

Appendix J2: Model Differences for AG3a, AG3b and AG4 vs. AG3

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Introduction

This document presents results from the comparison of TCSAM02 models AG3, AG3a, AG3b, and AG4. The following plots show differences between the set of models for a variety of quantities.

Population processes

Natural mortality

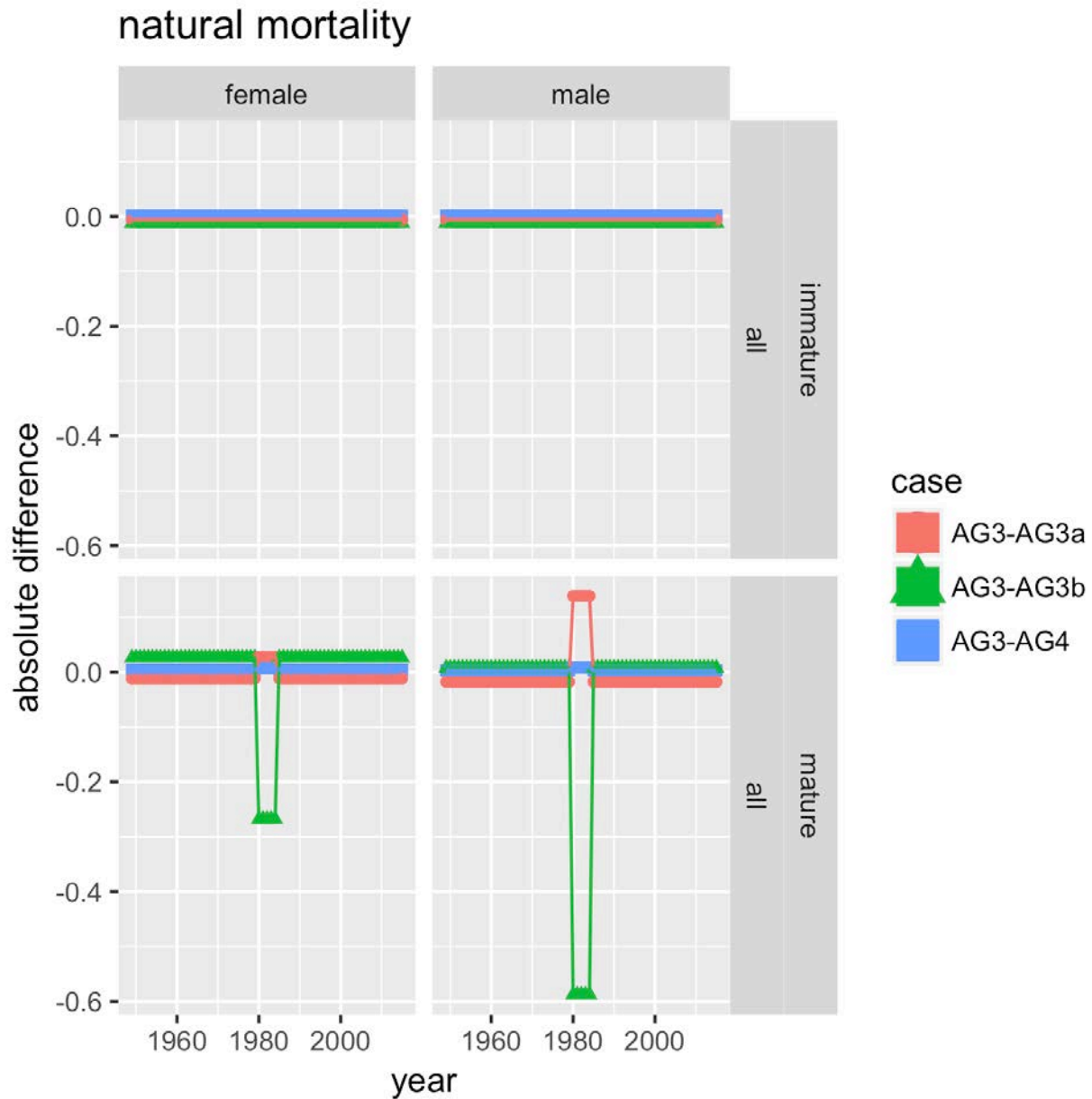


Figure 1. Differences for natural mortality.

Probability of terminal molt

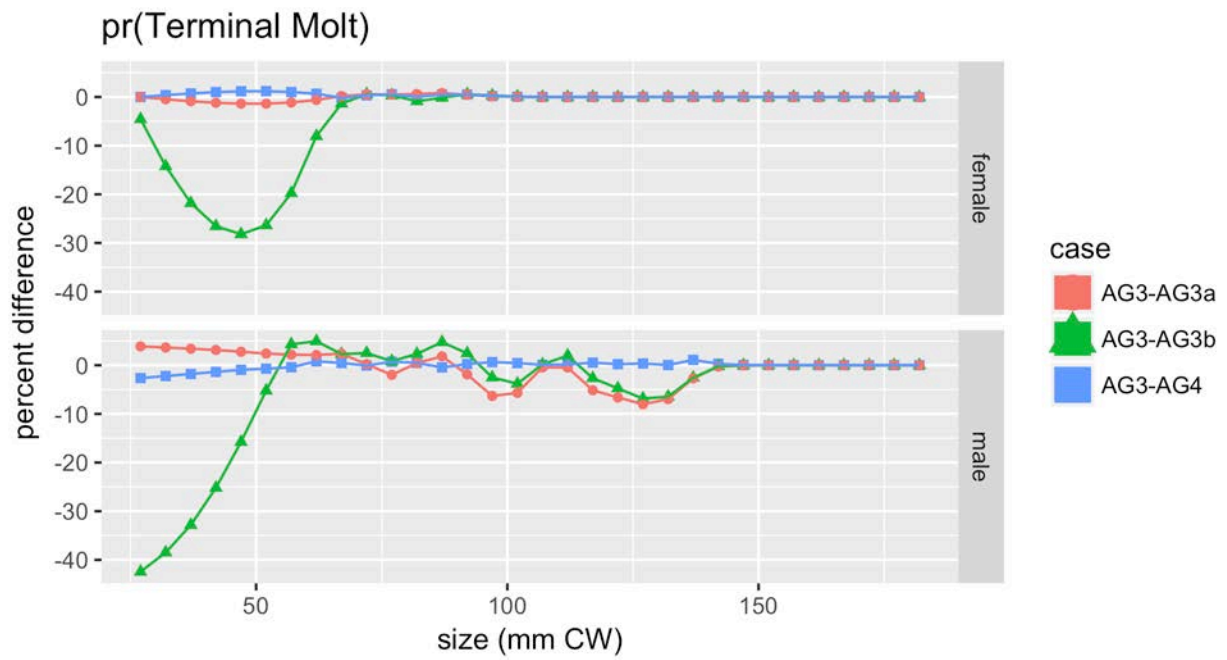


Figure 2. Differences for pr(Terminal Molt).

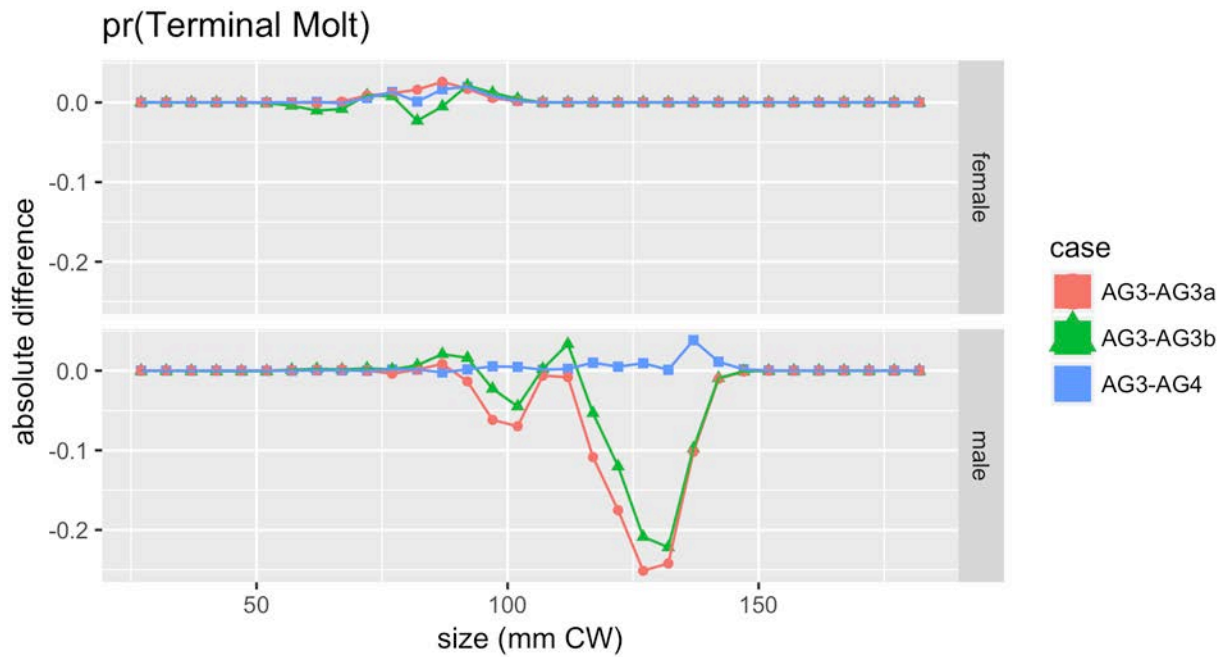


Figure 3. Differences for pr(Terminal Molt).

Mean growth

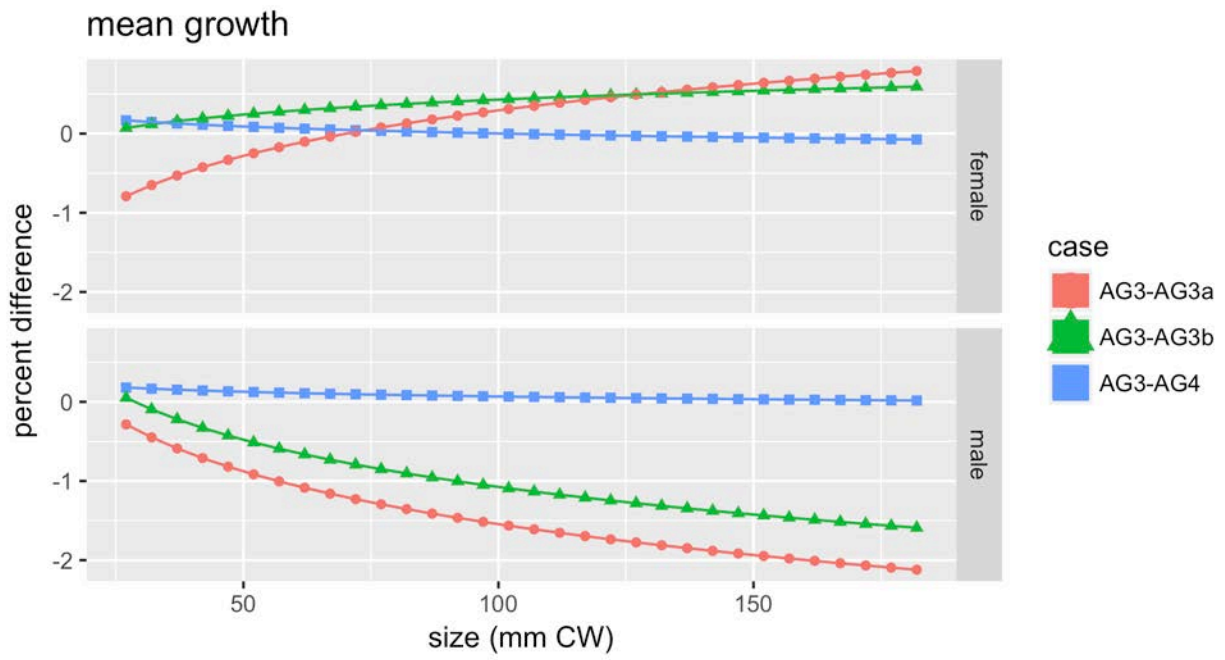


Figure 4. Differences for mean growth.

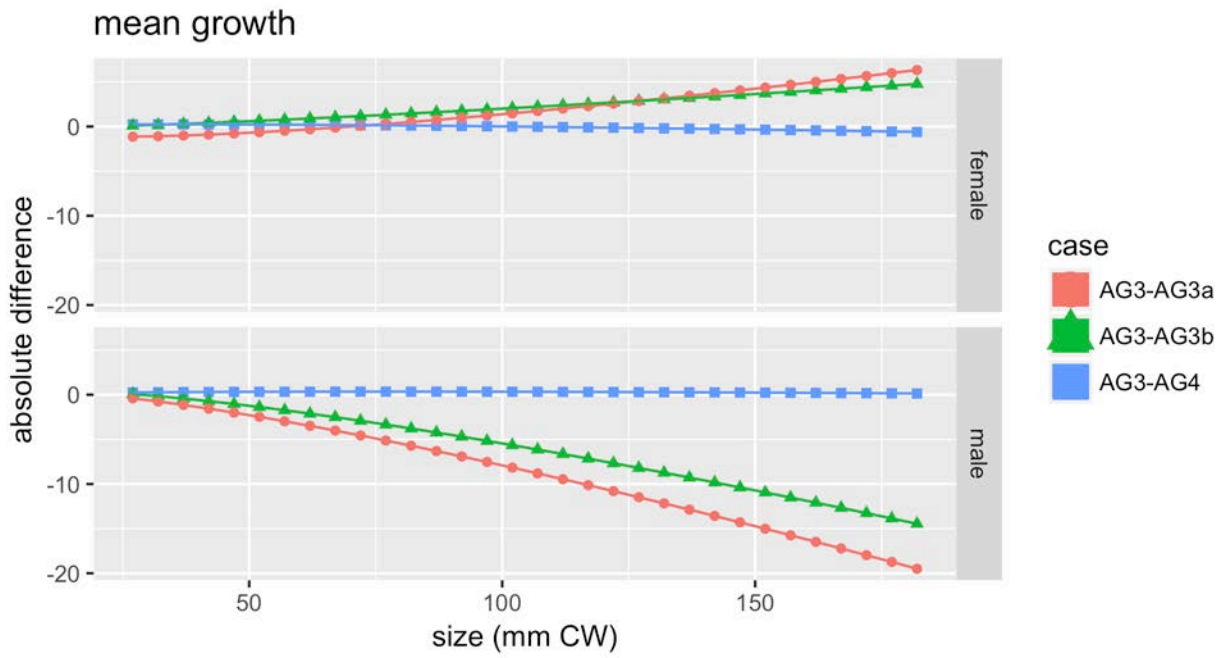


Figure 5. Differences for mean growth.

Growth matrices

plotting growth matrix for female plotting growth matrix for male

growth matrices
for female

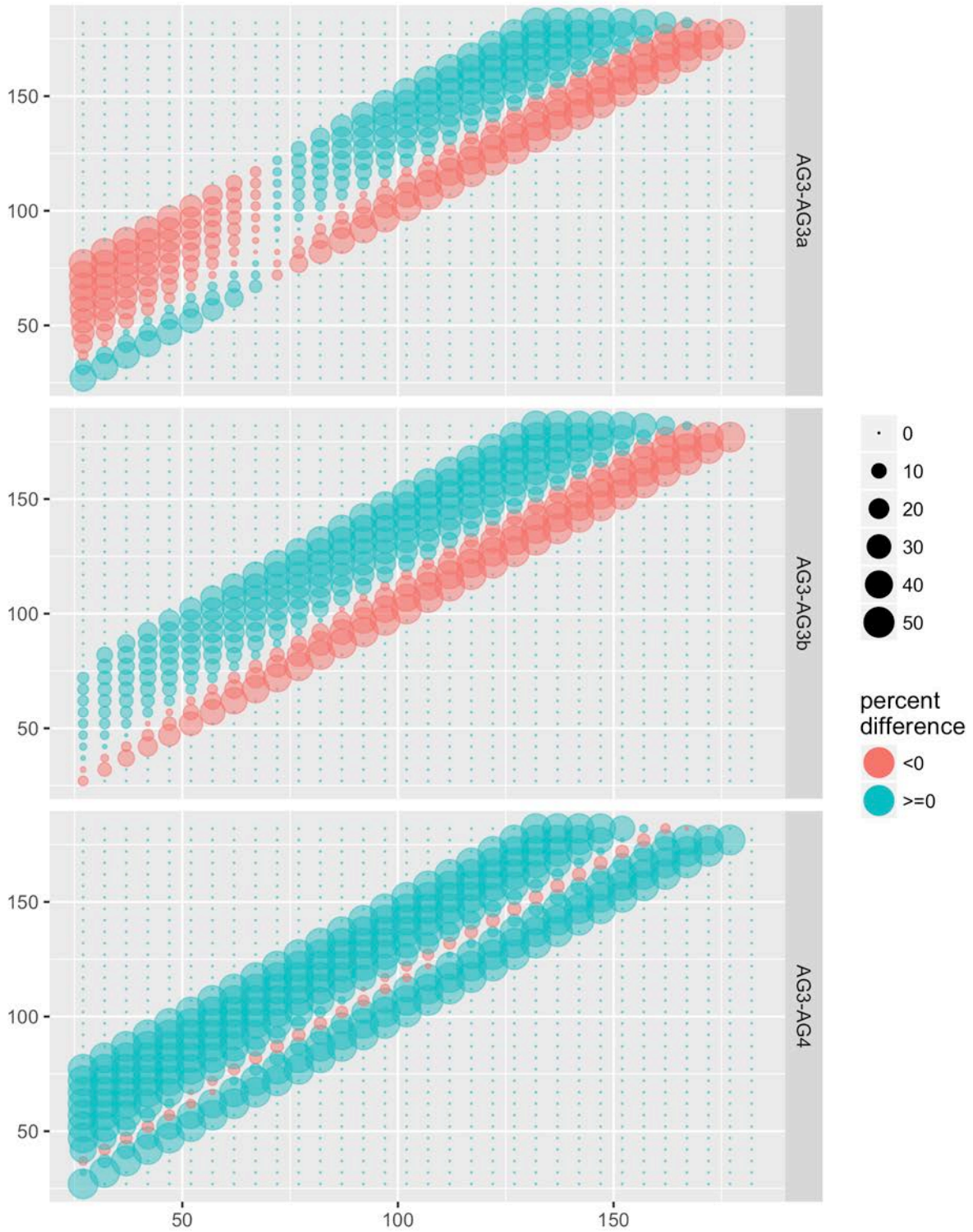


Figure 6. Growth matrix differences for female.

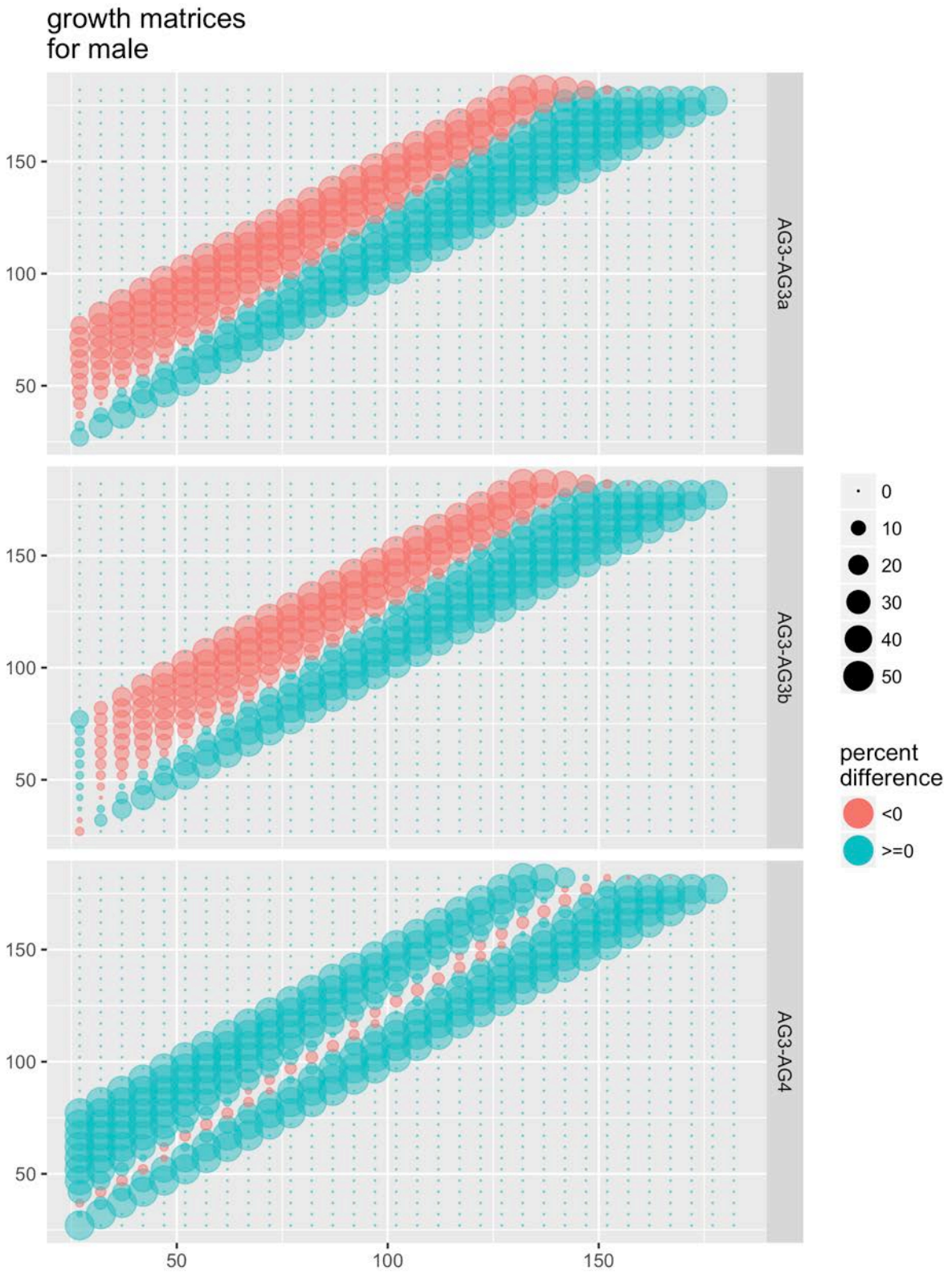


Figure 7. Growth matrix differences for male.

plotting growth matrix for female plotting growth matrix for male

growth matrices
for female

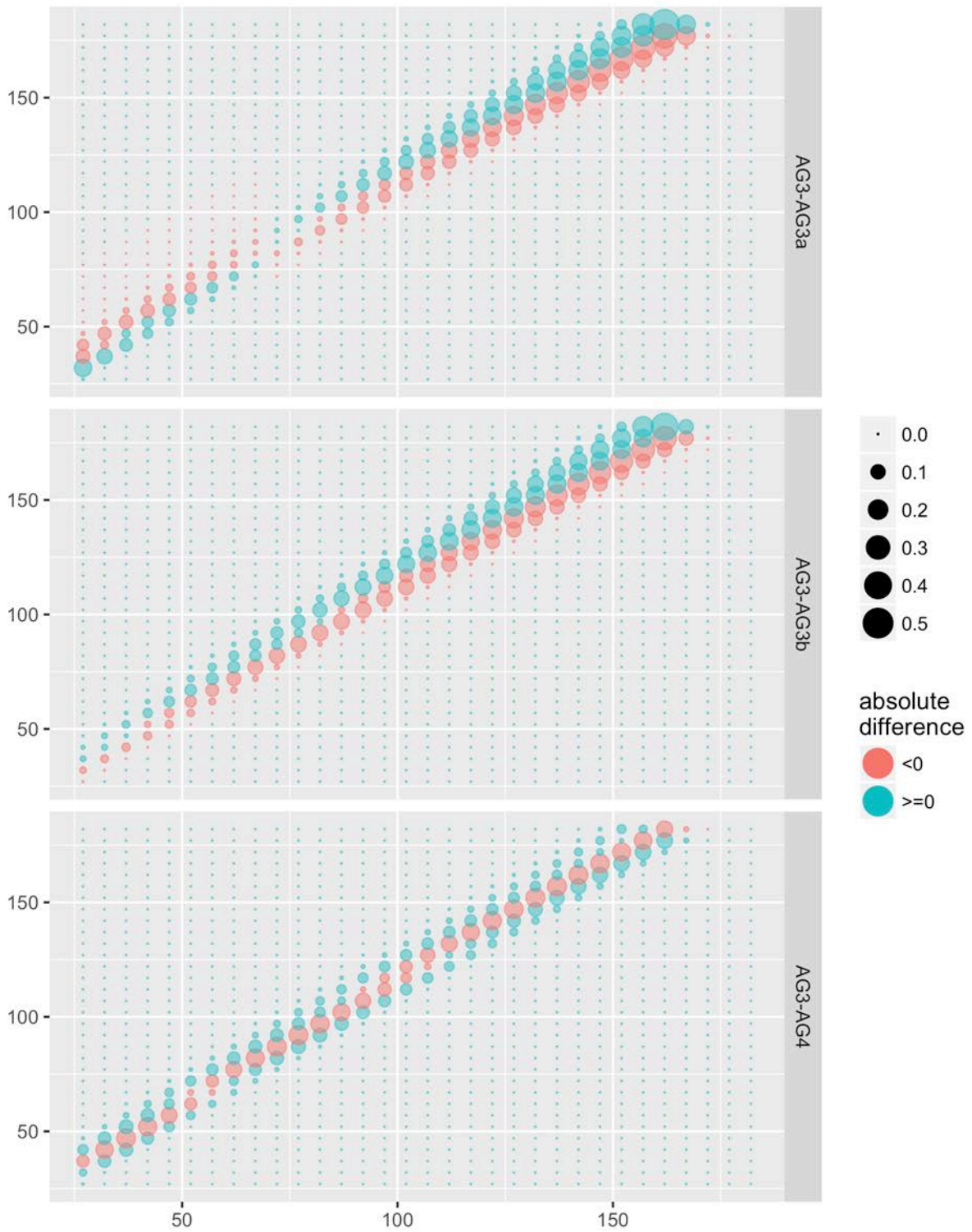


Figure 8. Growth matrix differences for female.

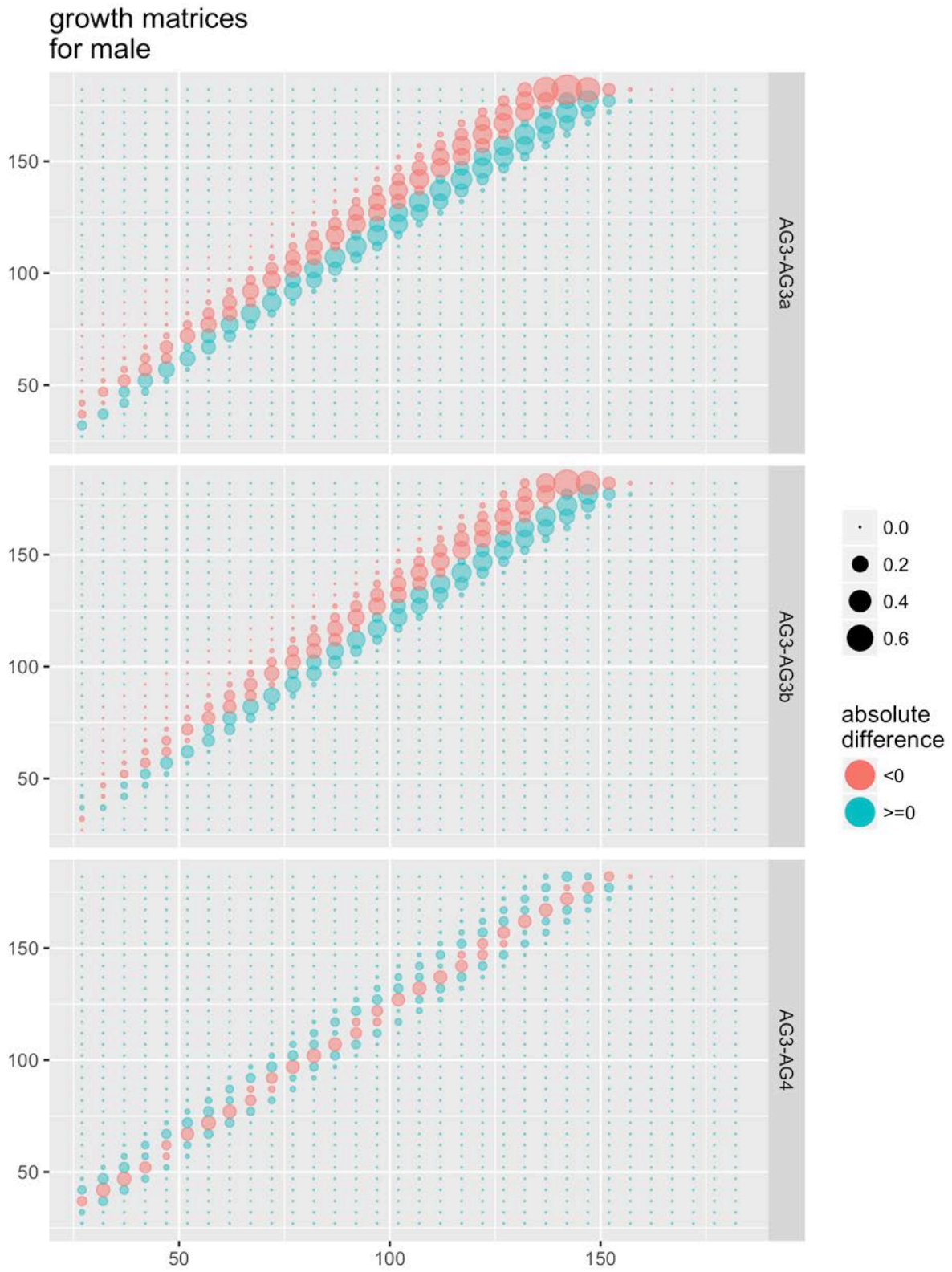


Figure 9. Growth matrix differences for male.

Size distribution for recruits

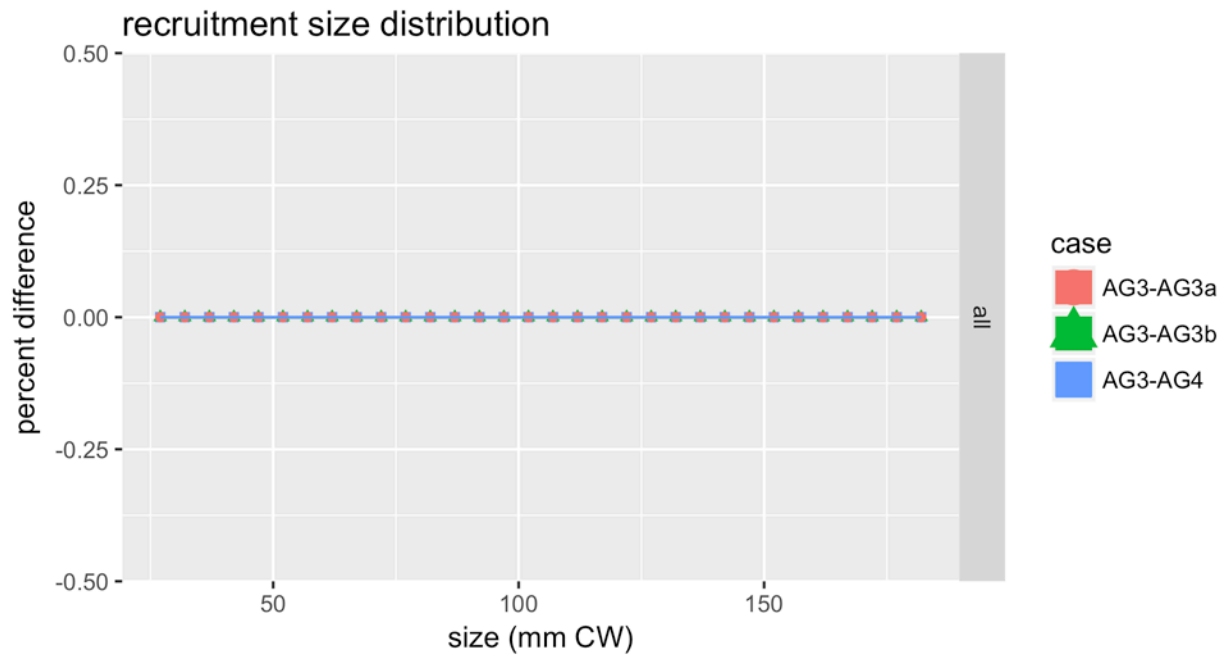


Figure 10. Differences for recruitment size distribution.

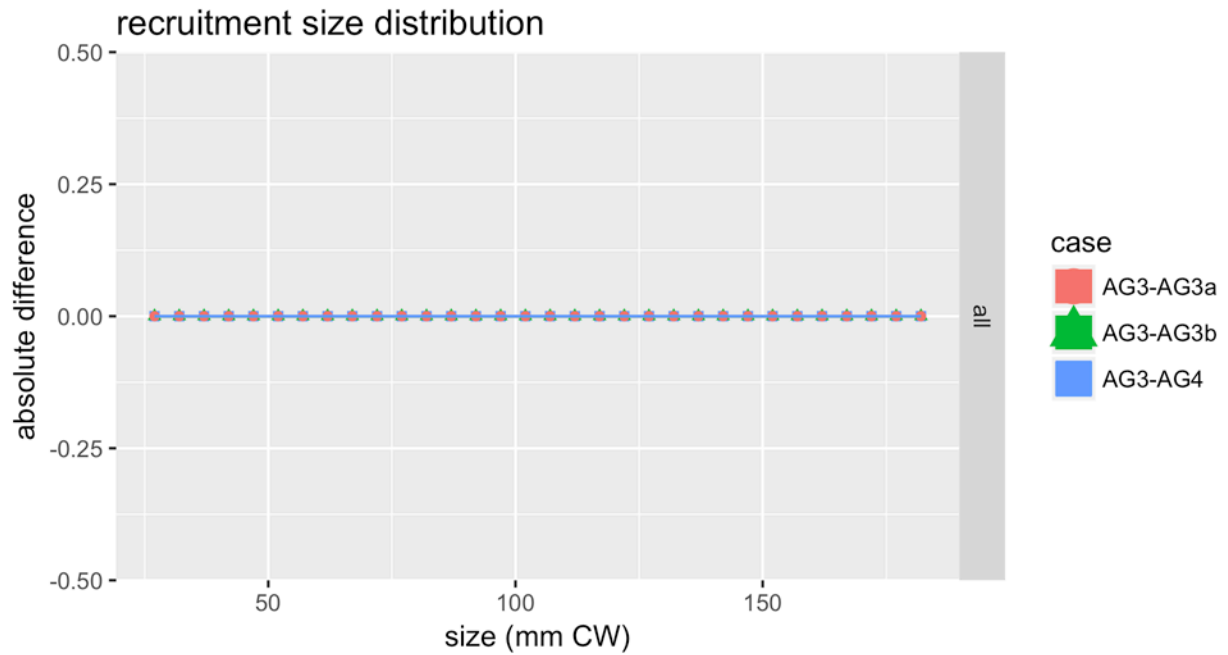


Figure 11. Differences for recruitment size distribution.

Population results

Recruitment

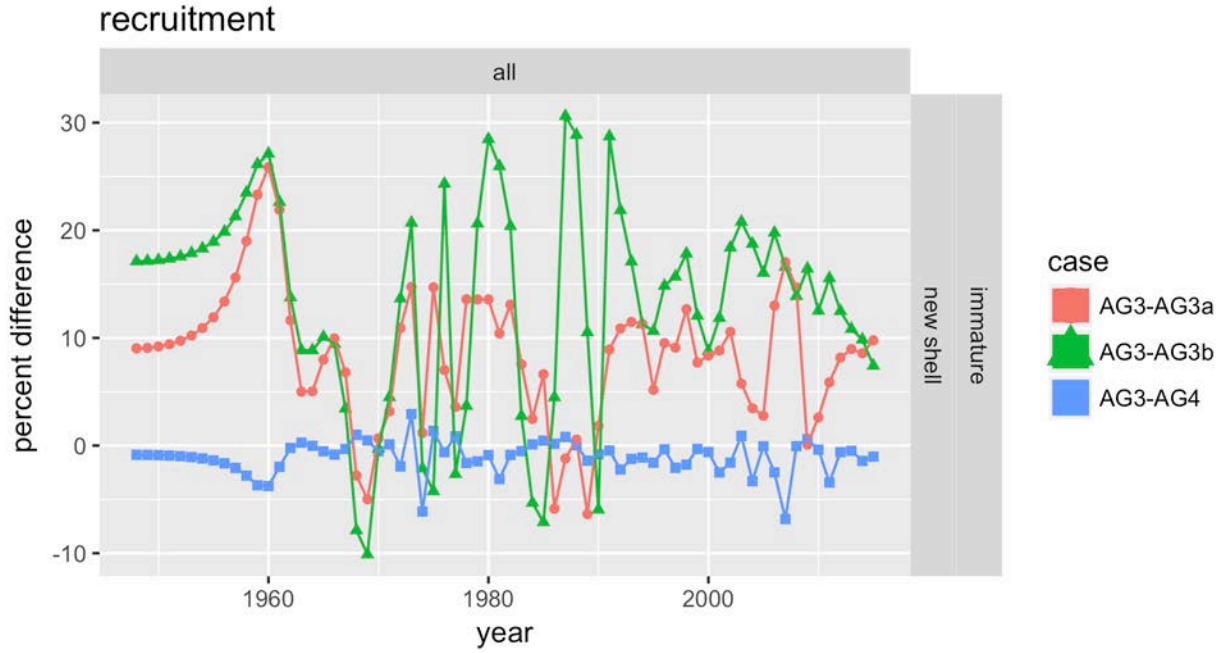


Figure 12. Differences for recruitment.

