7.5 My delay between segment activation. Time: 1 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

Maximum
Average

(c) Melt thickness production (km/My)

Melt volume production per km rift axis (km³/My)

(d) Final distribution of volcanic material

Melt volume per km rift axis (km³)
7.5 My delay between segment activation. Time: 2 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

y-velocity (cm/yr)

0 500 1000 1500

Segment 1  Segment 2  Segment 3

(c) Melt thickness production (km/My)

Melt volume production per km rift axis (km³/My)

(d) Final distribution of volcanic material

Melt volume per km rift axis (km³)

0 200 400 600 800 1000 1200
7.5 My delay between segment activation. Time: 3 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

Maximum
Average

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 5 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 6 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

y-velocity (cm/yr)

y in km

Segment 1 500 Segment 2 1000 Segment 3

(c) Melt thickness production (km/My)

Melt volume production per km rift axis (km³/My)

(d) Final distribution of volcanic material

Melt volume per km rift axis (km³)

y in km
7.5 My delay between segment activation. Time: 8 My

(a) Cross section along rift center

(b) Along-strike velocity in rift center

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 9 My

(a) Cross section along rift center

Contour of 2% melt fraction
Temperature in °C

(b) Along-strike velocity in rift center

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 10 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

y-velocity (cm/yr)

y in km

Segment 1 500  Segment 2 1000  Segment 3

(c) Melt thickness production (km/My)

x in km

y in km

(d) Final distribution of volcanic material

Melt volume per km rift axis (km³)

Melt volume per km rift axis (km³)
7.5 My delay between segment activation. Time: 11 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

y-velocity (cm/yr)

(c) Melt thickness production (km/My)

(dx in km)

Melt volume production per km rift axis (km³/My)

(d) Final distribution of volcanic material

Melt volume per km rift axis (km³/My)
7.5 My delay between segment activation. Time: 12 My

(a) Cross section along rift center

(b) Along-strike velocity in rift center

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 13 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 14 My

(a) Cross section along rift center

(b) Along-strike velocity in rift center

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 15 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

y-velocity (cm/yr)

Maximum
Average

(c) Melt thickness production (km/My)

Melt volume production per km rift axis (km³/My)

(d) Final distribution of volcanic material

Melt volume per km rift axis (km³)
7.5 My delay between segment activation. Time: 16 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

Maximum
Average

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 17 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

(y-velocity (cm/My))

Segment 1 500 Segment 2 1000 Segment 3 1500

(c) Melt thickness production (km/My)

(x in km)

Segment 1 500 Segment 2 1000 Segment 3 1500

(y in km)

Melt volume production per km rift axis (km³/My)

(d) Final distribution of volcanic material

(y in km)
7.5 My delay between segment activation. Time: 18 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

Maximum
Average

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 19 My

(a) Cross section along rift center

(b) Along-strike velocity in rift center

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 20 My

(a) Cross section along rift center

Contour of 2% melt fraction
Temperature in °C

(b) Along-strike velocity in rift center

Maximum
Average

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 21 My

(a) Cross section along rift center

(b) Along-strike velocity in rift center

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 22 My

Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

Along-strike velocity in rift center

Melt thickness production (km/My)

Final distribution of volcanic material
7.5 My delay between segment activation. Time: 23 My

(a) Cross section along rift center

- Contour of 2% melt fraction
- Temperature in °C

(b) Along-strike velocity in rift center

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation. Time: 24 My

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

Maximum
Average

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material
7.5 My delay between segment activation.

(a) Cross section along rift center

Contour of 2% melt fraction

Temperature in °C

(b) Along-strike velocity in rift center

(c) Melt thickness production (km/My)

(d) Final distribution of volcanic material