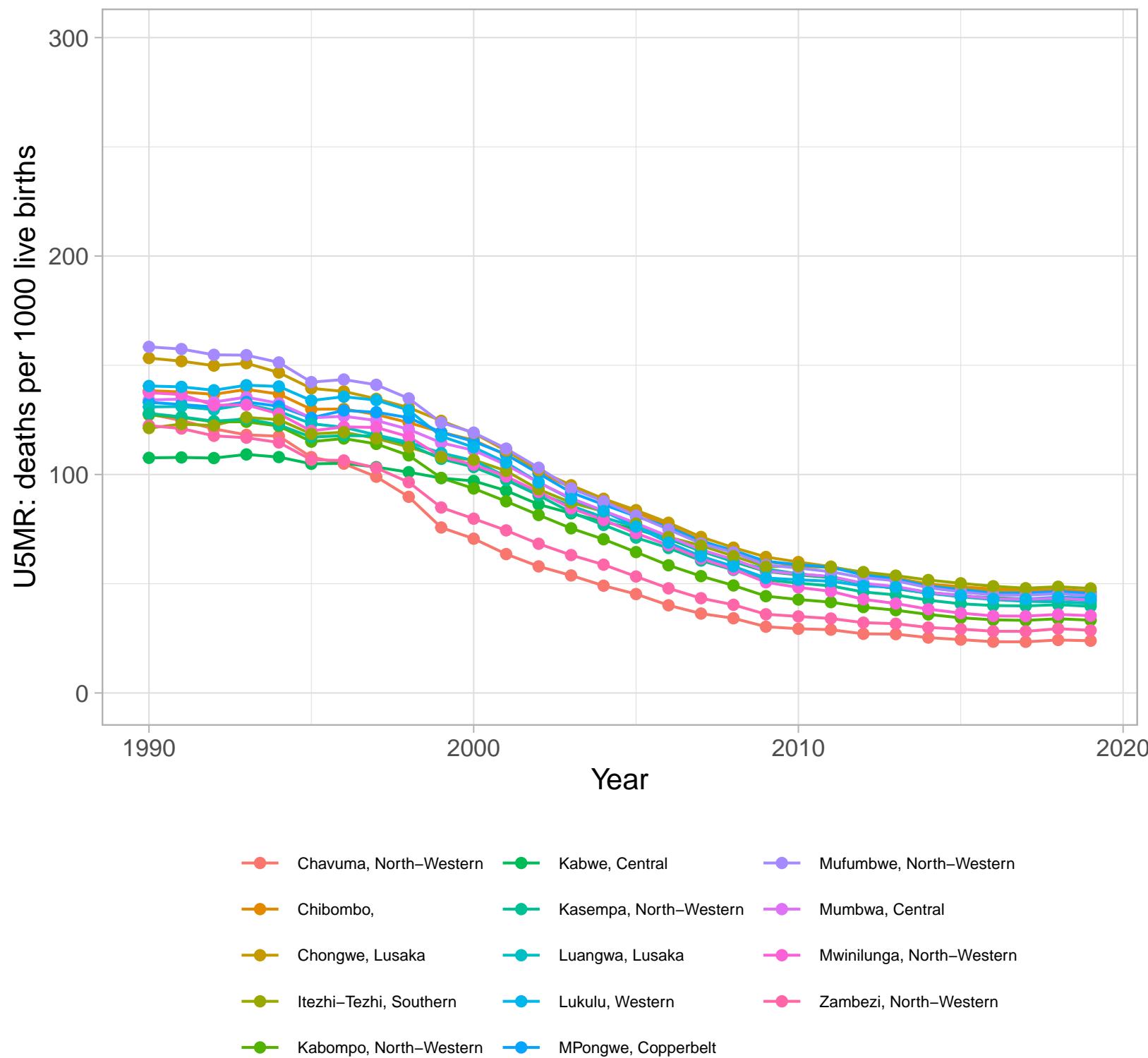
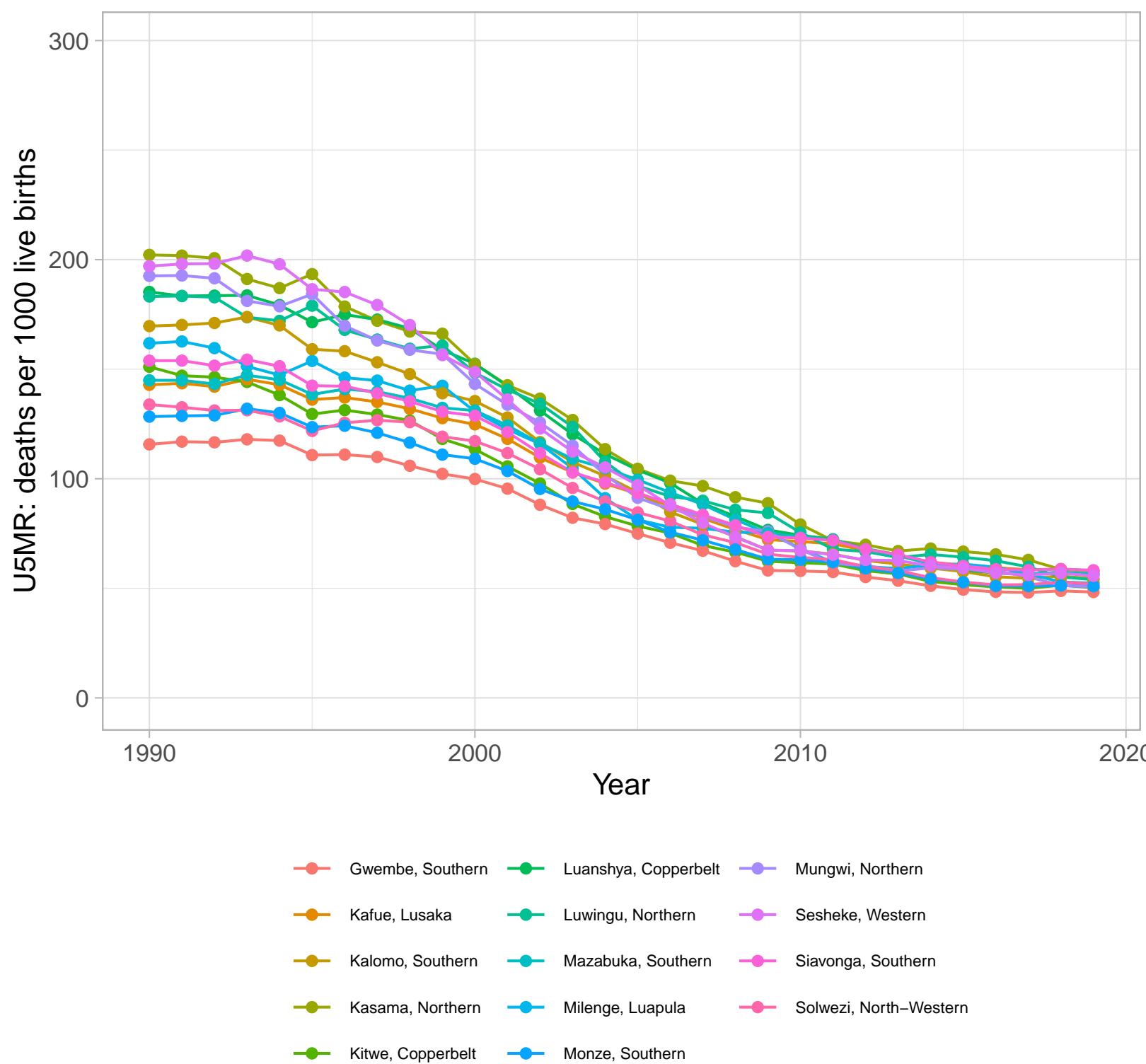


Figure 4: Median estimates for selected years.

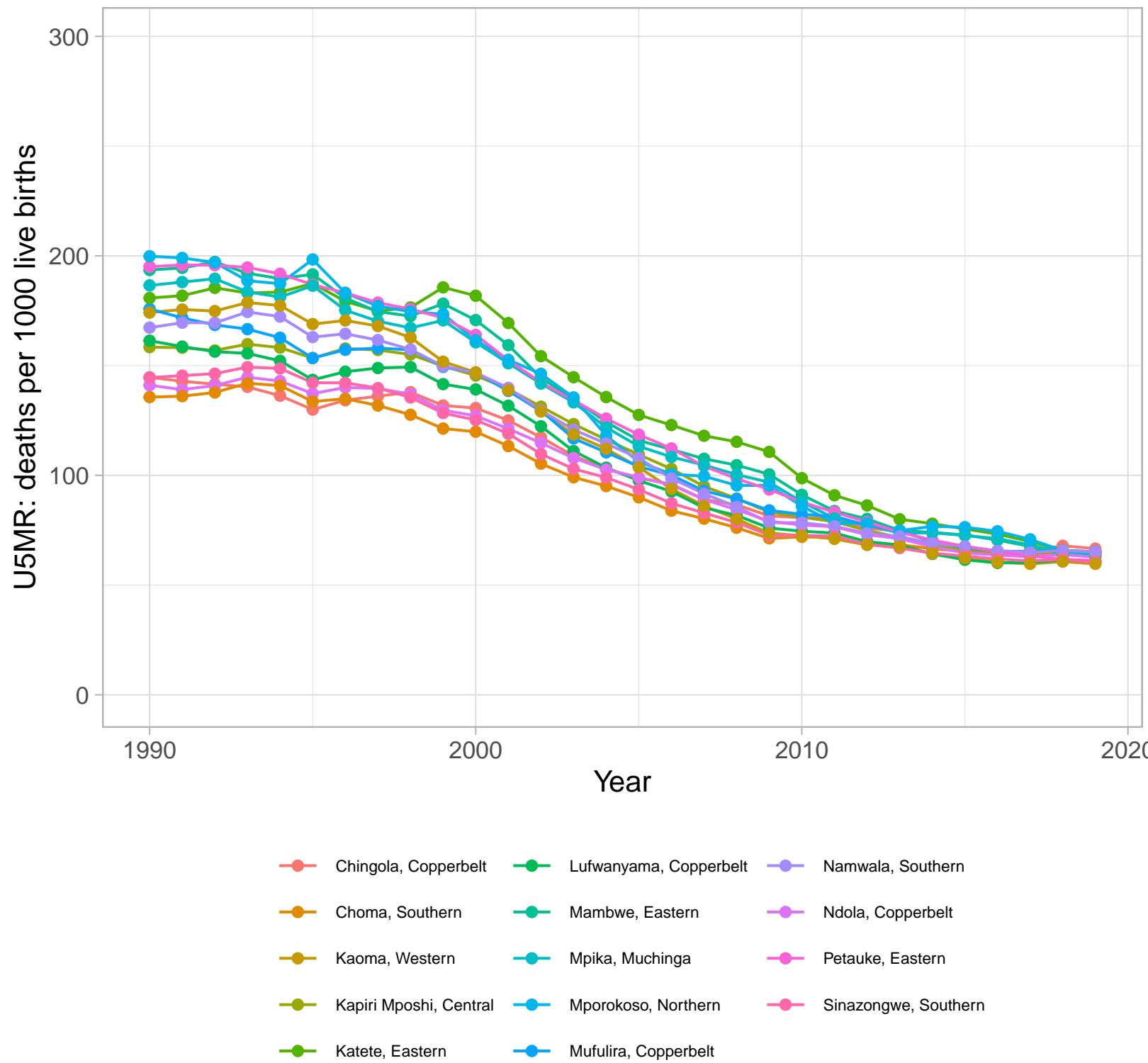
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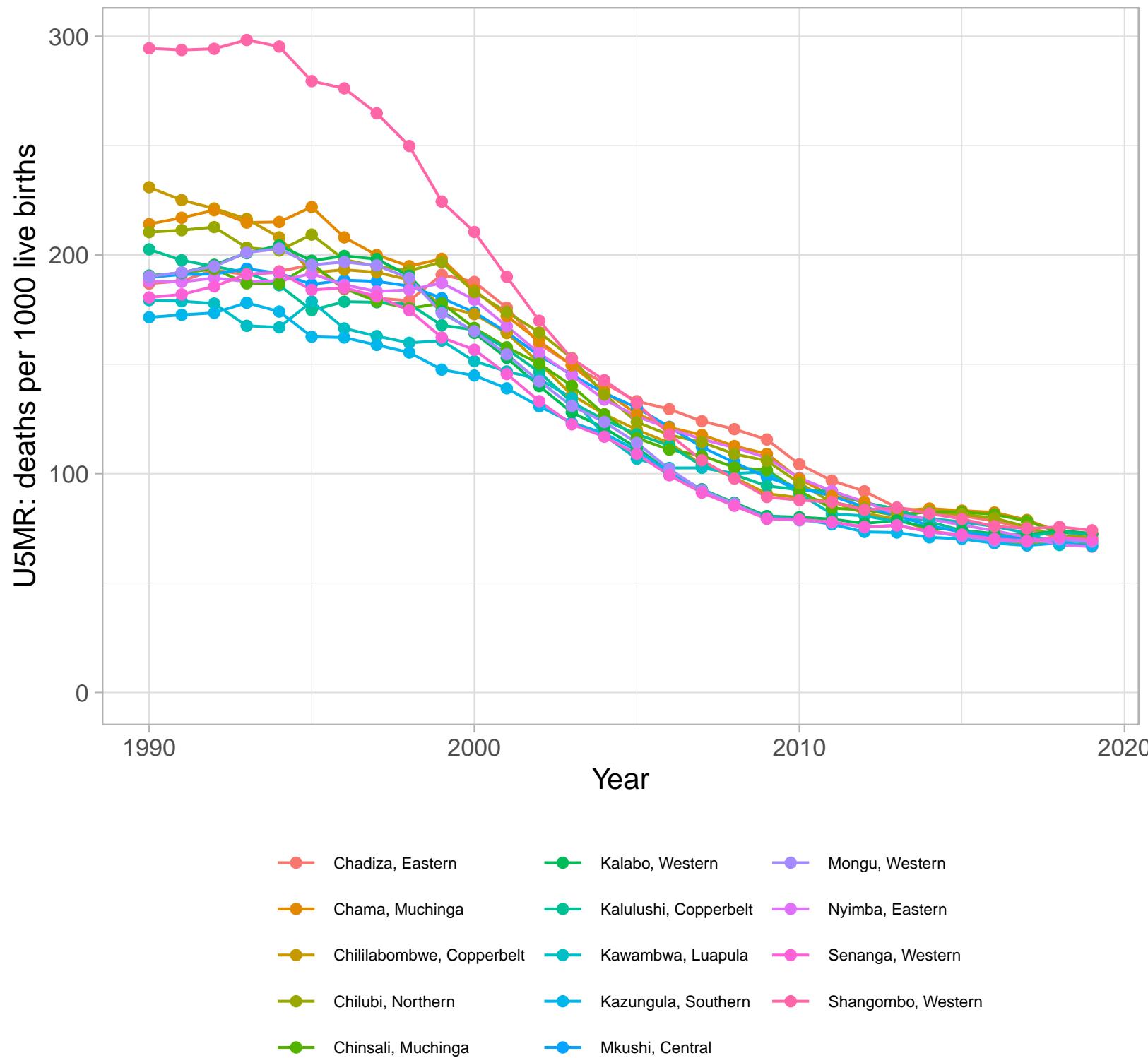
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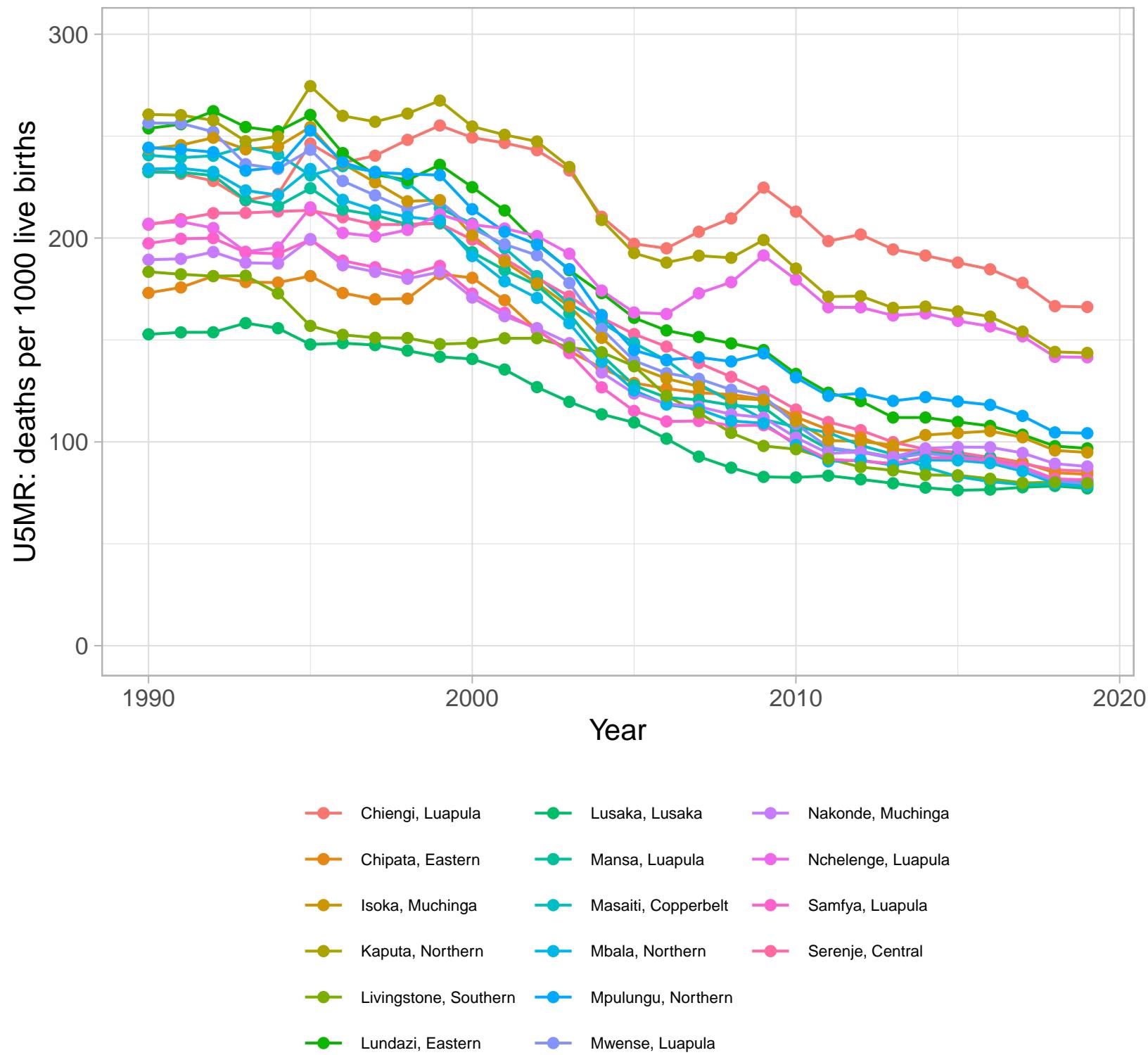
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Zambia



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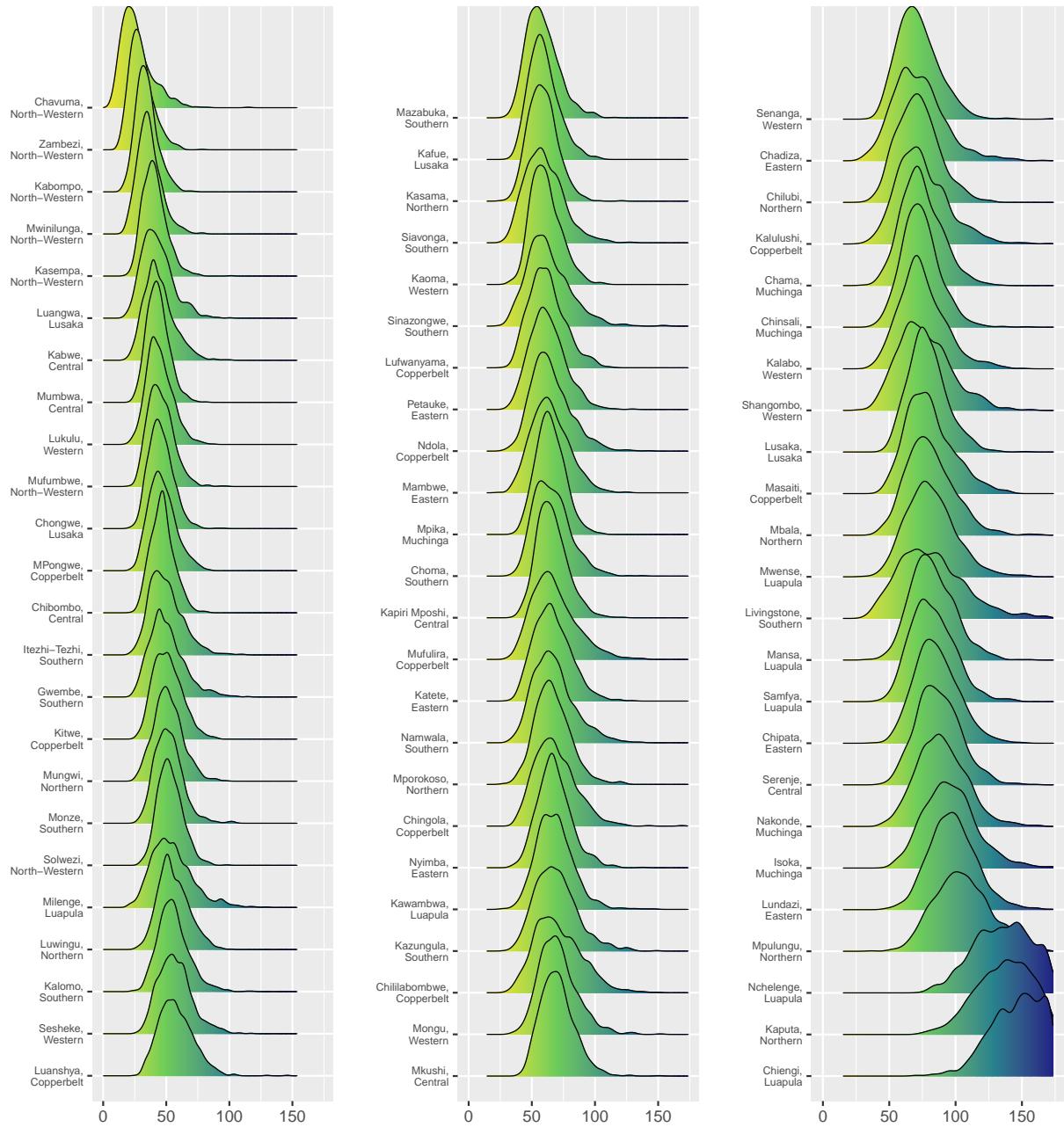


Figure 5: Posterior distributions of U5MR (deaths per 1000 children) in 2019. Areas are ordered by median estimated U5MR in 2019.

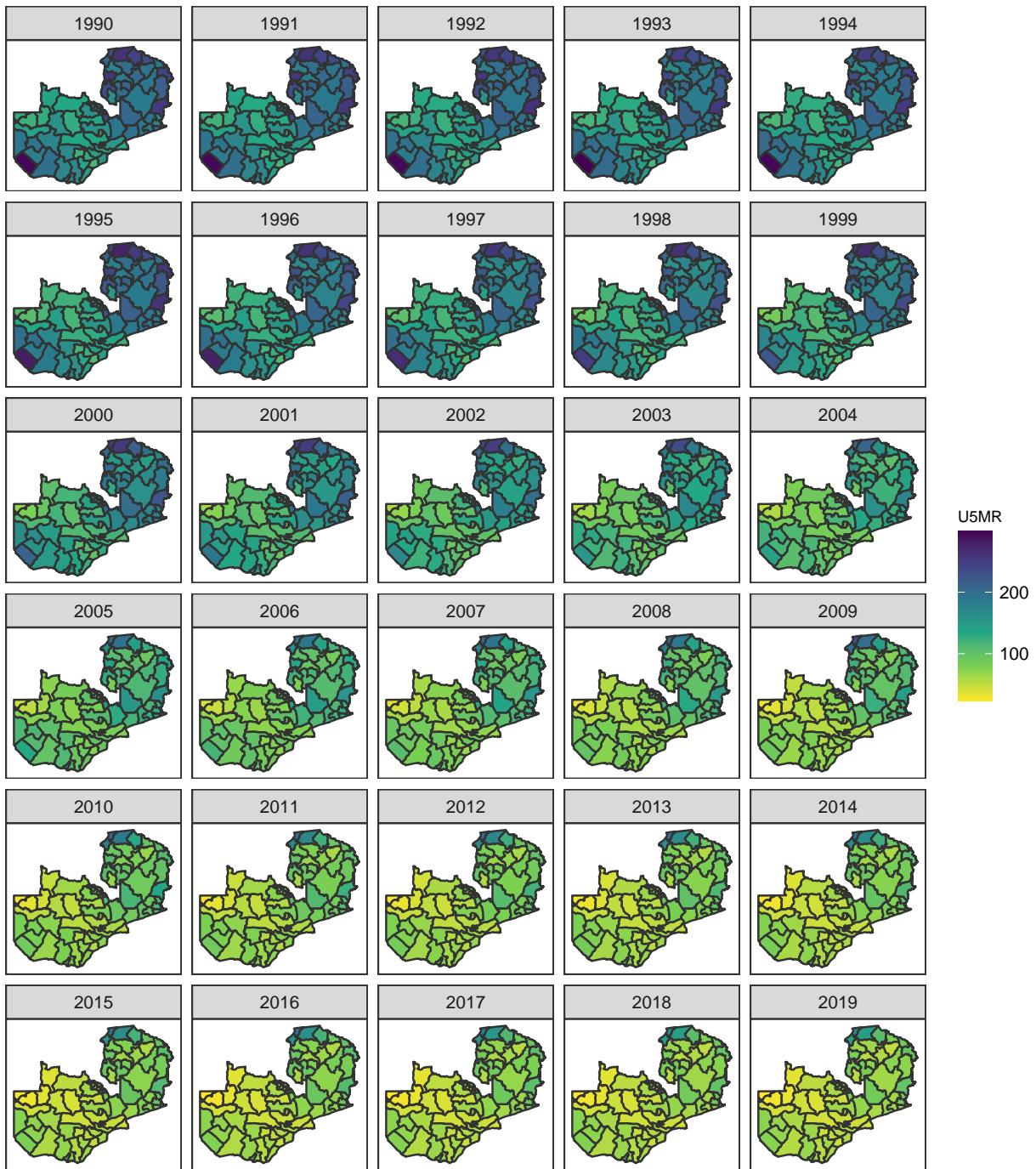


Figure 6: Posterior medians of U5MR (deaths per 1000 births) by Admin 2 area and year.

