

Country Summary: Ethiopia

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1 Intro

These estimates are created using the BB8 model with Admin 2 estimates using a AR1xICAR interaction model with area-specific random slopes.

Ethiopia has 11 Admin 1 areas and 79 Admin 2 areas.

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

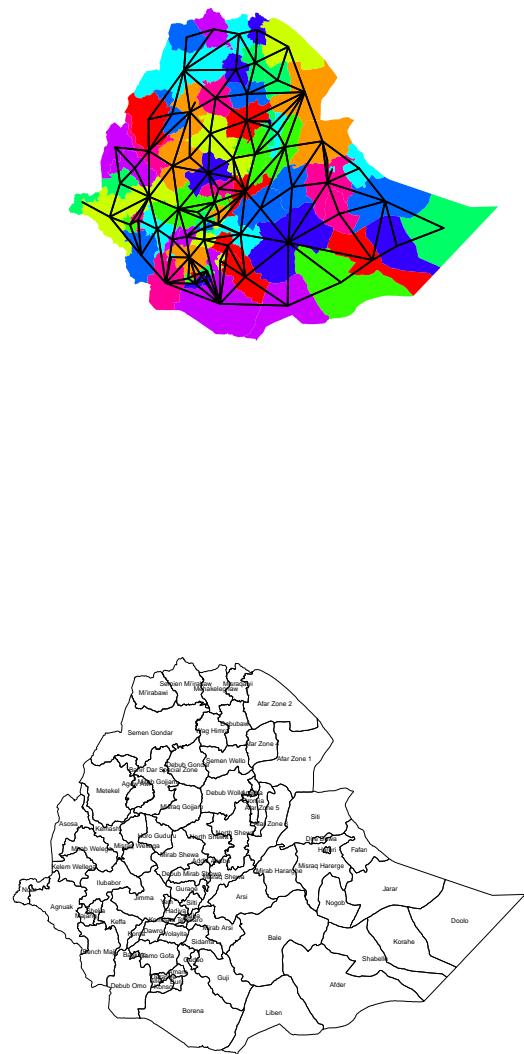


Figure 1: Top: The neighborhood structure of Admin 2 areas. Bottom: The names of Admin 2 areas.

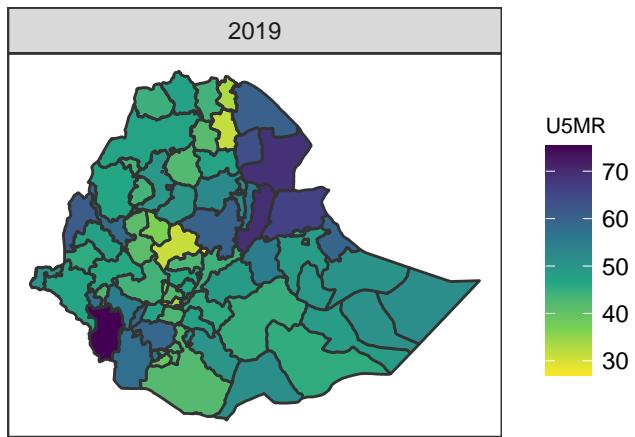
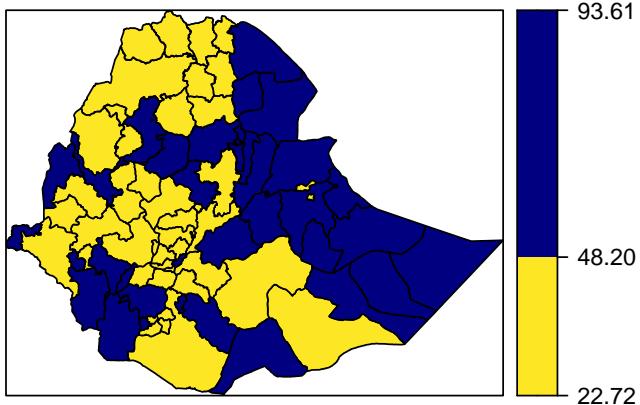


Figure 2: Median estimates of U5MR (deaths per 1000 children) in 2019.

ATCP = 0.67



ATCP = 0.52

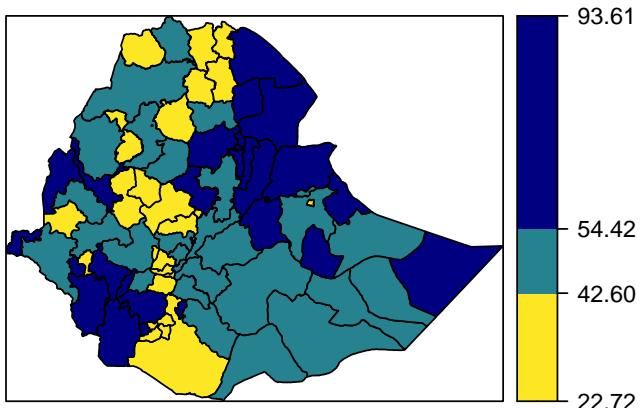


Figure 3: Expression of uncertainty of U5MR (deaths per 1000 children) based on the average true classification probability (ATCP) in 2019.

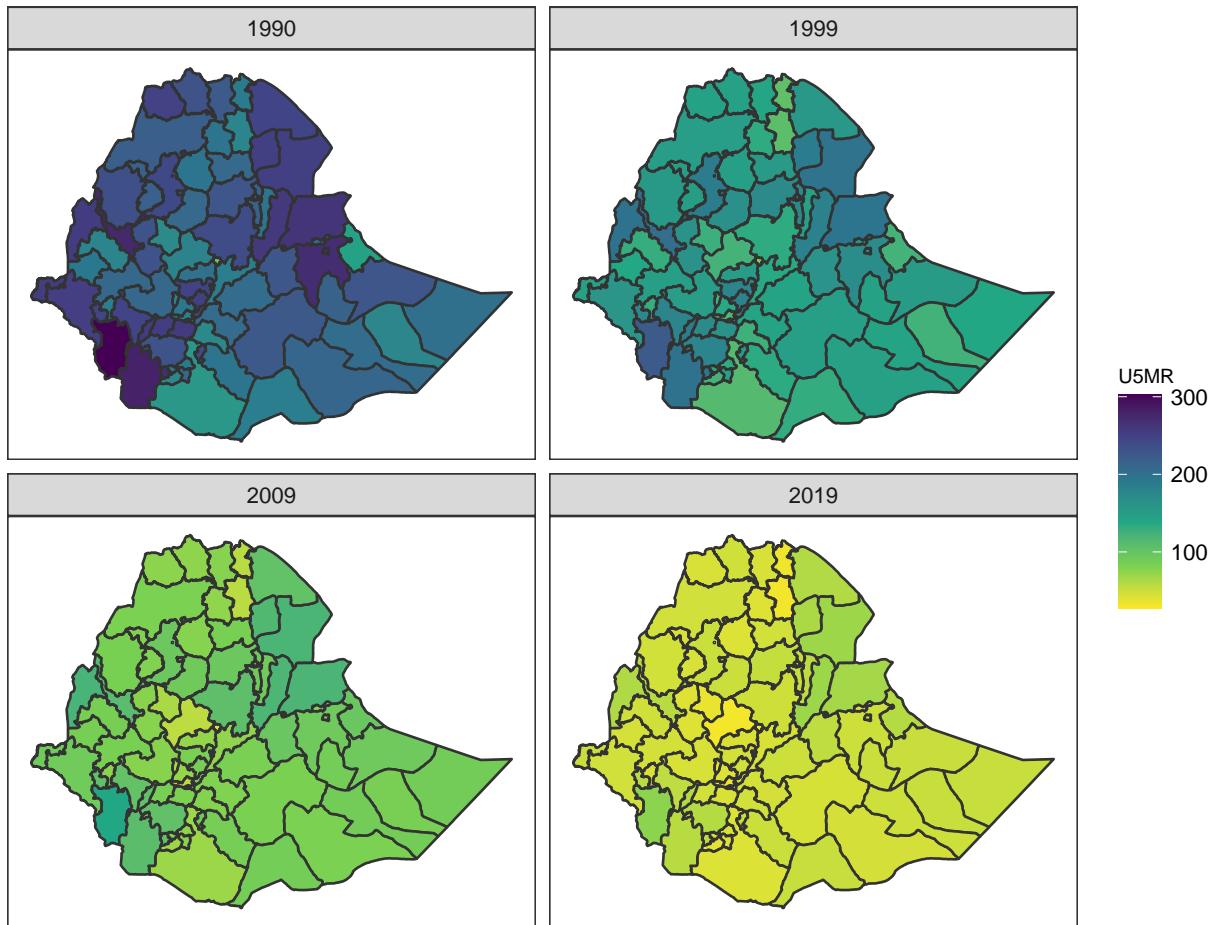
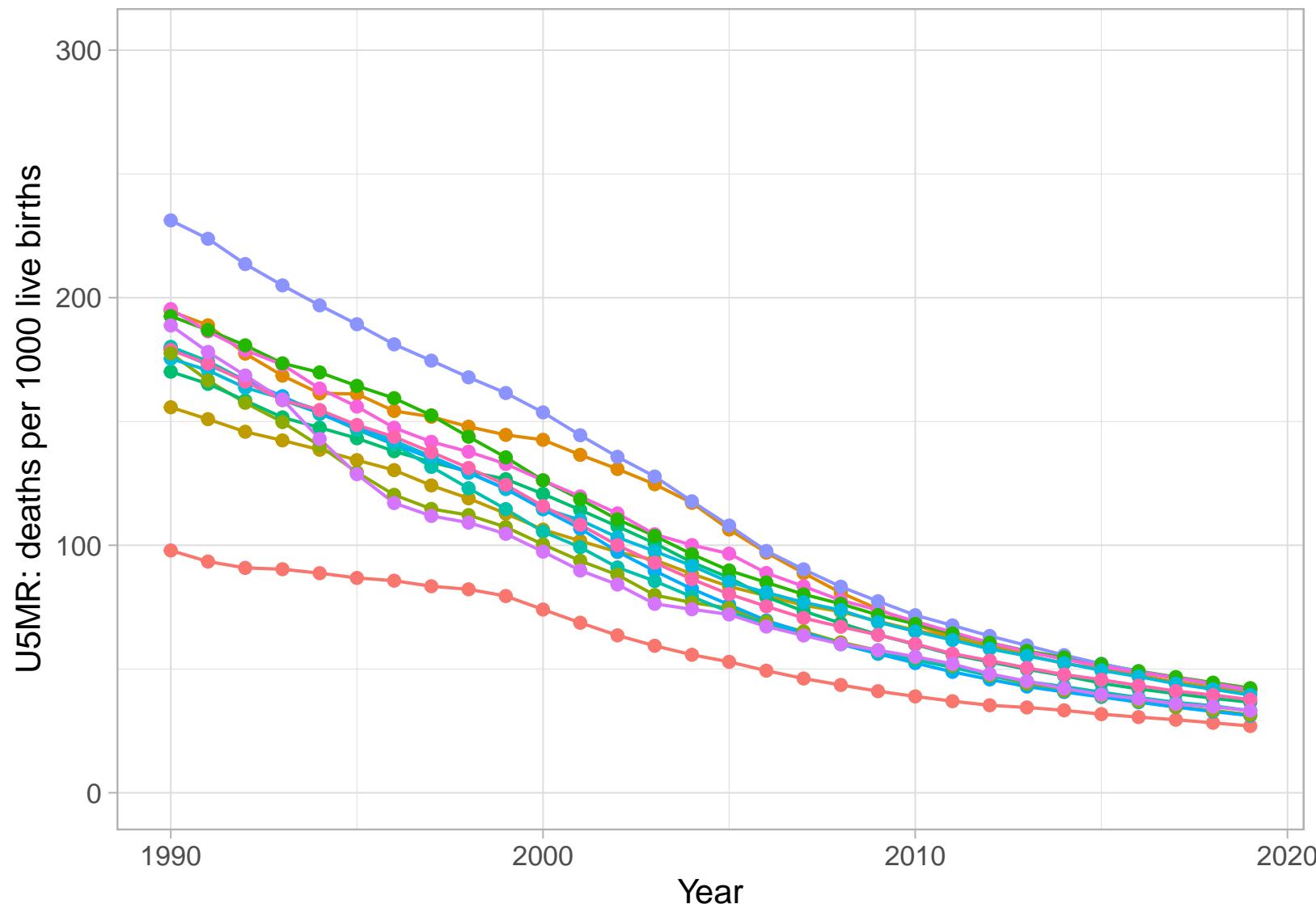


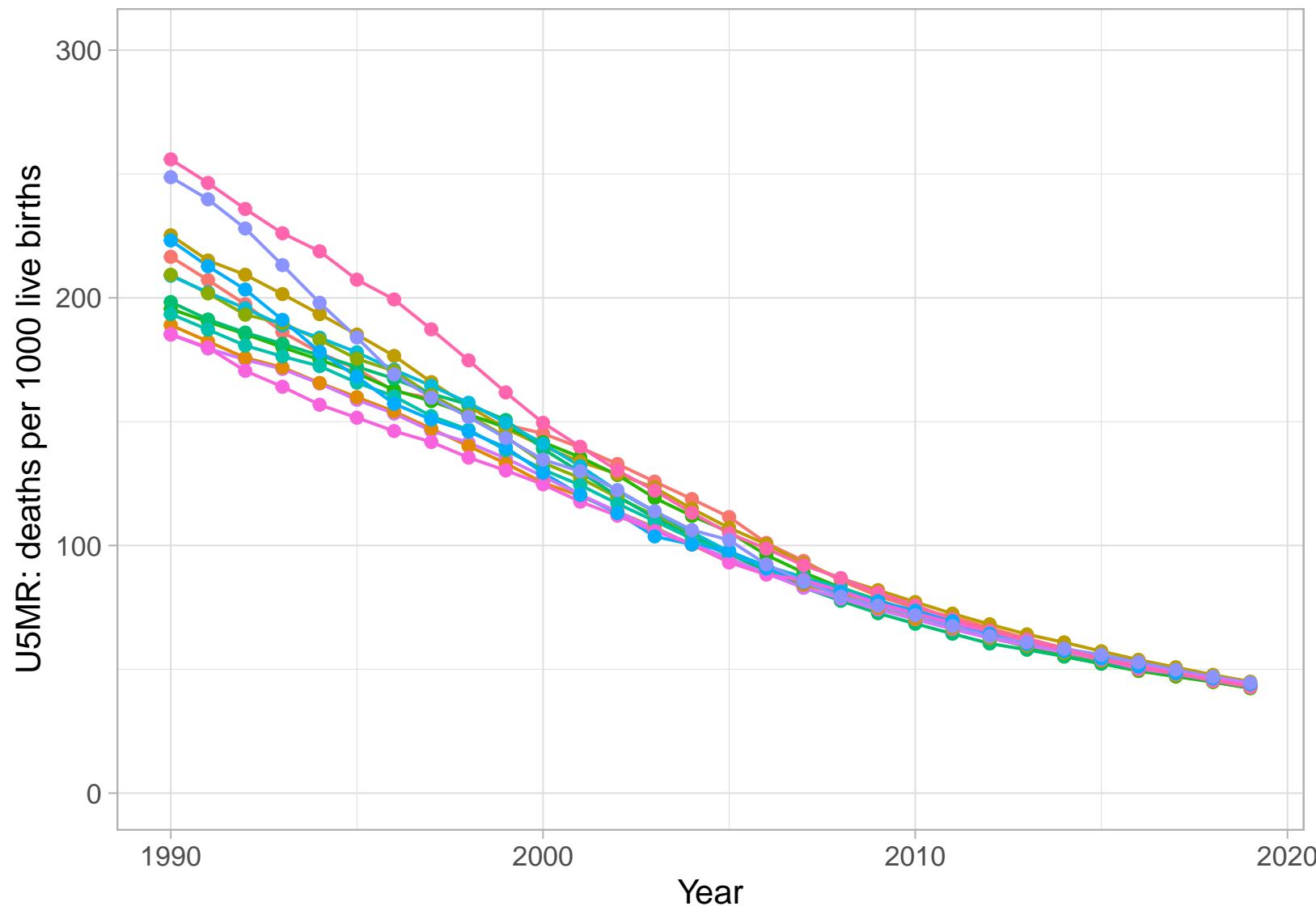
Figure 4: Median estimates for selected years.

Ethiopia



Addis Abeba, Addis Abeba	●	Horo Guduru, Oromia	●	Misraqawi, Tigray
Bahir Dar Special Zone, Amhara	●	Kembata Tembaro, Southern Nations, Nationalities and Peoples	●	Wag Himra, Amhara
Borena, Oromia	●	Konso, Southern Nations, Nationalities and Peoples	●	Yem, Southern Nations, N.
Debubawi, Tigray	●	Mirab Shewa, Oromia	●	
Hadiya, Southern Nations, Nationalities and Peoples	●	Misraq Wellega, Oromia	●	

Ethiopia



Agew Awi, Amhara

—●— Debub Mirab Shewa, Oromia

Misraq Shewa, Oromia

Amaro, Southern Nations, Nationalities and Peoples

Derashe, Southern Nations, Nationalities and Peoples

 Sheka, Southern Nations, Nation

Bale, Oromia

— Jimma, Oromia

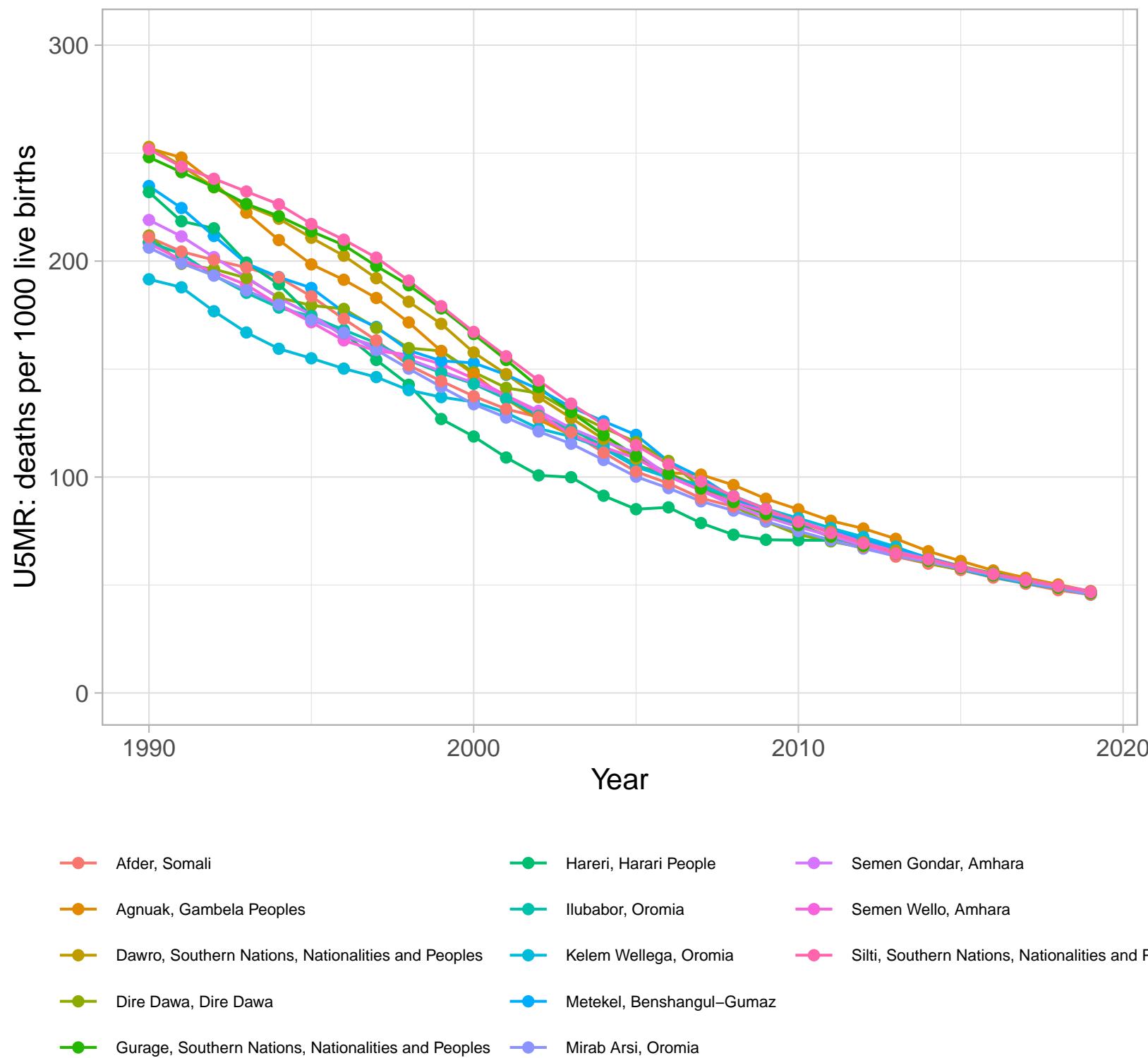
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Burji, Southern Nations, Nationalities and Peoples

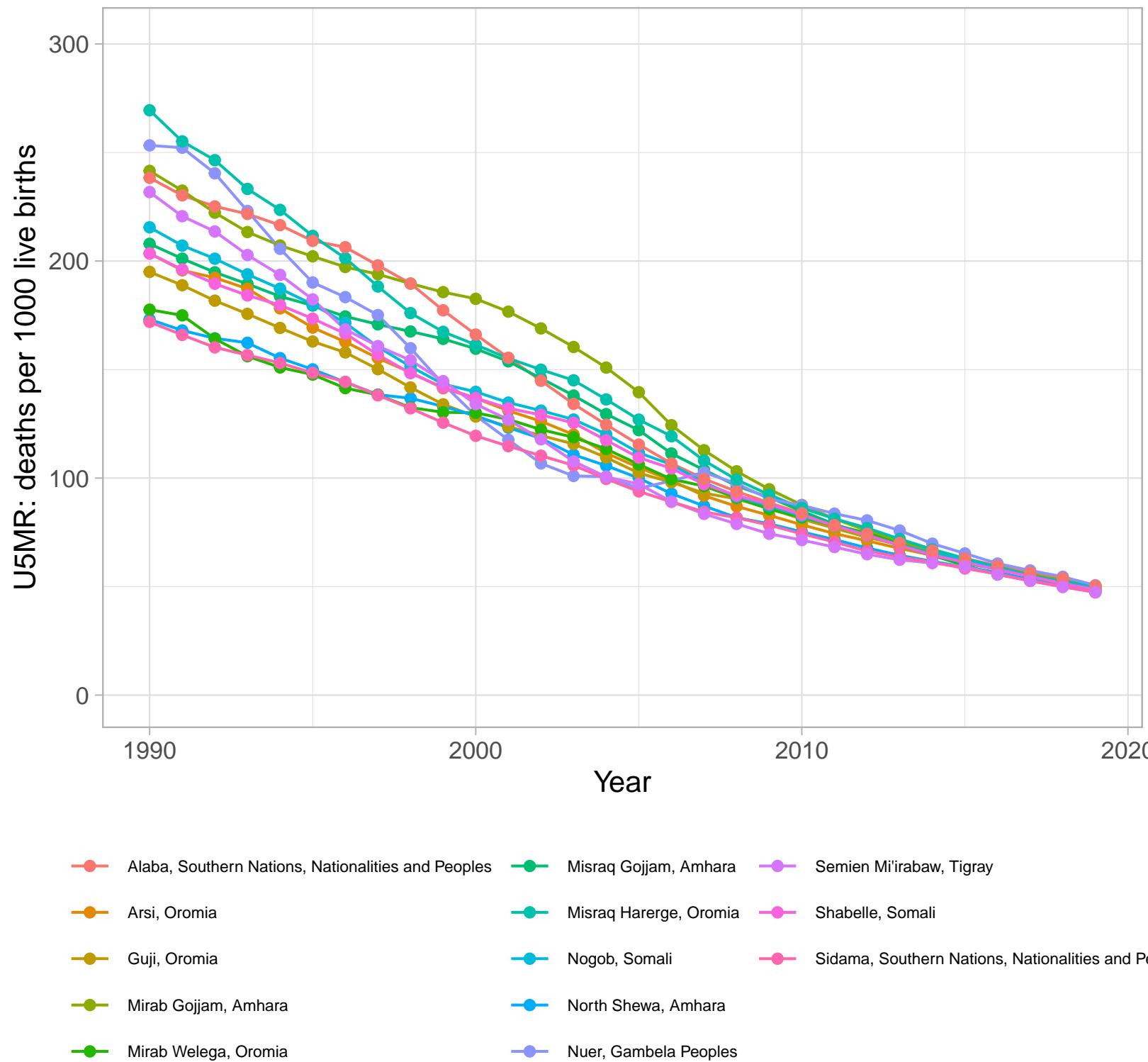
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Debu Gondar, Amhara

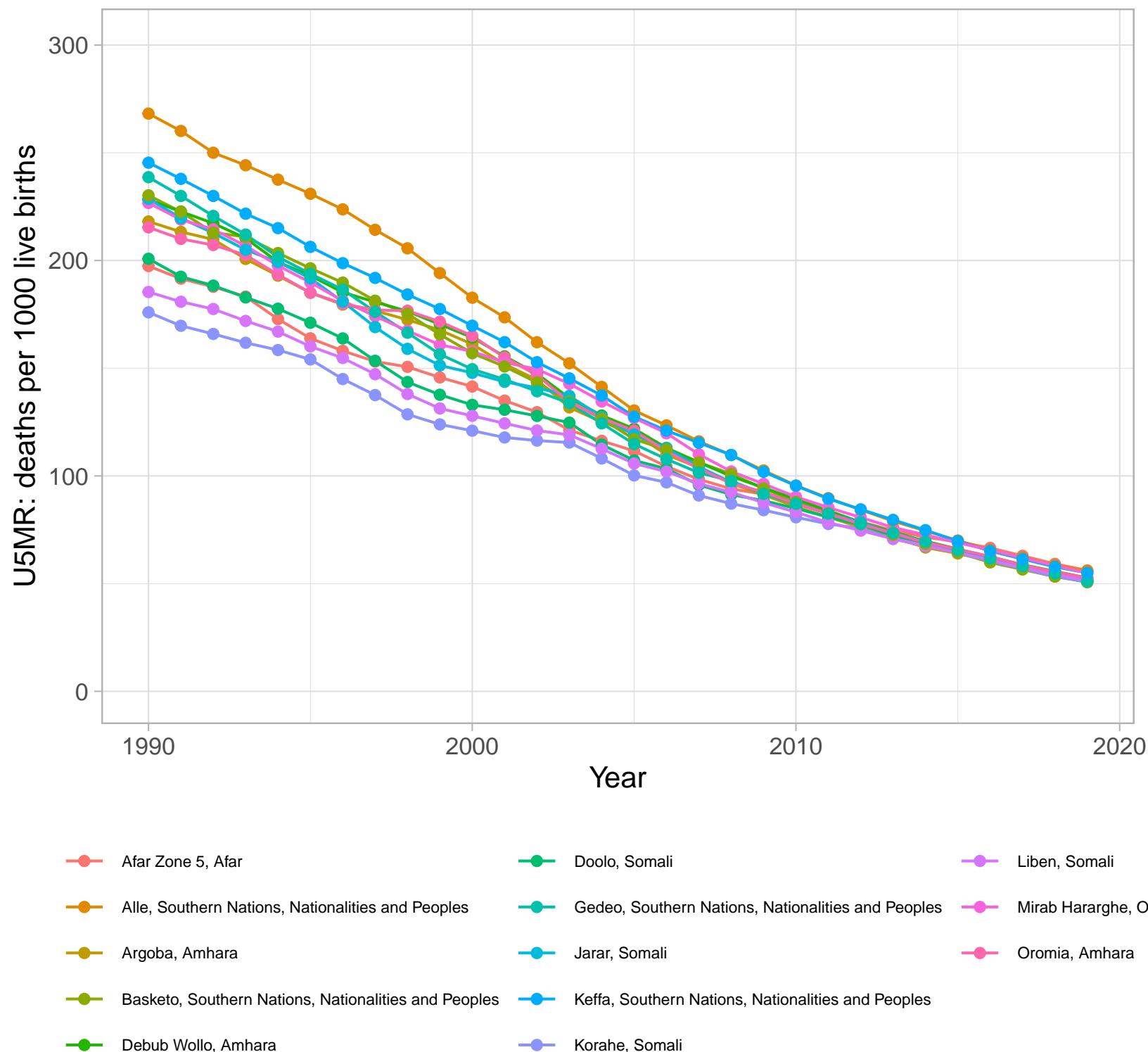
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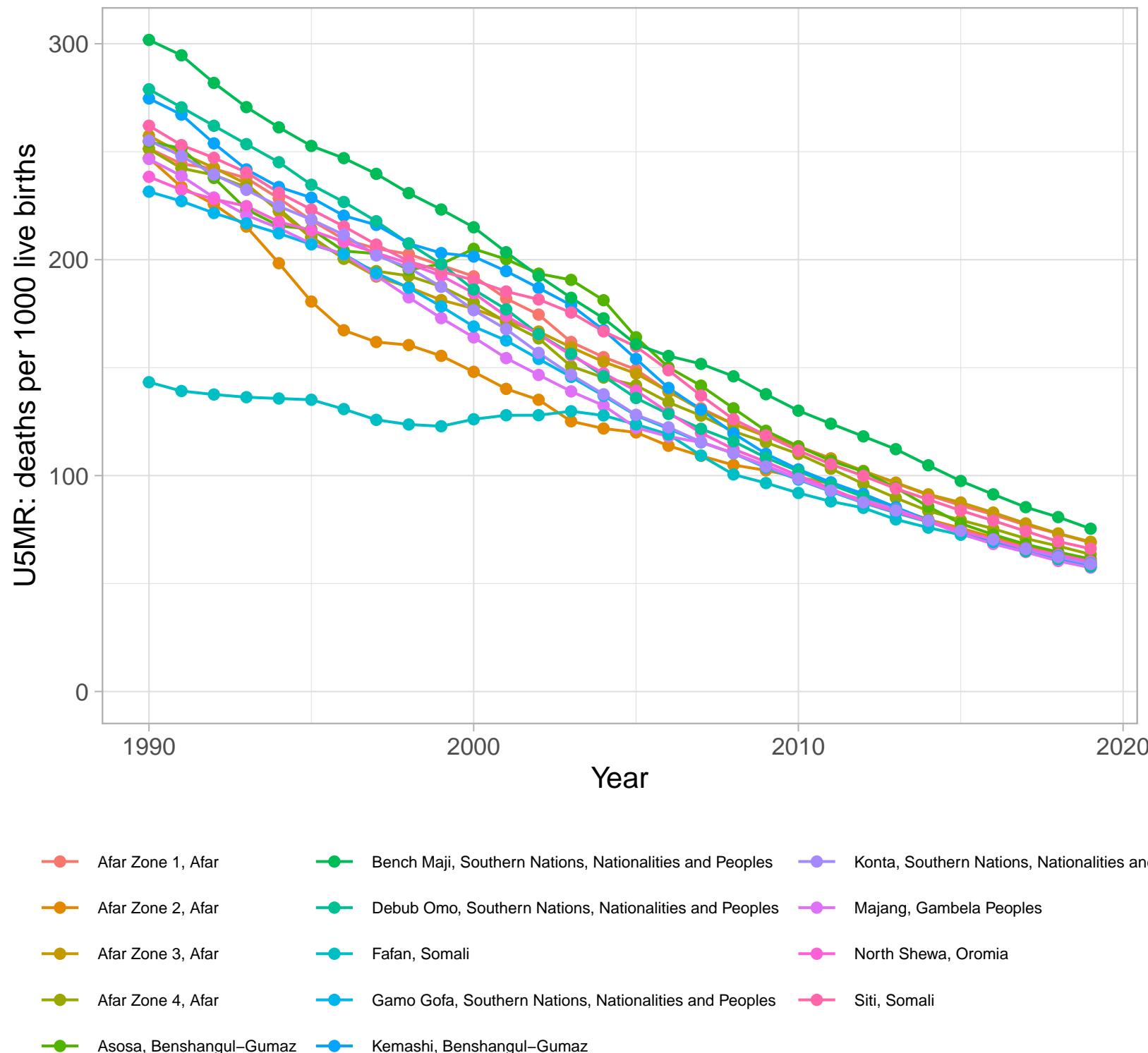
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Ethiopia