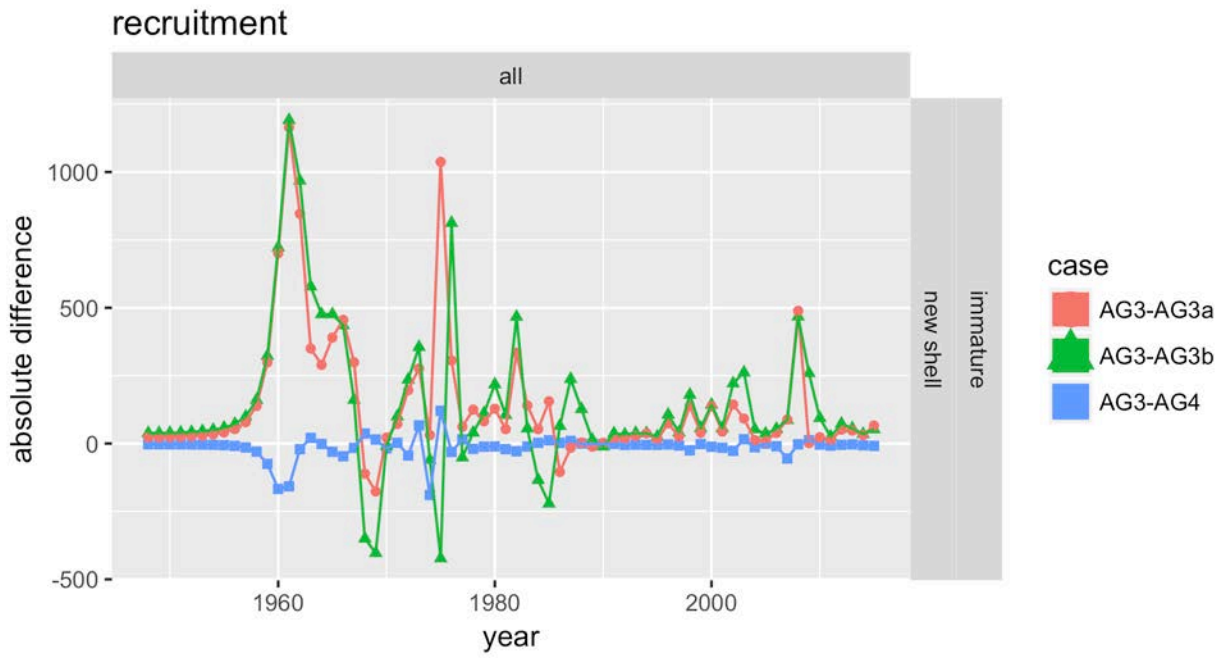


Figure 13. Differences for recruitment.

Population abundance

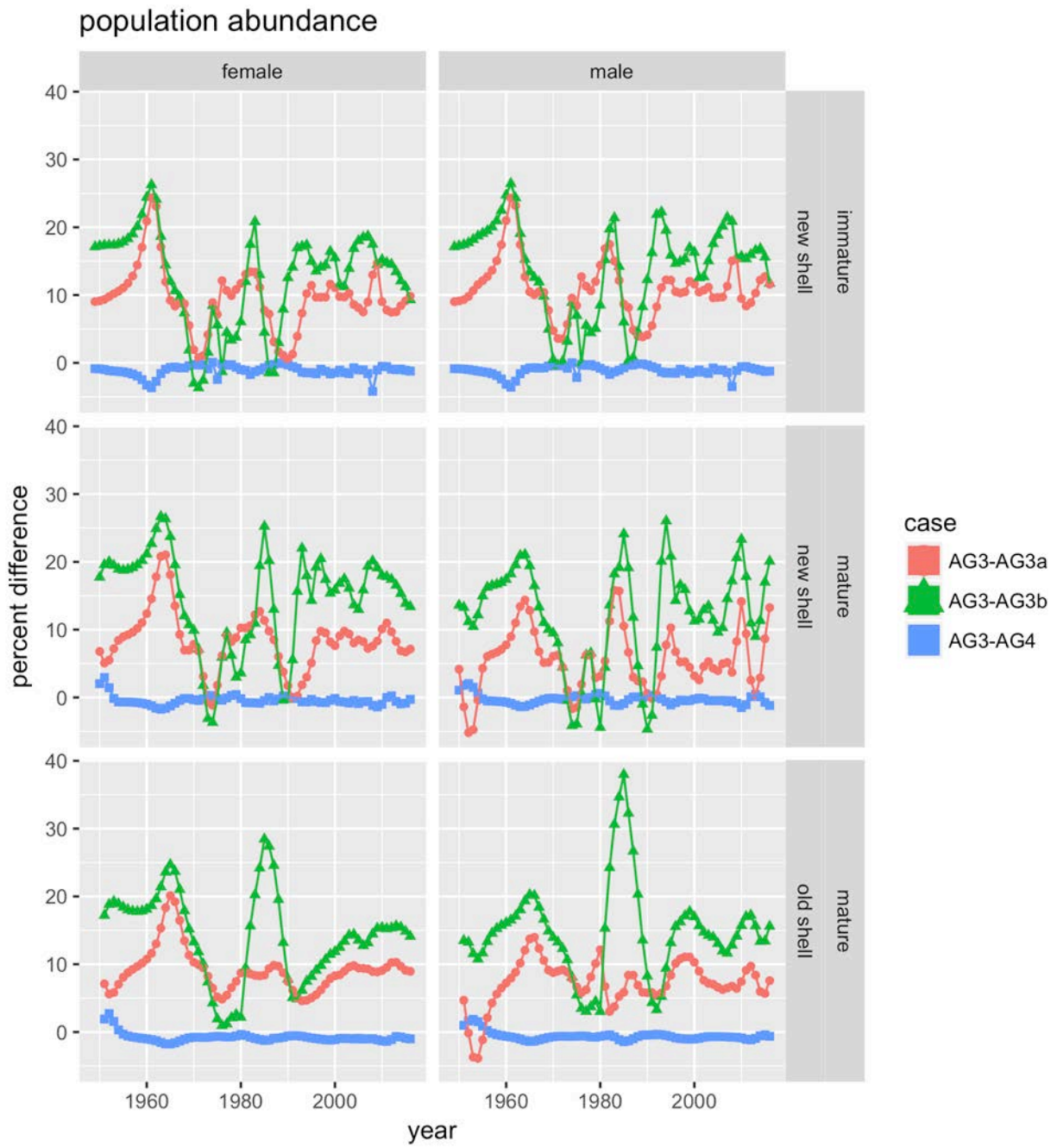


Figure 14. Differences for population abundance.

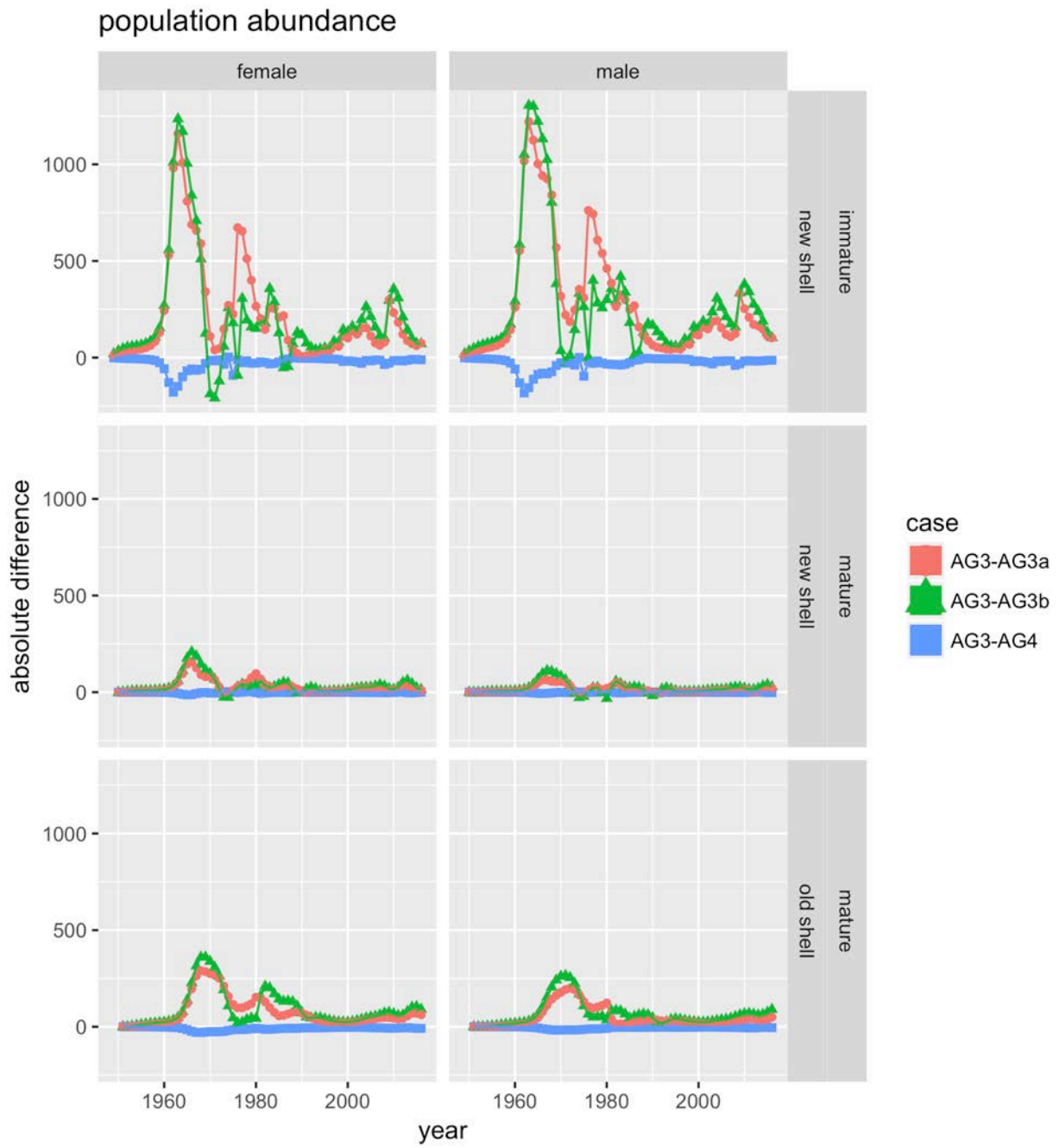


Figure 15. Differences for population abundance.

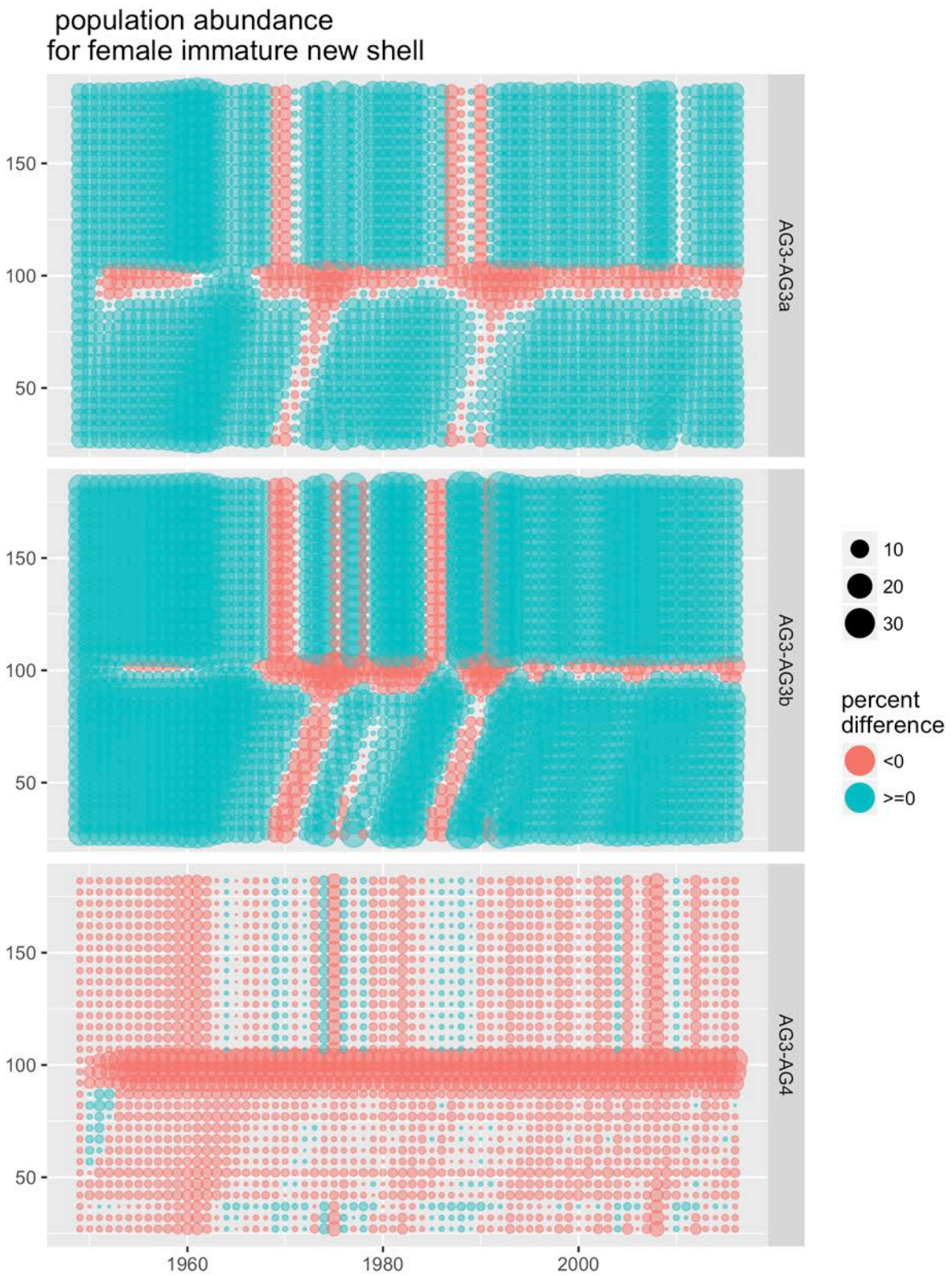


Figure 16. Differences for population abundance for female immature new shell.

population abundance
for female mature new shell

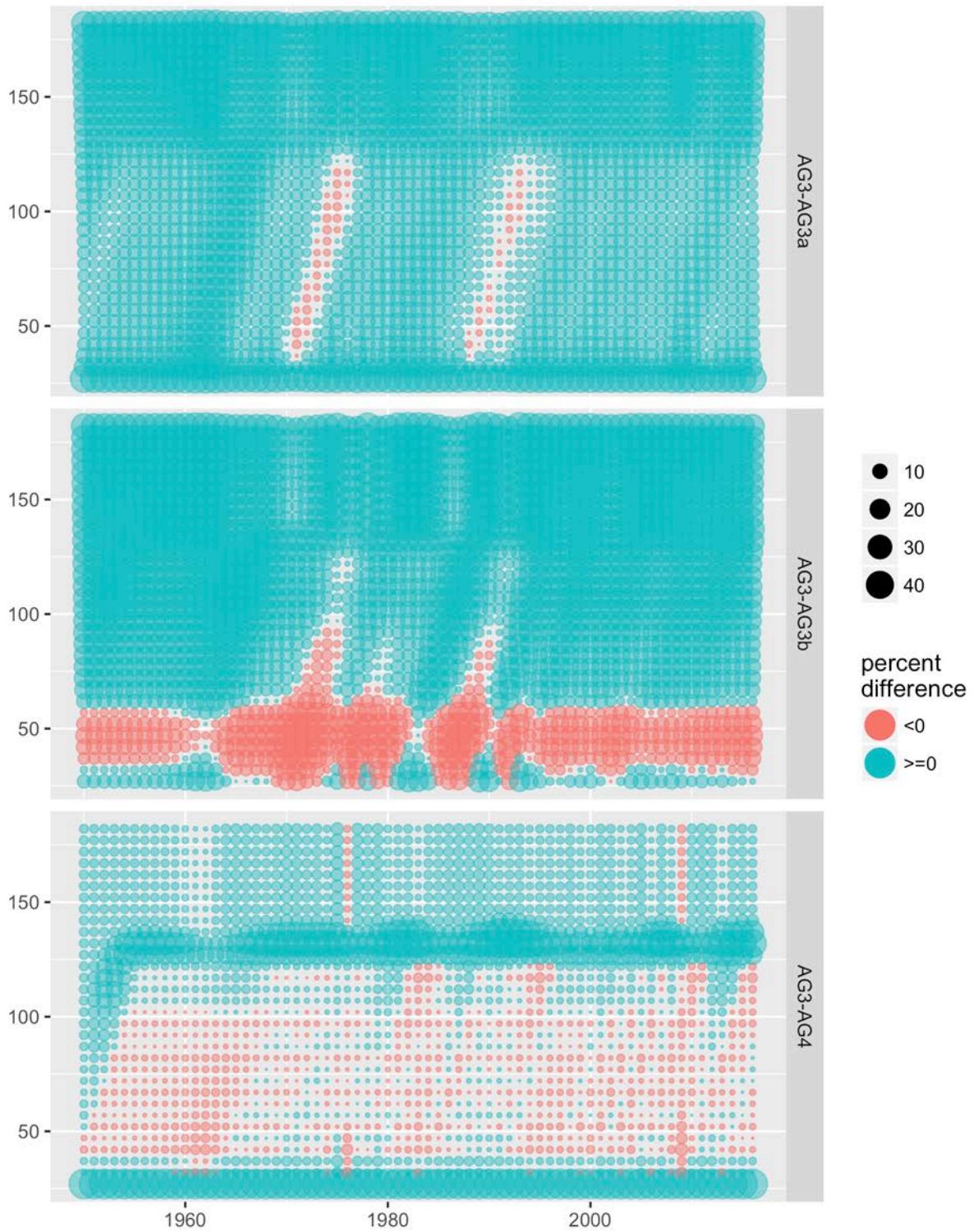


Figure 17. Differences for population abundance for female mature new shell.

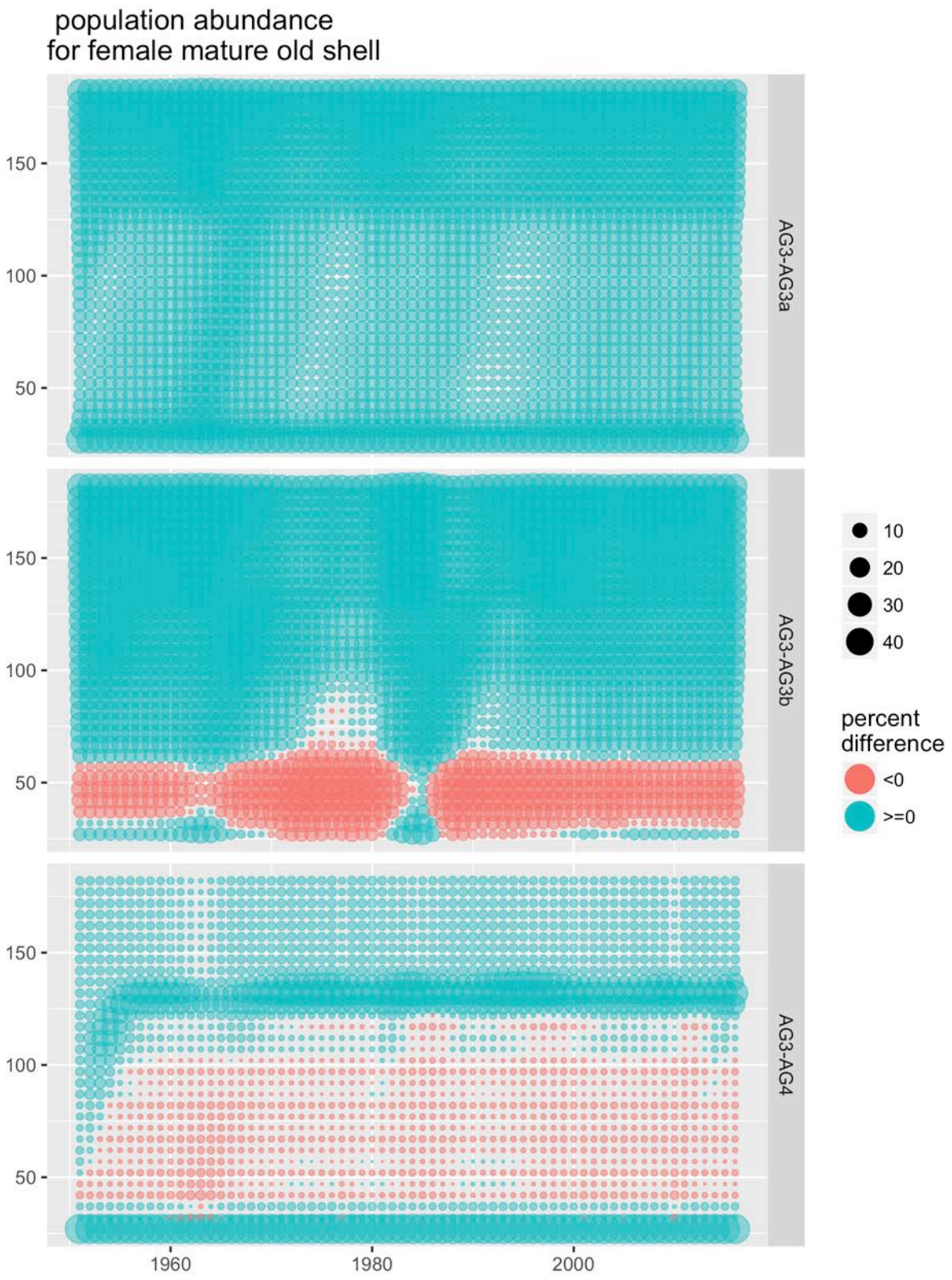


Figure 18. Differences for population abundance for female mature old shell.

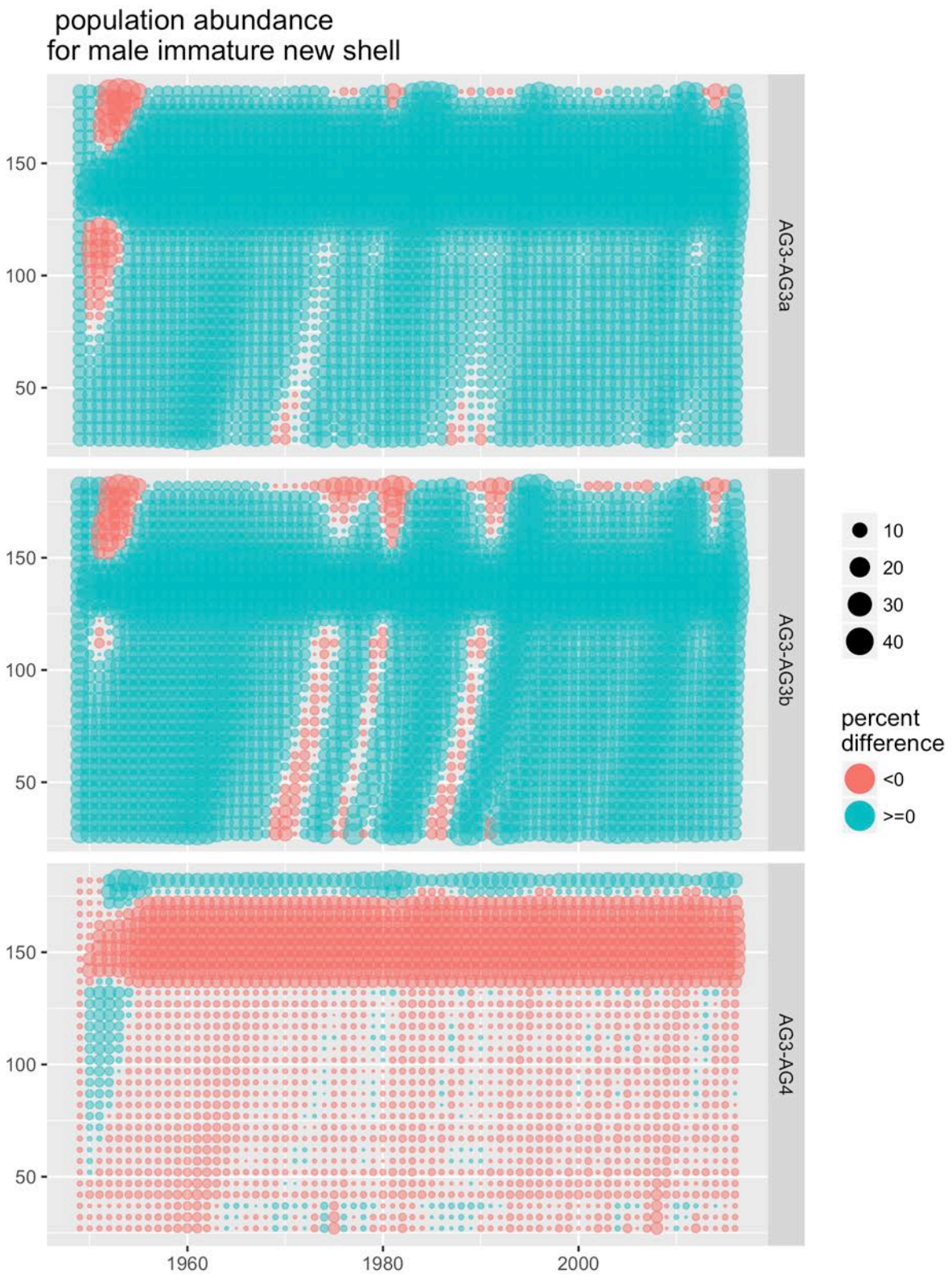


Figure 19. Differences for population abundance for male immature new shell.

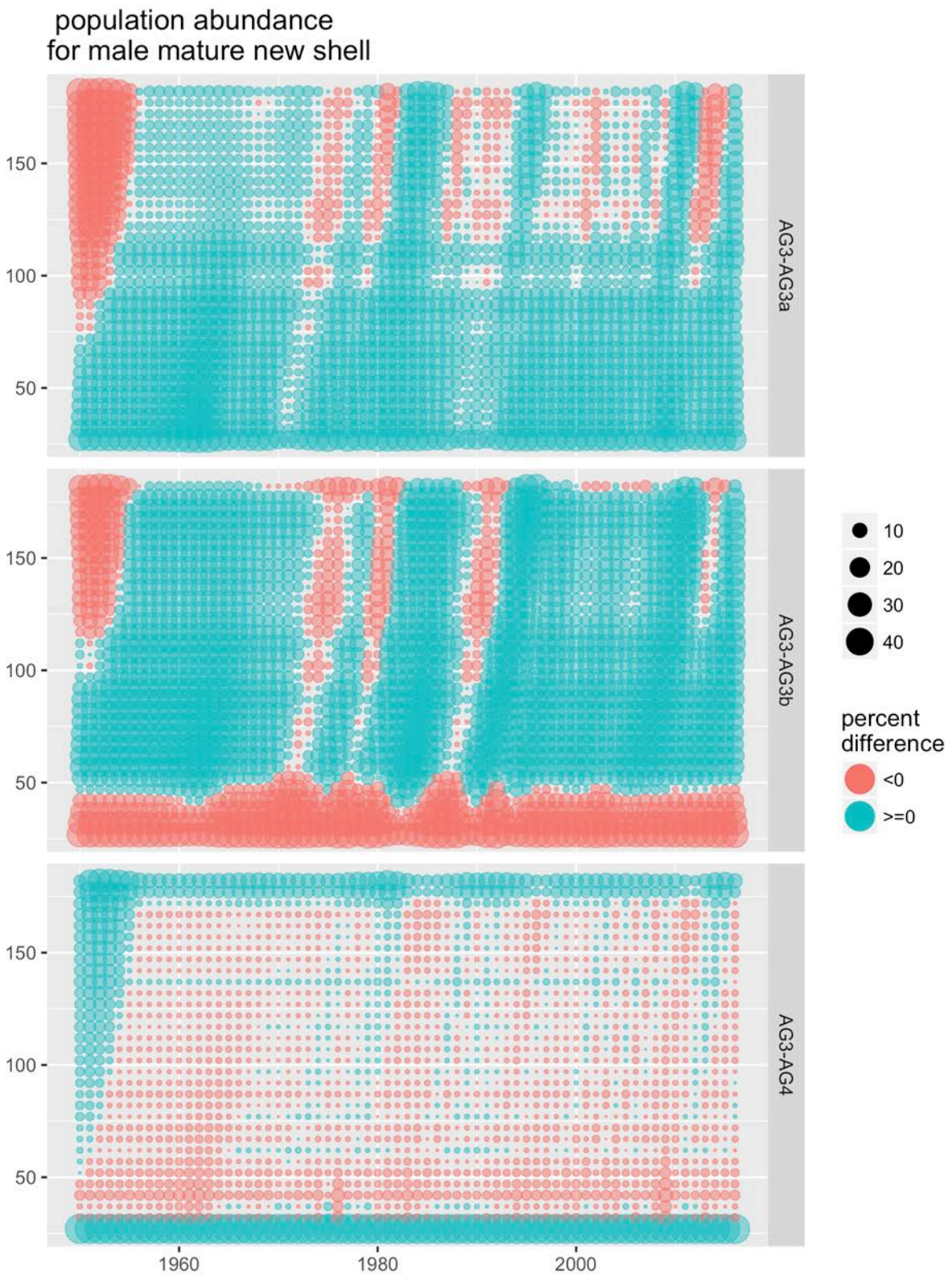


Figure 20. Differences for population abundance for male mature new shell.

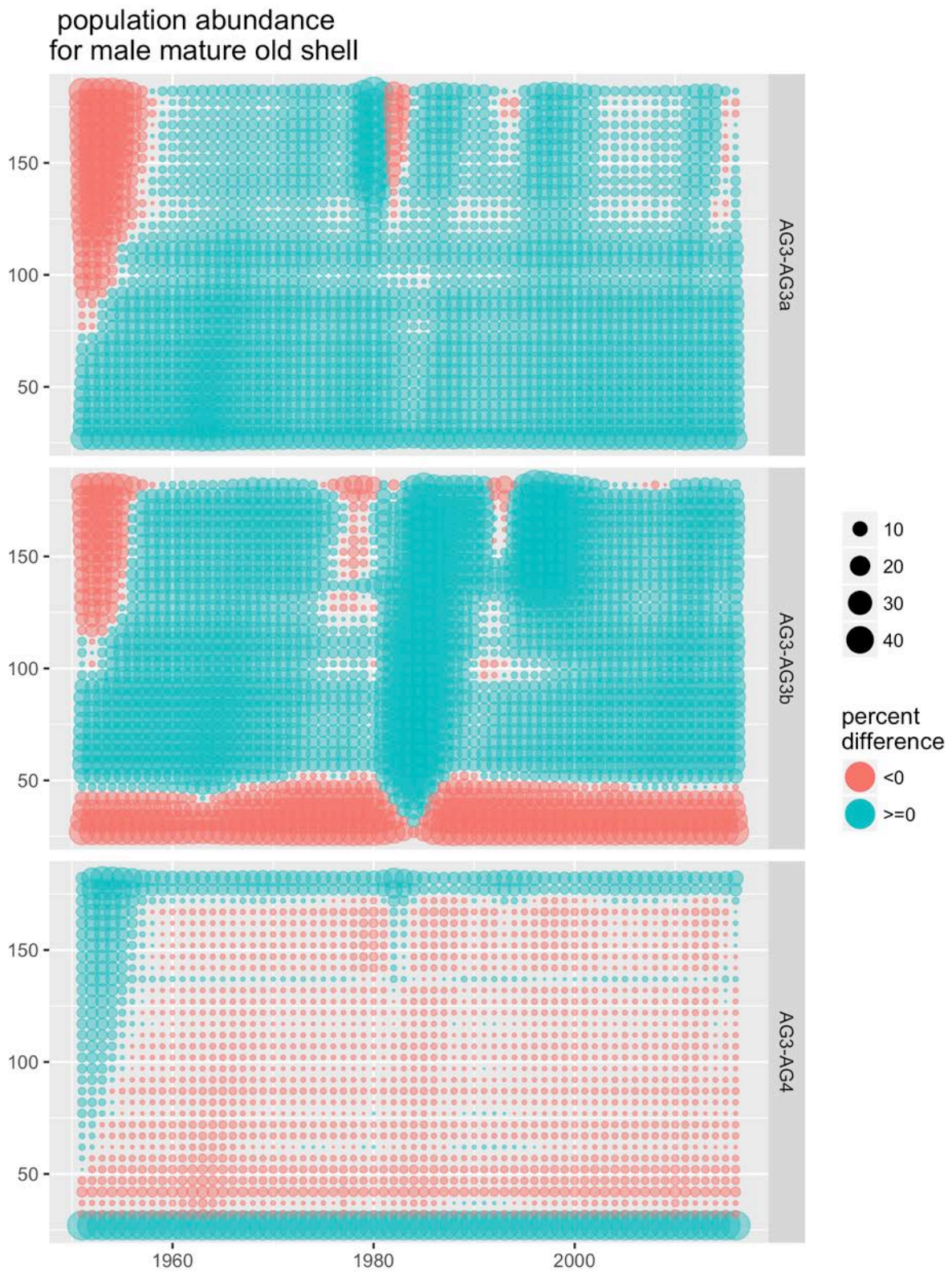


Figure 21. Differences for population abundance for male mature old shell.

population abundance
for female immature new shell

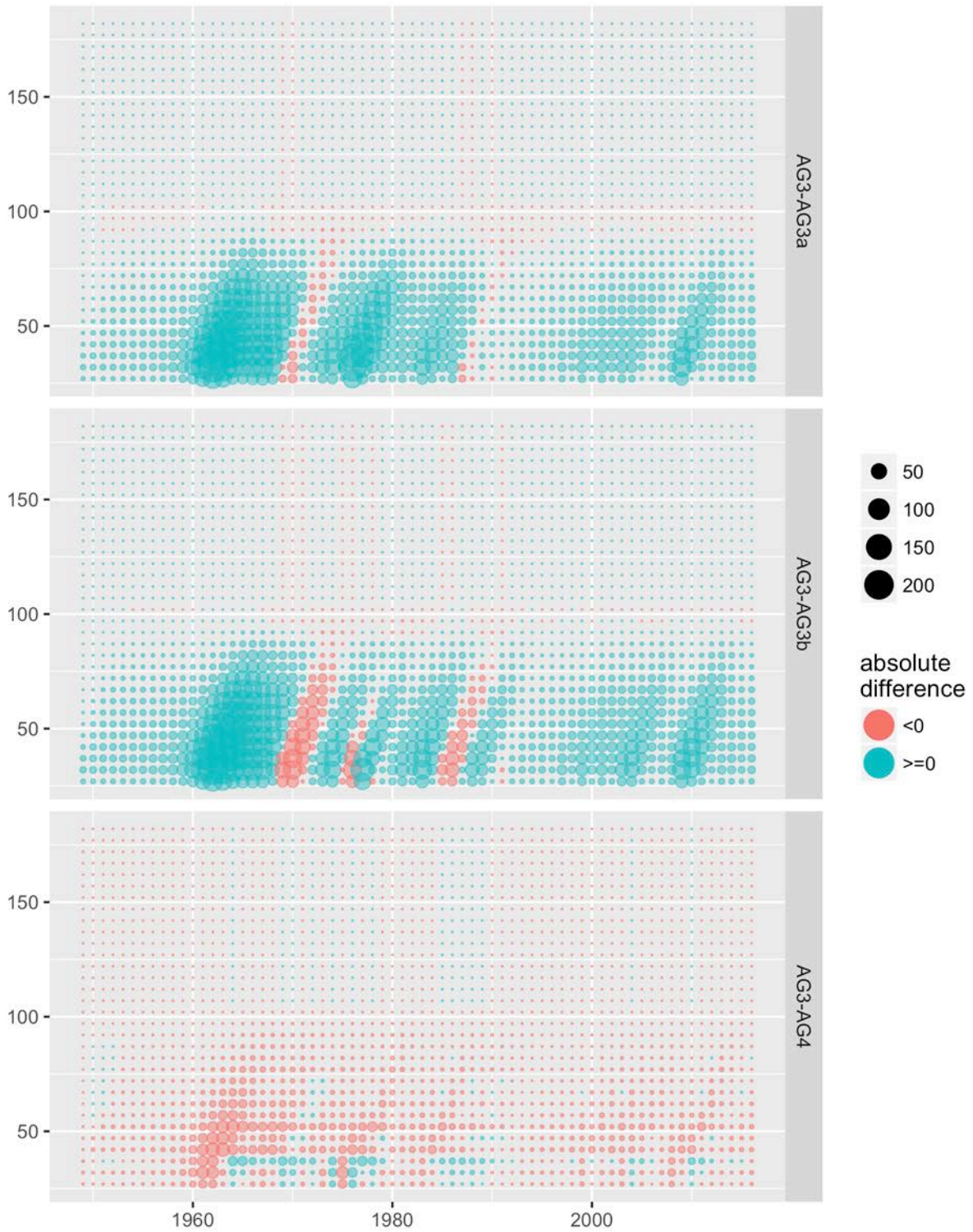


Figure 22. Differences for population abundance for female immature new shell.