2 National Survey Data

Survey	Urban	Rural	Total
2007	116	202	318
2013-14	305	413	718
2018	196	339	535

Table 1: Number of clusters by urban/rural designation by survey for Zambia.

Age	No. Deaths	No. Agemonths
0	890	37000
1-11	1001	382389
12-23	450	387714
24-35	354	362414
36-47	175	338206
48-59	87	315710

Table 2: Numbers of agemonths and deaths by age for DHS 2018.

Age	No. Deaths	No. Agemonths
0	1312	45922
1-11	1570	471576
12-23	828	474166
24-35	528	442733
36-47	274	412401
48-59	144	382481

Table 3: Numbers of agemonths and deaths by age for DHS 2013-14.

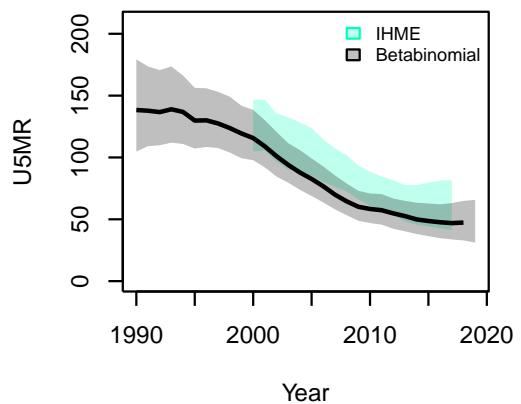
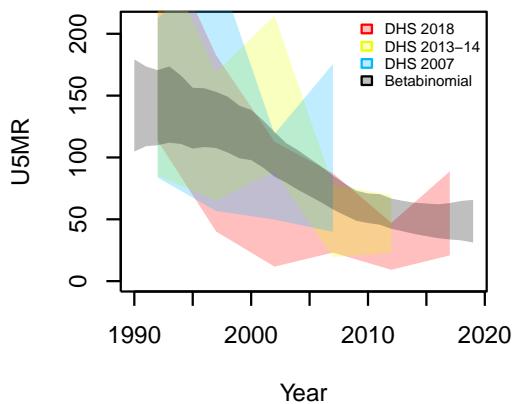
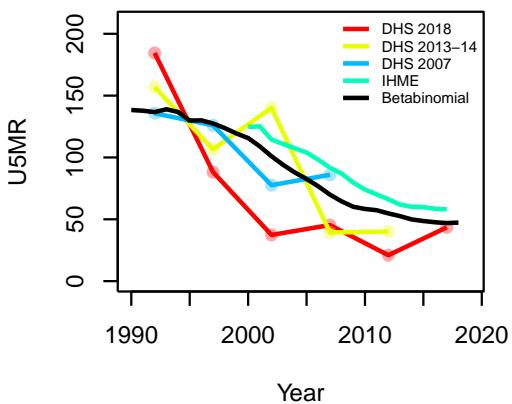
Age	No. Deaths	No. Agemonths
0	592	17388
1-11	813	175859
12-23	395	174026
24-35	281	161032
36-47	115	149185
48-59	71	138665

Table 4: Numbers of agemonths and deaths by age for DHS 2007.

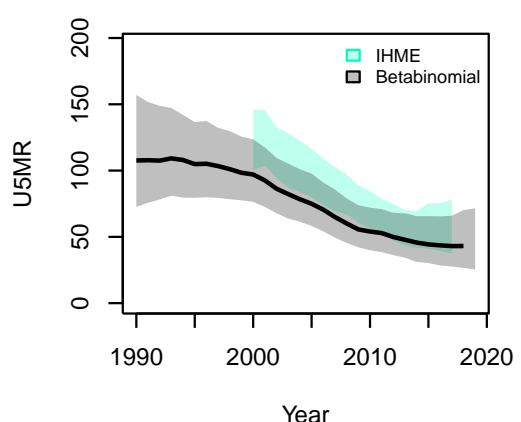
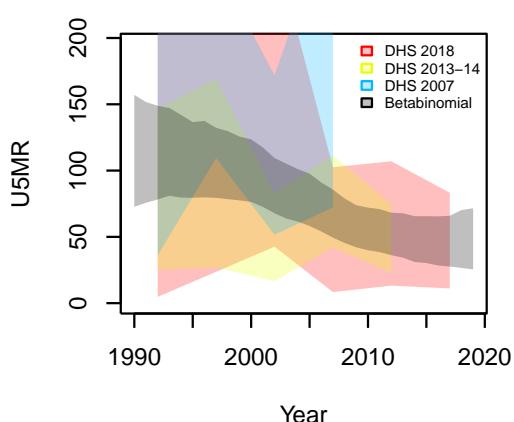
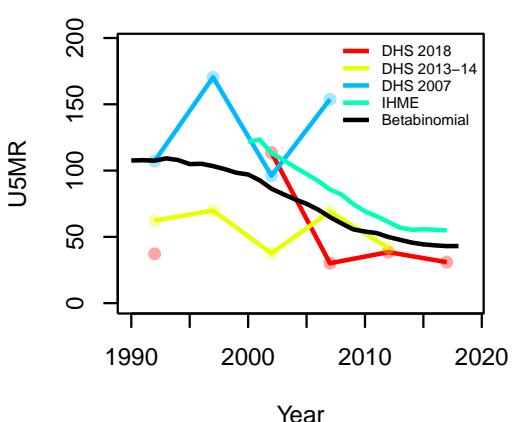
3 Admin 2 Figures

The following few pages have estimates by area across time with underlying data included. There are six admin areas per page. Colored lines with circular points and light grey uncertainty bands are 5-year survey-weighted estimates of U5MR for years 1990–1994 up to 2015–2019 depending on survey timing. For a survey that ends in the middle of a 5-year period, we plot the estimates at the mid-point of the years in that interval for which the survey provides data. Black lines and corresponding intervals represent posterior medians and 95% uncertainty intervals respectively for the betabinomial model.

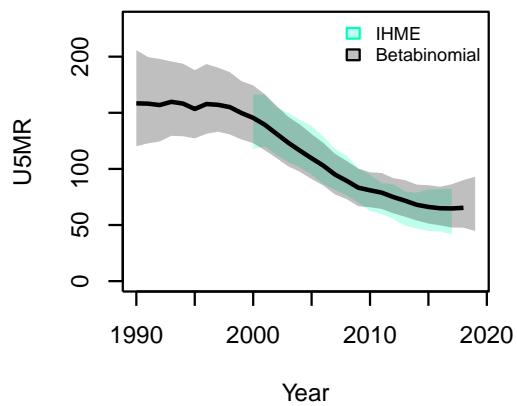
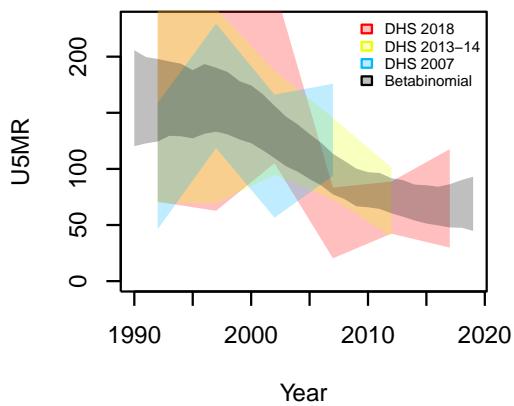
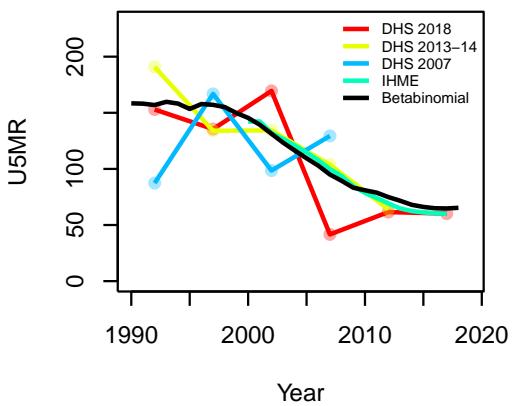
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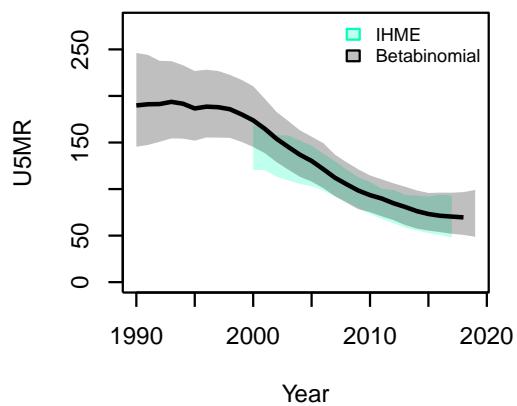
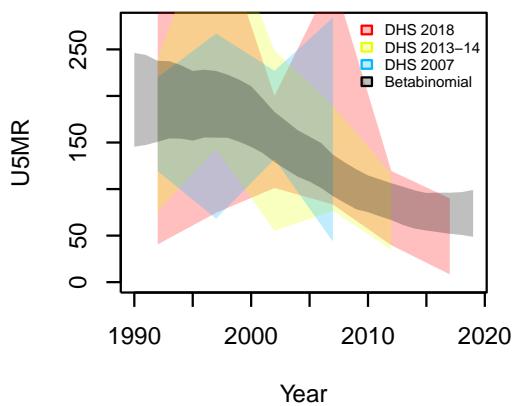
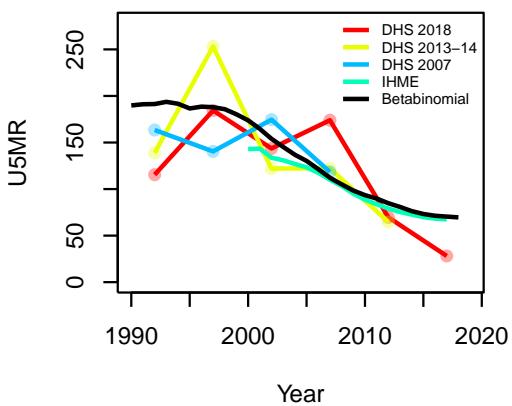
Kabwe, Central



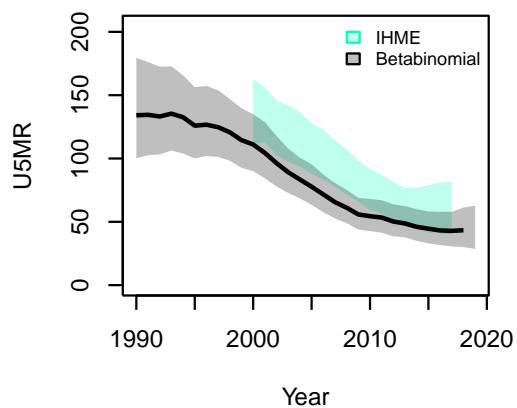
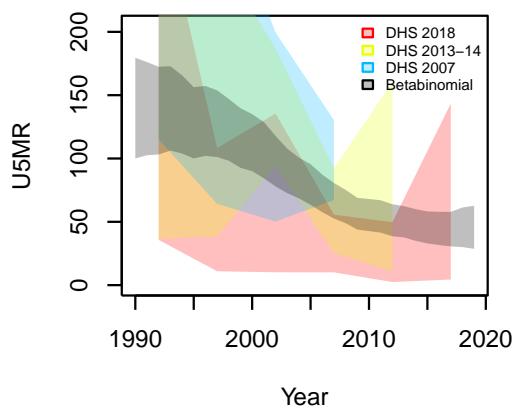
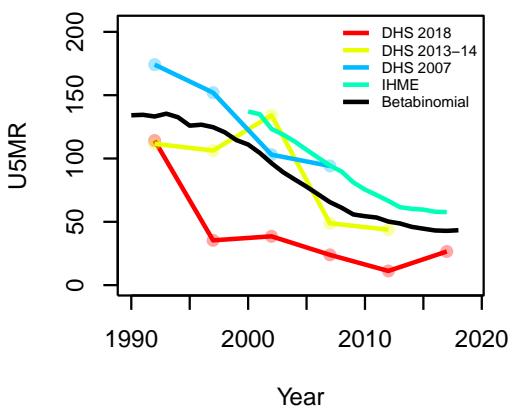
Kapiri Mposhi, Central



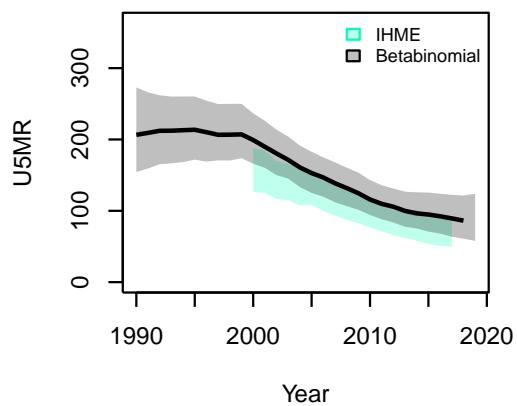
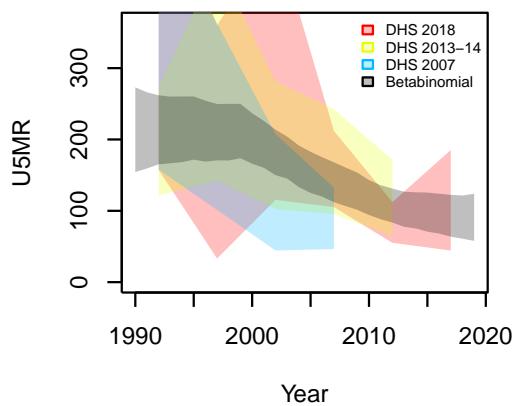
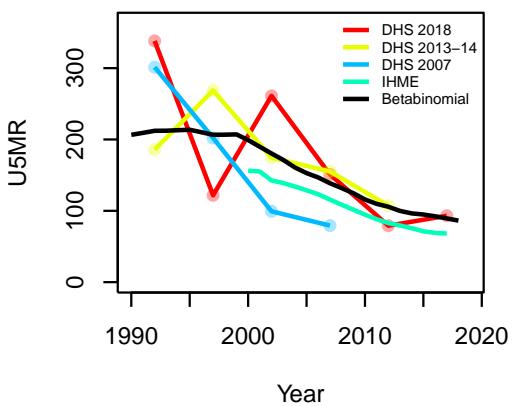
Mkushi, Central



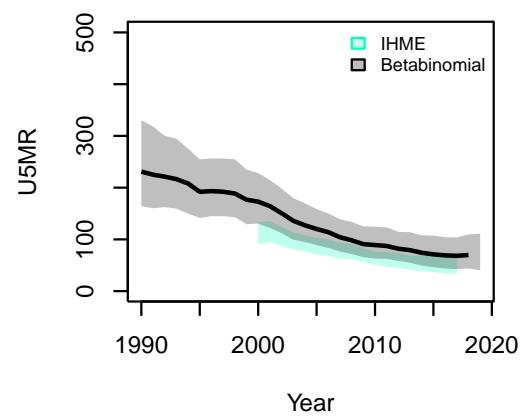
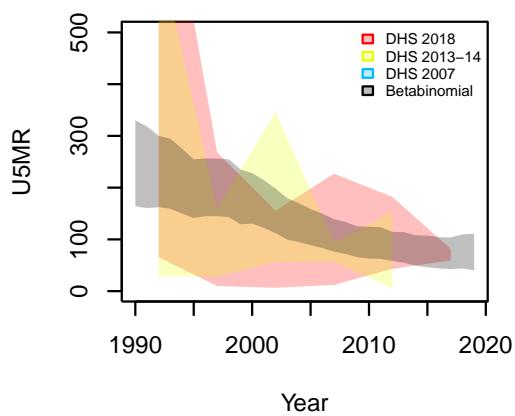
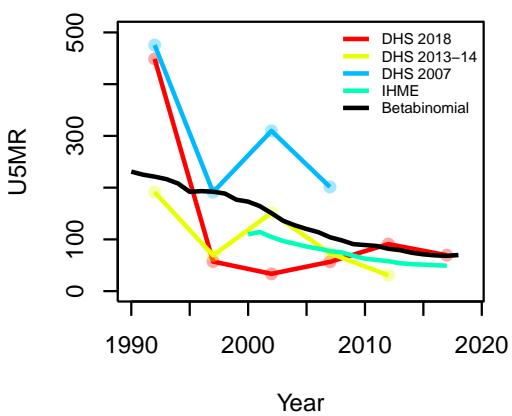
Mumbwa, Central



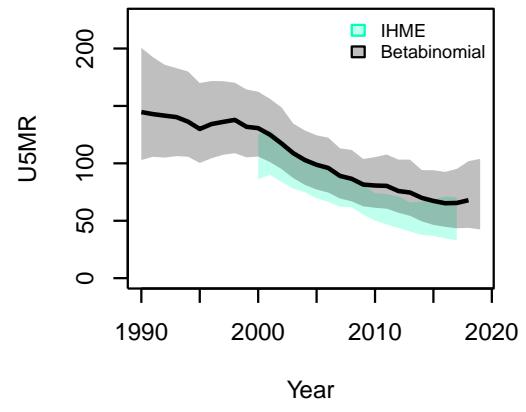
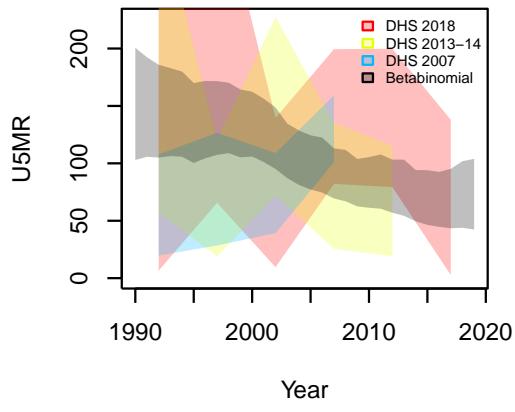
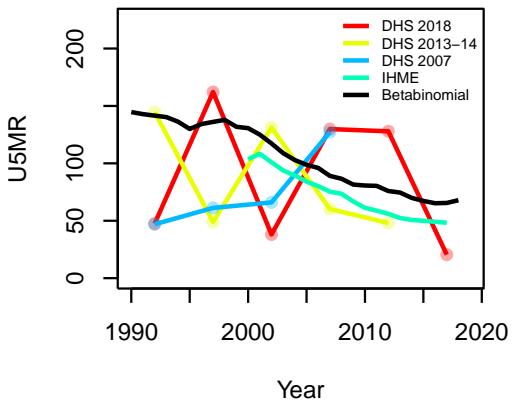
Serenje, Central



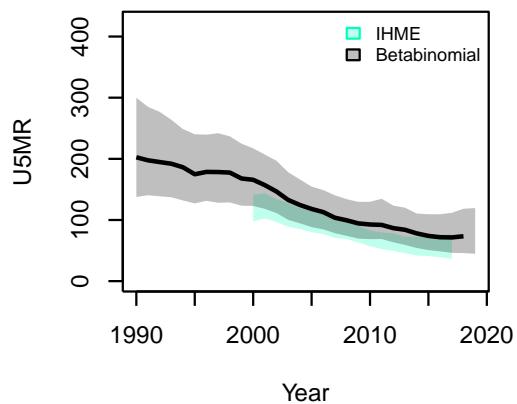
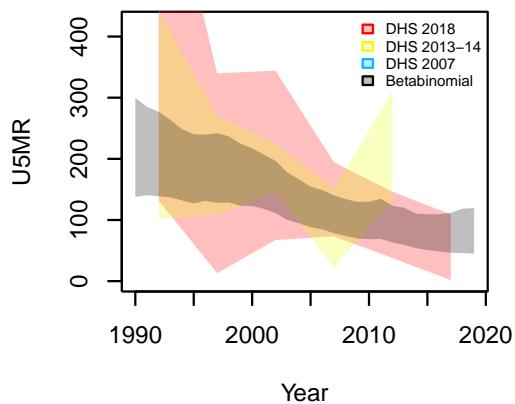
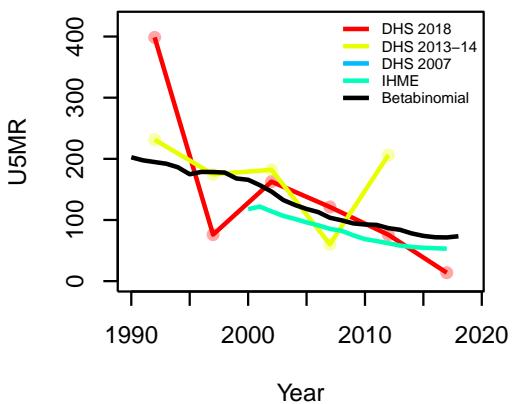
Chililabombwe, Copperbelt



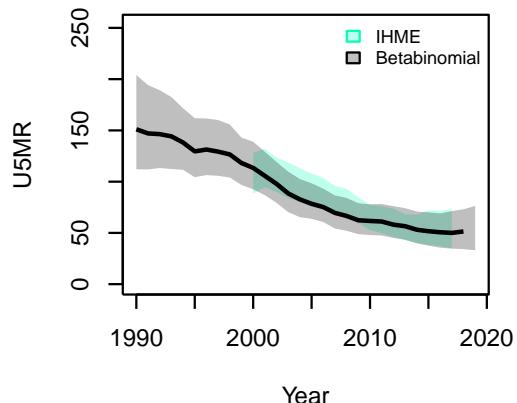
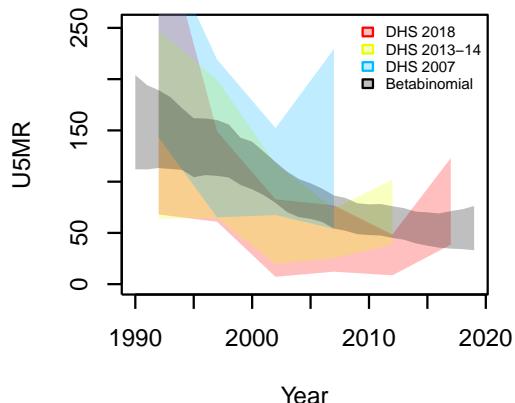
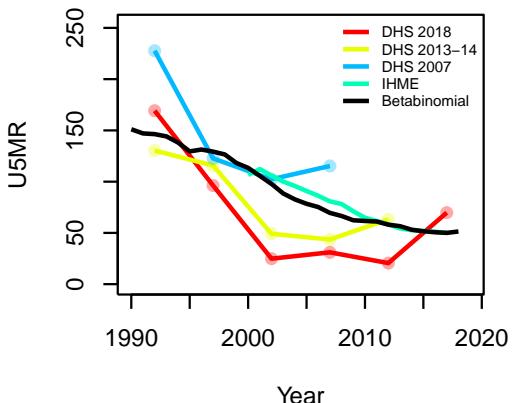
Chingola, Copperbelt



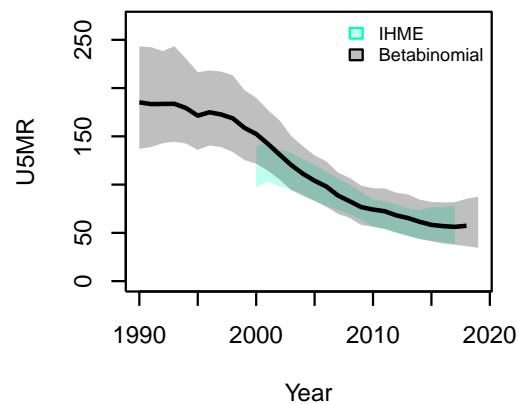
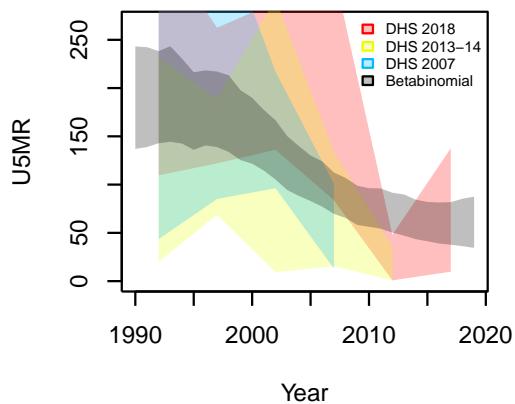
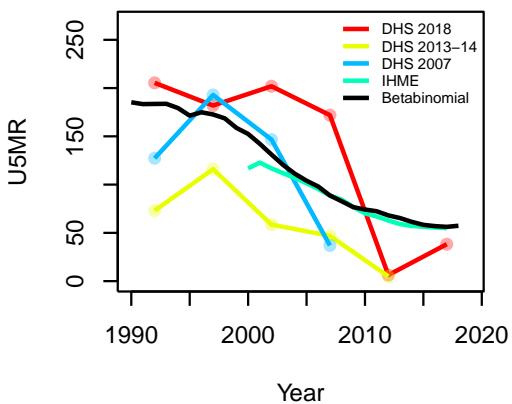
Kalulushi, Copperbelt