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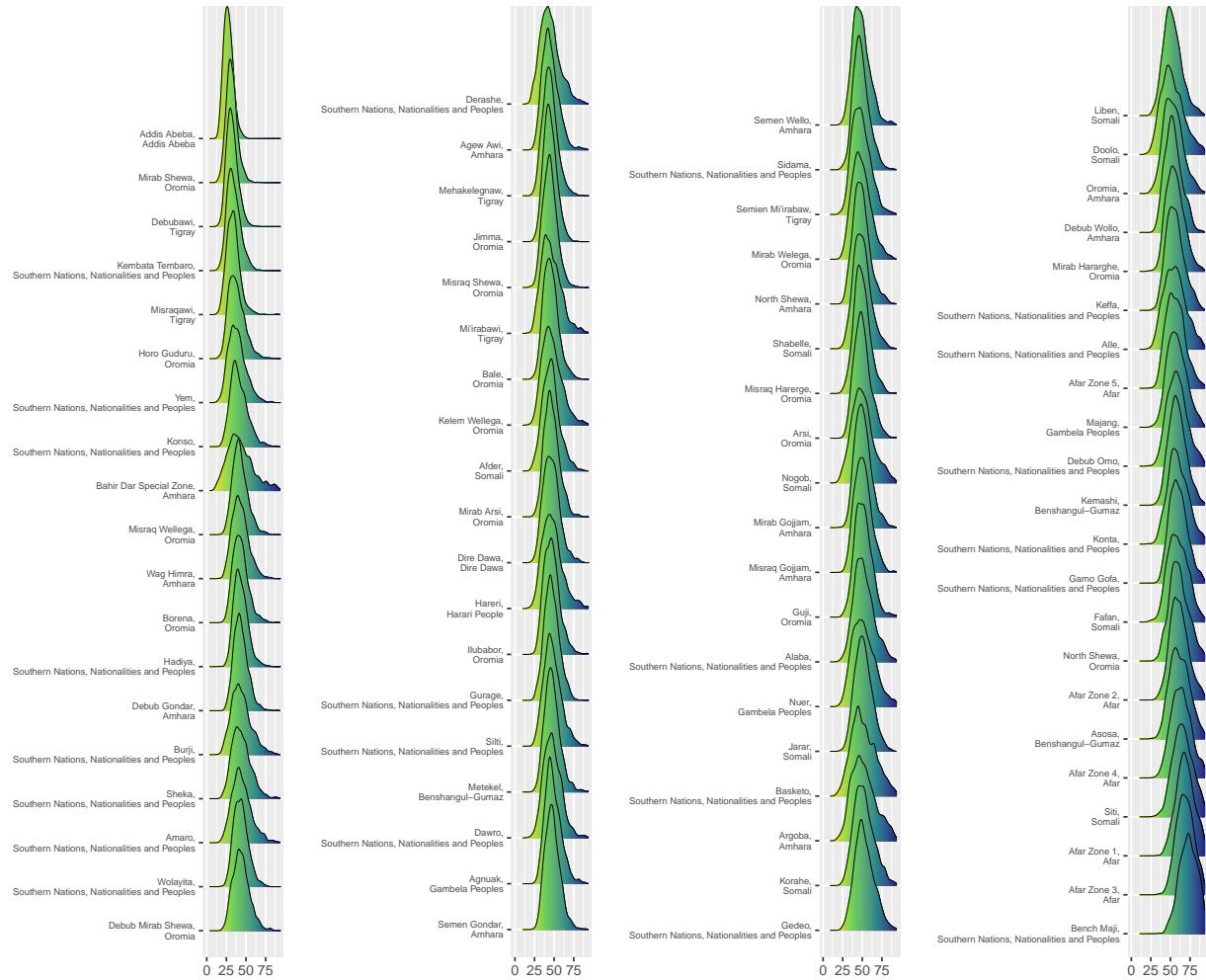


Figure 5: Posterior distributions of U5MR (deaths per 1000 children) in 2019. Areas are ordered by median estimated U5MR in 2019.

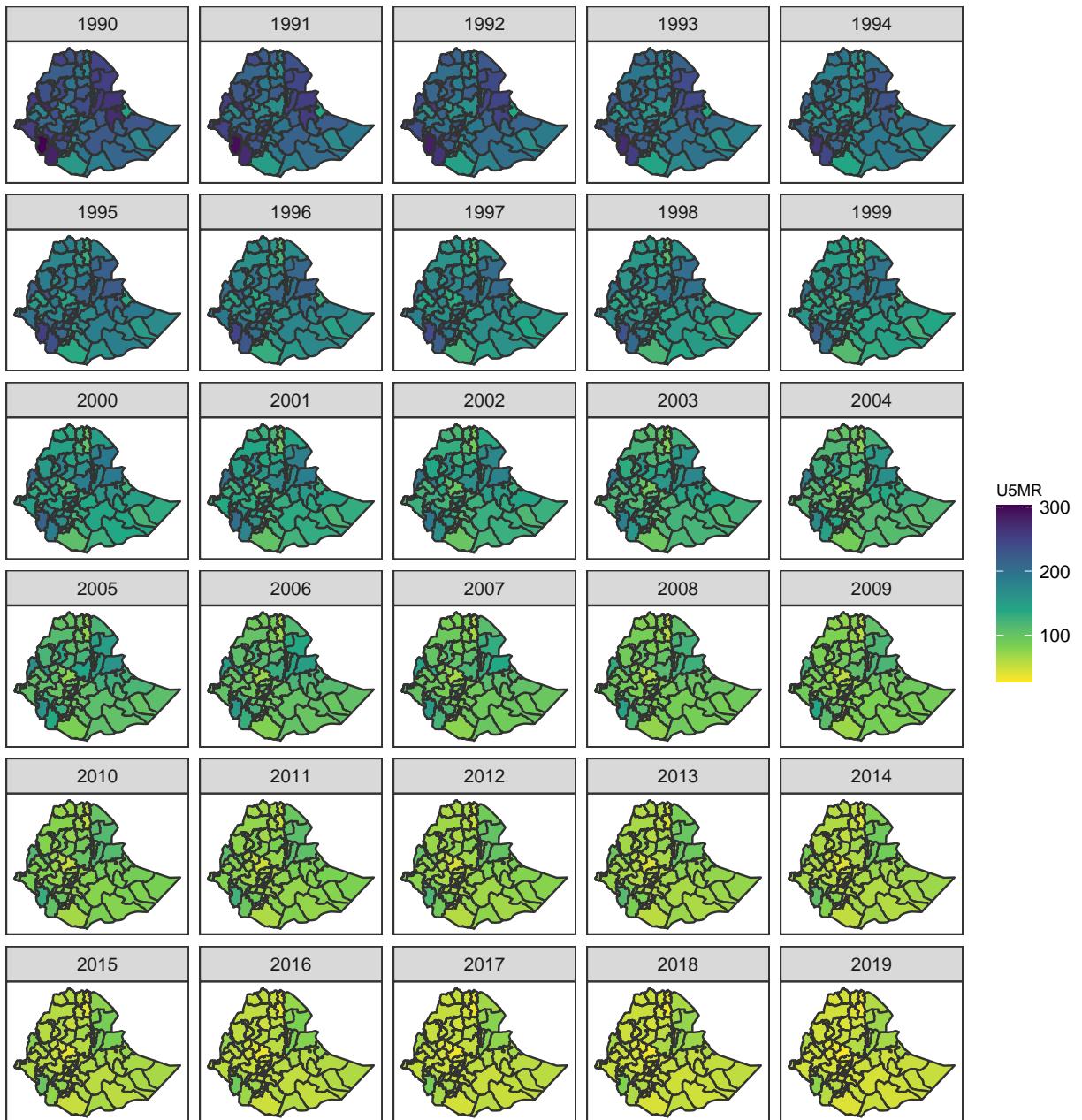


Figure 6: Posterior medians of U5MR (deaths per 1000 births) by Admin 2 area and year.

2 National Survey Data

Survey	Urban	Rural	Total
2000	138	397	535
2005	144	384	528
2011	163	408	571
2016	202	420	622

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

Age	No. Deaths	No. Agemonths
0	1598	38561
1-11	1156	390532
12-23	423	396085
24-35	369	372960
36-47	278	348573
48-59	157	324064

Table 2: Numbers of agemonths and deaths by age for DHS 2016.

Age	No. Deaths	No. Agemonths
0	1892	39041
1-11	1493	390044
12-23	668	395739
24-35	559	374701
36-47	465	348497
48-59	245	323701

Table 3: Numbers of agemonths and deaths by age for DHS 2011.

Age	No. Deaths	No. Agemonths
0	1188	28826
1-11	1149	291982
12-23	526	297808
24-35	398	285609
36-47	396	271944
48-59	232	253888

Table 4: Numbers of agemonths and deaths by age for DHS 2005.

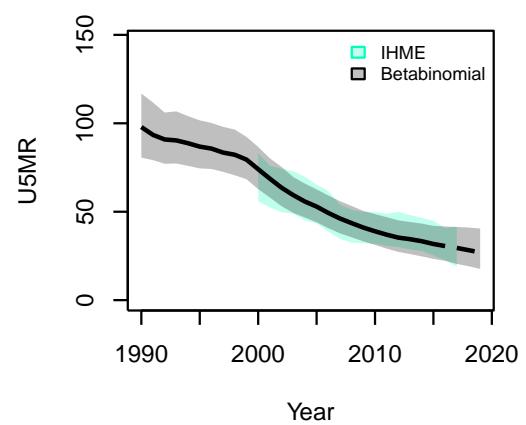
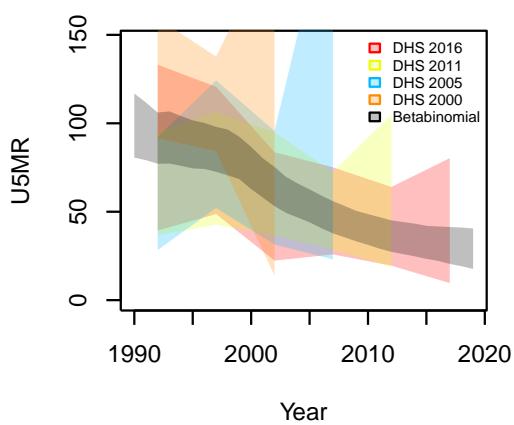
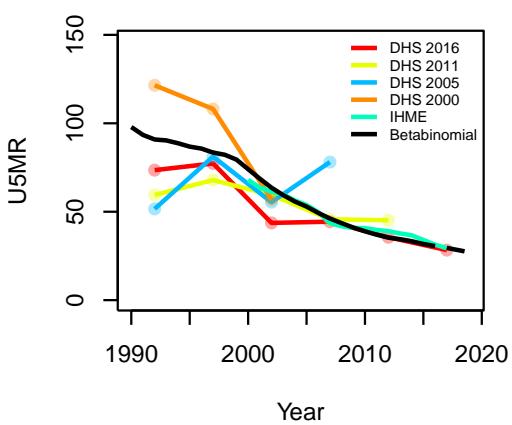
Age	No. Deaths	No. Agemonths
0	1228	22130
1-11	1184	222150
12-23	569	225733
24-35	439	217553
36-47	366	206976
48-59	247	195436

Table 5: Numbers of agemonths and deaths by age for DHS 2000.

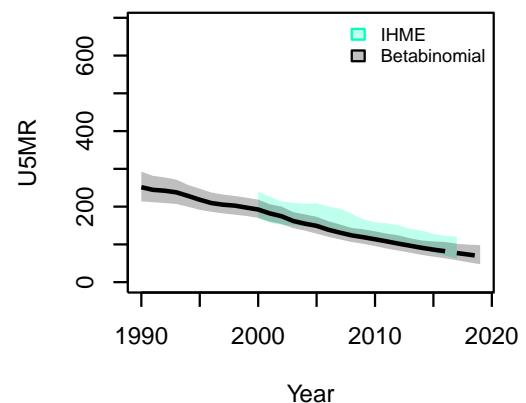
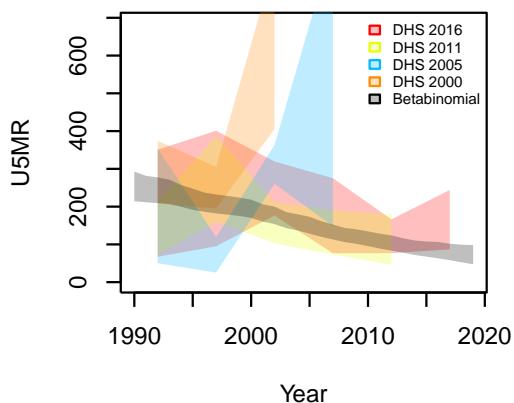
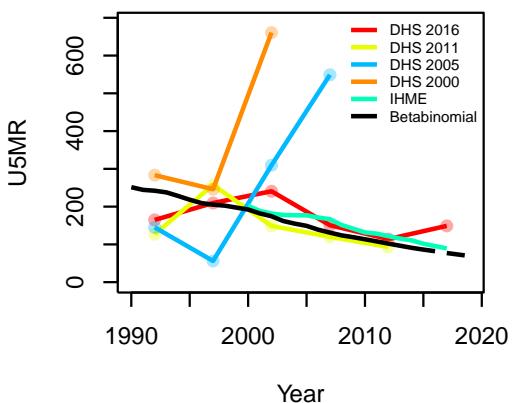
3 Admin 2 Figures

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.

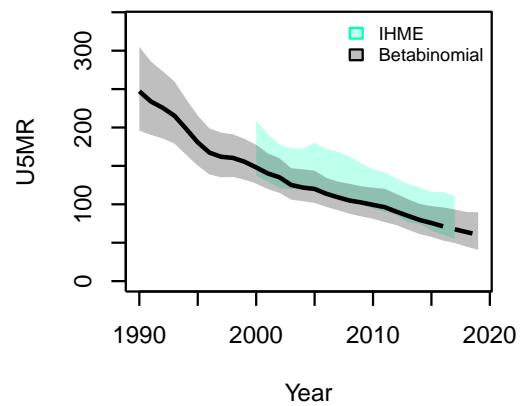
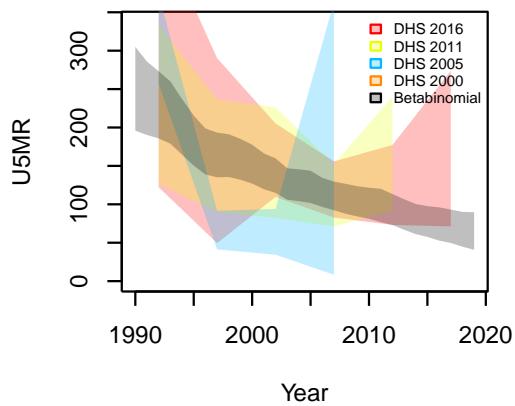
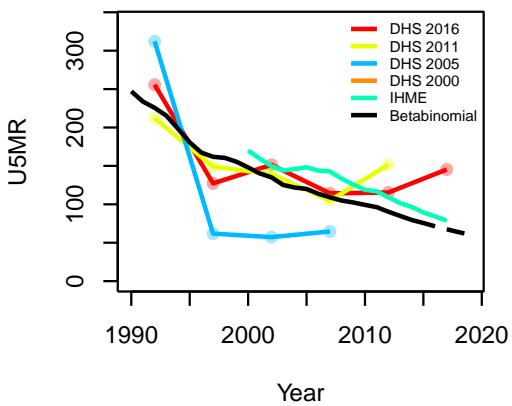
Addis Abeba, Addis Abeba



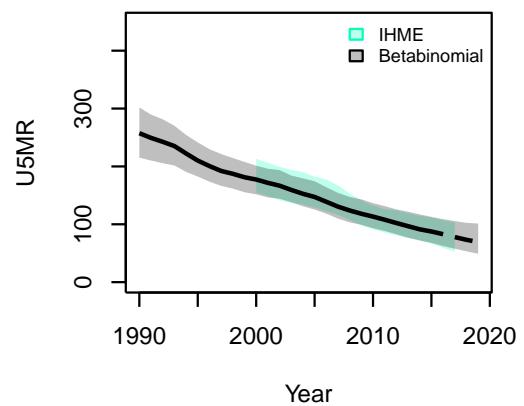
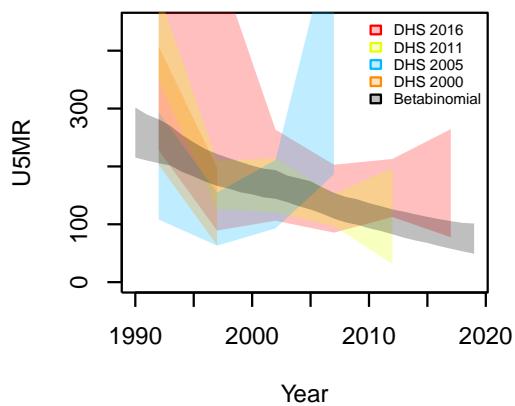
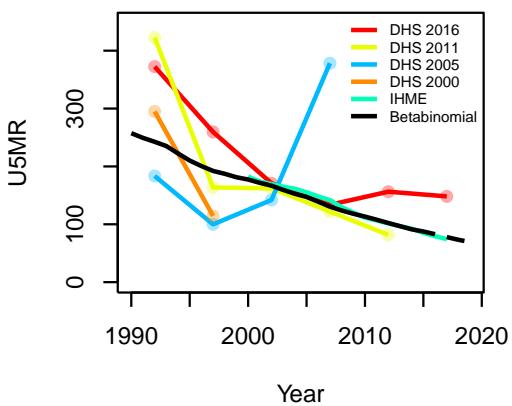
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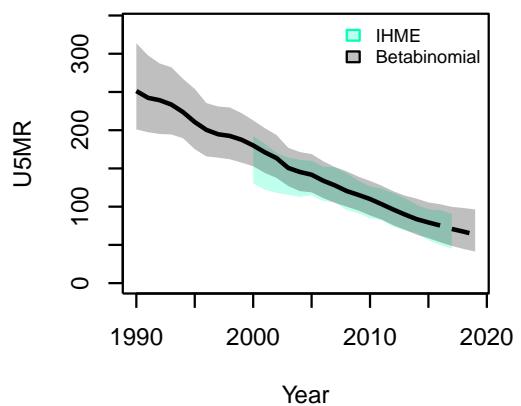
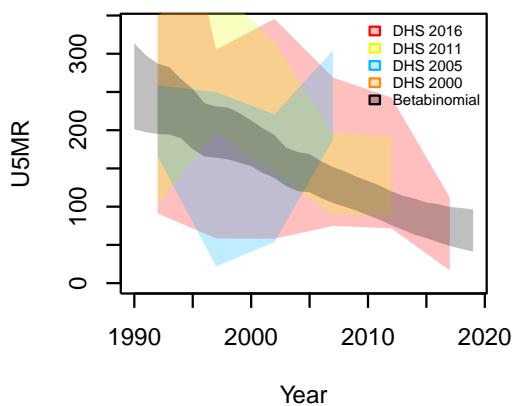
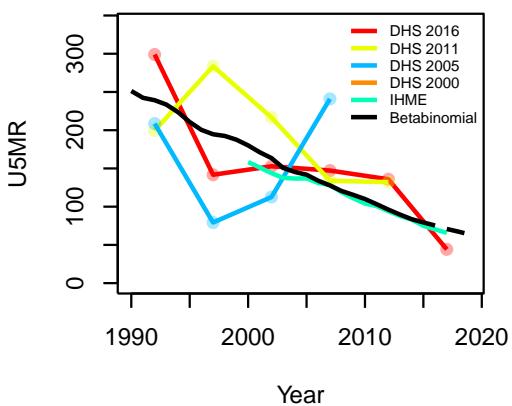
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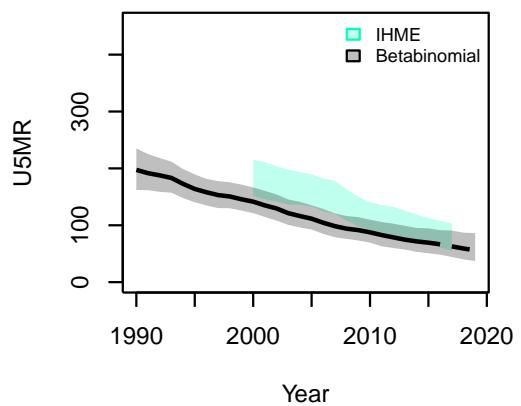
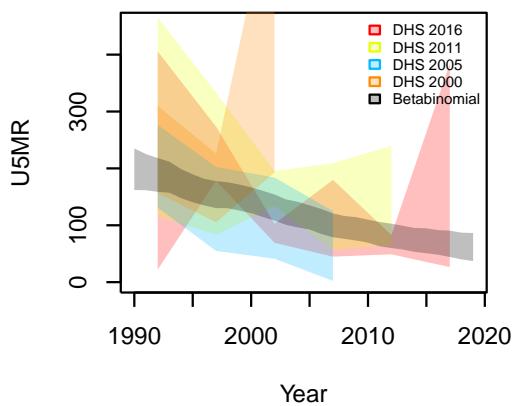
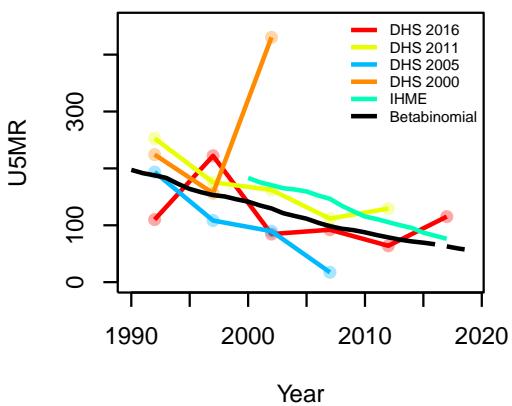
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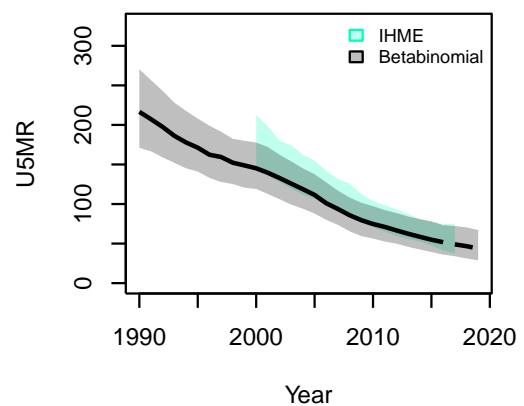
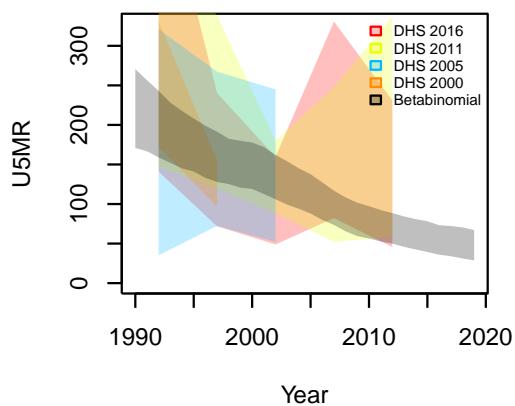
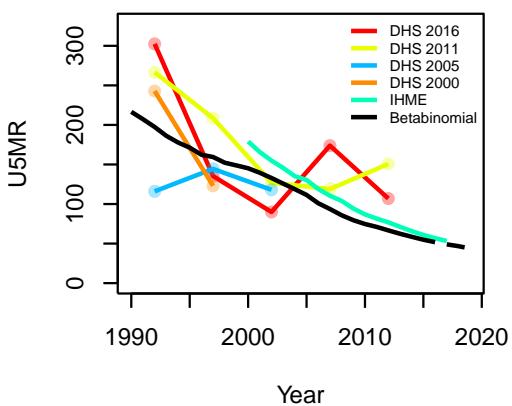
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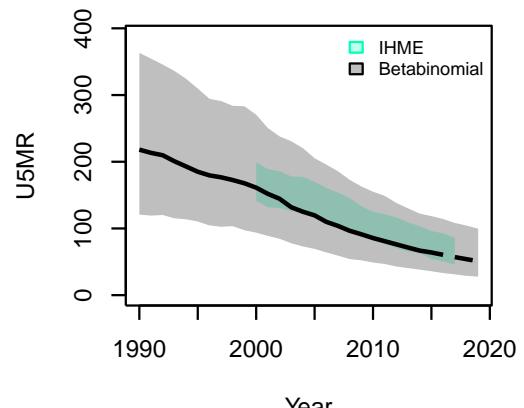
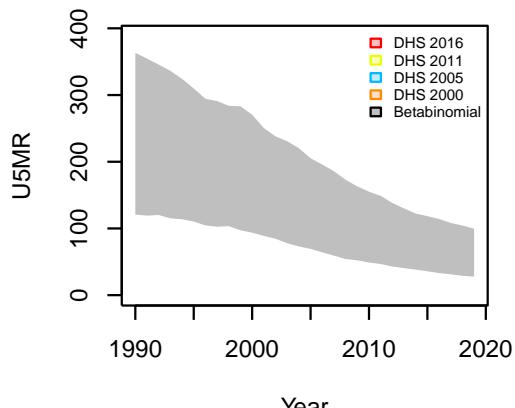
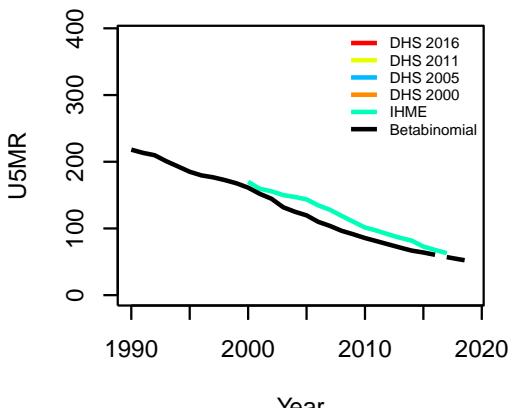
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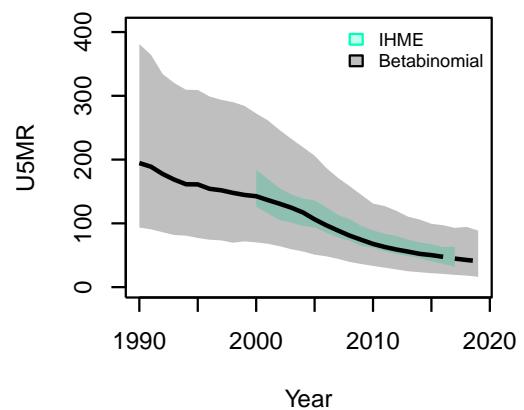
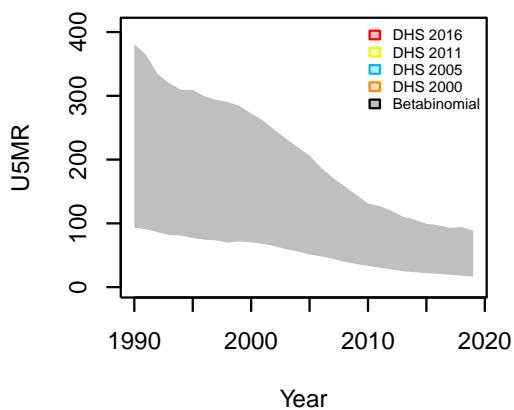
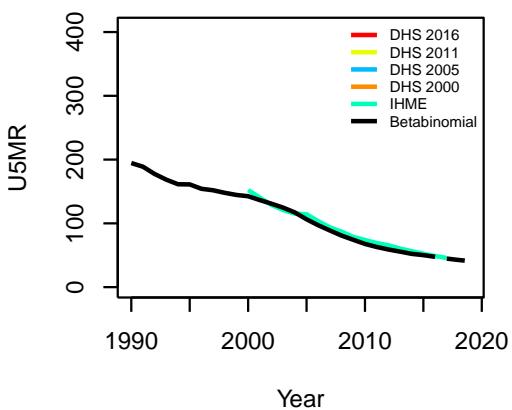
Agew Awi, Amhara



