D. CHAMP CLUMPS' DIFFERENTIAL DYNAMICS

In these maps we illustrate the results of the differential kinematics and dynamics calculations for the clumps, as described in the text (§6), with the same contours and ellipses as in Appendices A–C. For the momentum, differential velocity, flux, and timescale panels, the zero-point colour is chosen (where the scale allows) to lie between between light and dark blue, in order to give a visually intuitive impression of the sign of the mass flow. Positive values (light blue and "warmer" colours) correspond to mass accretion, while negative values (darker blue) correspond to mass loss. The sixth panel is a pixel-by-pixel plot of the timescale (Eq. 15) vs mass surface density (Appendix C).

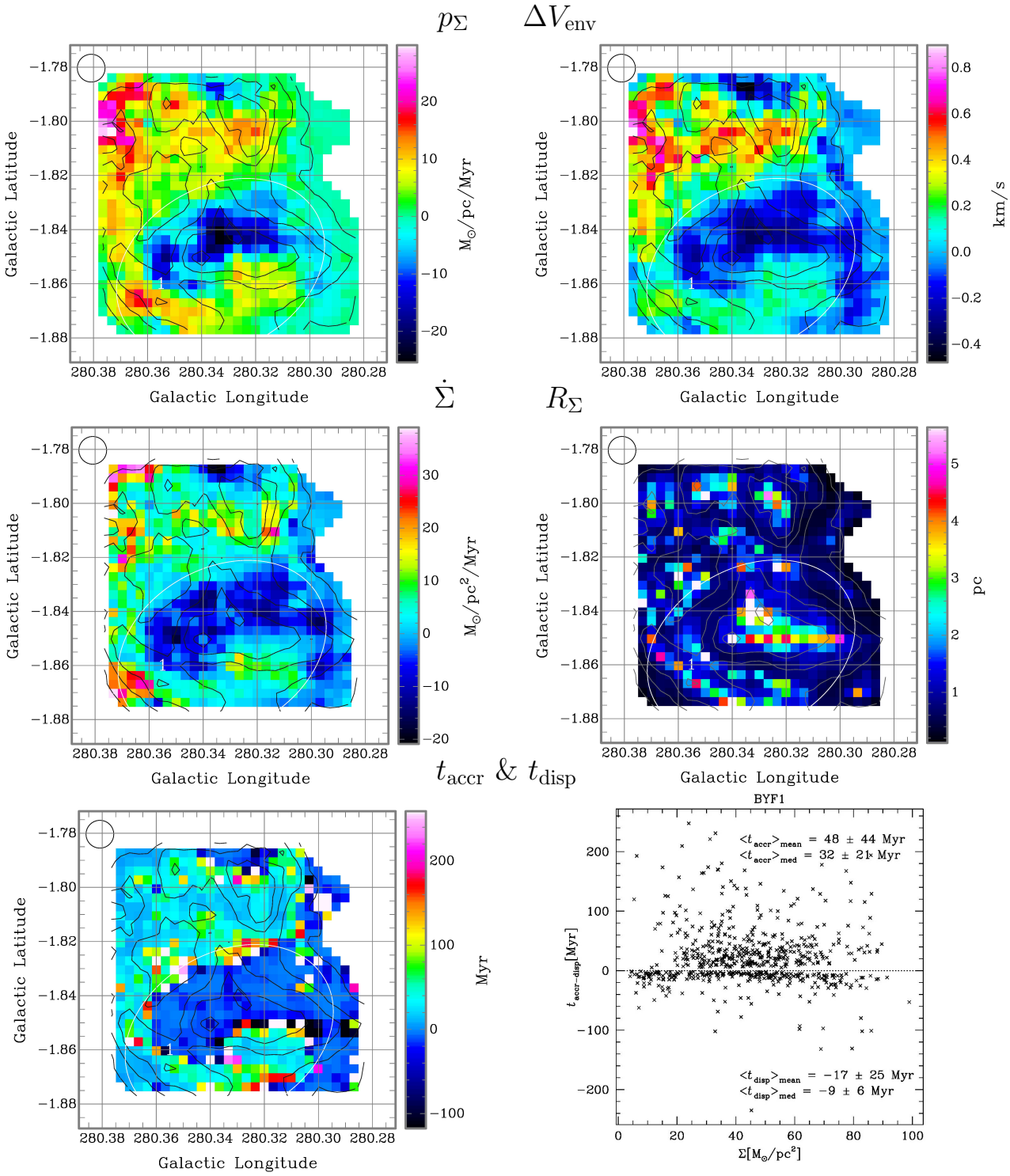

Figure D1. BYF 1. At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the TL corner.

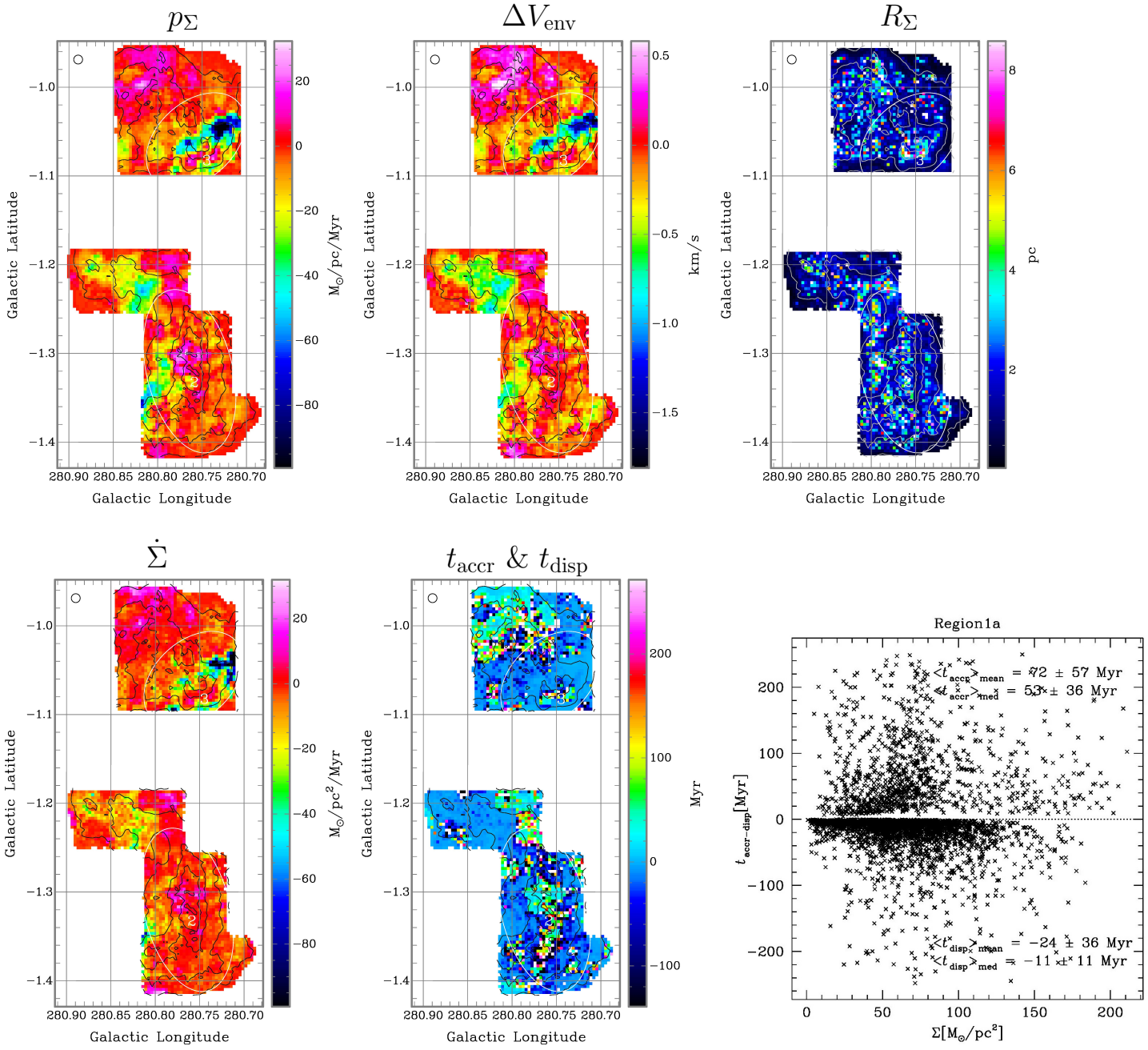

Figure D2. BYF 2 & 3 (Region 1a). At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the TL corner. In this case, the colour scales for the momentum (first), differential envelope velocity (second), and mass flux (fourth) panels were limited to showing the 0-threshold as red, rather than the normal shade of dusky blue in most other Regions.

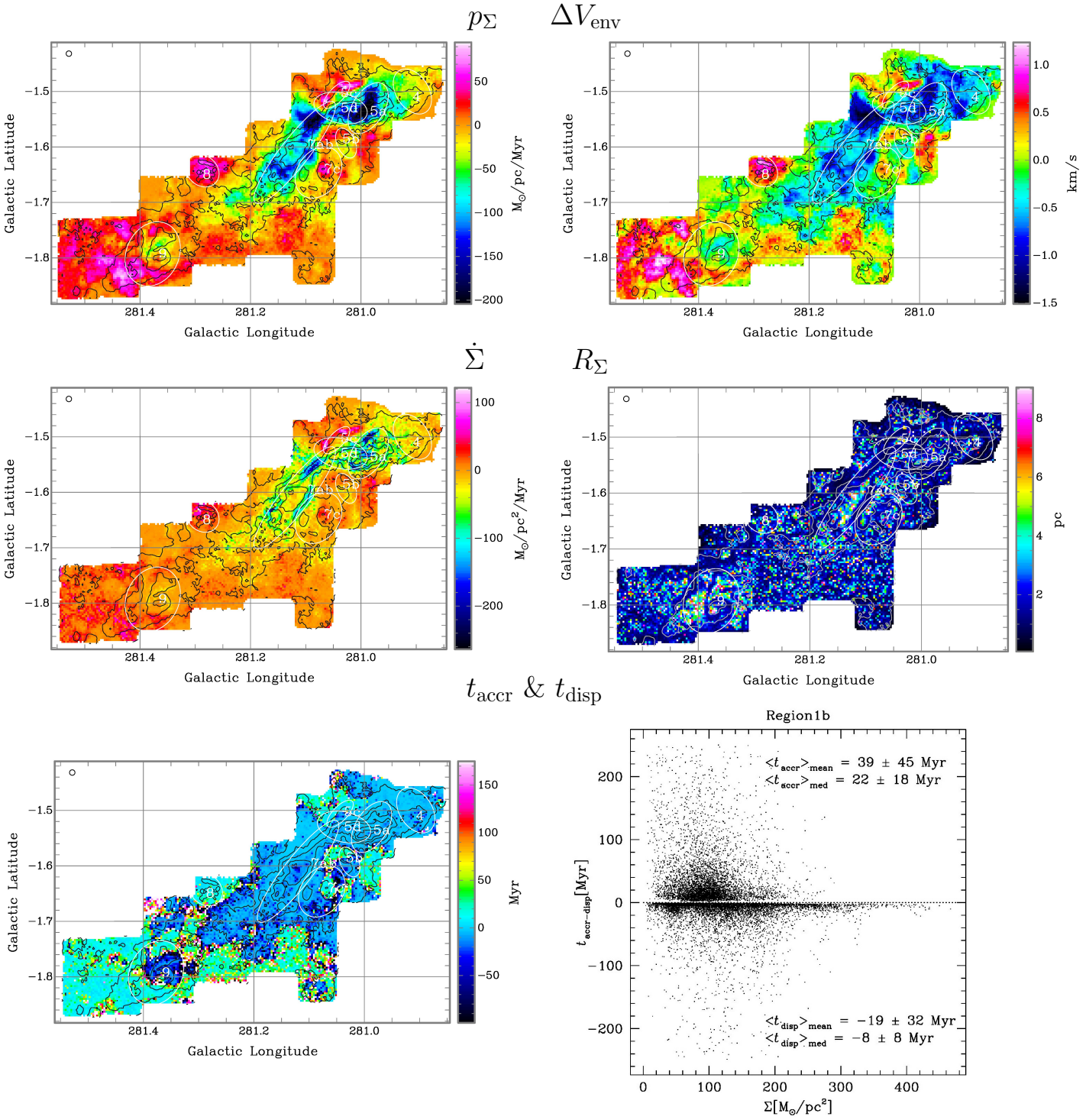

Figure D3. BYF 4–9 (Region 1b). At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the TL corner. In this case, the colour scales for the momentum, differential envelope velocity, and mass flux (first through third) panels were limited to showing the 0-threshold as orange, rather than the normal shade of dusky blue in most other Regions.

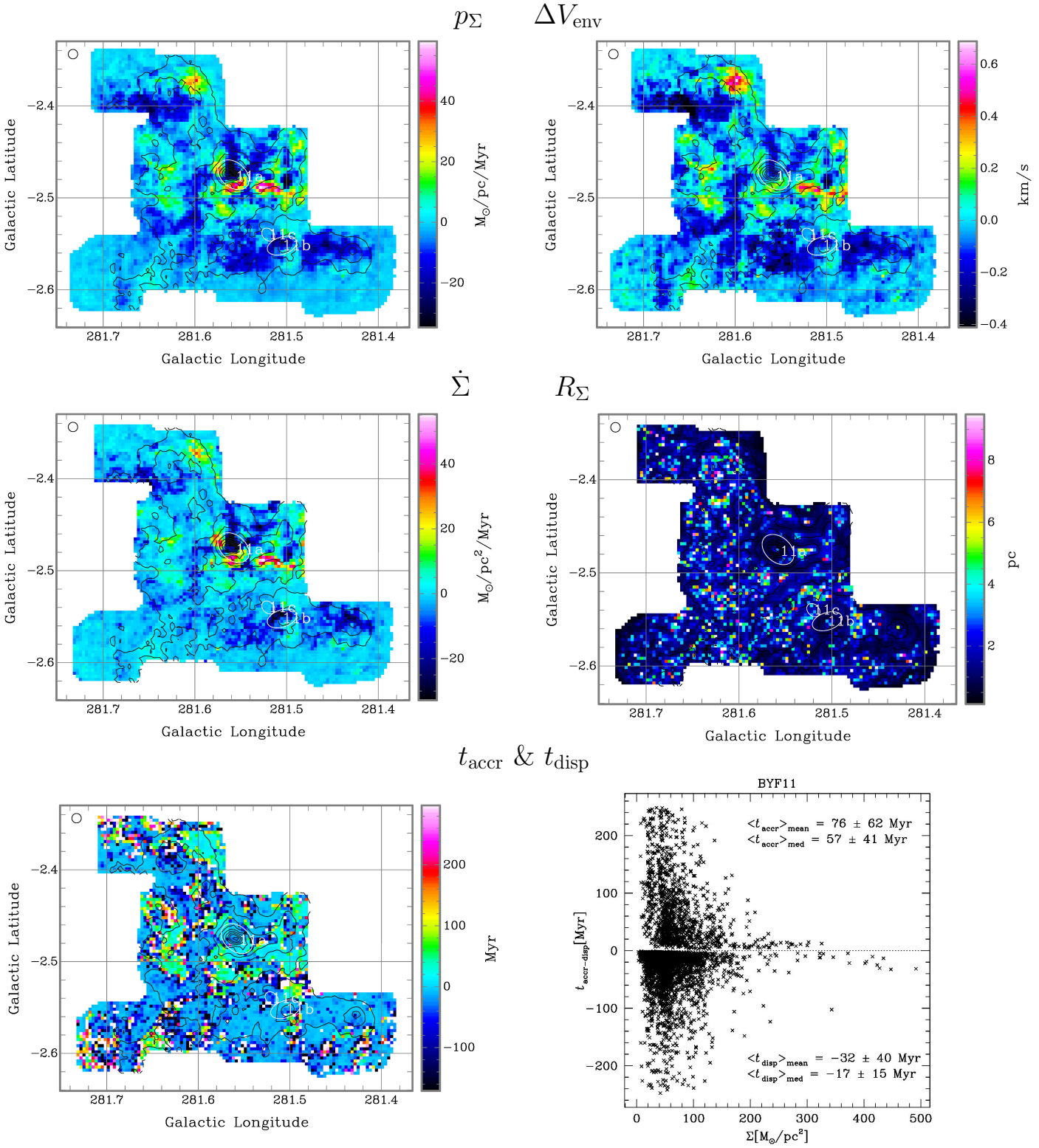

Figure D4. BYF 11. At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the TL corner.