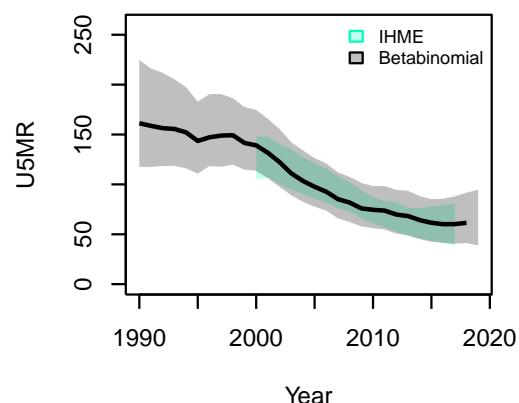
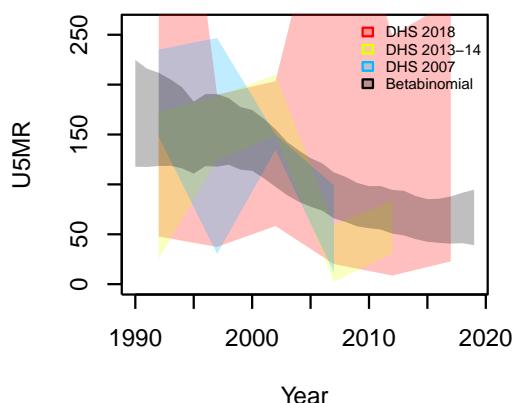
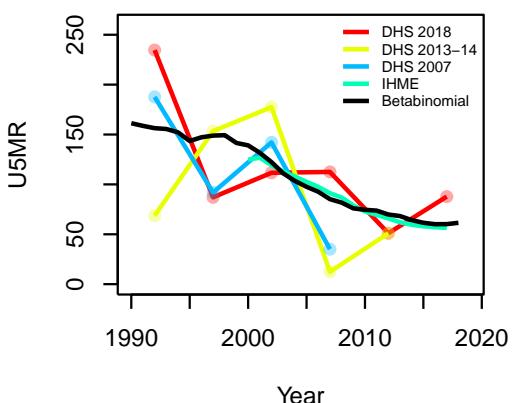
Kitwe, Copperbelt



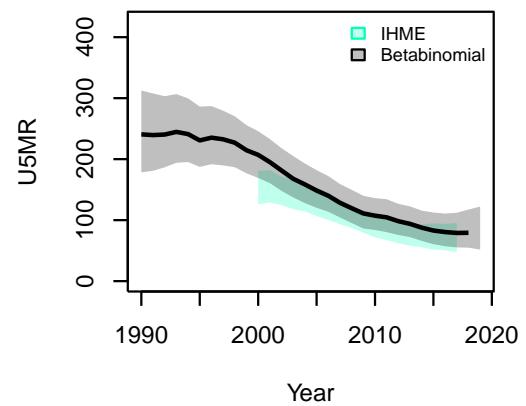
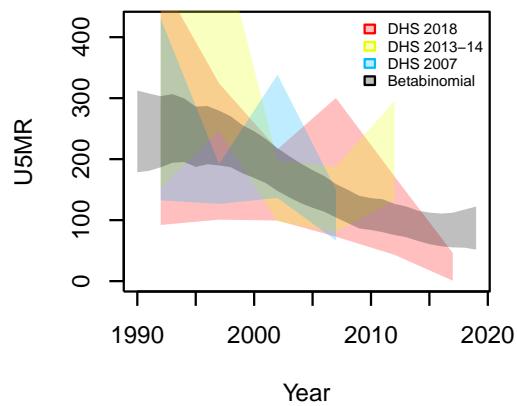
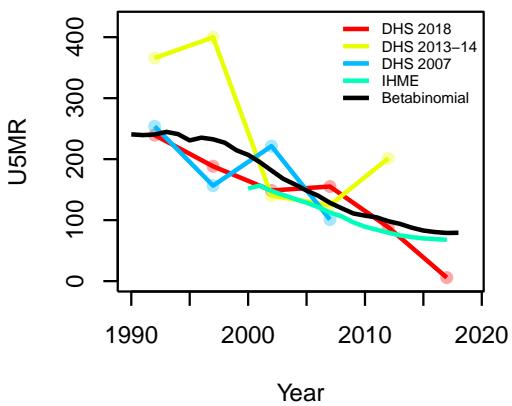
Luanshya, Copperbelt



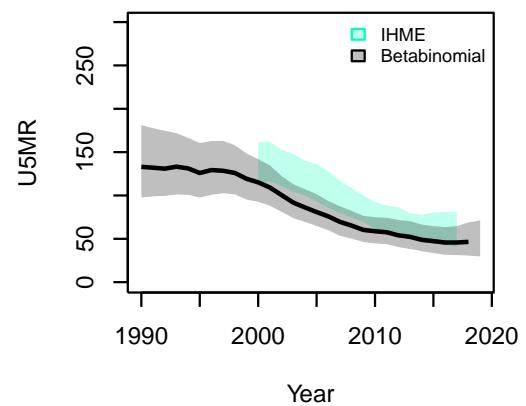
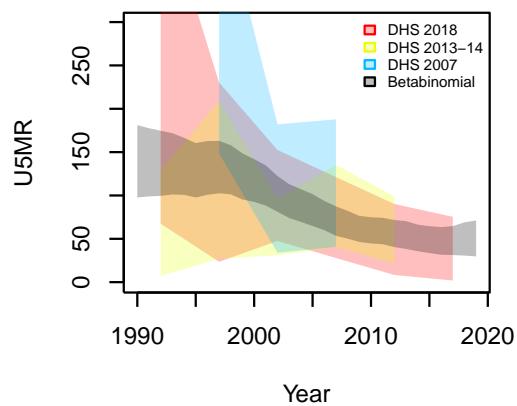
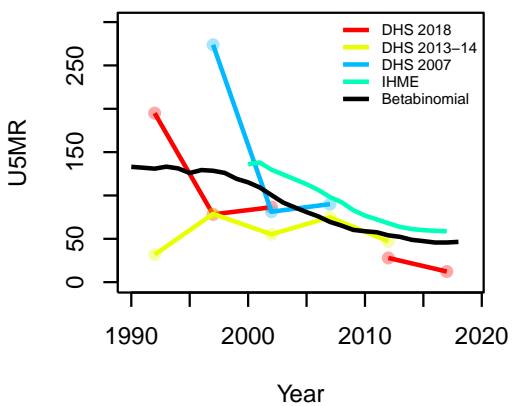
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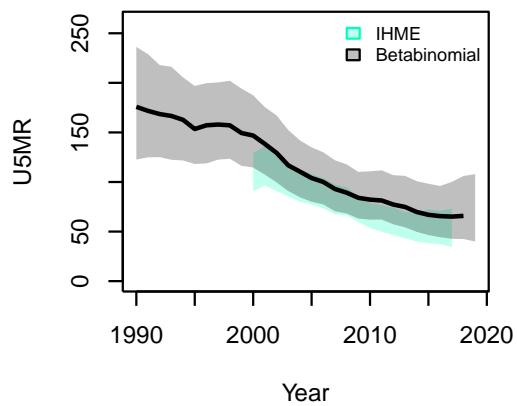
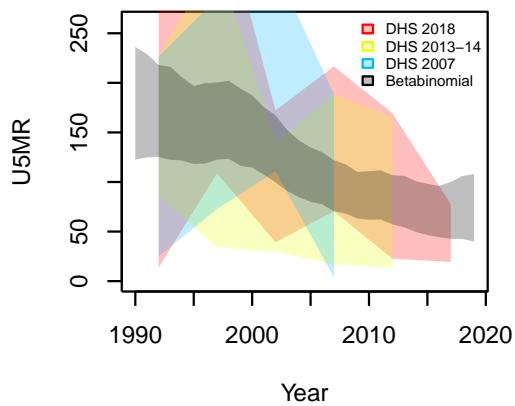
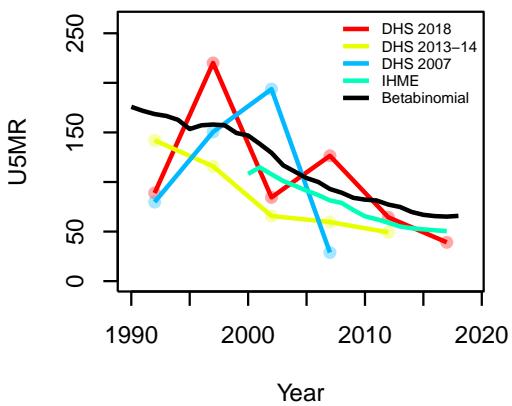
Masaiti, Copperbelt



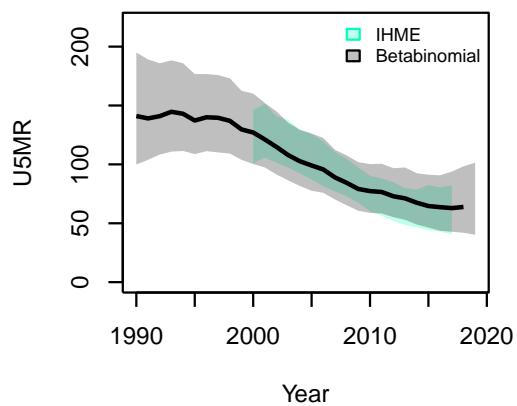
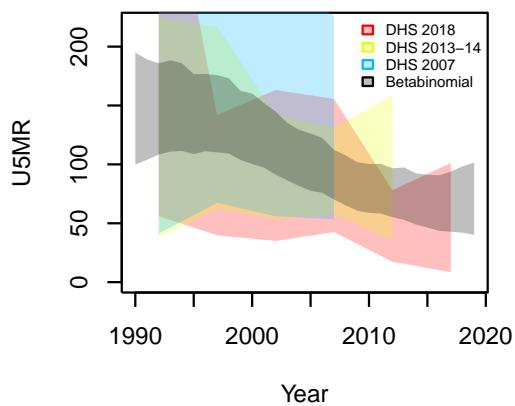
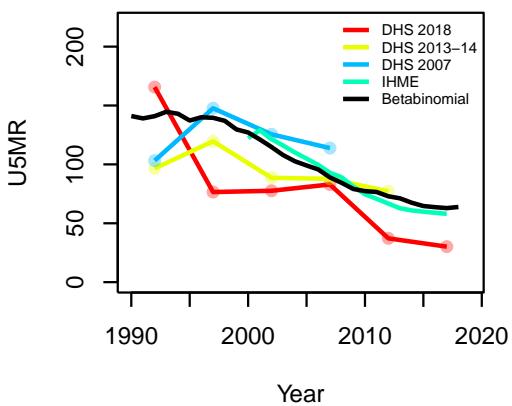
MPongwe, Copperbelt



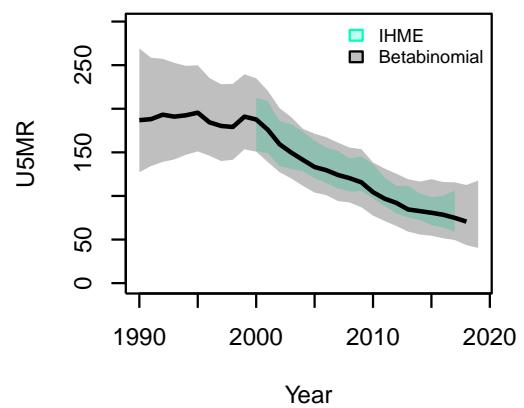
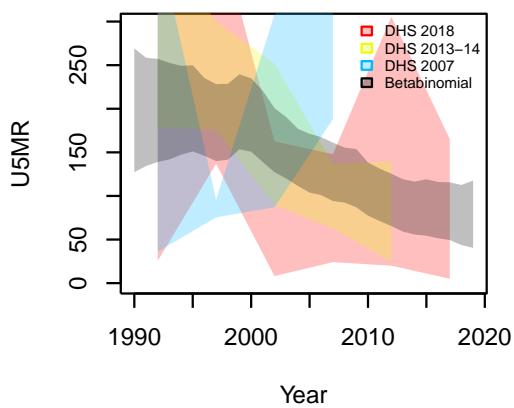
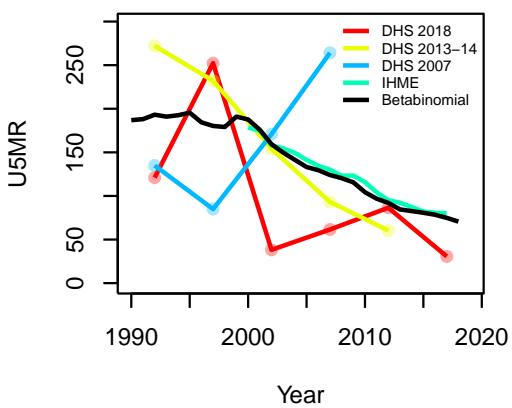
Mufulira, Copperbelt



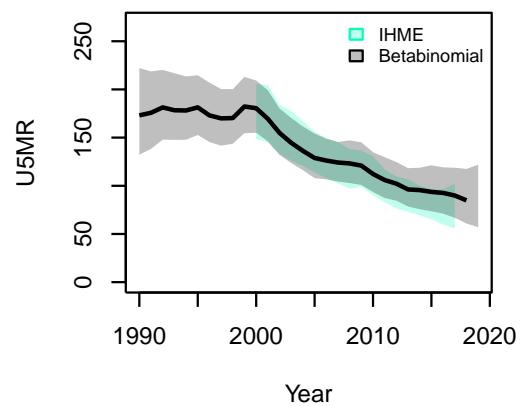
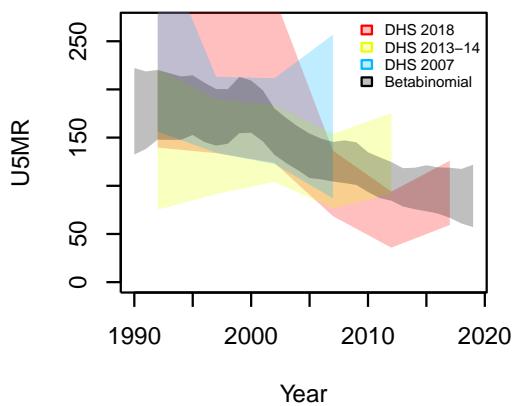
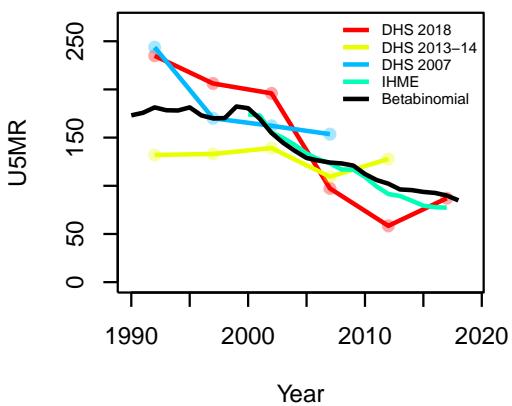
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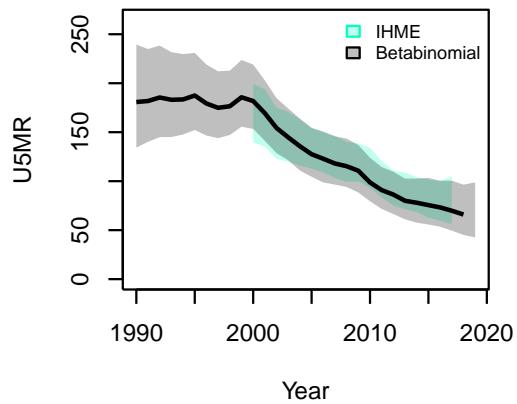
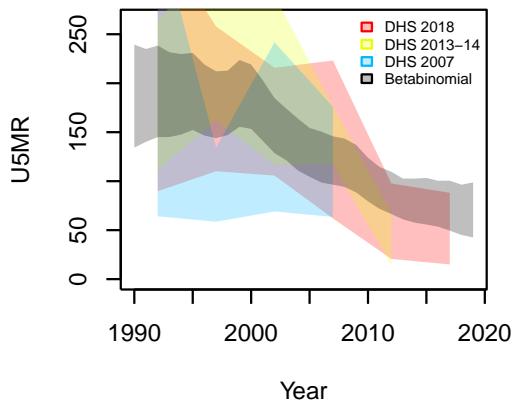
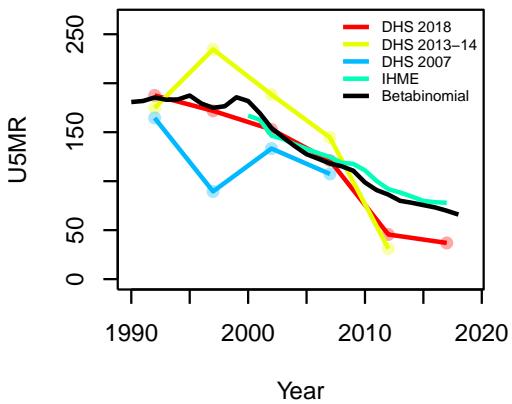
Chadiza, Eastern



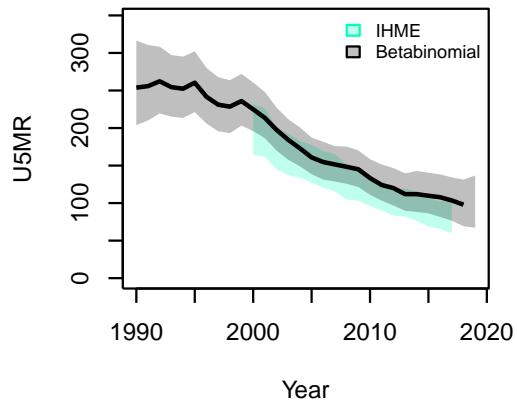
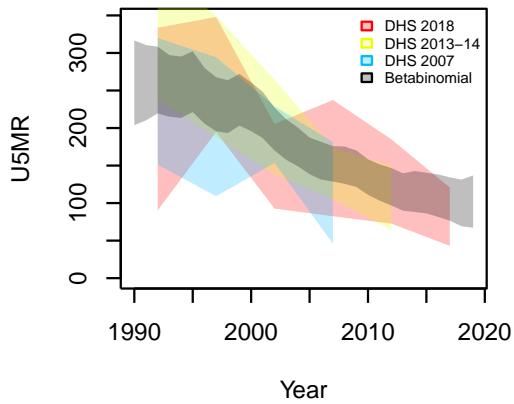
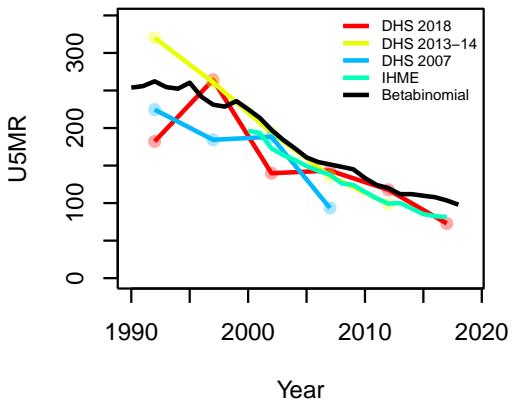
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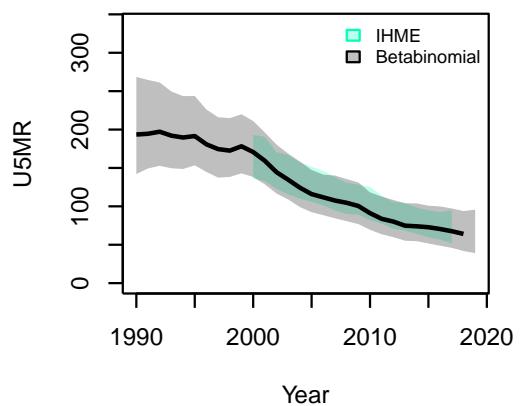
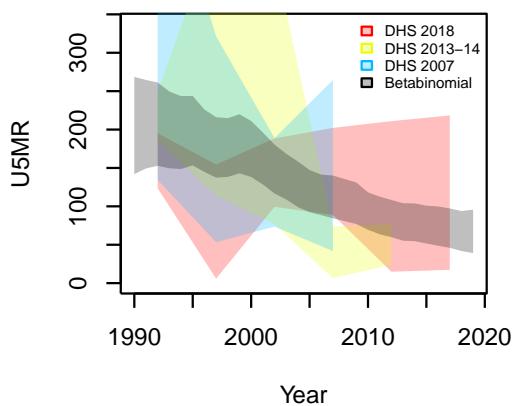
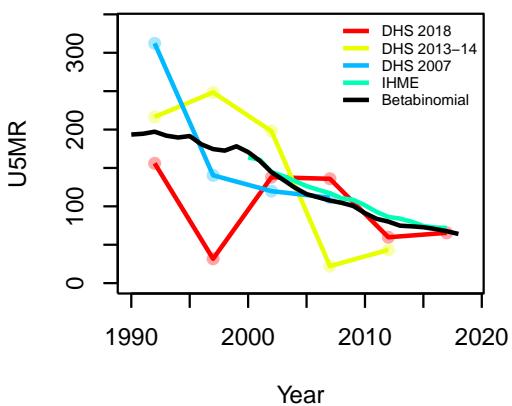
Katete, Eastern



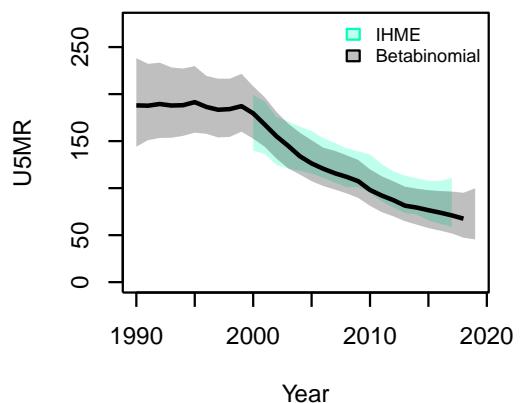
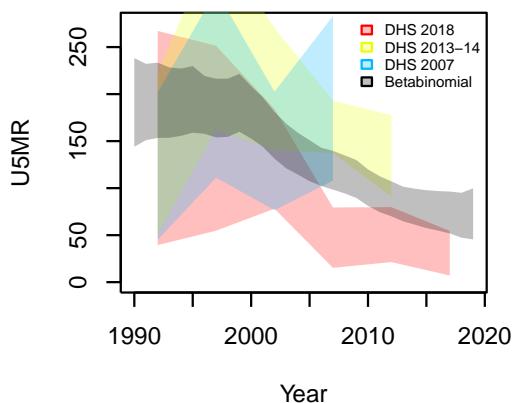
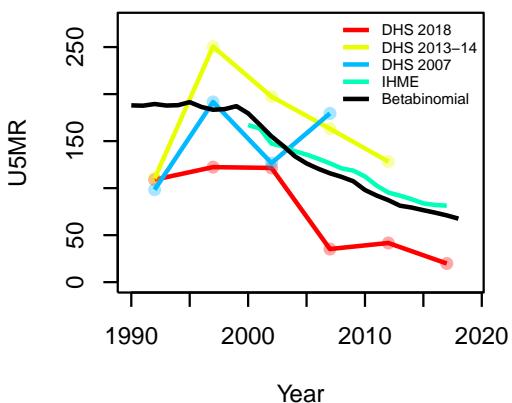
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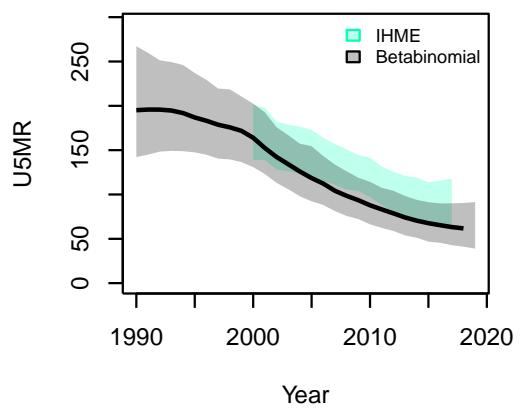
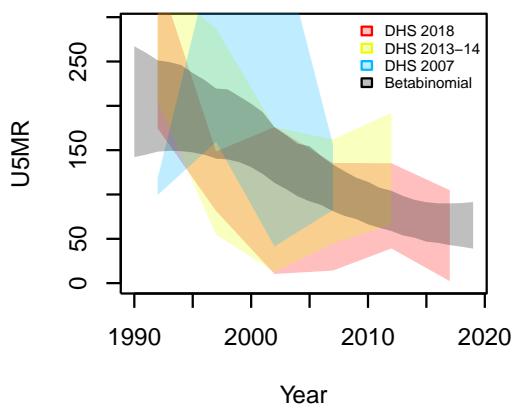
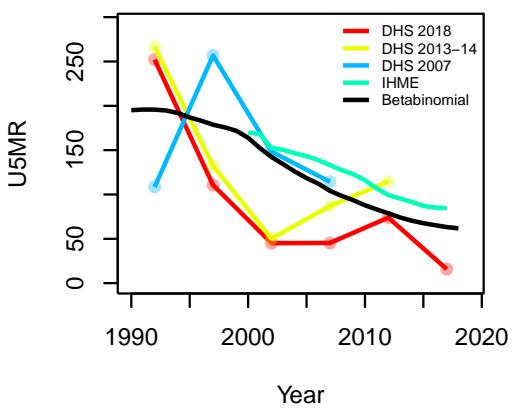
Mambwe, Eastern



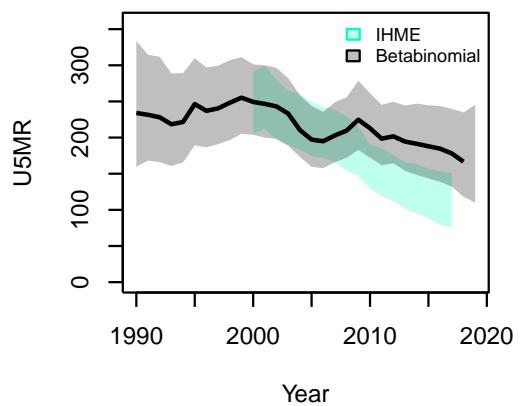
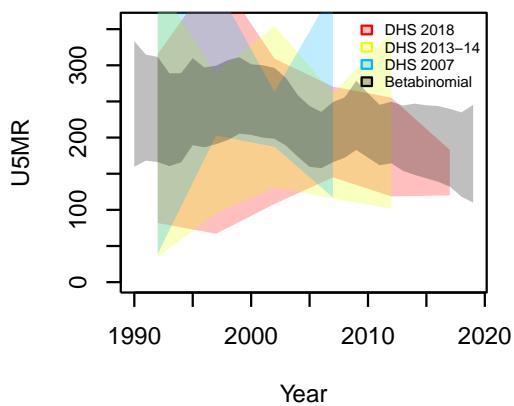
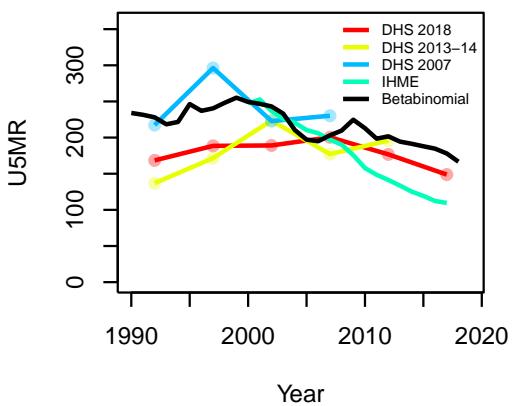
Nyimba, Eastern