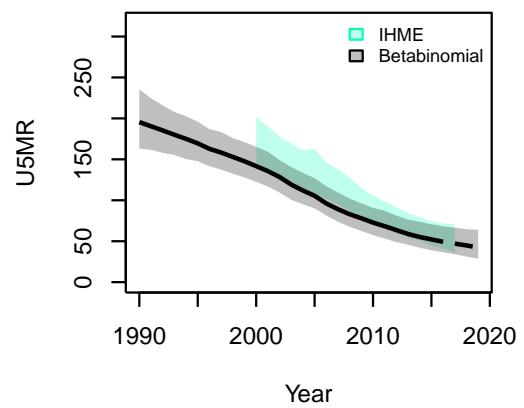
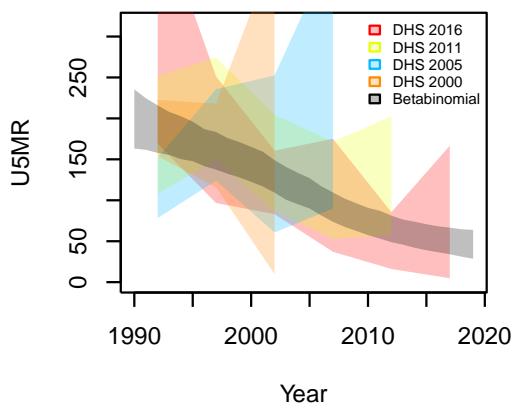
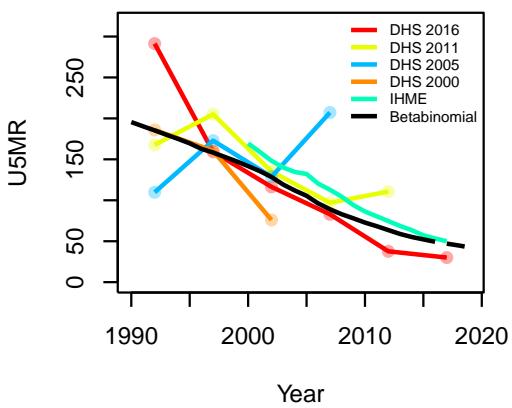
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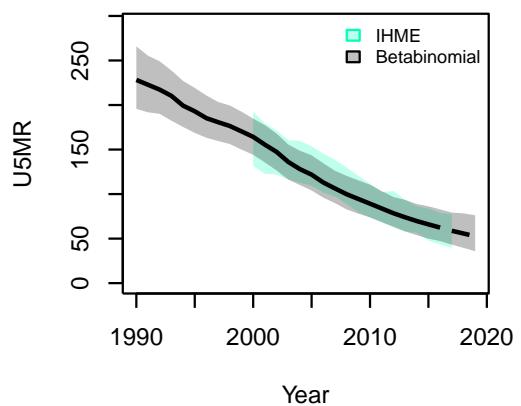
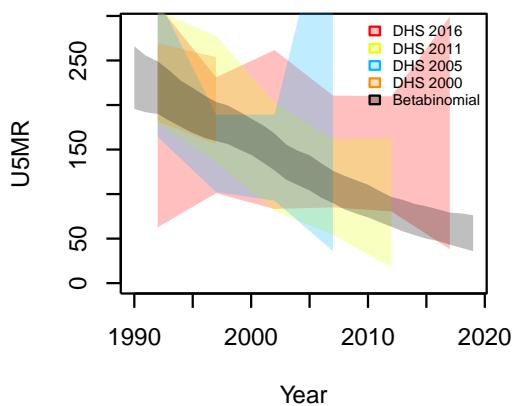
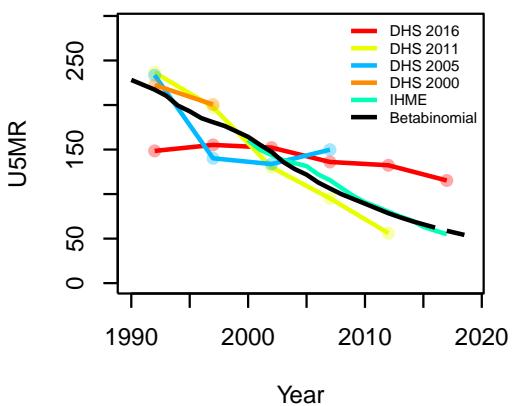
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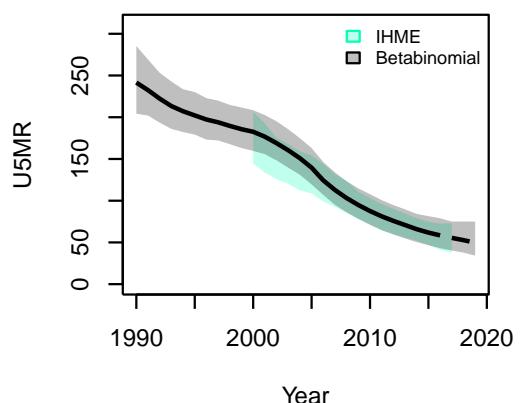
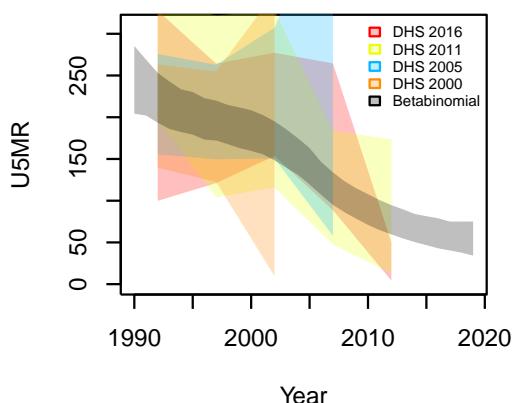
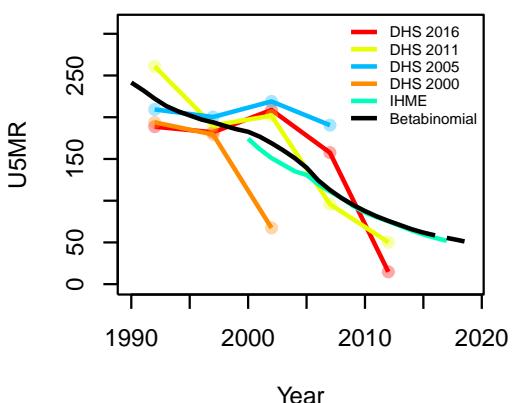
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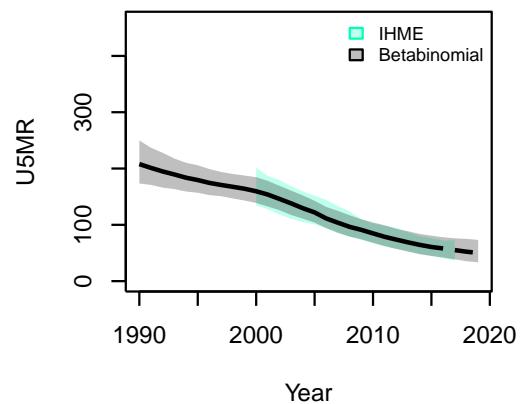
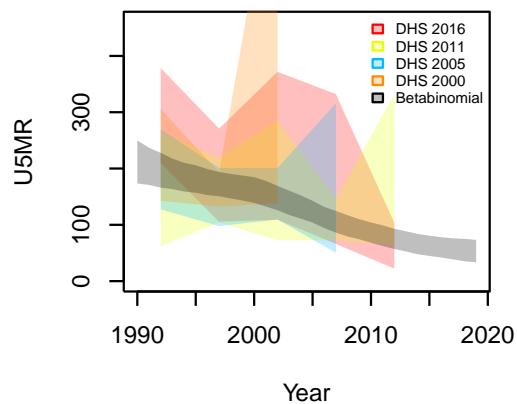
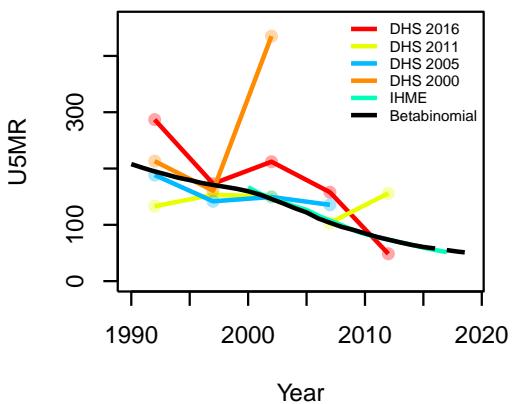
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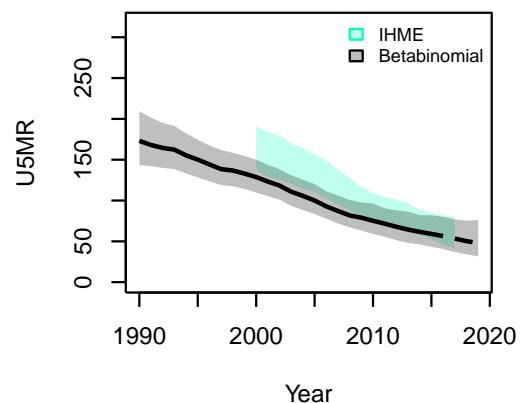
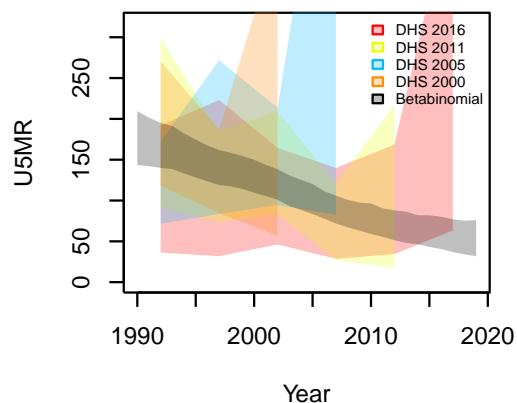
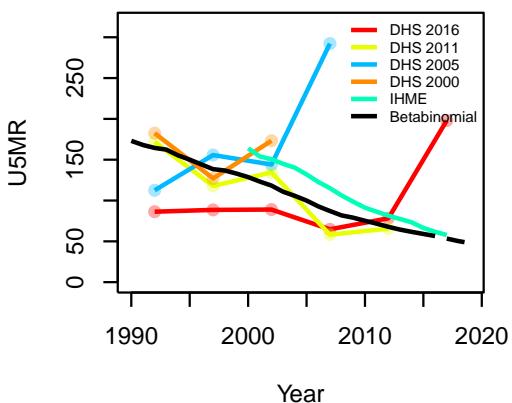
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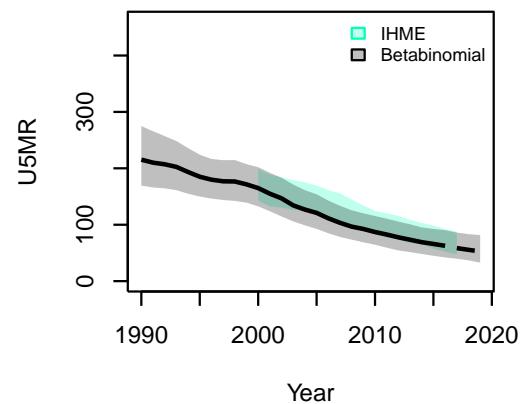
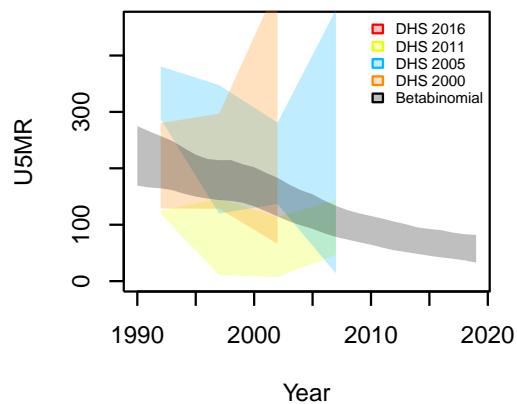
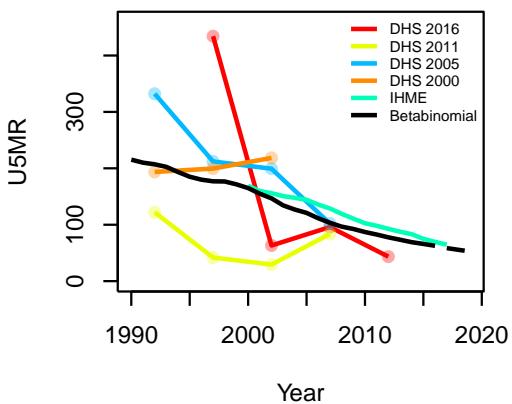
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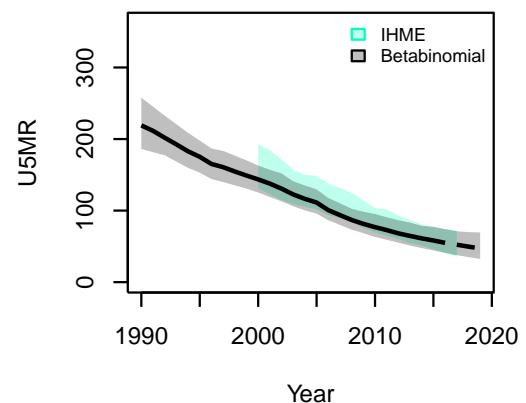
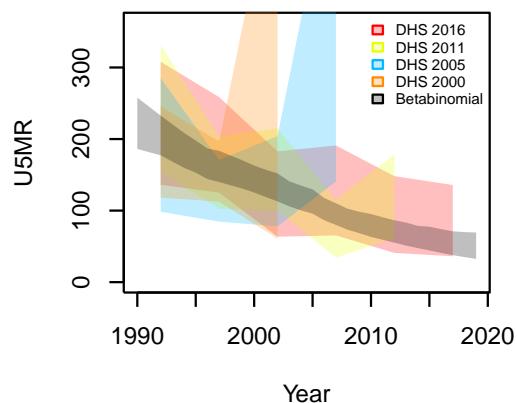
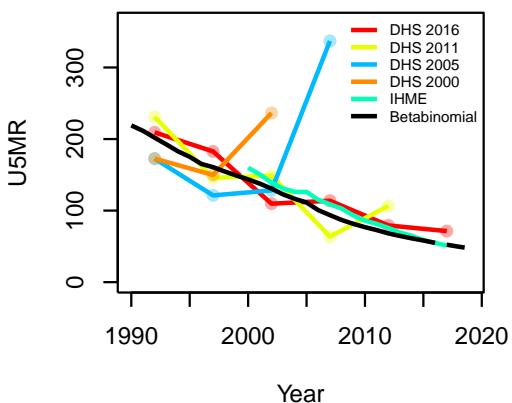
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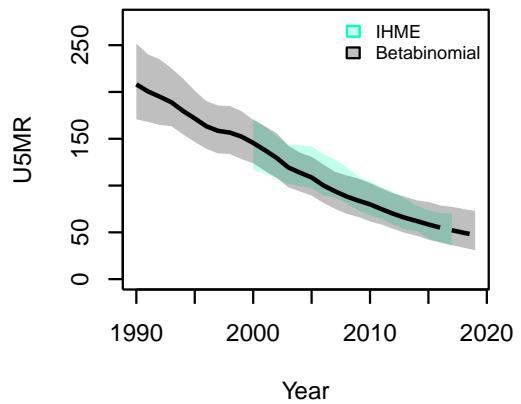
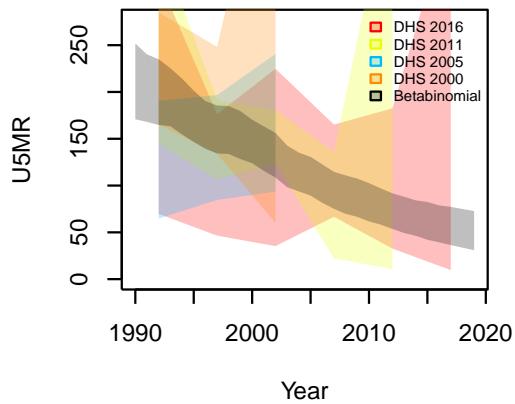
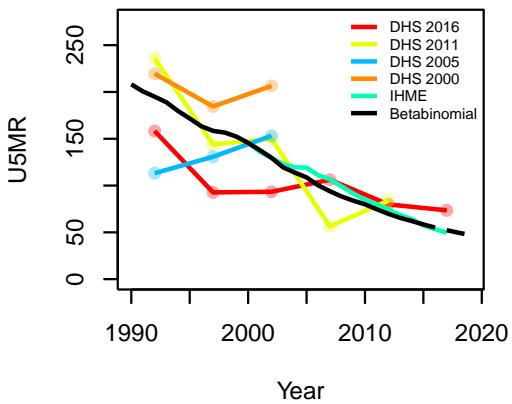
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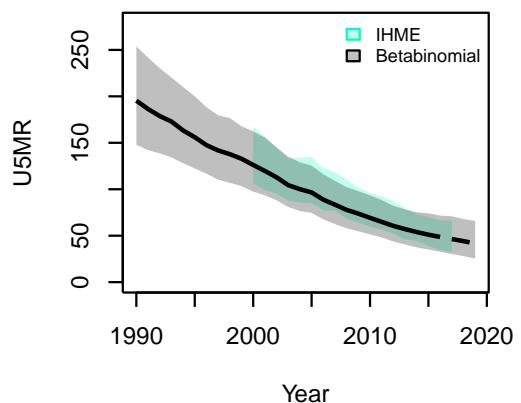
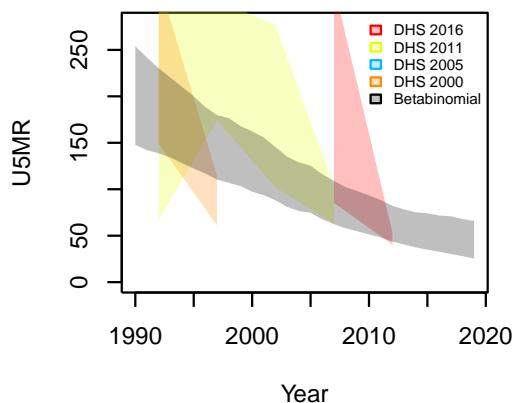
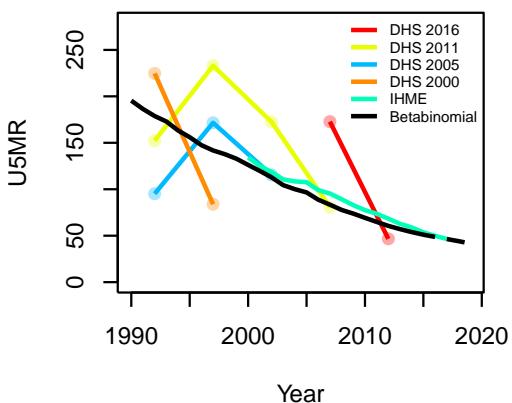
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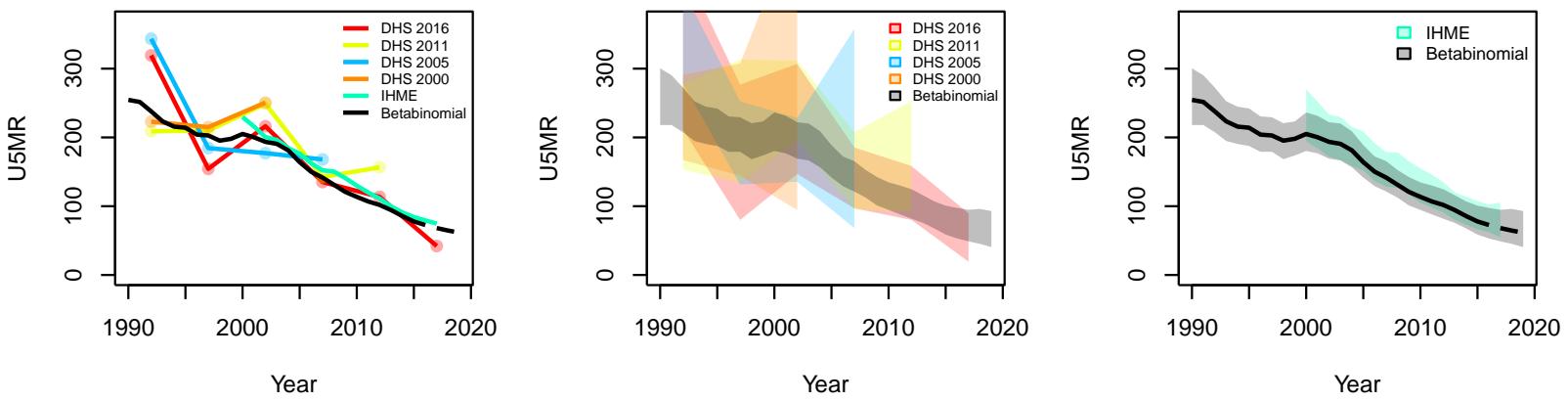
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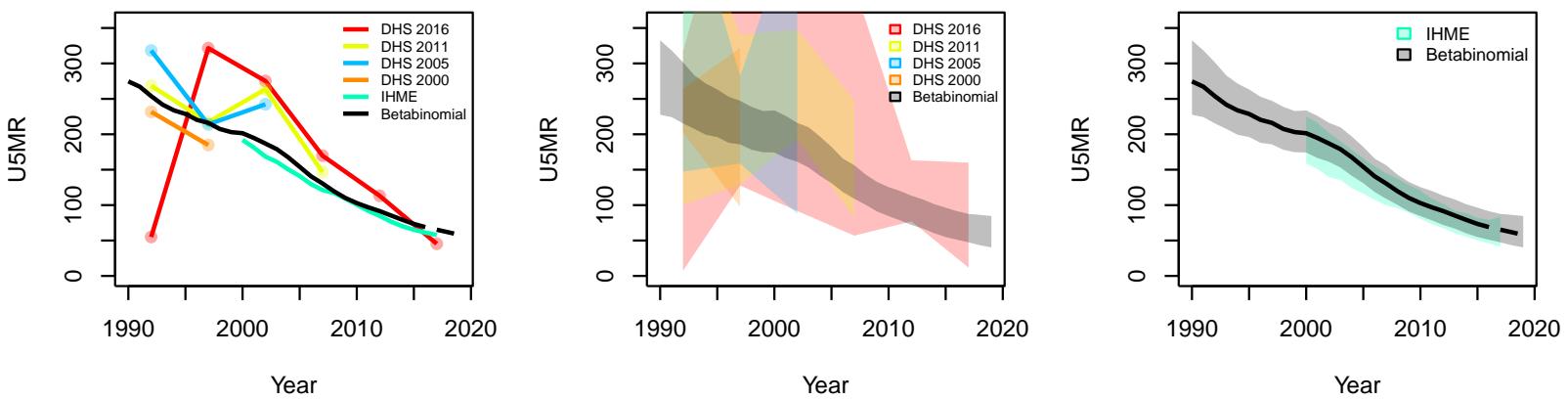
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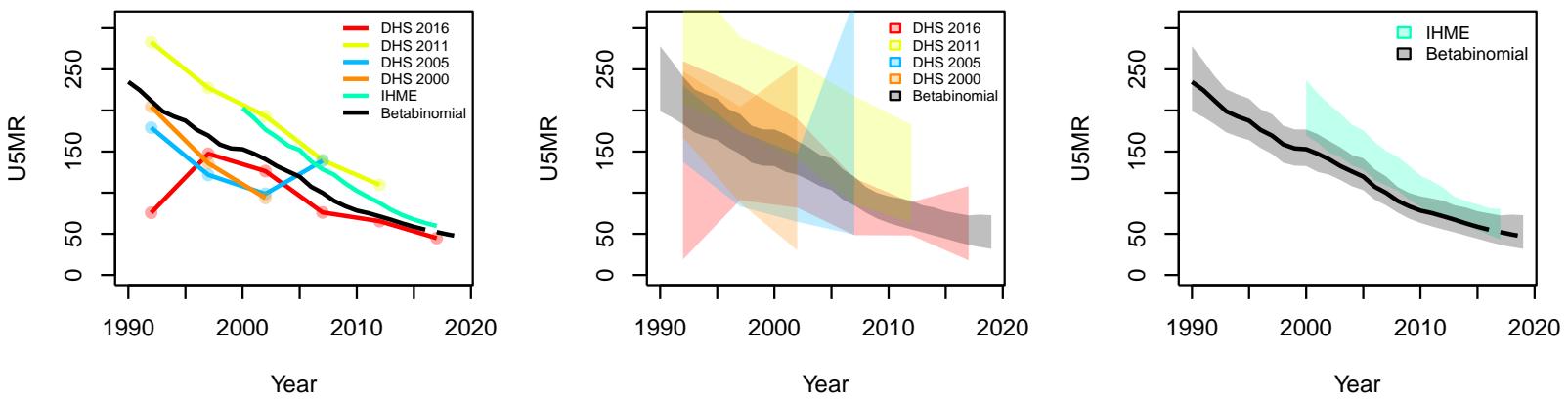
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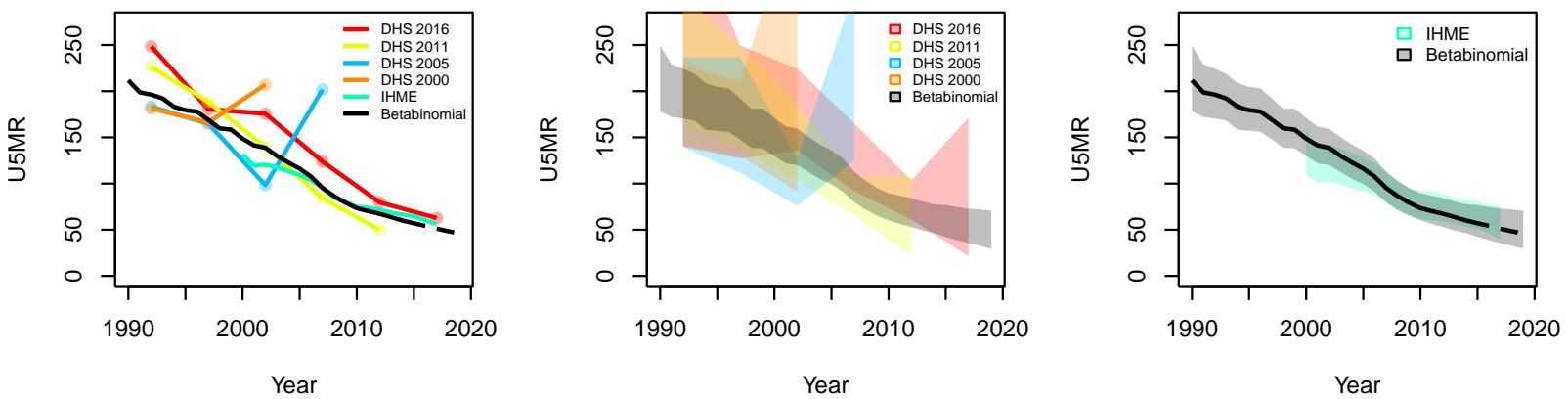
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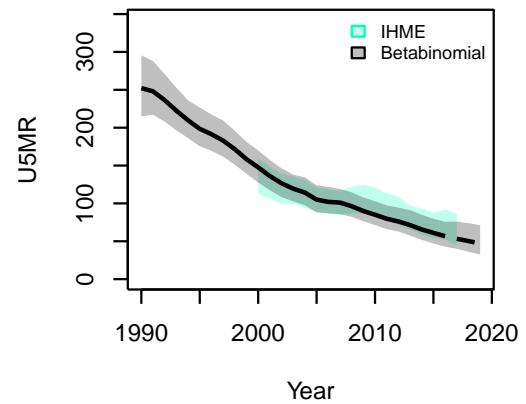
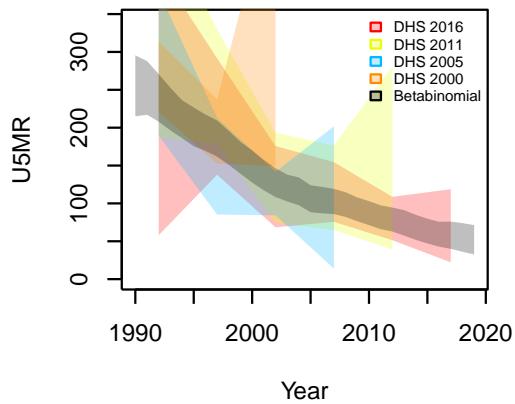
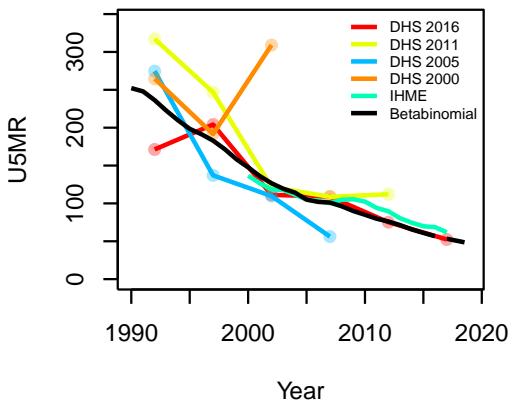
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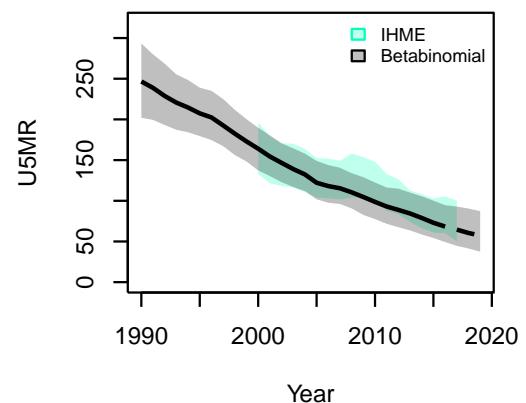
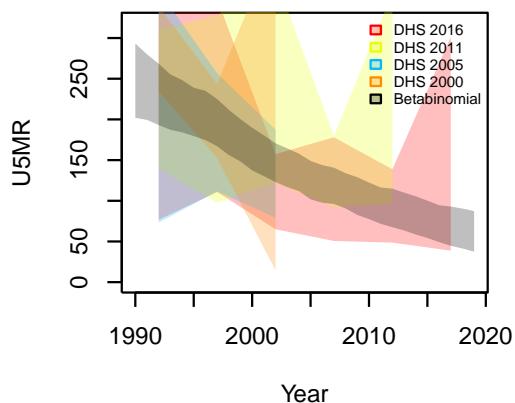
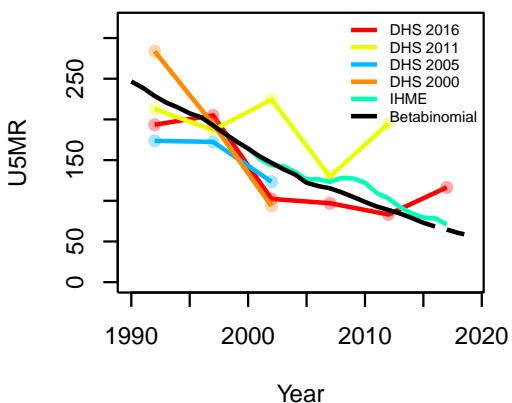
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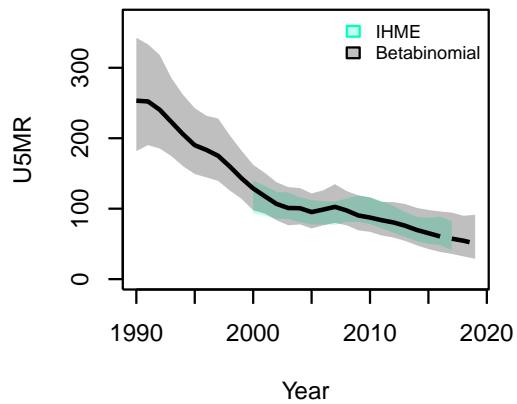
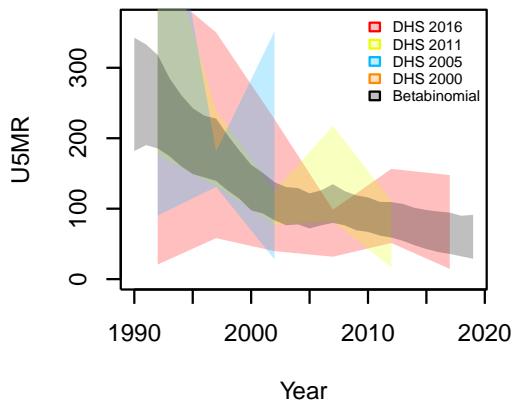
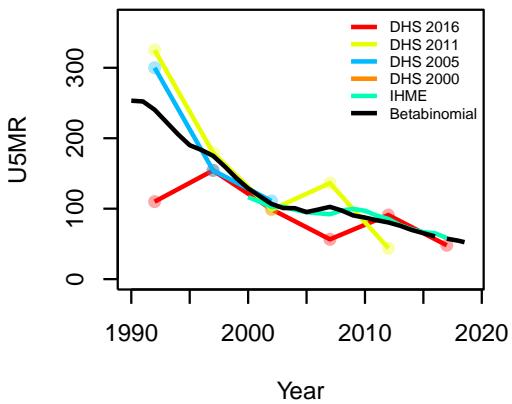
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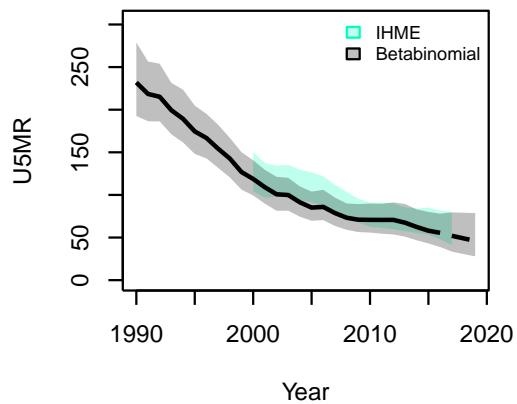
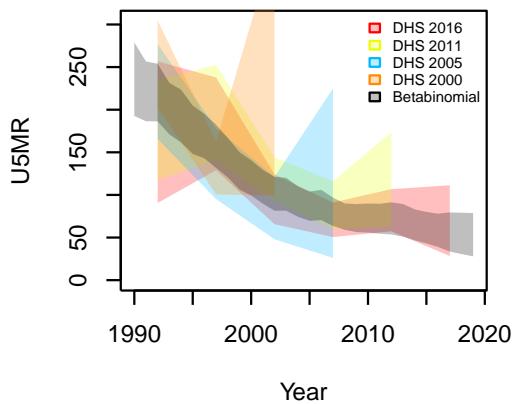
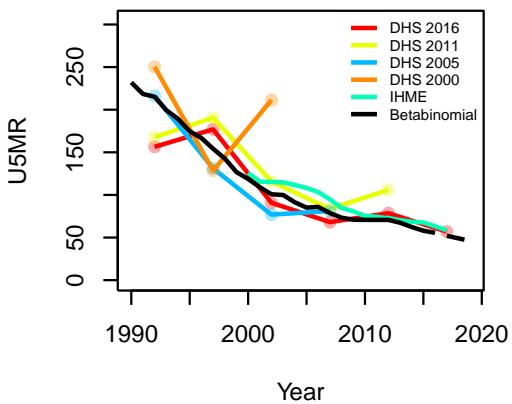
Majang, Gambela Peoples