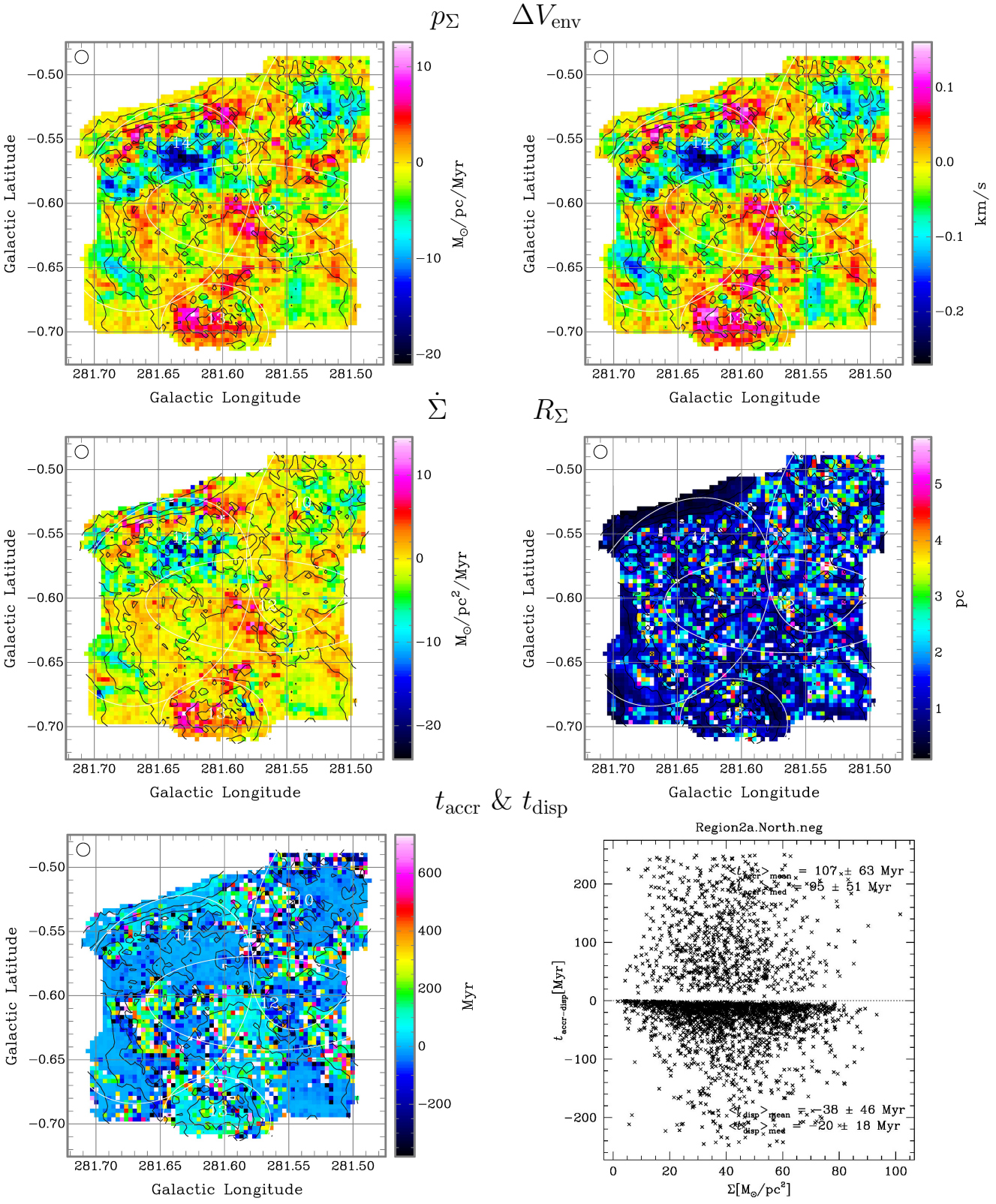

Figure D5. BYF 10, 13, 14 (Region 2a-North). At an assumed distance of 3.2 kpc, the scale is 0.°1 = 5.6 pc. The Mopra HPBW is shown in the TL corner. In this case, the colour scales for the momentum, differential envelope velocity, and mass flux (first through third) panels were limited to showing the 0-threshold as yellow-orange, rather than the normal shade of dusky blue in most other Regions.

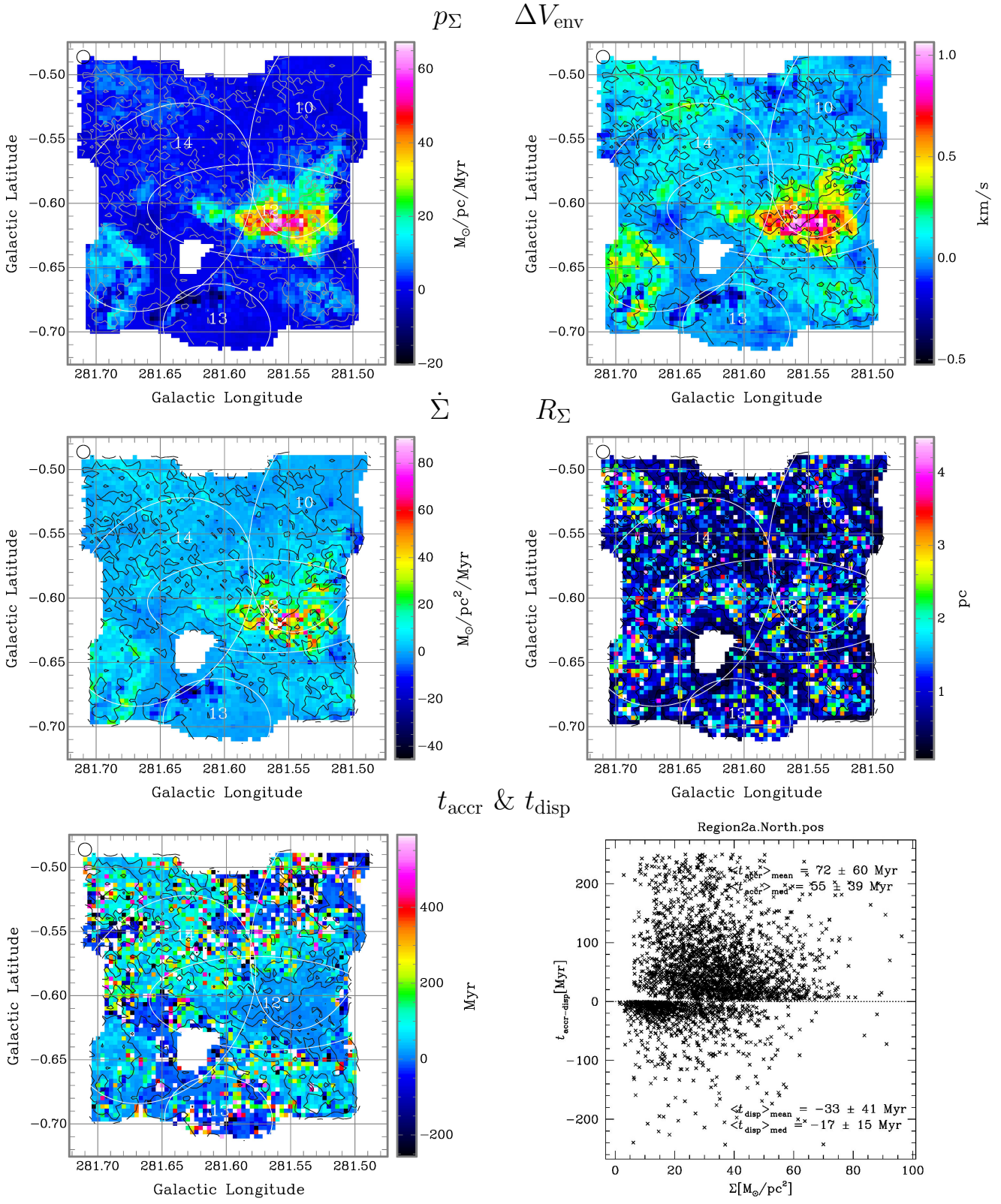

Figure D6. BYF 12 (Region 2a-North). At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the TL corner. In this case, the colour scale for the momentum (first) panel was limited to showing the 0-threshold as dark blue, rather than the normal shade of dusky blue in most other Regions.

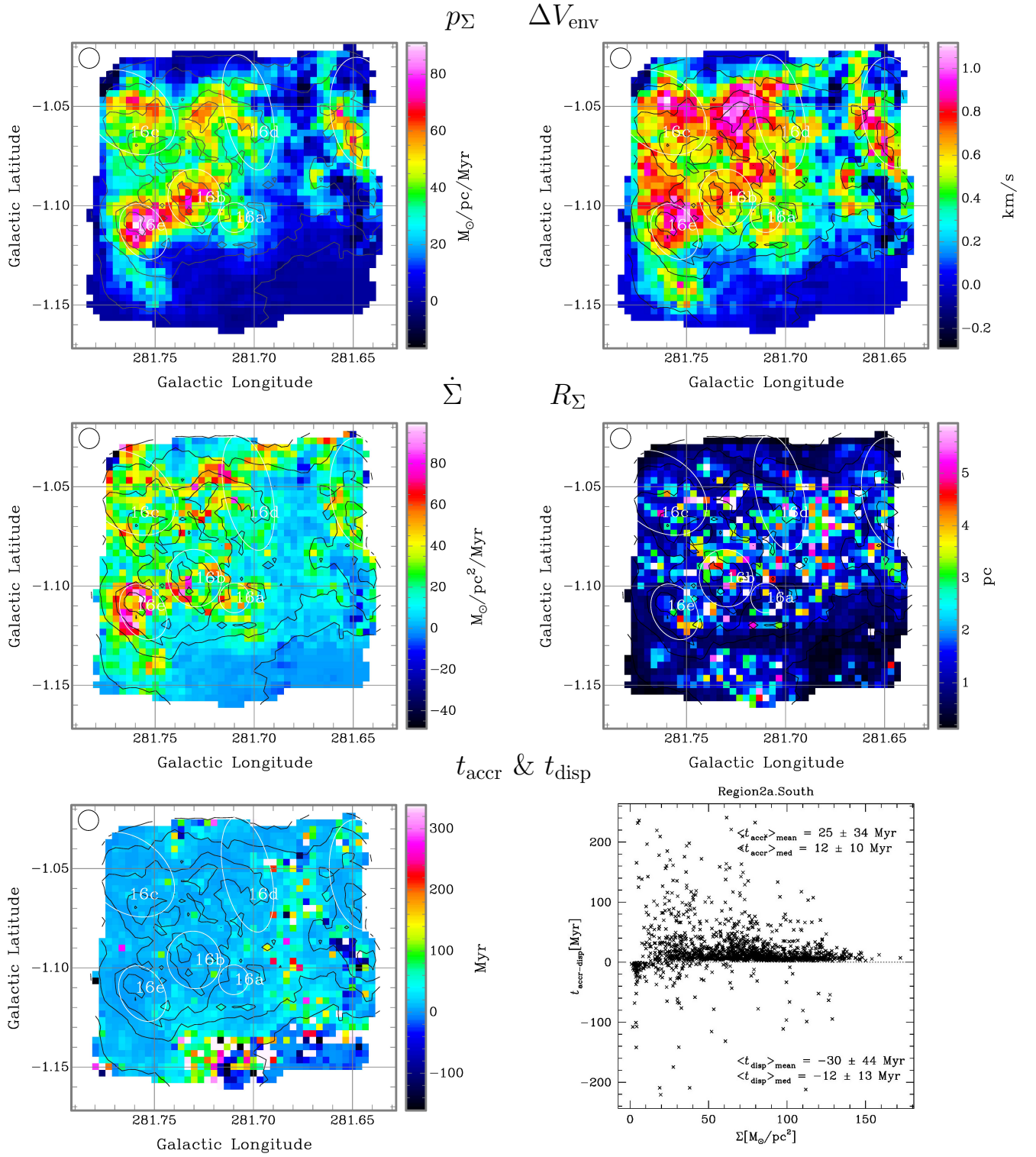

Figure D7. BYF 16 (Region 2a-South). At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the TL corner. In this case, the colour scale for the differential envelope velocity (second) panel was limited to showing the 0-threshold as dark blue, rather than the normal shade of dusky blue in most other Regions.

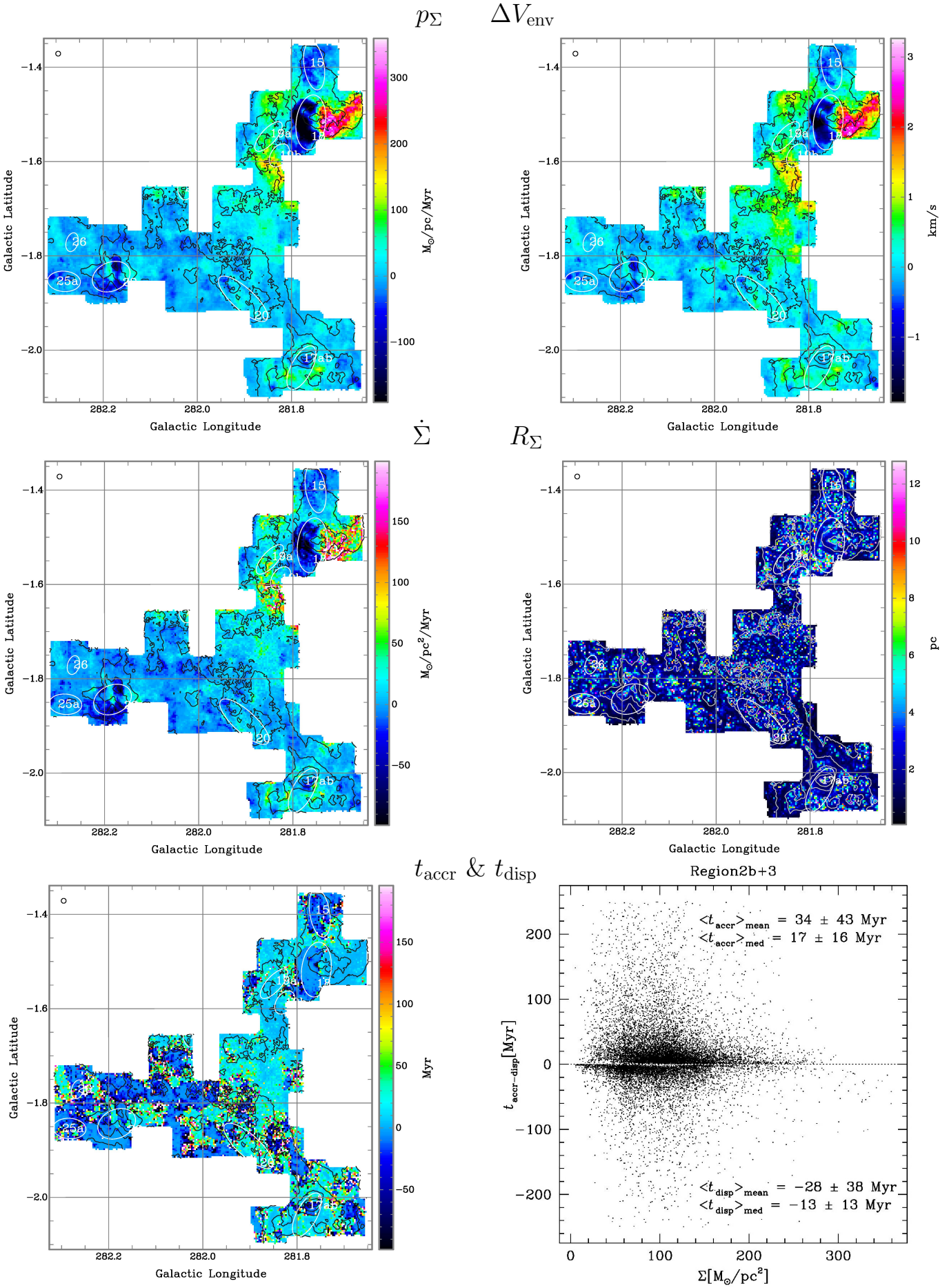

Figure D8. BYF 15, 17–22, & 25–26 (Region 2b+3). At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the TL corner.

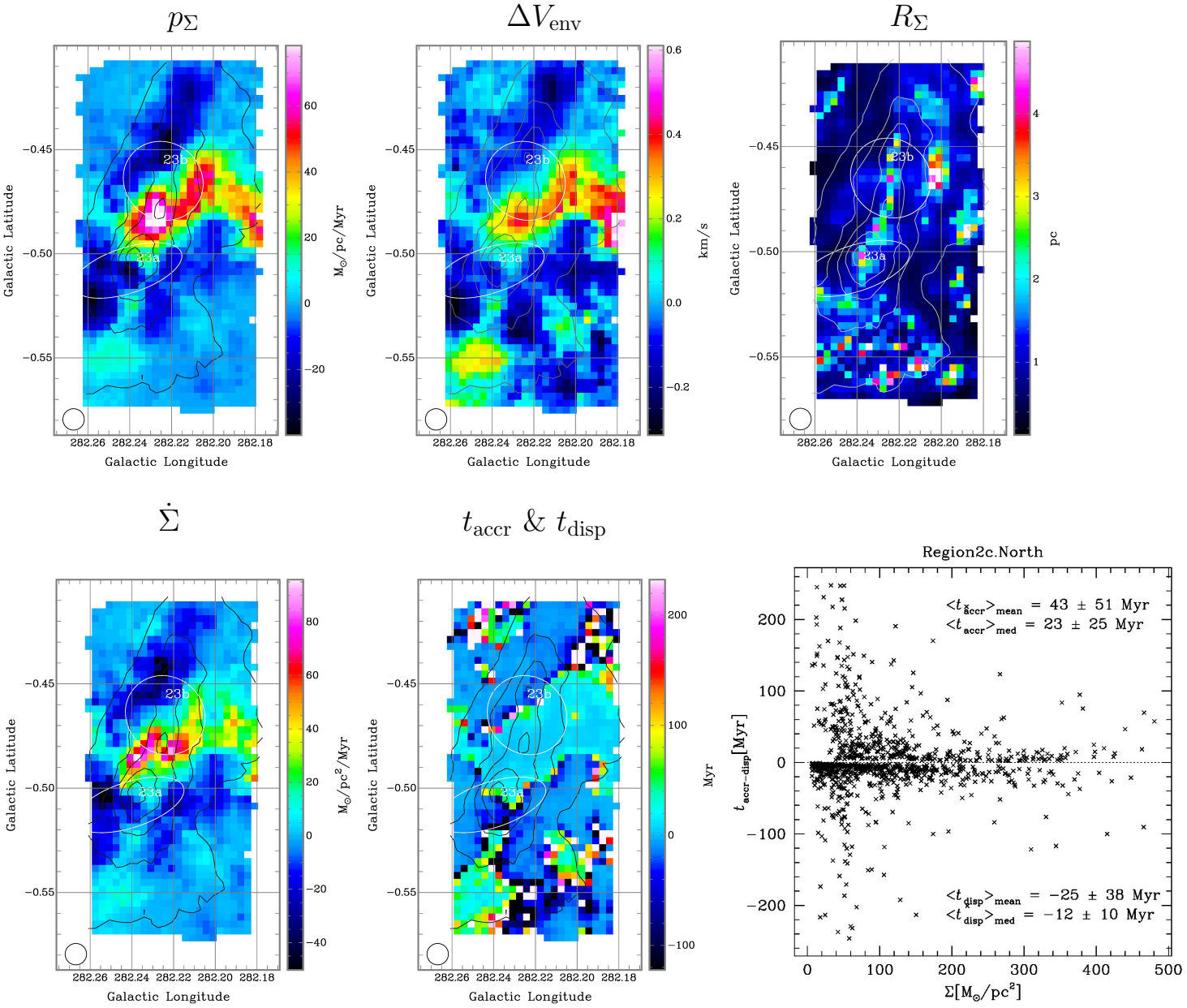

Figure D9. BYF 23 (Region 2c-North). At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the BL corner.