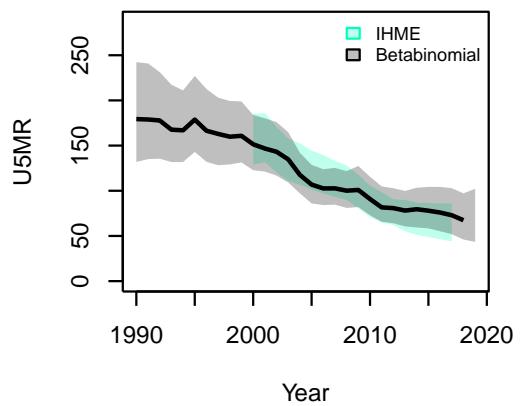
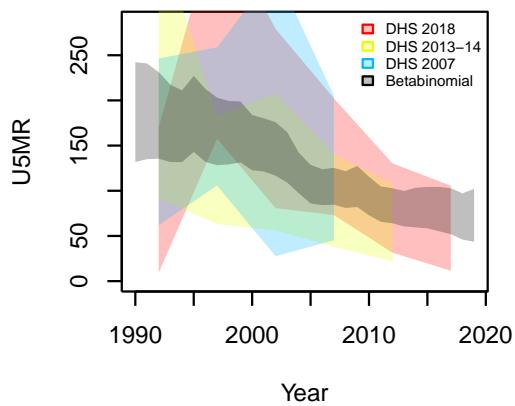
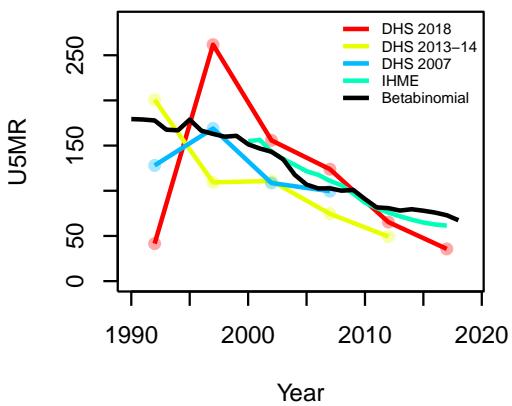
Petauke, Eastern



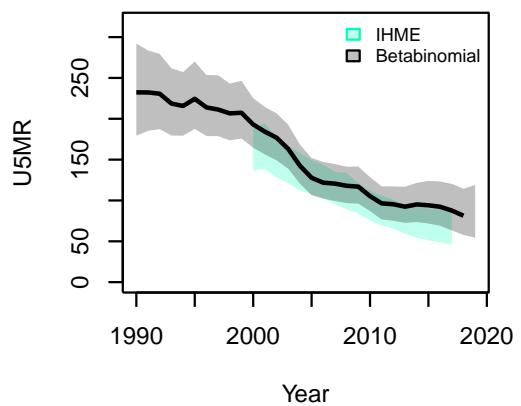
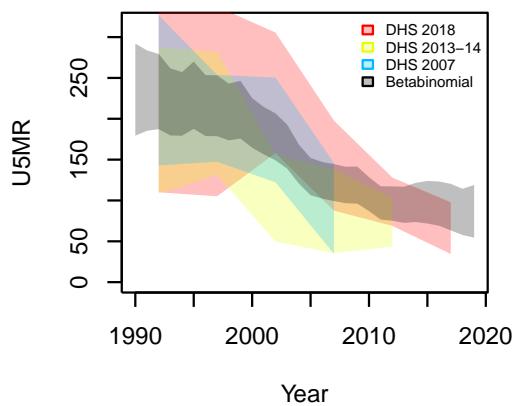
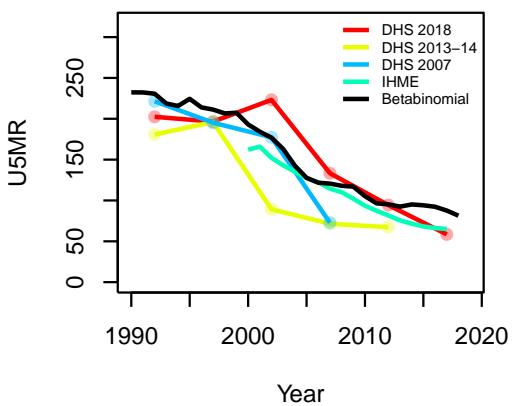
Chiengi, Luapula



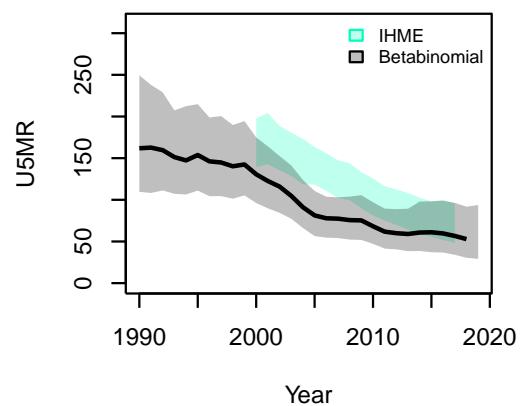
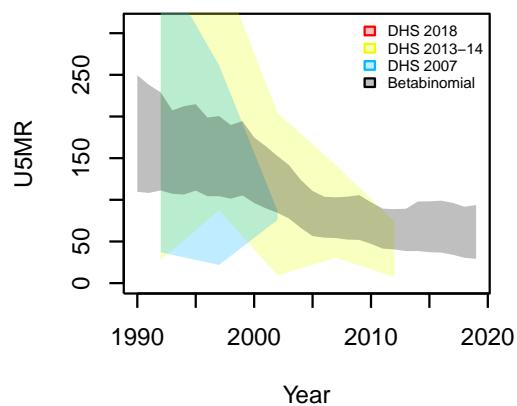
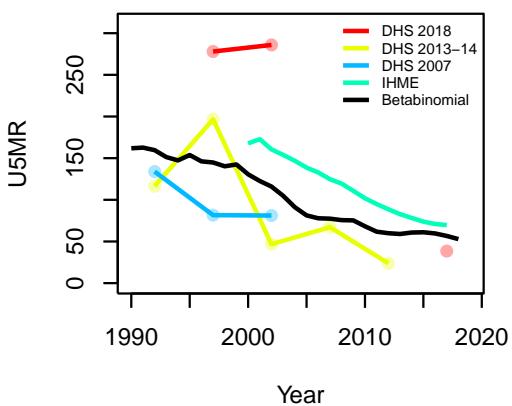
Kawambwa, Luapula



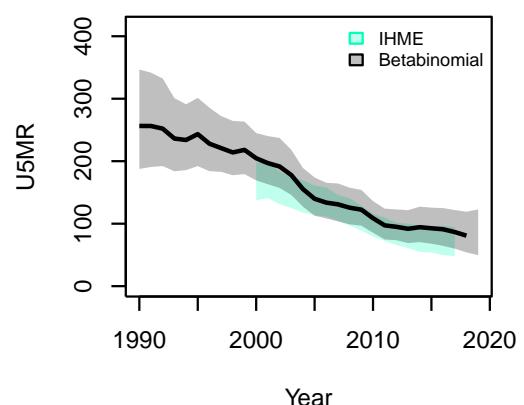
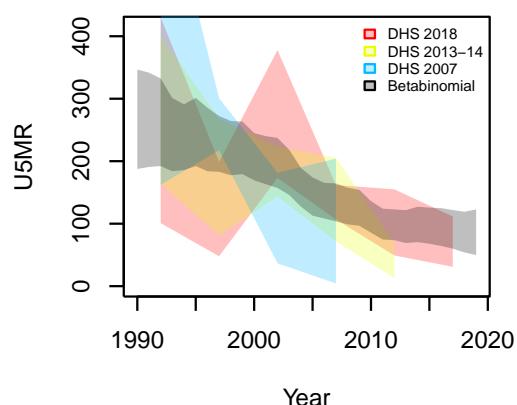
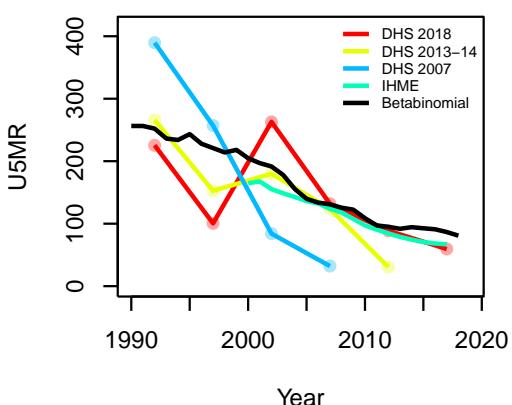
Mansa, Luapula



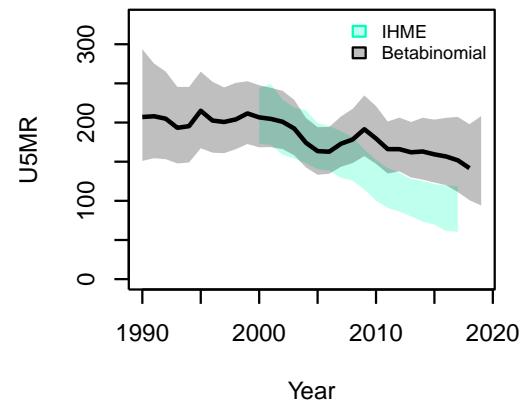
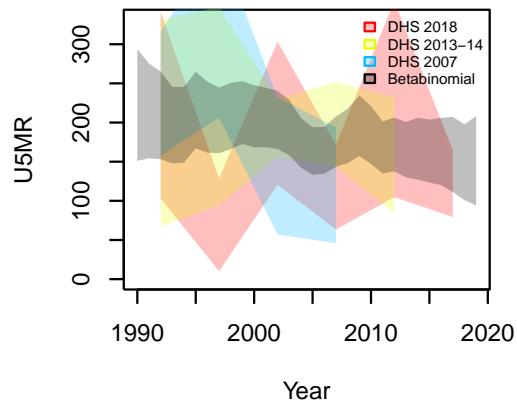
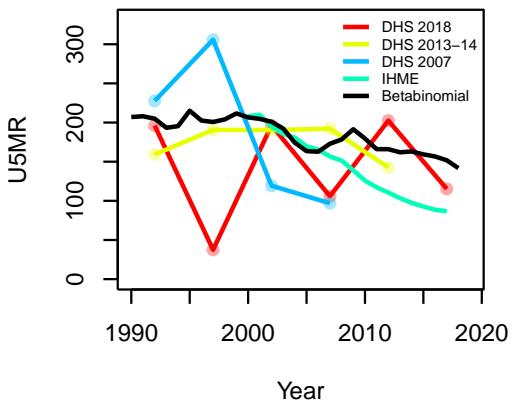
Milenge, Luapula



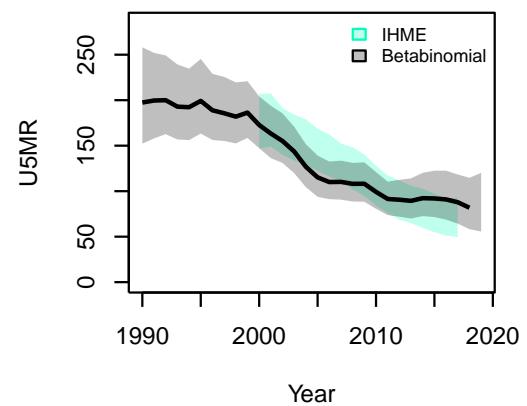
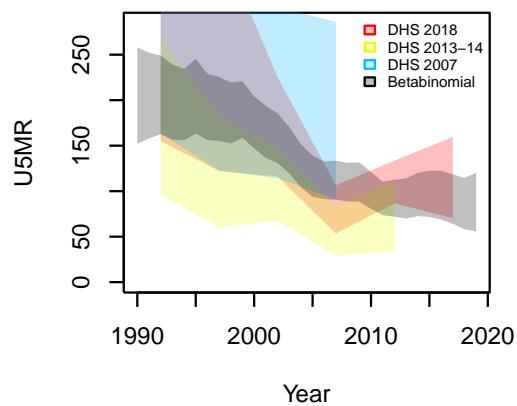
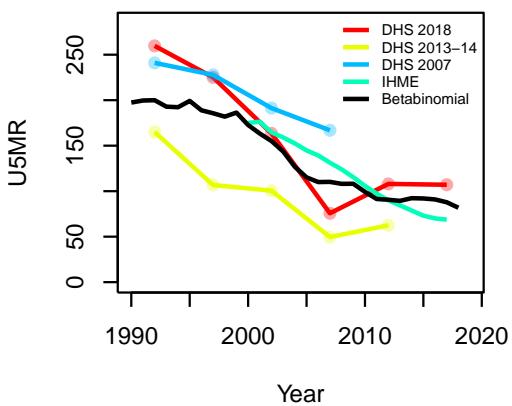
Mwense, Luapula



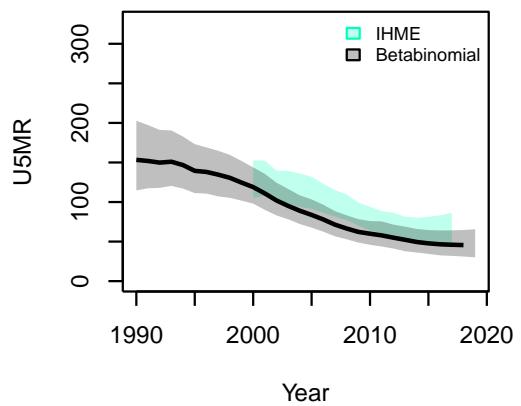
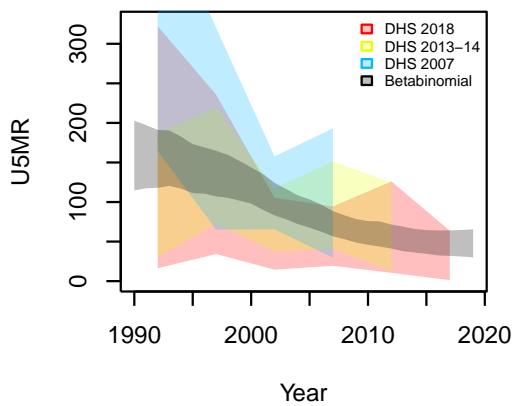
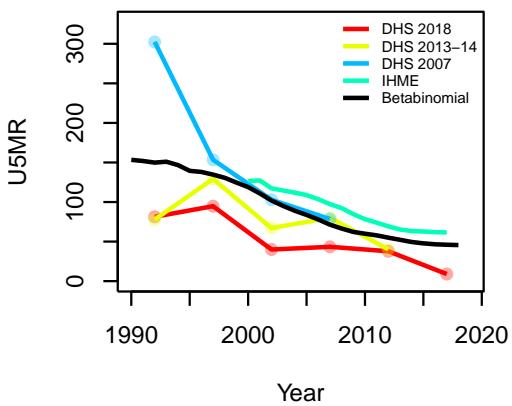
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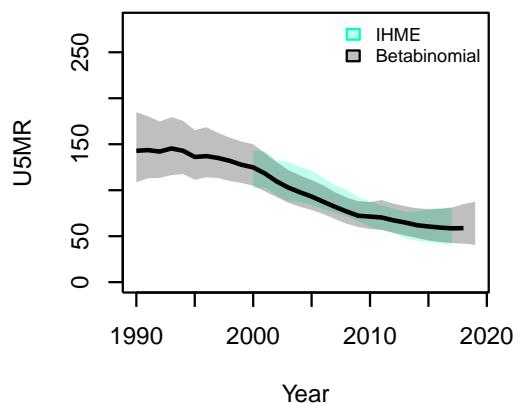
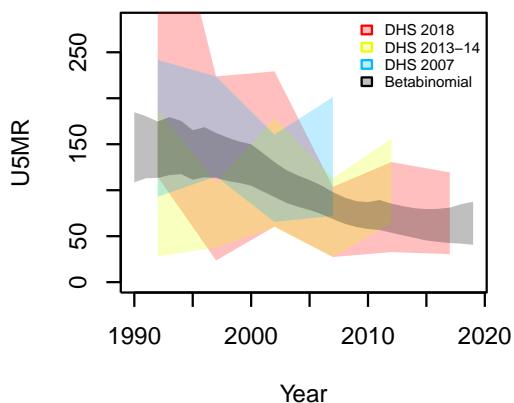
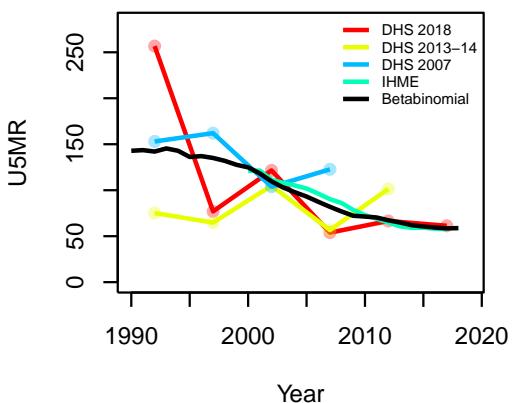
Samfya, Luapula



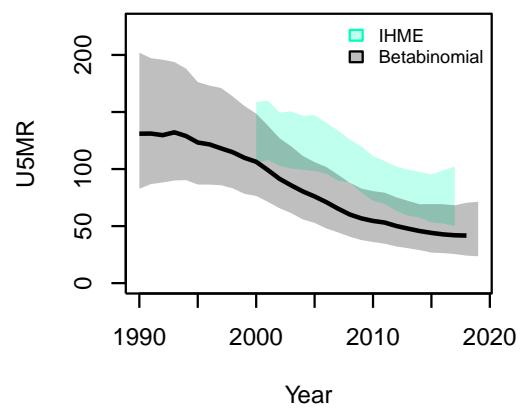
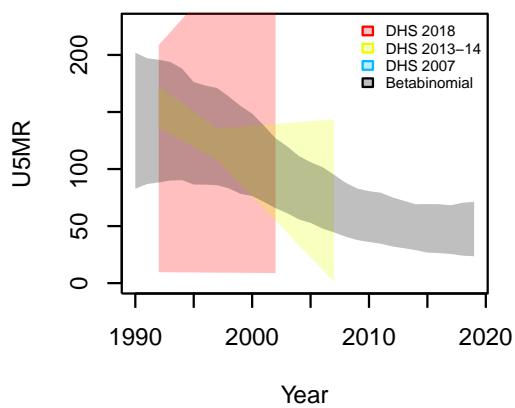
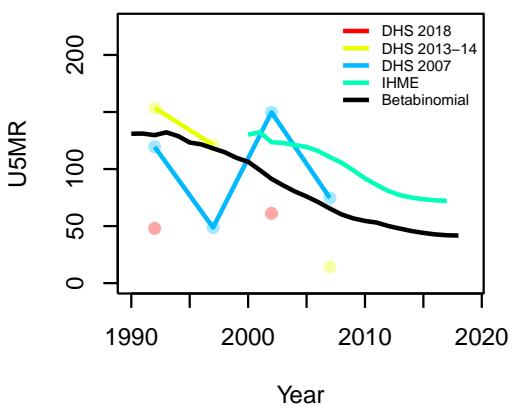
Chongwe, Lusaka



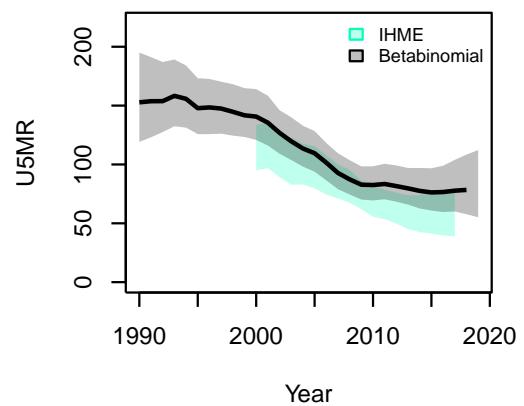
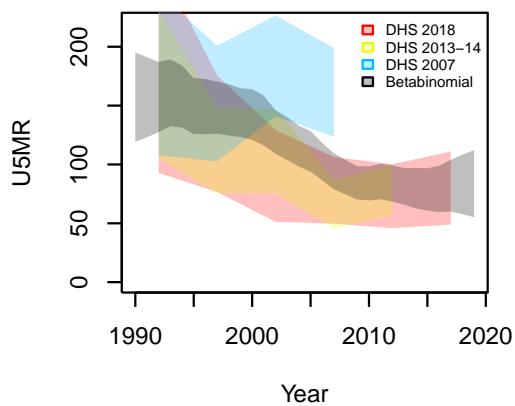
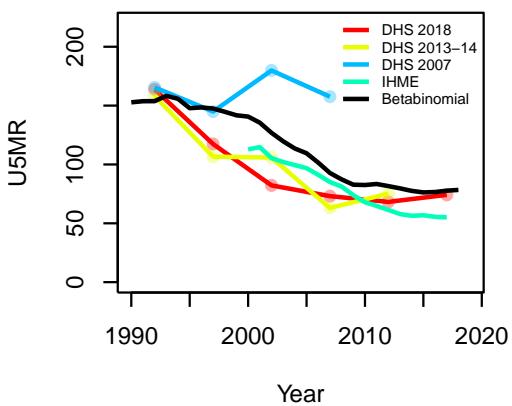
Kafue, Lusaka



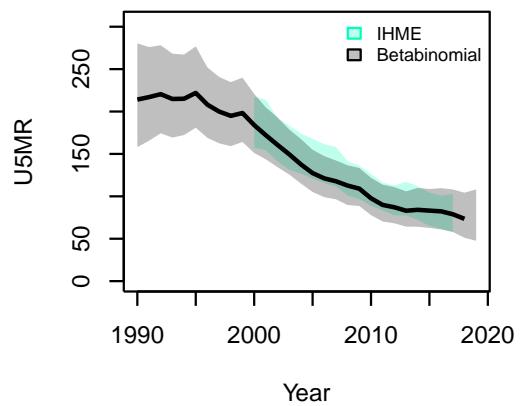
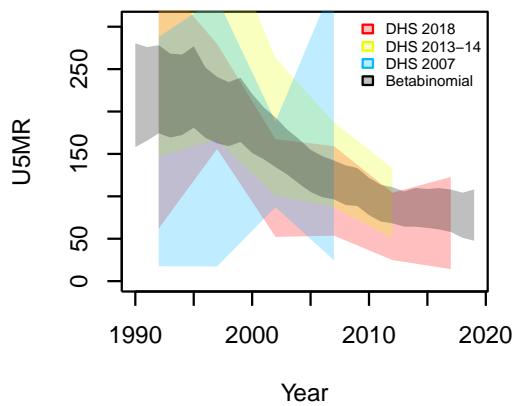
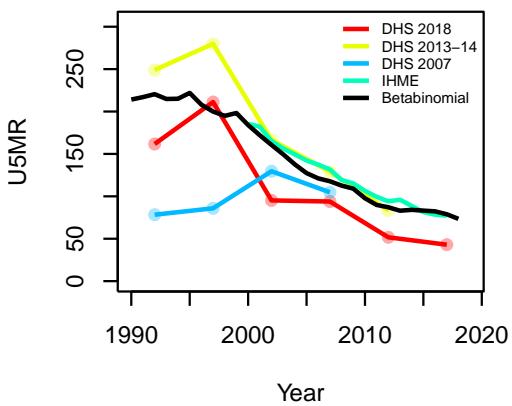
Luangwa, Lusaka



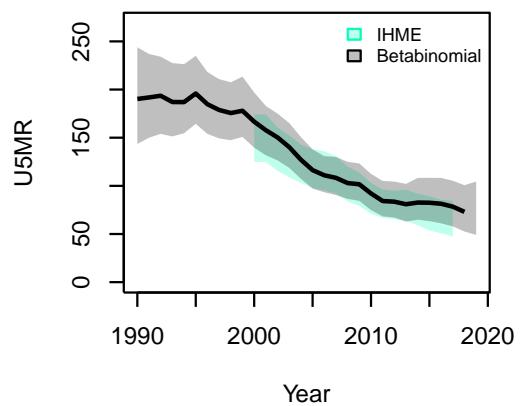
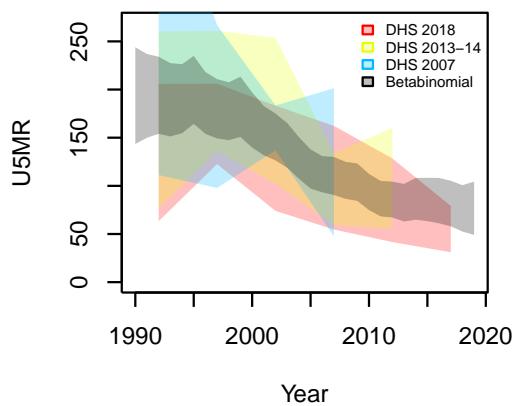
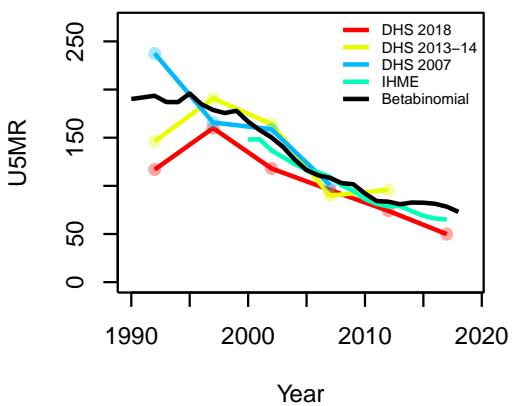
Lusaka, Lusaka