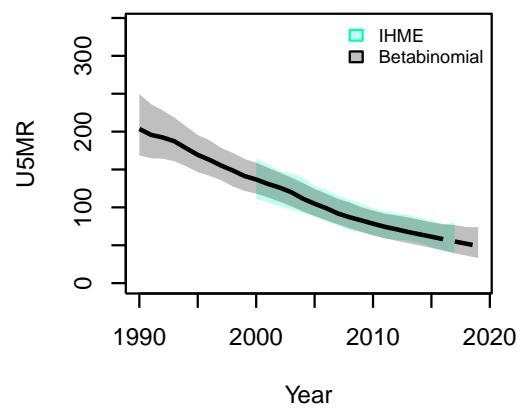
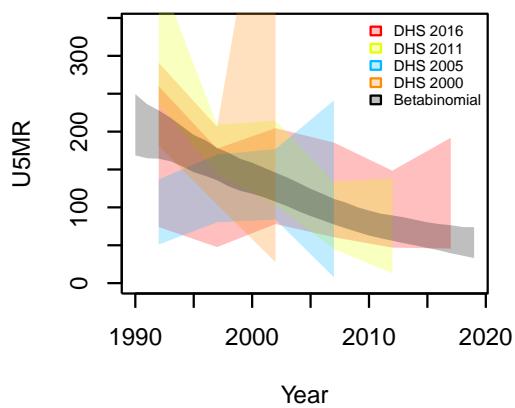
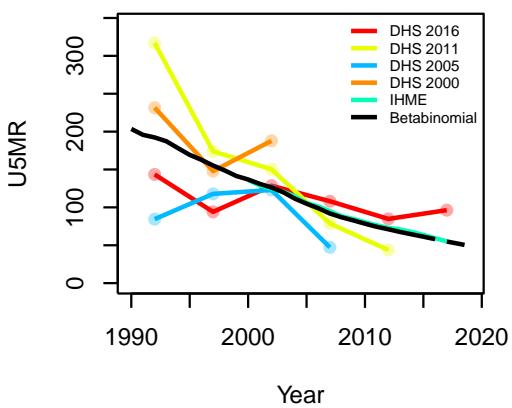
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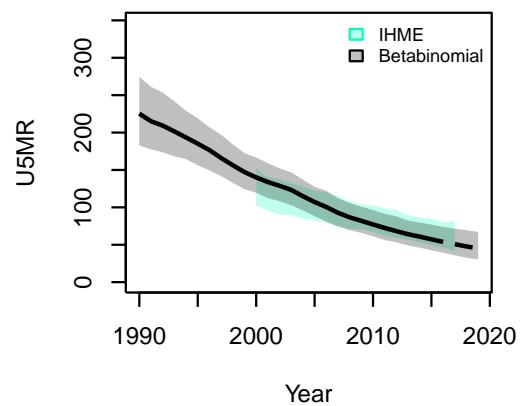
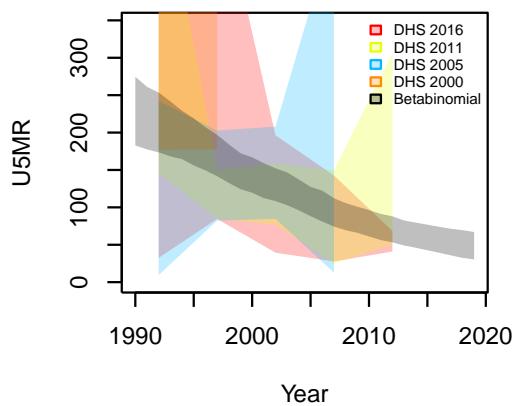
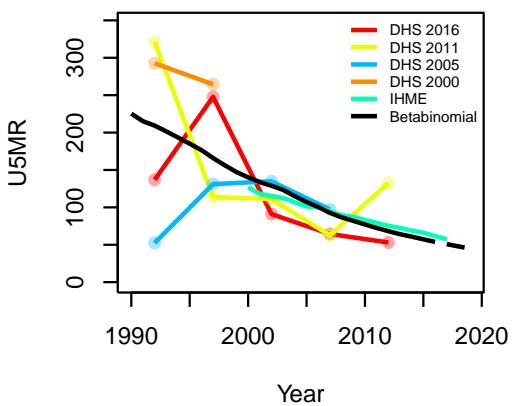
Hareri, Harari People



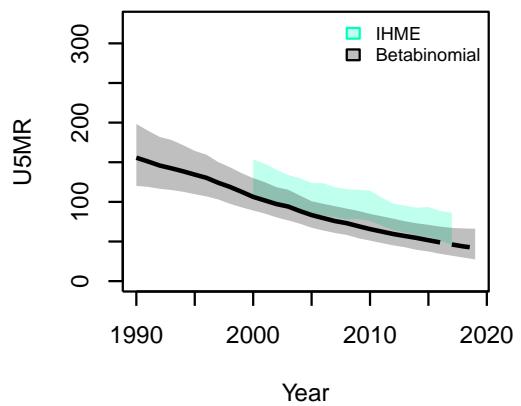
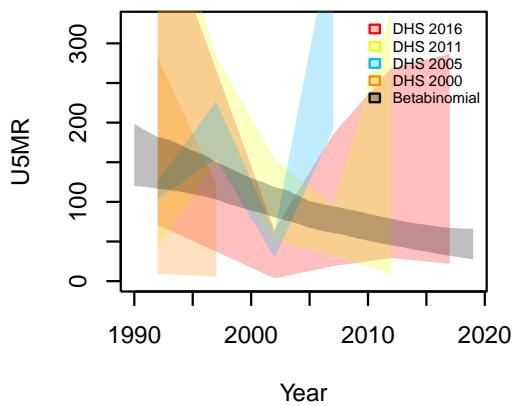
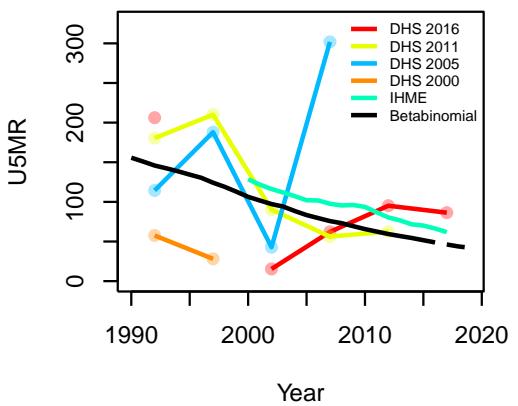
Arsi, Oromia



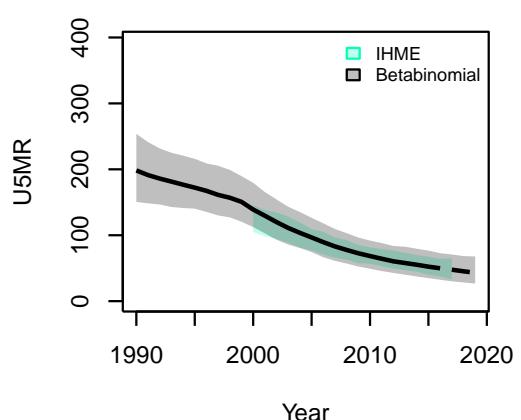
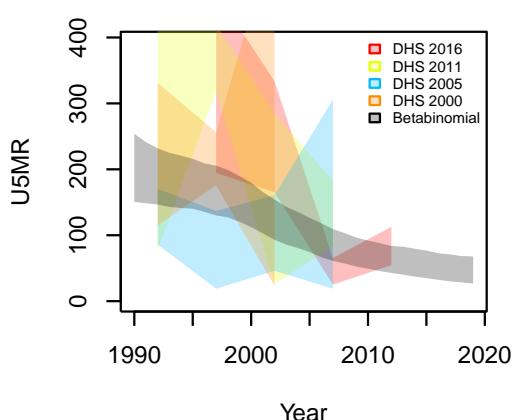
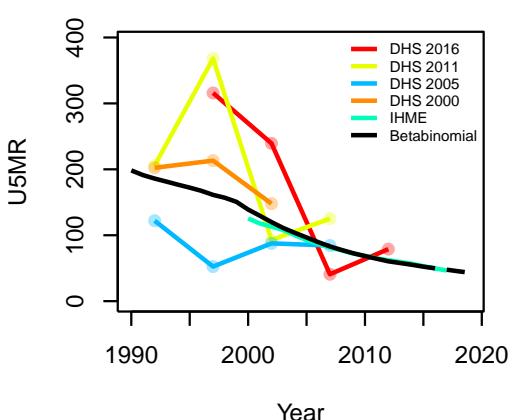
Bale, Oromia



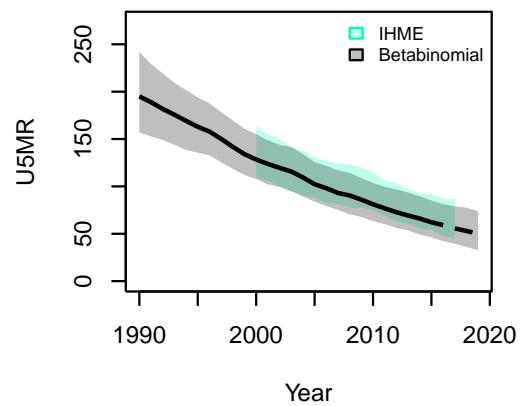
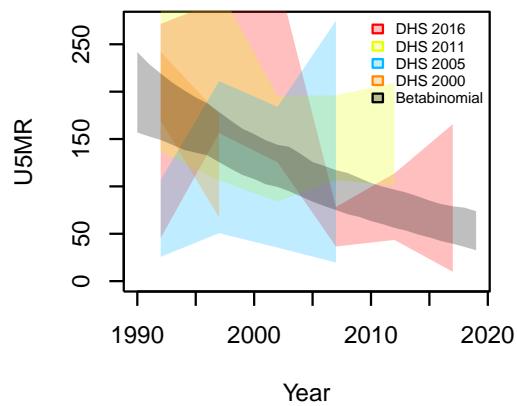
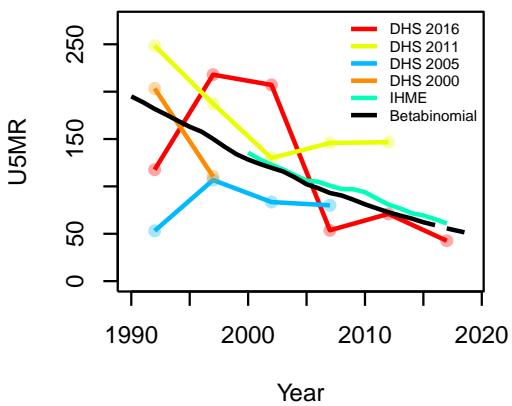
Borena, Oromia



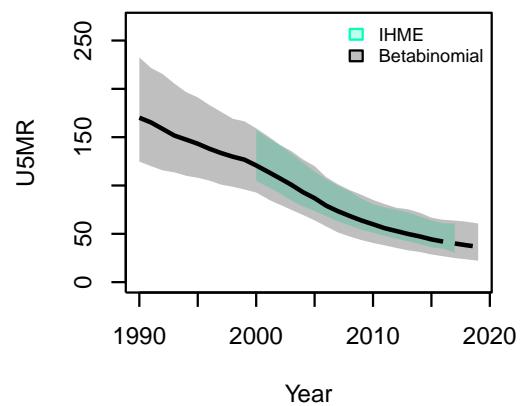
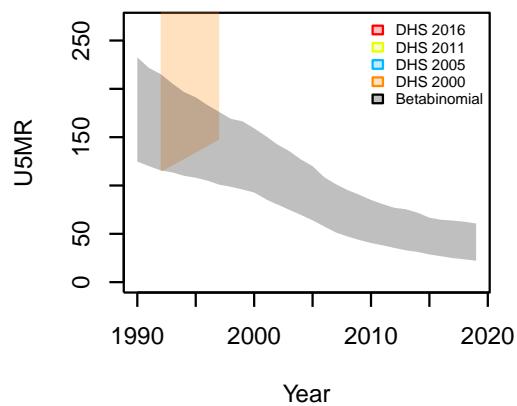
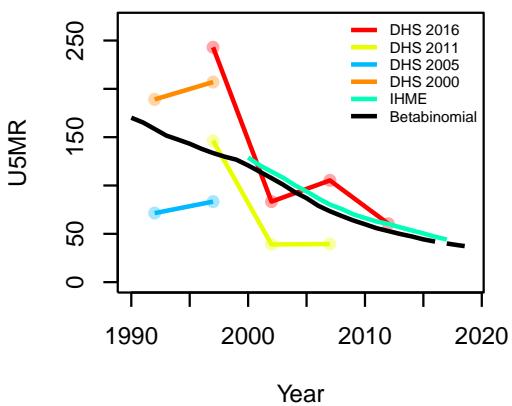
Debub Mirab Shewa, Oromia



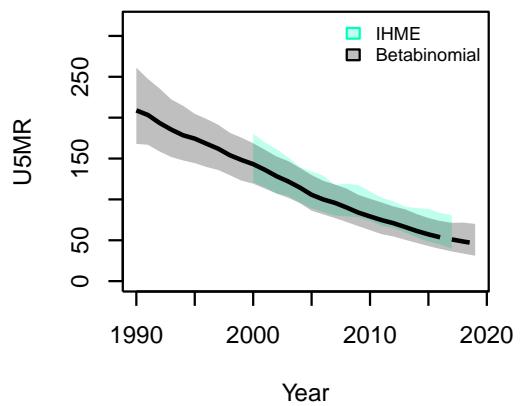
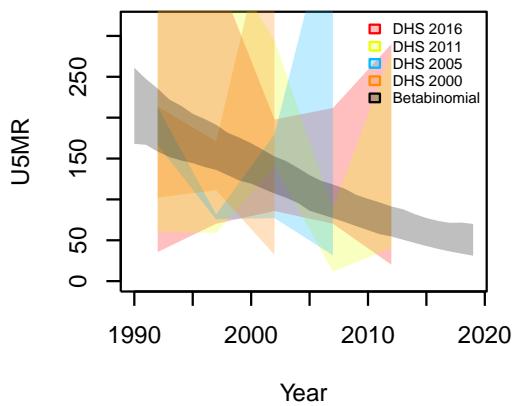
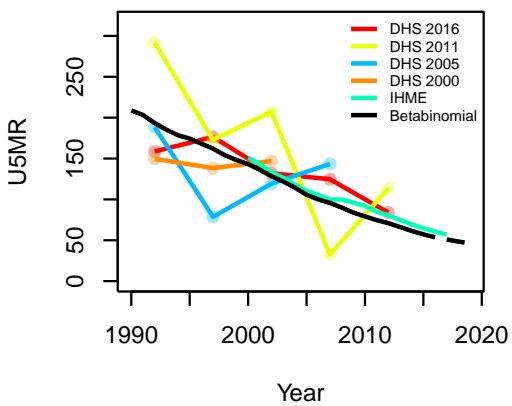
Guji, Oromia



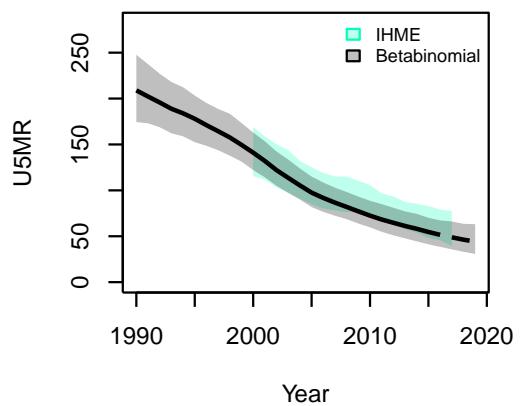
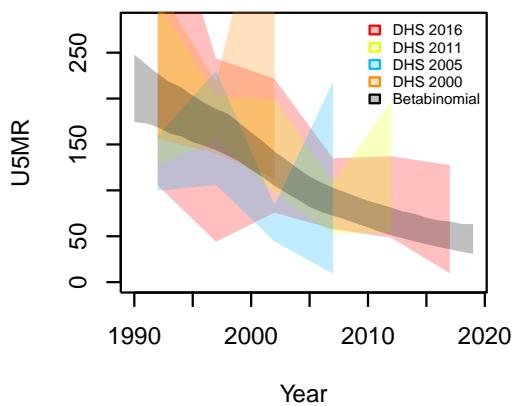
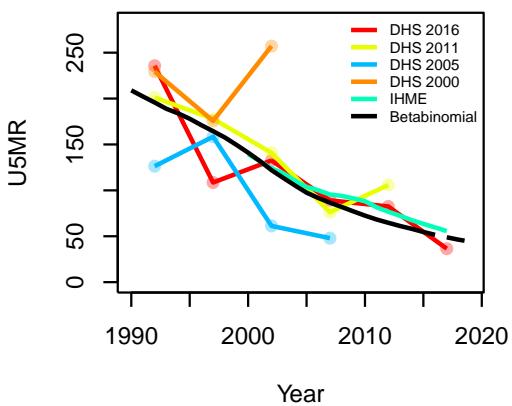
Horo Guduru, Oromia



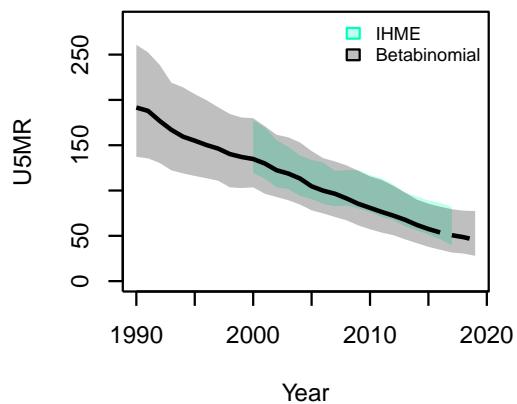
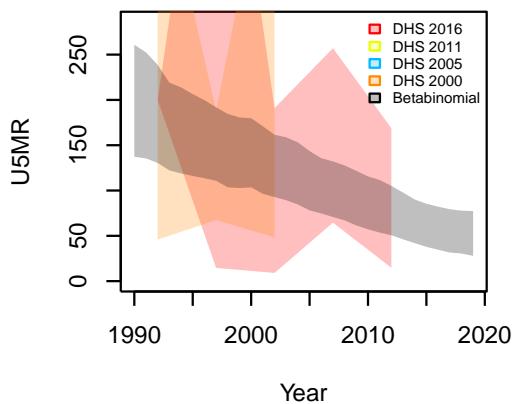
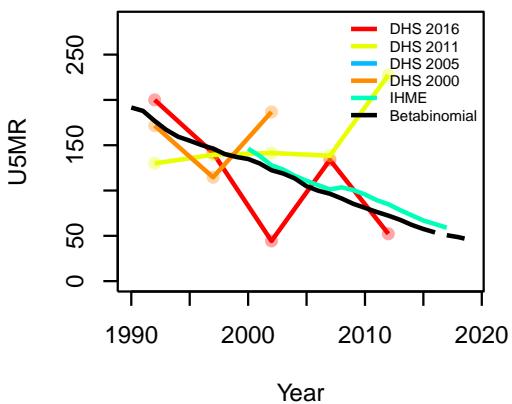
Ilubabor, Oromia



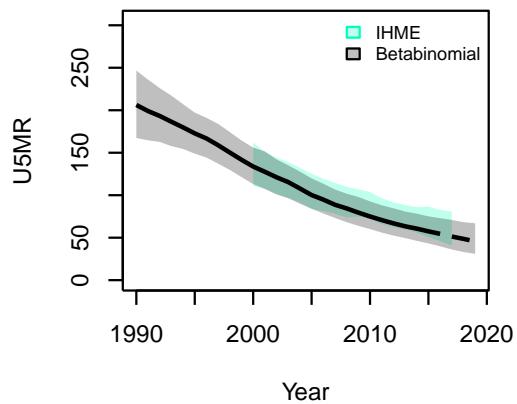
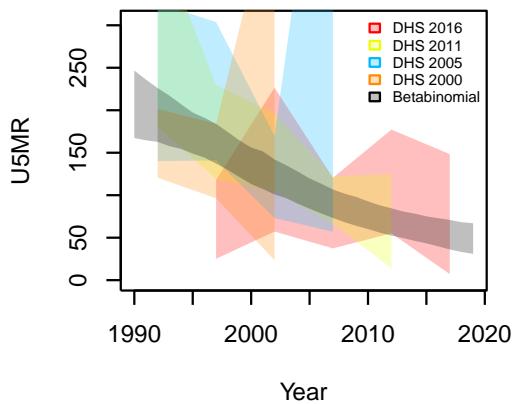
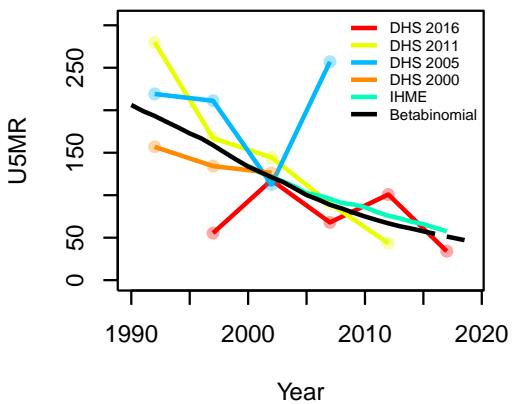
Jimma, Oromia



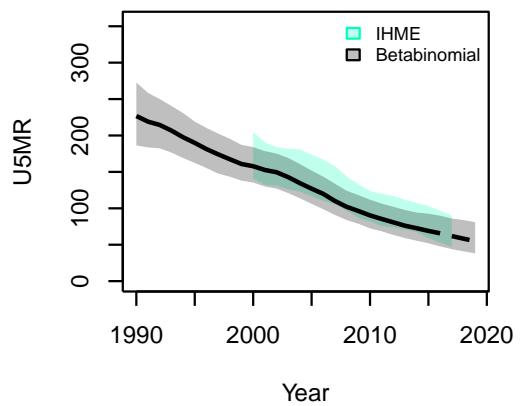
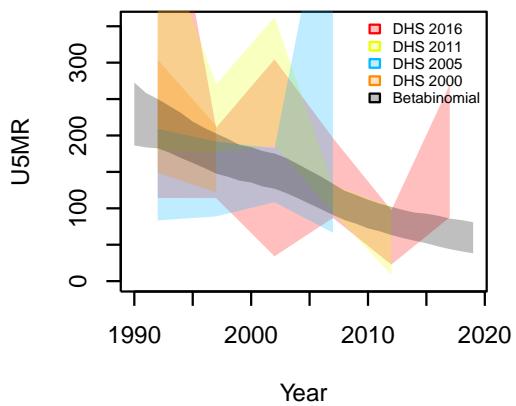
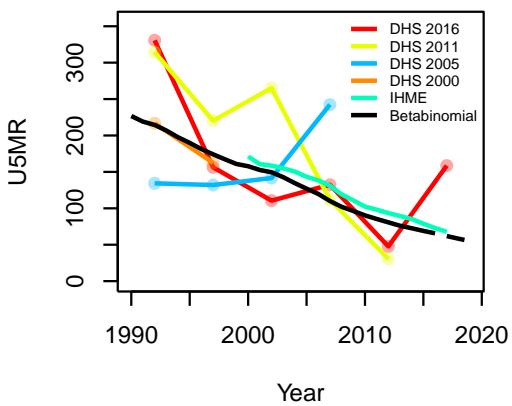
Kelem Wellega, Oromia