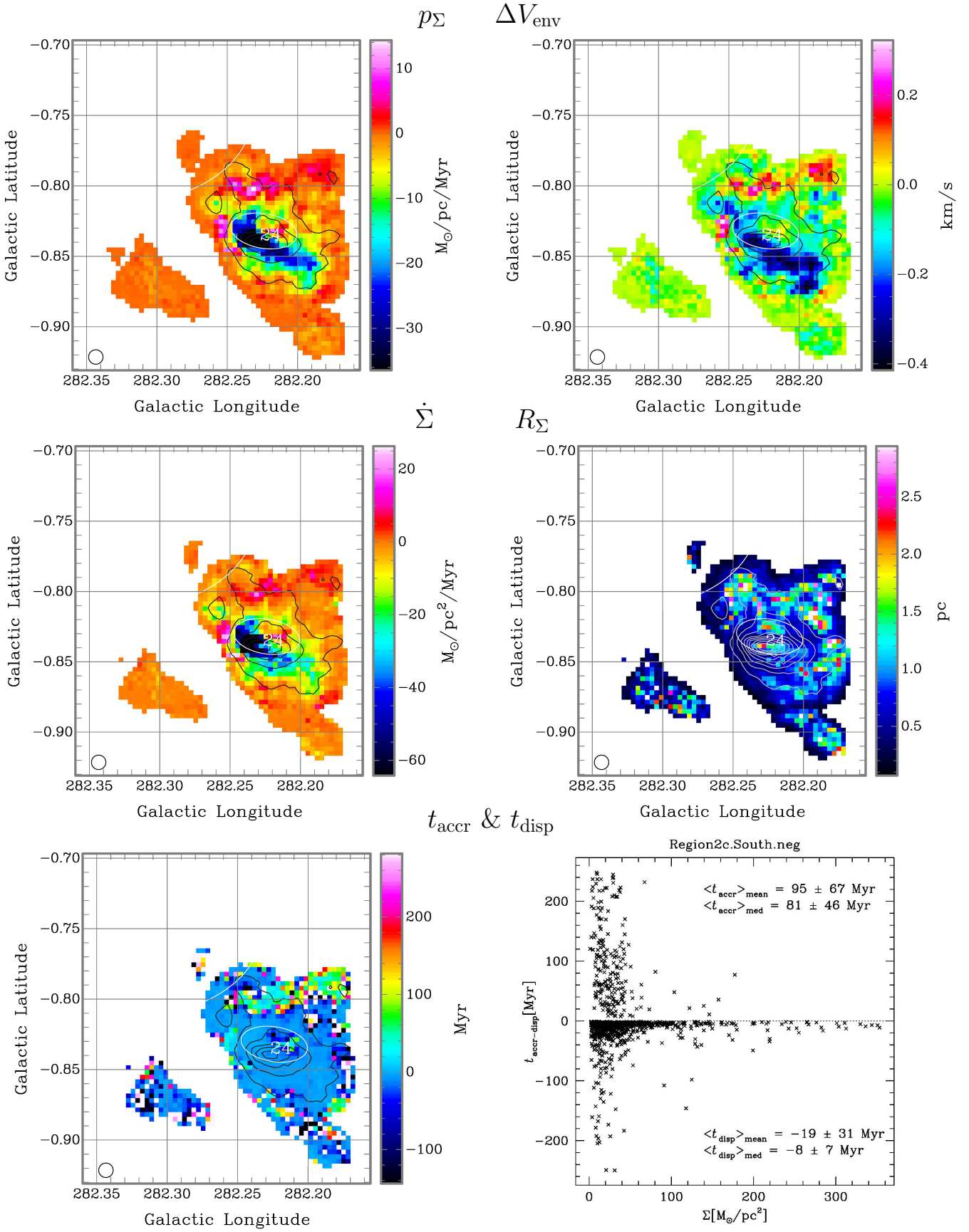

Figure D10. BYF 24 (Region 2c-South). At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the BL corner. In this case, the colour scales for the momentum, differential envelope velocity, and mass flux (first through third) panels were limited to showing the 0-threshold as orange/green-yellow/orange (resp.), rather than the normal shade of dusky blue in most other Regions.

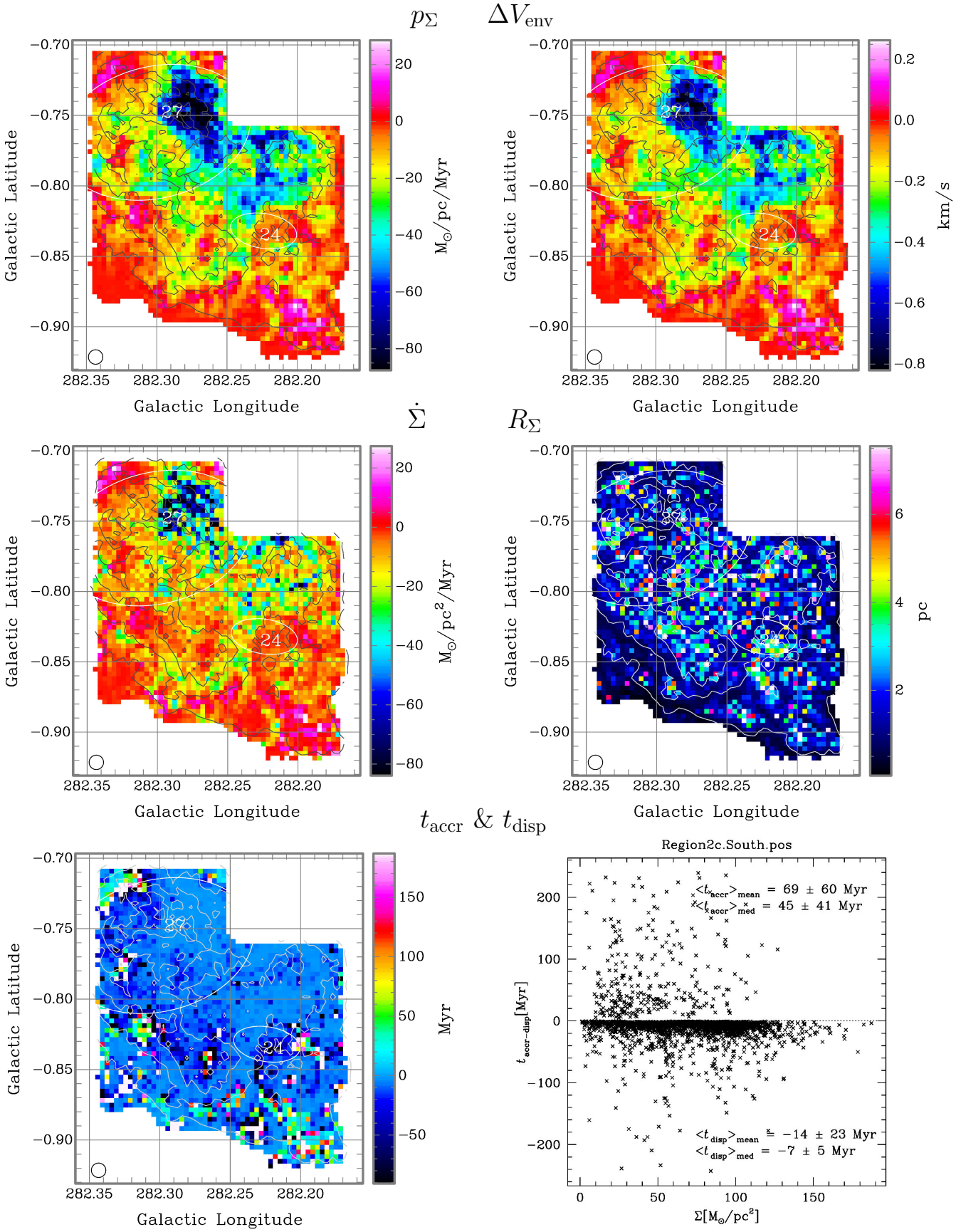

Figure D11. BYF 27 (Region 2c-South). At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the BL corner. In this case, the colour scales for the momentum, differential envelope velocity, and mass flux (first through third) panels were limited to showing the 0-threshold as red, rather than the normal shade of dusky blue in most other Regions.

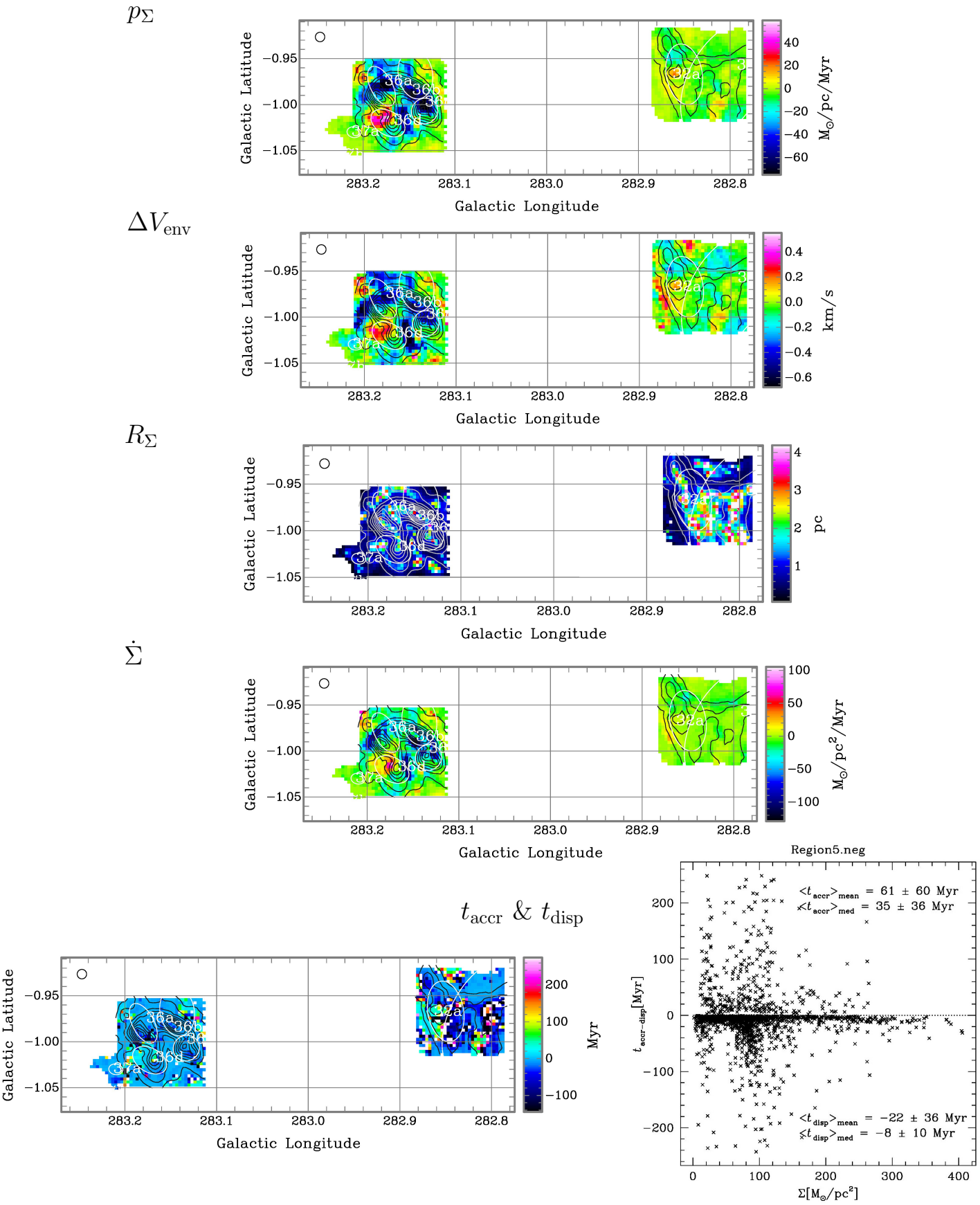

Figure D12. BYF 32 & 36 (Region 5). At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the TL corner. In this case, the colour scales for the momentum (first), differential envelope velocity (second), and mass flux (fourth) panels were limited to showing the 0-threshold as green, rather than the normal shade of dusky blue in most other Regions.

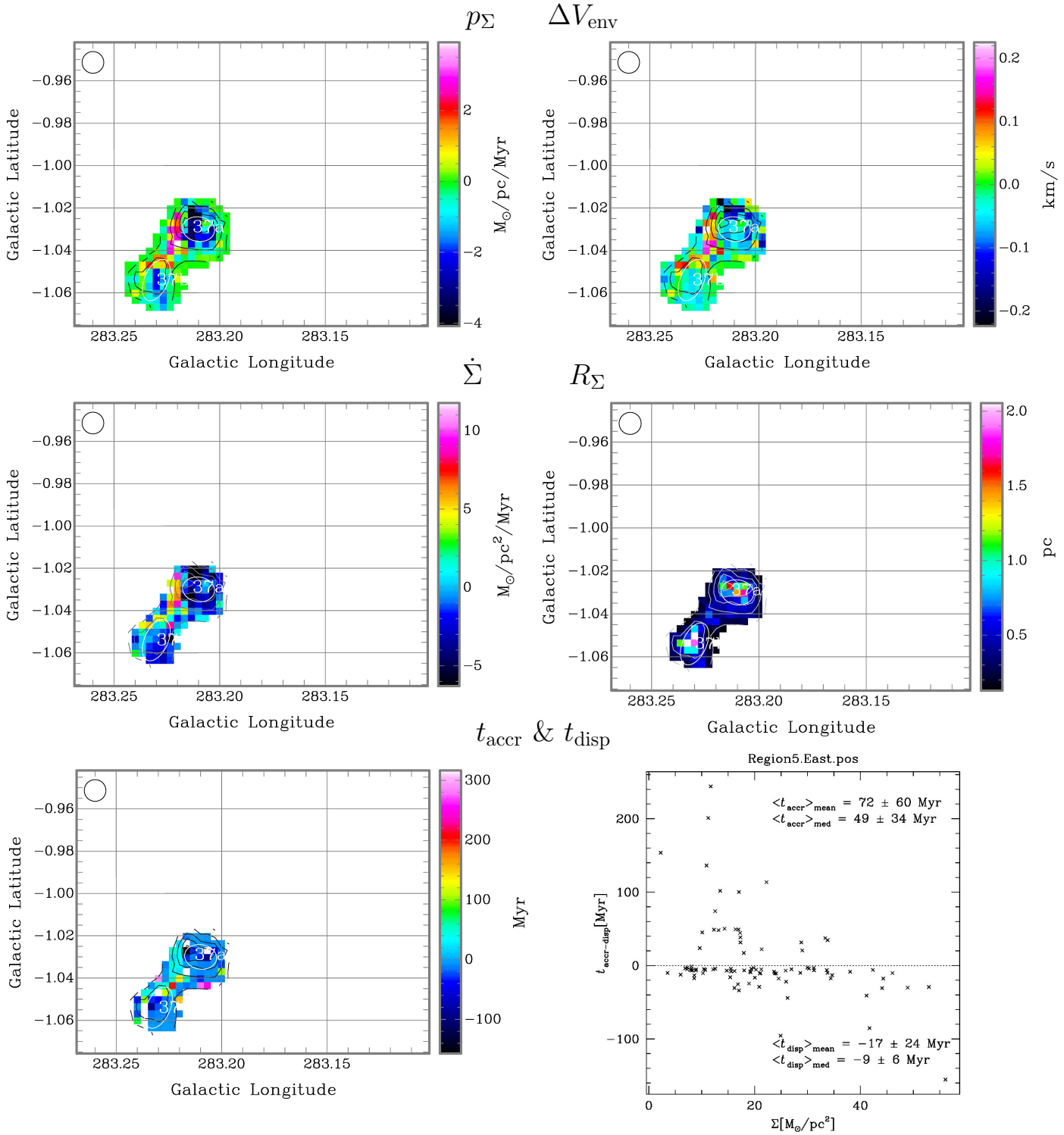

Figure D13. BYF 37 (Region 5-East). At an assumed distance of 3.2 kpc, the scale is 0°.1 = 5.6 pc. The Mopra HPBW is shown in the TL corner. In this case, the colour scales for the momentum and differential envelope velocity (first and second) panels were limited to showing the 0-threshold at green, rather than the normal shade of dusky blue in most other Regions.