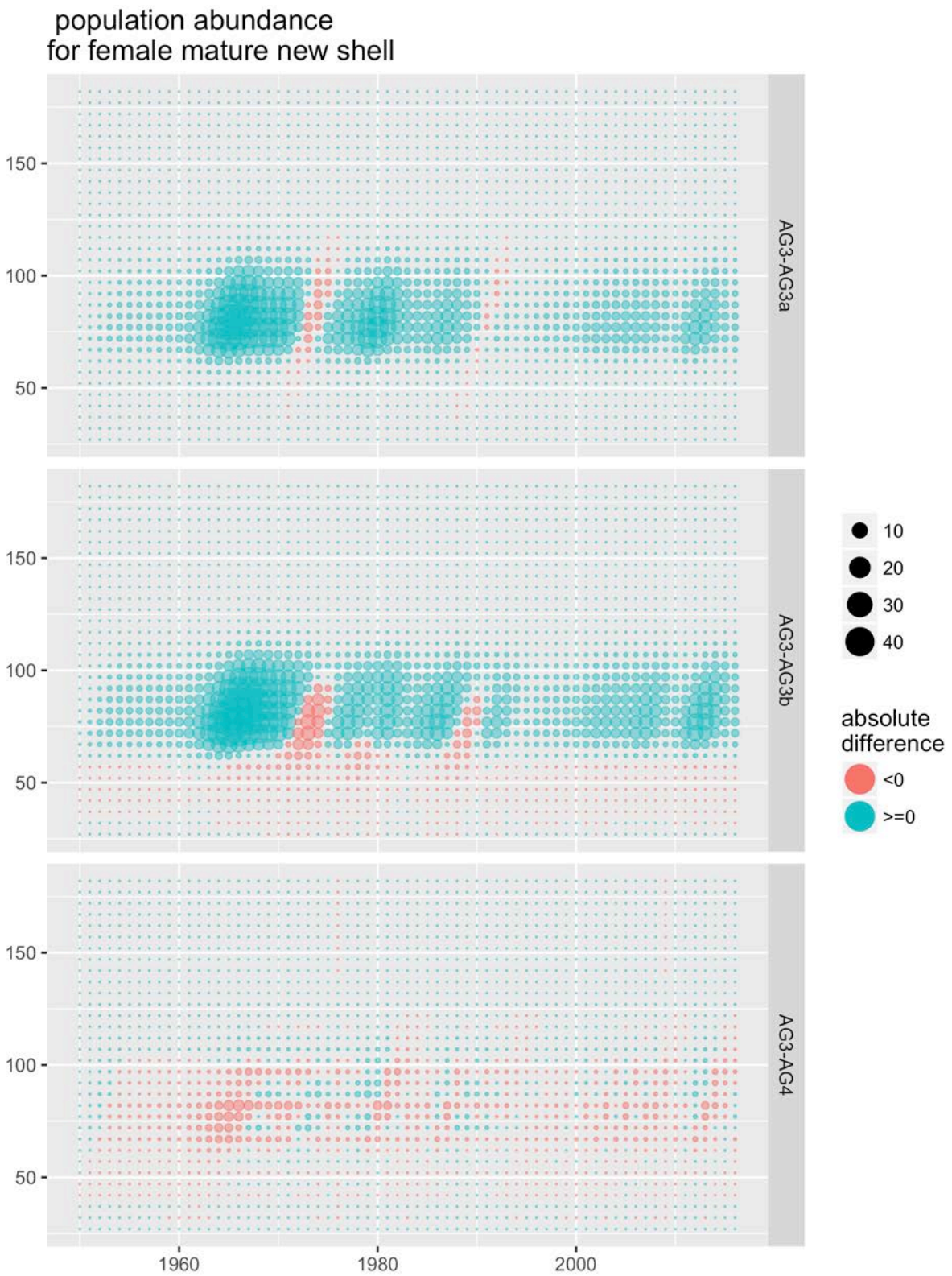


Figure 23. Differences for population abundance for female mature new shell.

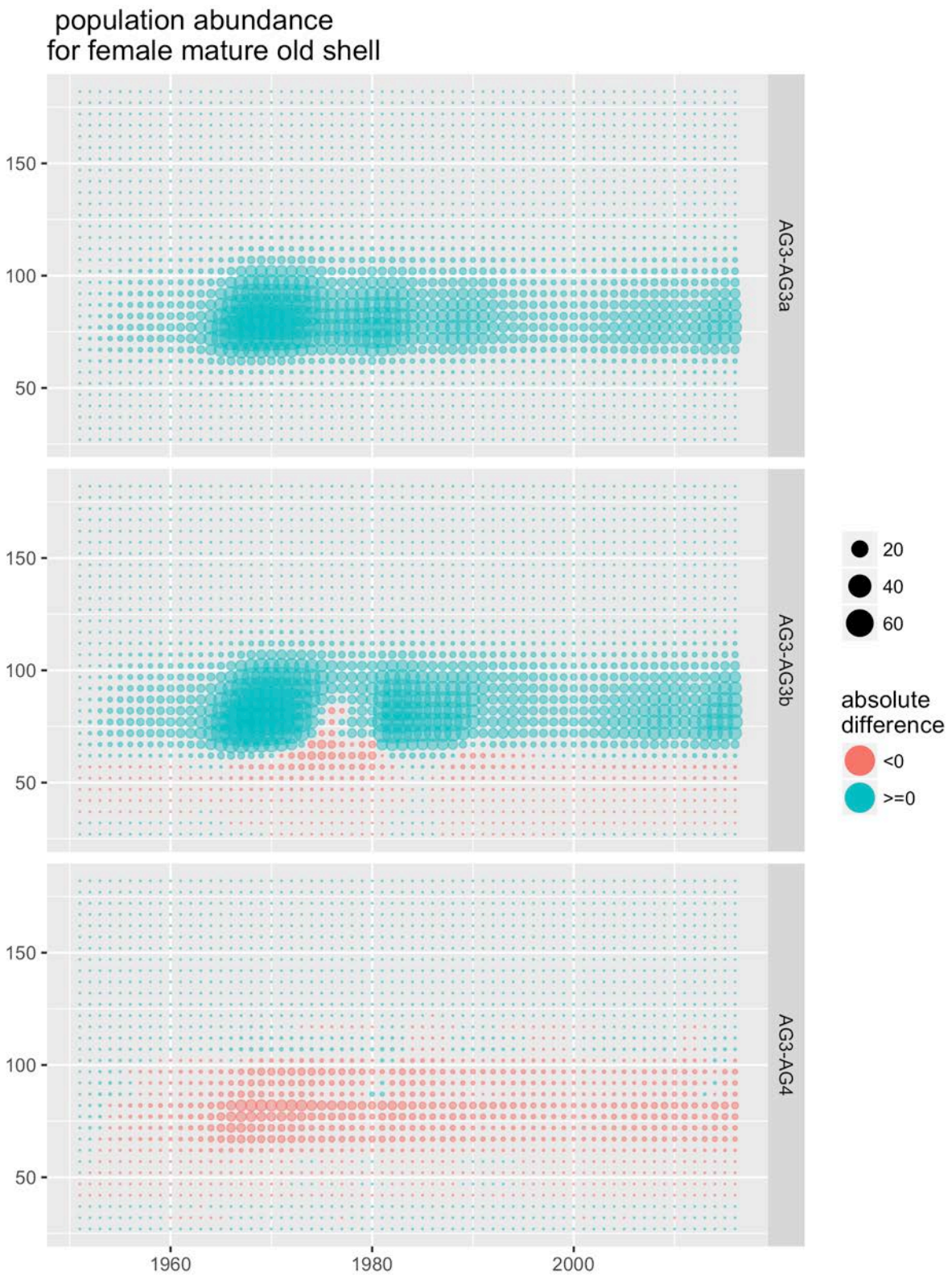


Figure 24. Differences for population abundance for female mature old shell.

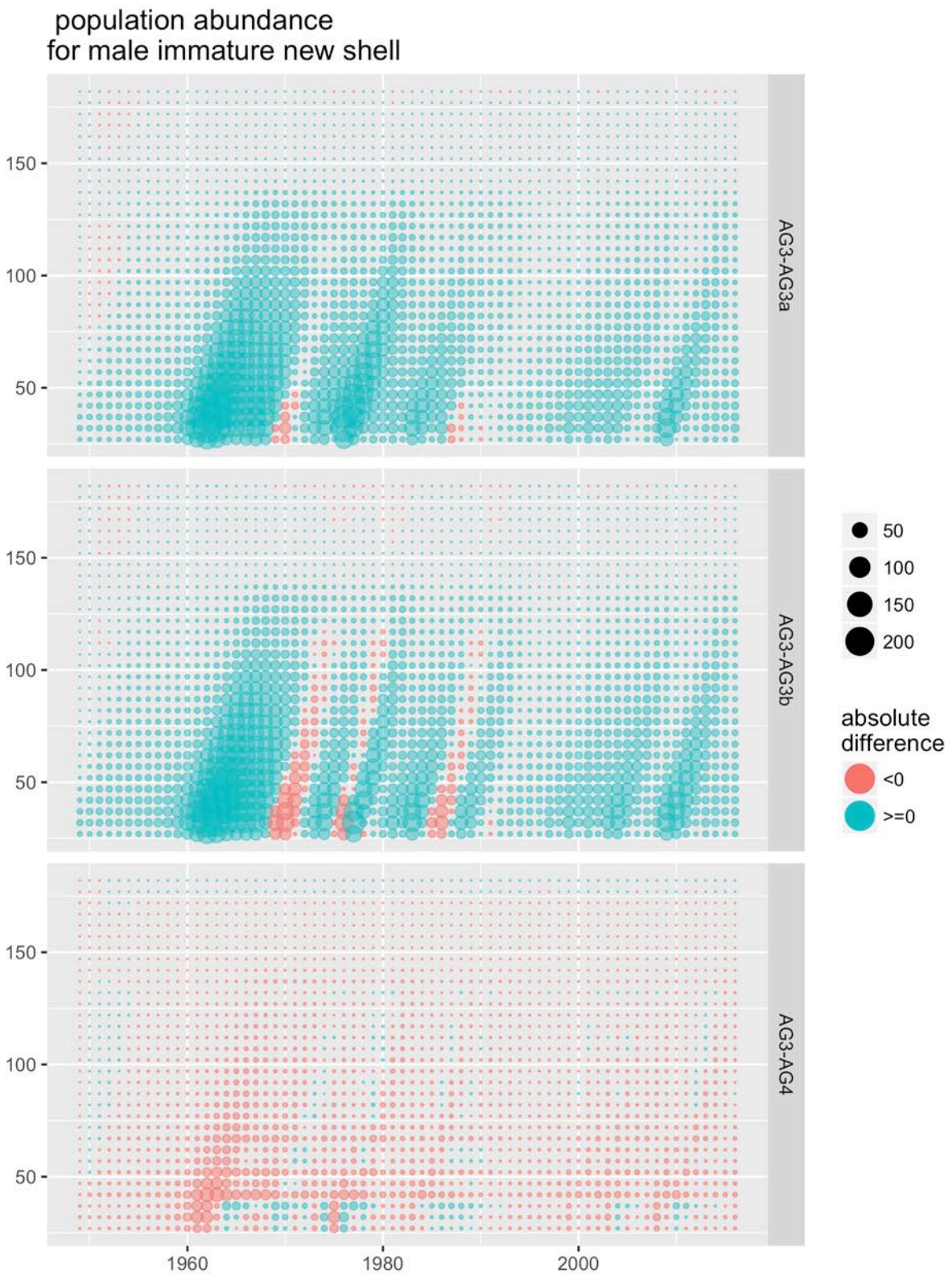


Figure 25. Differences for population abundance for male immature new shell.

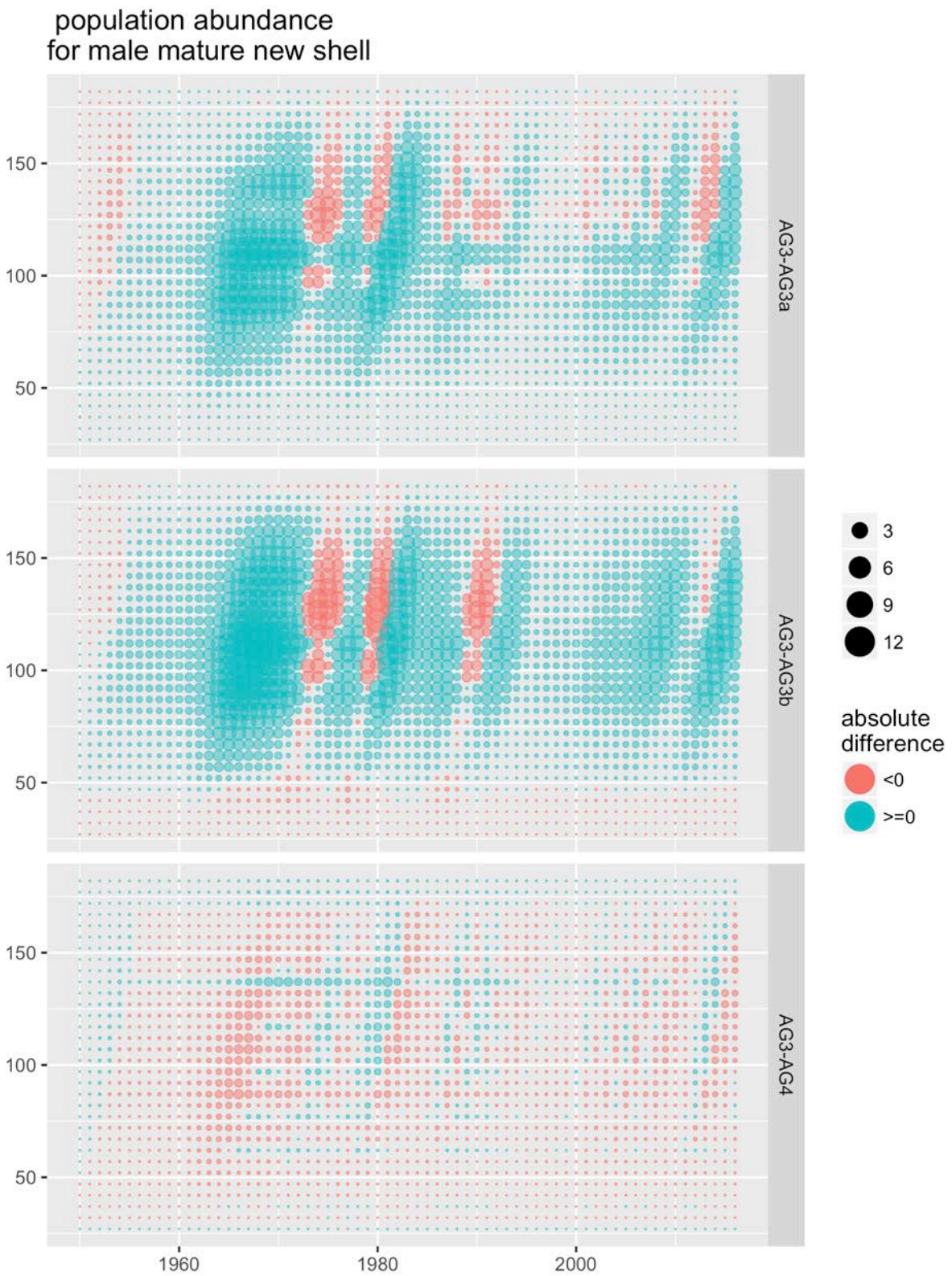


Figure 26. Differences for population abundance for male mature new shell.

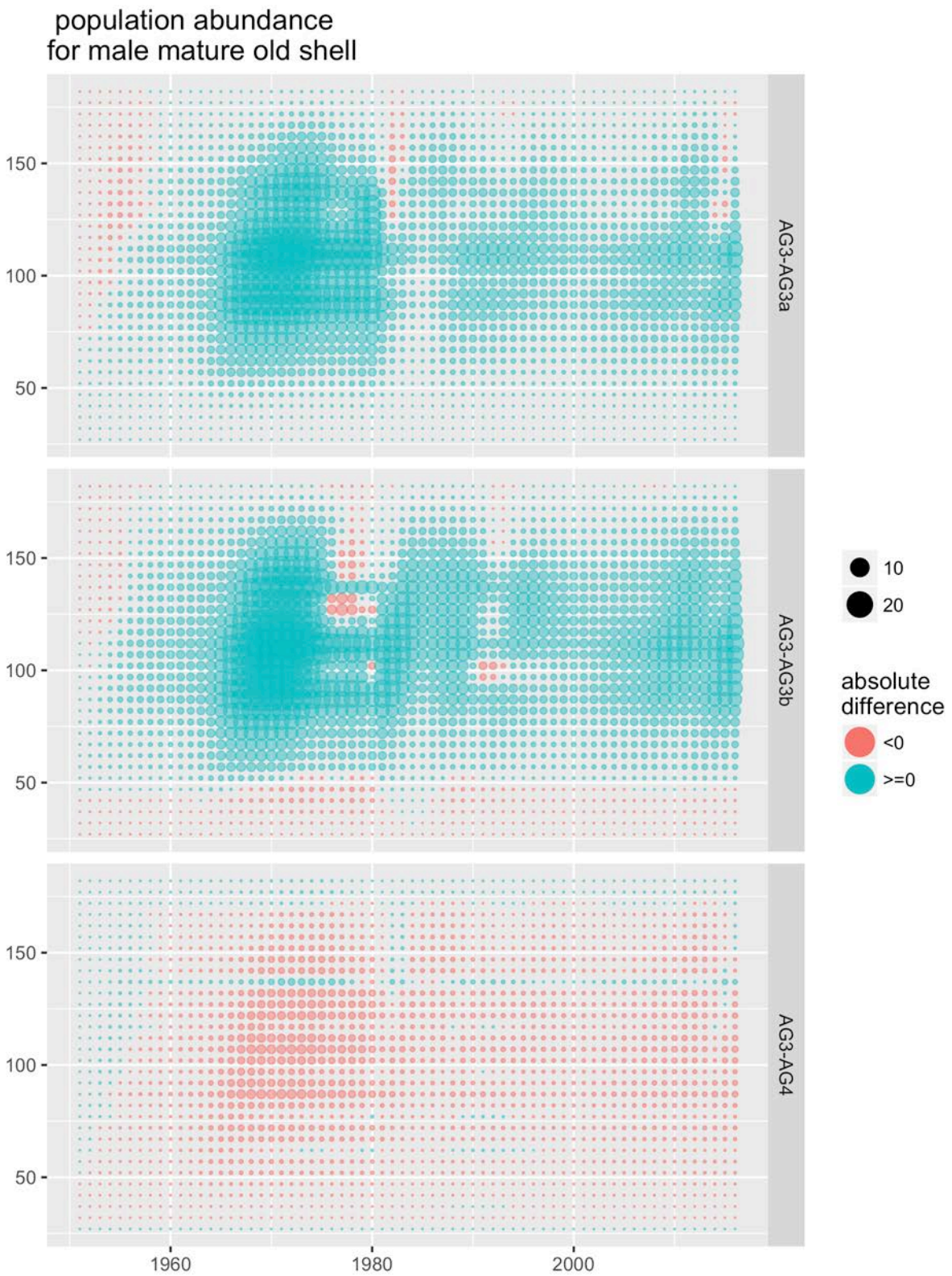


Figure 27. Differences for population abundance for male mature old shell.

Biomass

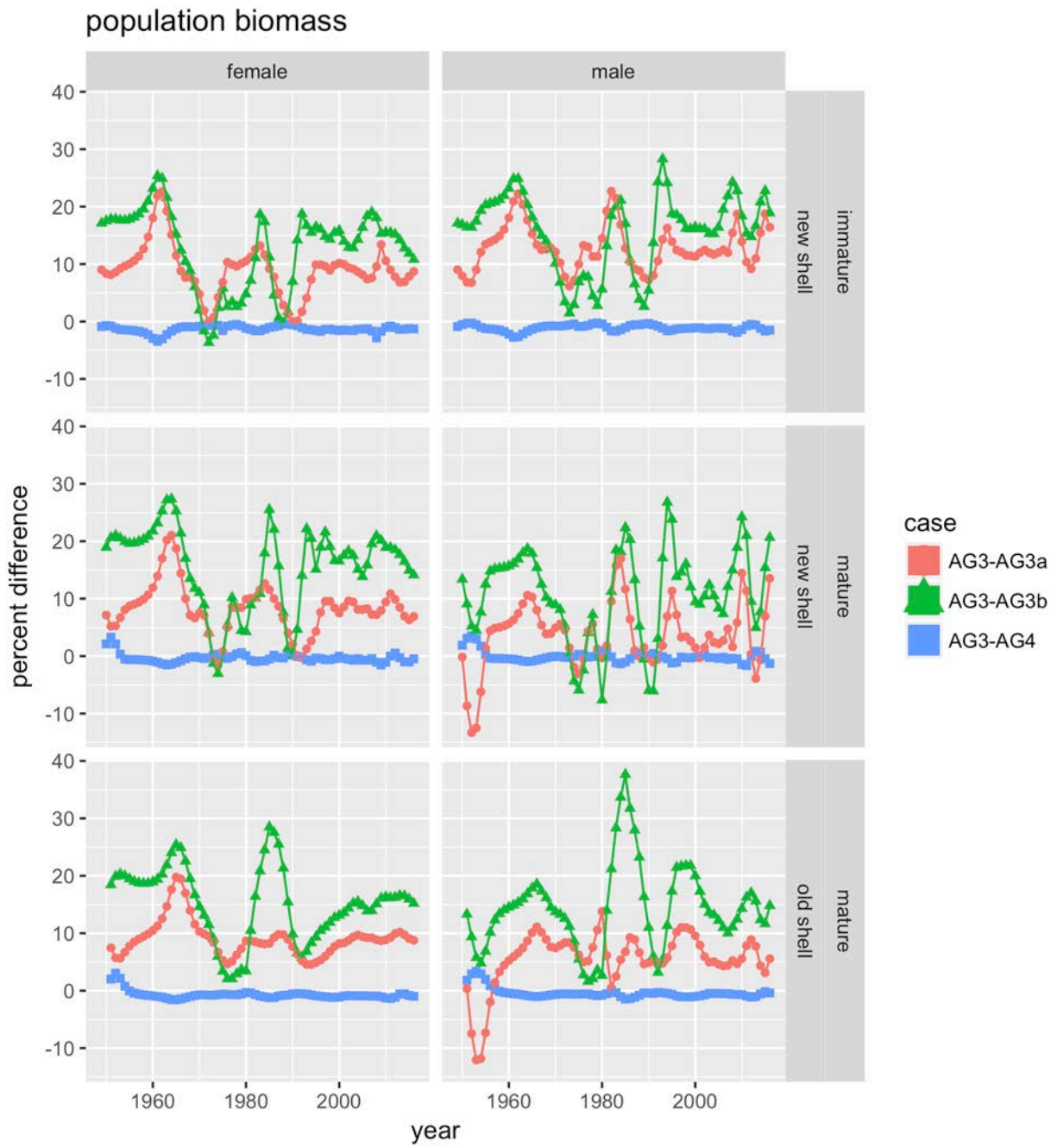


Figure 28. Differences for population biomass.

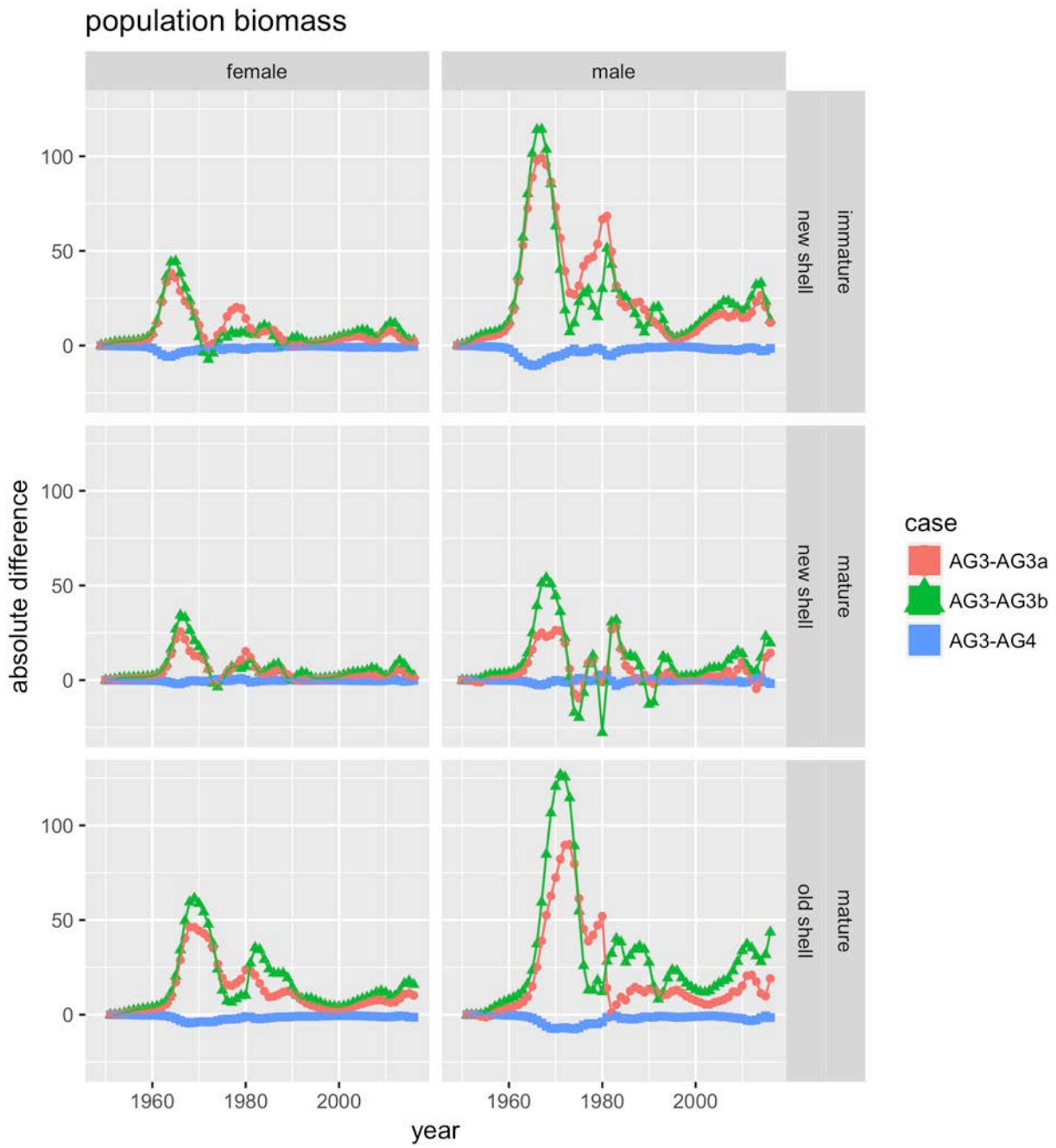


Figure 29. Differences for population biomass.

Surveys

Survey catchability

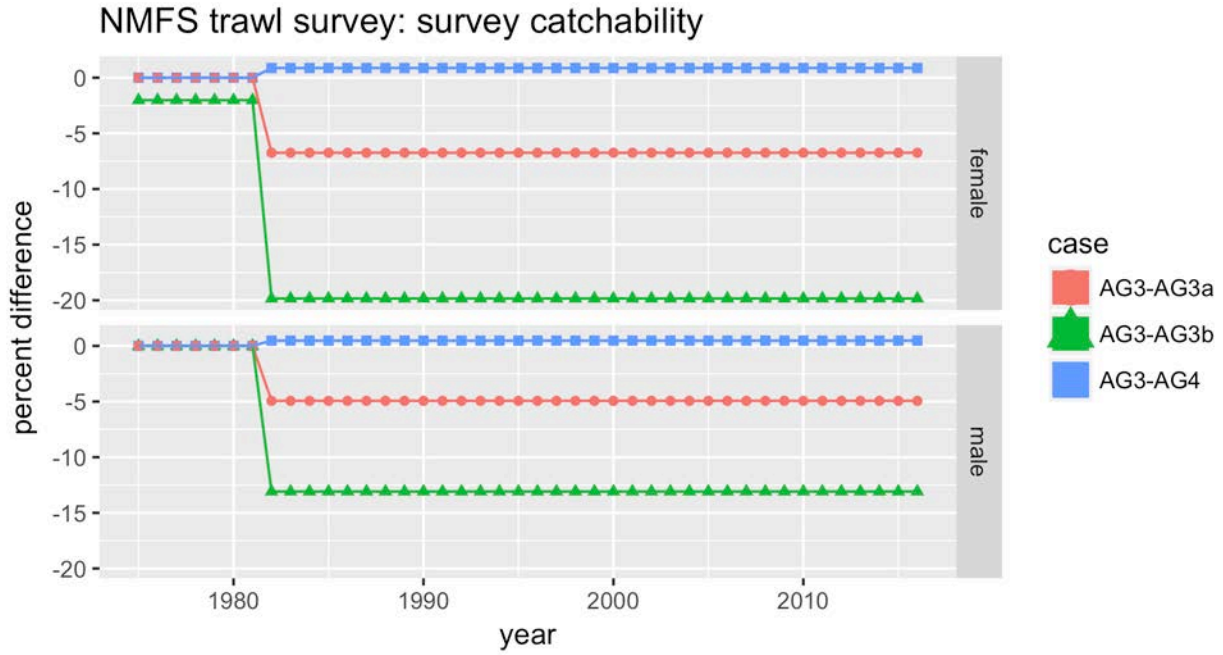


Figure 30. Differences for NMFS trawl survey: survey catchability.

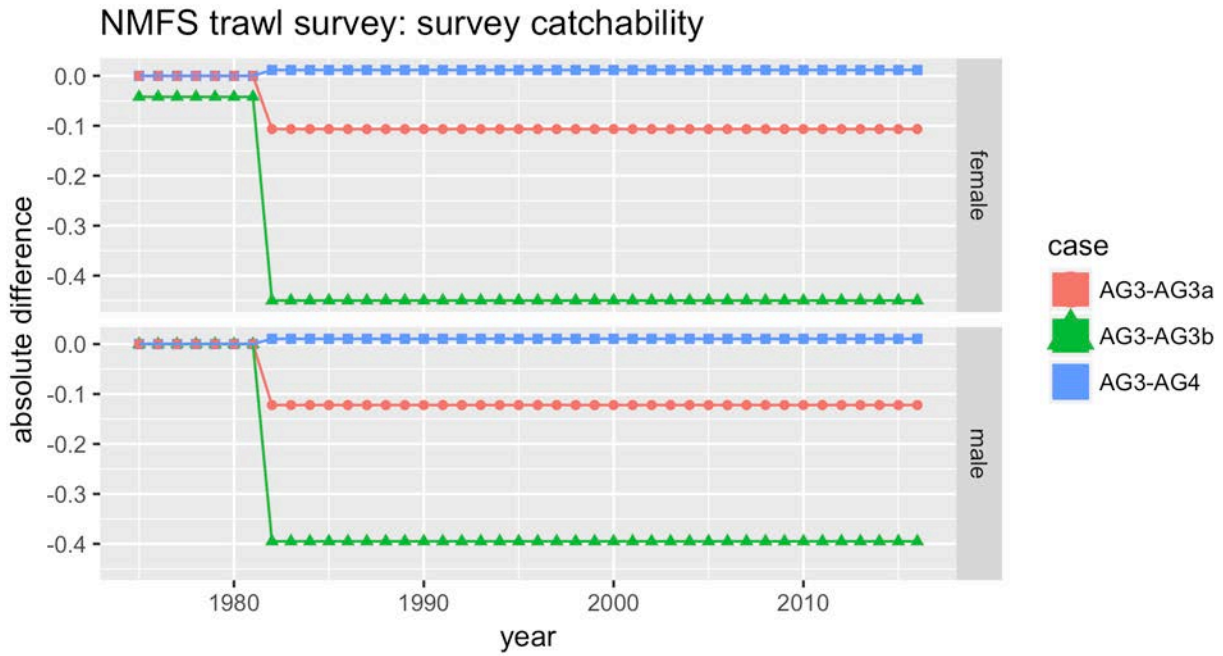


Figure 31. Differences for NMFS trawl survey: survey catchability.

Survey selectivity functions

NMFS trawl survey survey selectivity
for female all maturity all shell

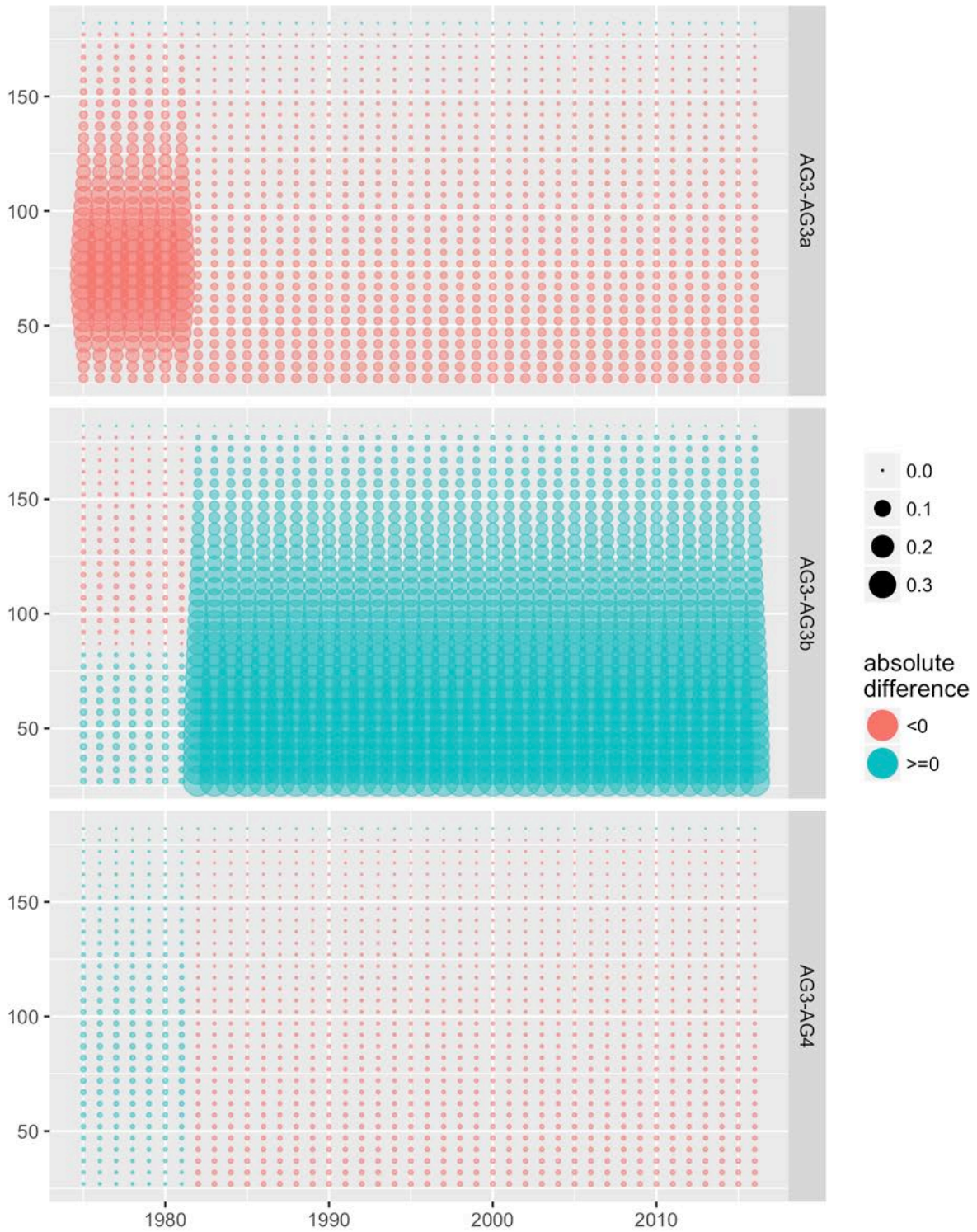


Figure 32. Differences for NMFS trawl survey survey selectivity for female all maturity all shell.