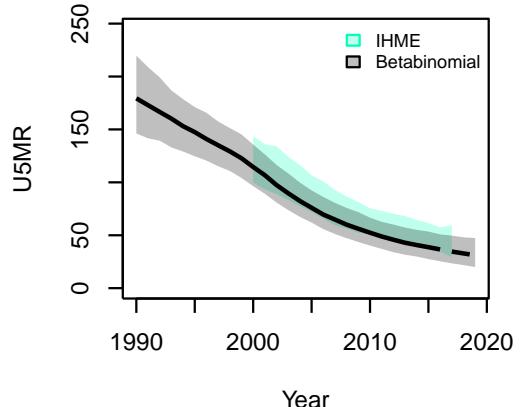
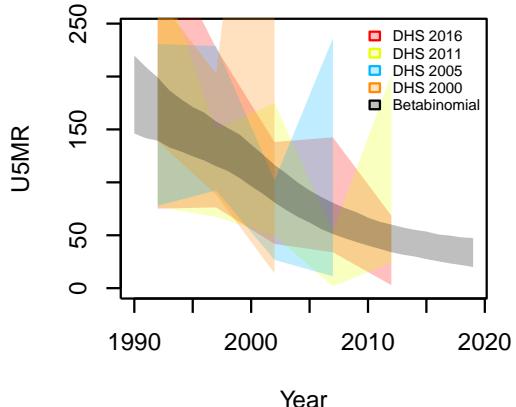
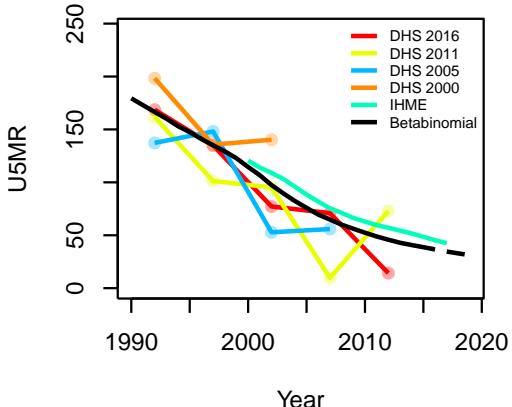
Mirab Arsi, Oromia



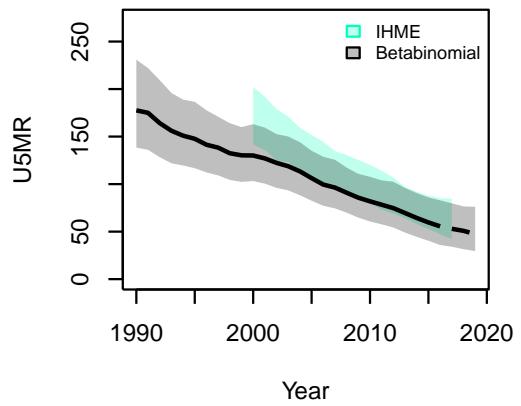
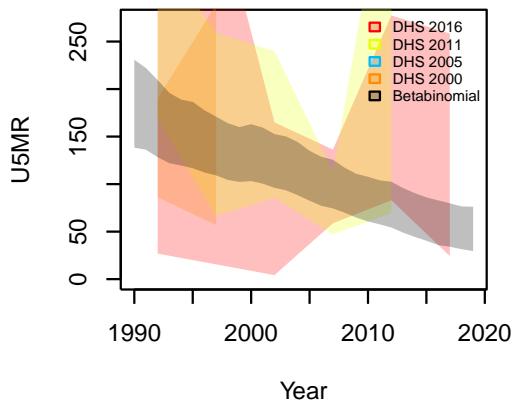
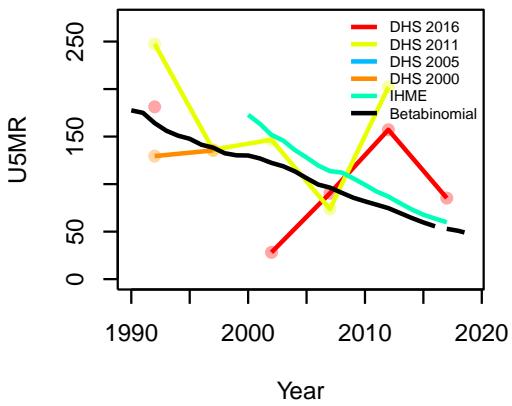
Mirab Hararghe, Oromia



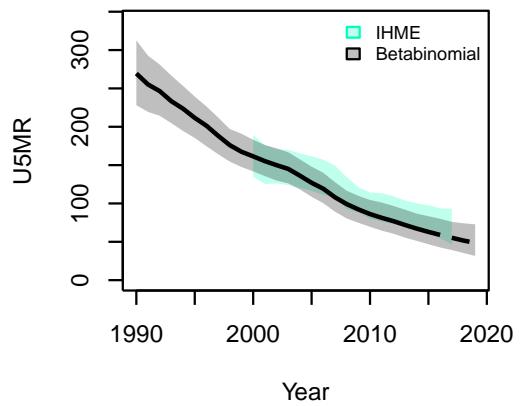
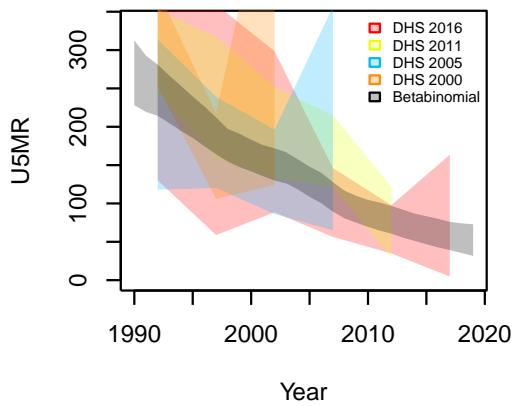
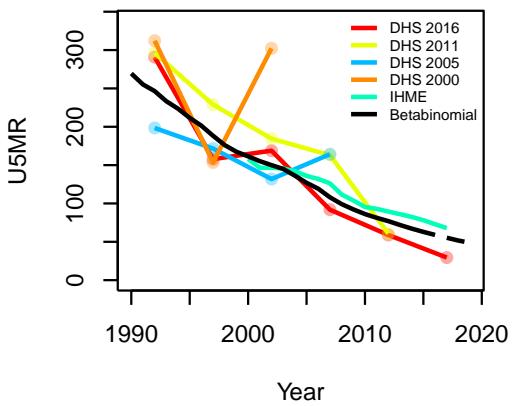
Mirab Shewa, Oromia



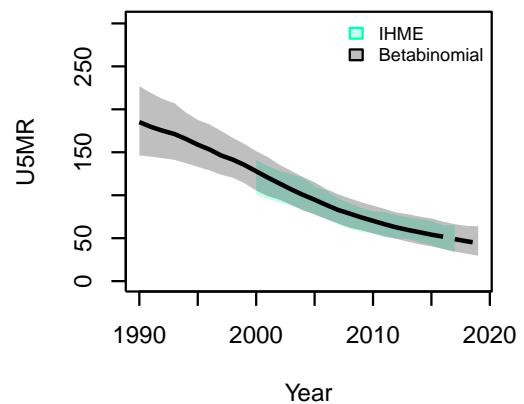
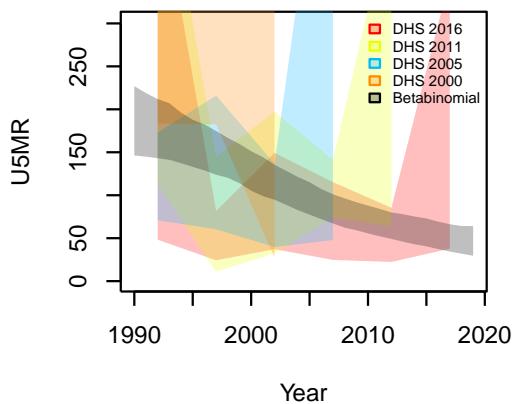
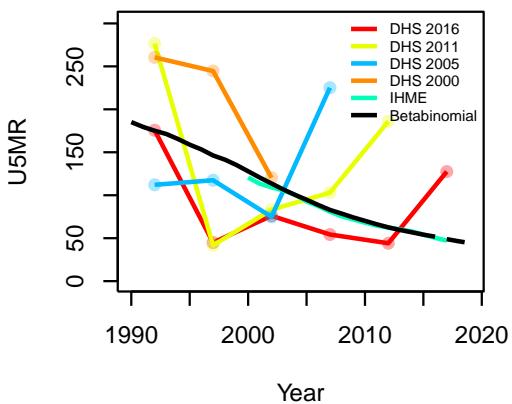
Mirab Welega, Oromia



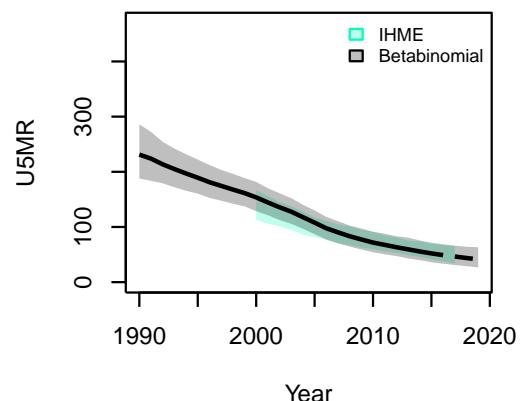
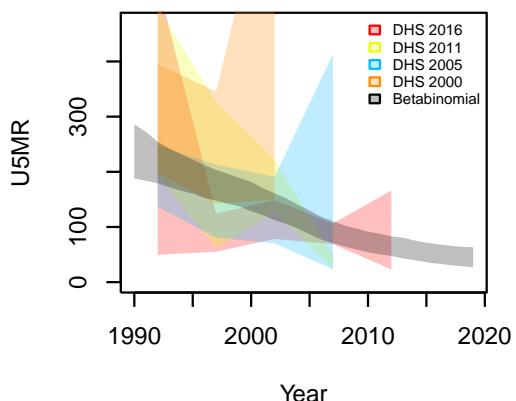
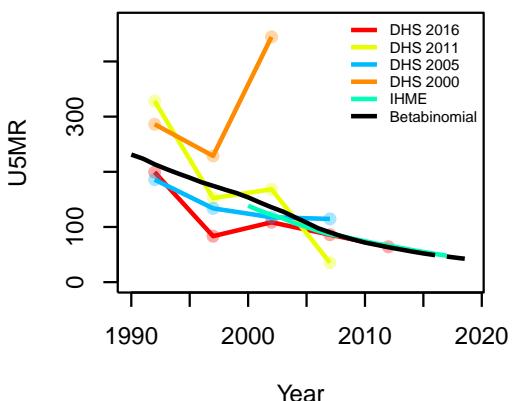
Misraq Harerge, Oromia



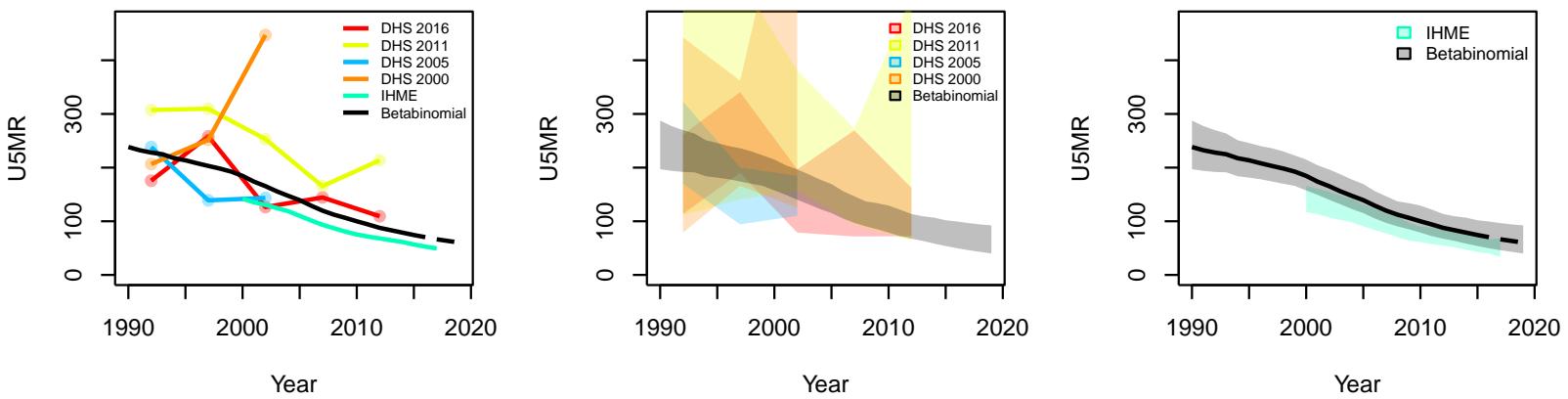
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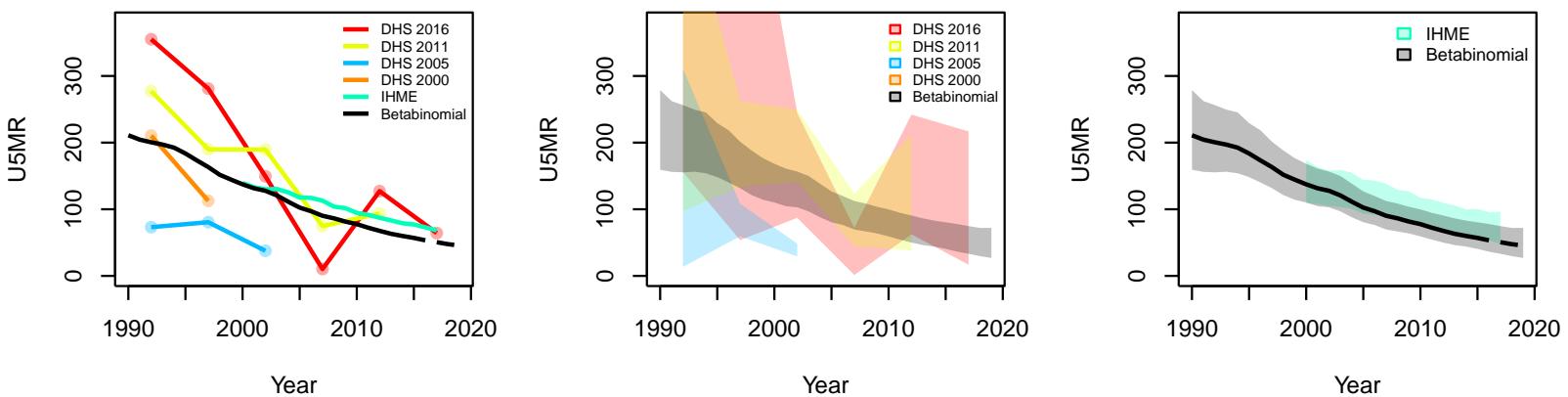
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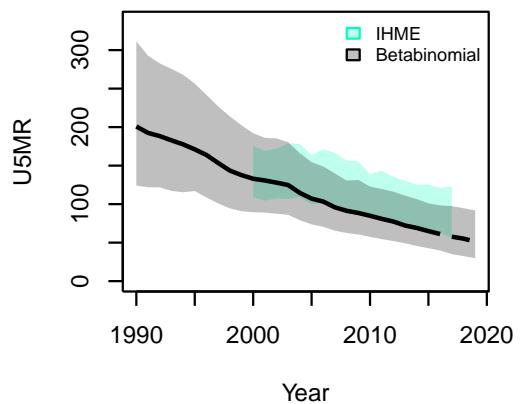
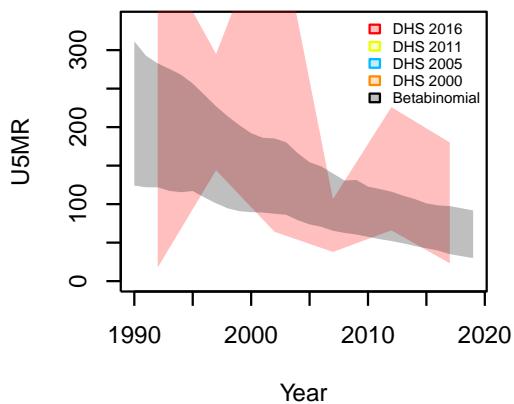
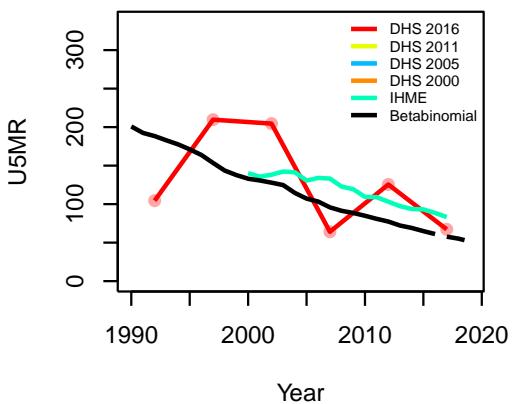
North Shewa, Oromia



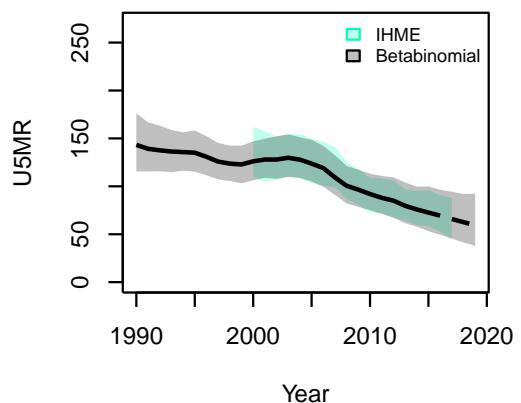
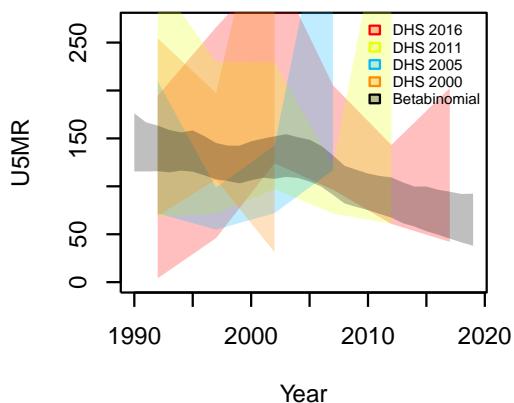
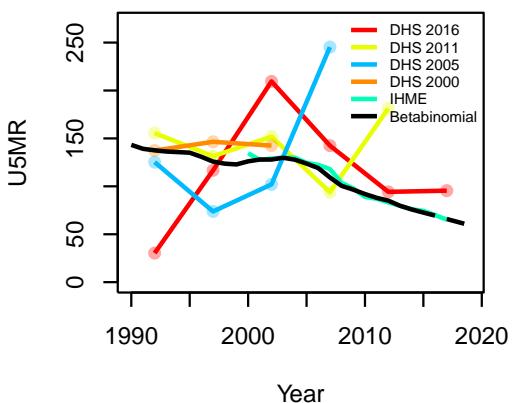
Afder, Somali



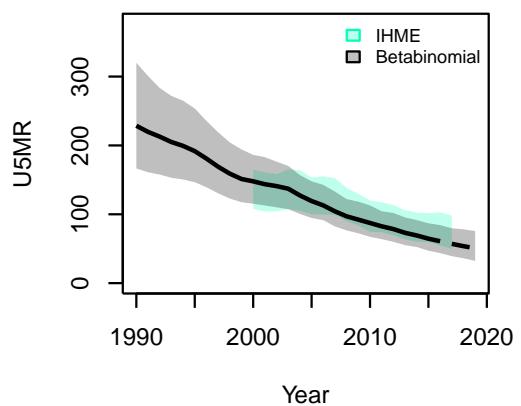
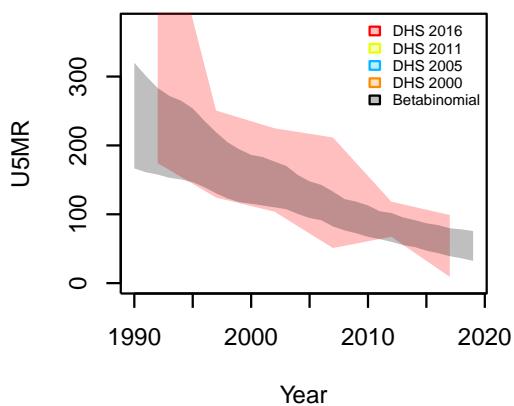
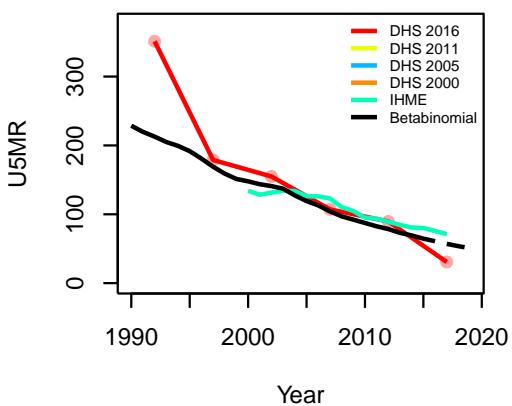
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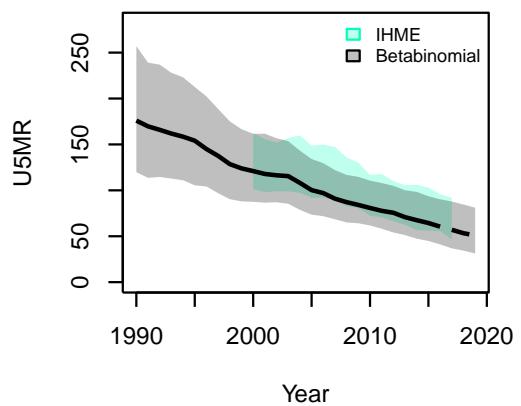
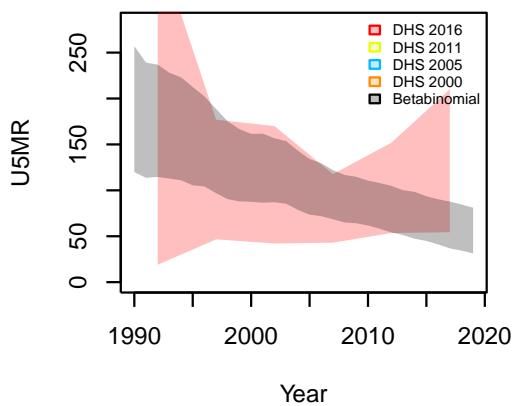
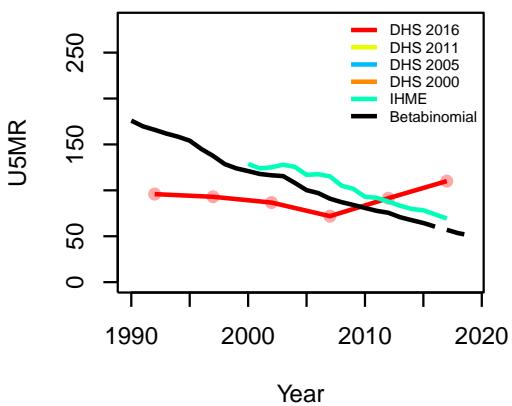
Fafan, Somali



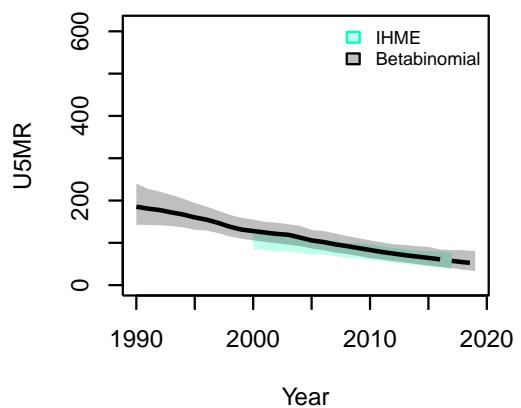
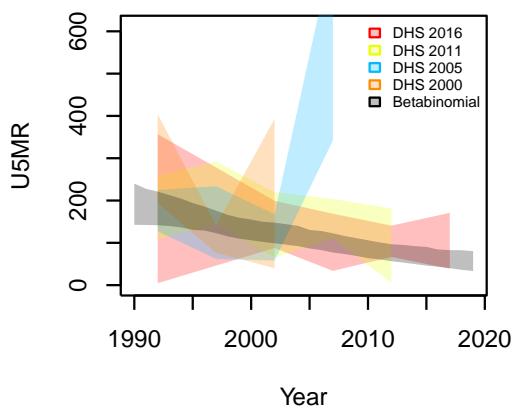
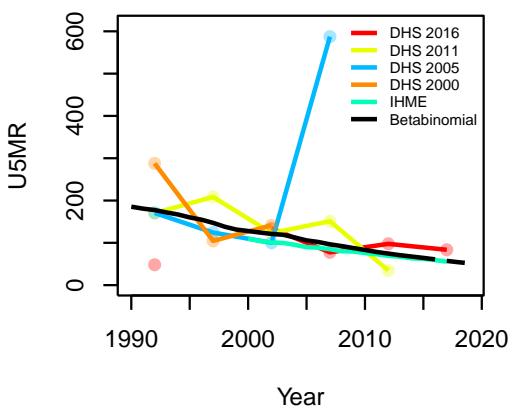
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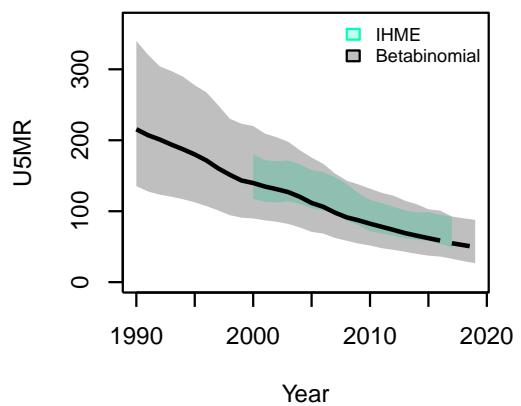
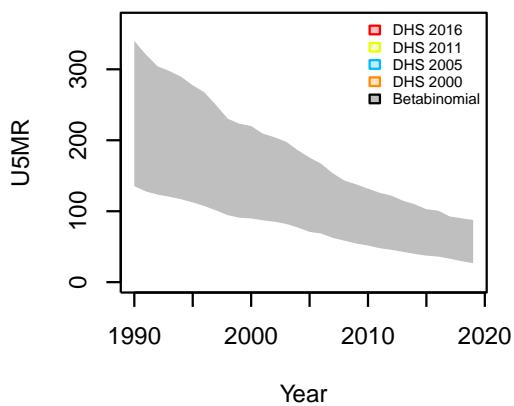
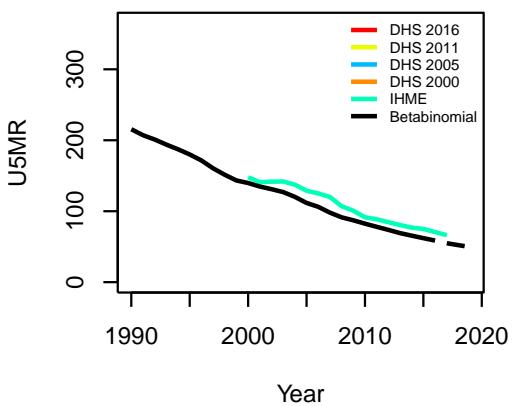
Korahe, Somali



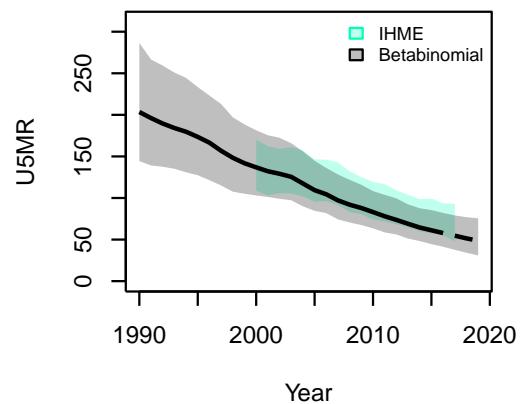
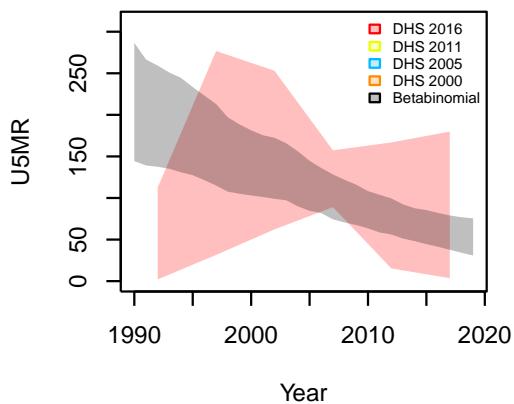
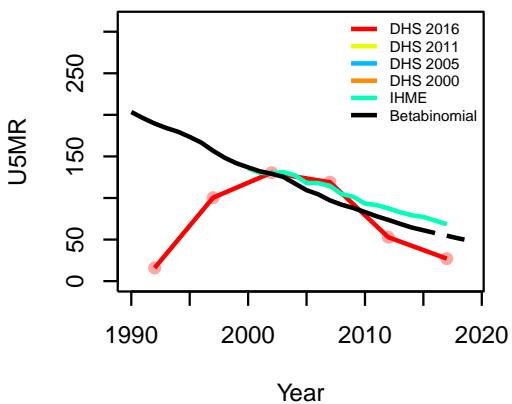
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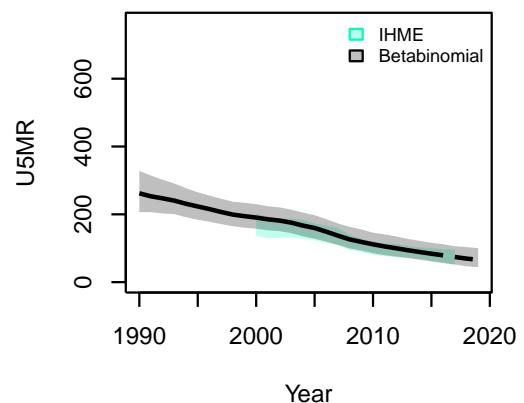
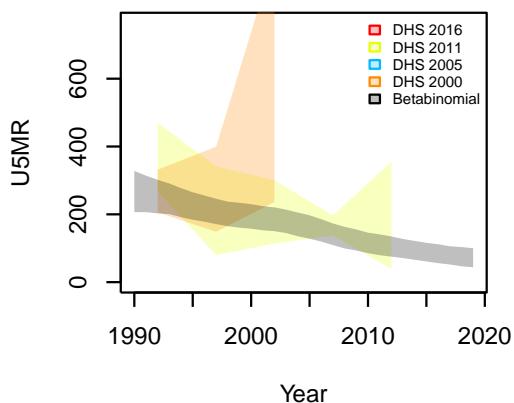
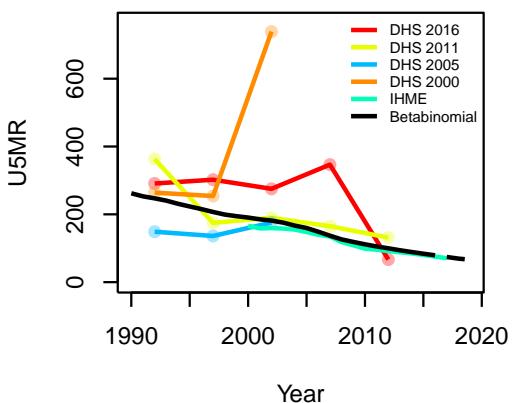
Nogob, Somali