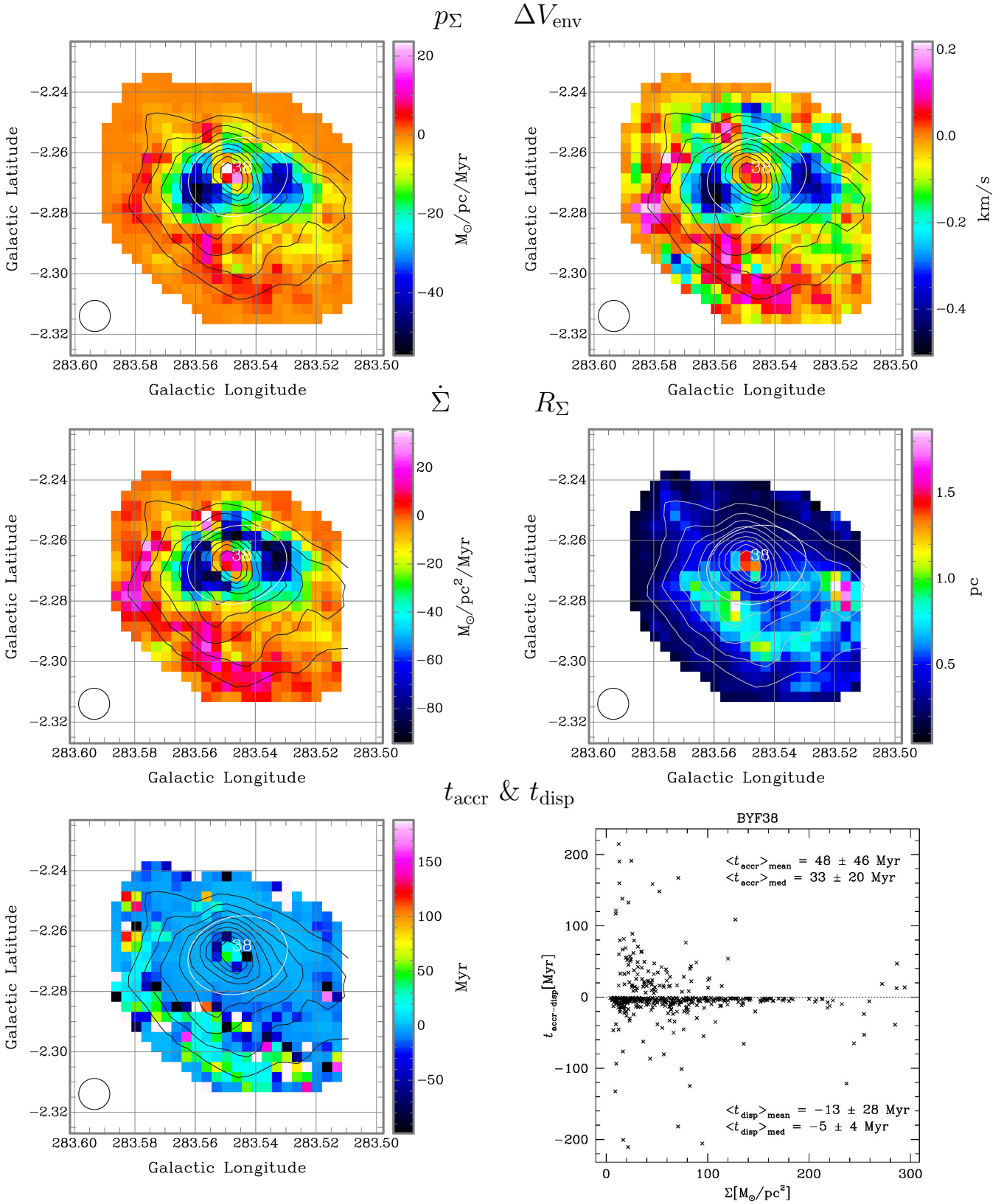

Figure D14. BYF 38. At an assumed distance of 2.0 kpc, the scale is 0°.1 = 3.5 pc. The Mopra HPBW is shown in the BL corner. In this case, the colour scales for the momentum, differential envelope velocity, and mass flux (first through third) panels were limited to showing the 0-threshold at orange, rather than the normal shade of dusky blue in most other Regions.

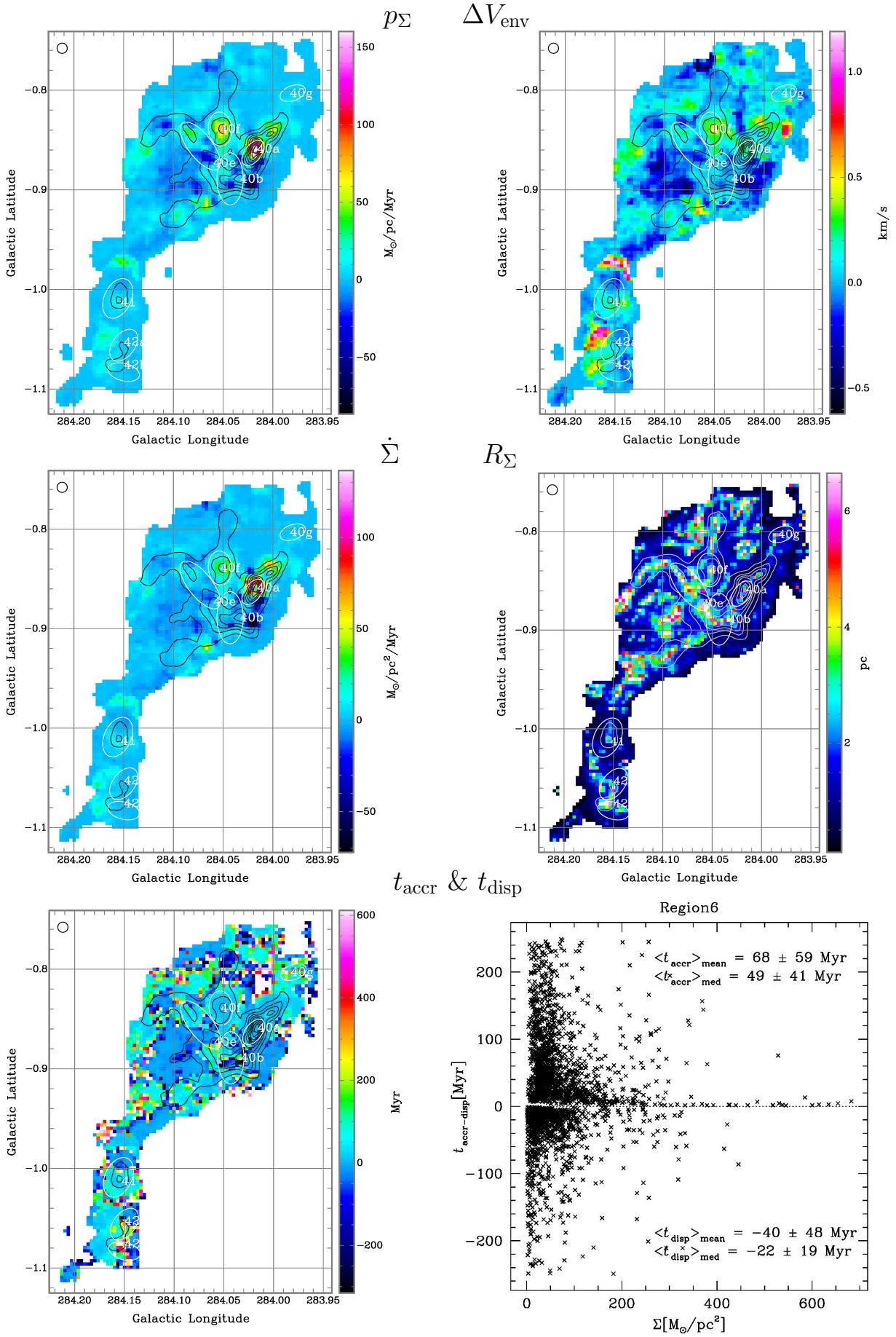

Figure D15. BYF 40–42 (Region 6). At an assumed distance of 6.6 kpc, the scale is 0°.1 = 11.5 pc. The Mopra HPBW is shown in the TL corner.

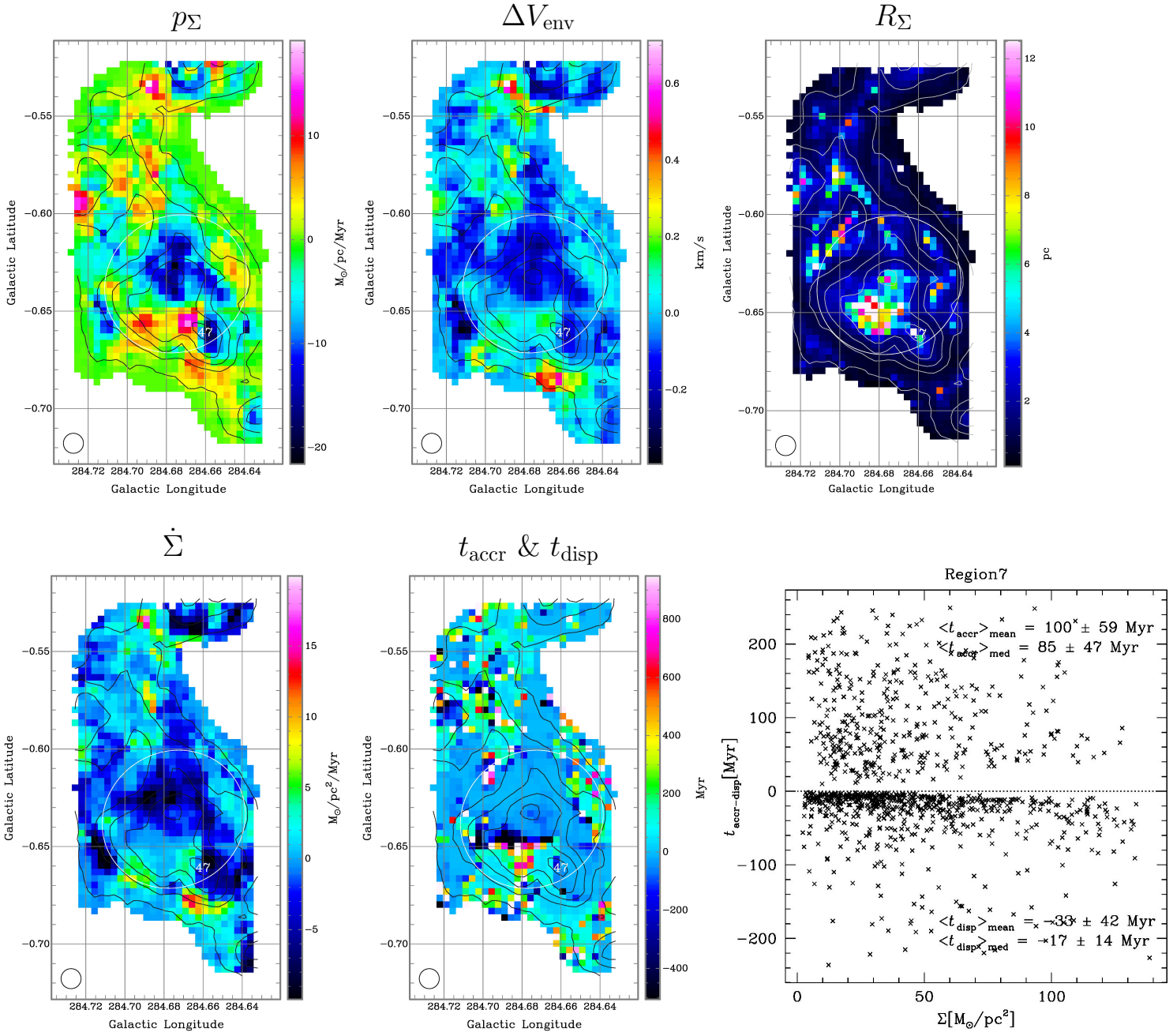

Figure D16. BYF 47 (Region 7). At an assumed distance of 5.3 kpc, the scale is 0°.1 = 9.3 pc. The Mopra HPBW is shown in the BL corner. In this case, the colour scale for the momentum (first) panel was limited to showing the 0-threshold at green, rather than the normal shade of dusky blue in most other Regions.

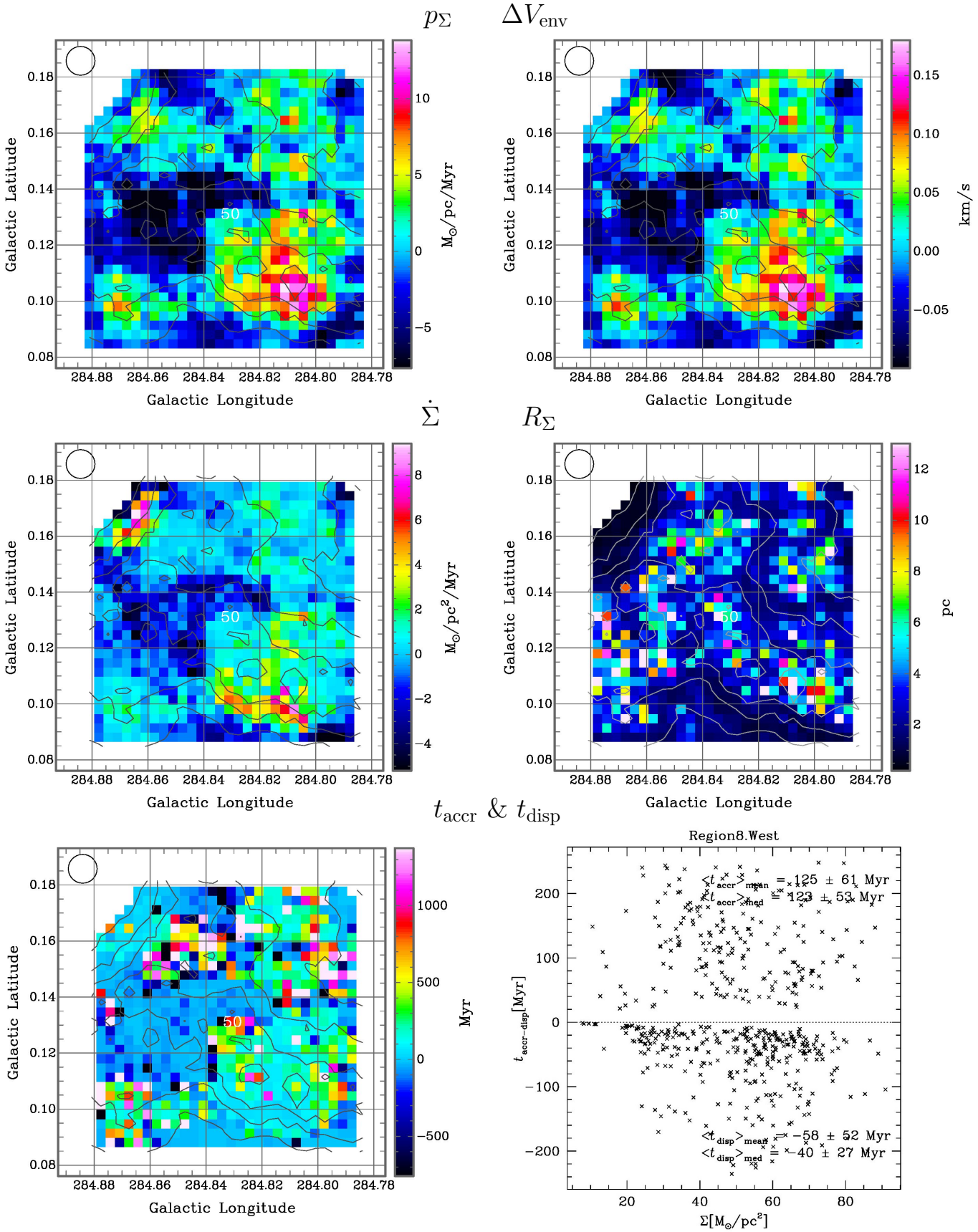

Figure D17. BYF 50 (Region 8-West). At an assumed distance of 5.3 kpc, the scale is 0°.1 = 9.3 pc. The Mopra HPBW is shown in the TL corner.

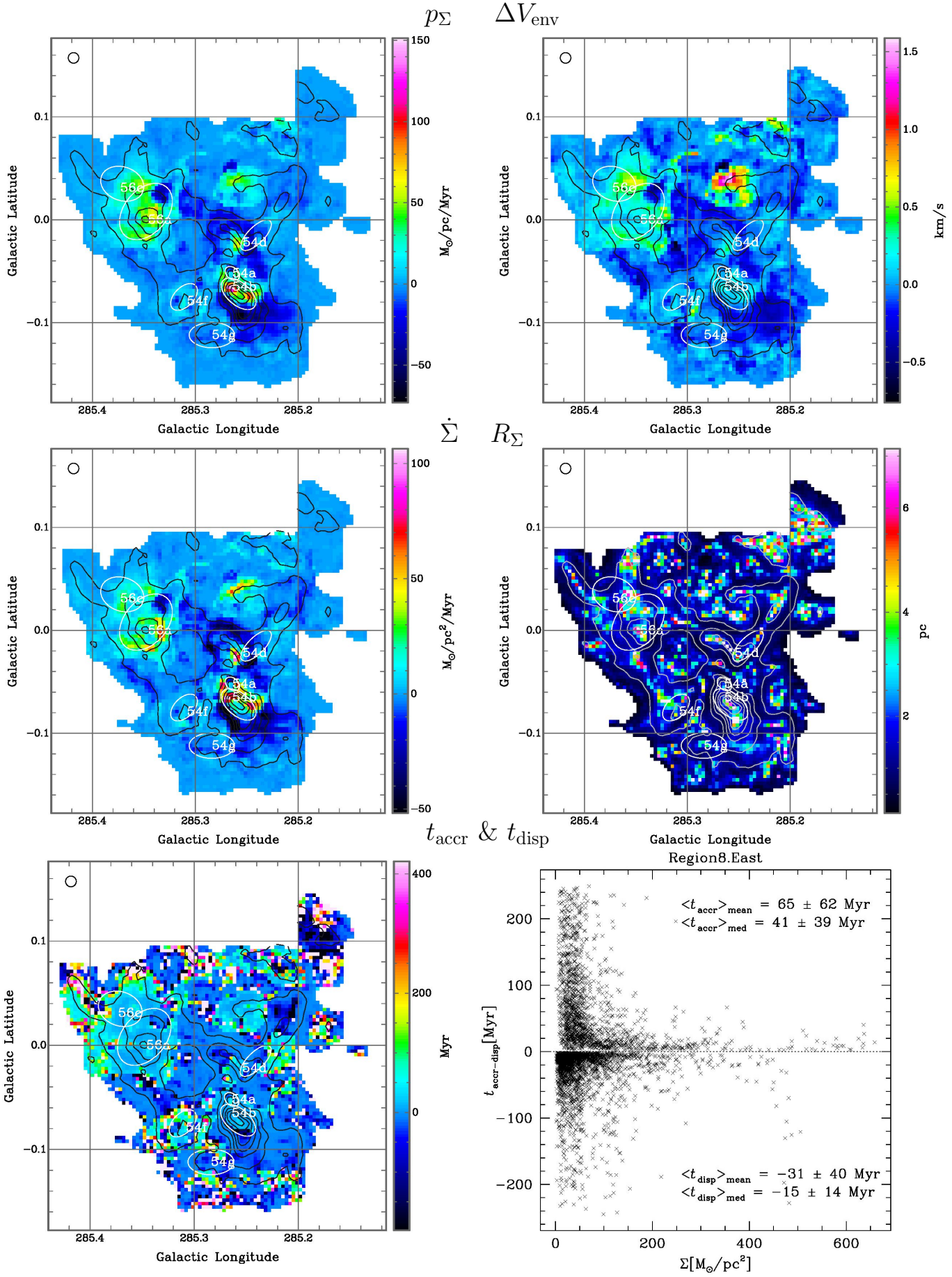

Figure D18. BYF 51–56 (Region 8-East). At an assumed distance of 5.3 kpc, the scale is 0°1 = 9.3 pc. The Mopra HPBW is shown in the TL corner.