NMFS trawl survey survey selectivity for male all maturity all shell

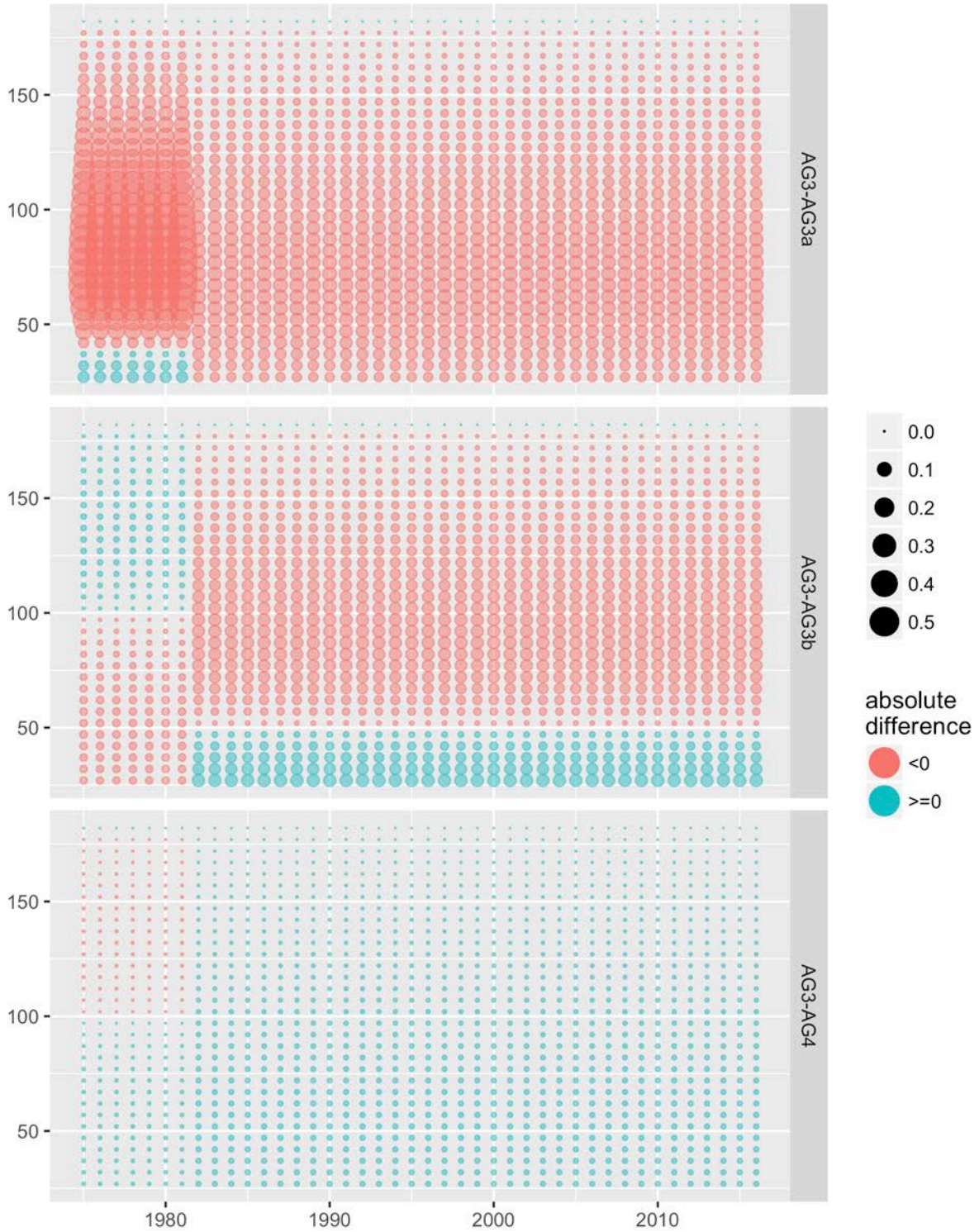


Figure 33. Differences for NMFS trawl survey survey selectivity for male all maturity all shell.

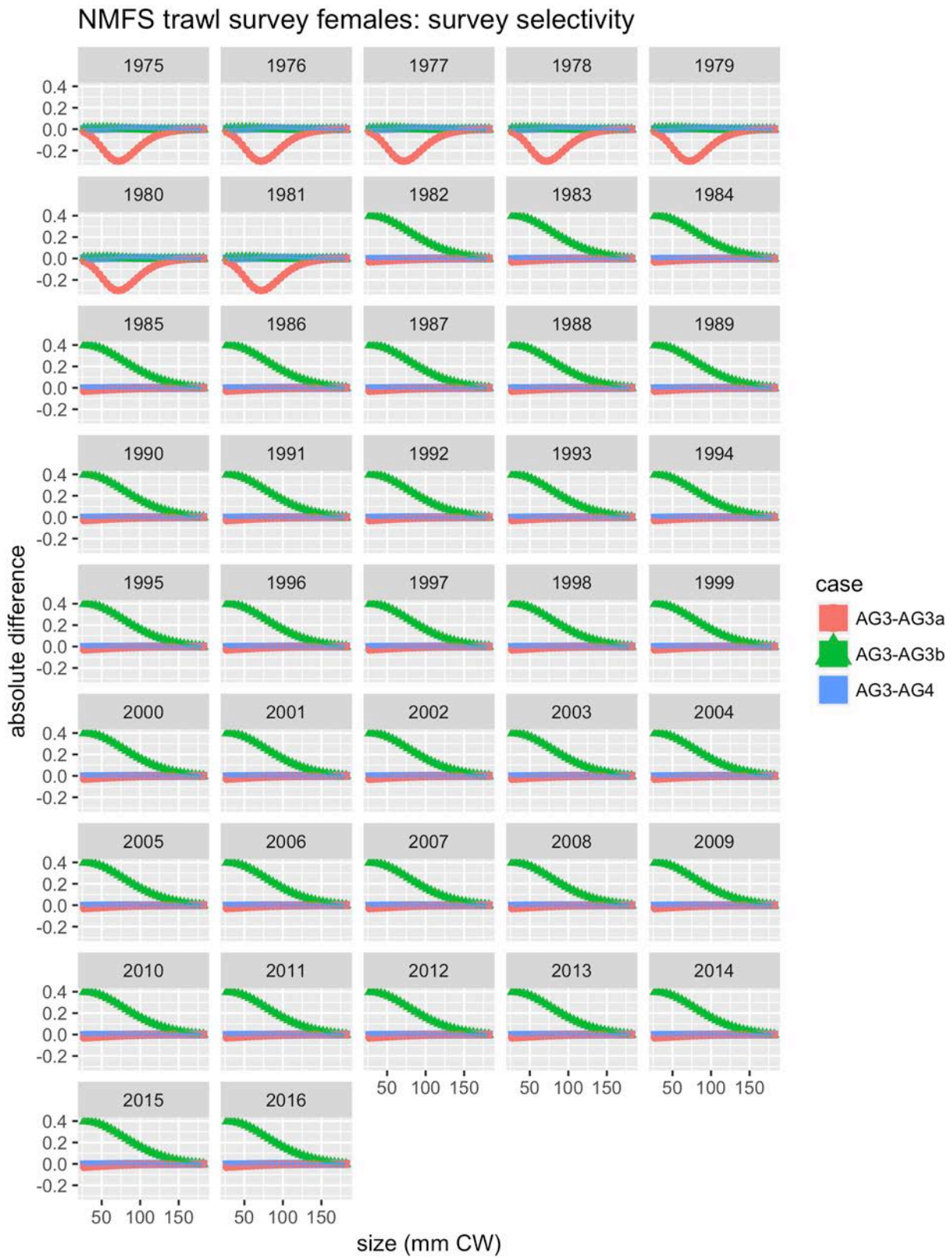


Figure 34. Differences for NMFS trawl survey females: survey selectivity.

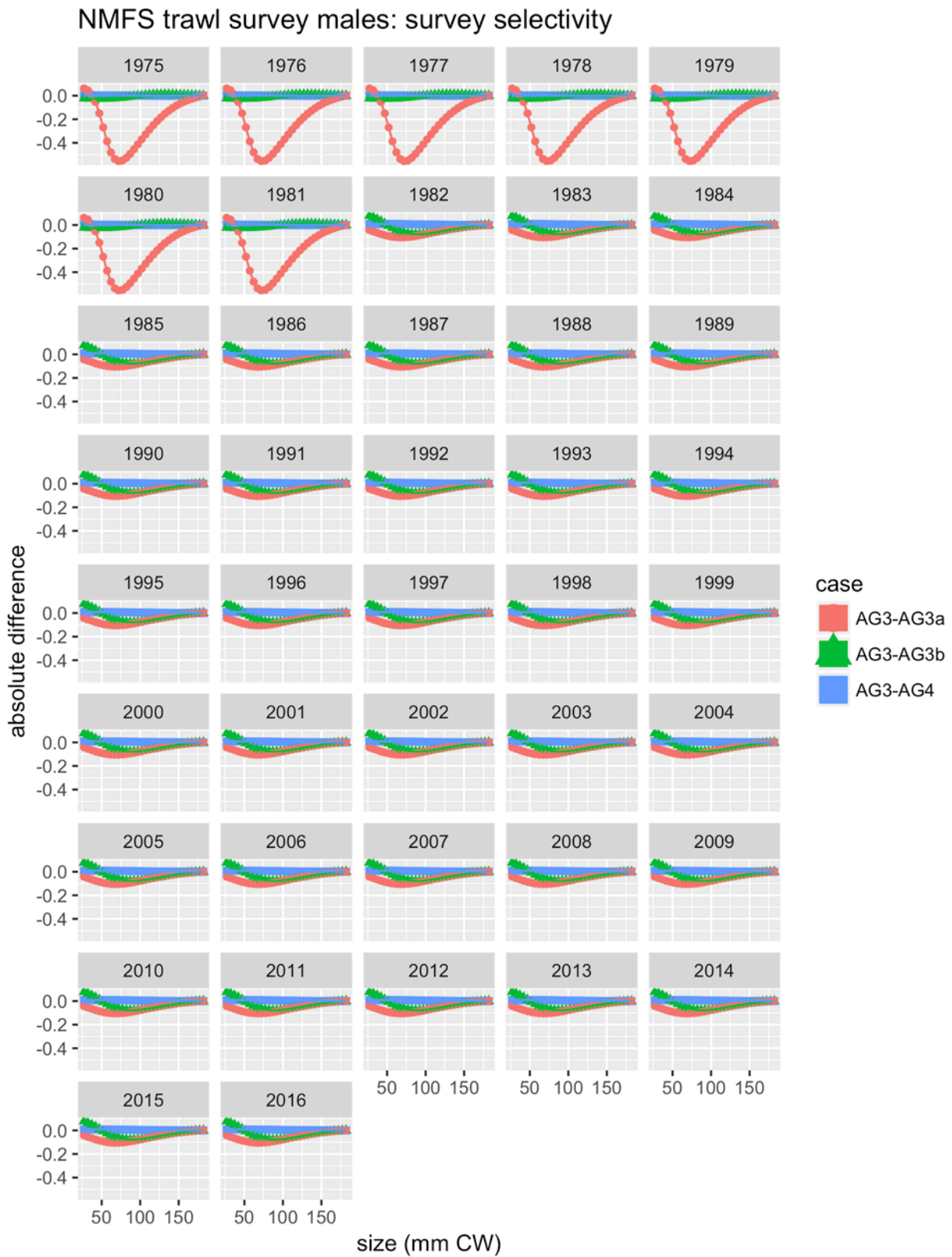


Figure 35. Differences for NMFS trawl survey males: survey selectivity.

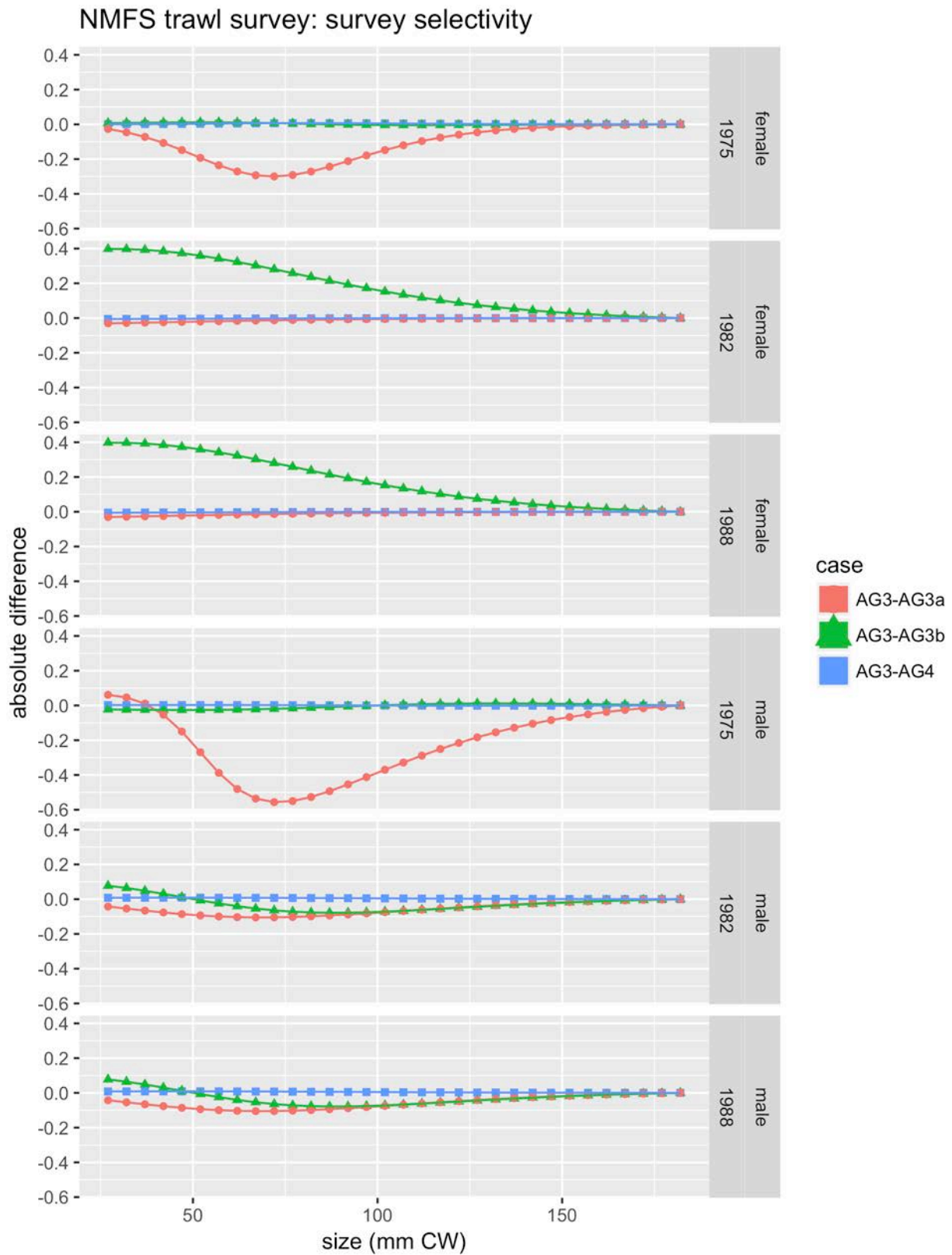


Figure 36. Differences for NMFS trawl survey: survey selectivity.

Survey abundance

NMFS trawl survey: survey abundance

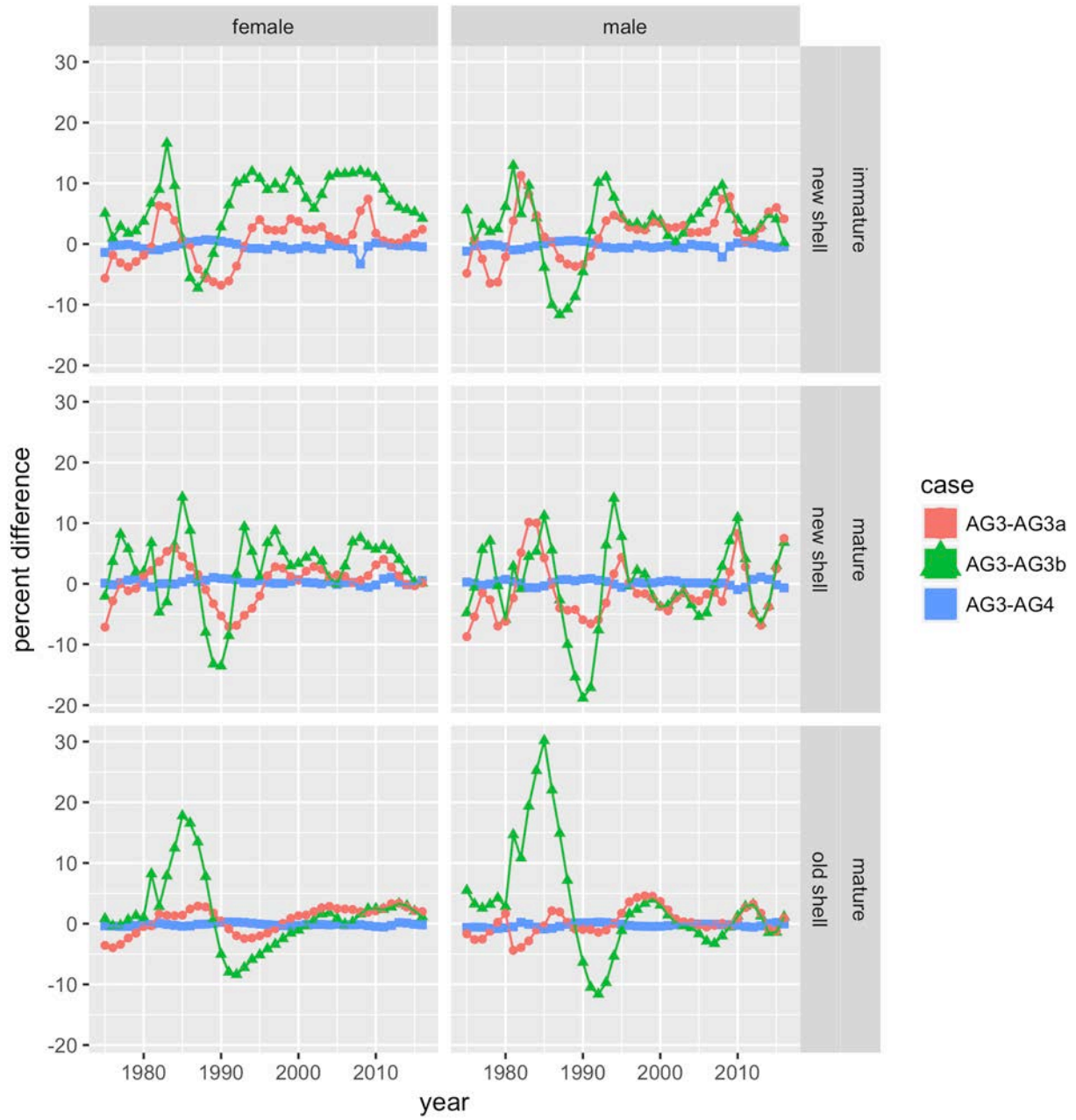


Figure 37. Differences for NMFS trawl survey: survey abundance.

NMFS trawl survey: survey abundance

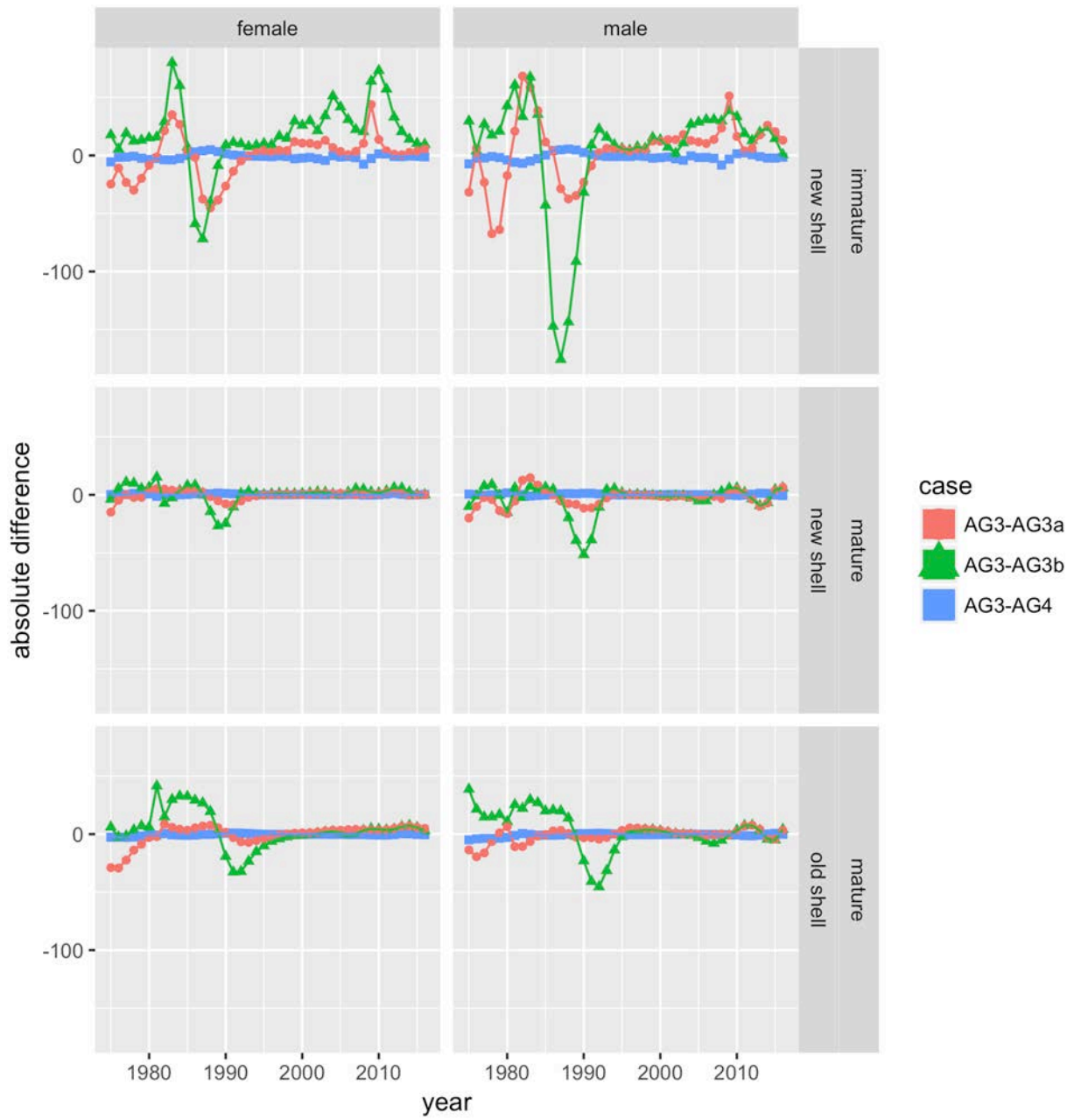


Figure 38. Differences for NMFS trawl survey: survey abundance.

NMFS trawl survey survey abundance for female immature new shell

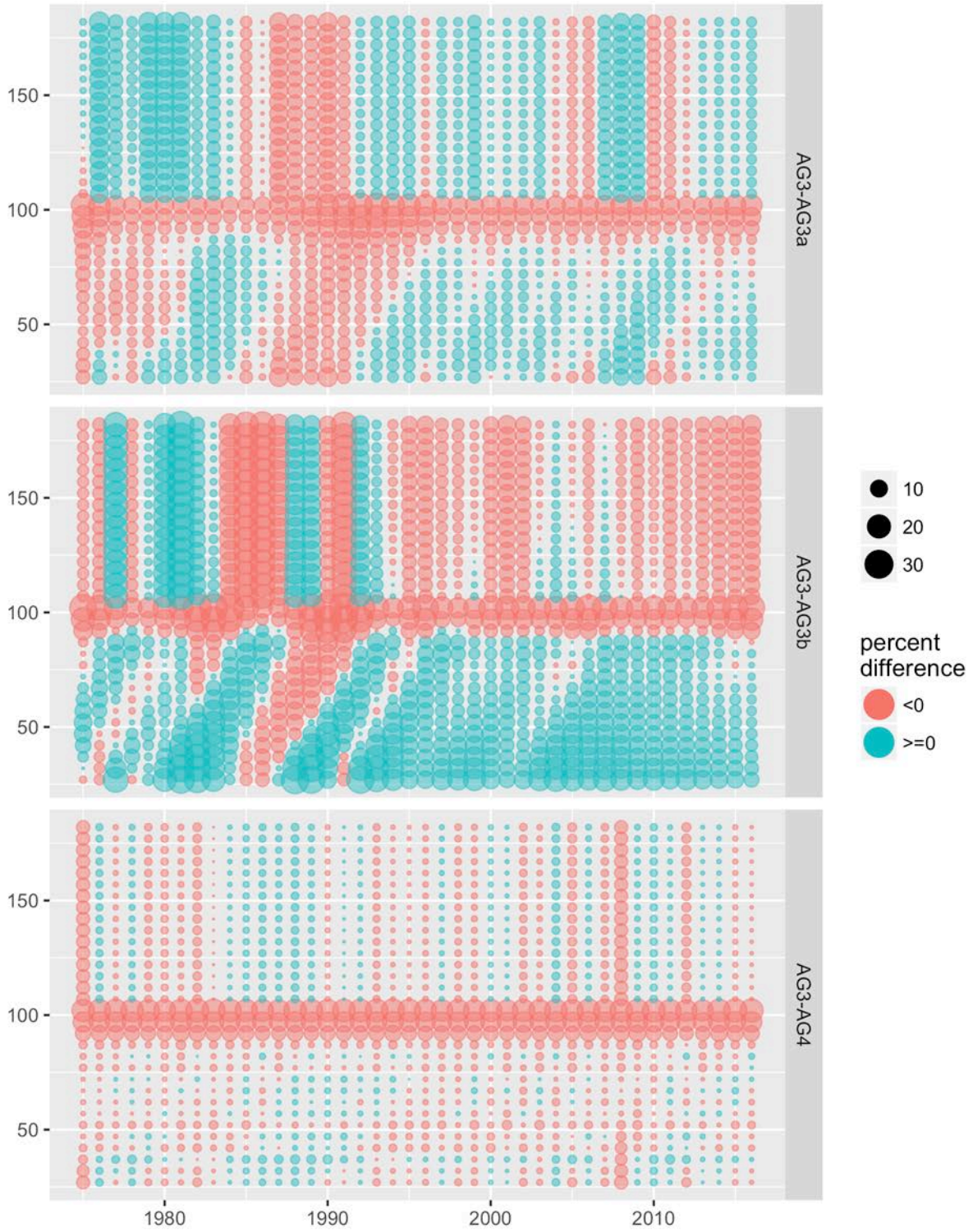


Figure 39. Differences for NMFS trawl survey survey abundance for female immature new shell.

NMFS trawl survey survey abundance
for female mature new shell

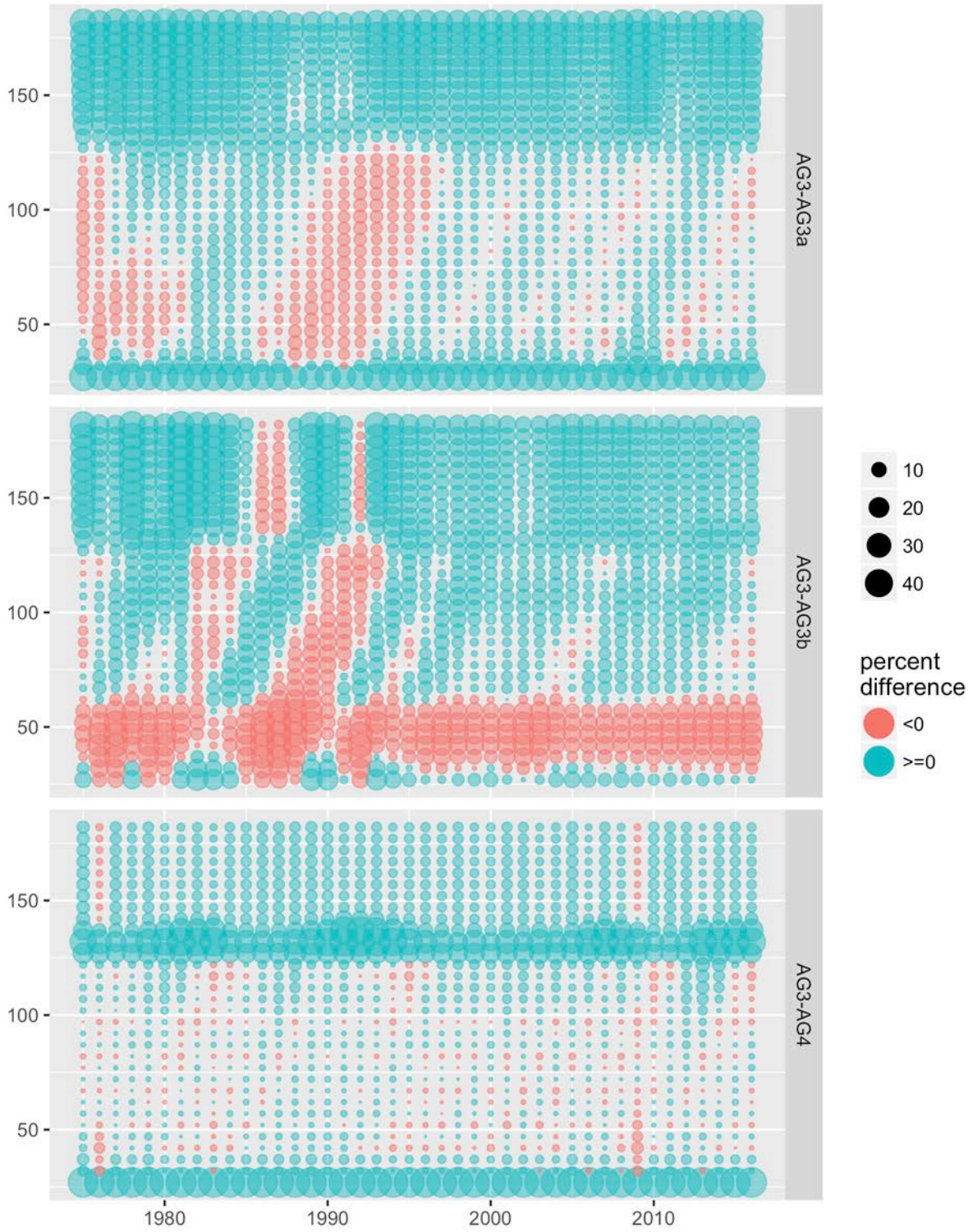


Figure 40. Differences for NMFS trawl survey survey abundance for female mature new shell.

NMFS trawl survey survey abundance
for female mature old shell

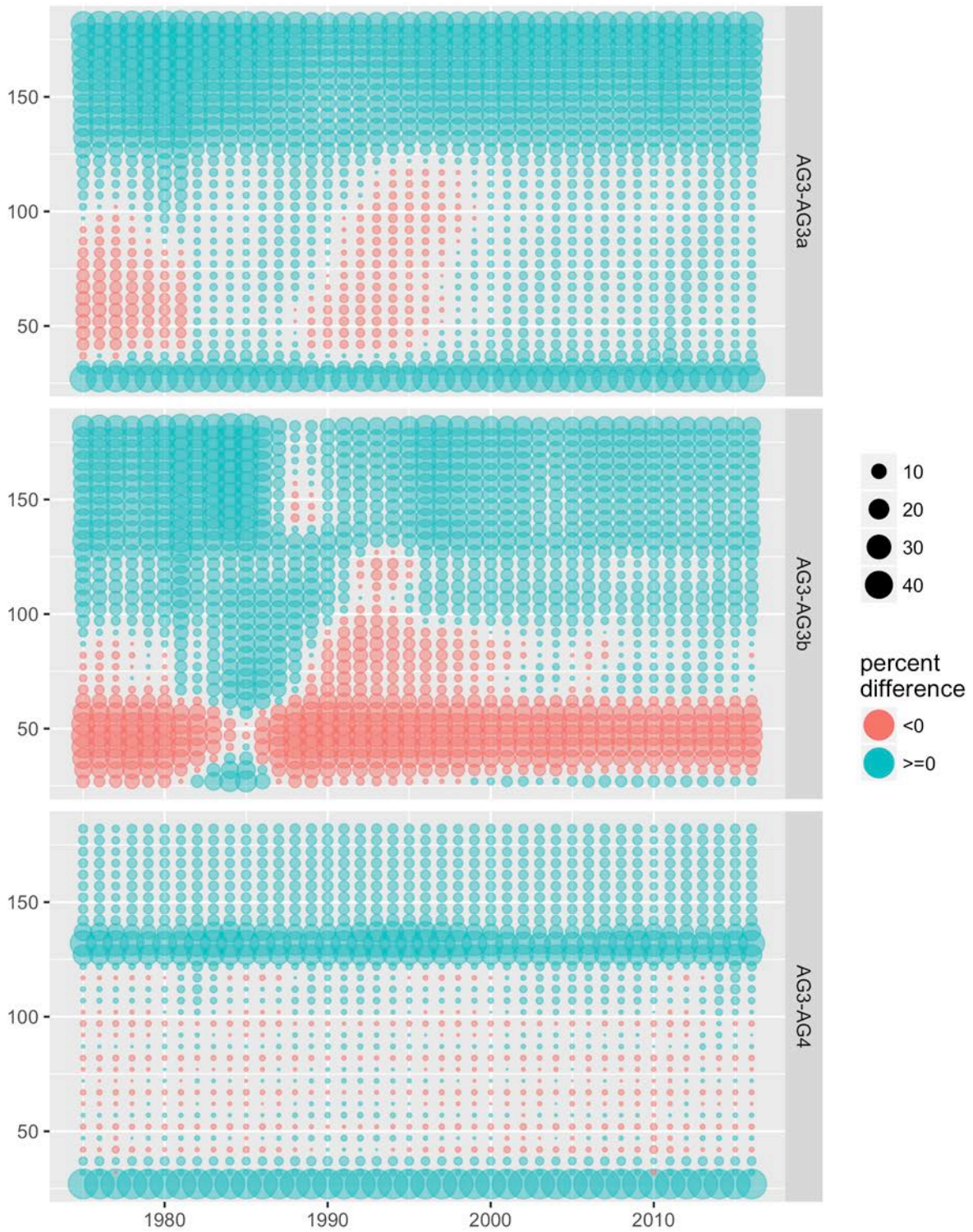


Figure 41. Differences for NMFS trawl survey survey abundance for female mature old shell.

NMFS trawl survey survey abundance
for male immature new shell

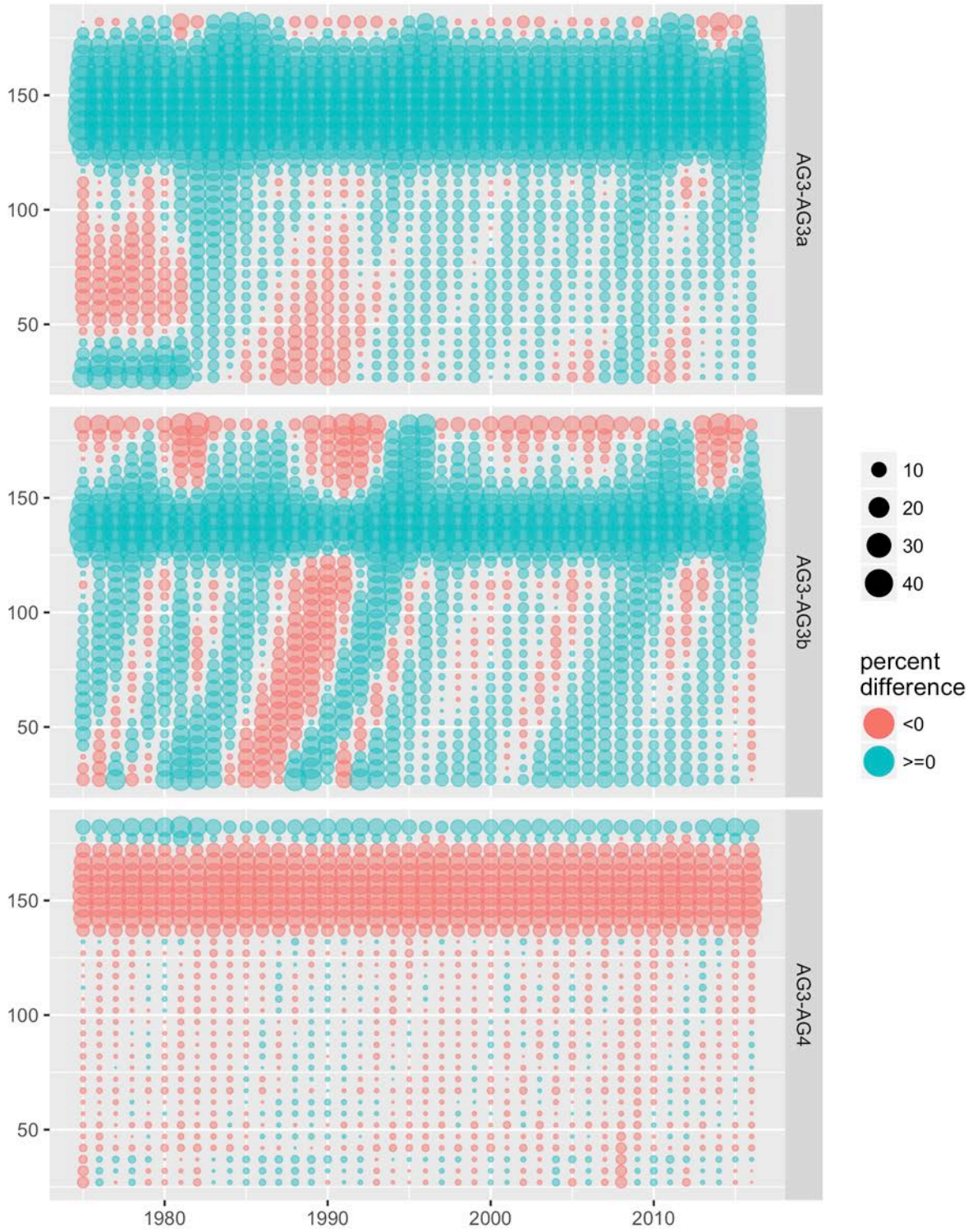


Figure 42. Differences for NMFS trawl survey survey abundance for male immature new shell.