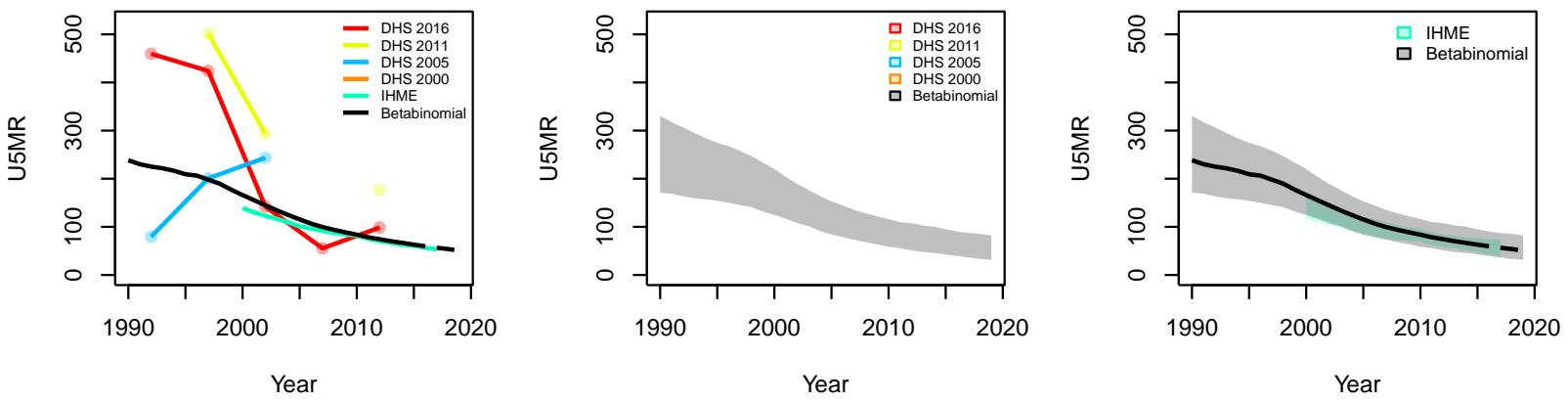
Shabelle, Somali



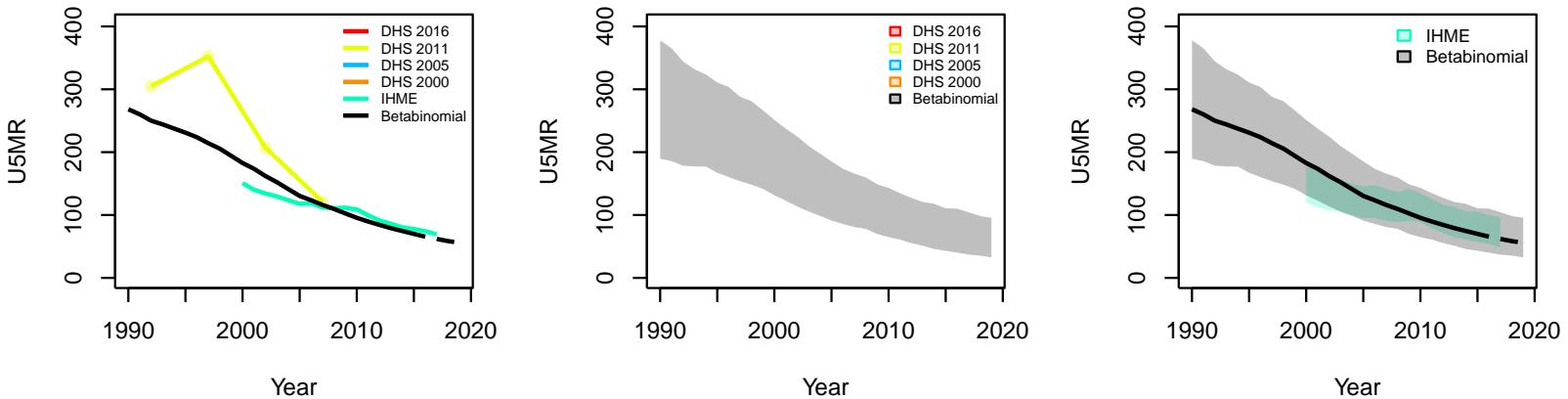
Siti, Somali



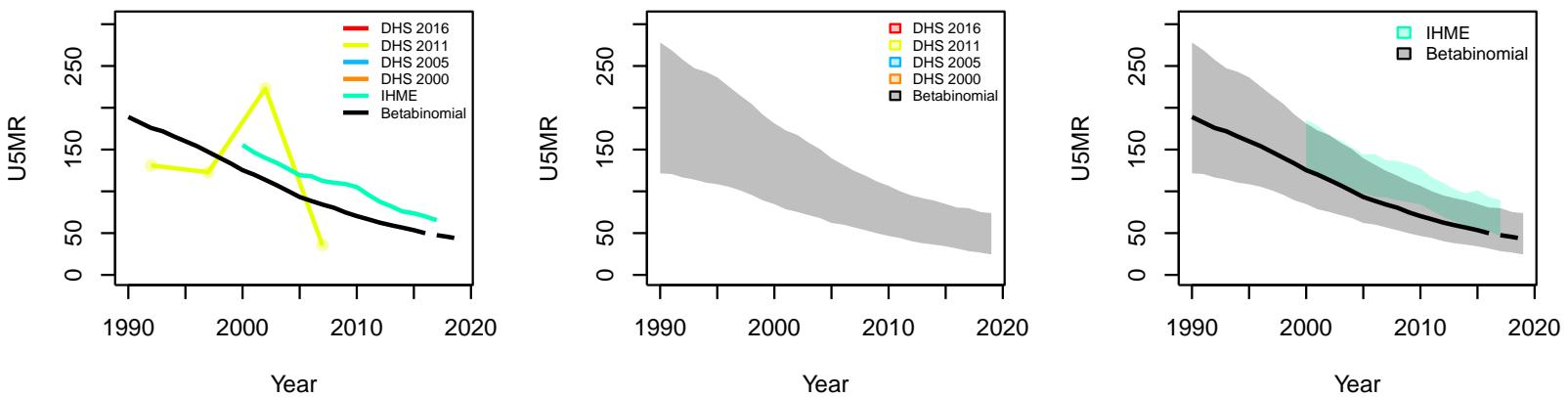
Alaba, Southern Nations, Nationalities and Peoples



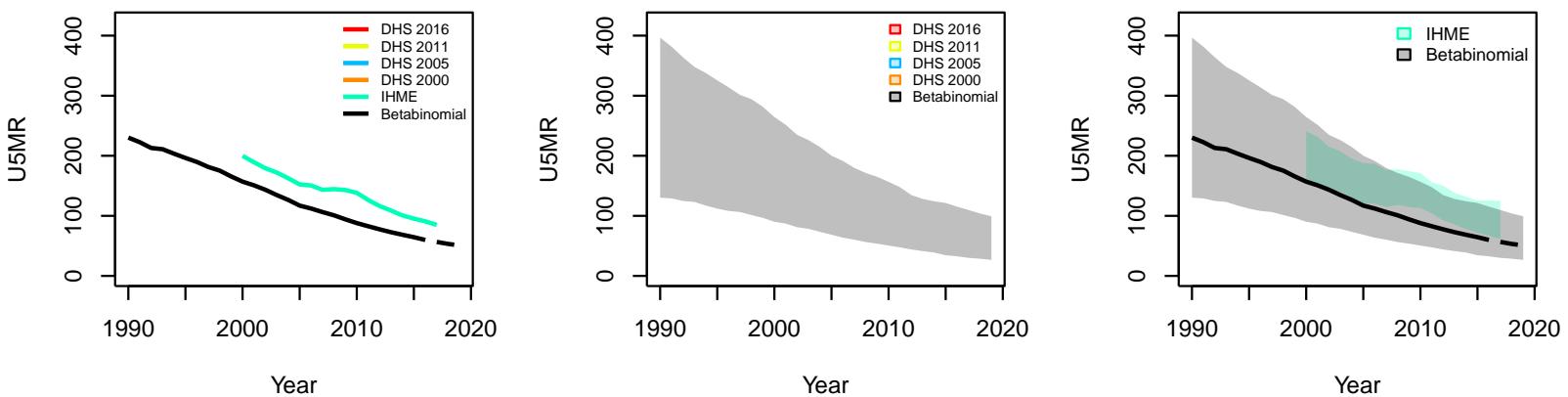
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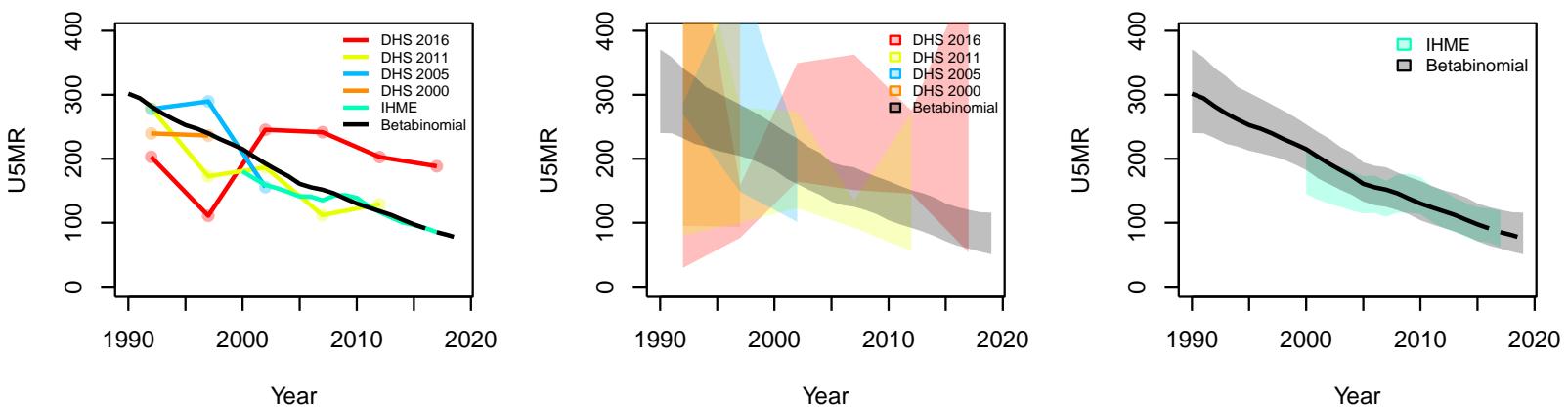
Amaro, Southern Nations, Nationalities and Peoples



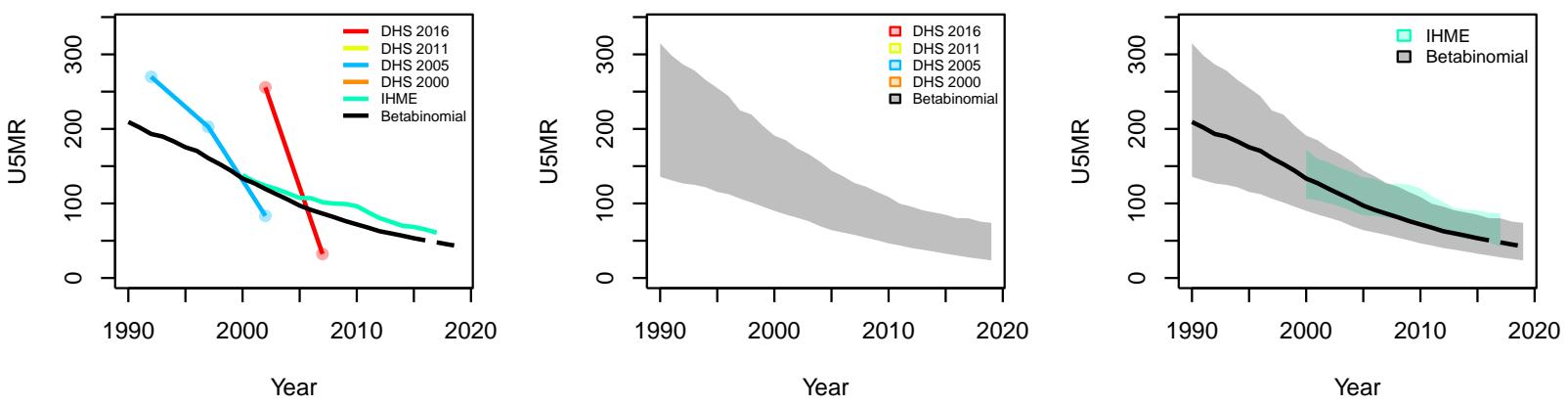
Basketo, Southern Nations, Nationalities and Peoples



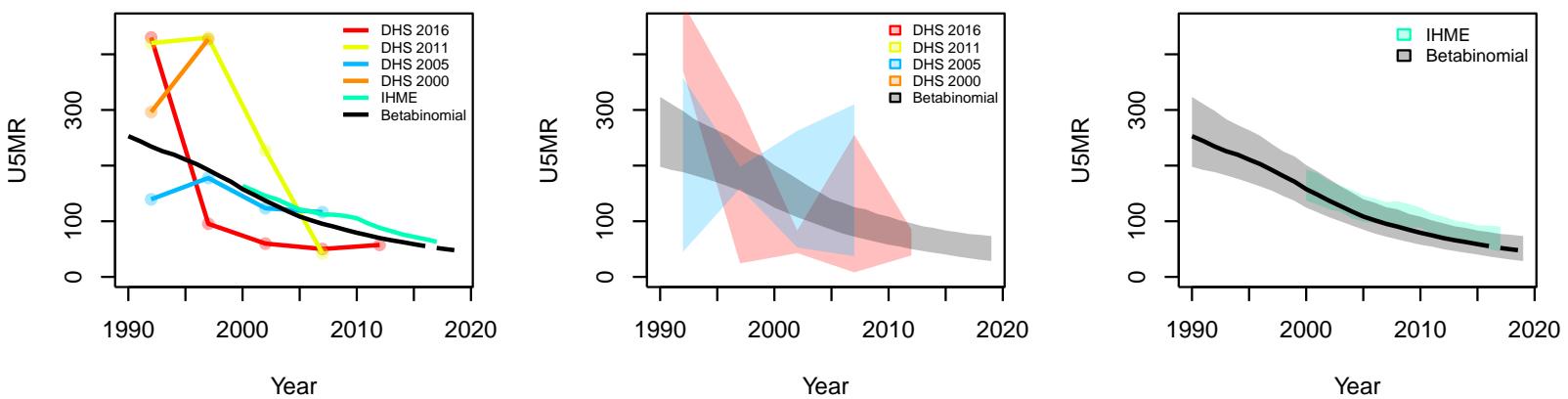
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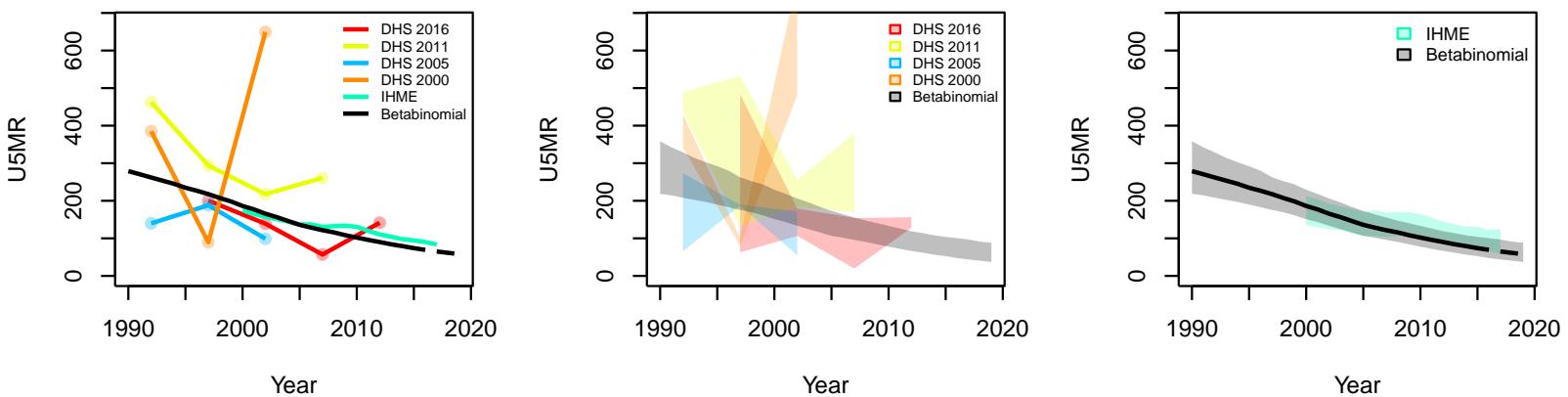
Burji, Southern Nations, Nationalities and Peoples



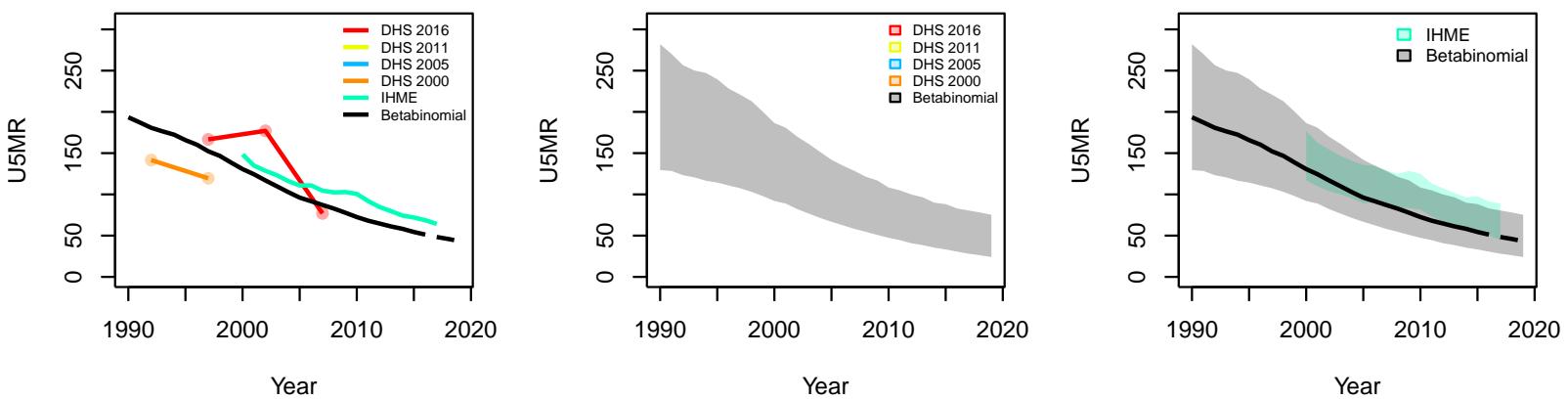
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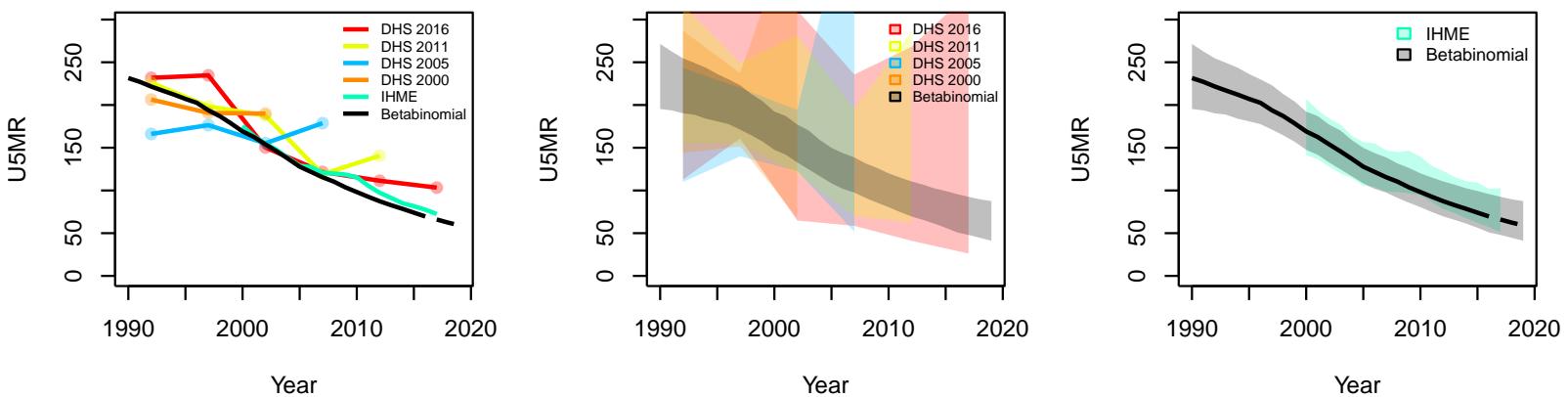
Deebub Omo, Southern Nations, Nationalities and Peoples



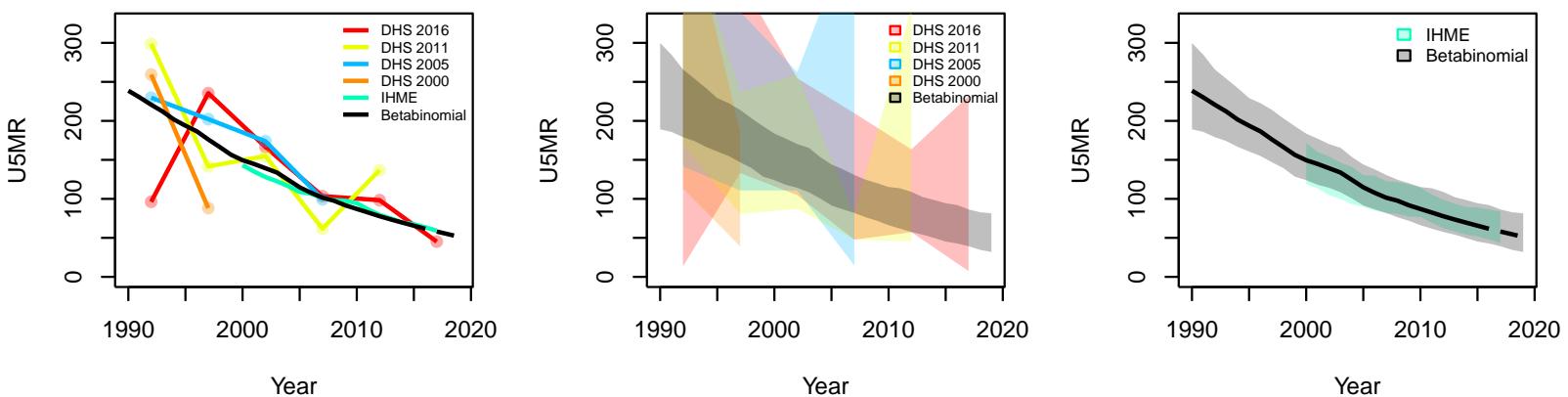
Derashe, Southern Nations, Nationalities and Peoples



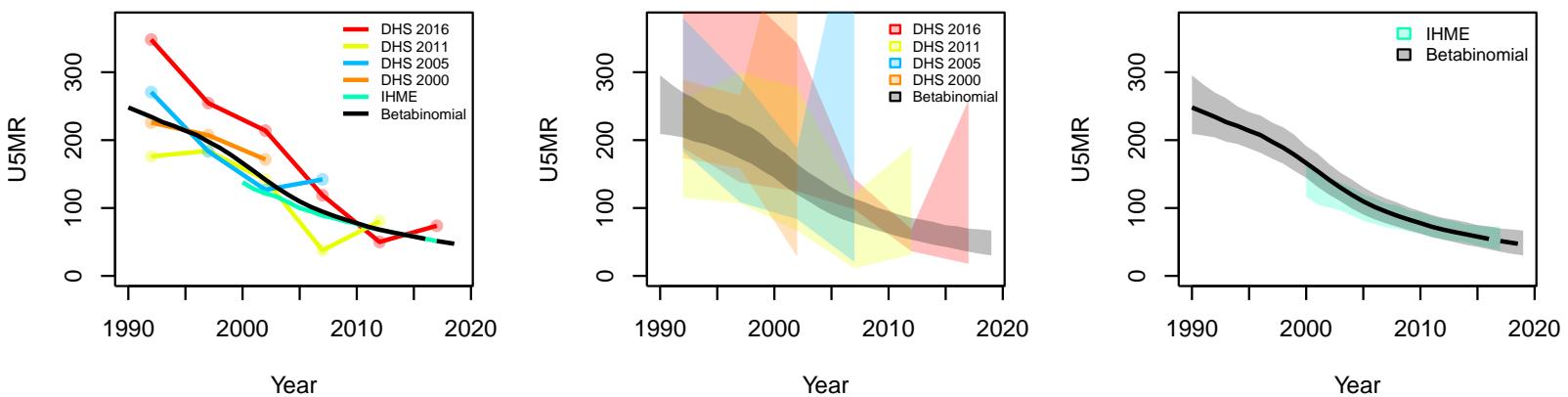
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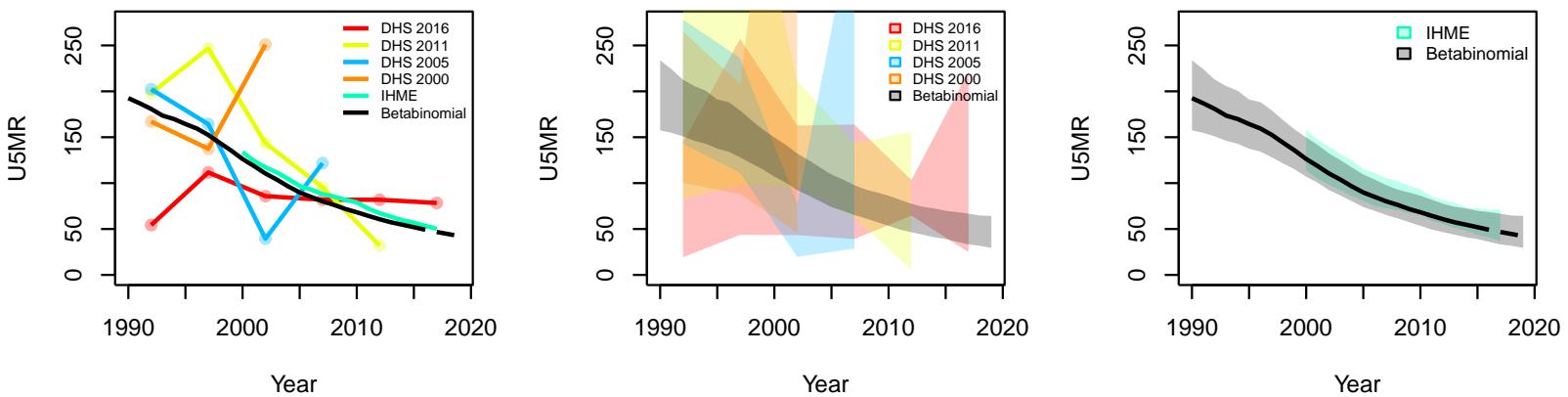
Gedeo, Southern Nations, Nationalities and Peoples



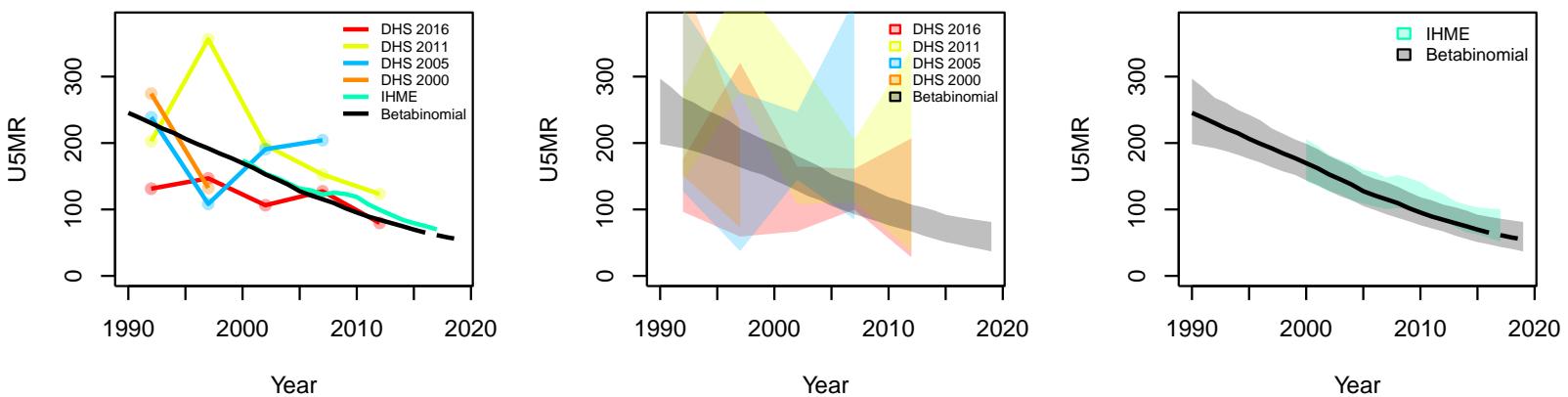
Gurage, Southern Nations, Nationalities and Peoples