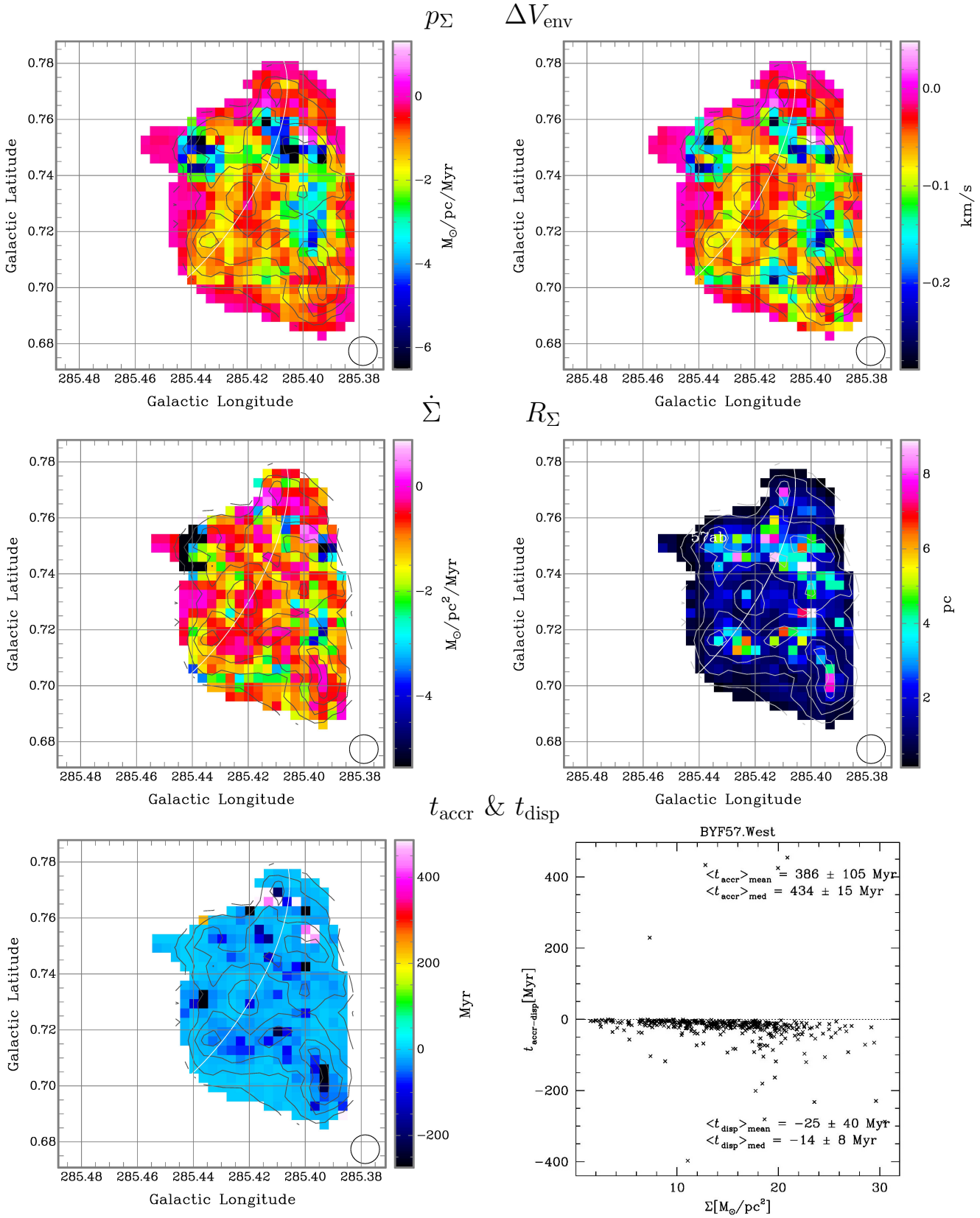

Figure D19. BYF 57-West. At an assumed distance of 5.3 kpc, the scale is 0°.1 = 9.3 pc. The Mopra HPBW is shown in the BR corner. In this case, the colour scales for the momentum, differential envelope velocity, and mass flux (first through third) panels were limited to showing the 0-threshold at red-magenta, rather than the normal shade of dusky blue in most other Regions.

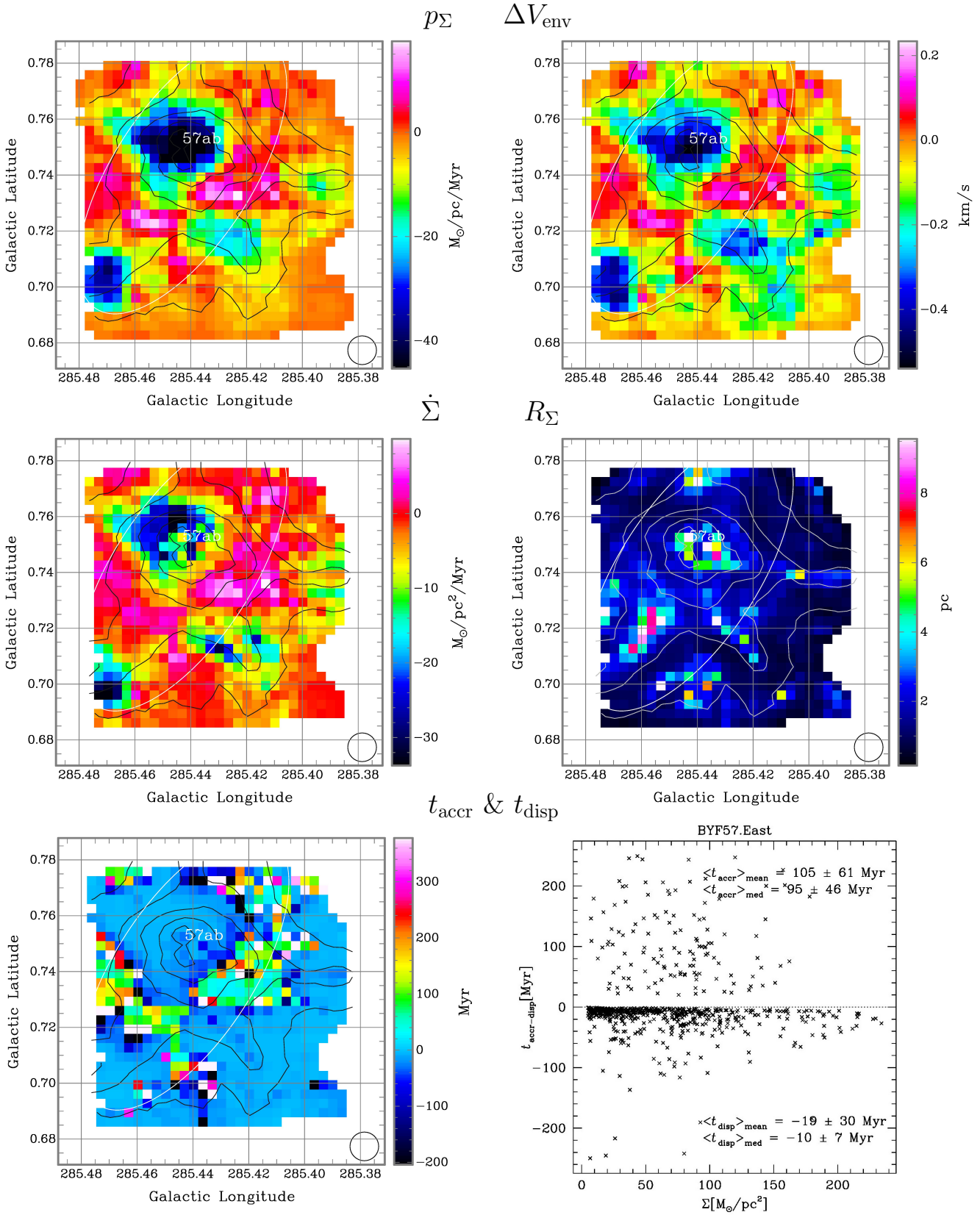

Figure D20. BYF 57-East. At an assumed distance of 5.3 kpc, the scale is 0°.1 = 9.3 pc. The Mopra HPBW is shown in the BR corner. In this case, the colour scales for the momentum, differential envelope velocity, and mass flux (first through third) panels were limited to showing the 0-threshold at orange-red, rather than the normal shade of dusky blue in most other Regions.

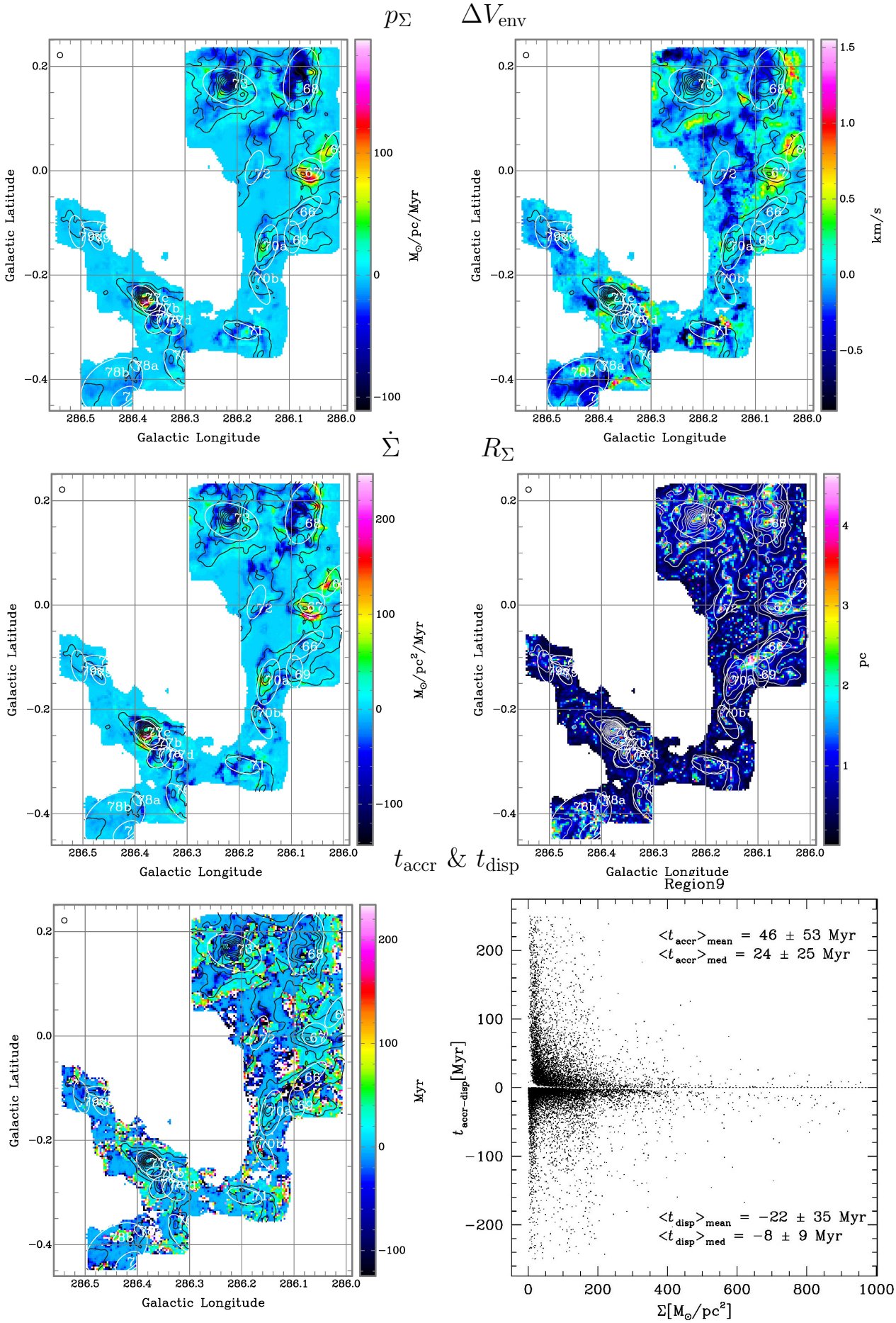

Figure D21. BYF 63–80 (Region 9). At an assumed distance of 2.5 kpc, the scale is 0°.1 = 4.4 pc. The Mopra HPBW is shown in the TL corner.

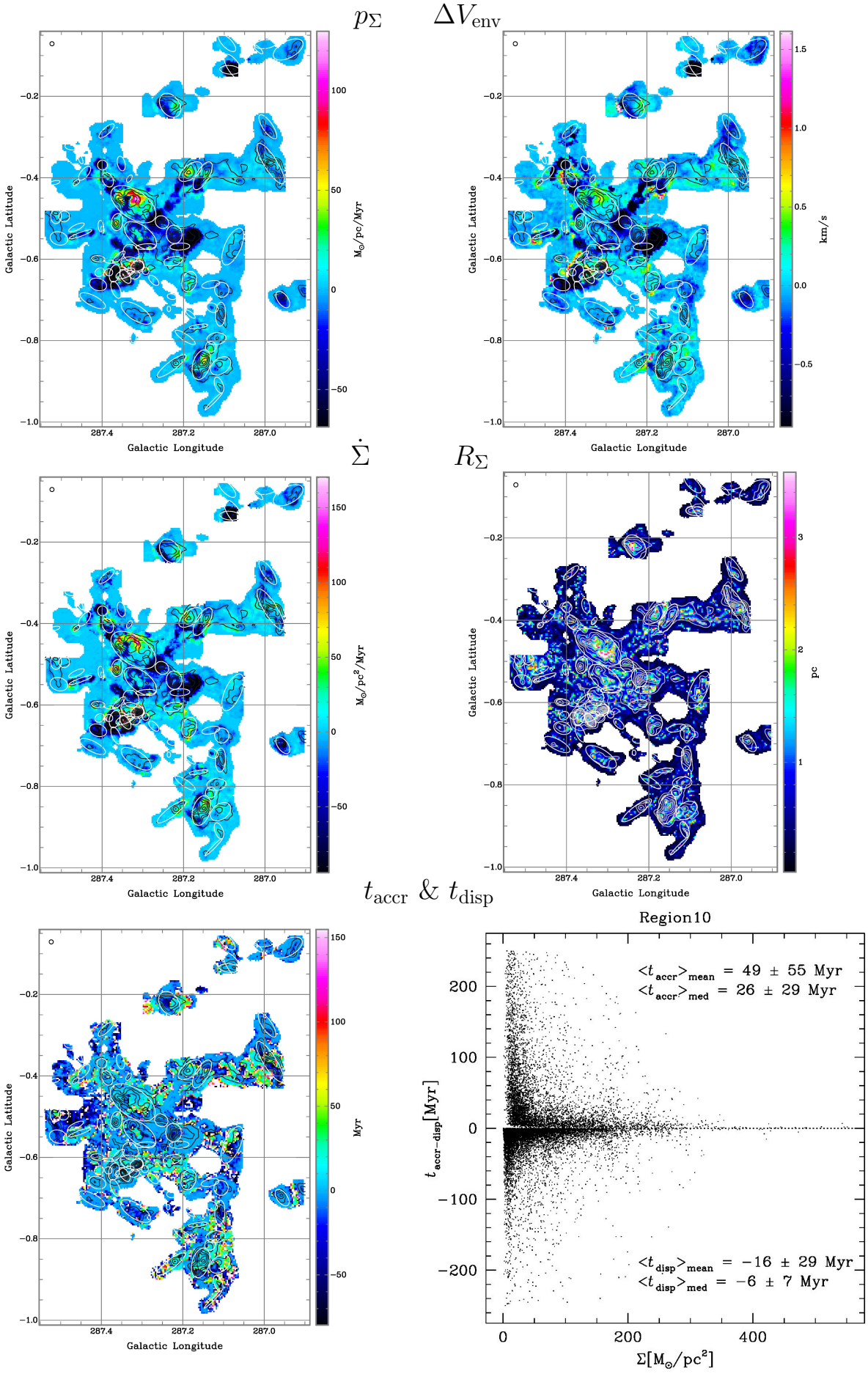

Figure D22. BYF 83–104 (Region 10). At an assumed distance of 2.5 kpc, the scale is 0°.1 = 4.4 pc. The Mopra HPBW is shown in the

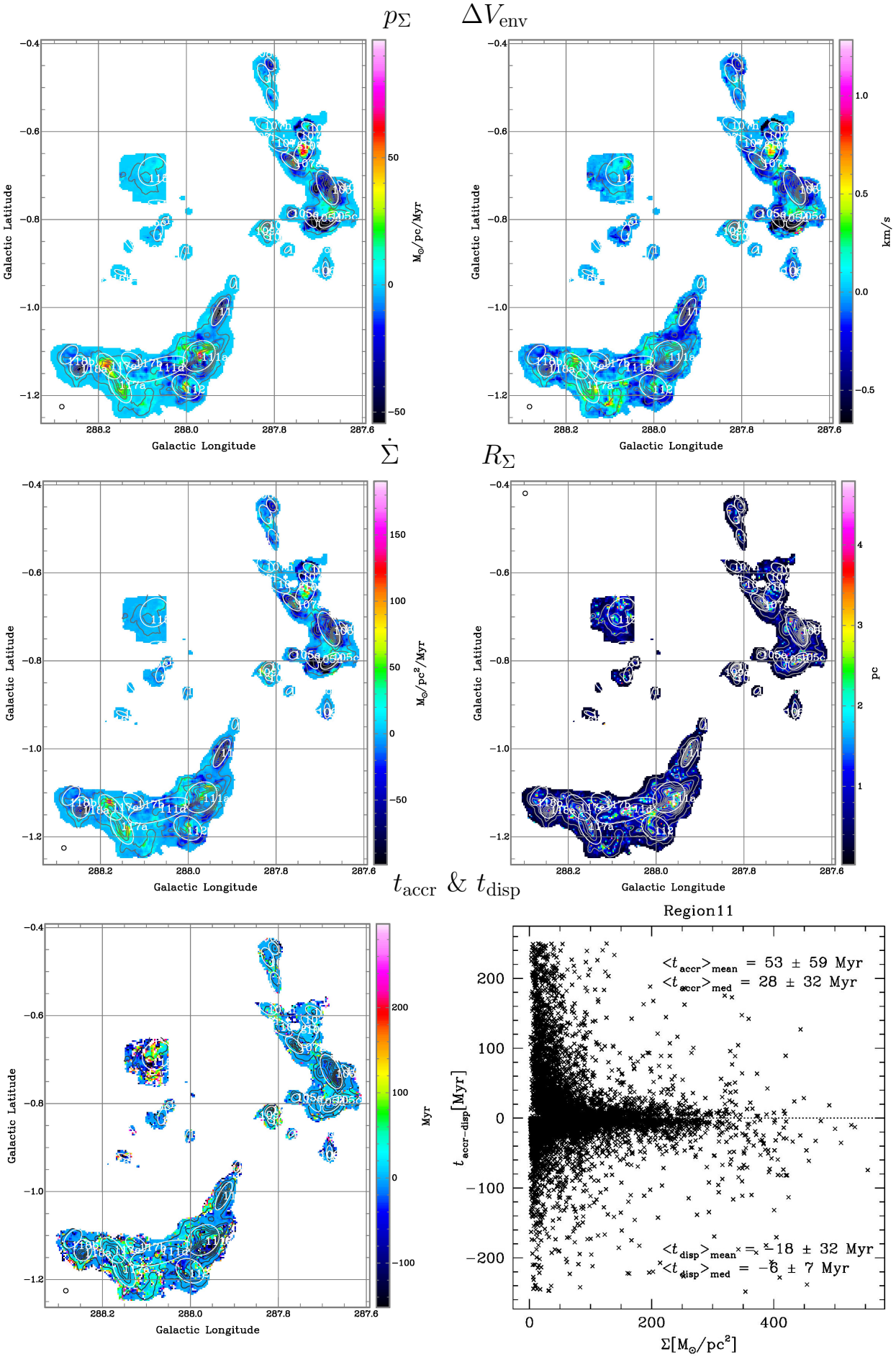

Figure D23. BYF 105–118 (Region 11). At an assumed distance of 2.5 kpc, the scale is 0°.1 = 4.4 pc. The Mopra HPBW is shown in the