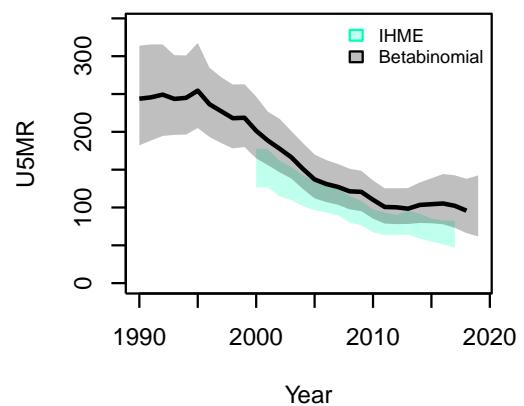
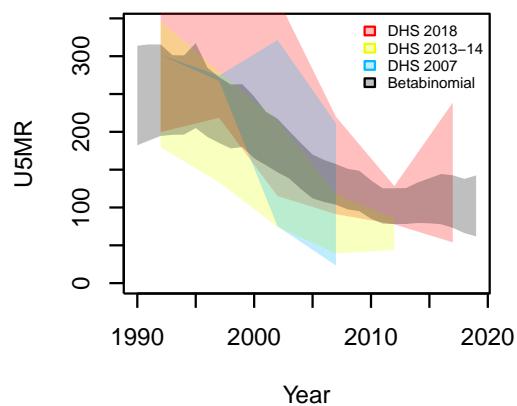
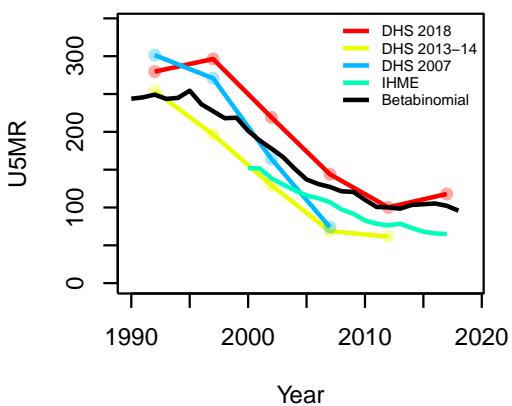
Chama, Muchinga



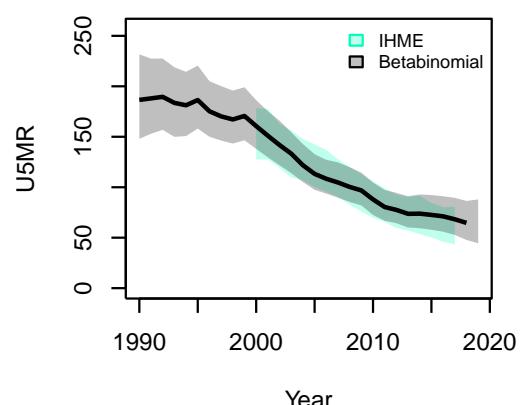
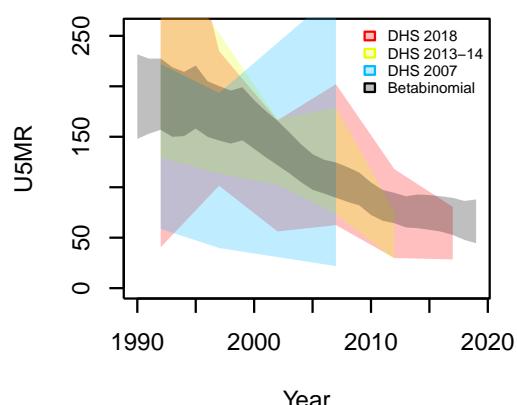
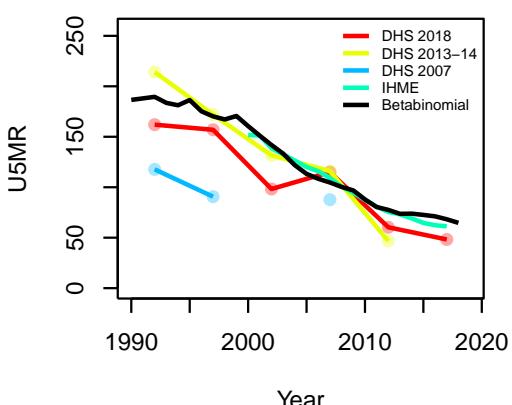
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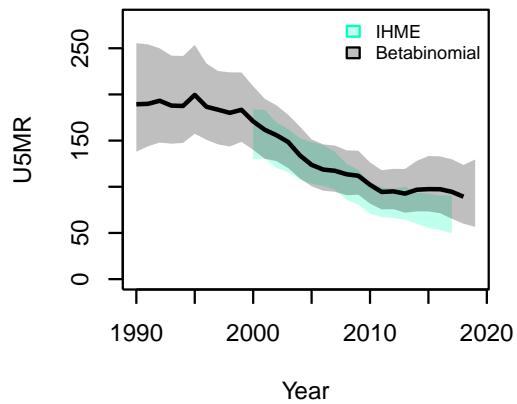
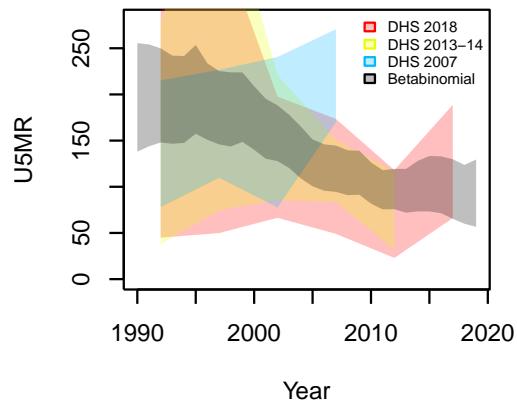
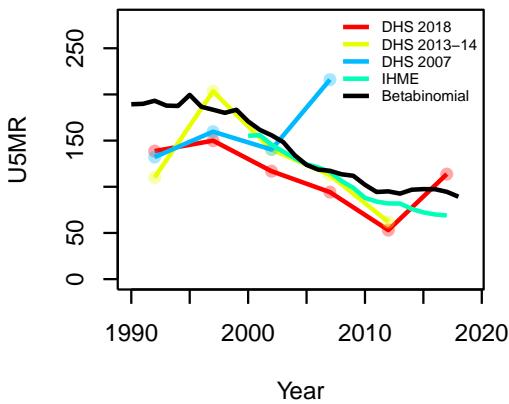
Isoka, Muchinga



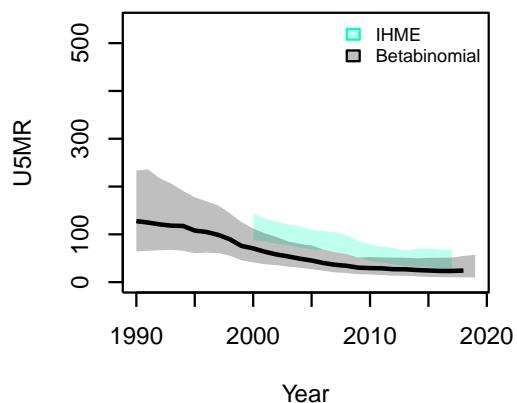
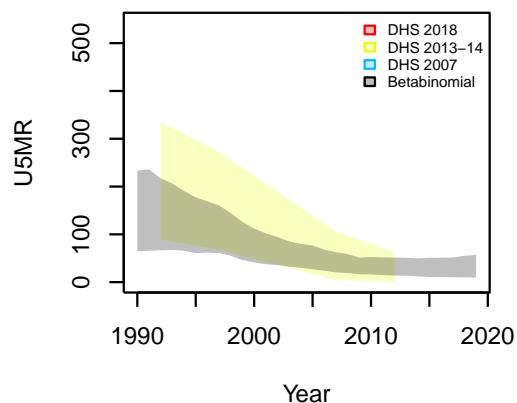
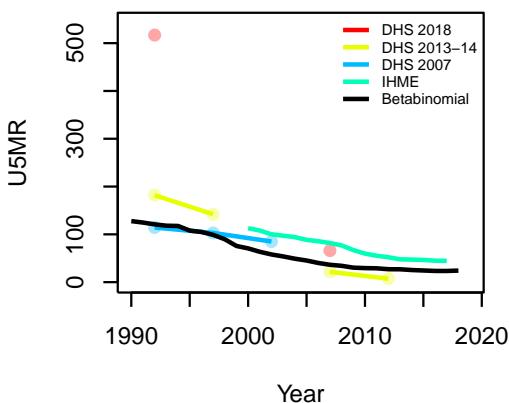
Mpika, Muchinga



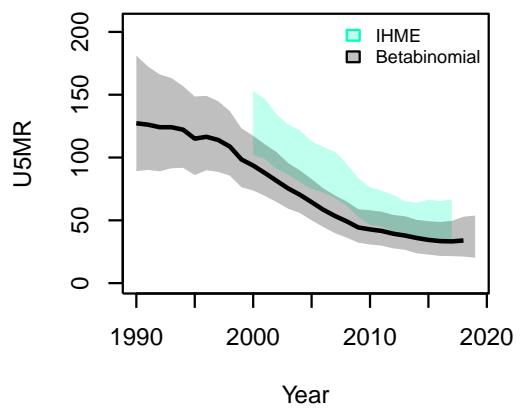
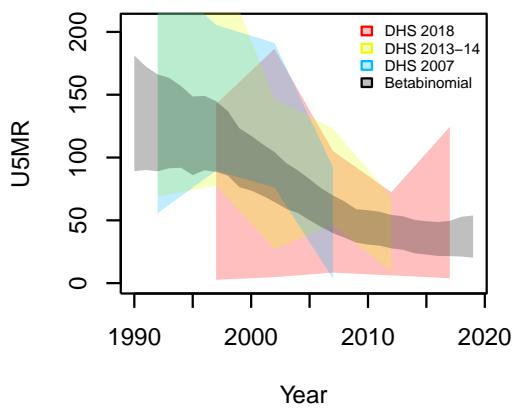
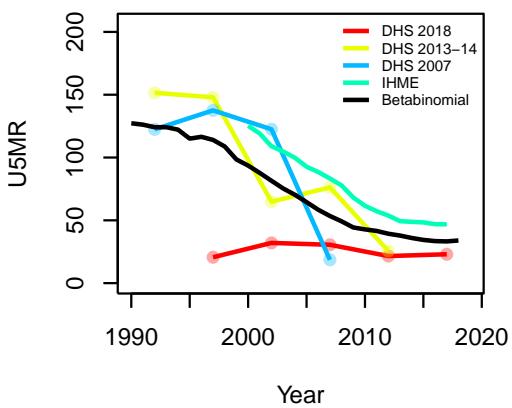
Nakonde, Muchinga



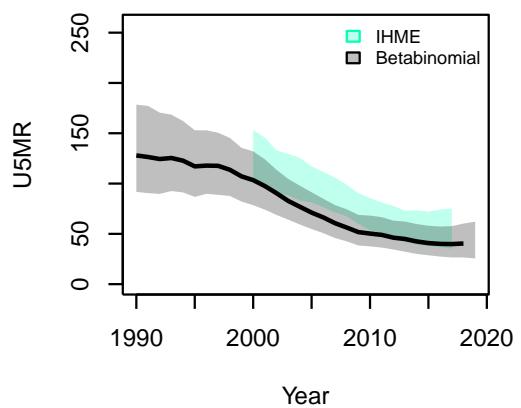
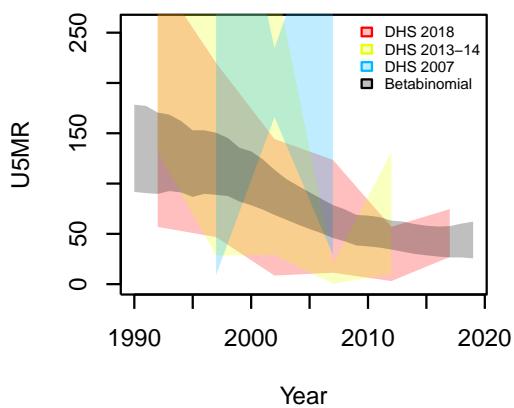
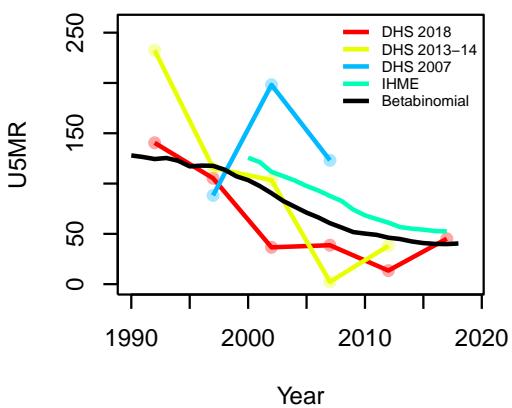
Chavuma, North-Western



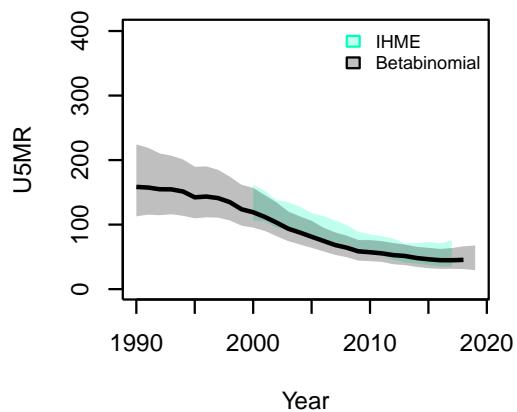
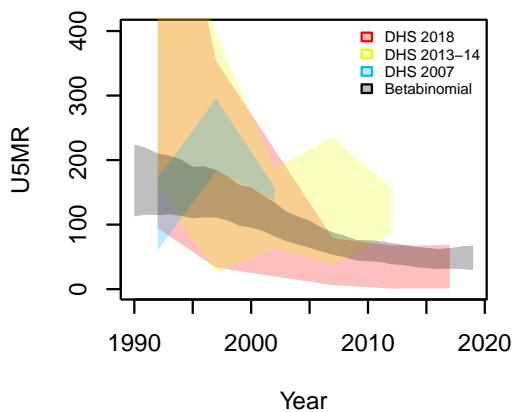
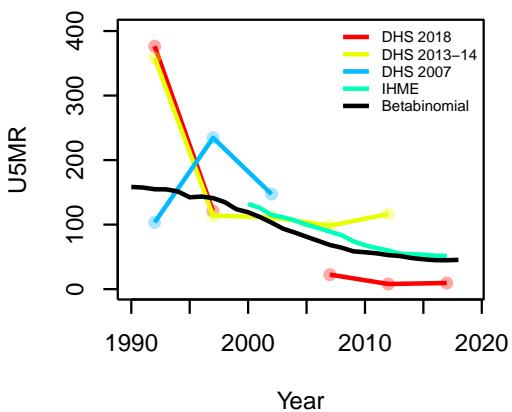
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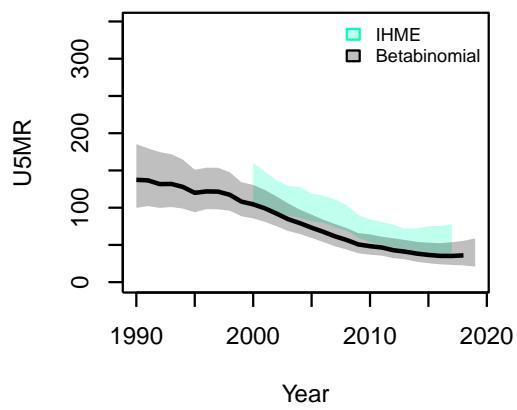
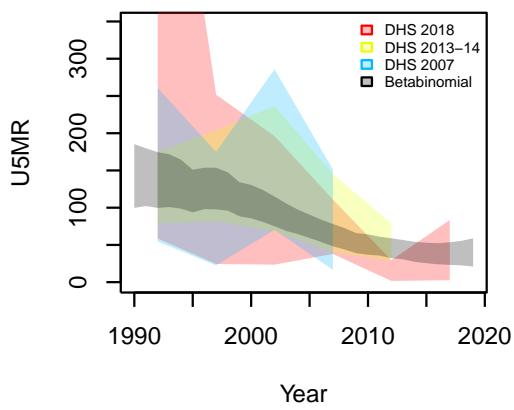
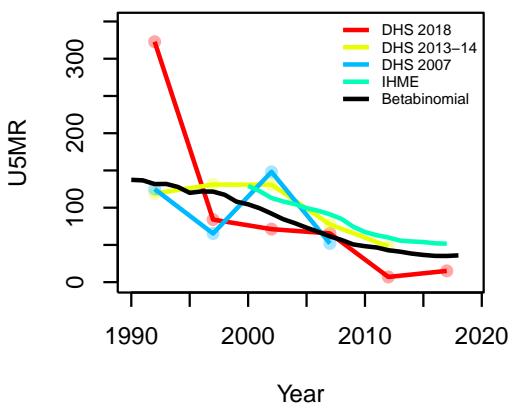
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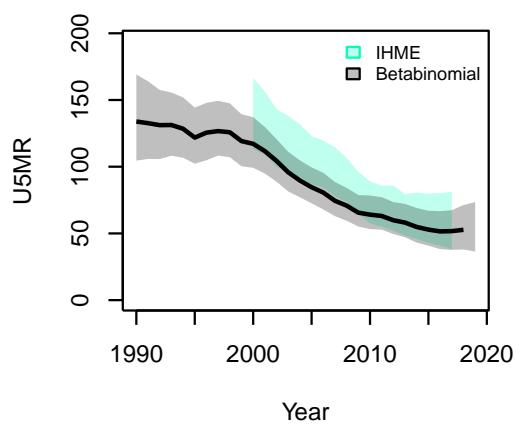
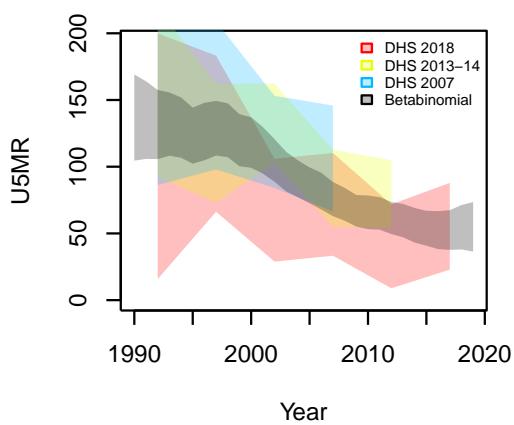
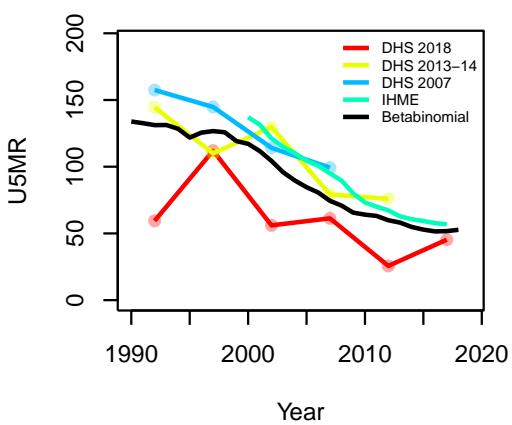
Mufumbwe, North-Western



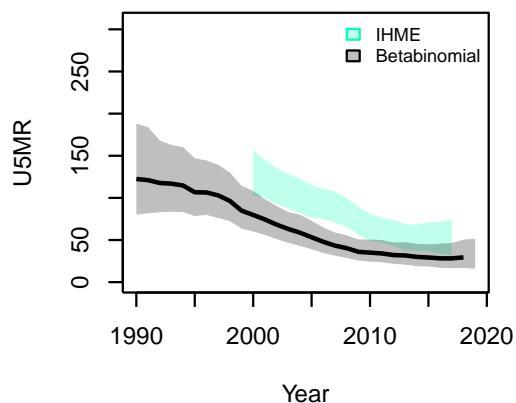
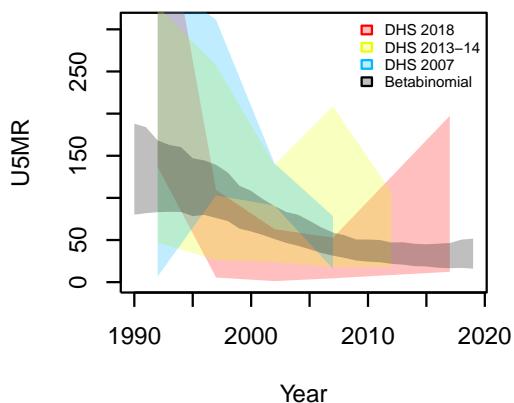
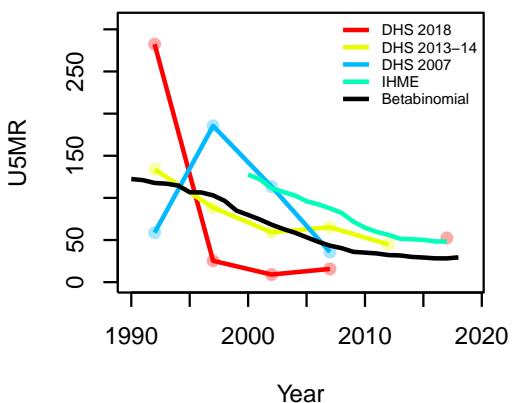
Mwinilunga, North-Western



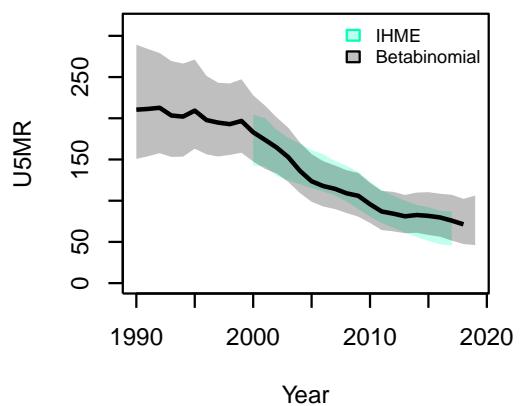
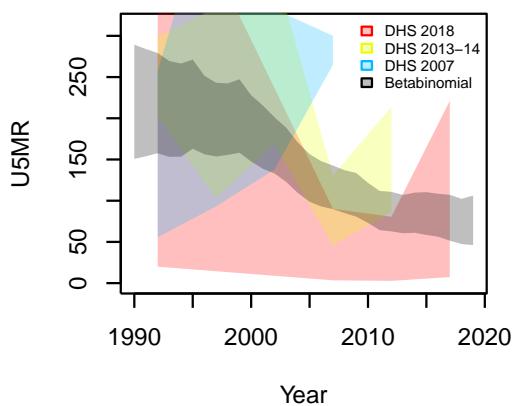
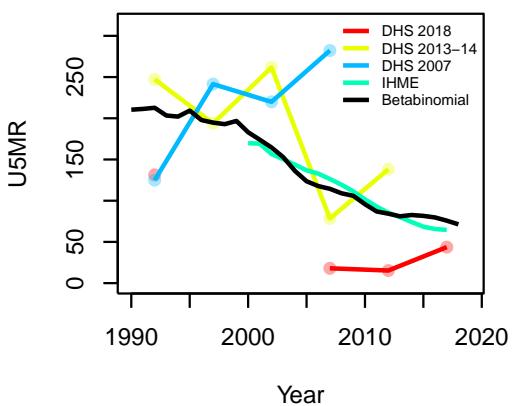
Solwezi, North-Western



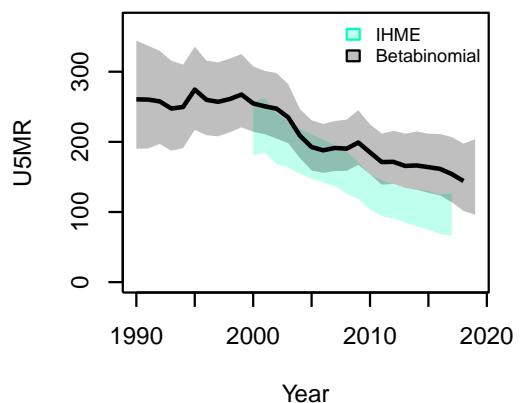
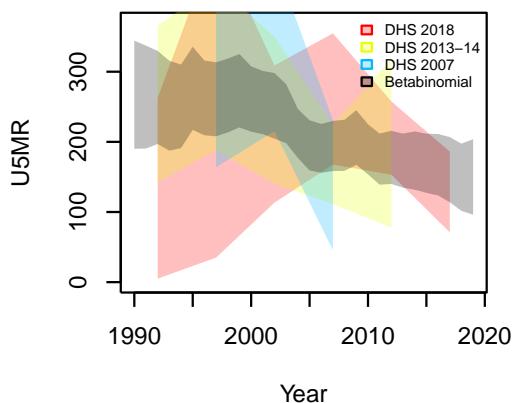
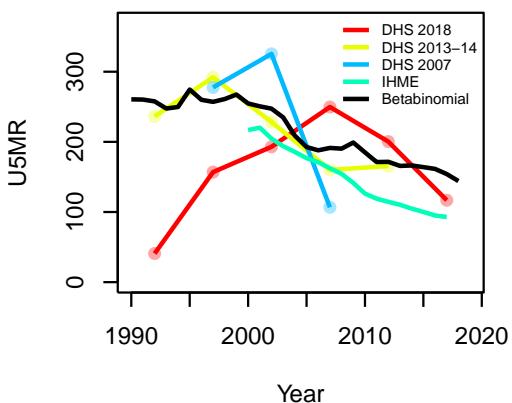
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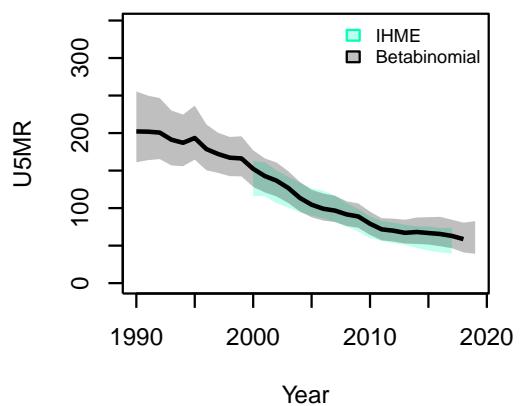
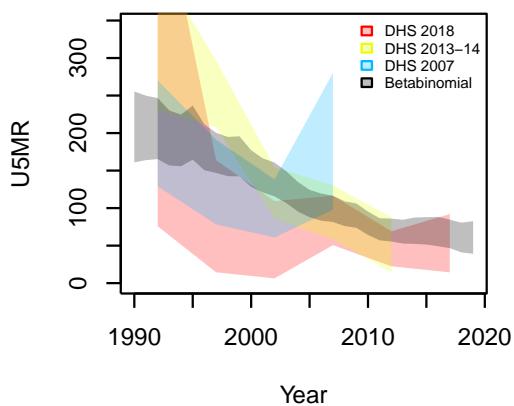
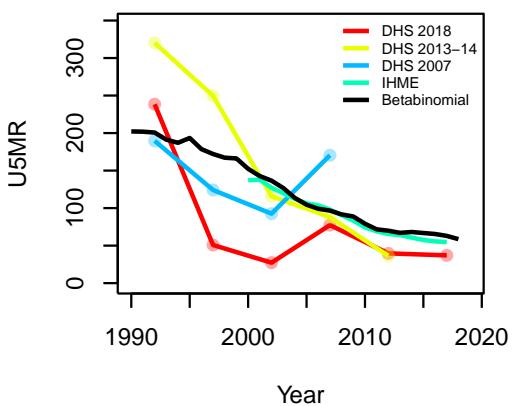
Chilubi, Northern