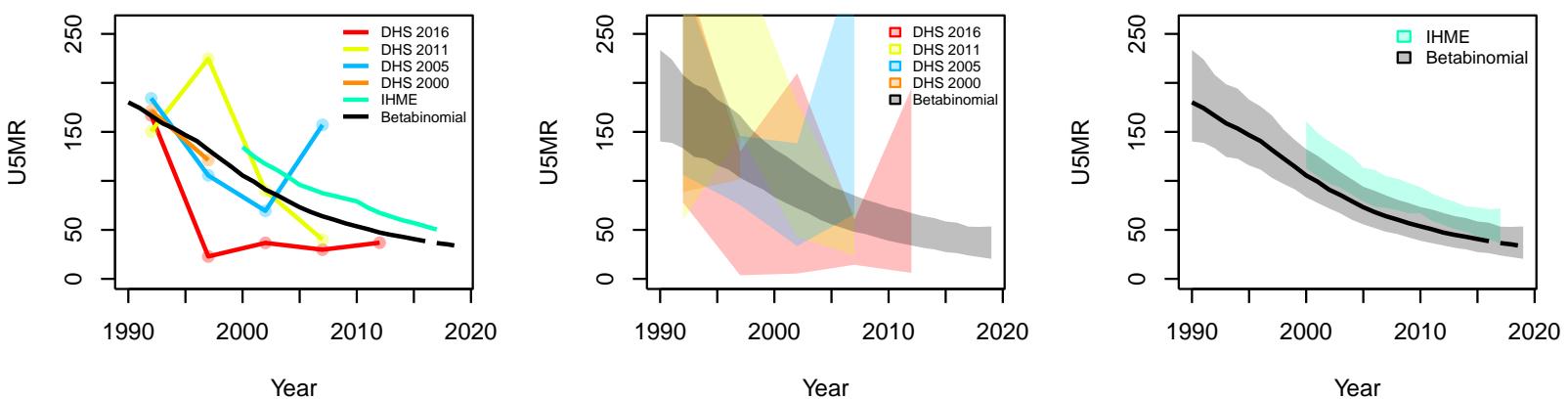
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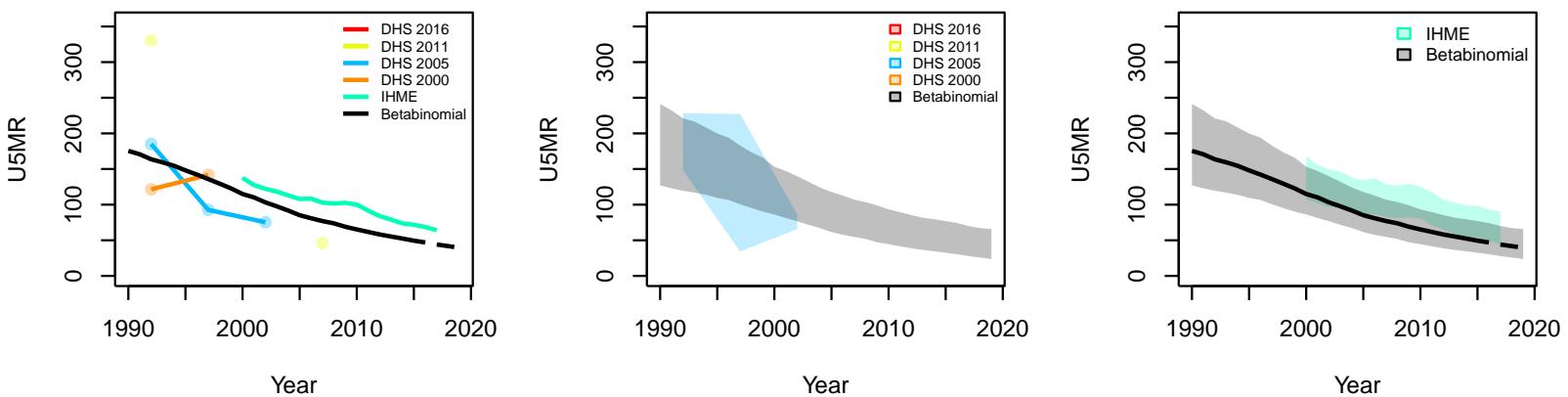
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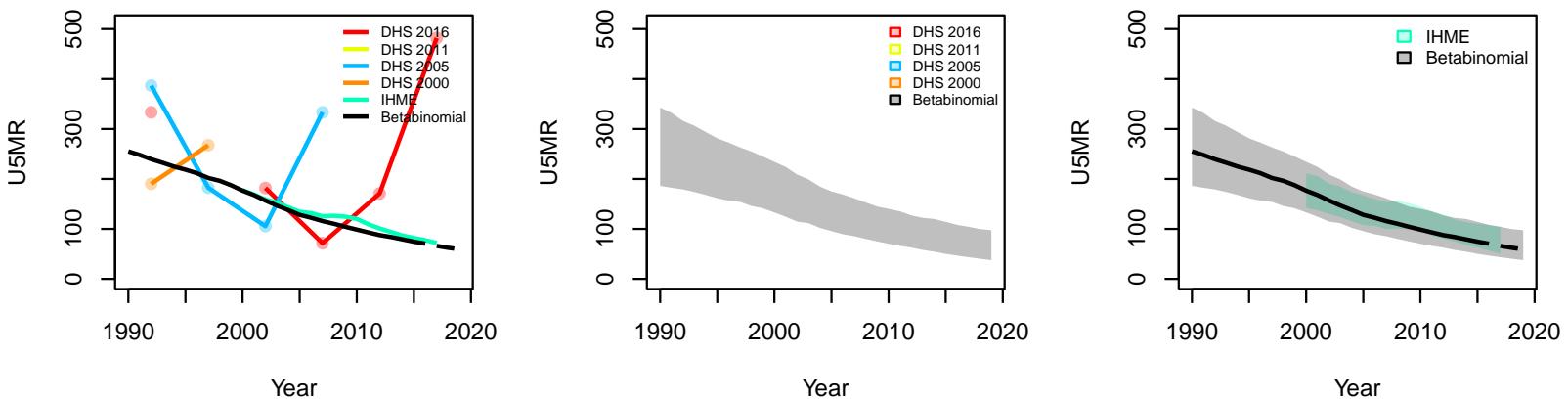
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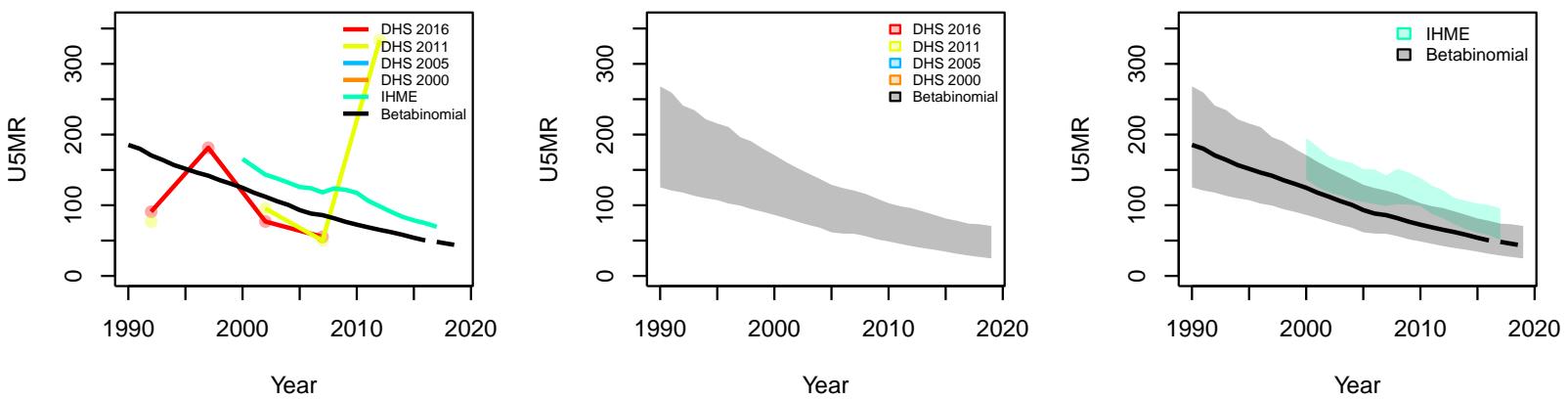
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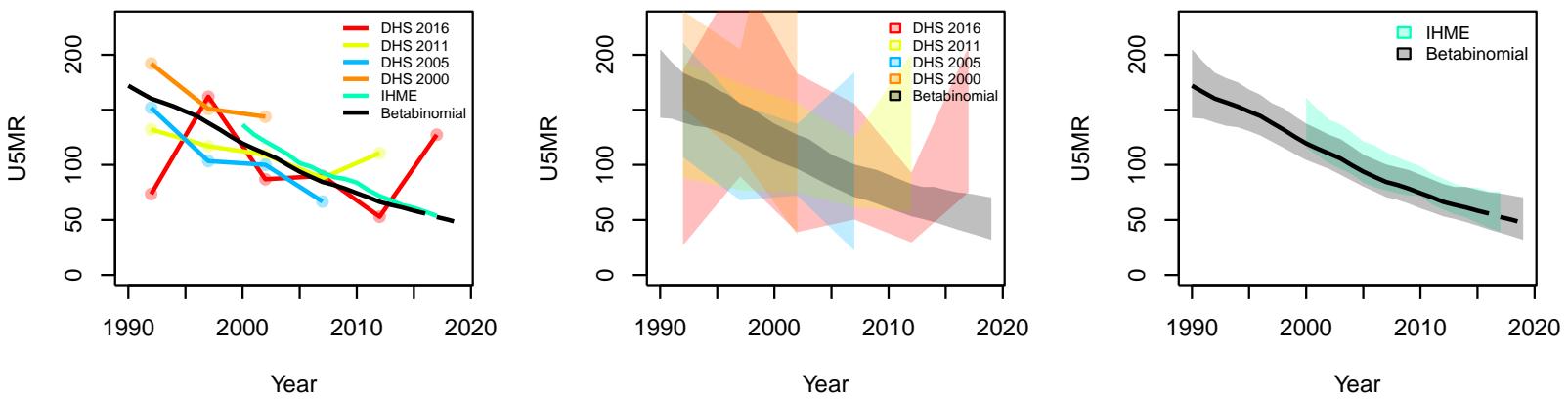
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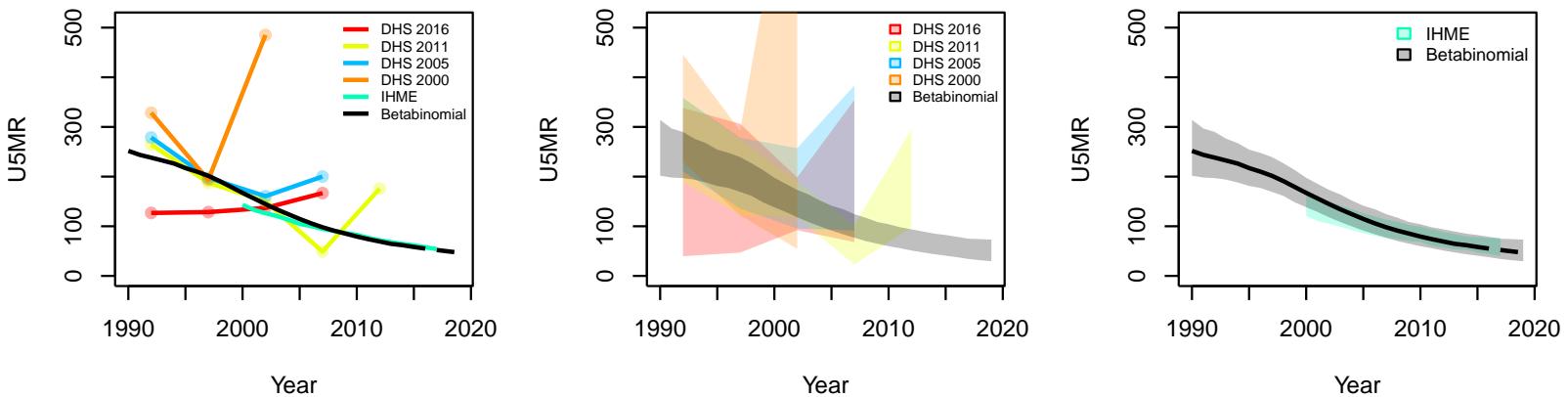
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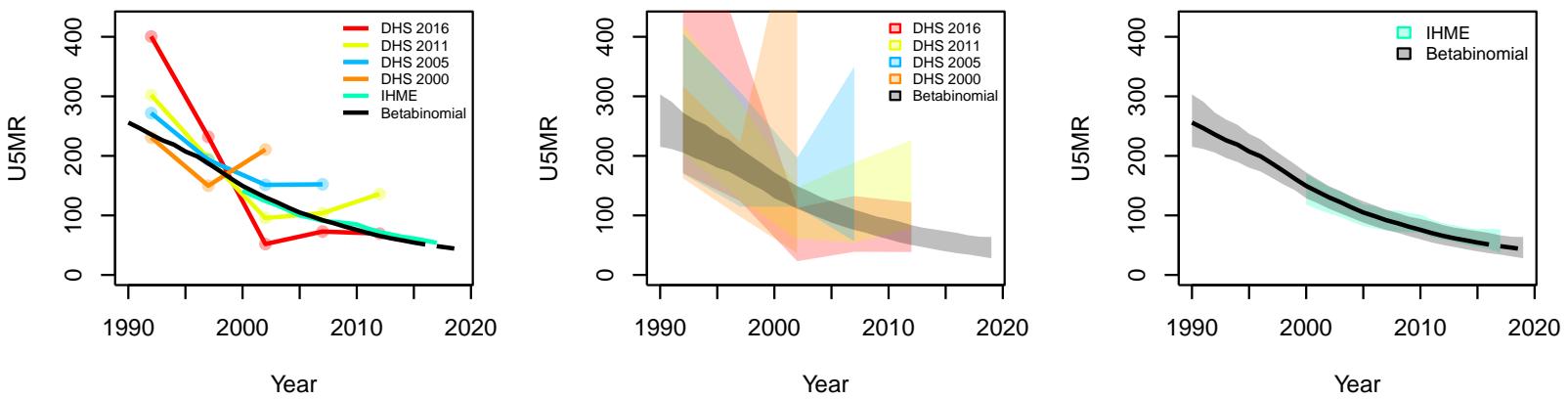
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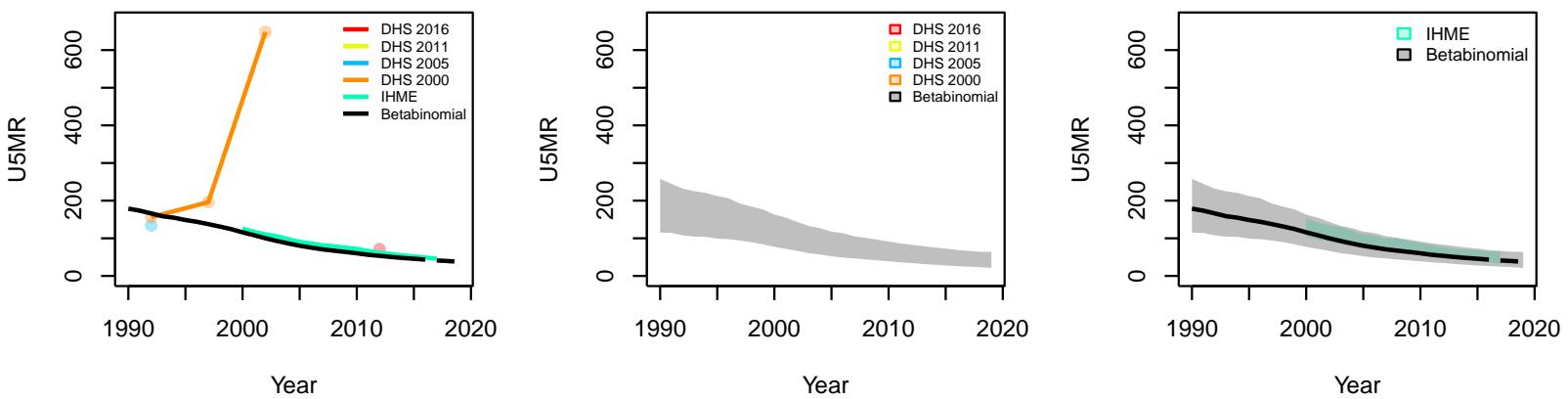
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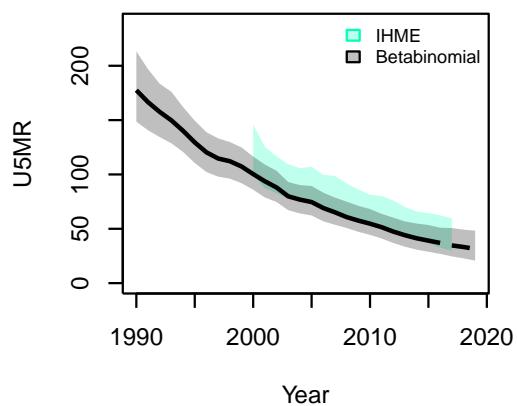
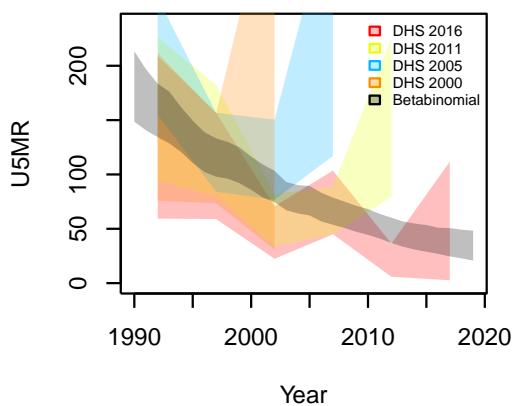
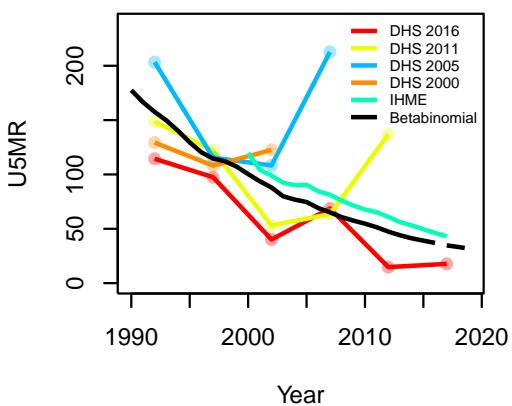
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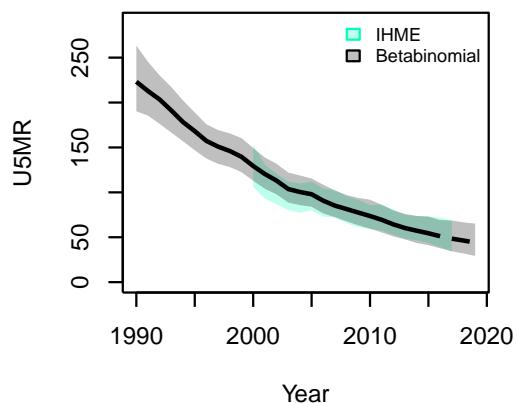
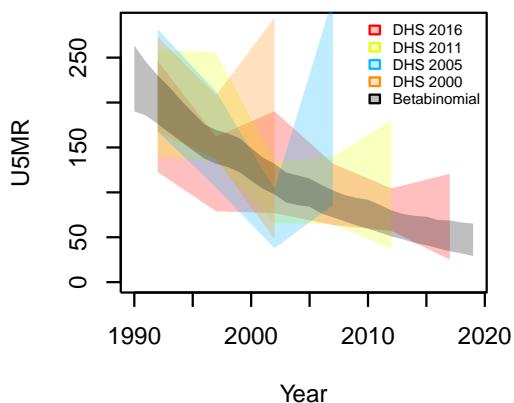
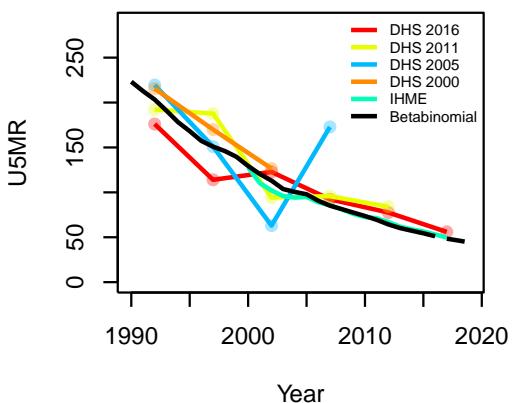
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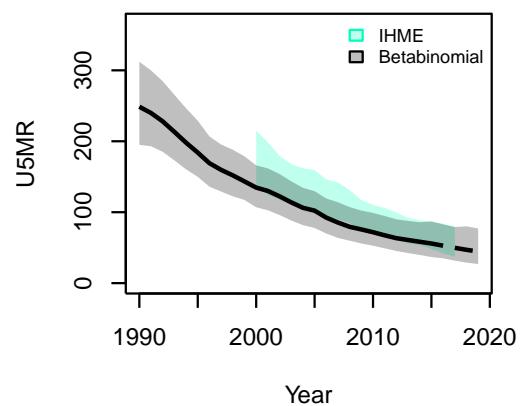
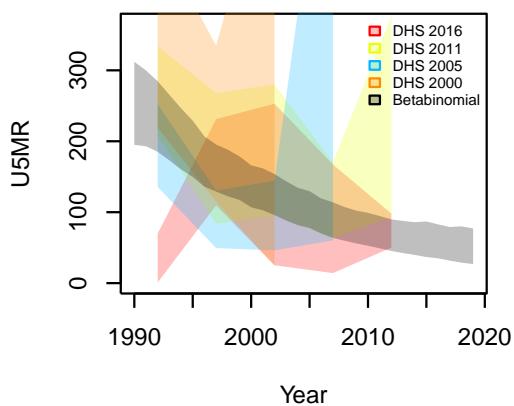
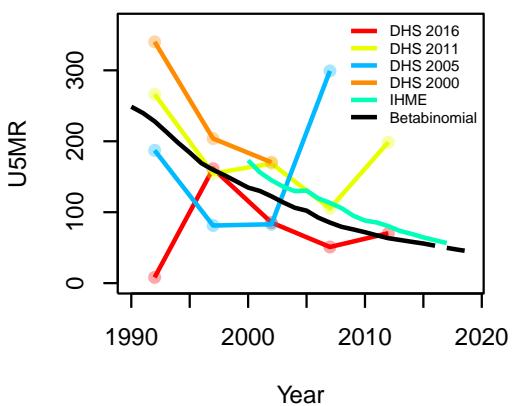
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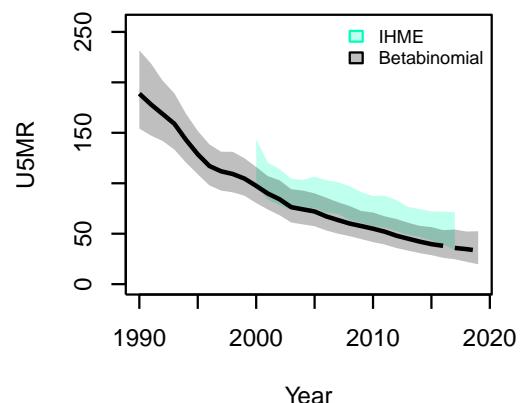
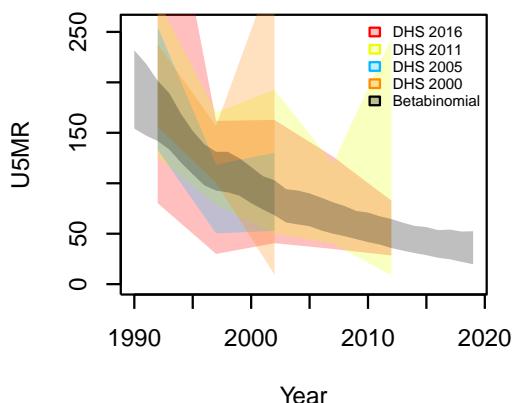
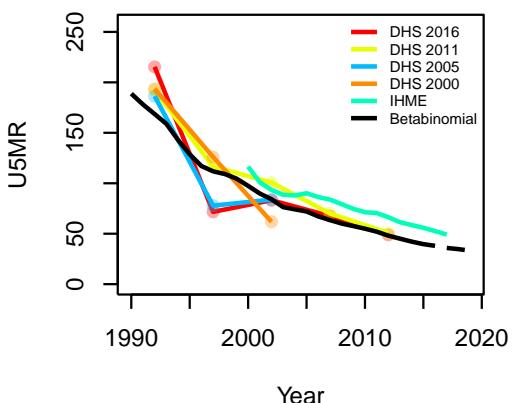
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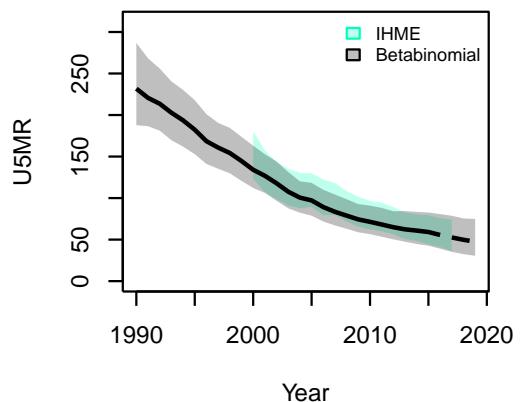
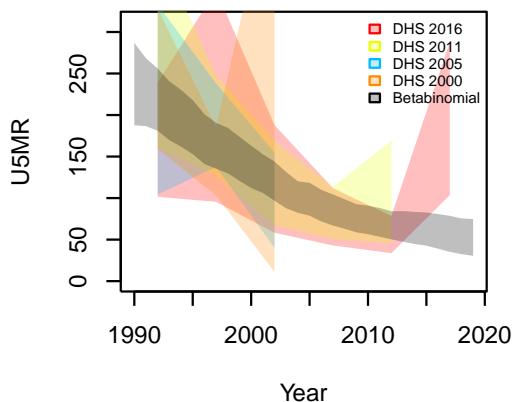
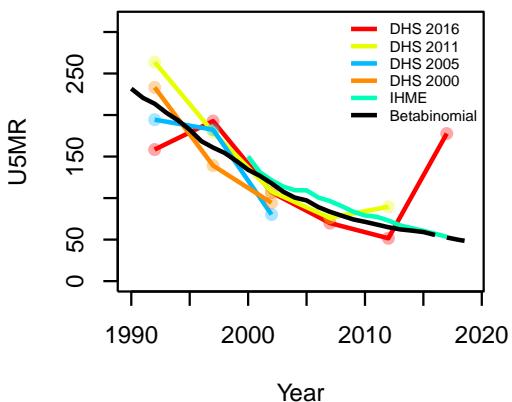
Mi'irabawi, Tigray



Misraqawi, Tigray



Semien Mi'irabaw, Tigray



4 National Figures and Results

	Median	Interval	Median-	Bench	Interval
0	39.60	(37.3,41.8)	37.70		(35.5,39.8)
1-11	3.00	(2.8,3.2)	2.80		(2.6,3)
12-23	1.20	(1.1,1.3)	1.20		(1.1,1.2)
24-35	1.10	(1,1.1)	1.00		(0.9,1.1)
36-47	1.00	(0.9,1)	0.90		(0.9,1)
48-59	0.60	(0.6,0.7)	0.60		(0.5,0.6)

Table 6: Monthly hazards in terms of 1000 children by age band for national, unstratified model for Ethiopia.

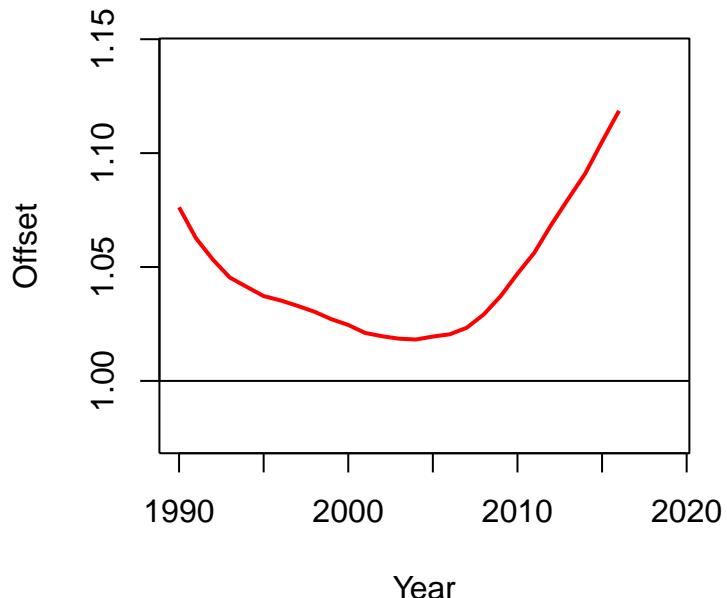


Figure 7: Benchmark offsets: $\text{BENCH}(t) = \text{U5MR}^*(t)/\text{U5MR}(t)$ where $\text{U5MR}^*(t)$ is modeled estimate and $\text{U5MR}(t)$ is UN-IGME estimate.