NMFS trawl survey survey abundance
for male mature new shell

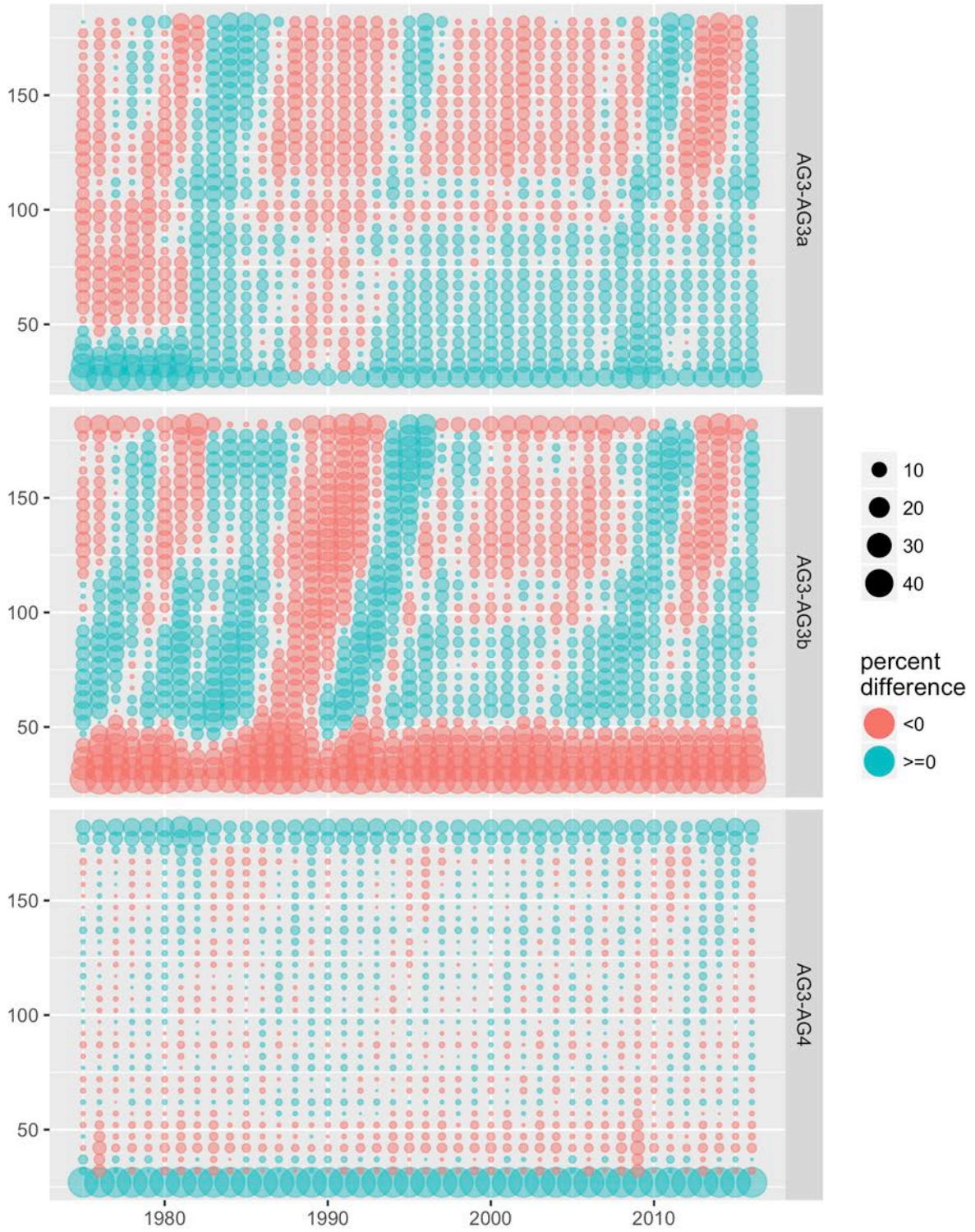


Figure 43. Differences for NMFS trawl survey survey abundance for male mature new shell.

NMFS trawl survey survey abundance
for male mature old shell

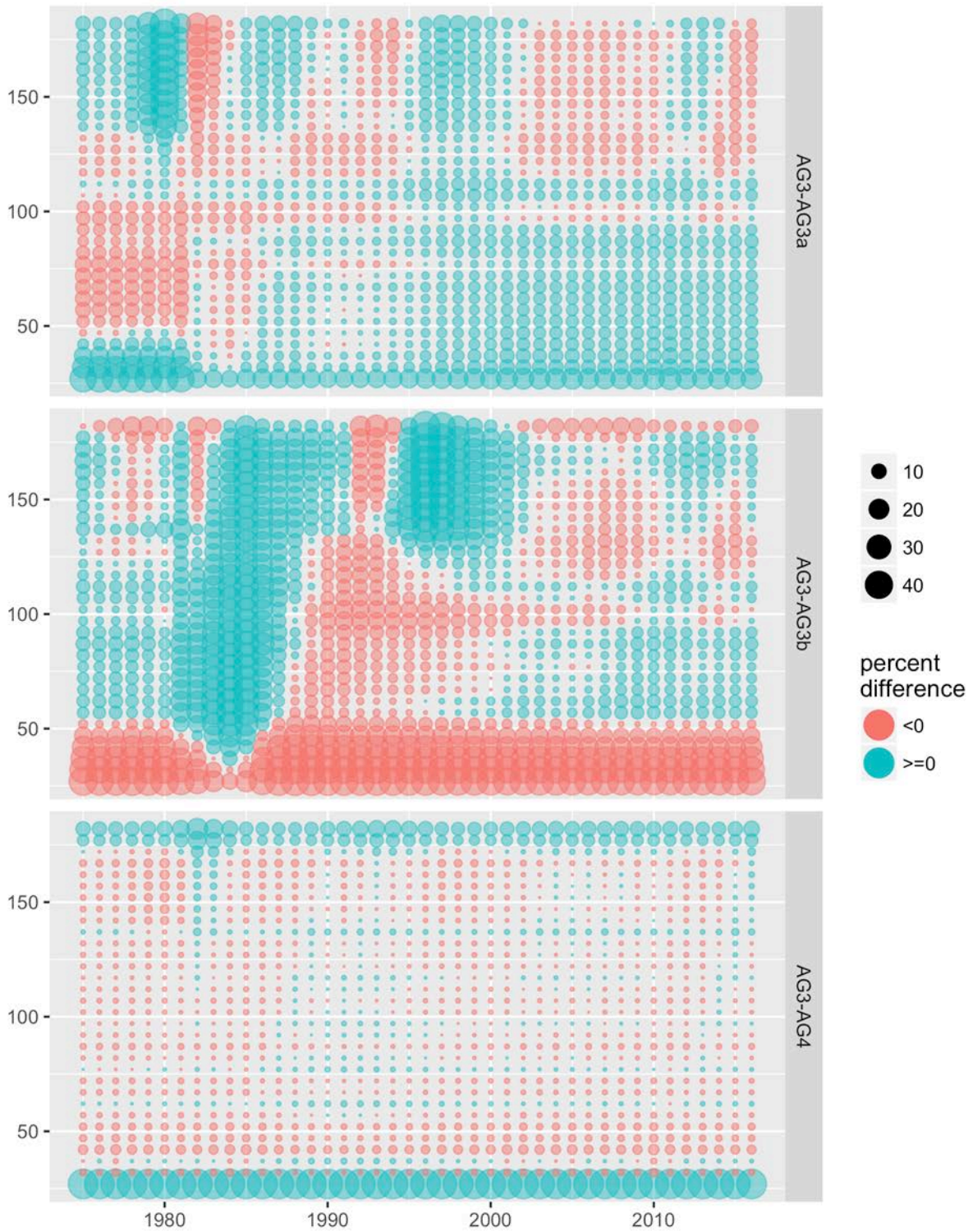


Figure 44. Differences for NMFS trawl survey survey abundance for male mature old shell.

NMFS trawl survey survey abundance
for female immature new shell

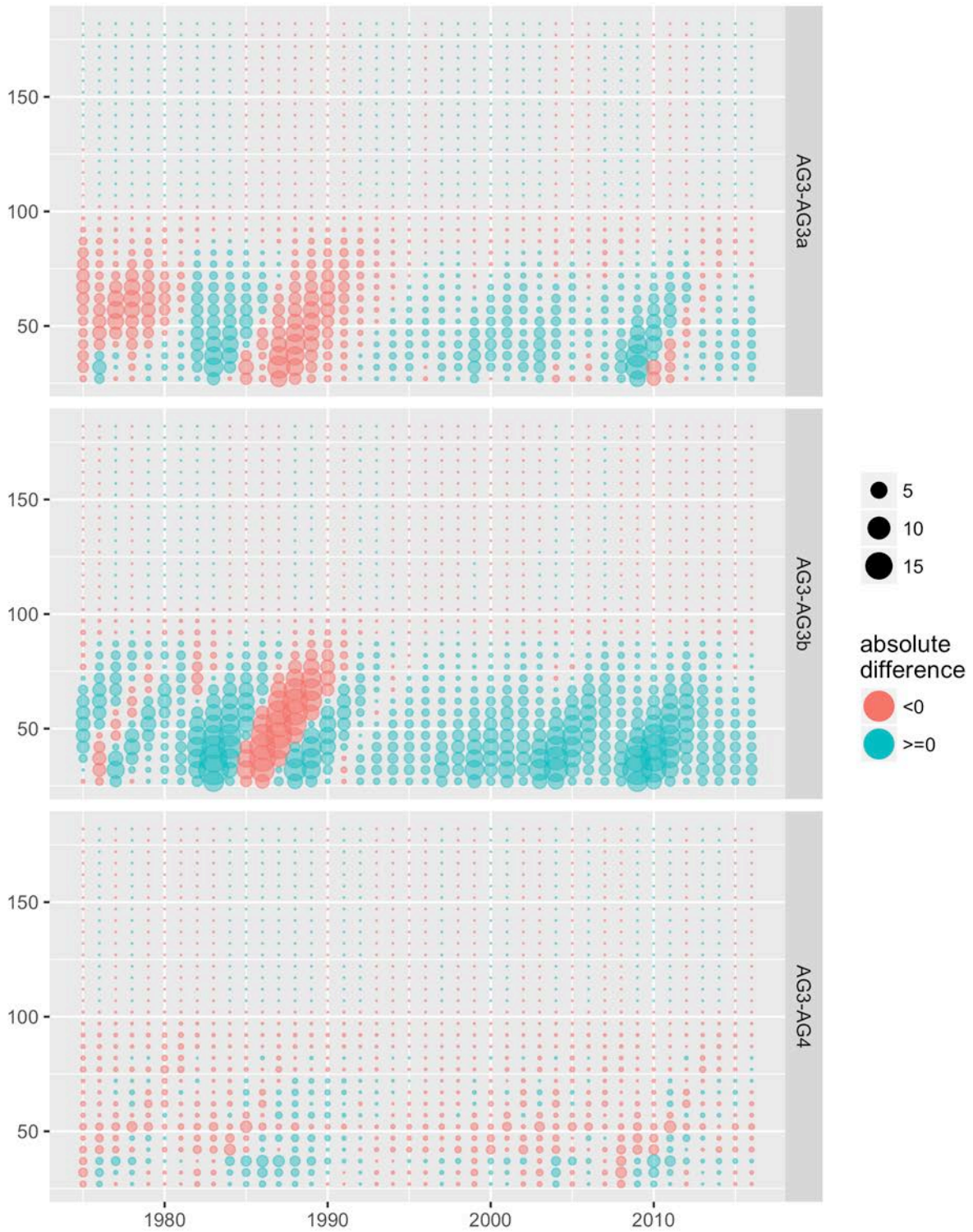


Figure 45. Differences for NMFS trawl survey survey abundance for female immature new shell.

NMFS trawl survey survey abundance
for female mature new shell

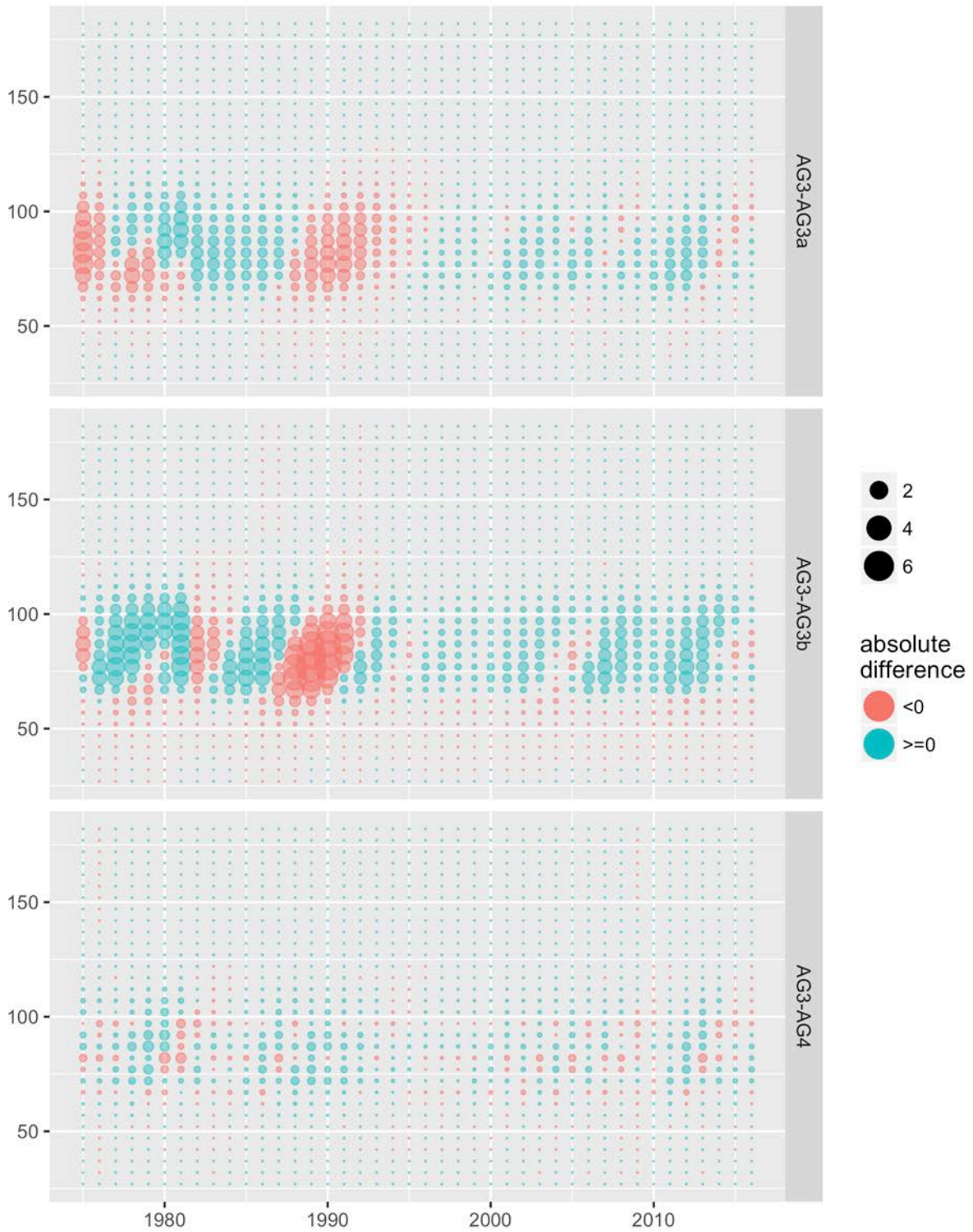


Figure 46. Differences for NMFS trawl survey survey abundance for female mature new shell.

NMFS trawl survey survey abundance
for female mature old shell

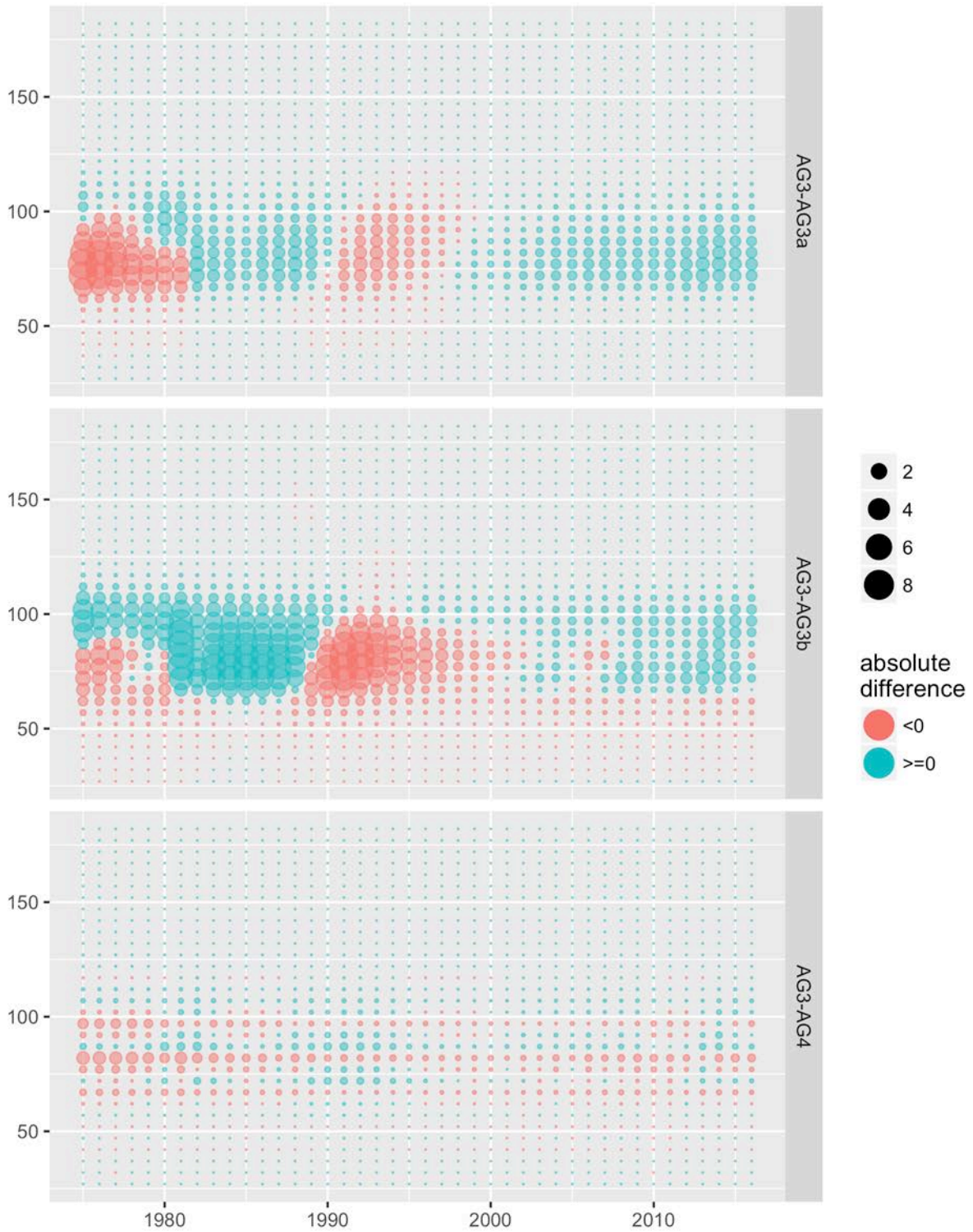


Figure 47. Differences for NMFS trawl survey survey abundance for female mature old shell.

NMFS trawl survey survey abundance
for male immature new shell

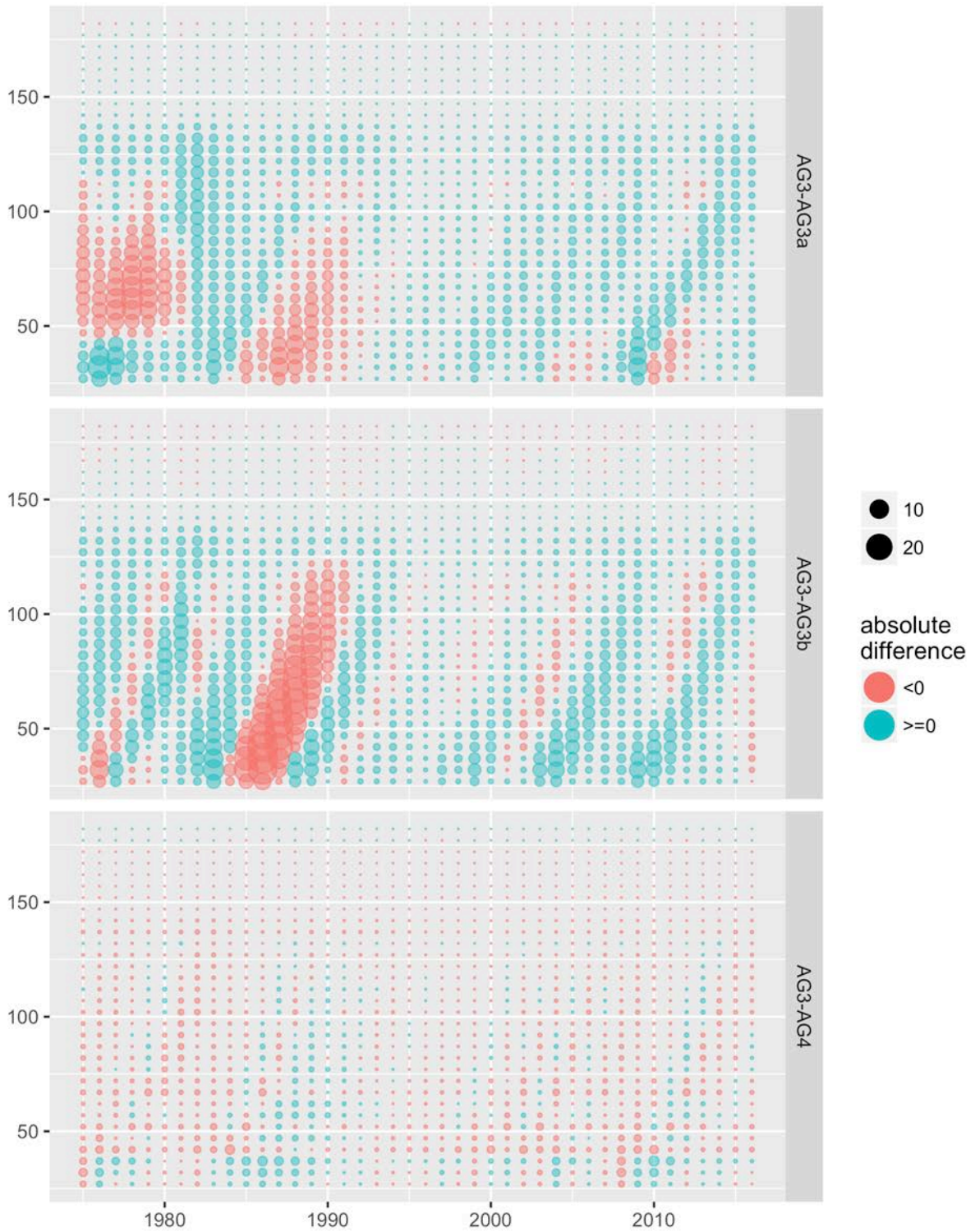


Figure 48. Differences for NMFS trawl survey survey abundance for male immature new shell.

NMFS trawl survey survey abundance
for male mature new shell

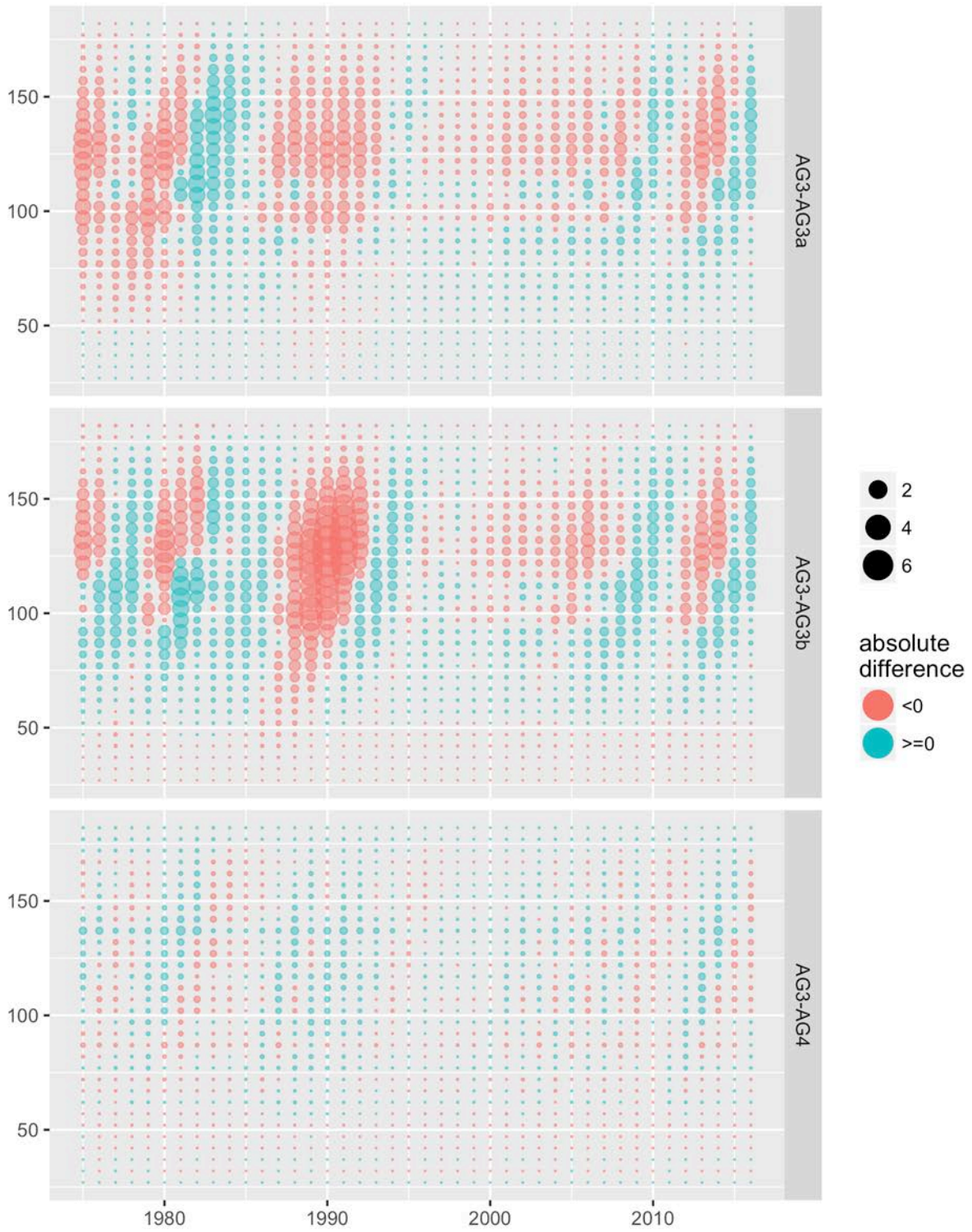


Figure 49. Differences for NMFS trawl survey survey abundance for male mature new shell.

NMFS trawl survey survey abundance
for male mature old shell

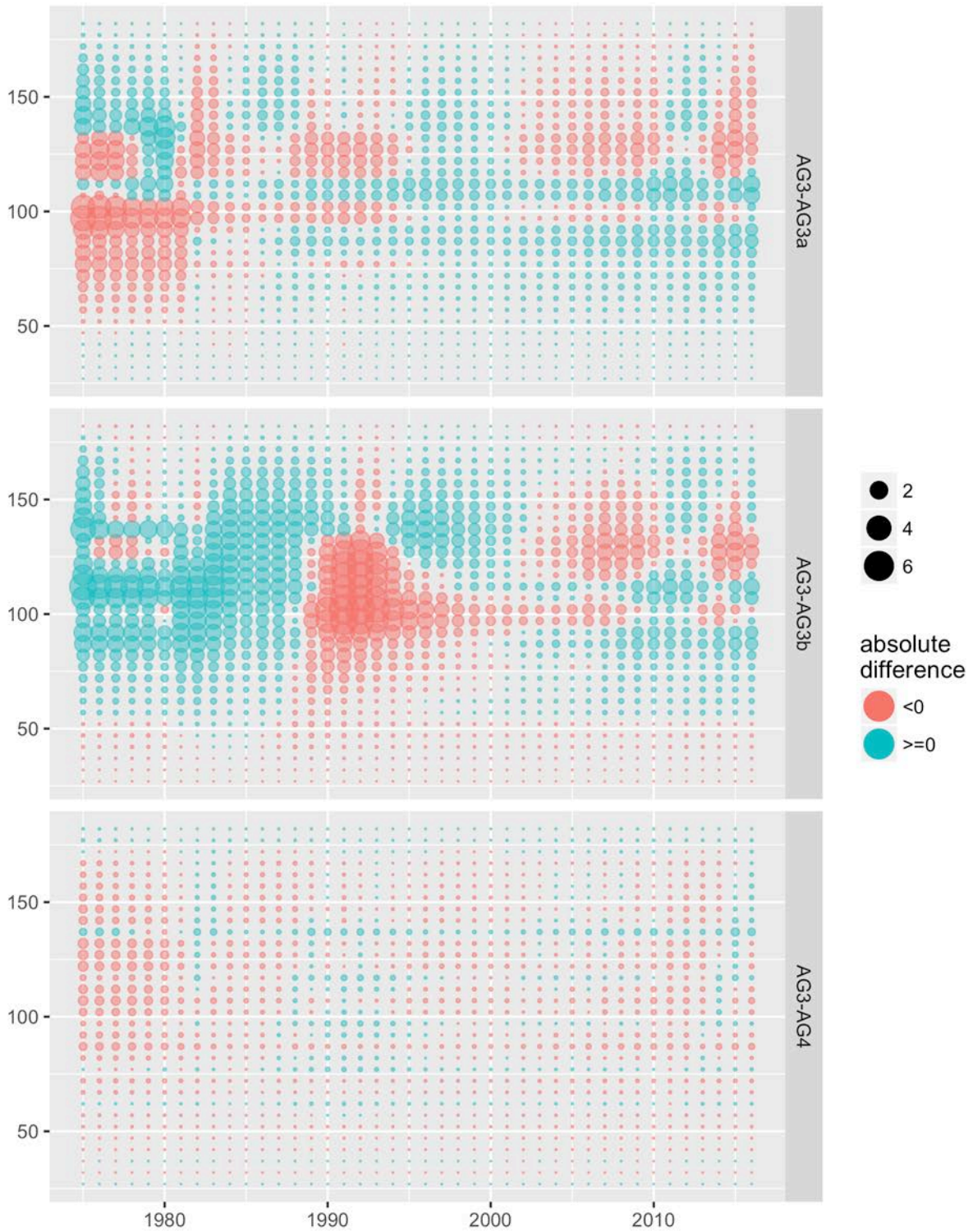


Figure 50. Differences for NMFS trawl survey survey abundance for male mature old shell.

Survey biomass

NMFS trawl survey: survey biomass

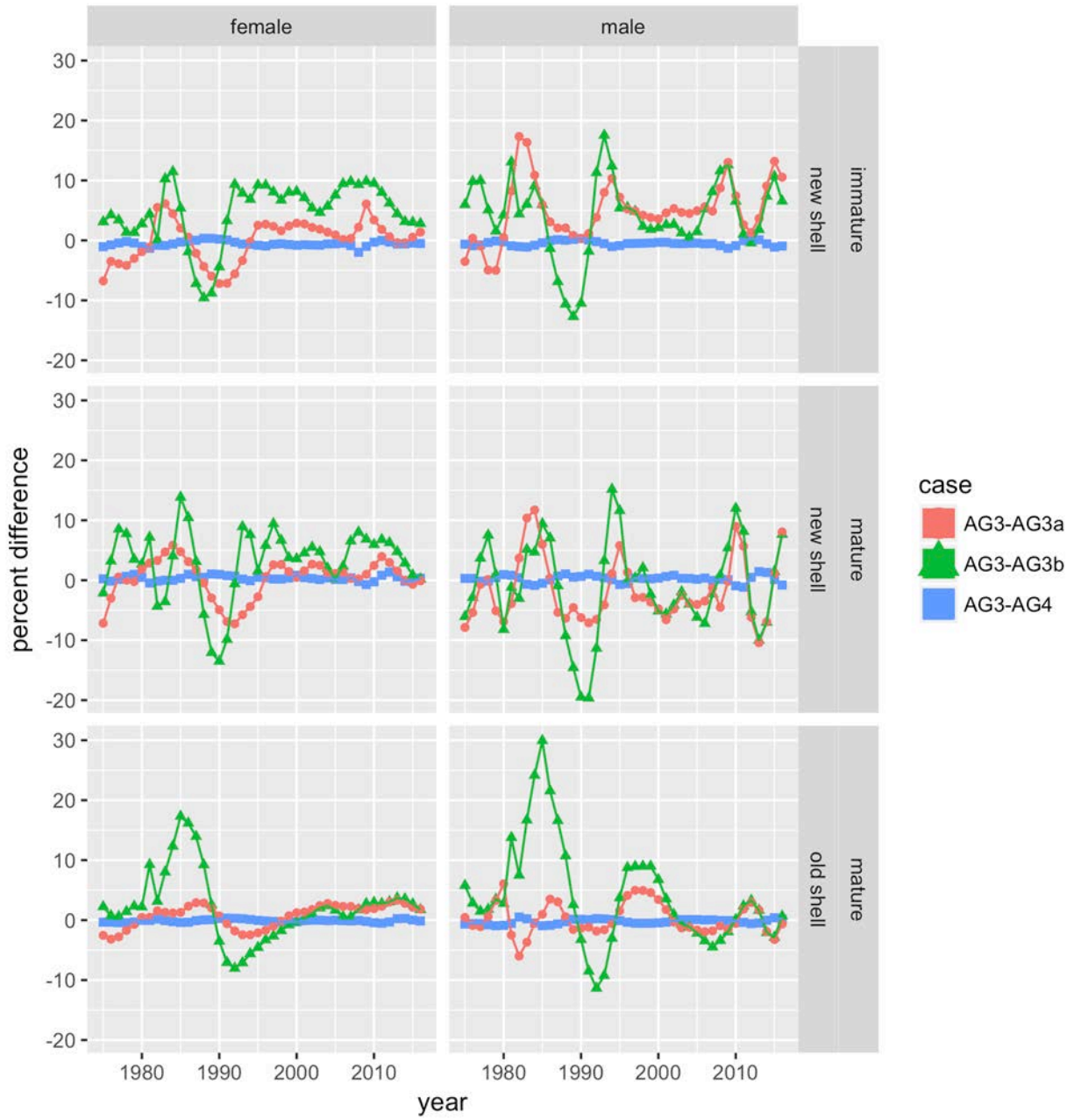


Figure 51. Differences for NMFS trawl survey: survey biomass.

NMFS trawl survey: survey biomass

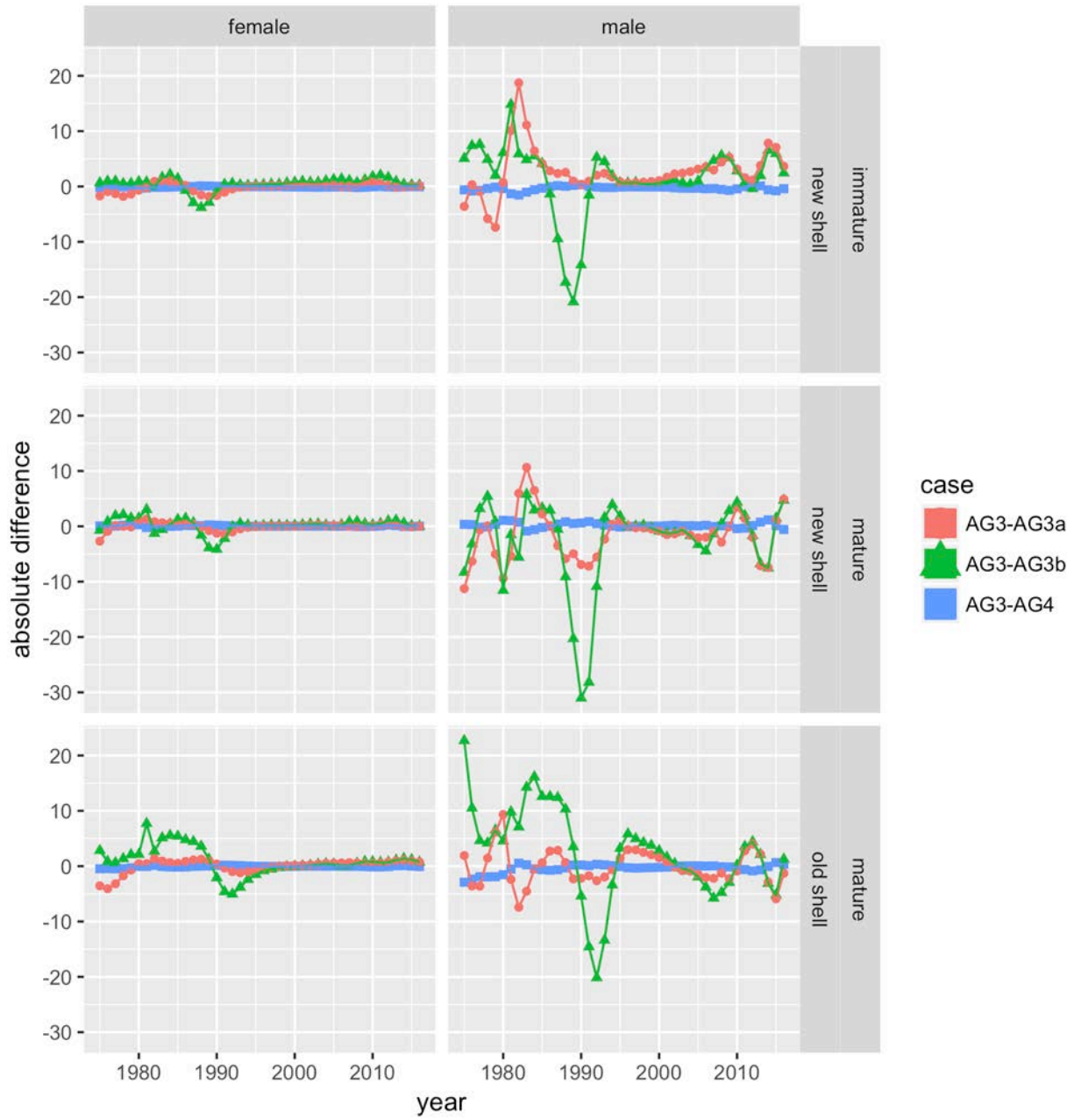


Figure 52. Differences for NMFS trawl survey: survey biomass.