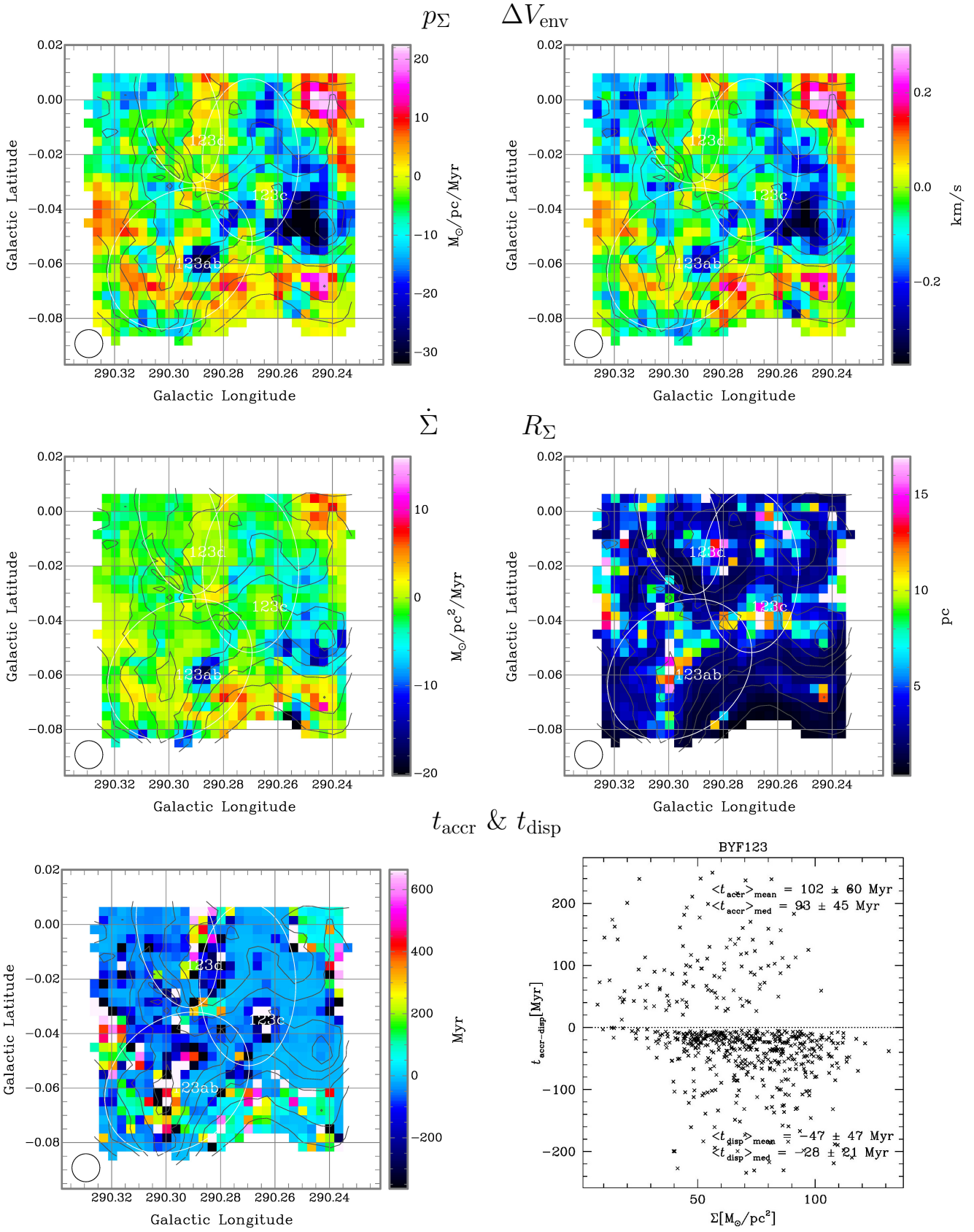

Figure D24. BYF 123. At an assumed distance of 6.8 kpc, the scale is 0°.1 = 11.9 pc. The Mopra HPBW is shown in the BL corner. In this case, the colour scale for the momentum, velocity-difference, and mass flux (first through third) panels were limited to showing the 0-threshold at green-yellow, rather than the normal shade of dusky blue in most other Regions.

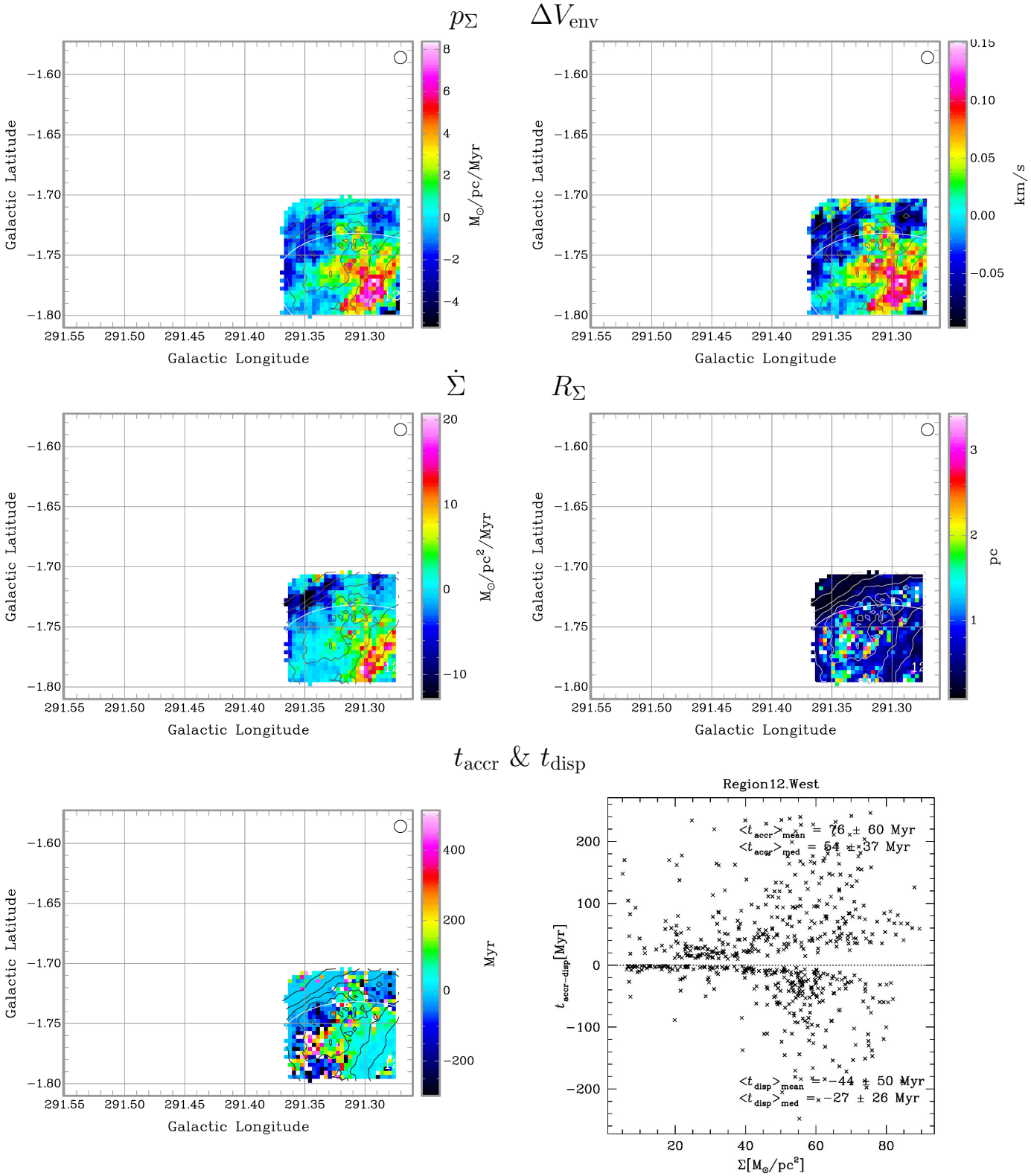

Figure D25. BYF 127 (Region 12-West). At an assumed distance of 1.1 kpc, the scale is 0°.1 = 1.9 pc. The Mopra HPBW is shown in the TR corner.

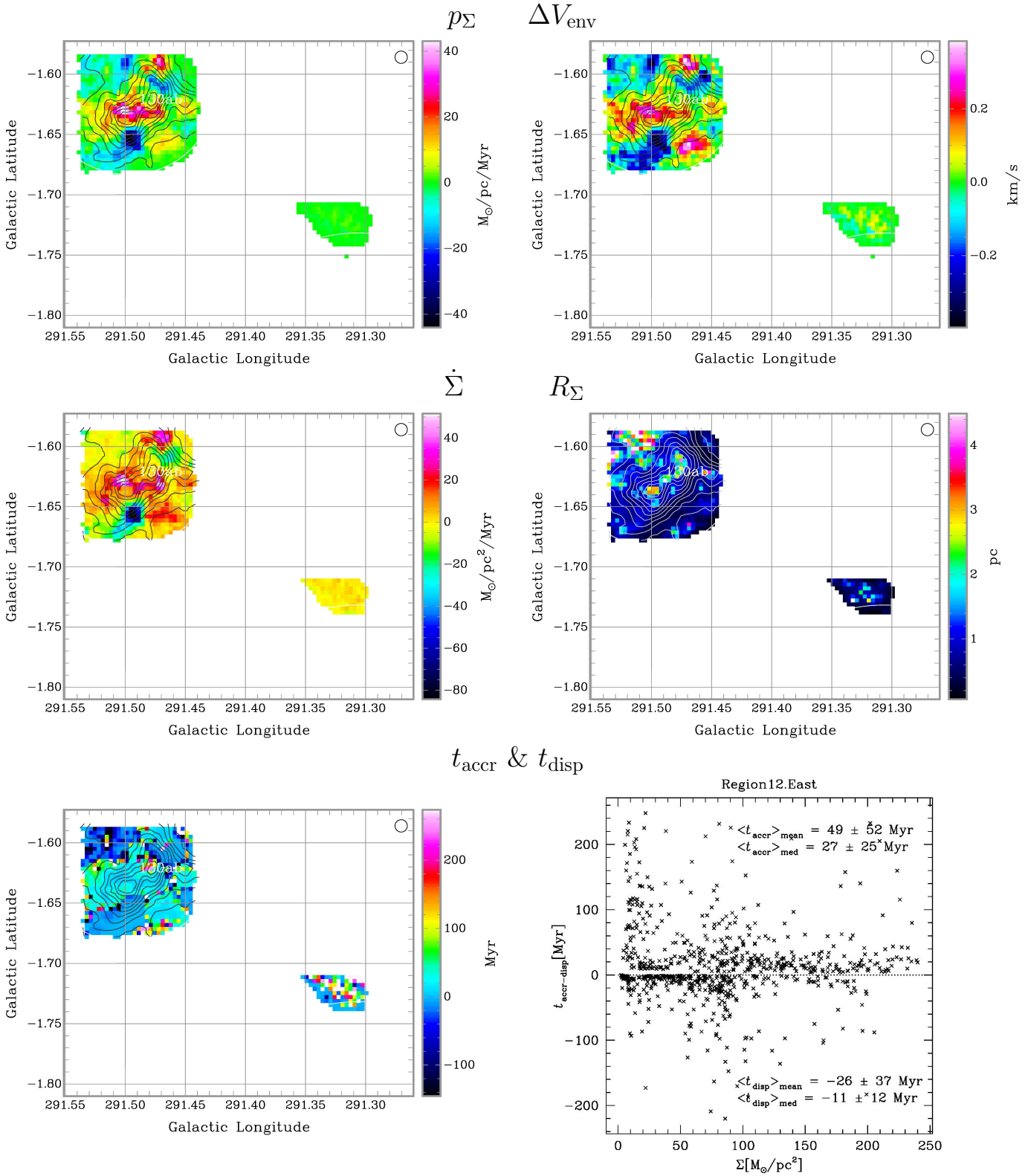

Figure D26. BYF 130 (Region 12-East). At an assumed distance of 2.4 kpc, the scale is 0°.1 = 4.2 pc. The Mopra HPBW is shown in the TR corner. In this case, the colour scale for the momentum and velocity-difference (first & second) panels were limited to showing the 0-threshold at green, and for the flux (third) panel at yellow-orange, rather than the normal shade of dusky blue in most other Regions.

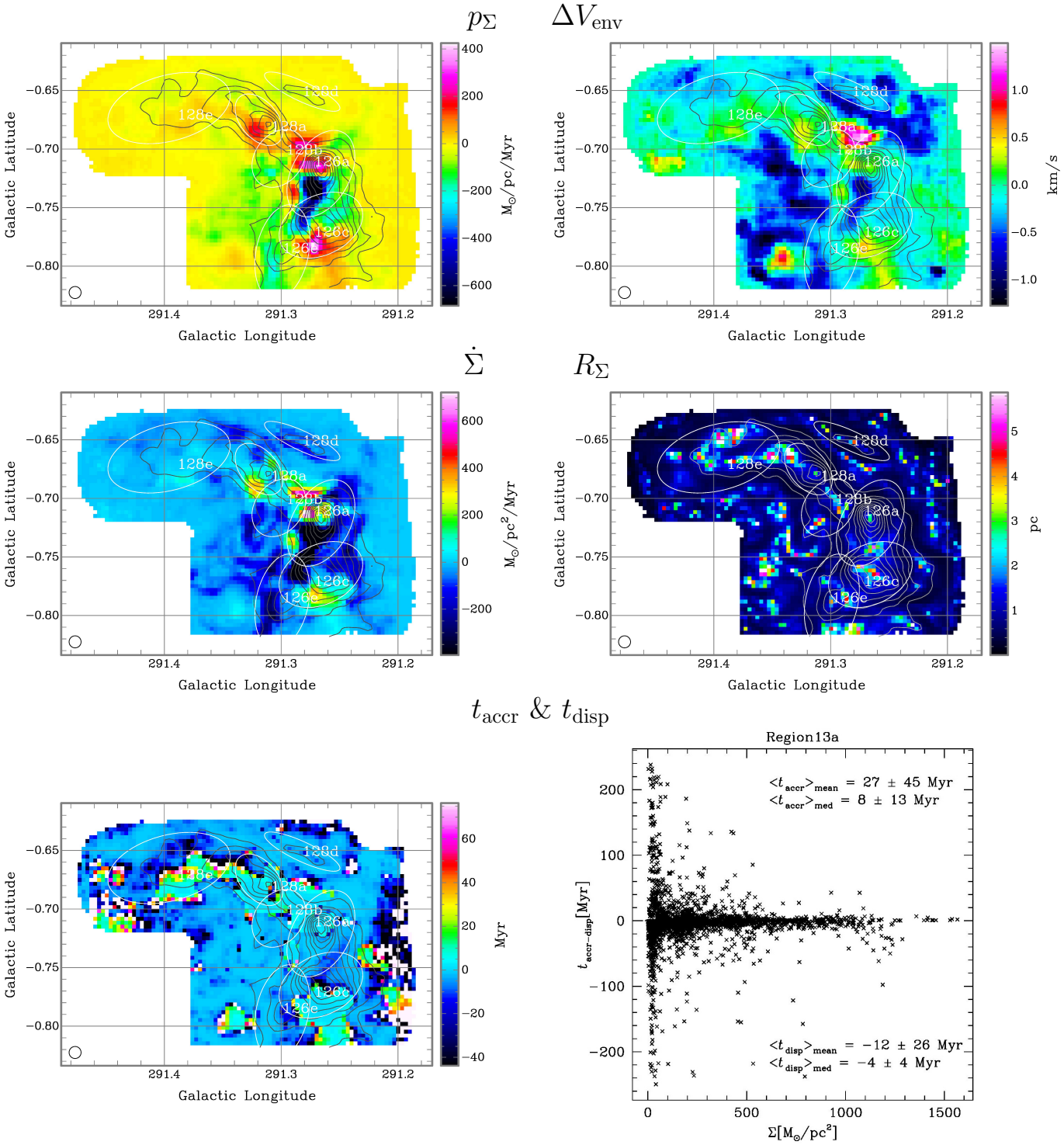

Figure D27. BYF 126 & 128 (Region 13a). At an assumed distance of 2.4 kpc, the scale is 0°.1 = 4.2 pc. The Mopra HPBW is shown in the BL corner. In this case, the colour scale for the momentum and velocity-difference (first & second) panels were limited to showing the 0-threshold at yellow-orange and cyan-green (resp.), rather than the normal shade of dusky blue in most other Regions.