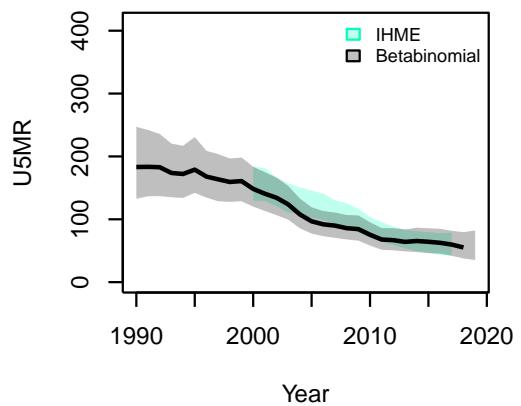
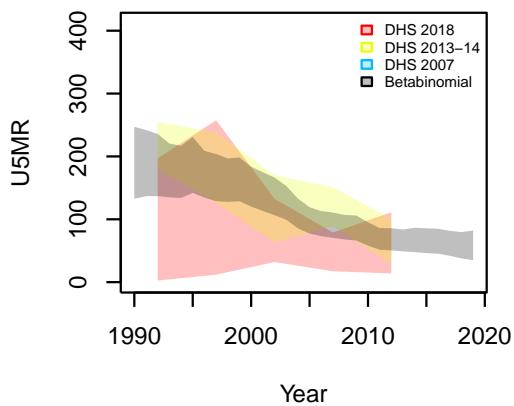
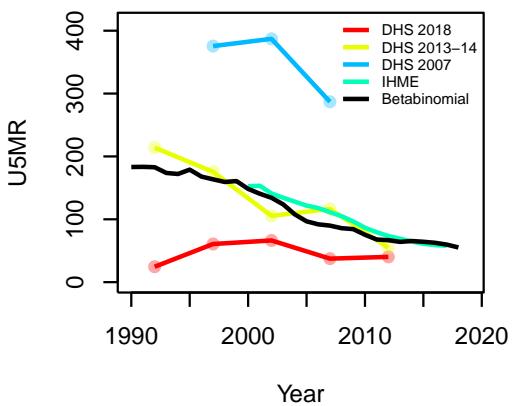
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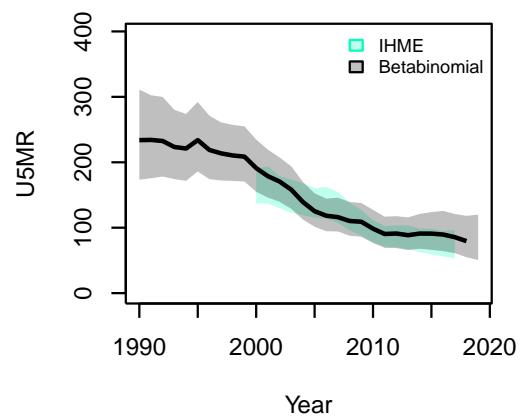
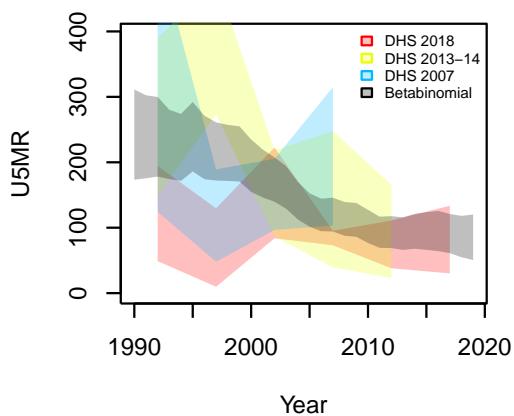
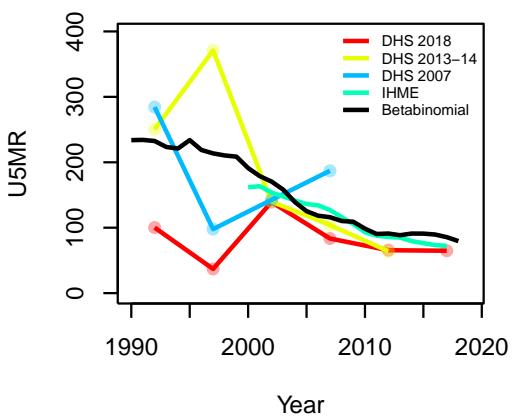
Kasama, Northern



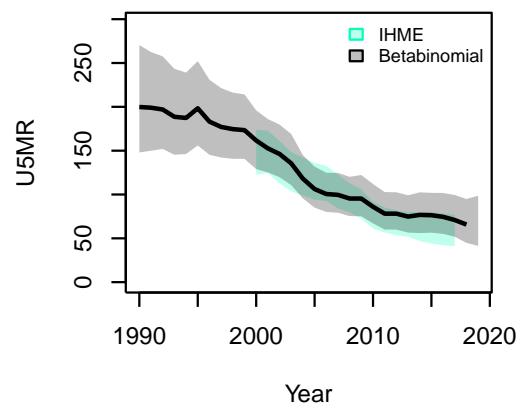
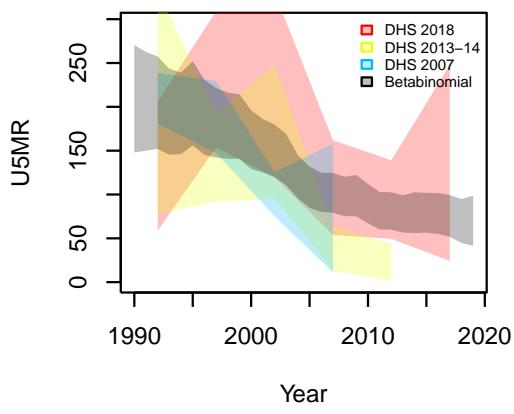
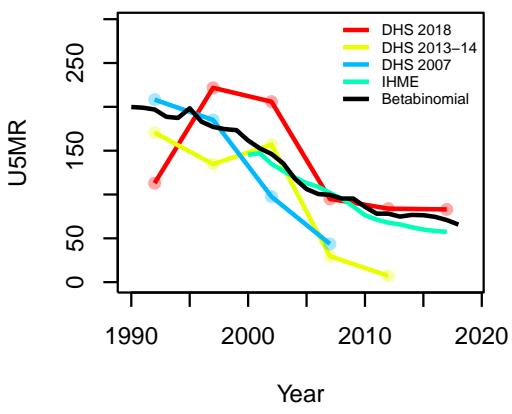
Luwingu, Northern



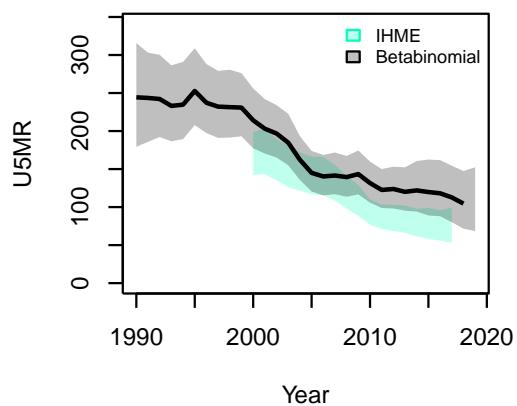
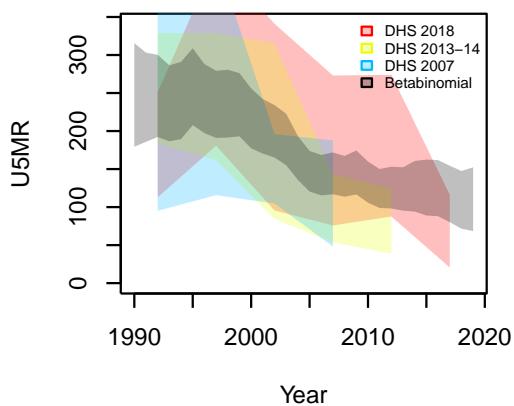
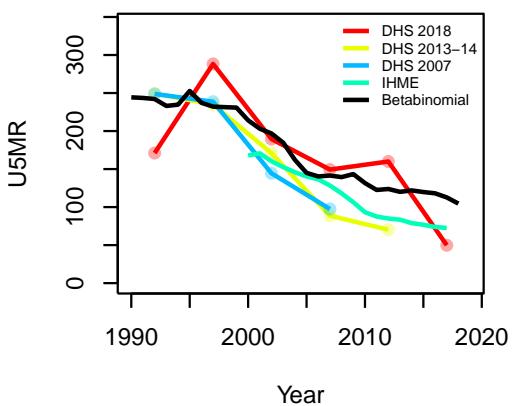
Mbala, Northern