Fisheries

Fishery catchability

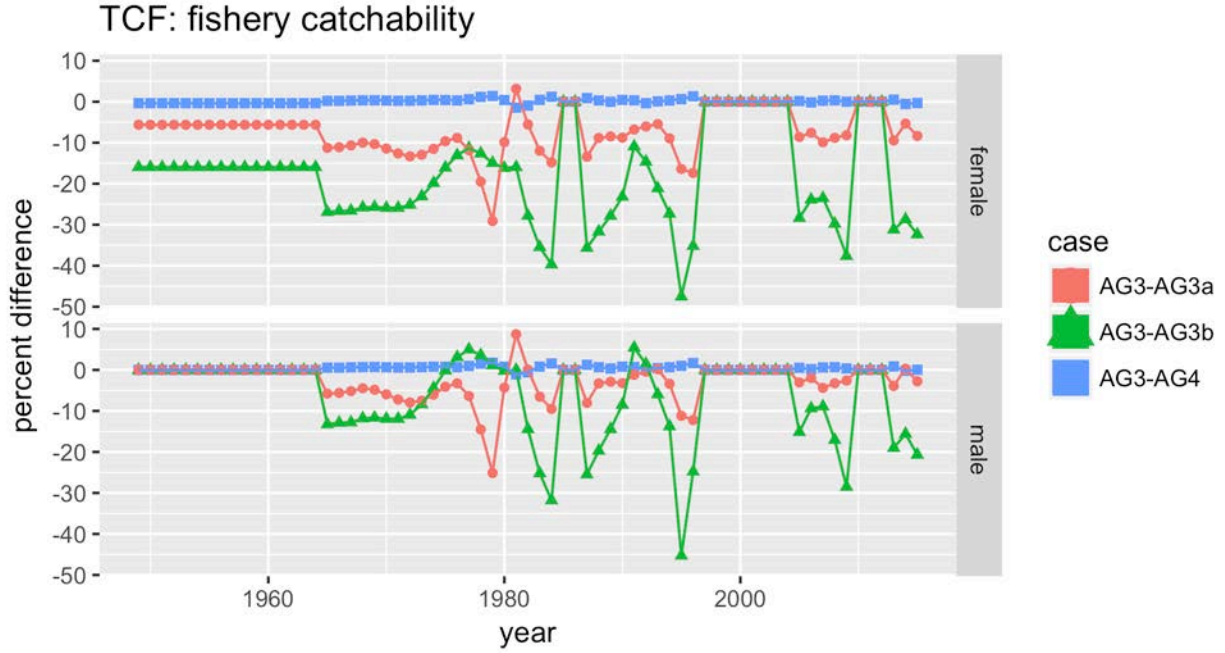


Figure 53. Differences for TCF: fishery catchability.

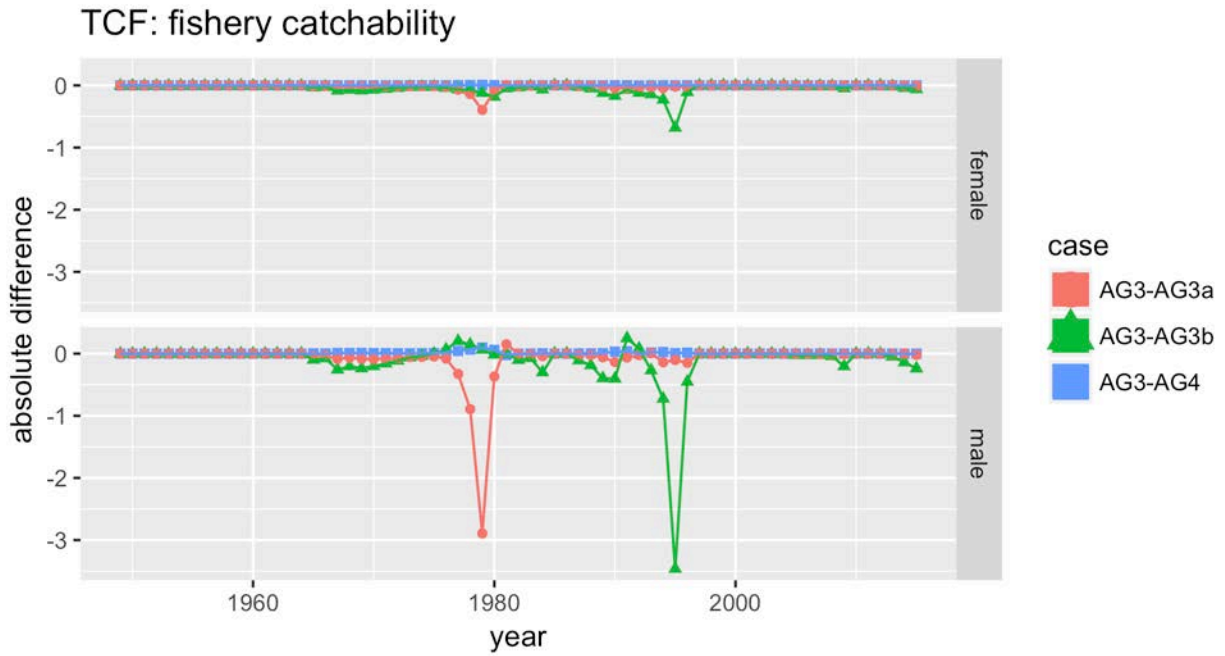


Figure 54. Differences for TCF: fishery catchability.

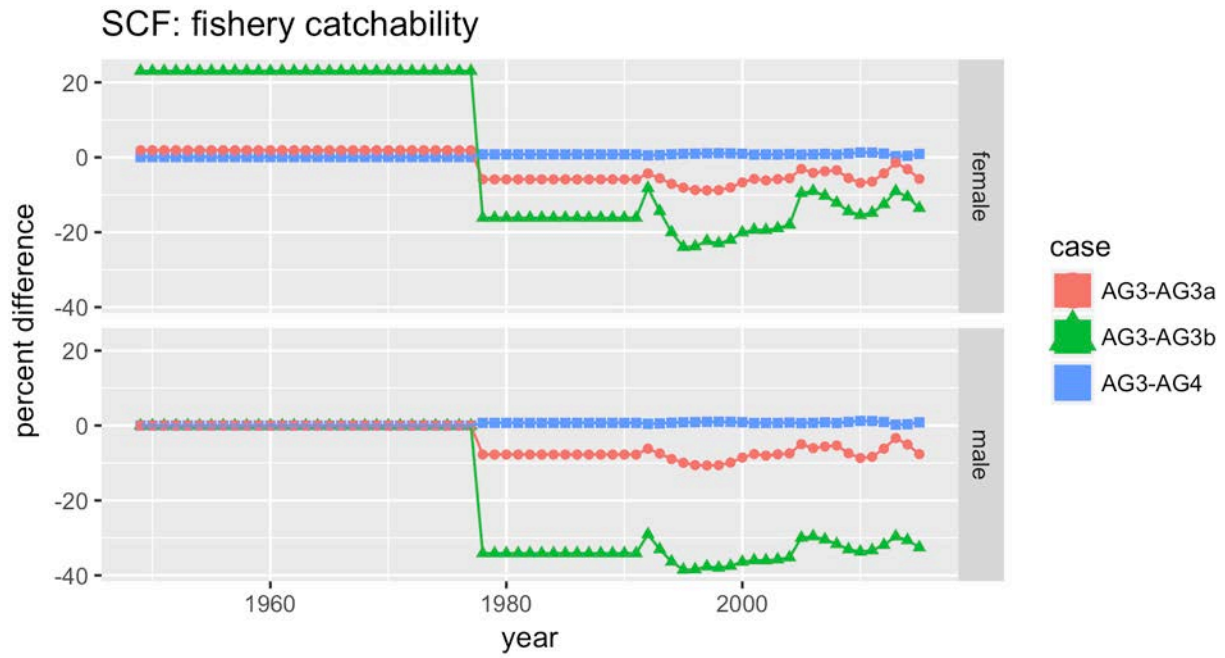


Figure 55. Differences for SCF: fishery catchability.

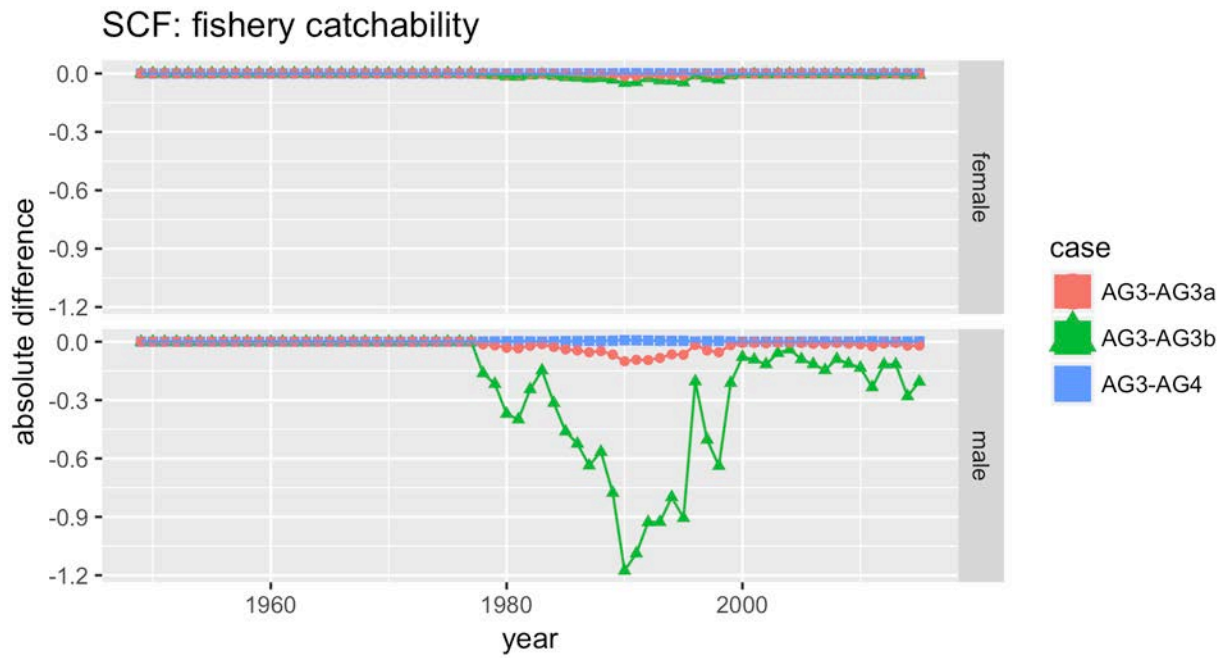


Figure 56. Differences for SCF: fishery catchability.

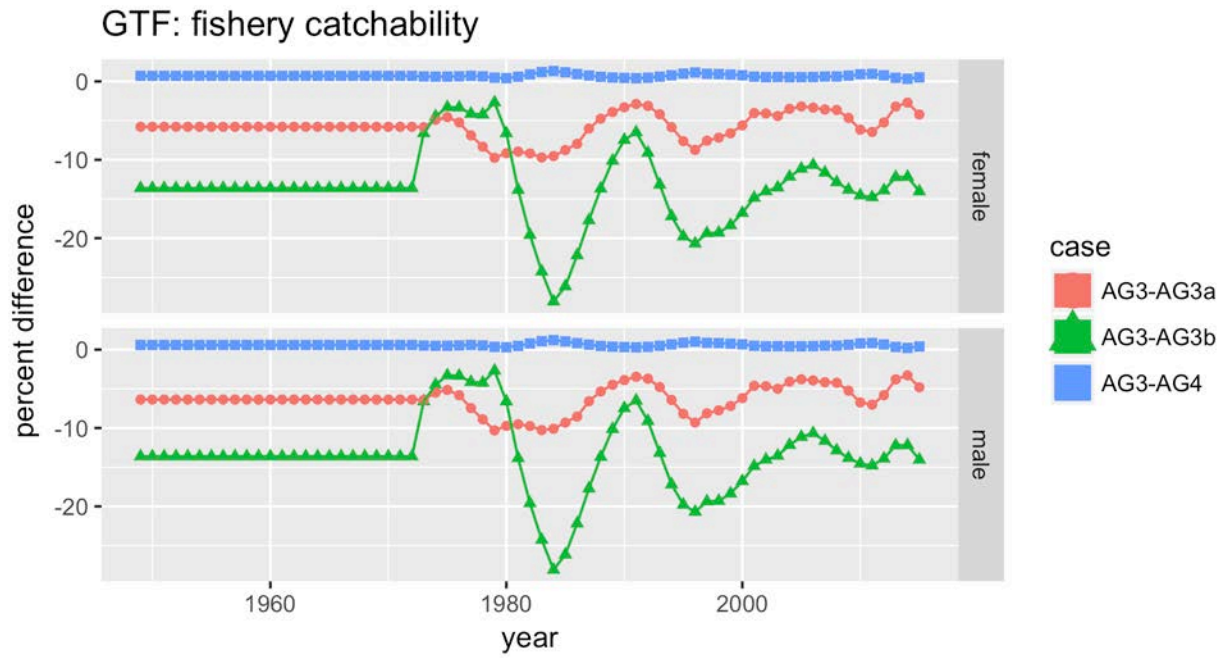


Figure 57. Differences for GTF: fishery catchability.

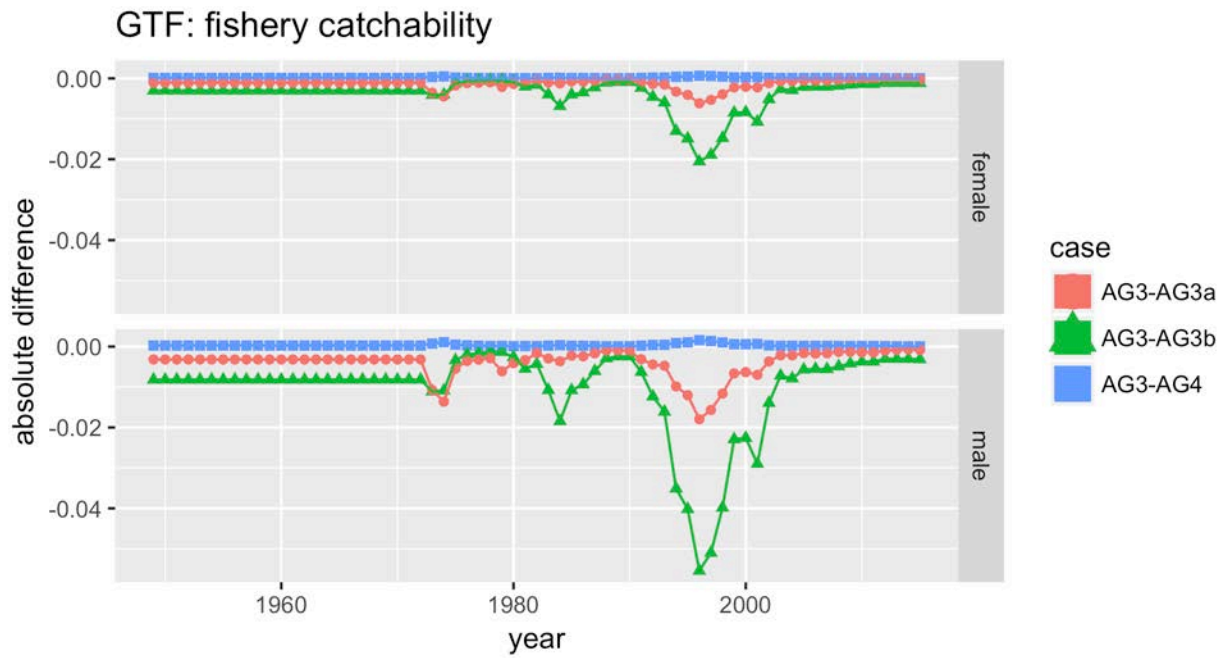


Figure 58. Differences for GTF: fishery catchability.

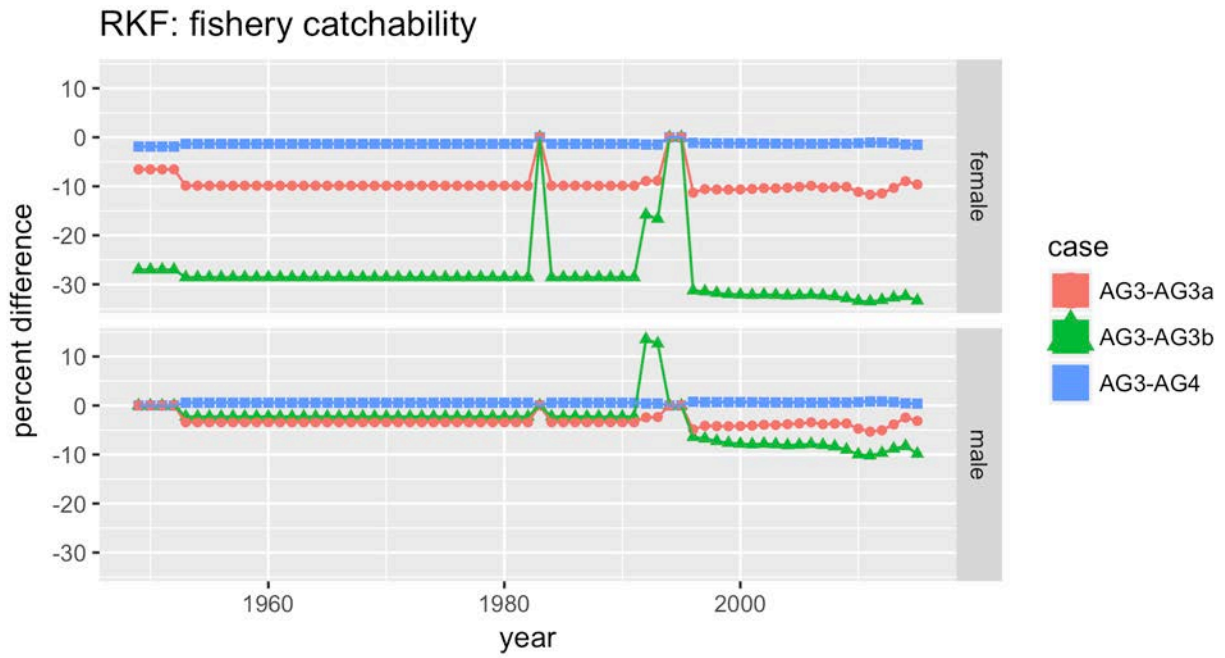


Figure 59. Differences for RKF: fishery catchability.

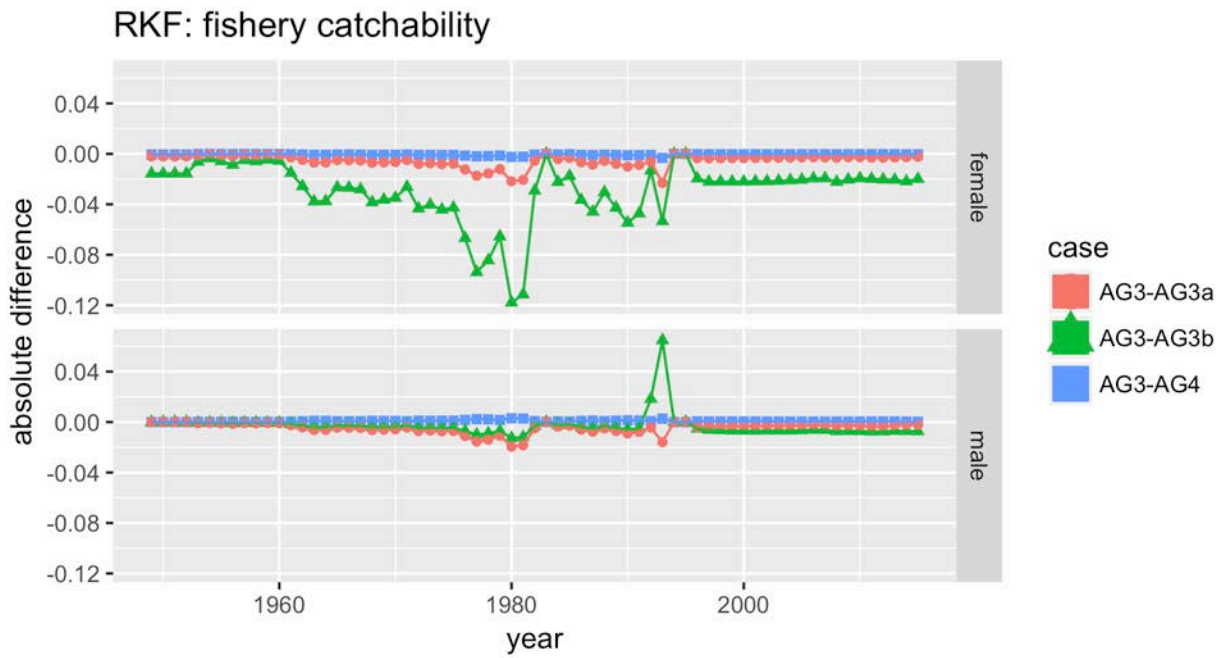


Figure 60. Differences for RKF: fishery catchability.

Total selectivity functions

TCF fishery selectivity
for female all maturity all shell

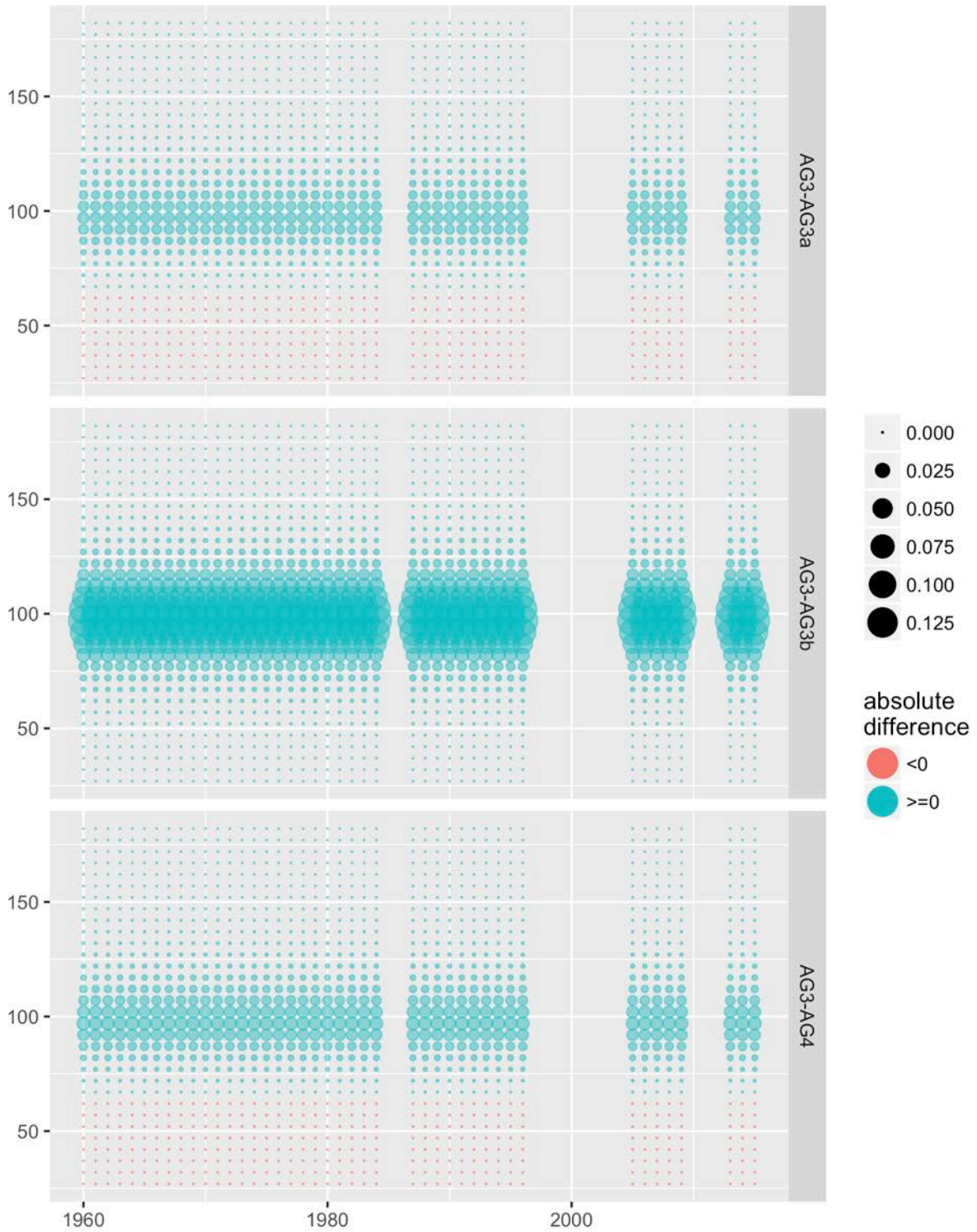


Figure 61. Differences for TCF fishery selectivity for female all maturity all shell.

TCF fishery selectivity
for male all maturity all shell

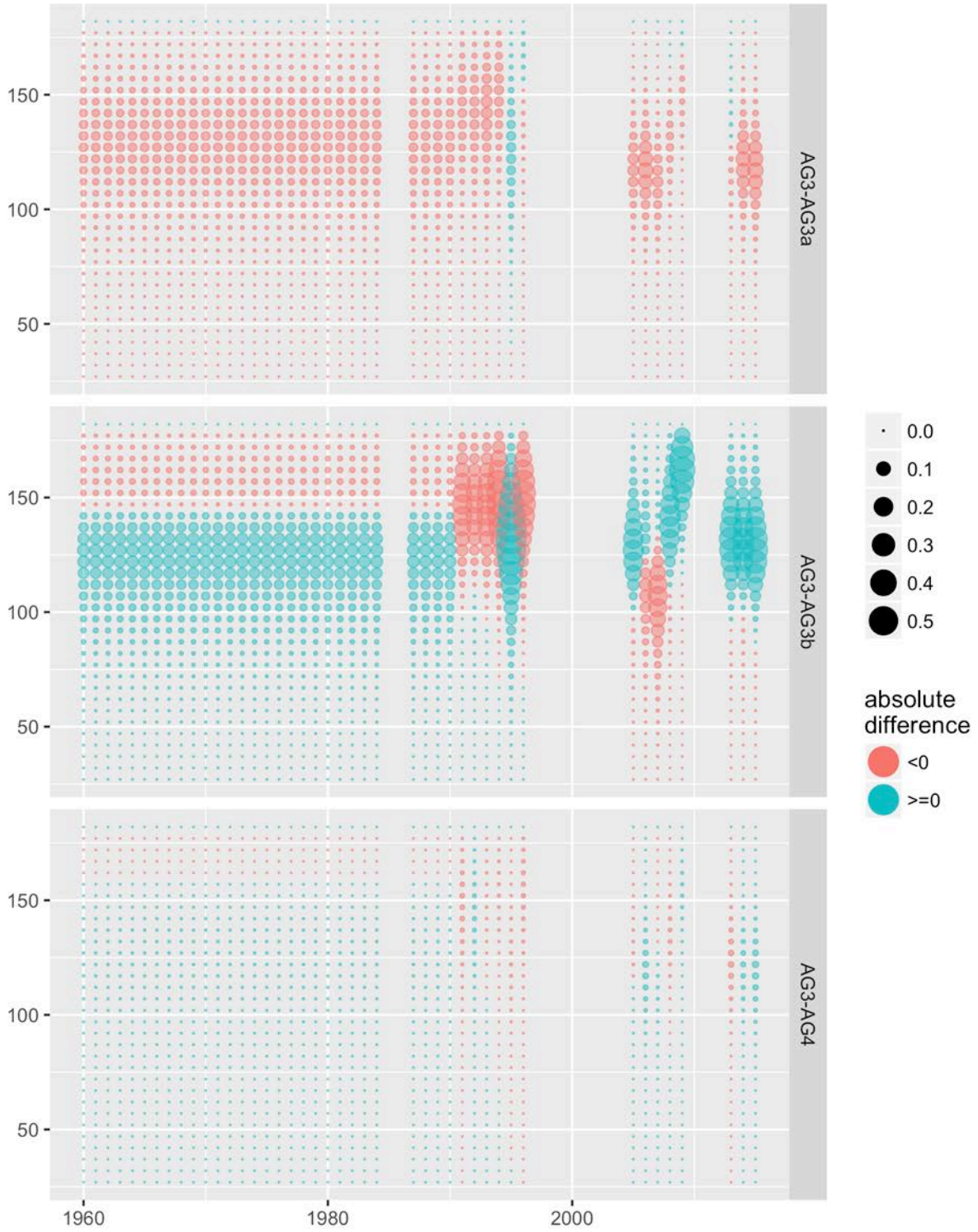


Figure 62. Differences for TCF fishery selectivity for male all maturity all shell.

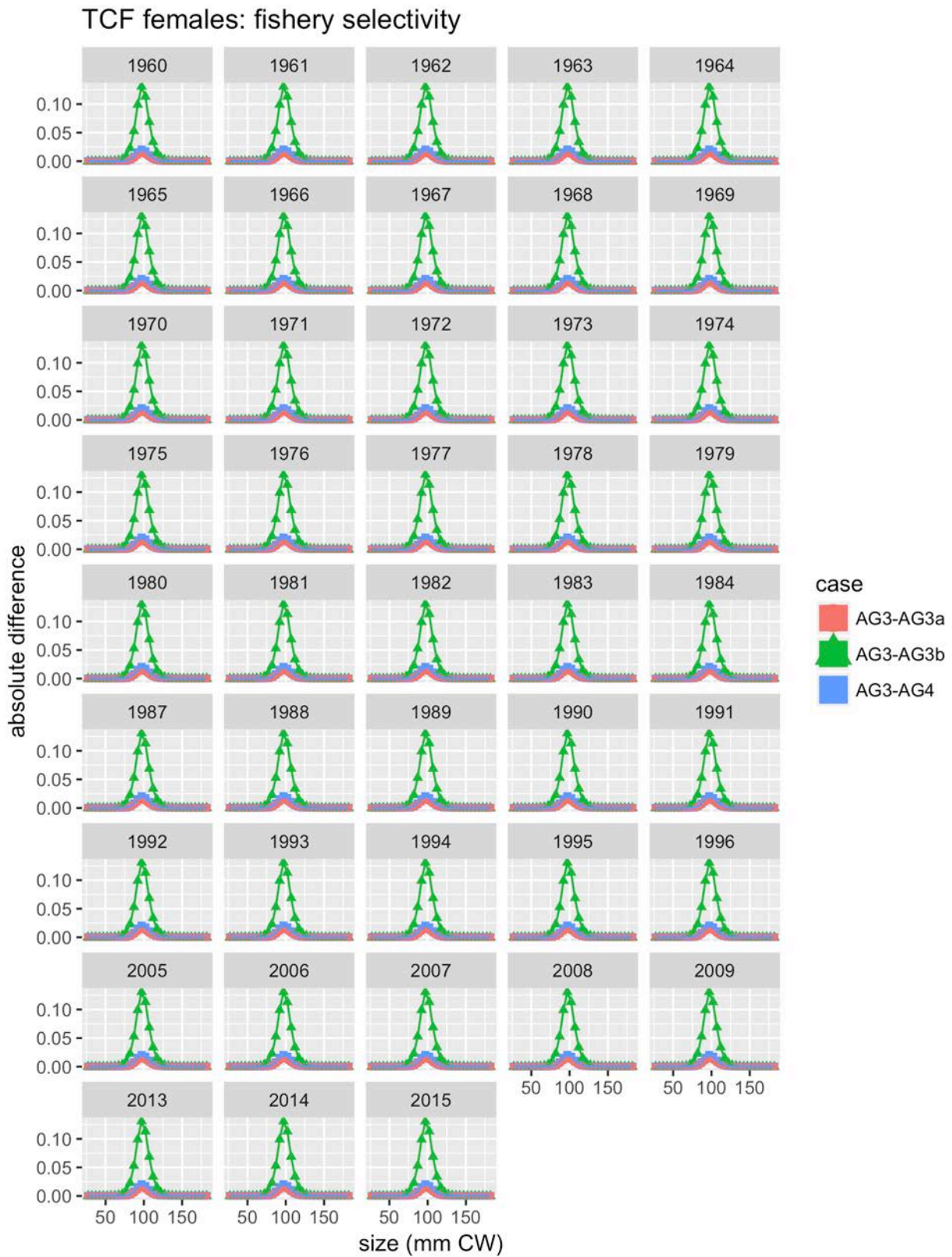


Figure 63. Differences for TCF females: fishery selectivity.

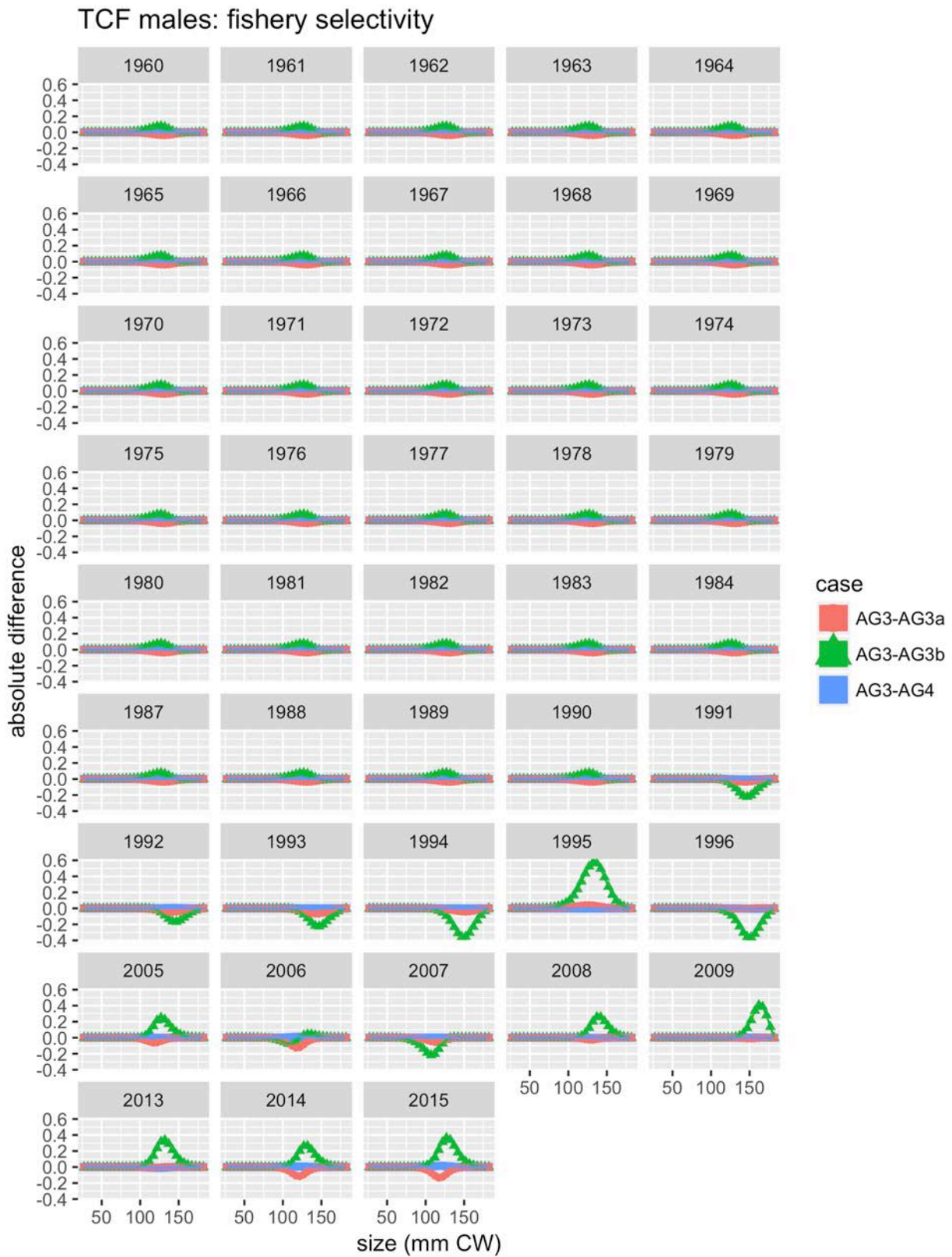


Figure 64. Differences for TCF males: fishery selectivity.