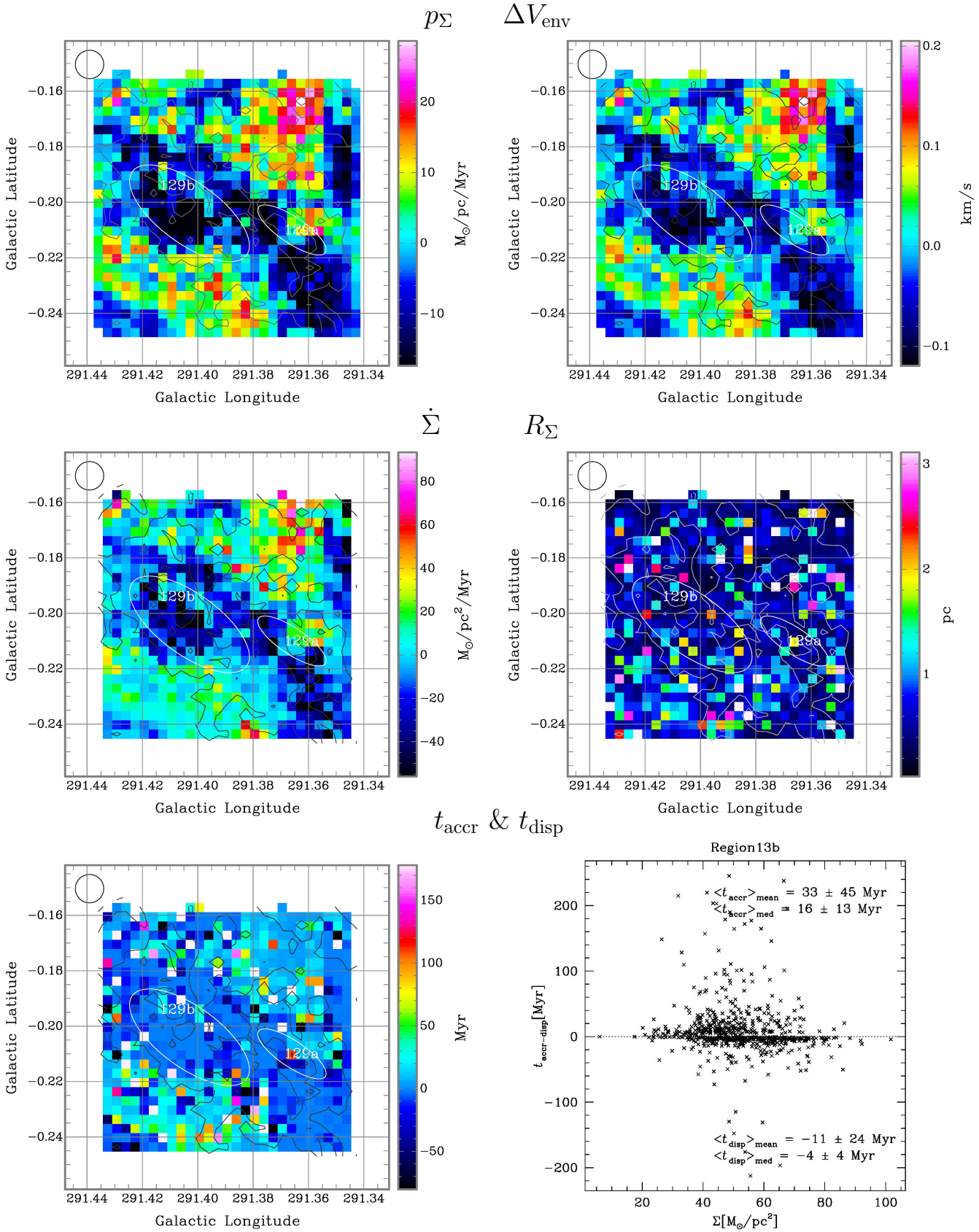

Figure D28. BYF 129 (Region 13b). At an assumed distance of 1.2 kpc, the scale is 0°.1 = 2.1 pc. The Mopra HPBW is shown in the TL corner.

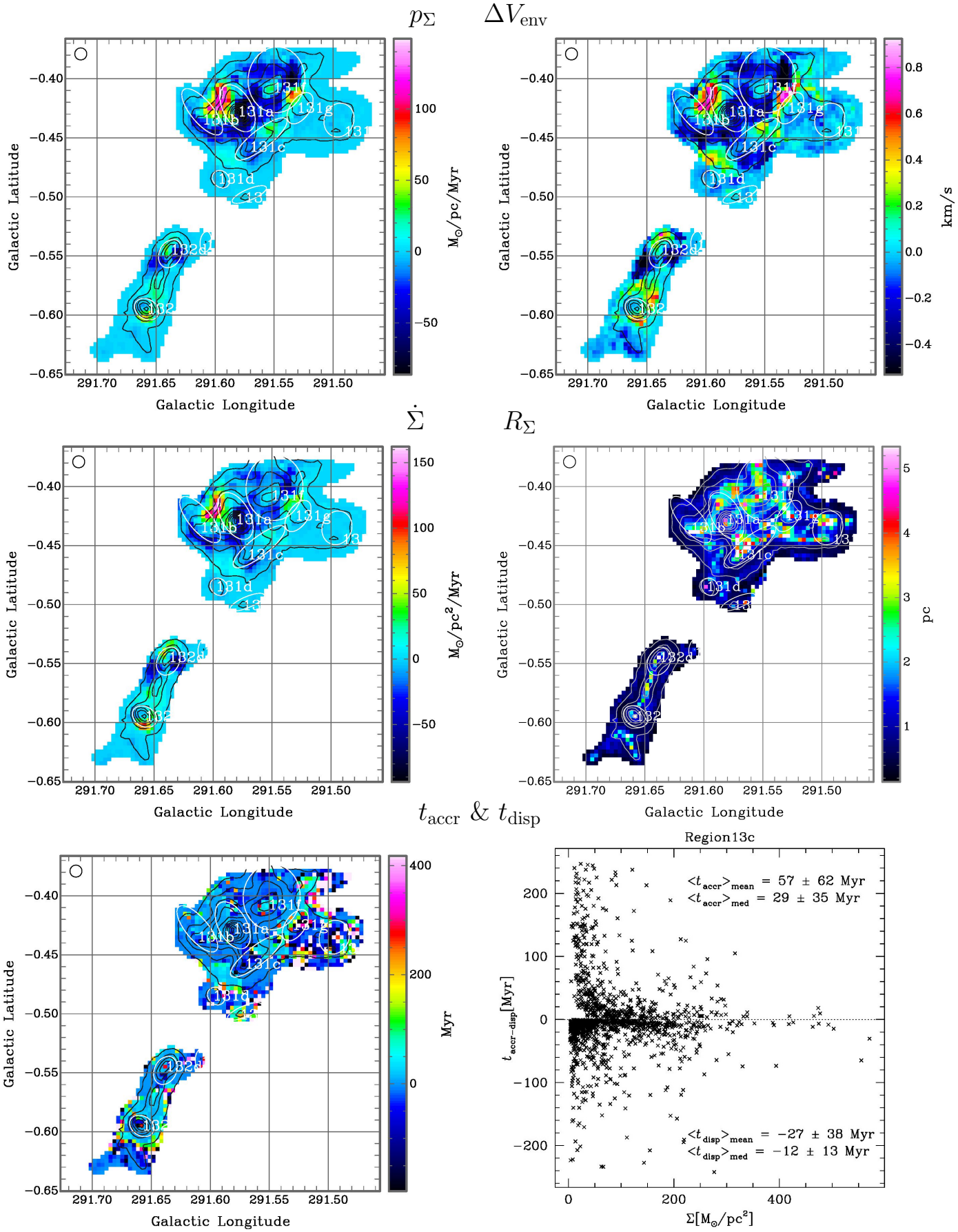

Figure D29. BYF 130 & 132 (Region 13c). At an assumed distance of 6.0 kpc, the scale is 0°.1 = 10.5 pc. The Mopra HPBW is shown in the TL corner.

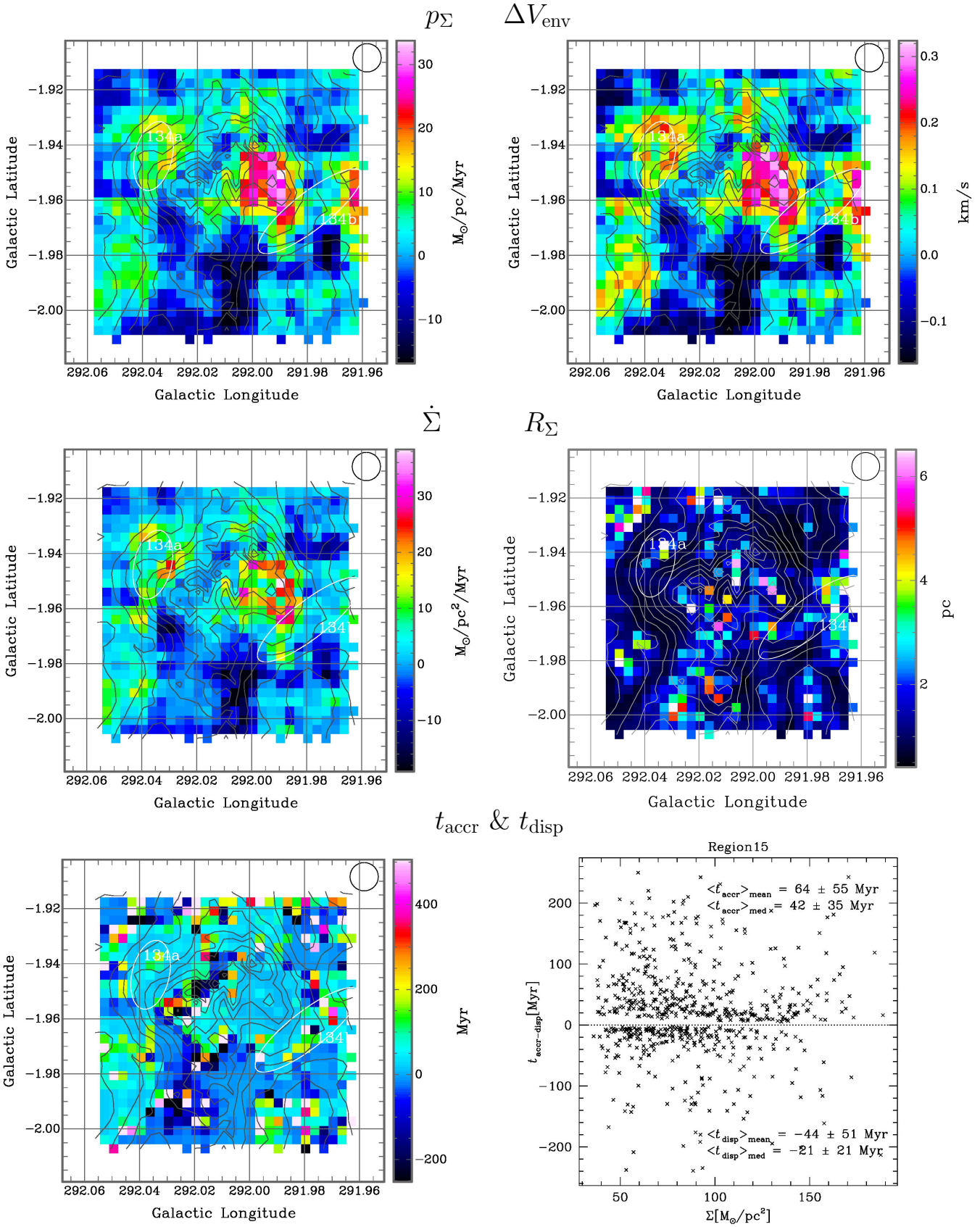

Figure D30. BYF 134 (Region 15). At an assumed distance of 2.4 kpc, the scale is 0°.1 = 4.2 pc. The Mopra HPBW is shown in the TR corner.

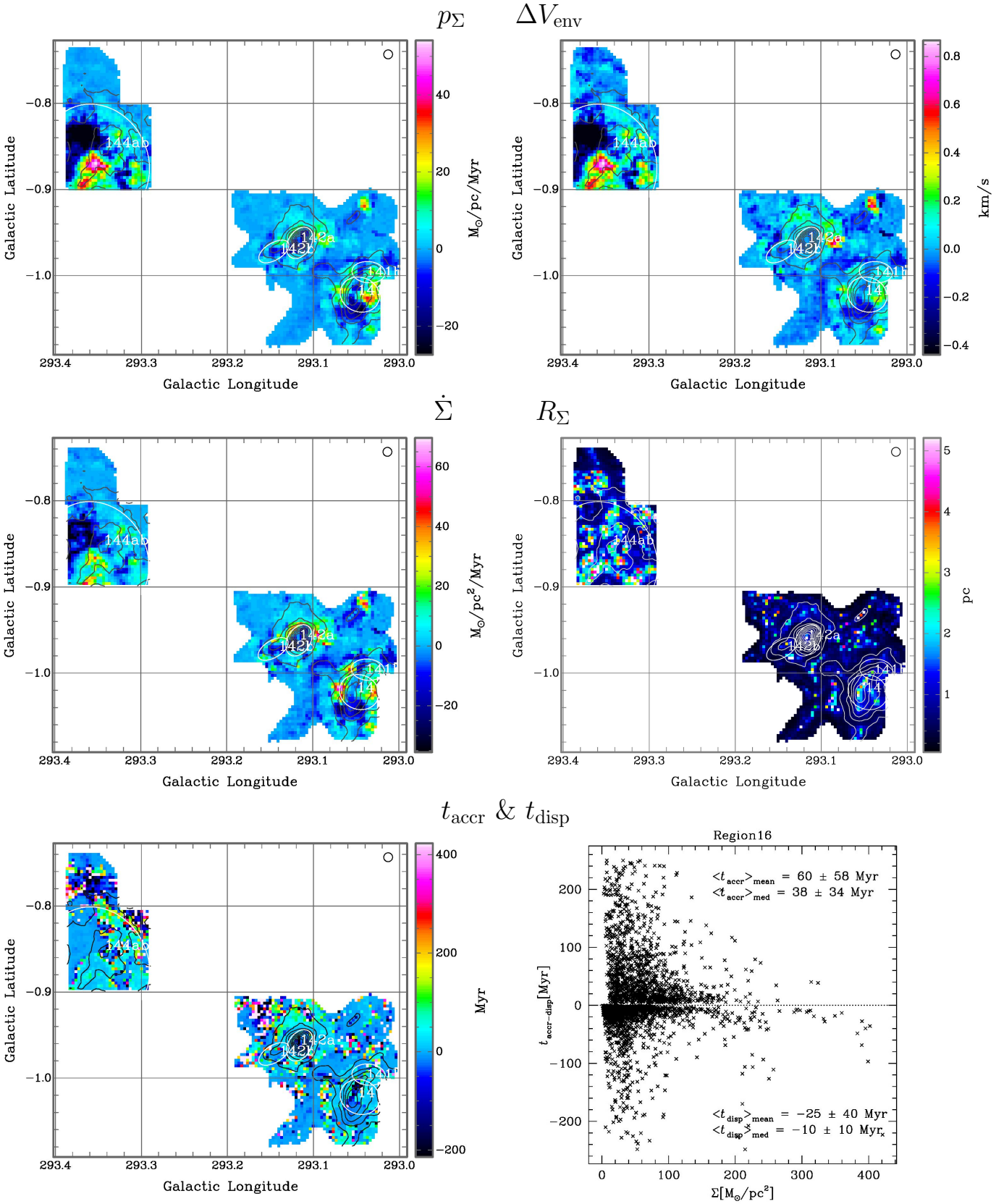

Figure D31. BYF 141–144 (Region 16). At an assumed distance of 2.4 kpc, the scale is 0°.1 = 4.2 pc. The Mopra HPBW is shown in the TR corner.

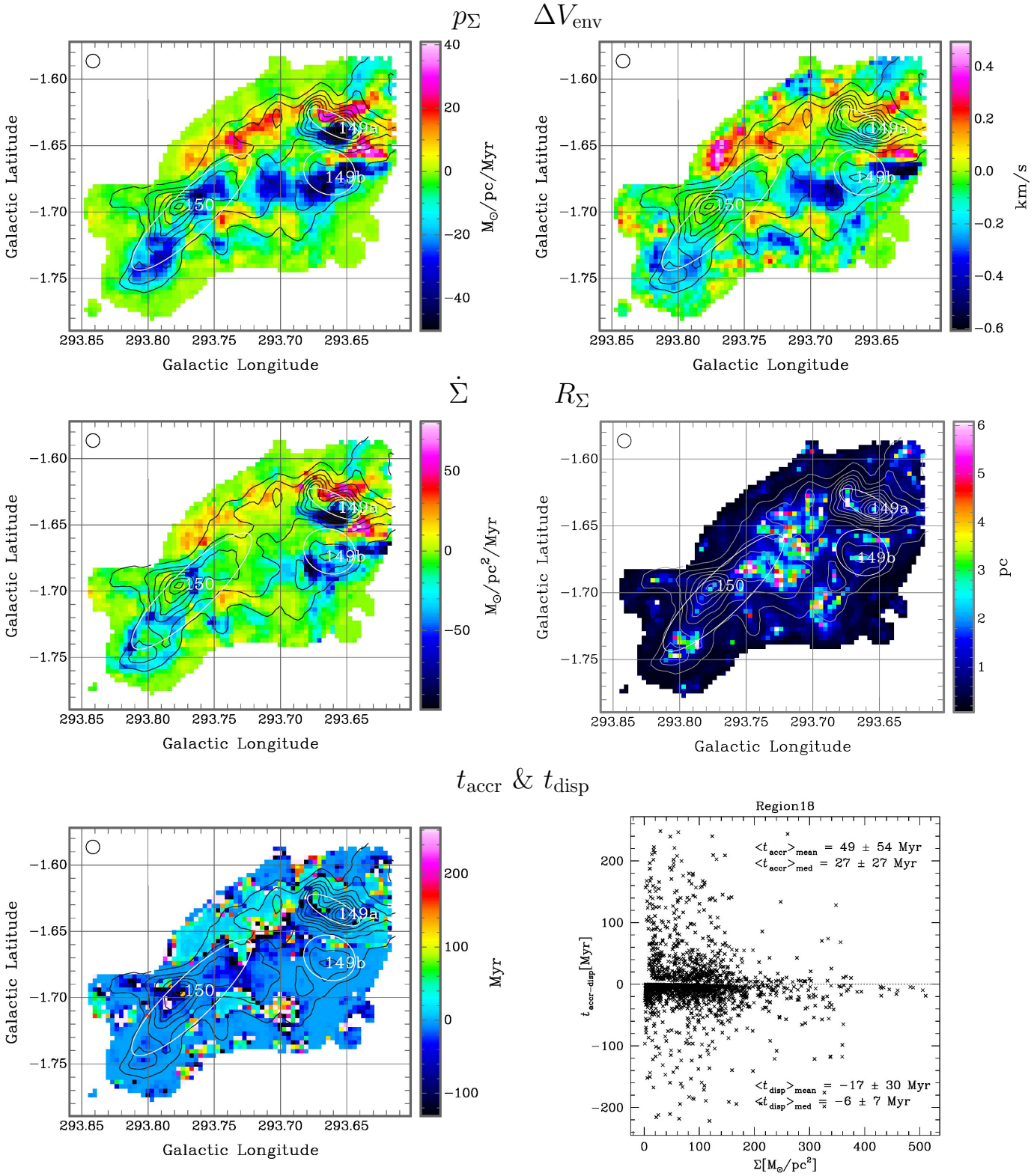

Figure D32. BYF 149 & 150 (Region 18). At an assumed distance of 2.4 kpc, the scale is 0°.1 = 4.2 pc. The Mopra HPBW is shown in the TL corner. In this case, the colour scale for the momentum, differential envelope velocity, and mass flux (first to third) panels were limited to showing the 0-threshold at green-yellow, rather than the normal shade of dusky blue in most other Regions.