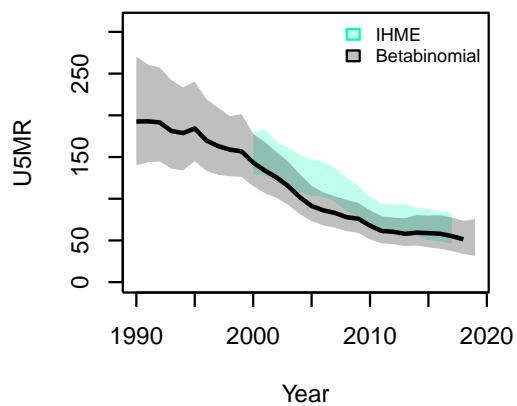
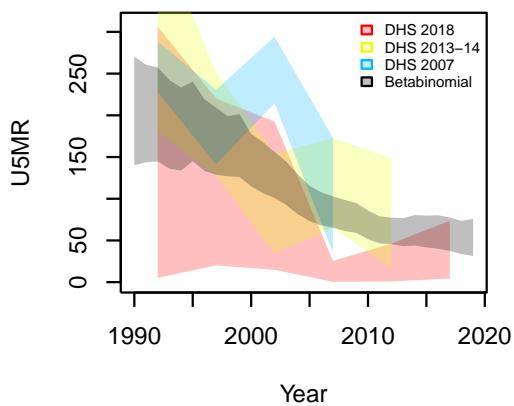
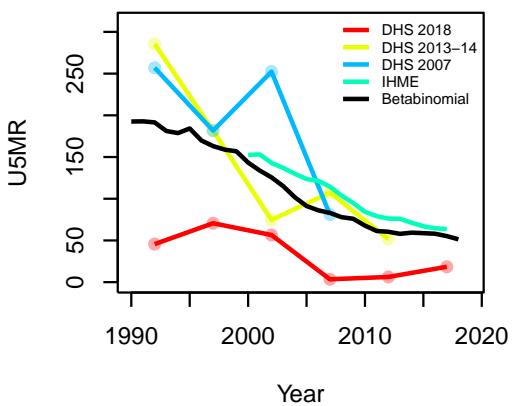
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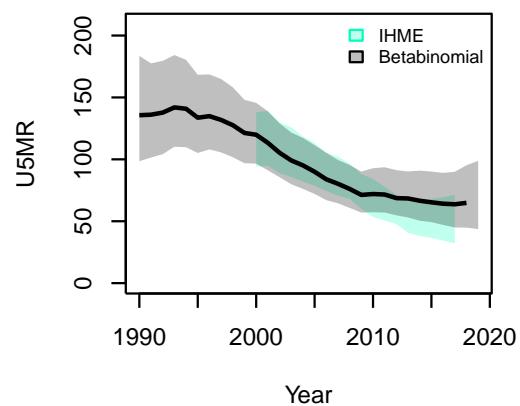
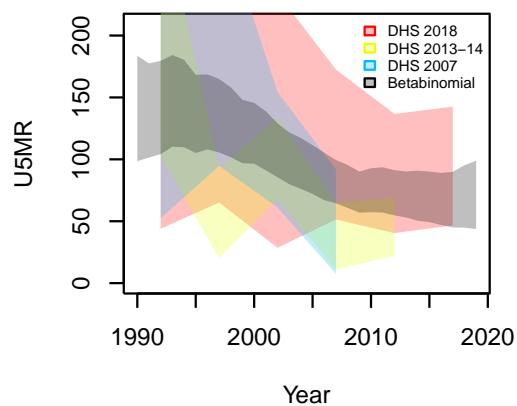
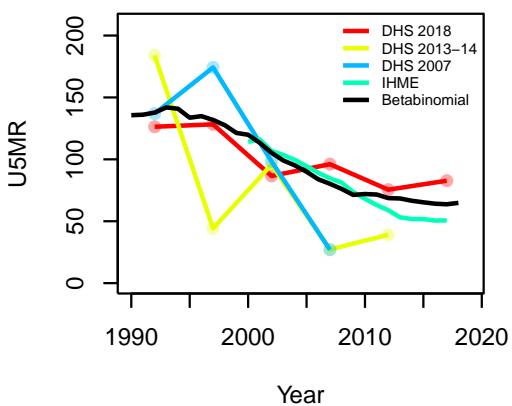
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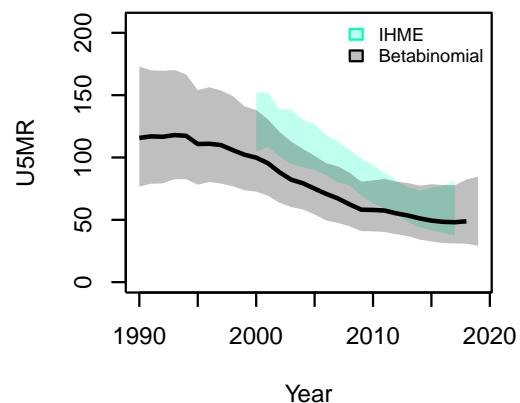
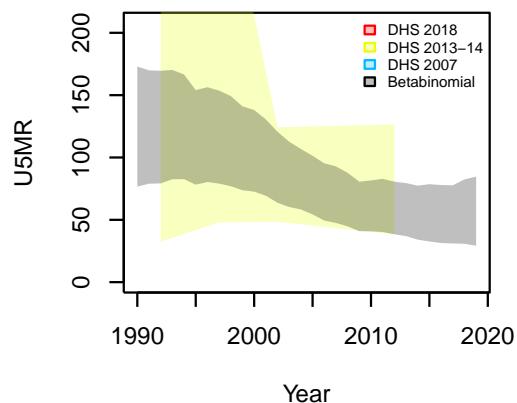
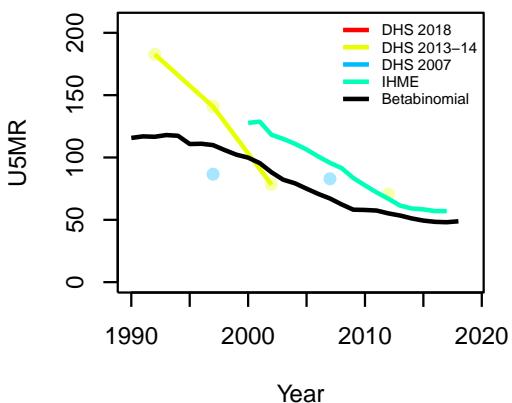
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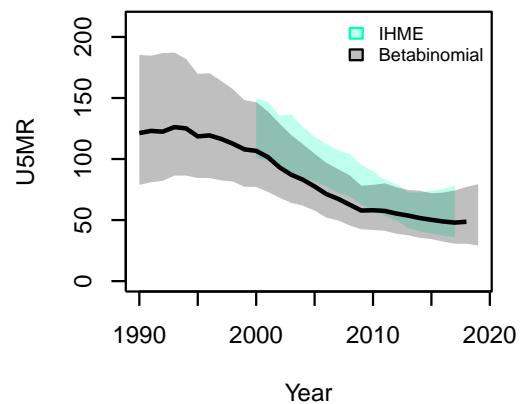
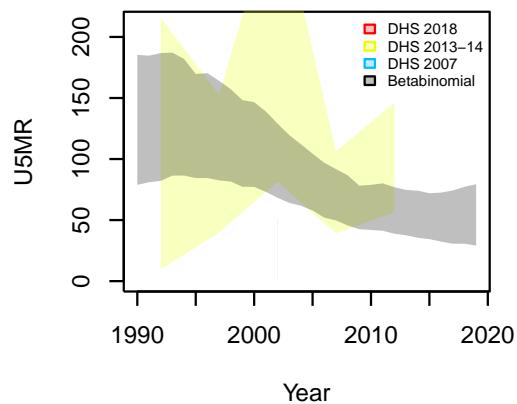
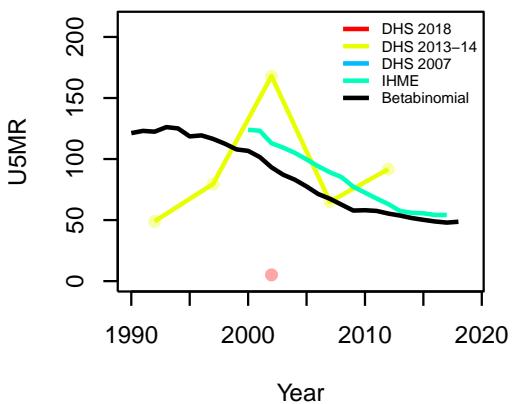
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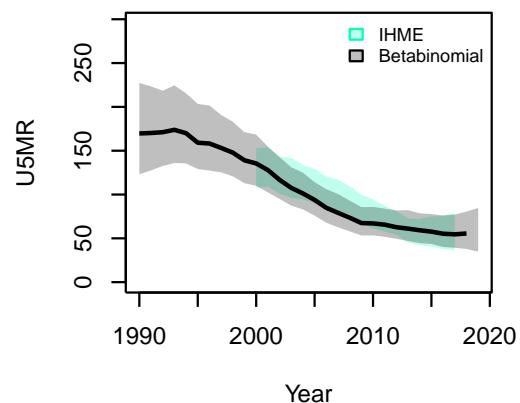
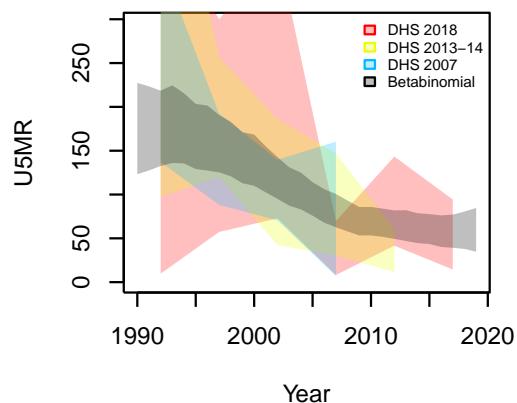
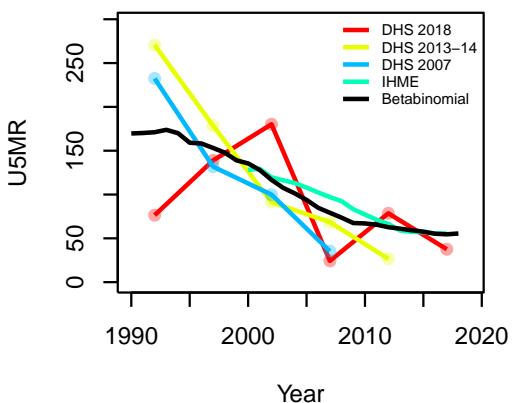
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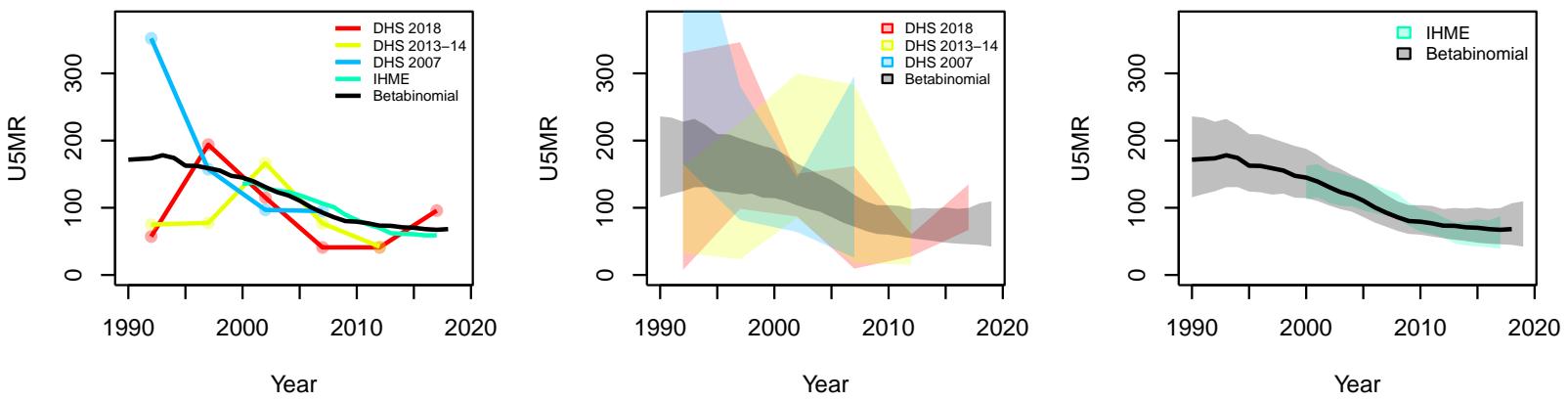
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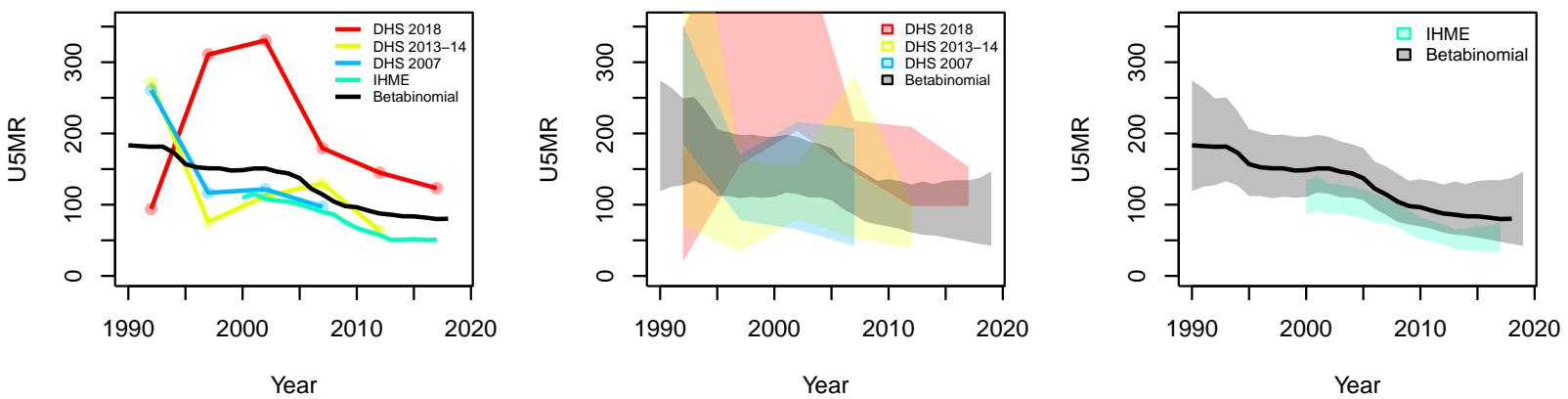
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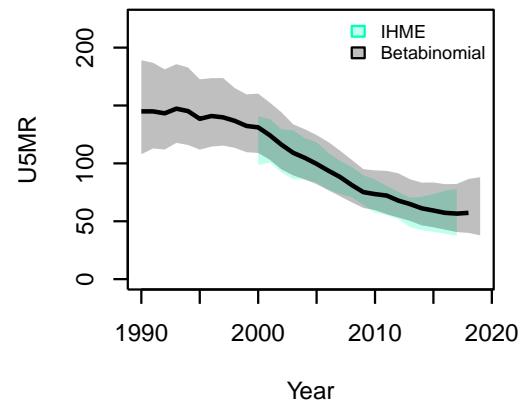
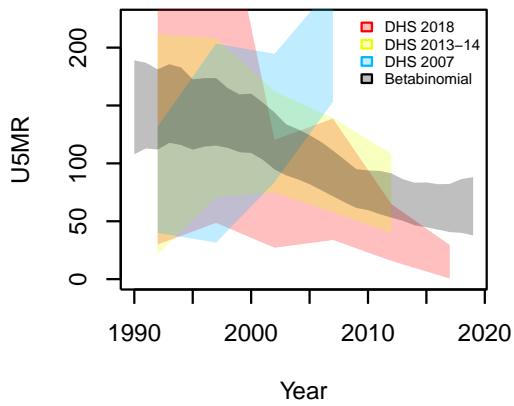
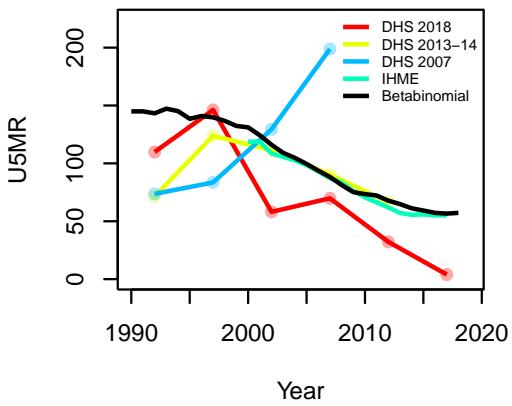
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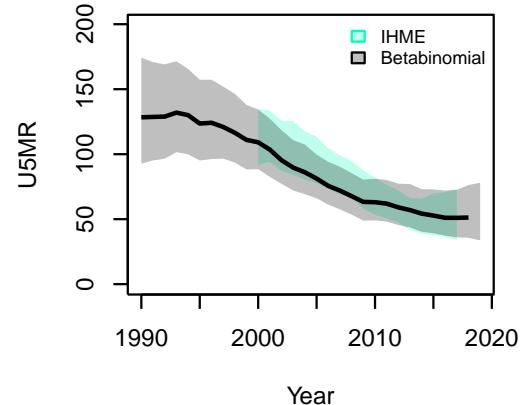
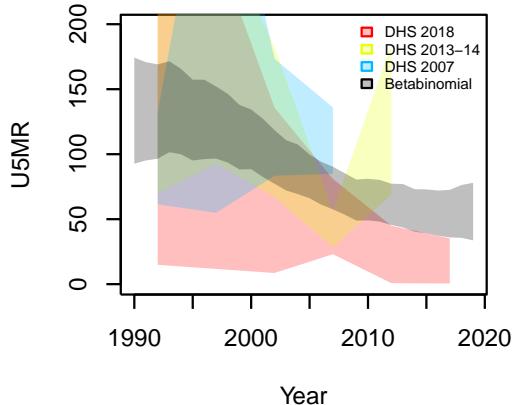
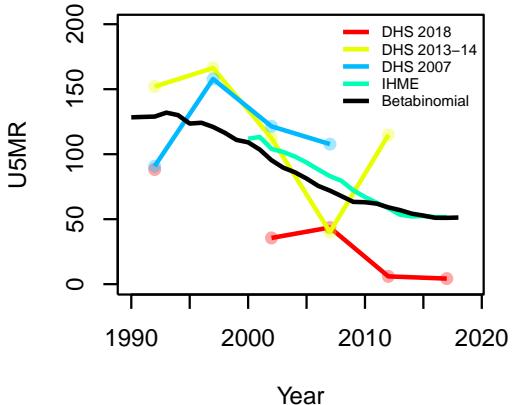
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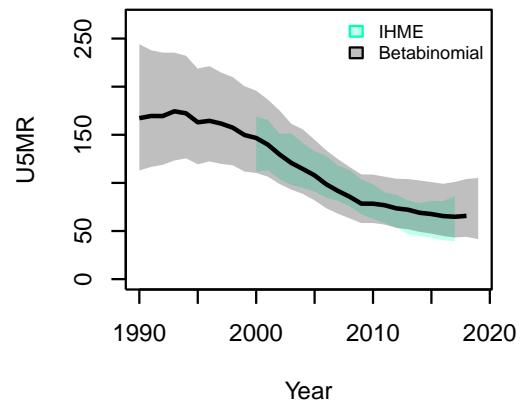
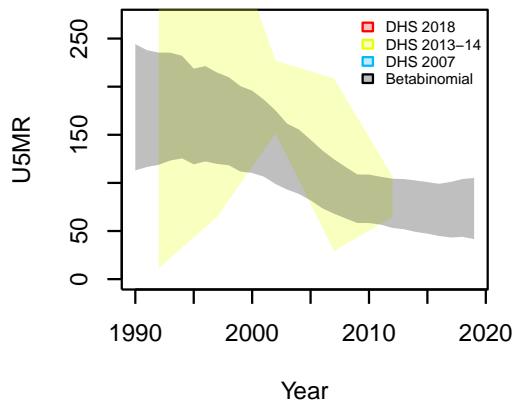
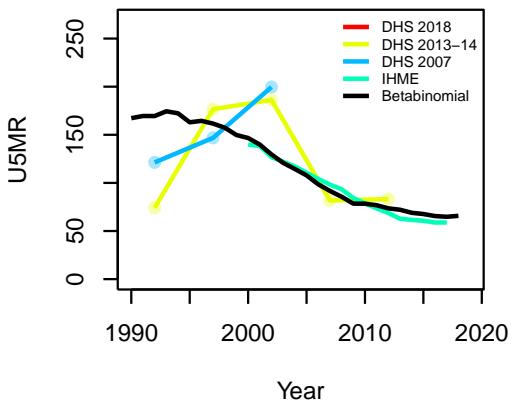
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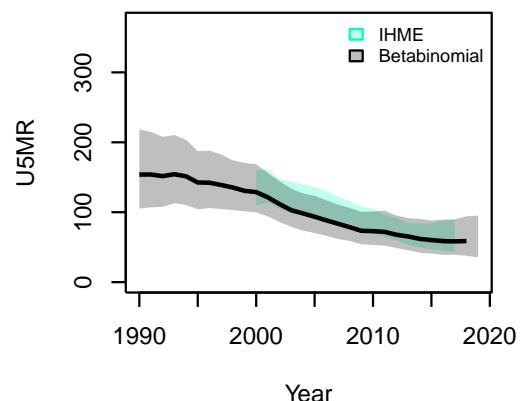
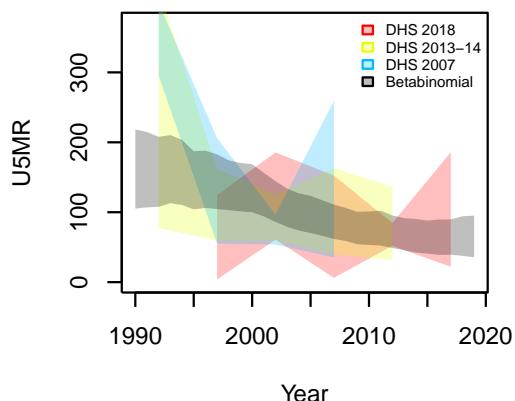
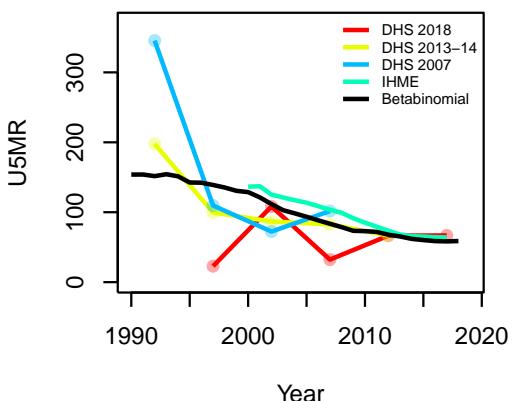
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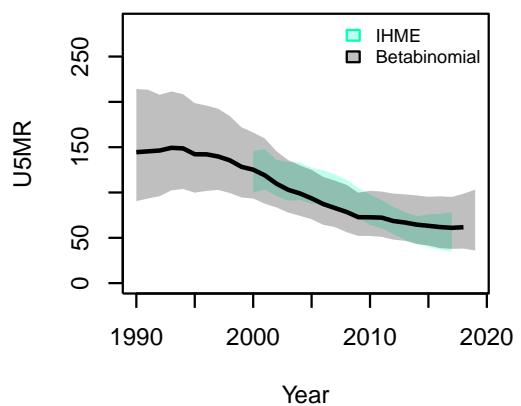
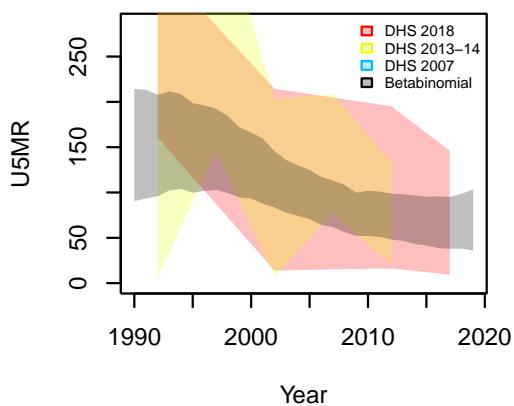
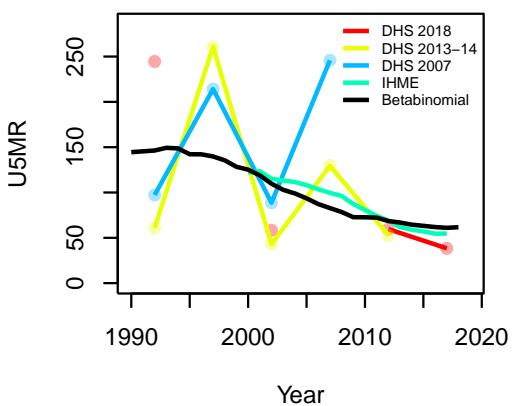
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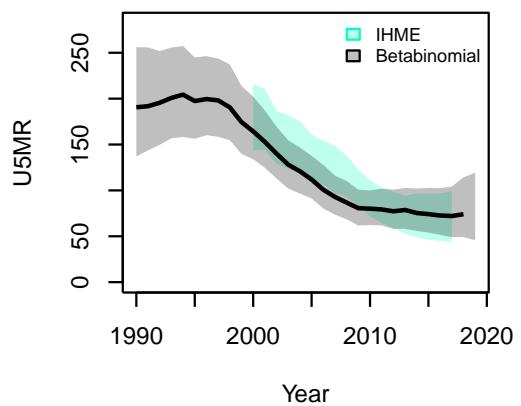
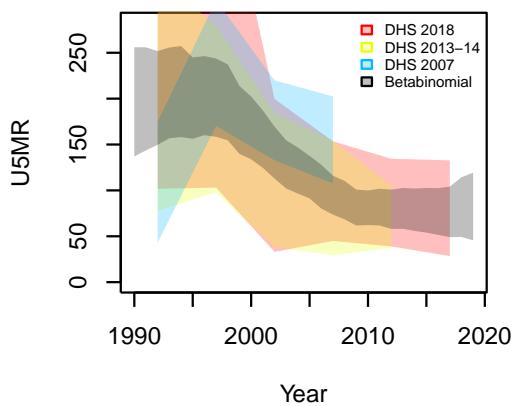
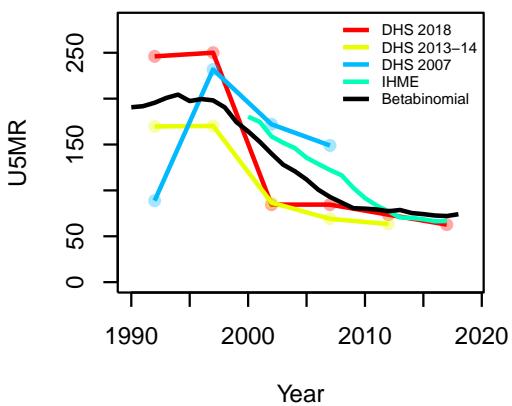
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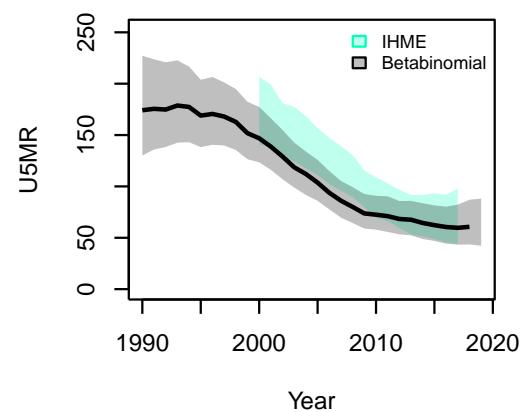
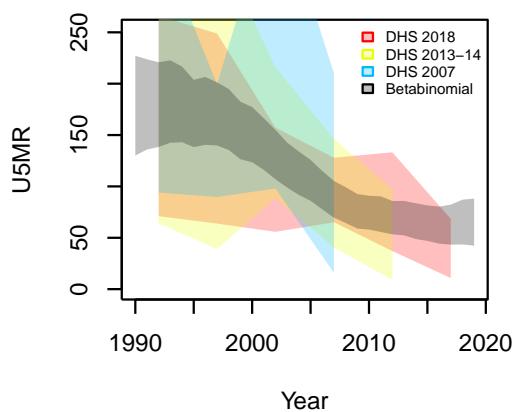
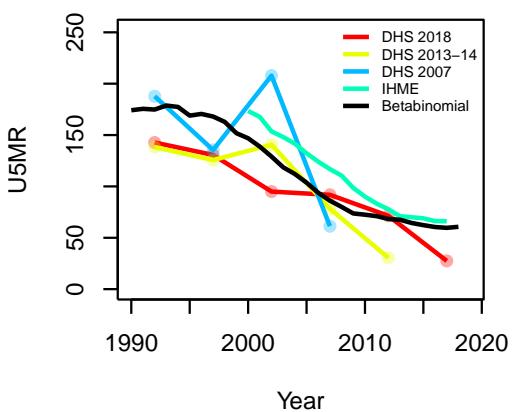
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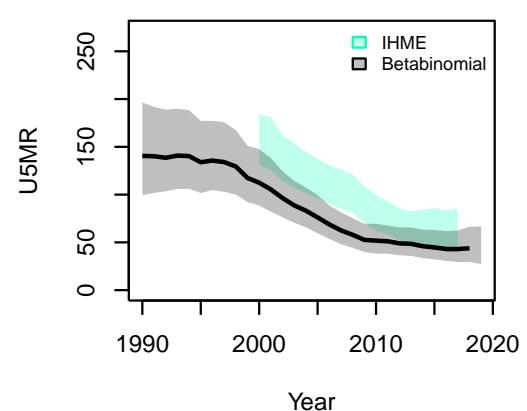
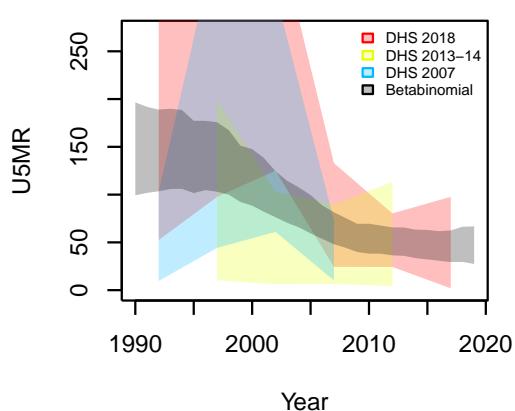
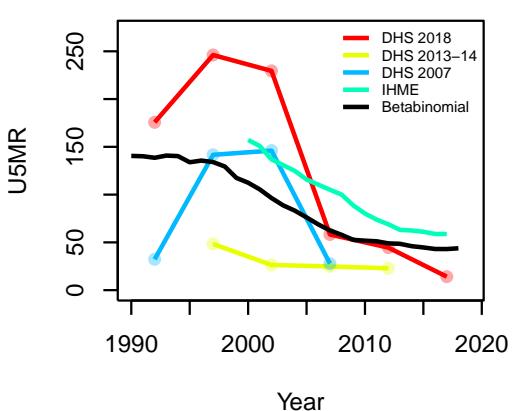
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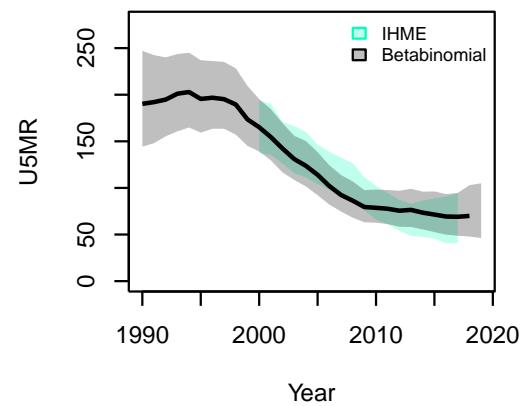
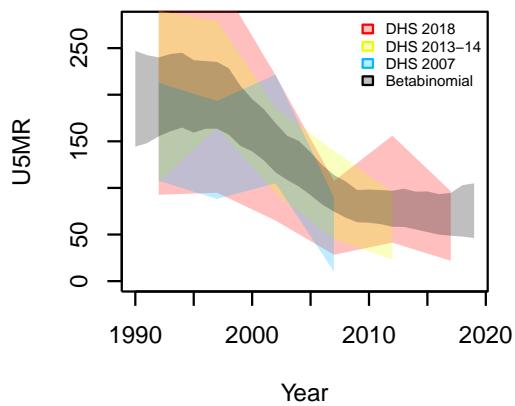
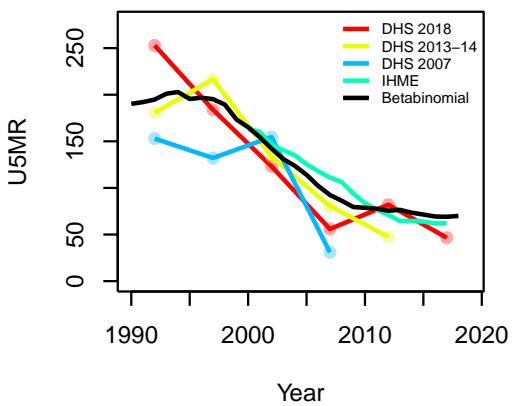
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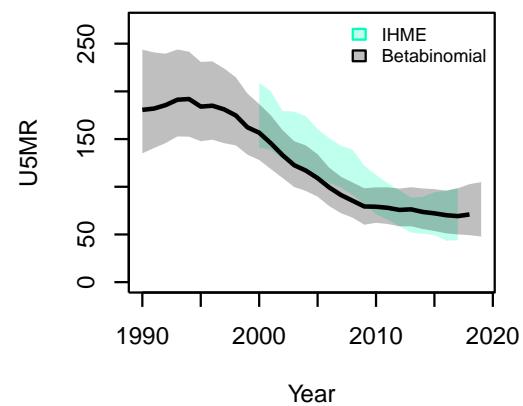
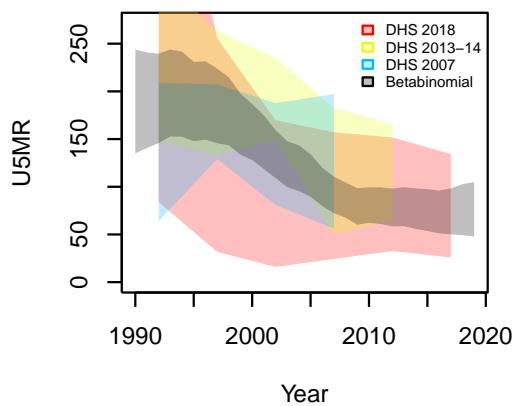
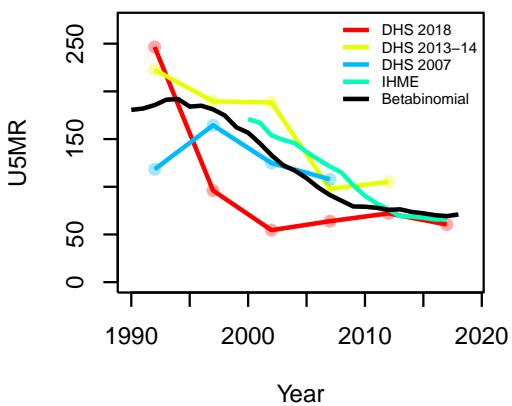
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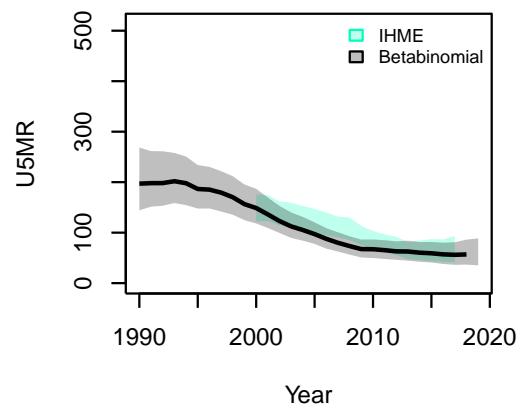
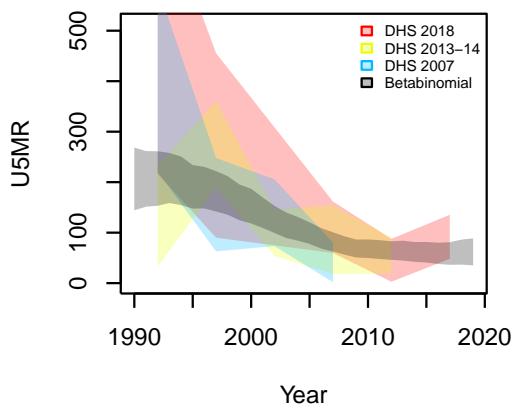
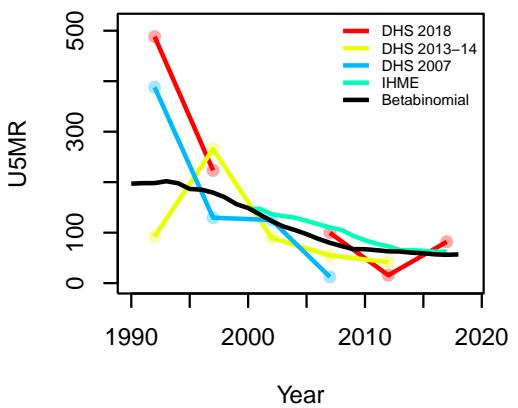
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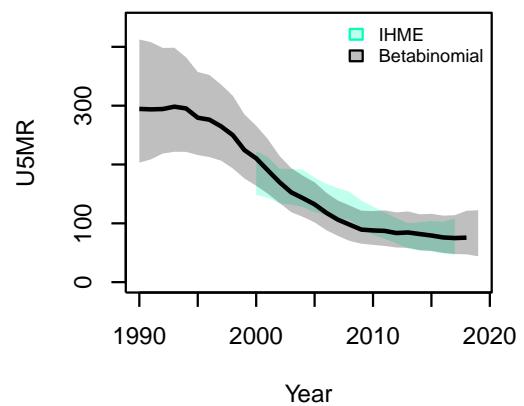
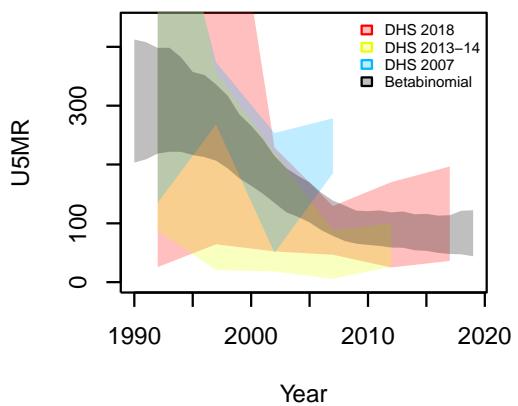
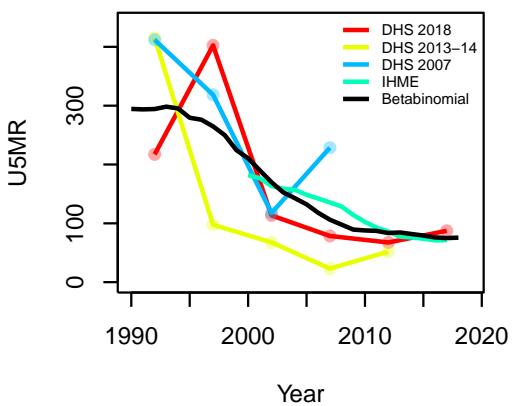
Senanga, Western



Sesheke, Western



Shangombo, Western



4 National Figures and Results

	Median	Interval	Median- Bench	Interval
0	29.30	(28,30.6)	31.00	(29.7,32.4)
1-11	3.10	(2.9,3.2)	3.30	(3.1,3.4)
12-23	1.50	(1.4,1.6)	1.60	(1.5,1.7)
24-35	1.10	(1.1,1.2)	1.20	(1.1,1.3)
36-47	0.60	(0.6,0.7)	0.60	(0.6,0.7)
48-59	0.40	(0.3,0.4)	0.40	(0.3,0.4)

Table 5: Monthly hazards in terms of 1000 children by age band for national, unstratified model for Zambia.

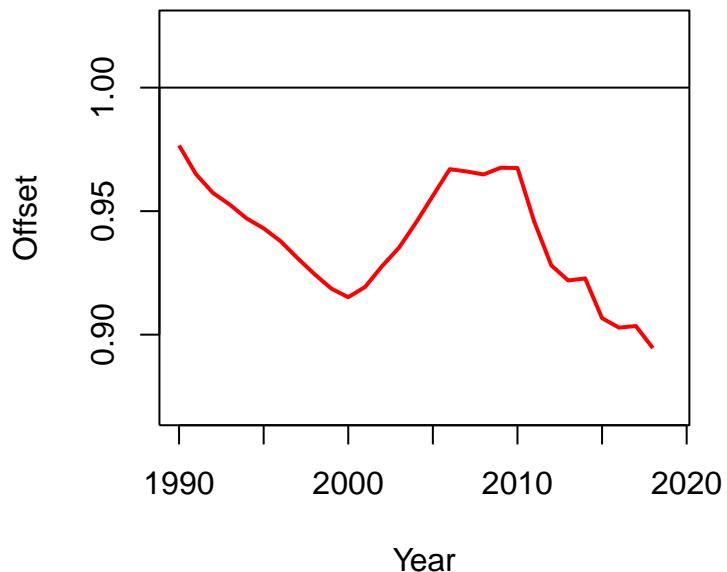


Figure 7: Benchmark offsets: $BENCH(t) = U5MR^*(t)/U5MR(t)$ where $U5MR^*(t)$ is modeled estimate and $U5MR(t)$ is UN-IGME estimate.