SCF fishery selectivity for female all maturity all shell

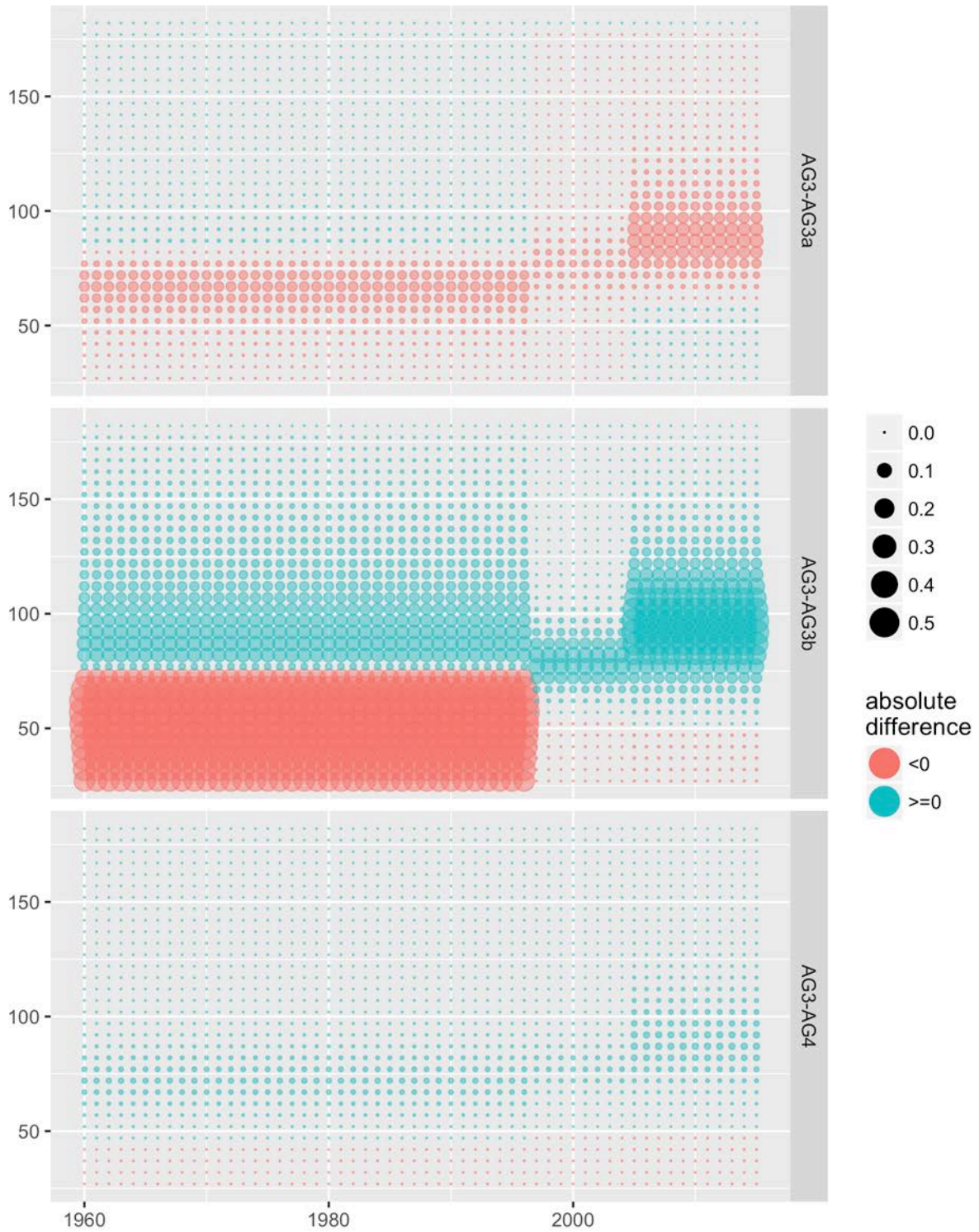


Figure 65. Differences for SCF fishery selectivity for female all maturity all shell.

SCF fishery selectivity for male all maturity all shell

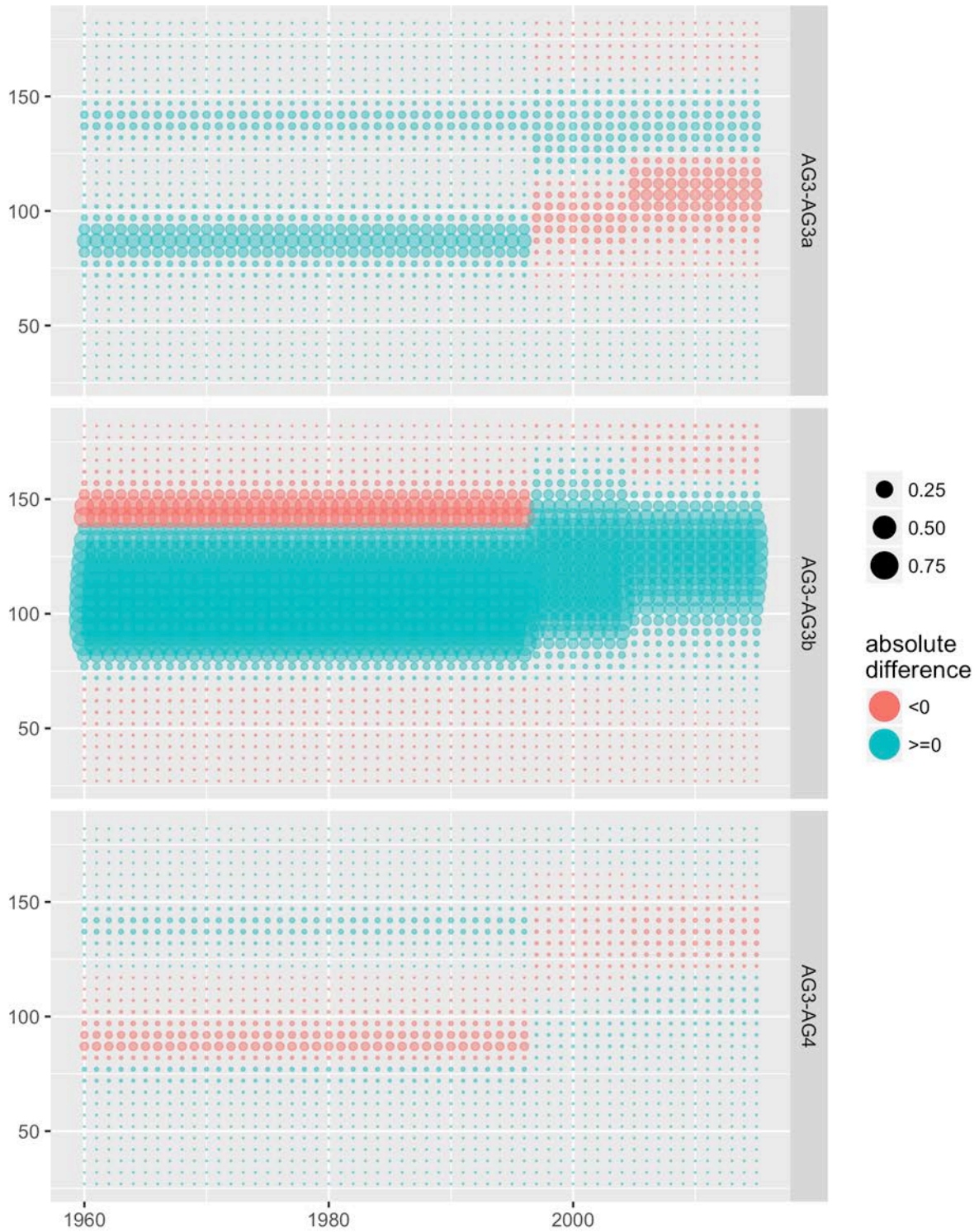


Figure 66. Differences for SCF fishery selectivity for male all maturity all shell.

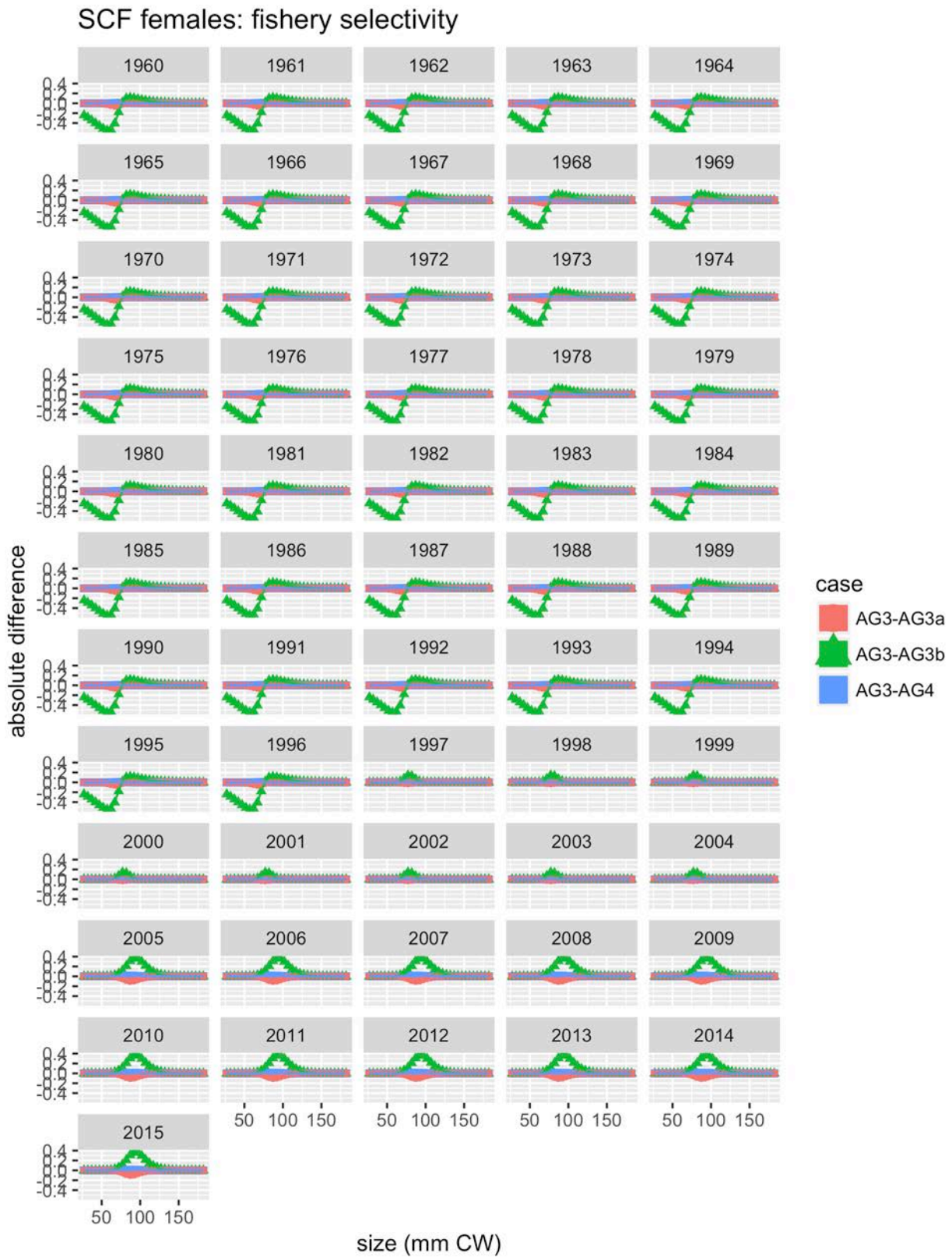


Figure 67. Differences for SCF females: fishery selectivity.

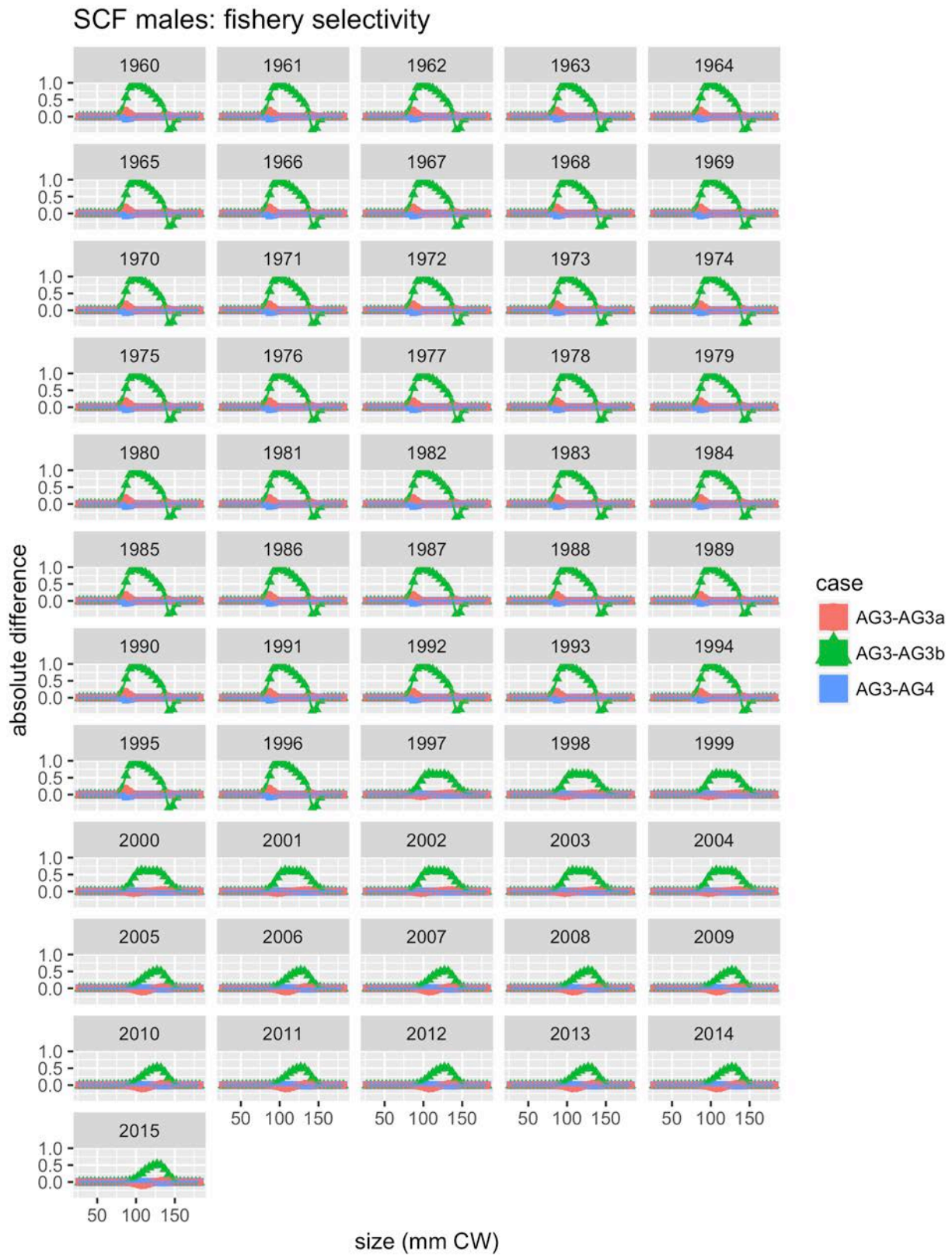


Figure 68. Differences for SCF males: fishery selectivity.

GTF fishery selectivity for female all maturity all shell

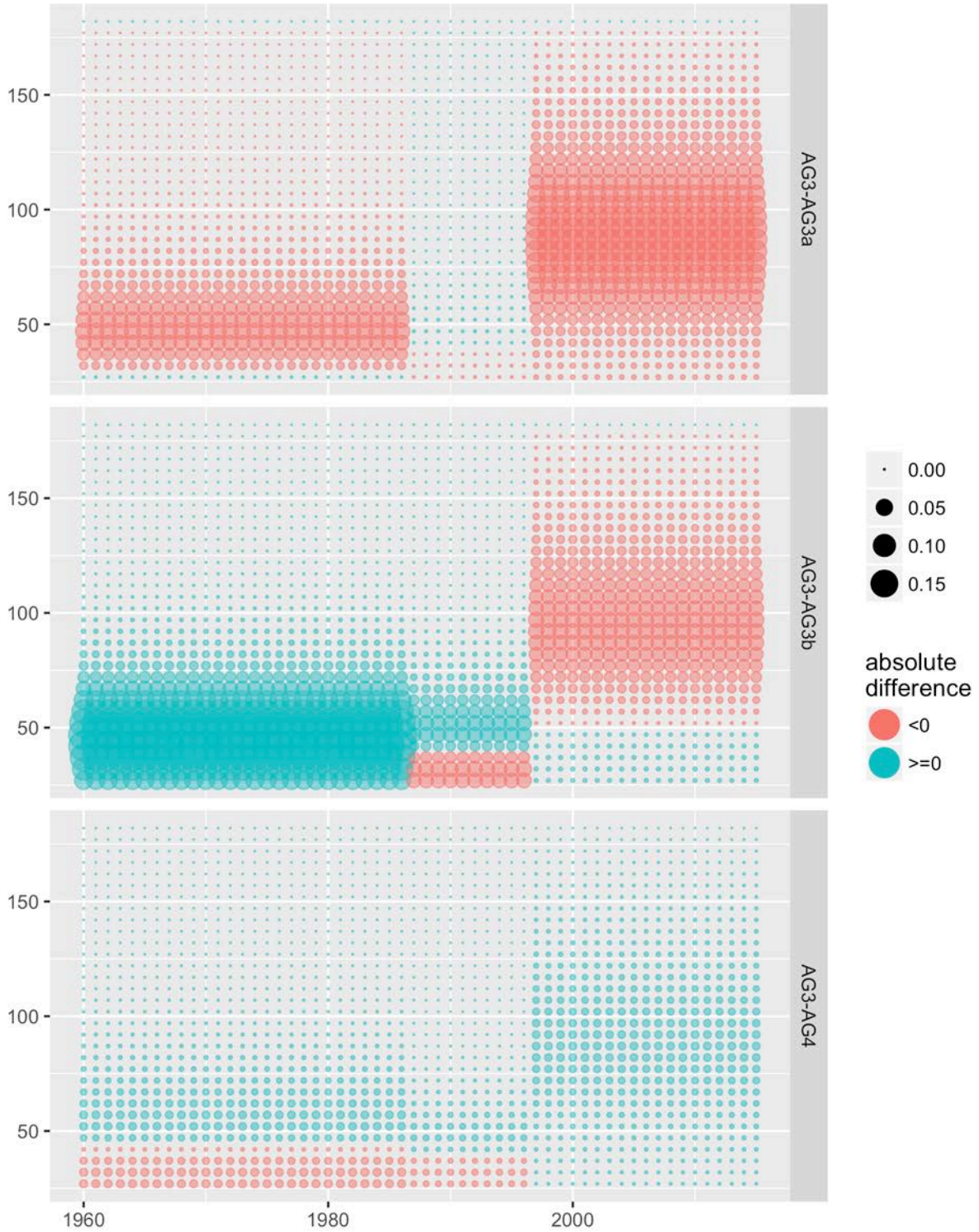


Figure 69. Differences for GTF fishery selectivity for female all maturity all shell.

GTF fishery selectivity for male all maturity all shell

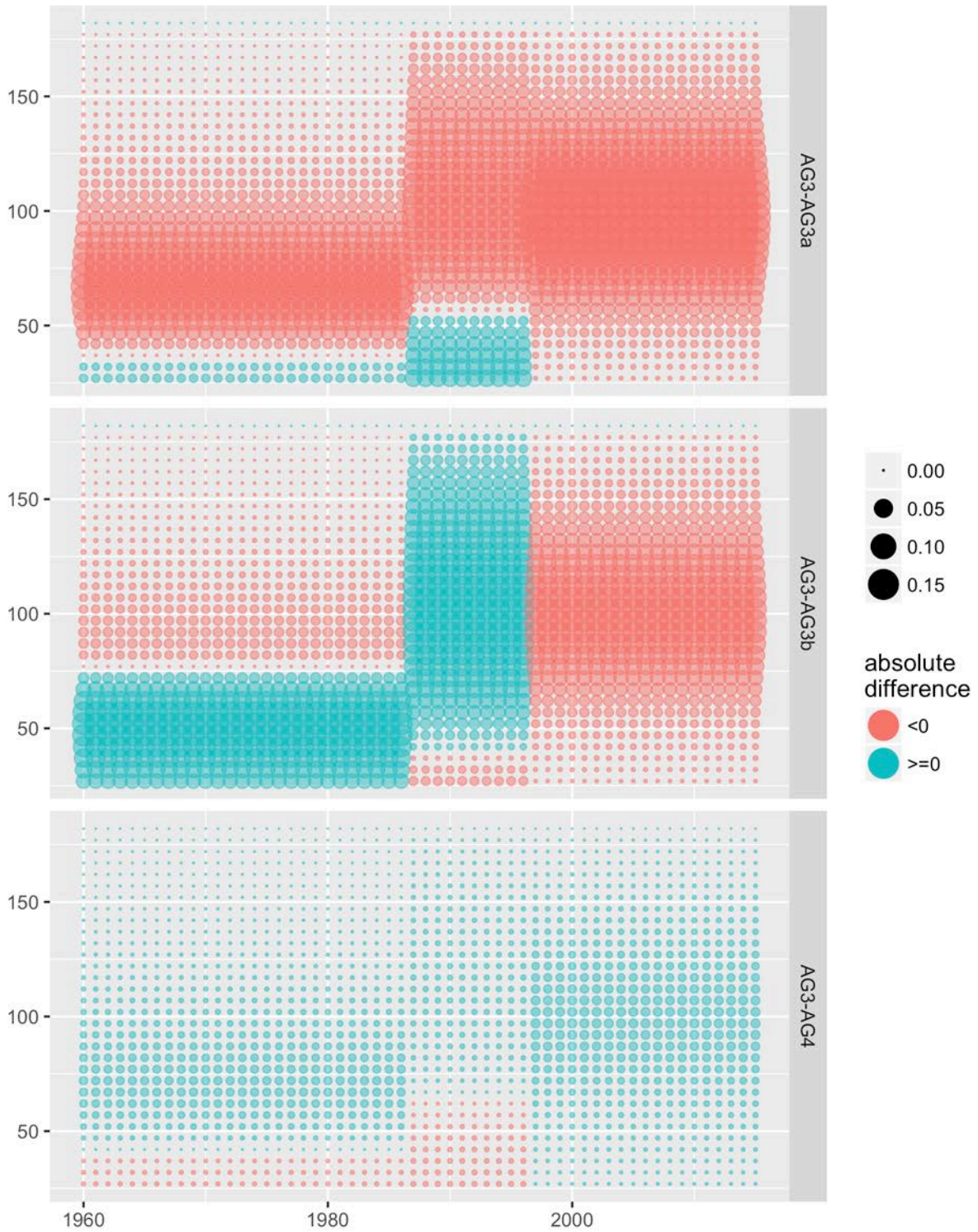


Figure 70. Differences for GTF fishery selectivity for male all maturity all shell.

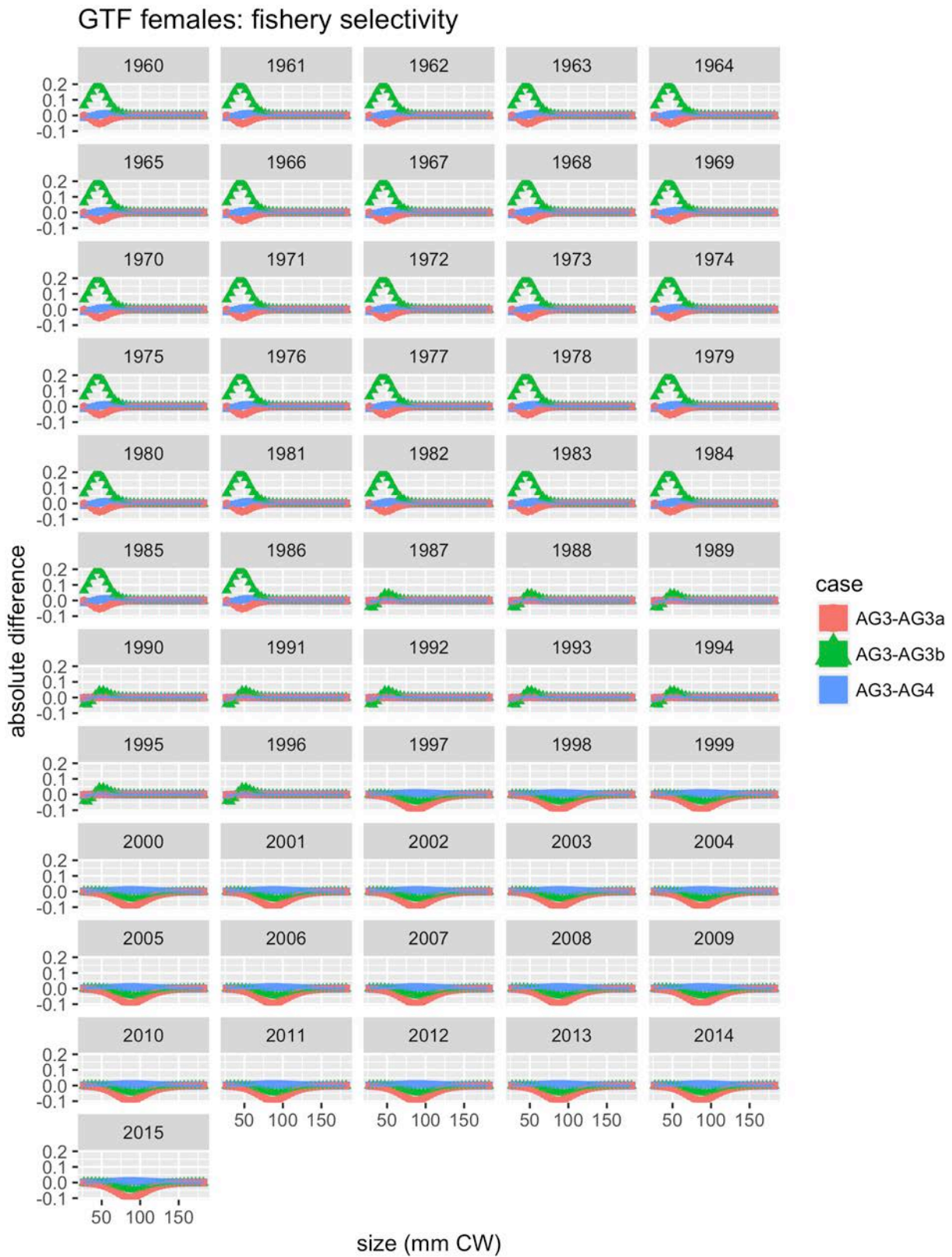


Figure 71. Differences for GTF females: fishery selectivity.

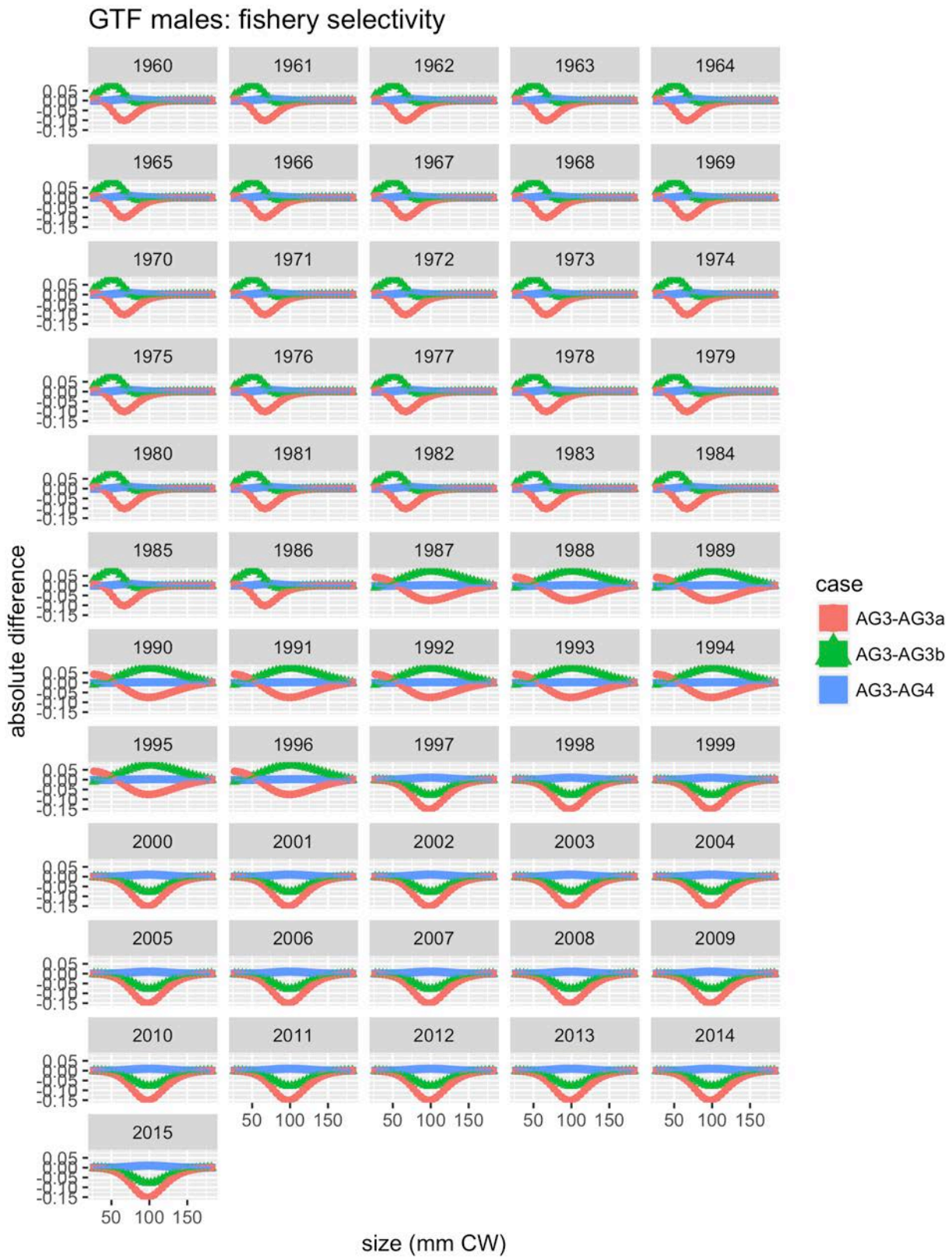


Figure 72. Differences for GTF males: fishery selectivity.

RKF fishery selectivity
for female all maturity all shell

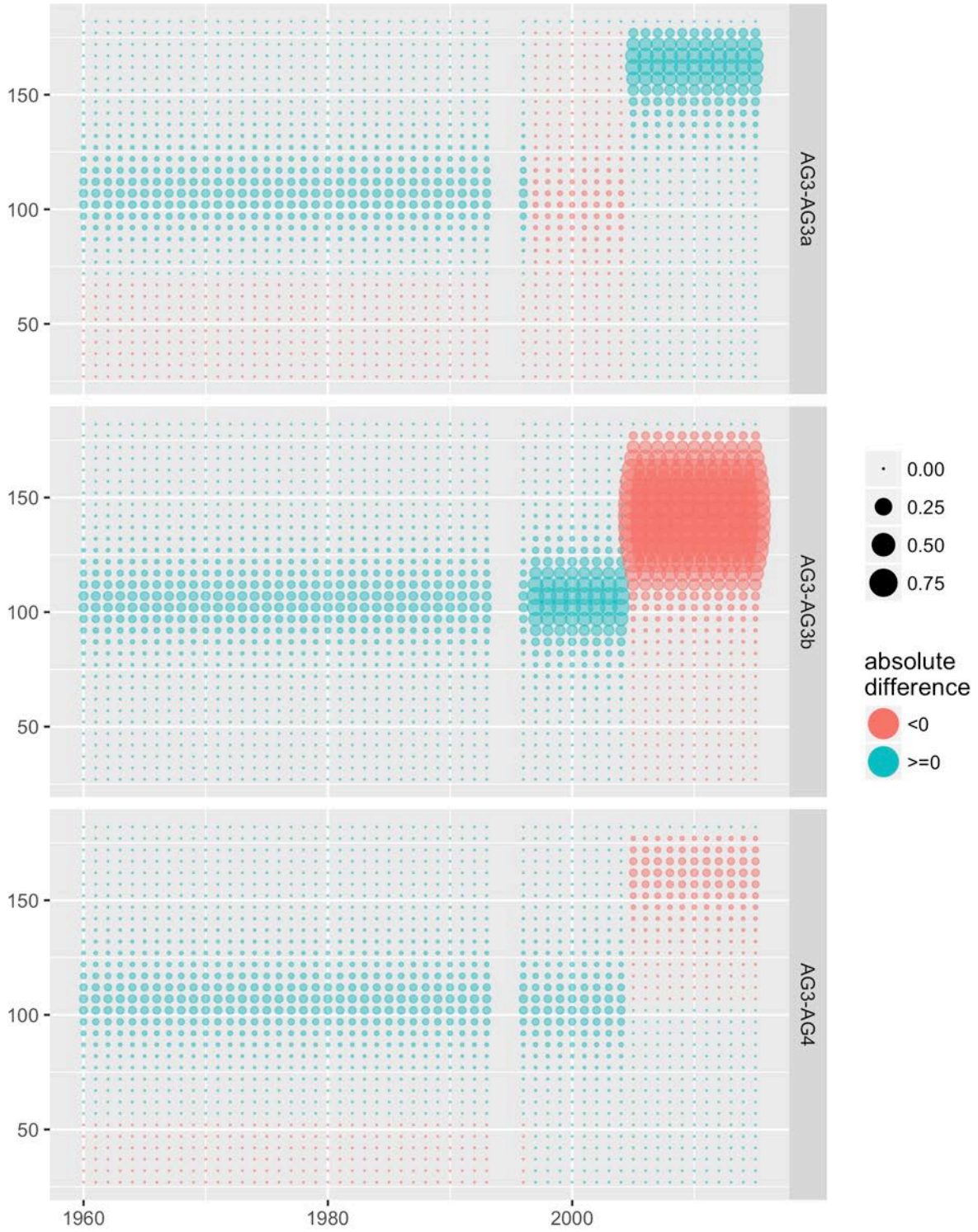


Figure 73. Differences for RKF fishery selectivity for female all maturity all shell.

RKF fishery selectivity
for male all maturity all shell

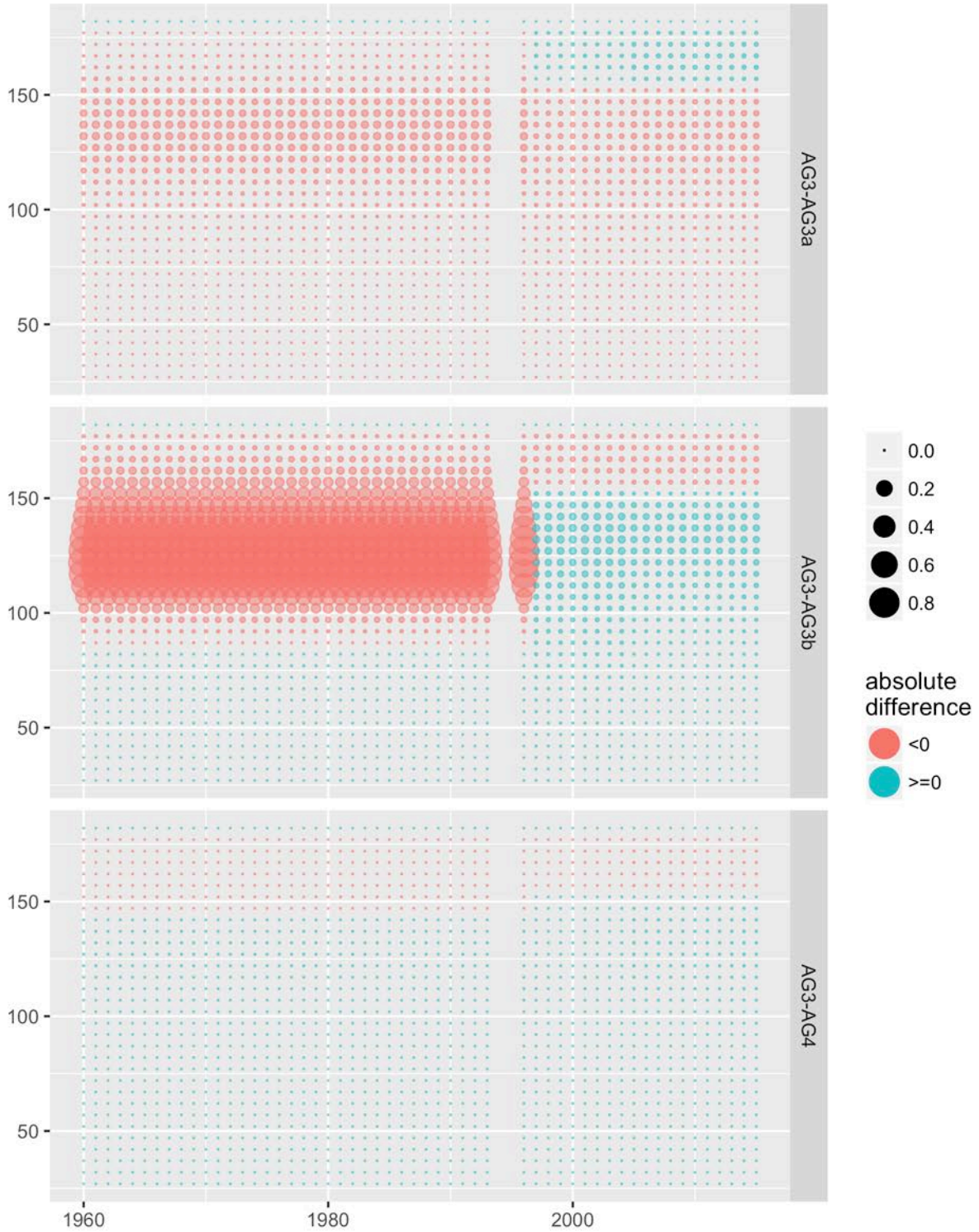


Figure 74. Differences for RKF fishery selectivity for male all maturity all shell.