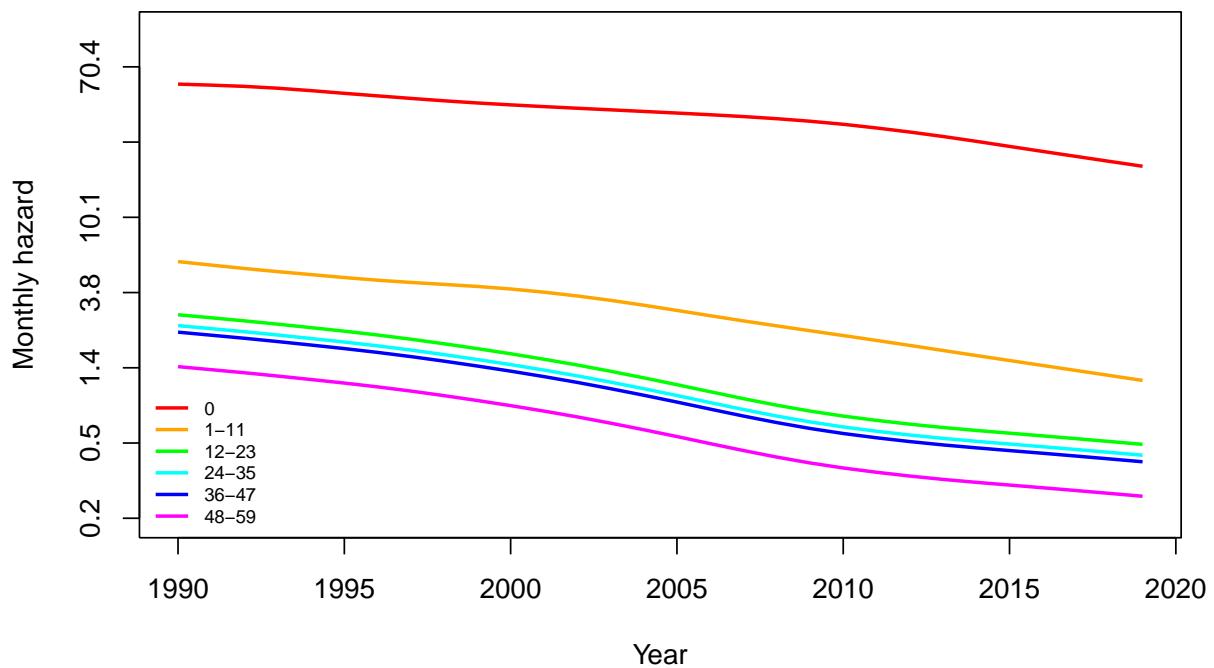


Figure 8: Monthly hazards of death in terms of U5MR (number deaths per 1000 children) by agebands.

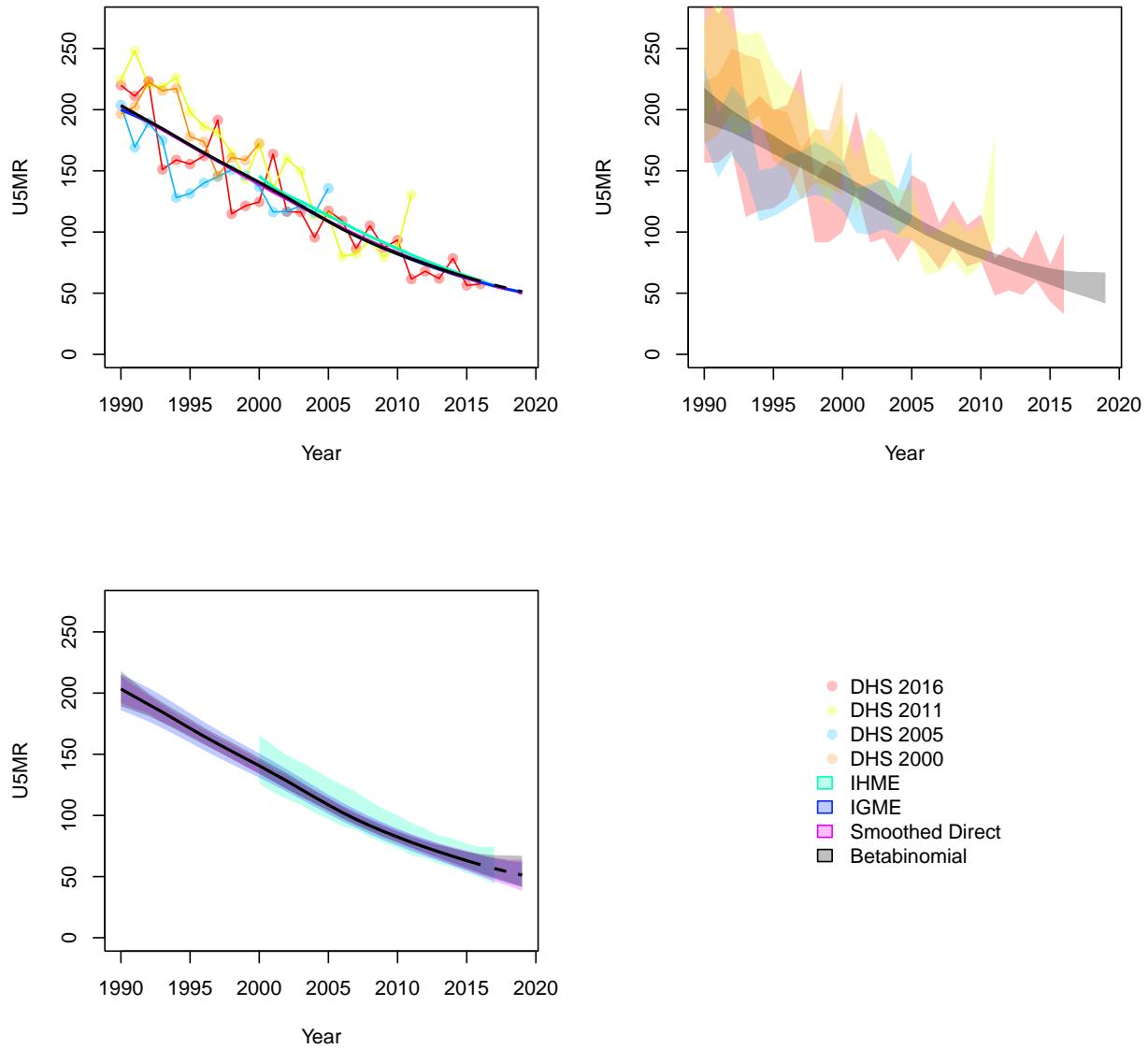
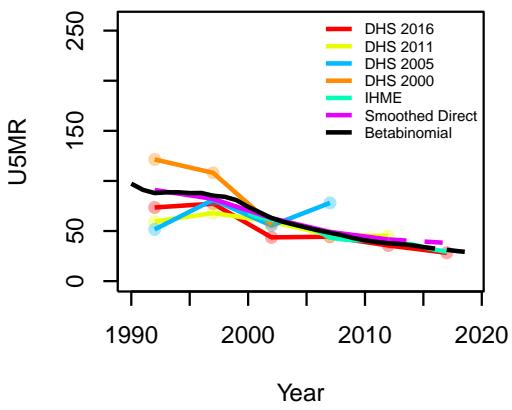
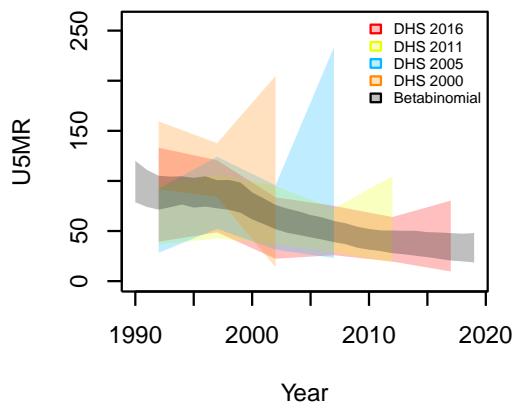
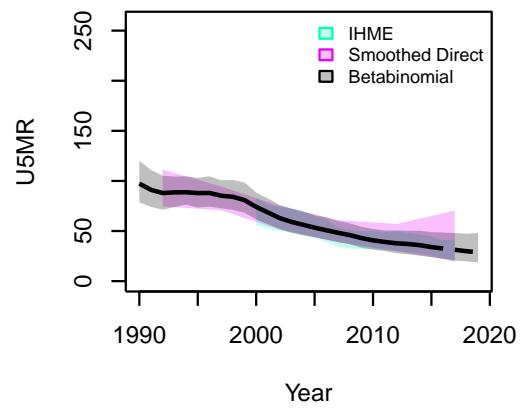
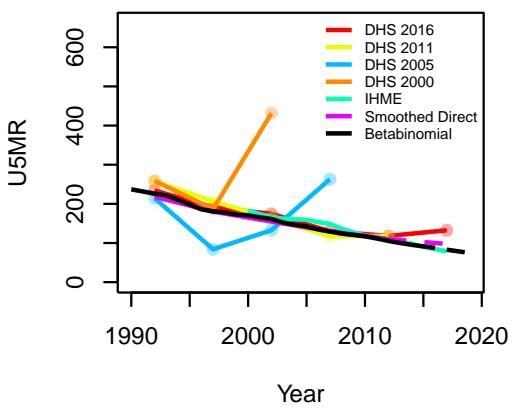
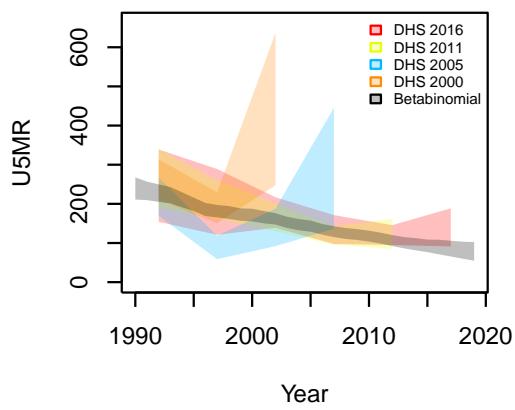
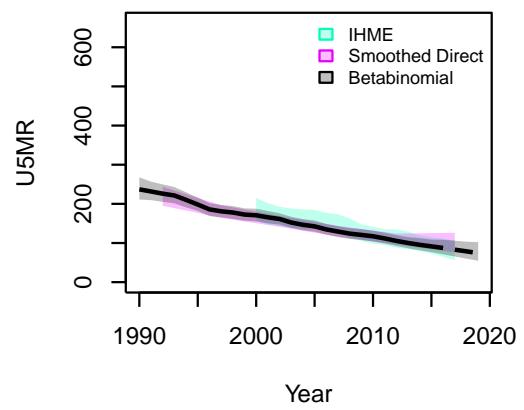
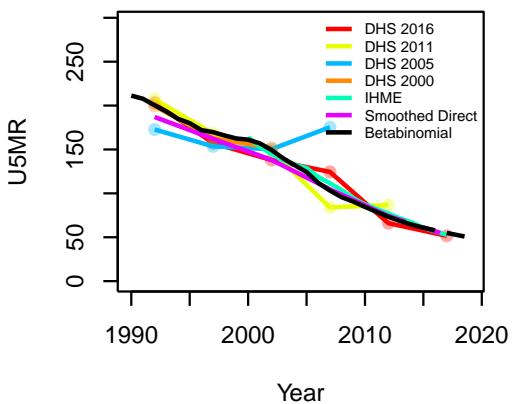


Figure 9: Benchmarked U5MR rates per 1000 live births. Top: DHS direct estimates with national trends from IHME GBD, UN-IGME, Smoothed Direct and Betabinomial estimates. Middle: 95% uncertainty intervals for DHS data. Bottom: IHME GBD, UN-IGME, Smoothed Direct and Betabinomial estimates with for the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

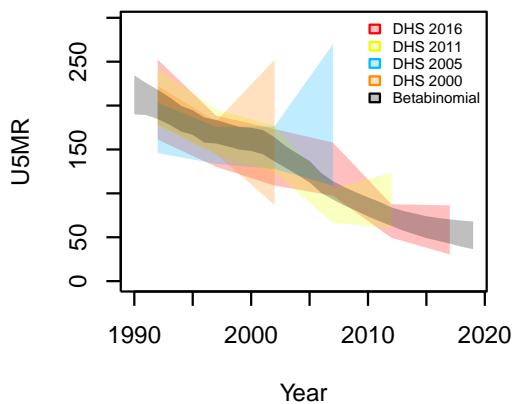
5 Admin 1 Figures

Addis Ababa**Addis Ababa****Addis Ababa****Afar****Afar****Afar**

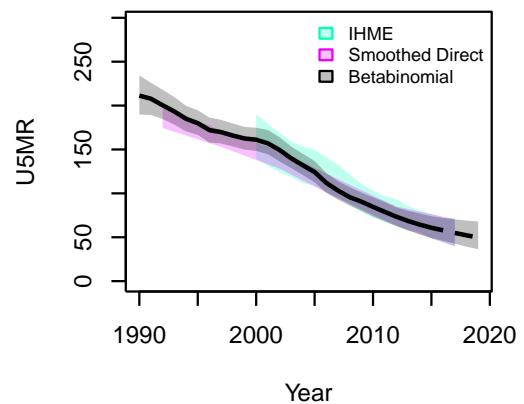
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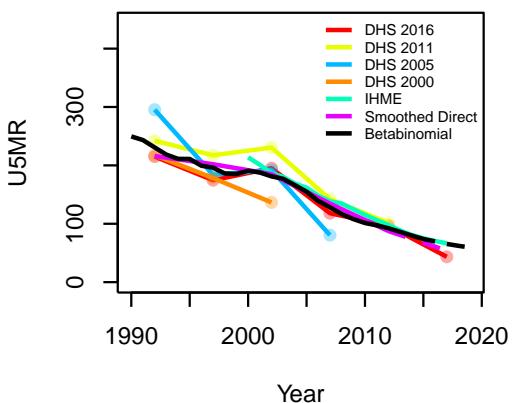
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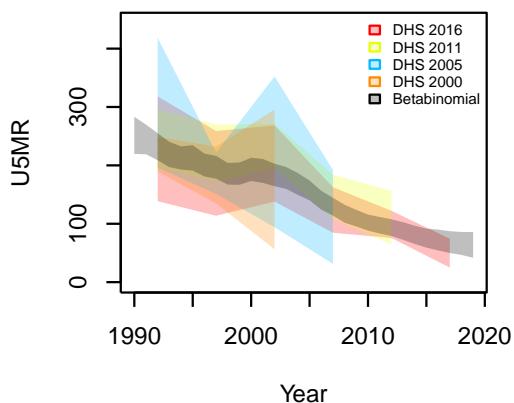
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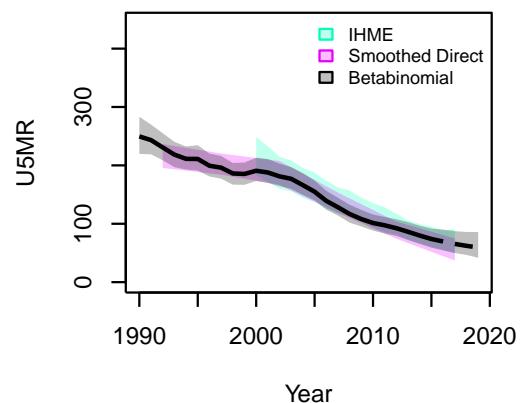
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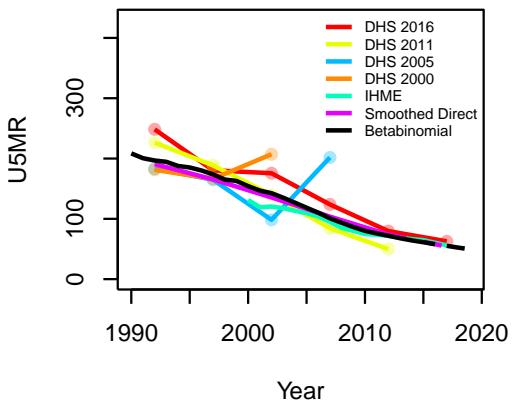
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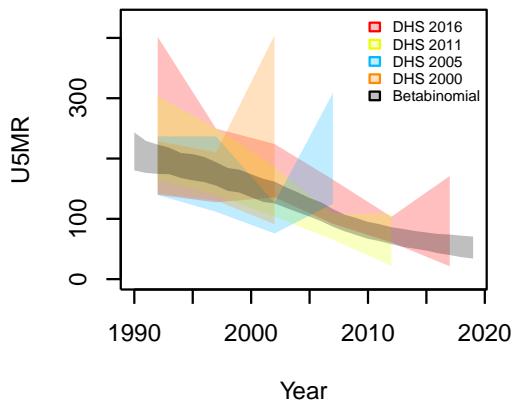
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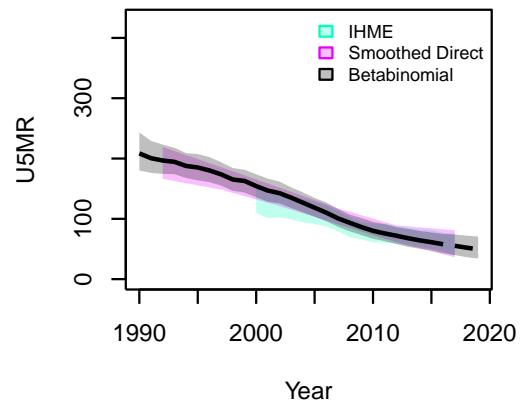
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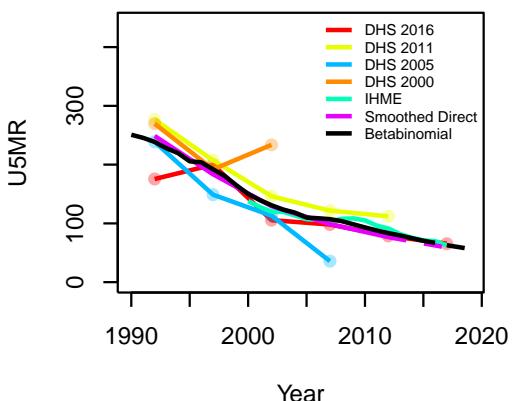
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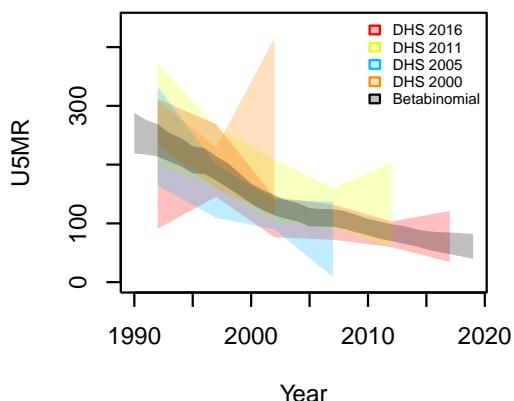
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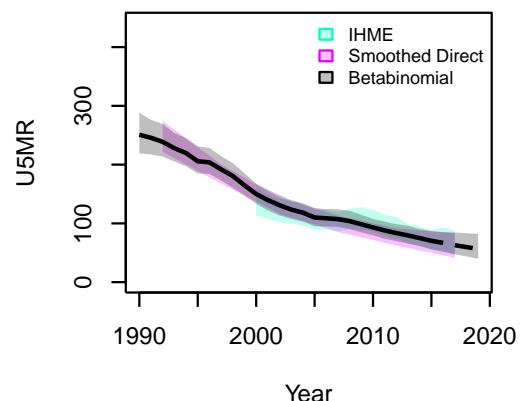
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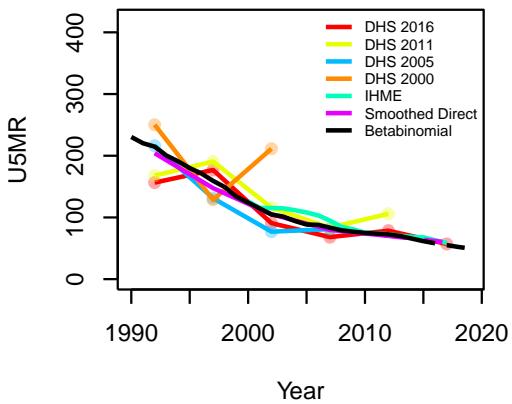
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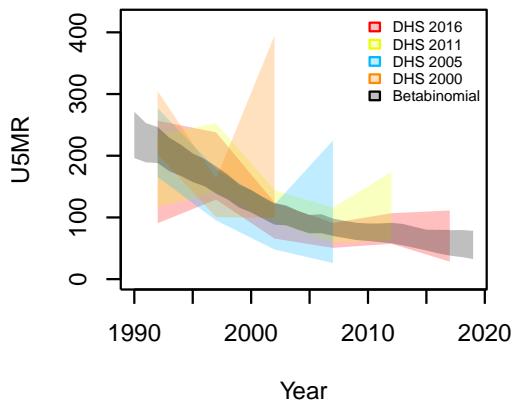
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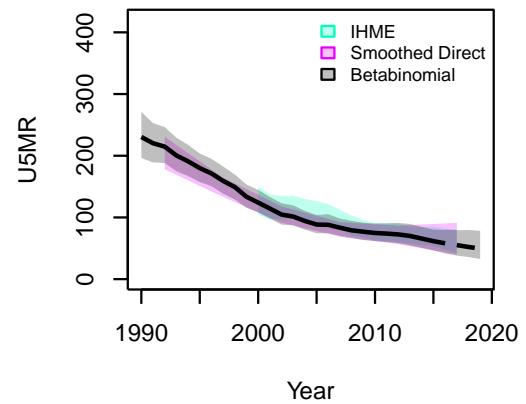
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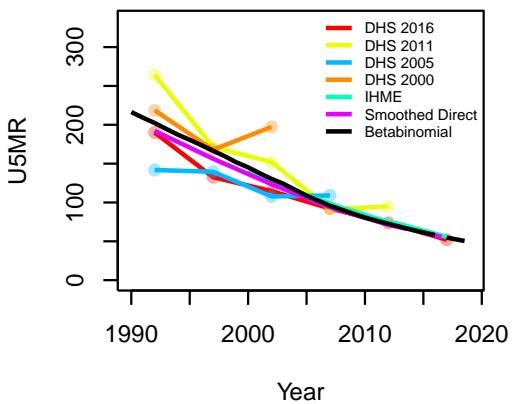
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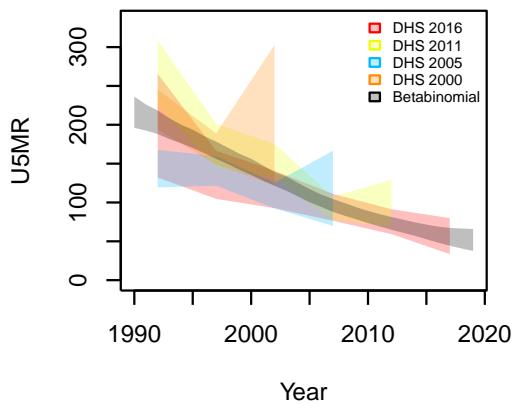
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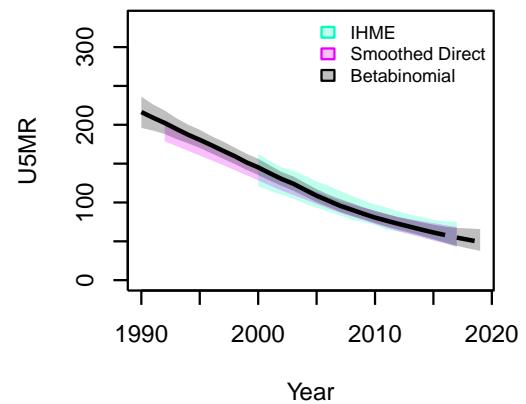
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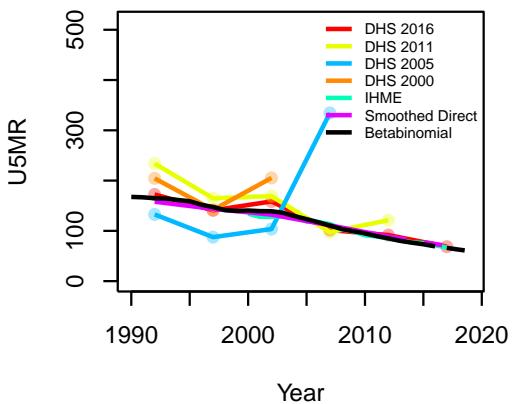
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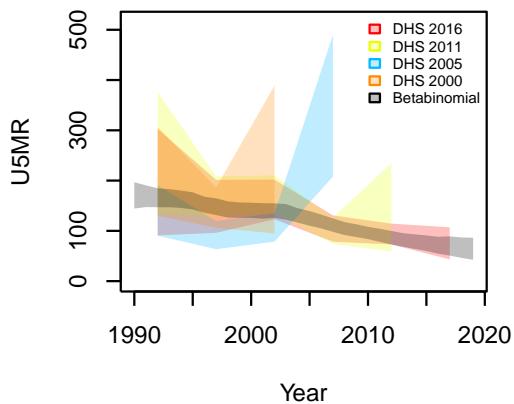
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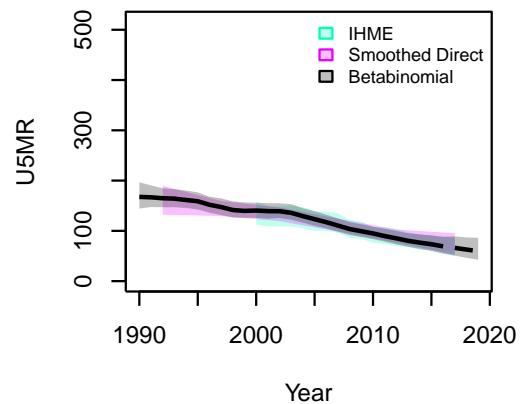
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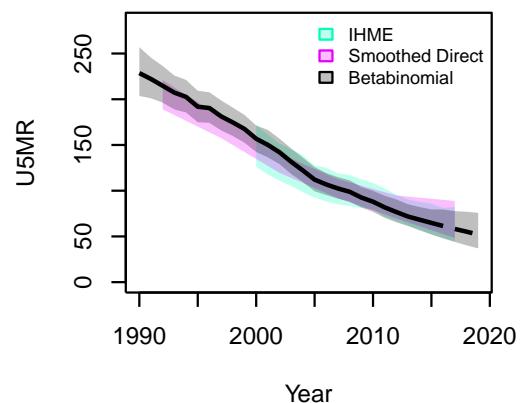
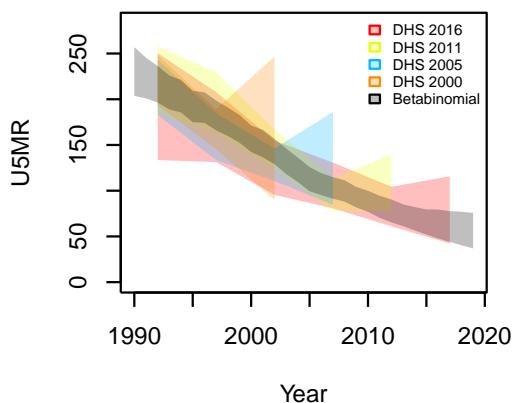
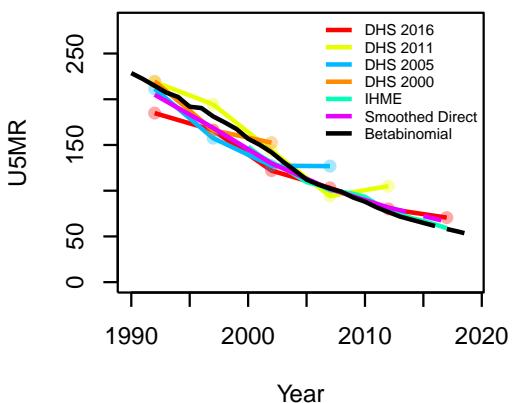
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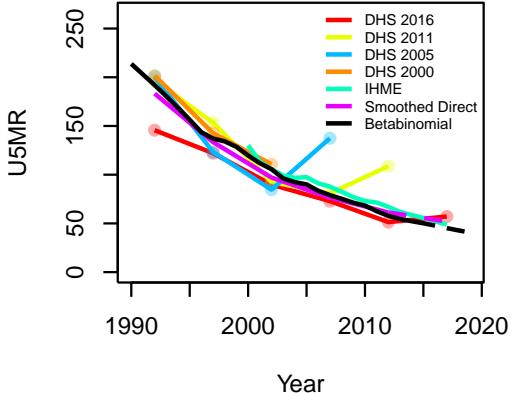
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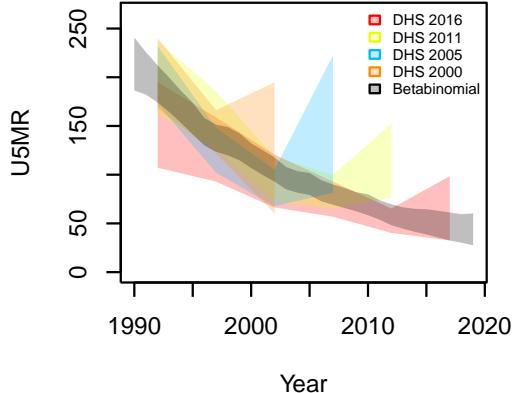
Southern Nations, Nationalities and Peoples



Tigray



Tigray



Tigray