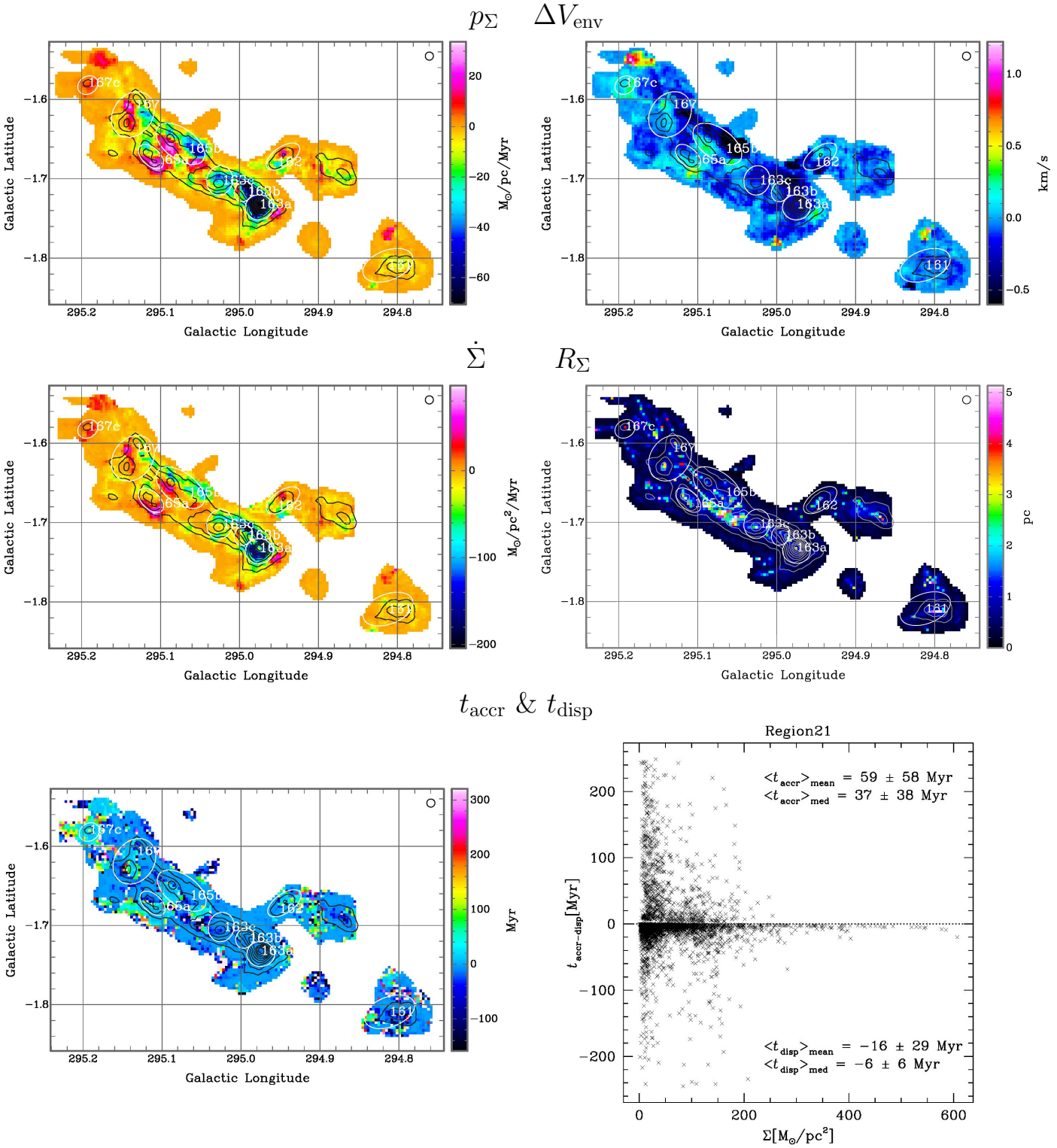

Figure D33. BYF 161–167 (Region 21). At an assumed distance of 2.4 kpc, the scale is 0°.1 = 4.2 pc. The Mopra HPBW is shown in the TR corner. In this case, the colour scale for the momentum (first) and mass flux (third) panels were limited to showing the 0-threshold at orange, rather than the normal shade of dusky blue in most other Regions.

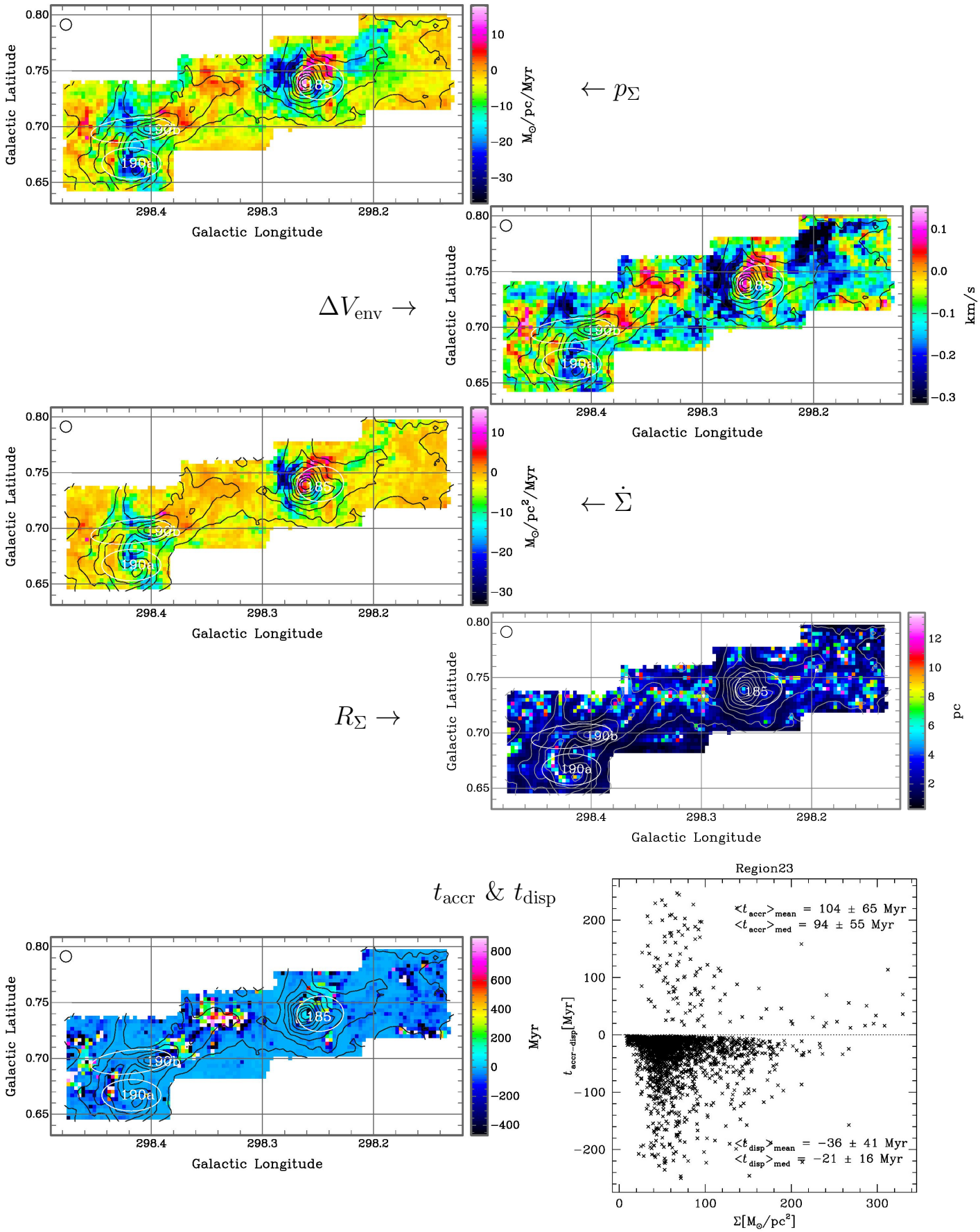

Figure D34. BYF 183–190 (Region 23). At an assumed distance of 4.7 kpc, the scale is 0.°1 = 8.2 pc. The Mopra HPBW is shown in the TL corner. In this case, the colour scales for the momentum, differential envelope velocity, and mass flux (first to third) panels were limited to showing the 0-threshold at orange, rather than the normal shade of dusky blue in most other Regions.

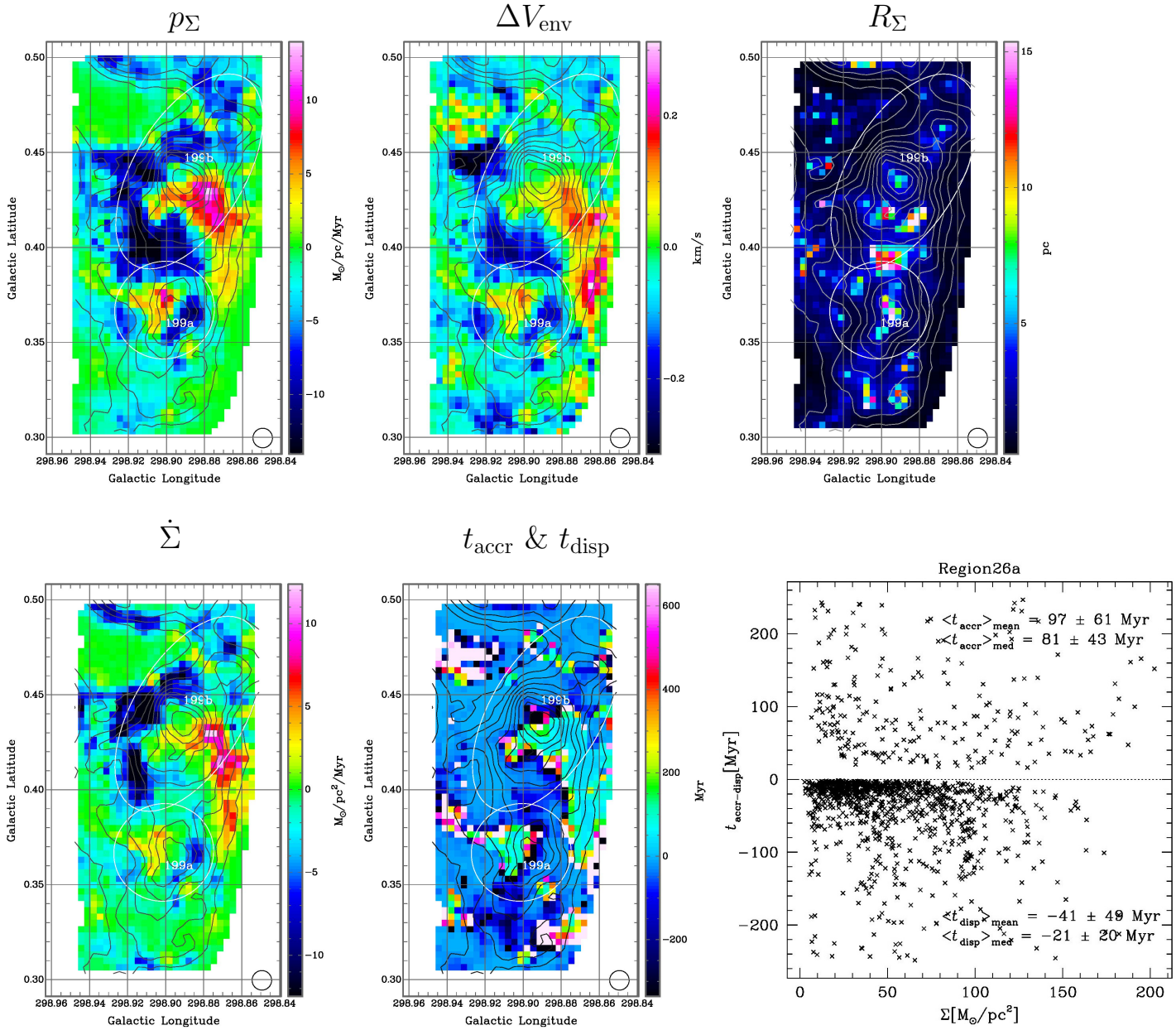

Figure D35. BYF 199 (Region 26a). At an assumed distance of 4.7 kpc, the scale is 0°.1 = 8.2 pc. The Mopra HPBW is shown in the BR corner. In this case, the colour scales for the momentum (first), differential envelope velocity (second), and mass flux (fourth) panels were limited to showing the 0-threshold at green, rather than the normal shade of dusky blue in most other Regions.

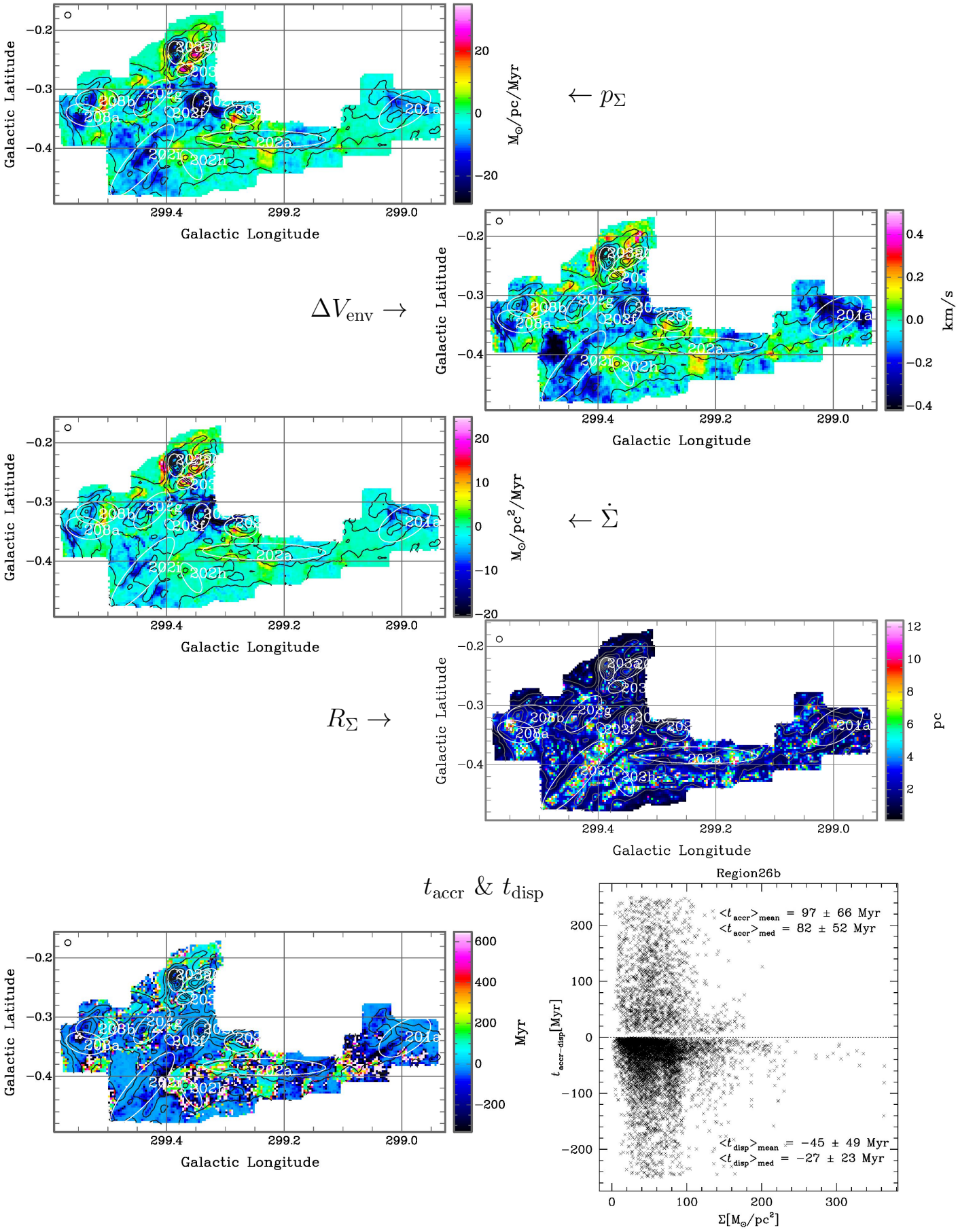

Figure D36. BYF 201–208 (Region 26b). At an assumed distance of 4.7 kpc, the scale is 0°1 = 8.2 pc. The Mopra HPBW is shown in the TL corner. In this case, the colour scales for the momentum, differential envelope velocity, and mass flux (first to third) panels were limited to showing the 0-threshold at cyan-green, rather than the normal shade of dusky blue in most other Regions.