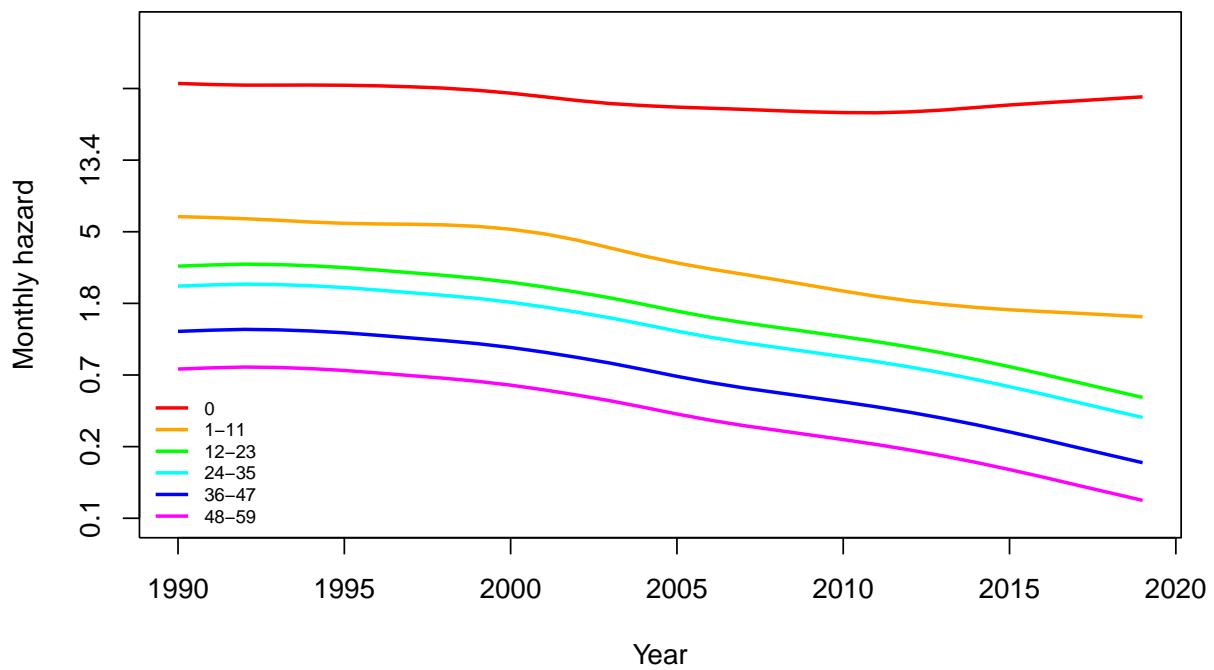


Figure 8: Monthly hazards of death in terms of U5MR (number deaths per 1000 children) by agebands.

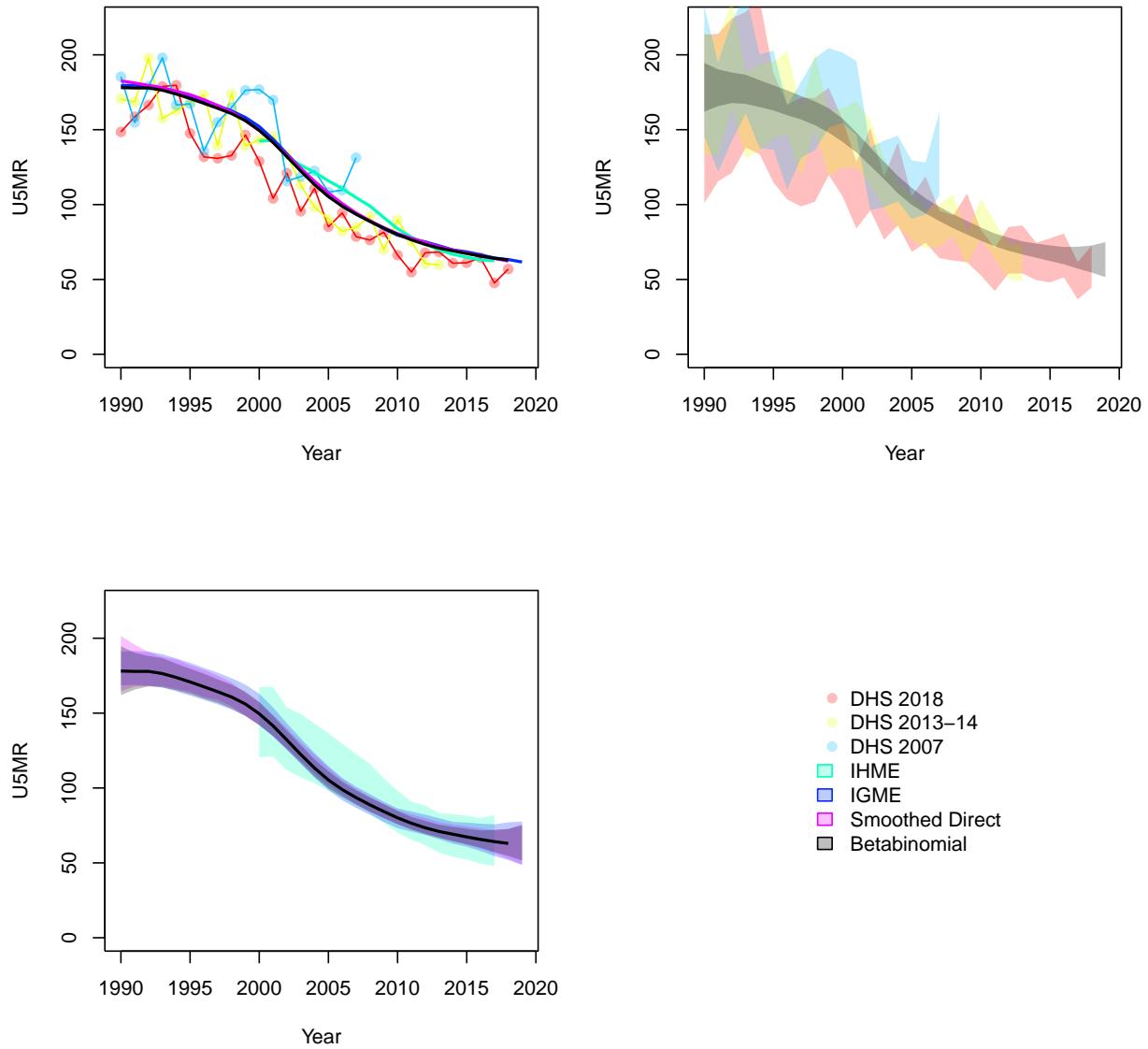
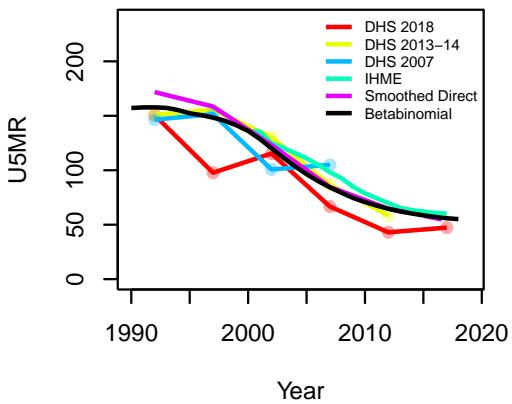


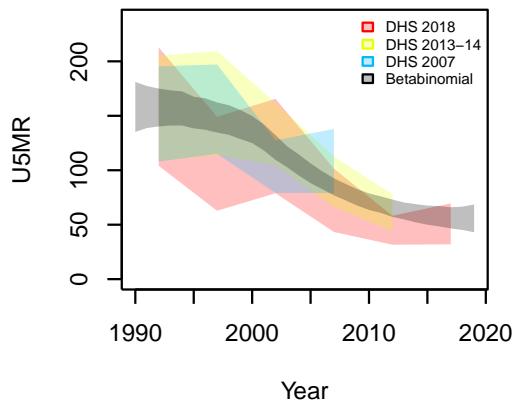
Figure 9: Benchmarked U5MR rates per 1000 live births. Top: DHS direct estimates with national trends from IHME GBD, UN-IGME, Smoothed Direct and Betabinomial estimates. Middle: 95% uncertainty intervals for DHS data. Bottom: IHME GBD, UN-IGME, Smoothed Direct and Betabinomial estimates with for the unstratified model. 95% uncertainty intervals

5 Admin 1 Figures

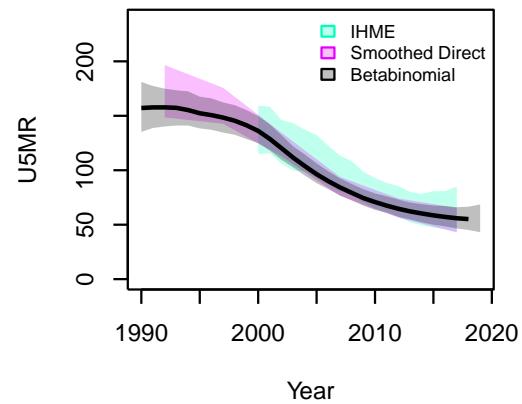
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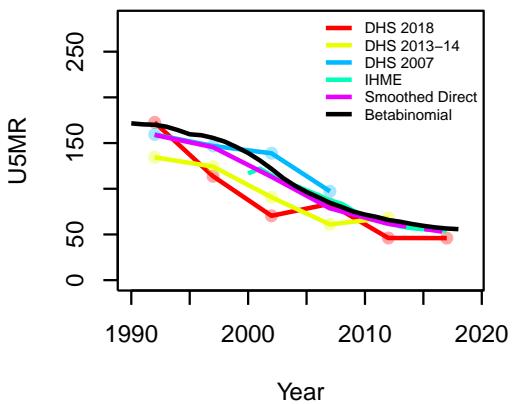
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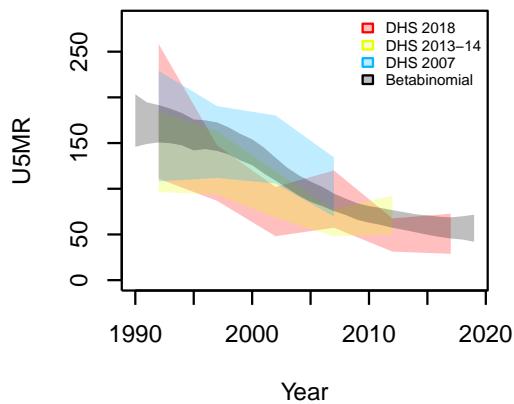
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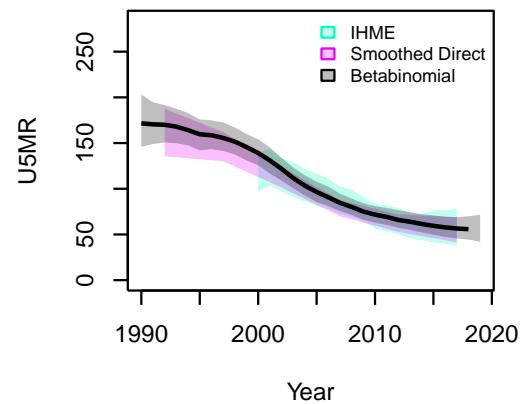
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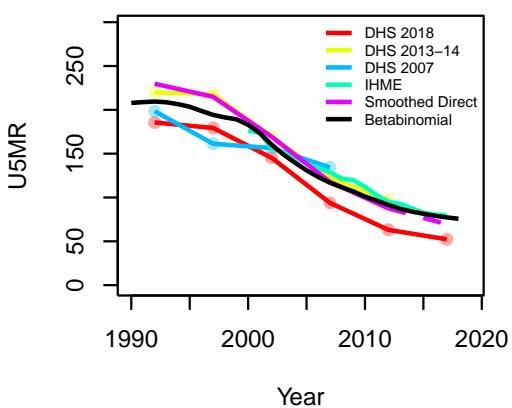
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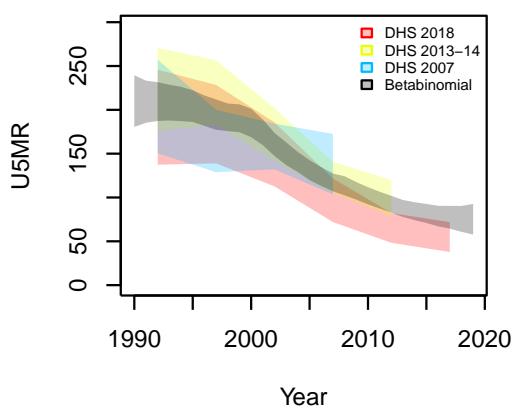
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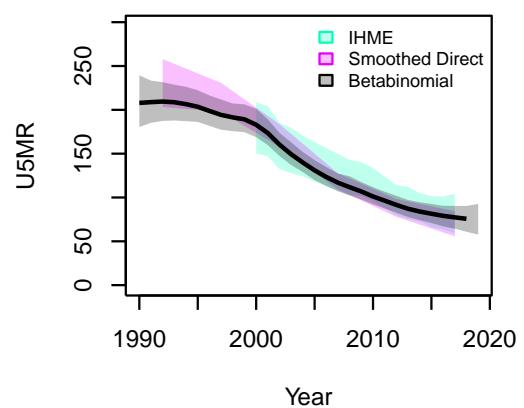
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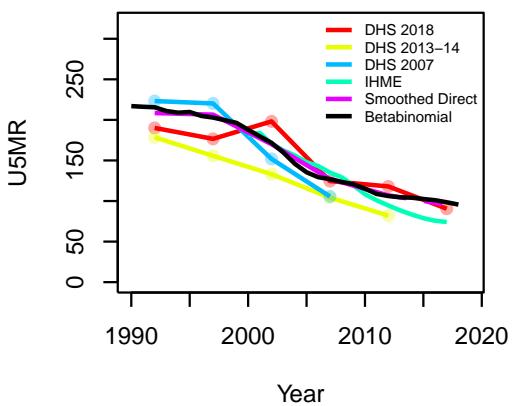
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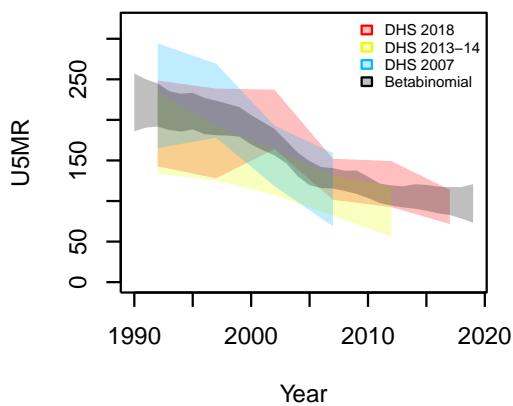
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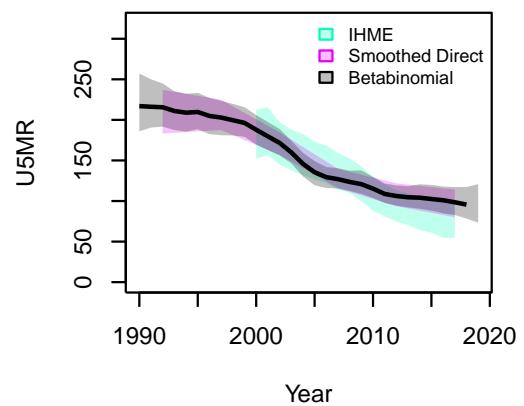
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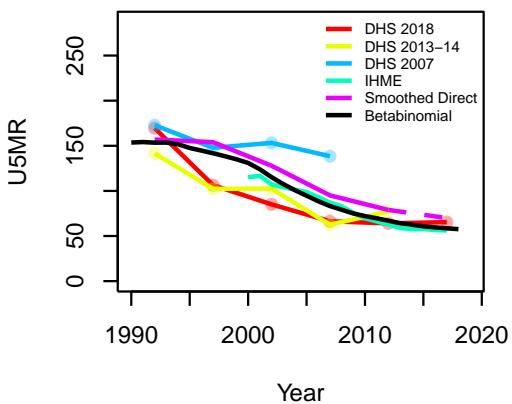
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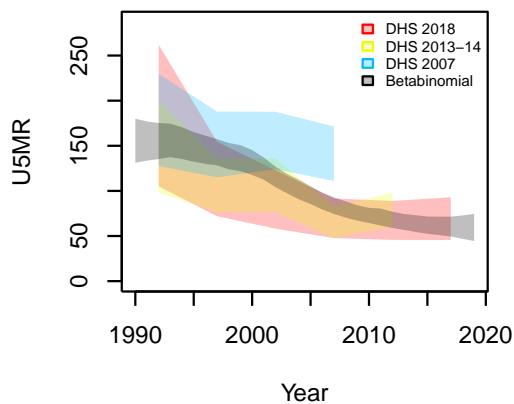
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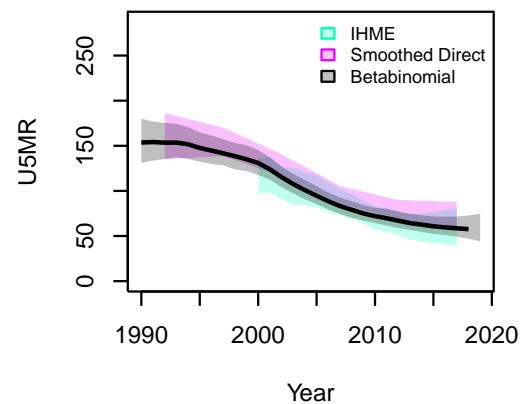
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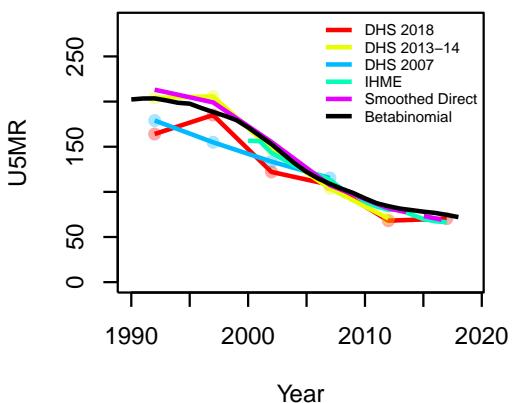
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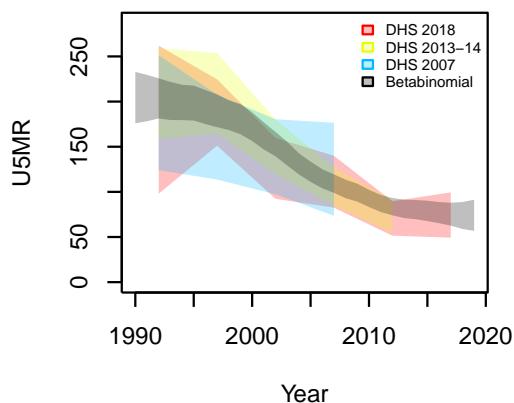
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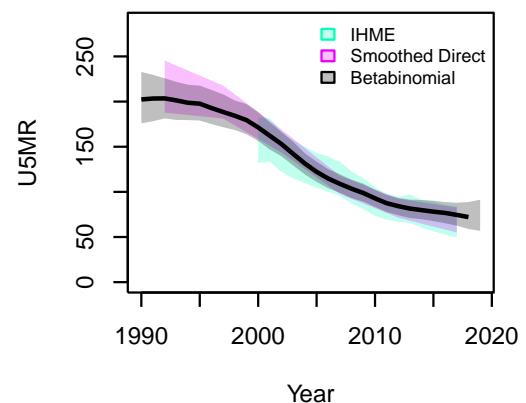
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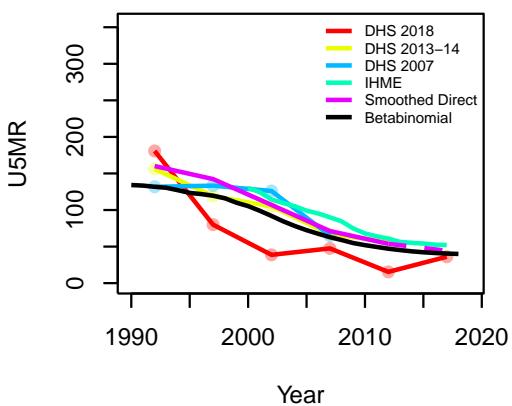
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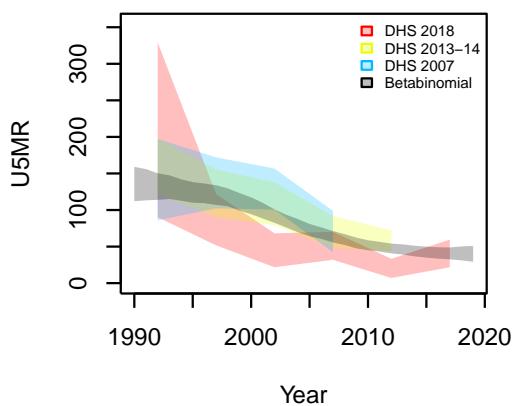
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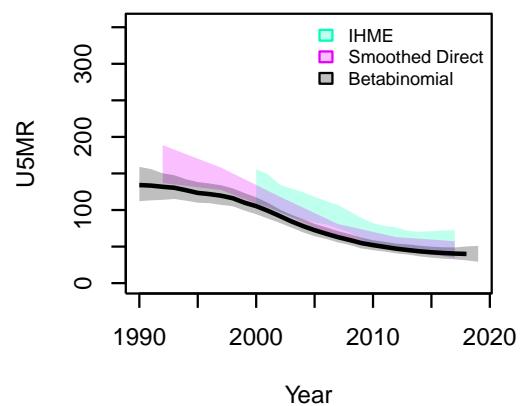
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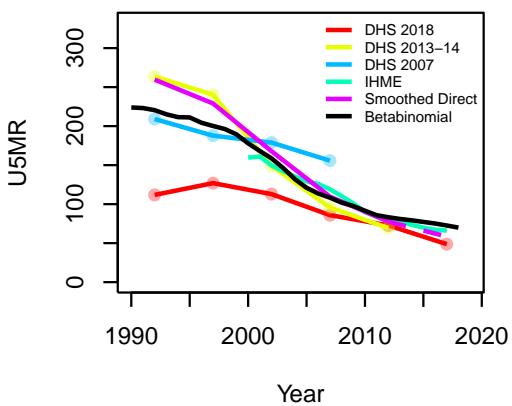
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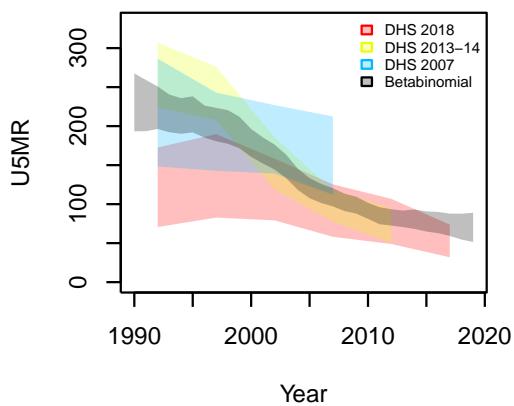
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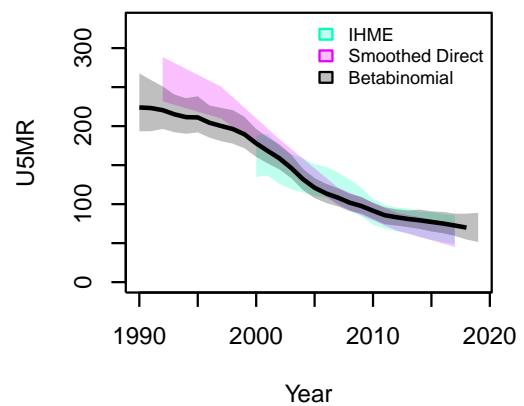
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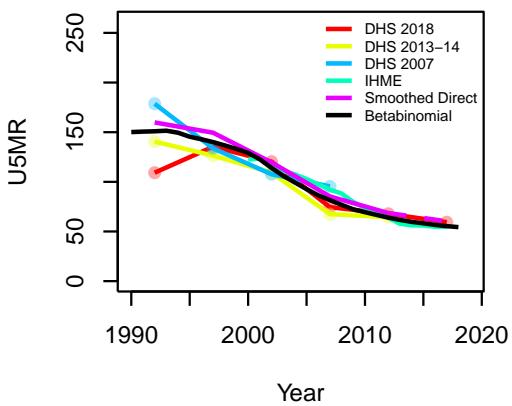
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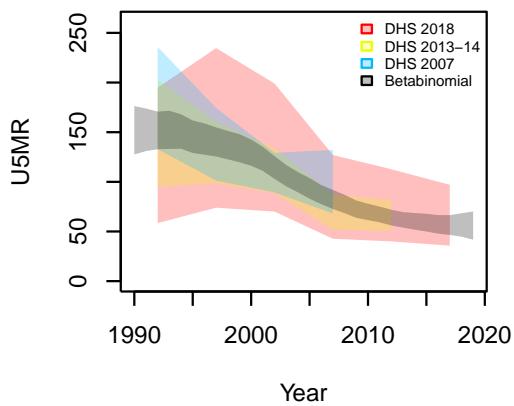
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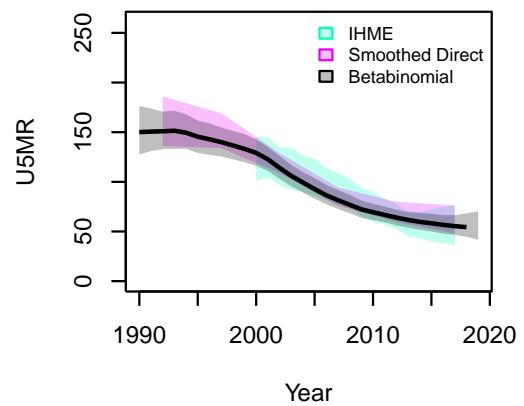
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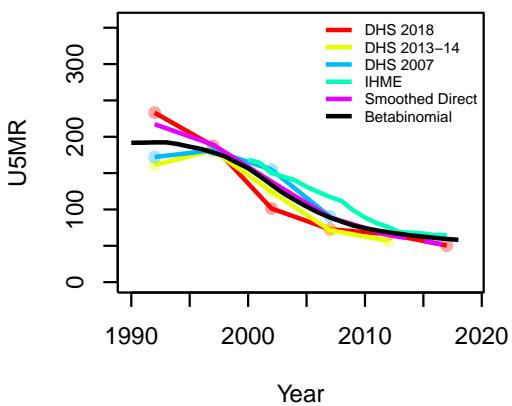
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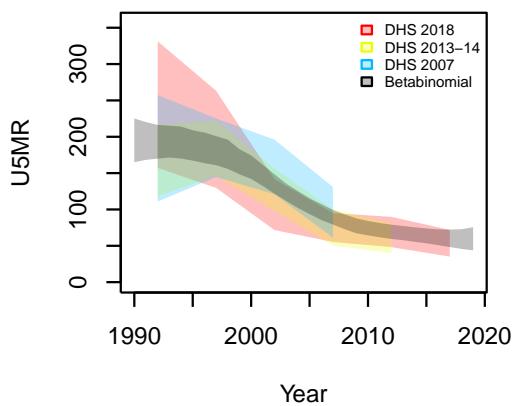
Southern



Western



Western



Western