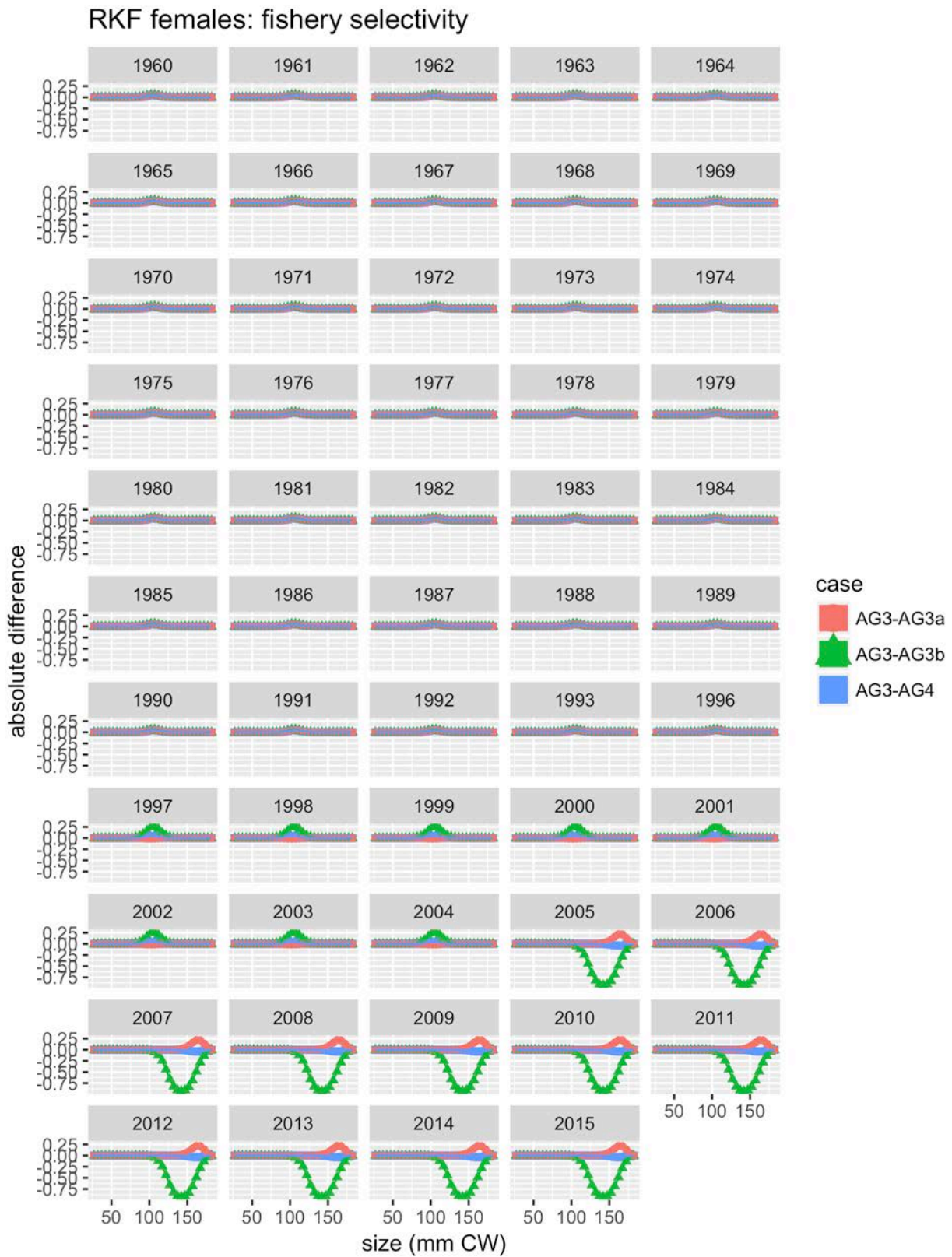


Figure 75. Differences for RKF females: fishery selectivity.

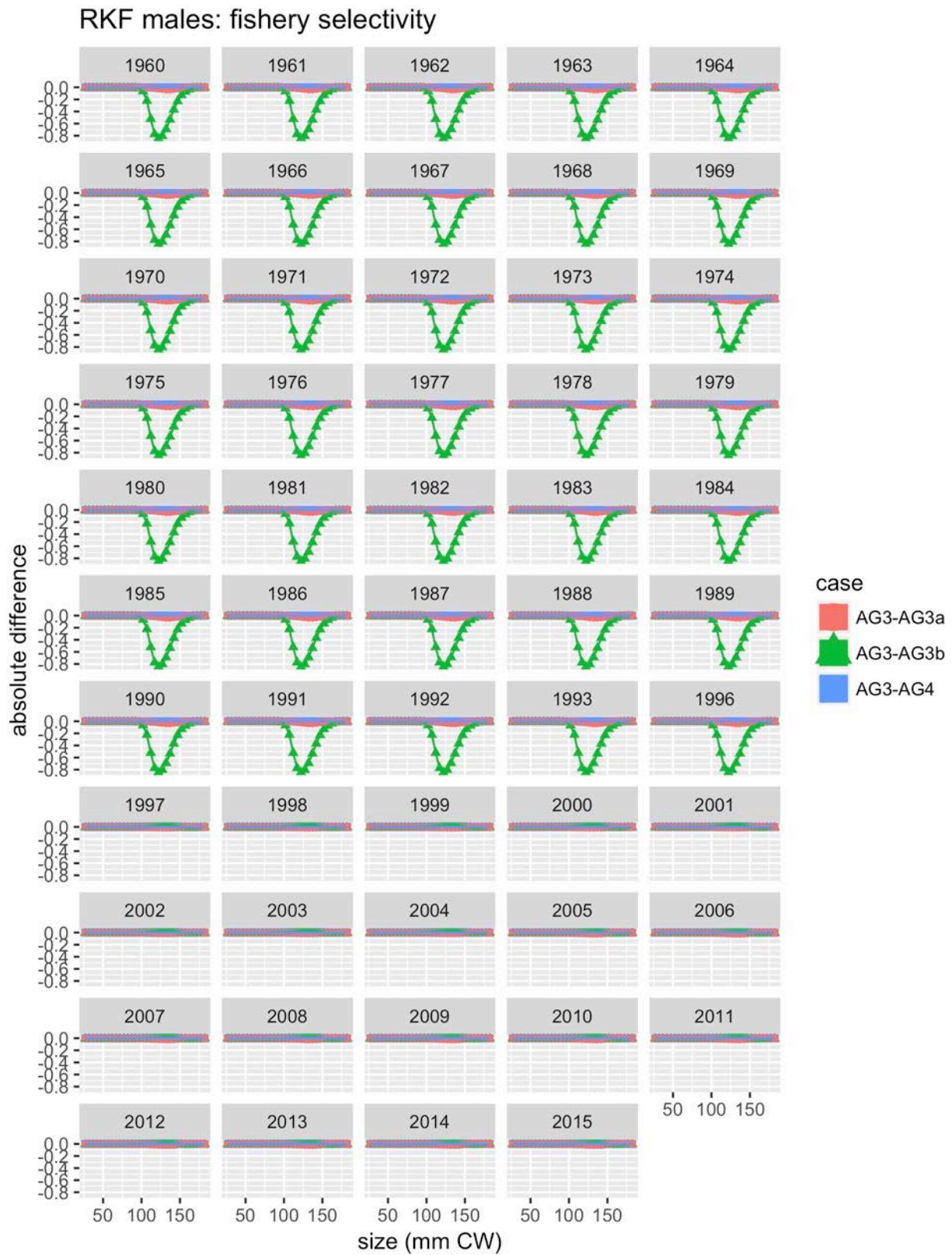


Figure 76. Differences for RKF males: fishery selectivity.

Retention functions

TCF fishery retention
for male all maturity all shell

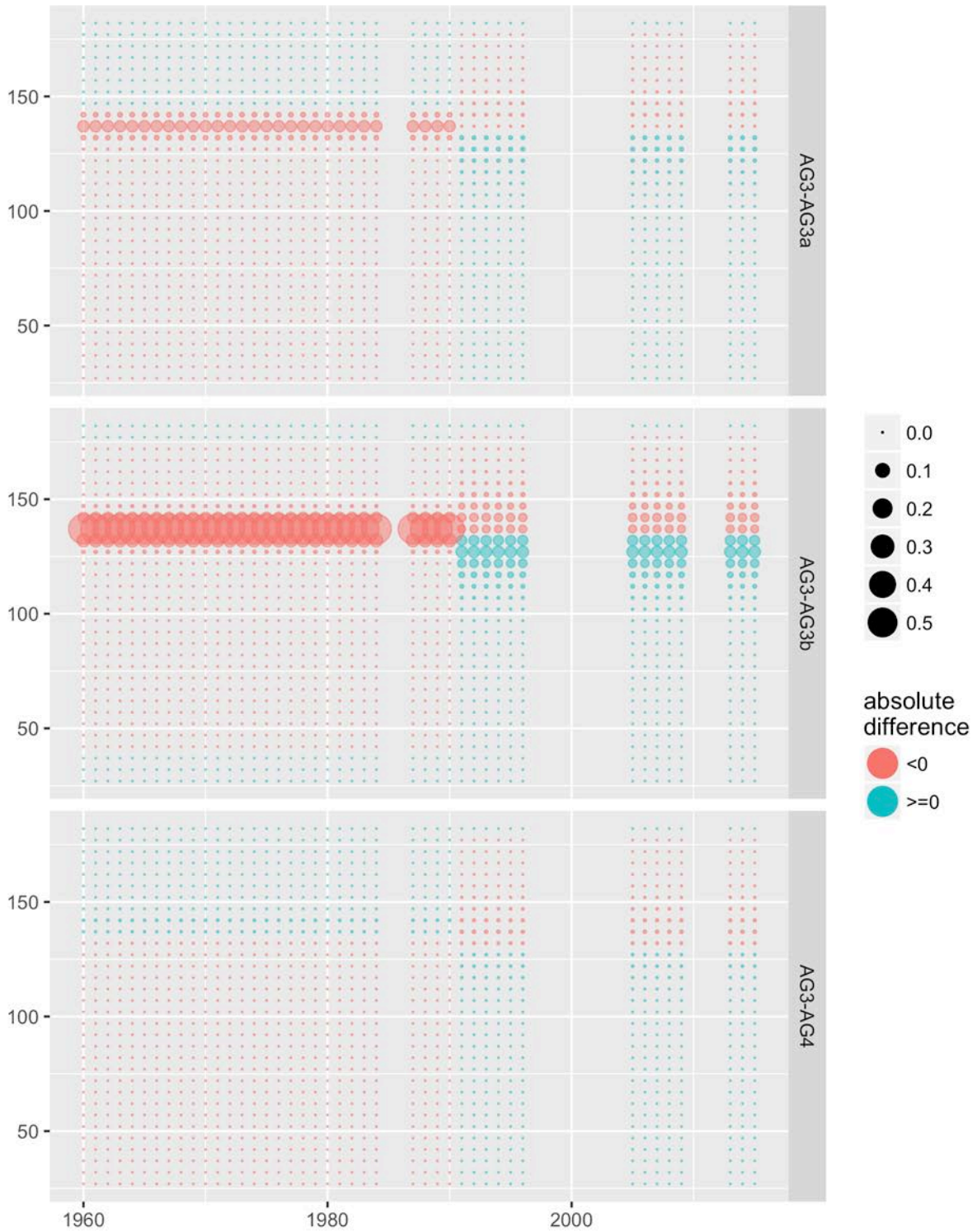


Figure 77. Differences for TCF fishery retention for male all maturity all shell.

TCF males: fishery retention

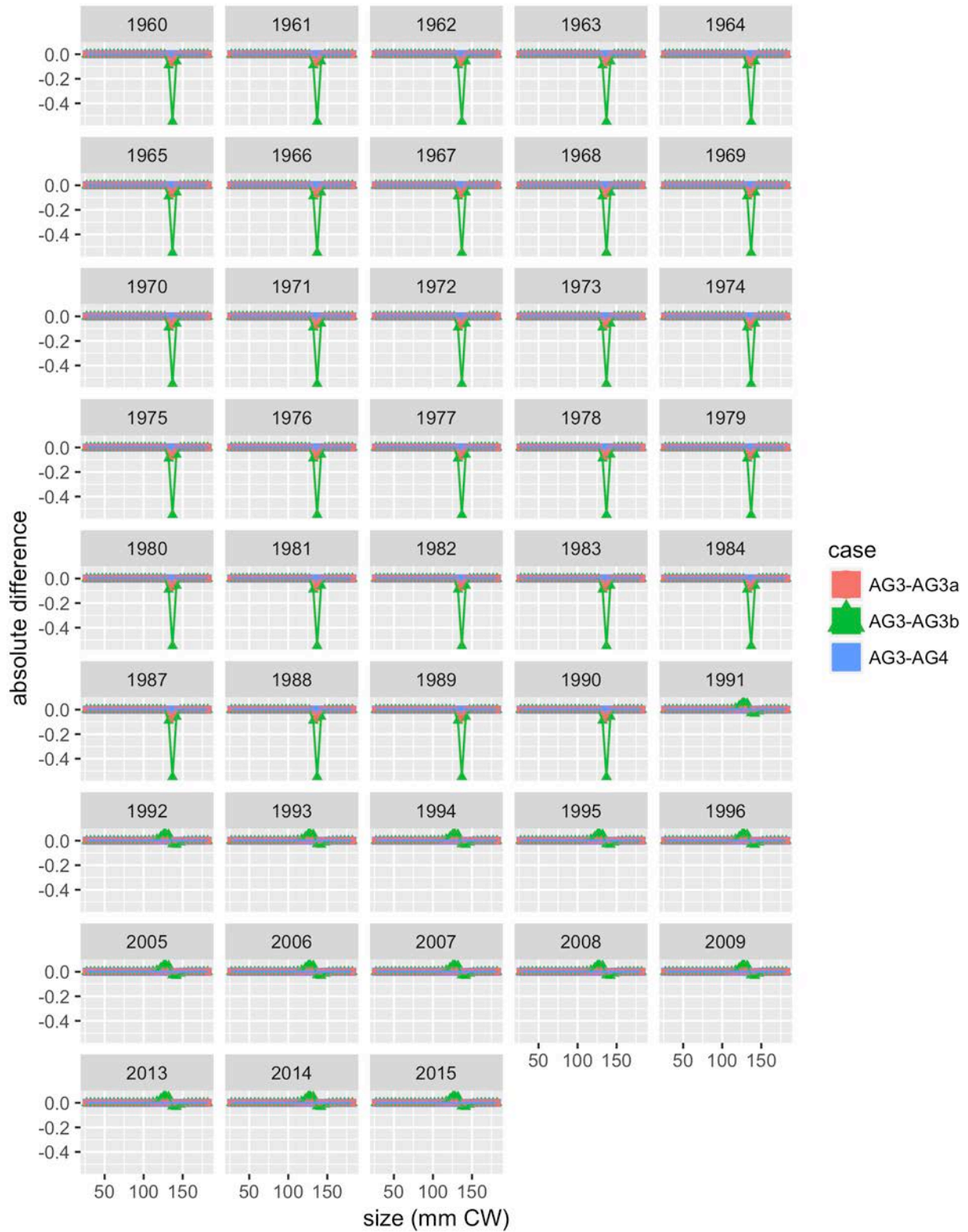


Figure 78. Differences for TCF males: fishery retention.

Total catch abundance

TCF: fishery catch abundance

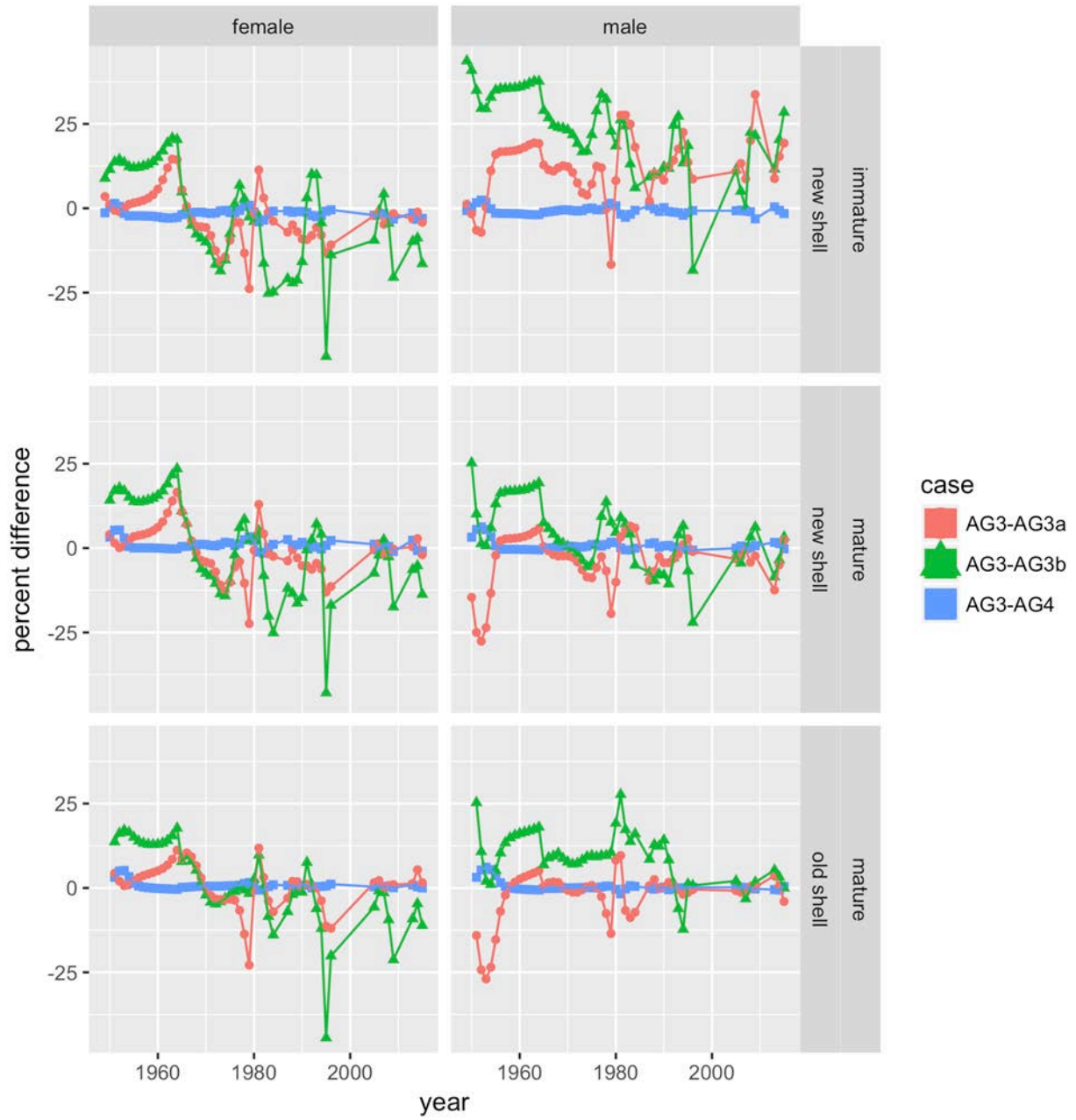


Figure 79. Differences for TCF: fishery catch abundance.

TCF: fishery catch abundance

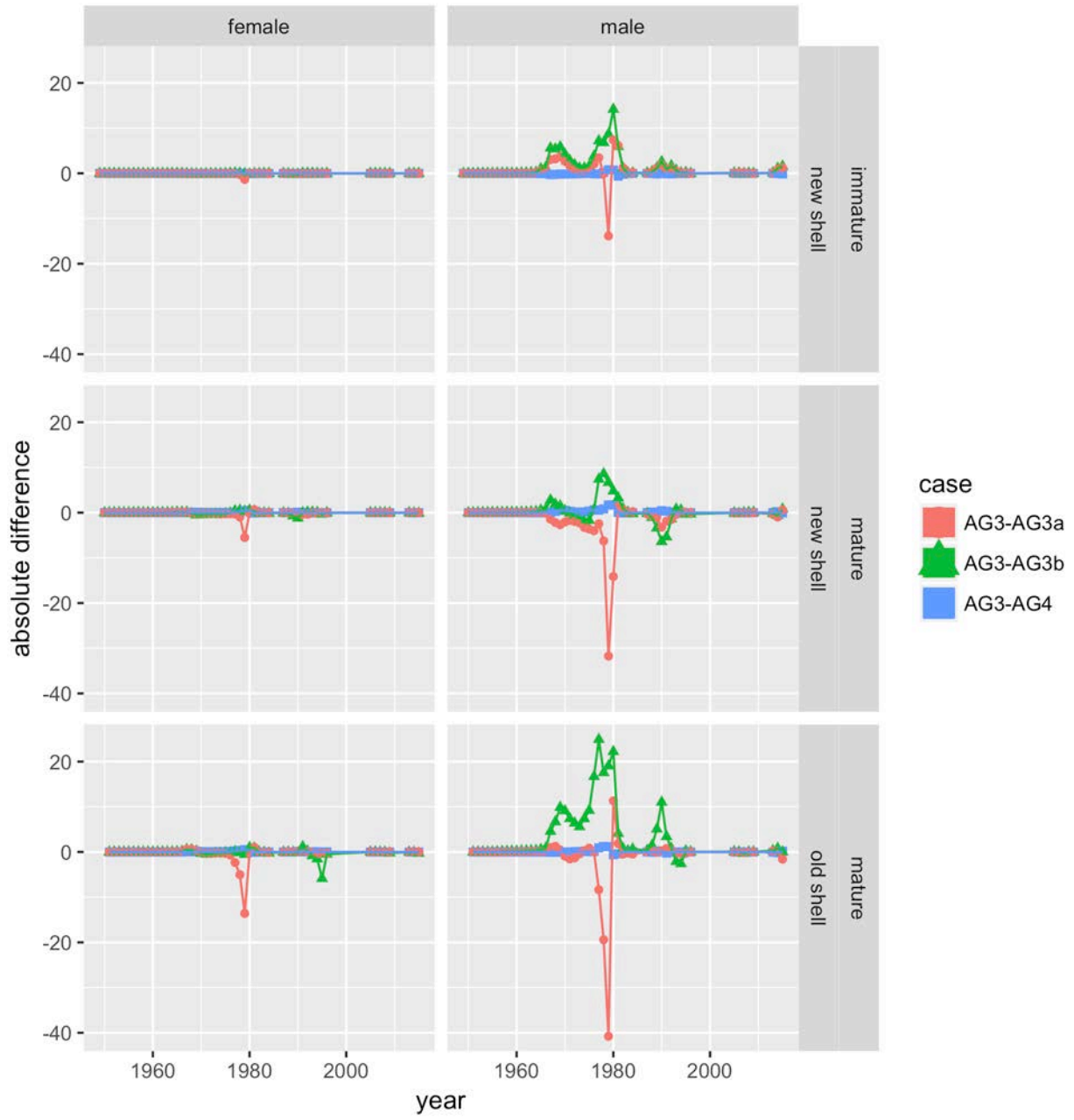


Figure 80. Differences for TCF: fishery catch abundance.

SCF: fishery catch abundance

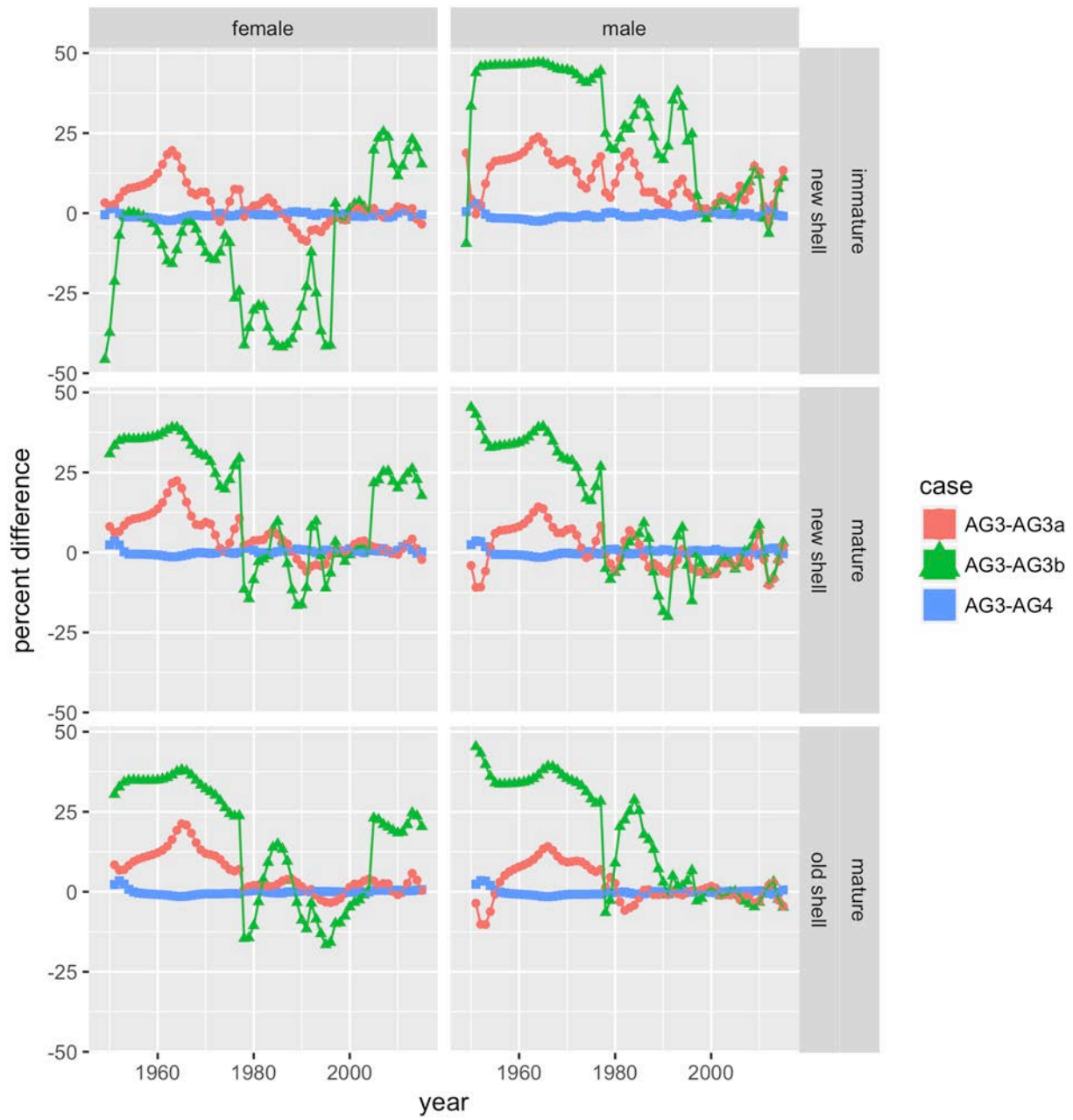


Figure 81. Differences for SCF: fishery catch abundance.

SCF: fishery catch abundance

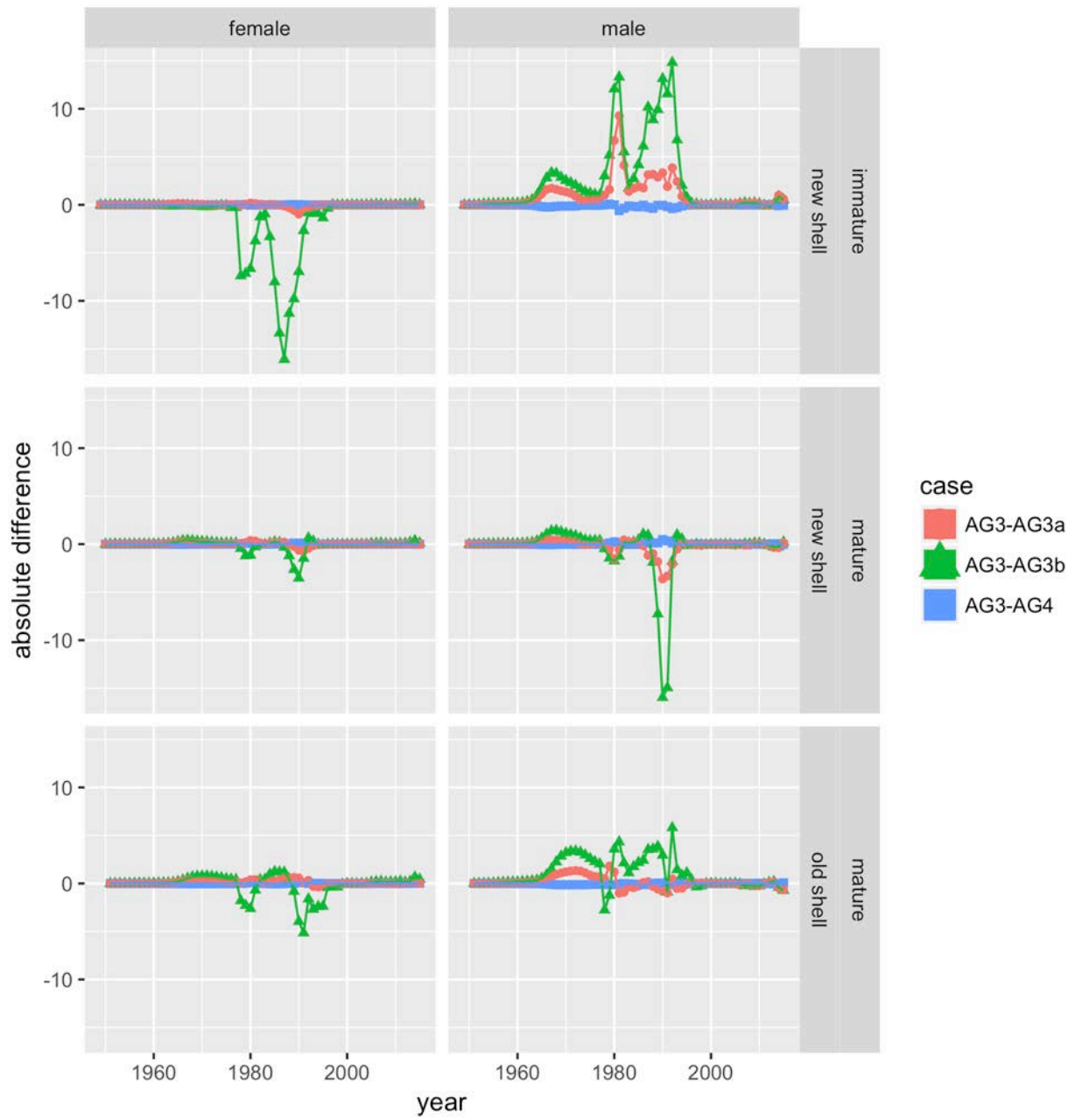


Figure 82. Differences for SCF: fishery catch abundance.

GTF: fishery catch abundance

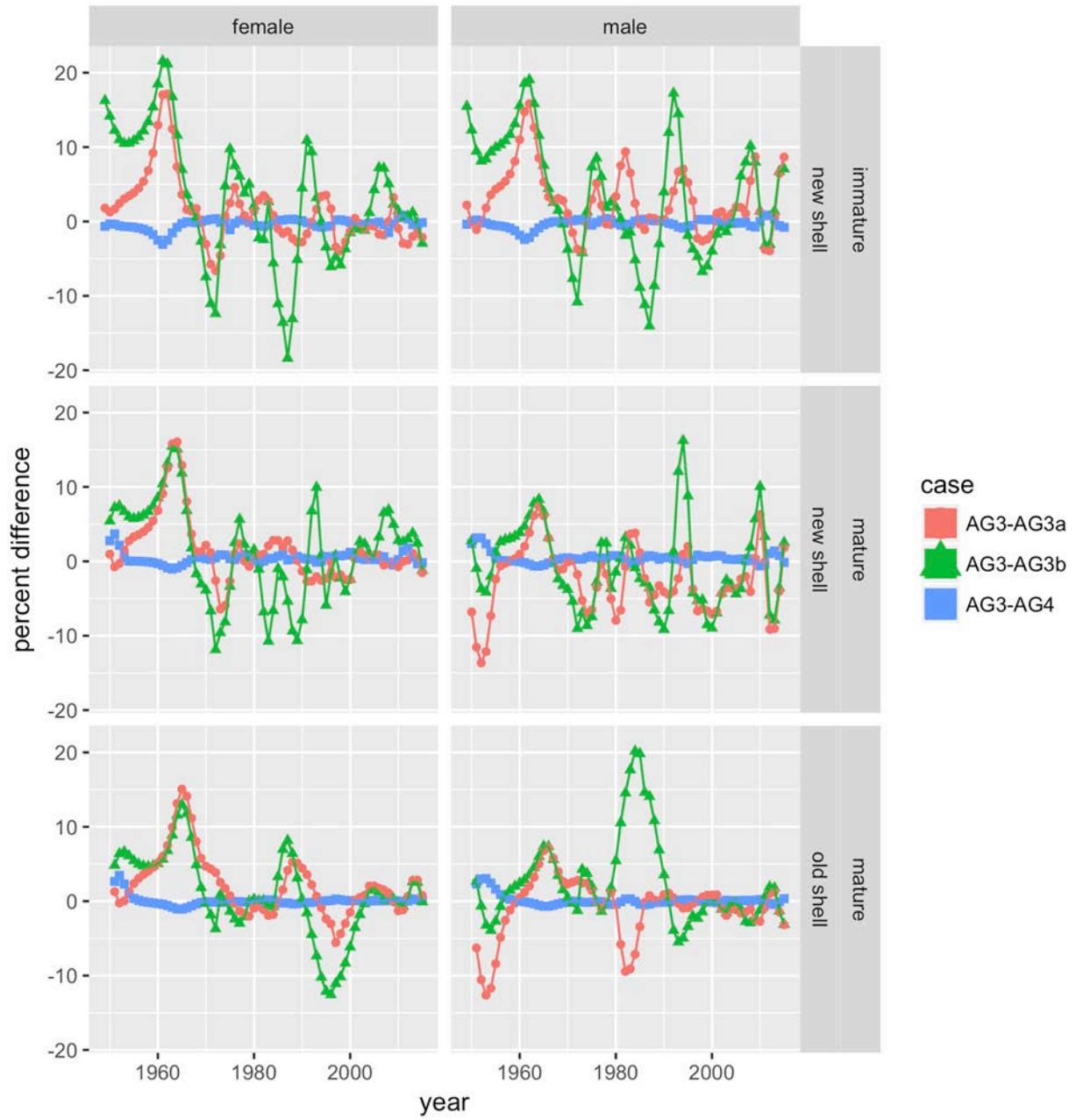


Figure 83. Differences for GTF: fishery catch abundance.

GTF: fishery catch abundance

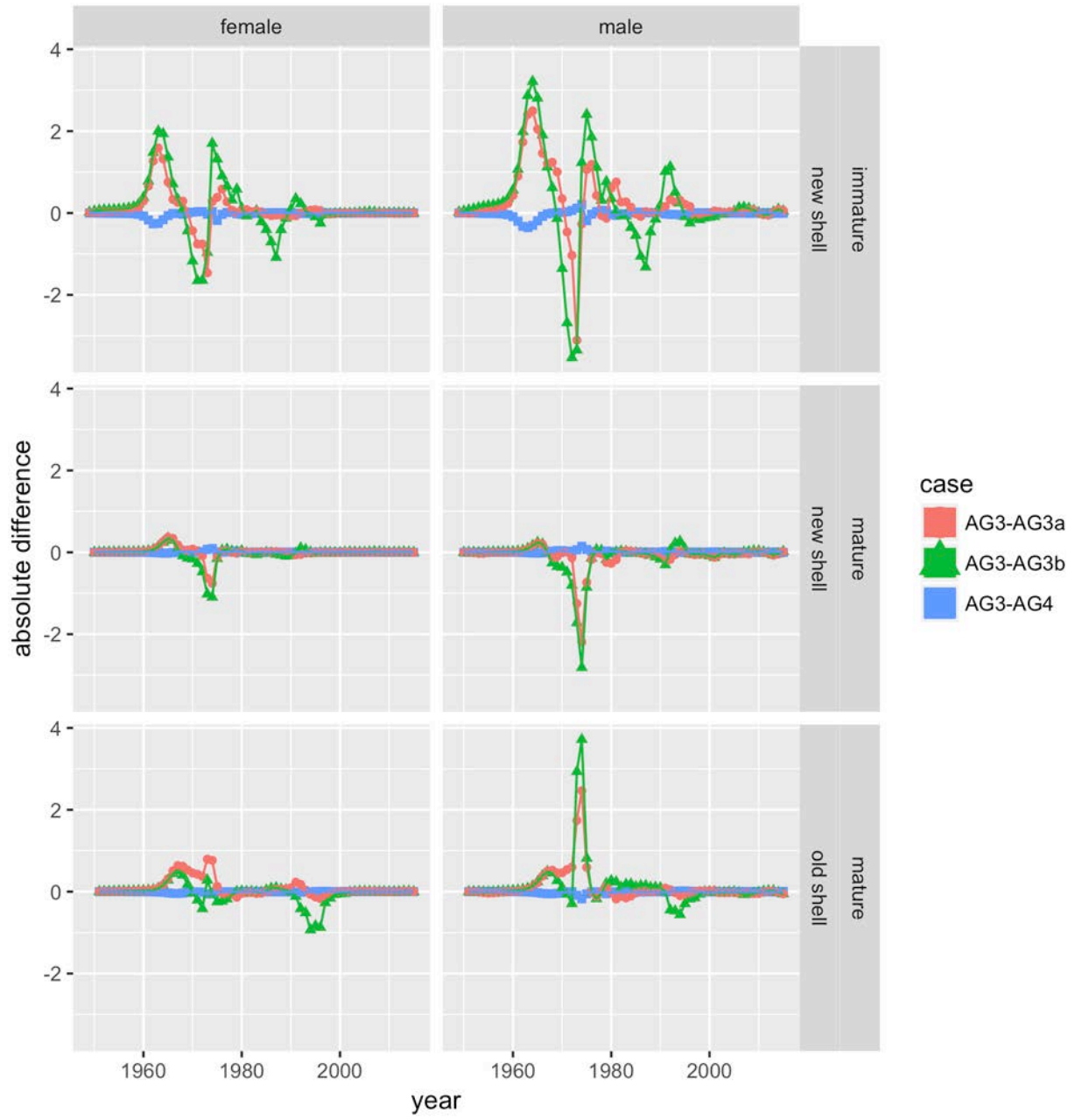


Figure 84. Differences for GTF: fishery catch abundance.

RKF: fishery catch abundance

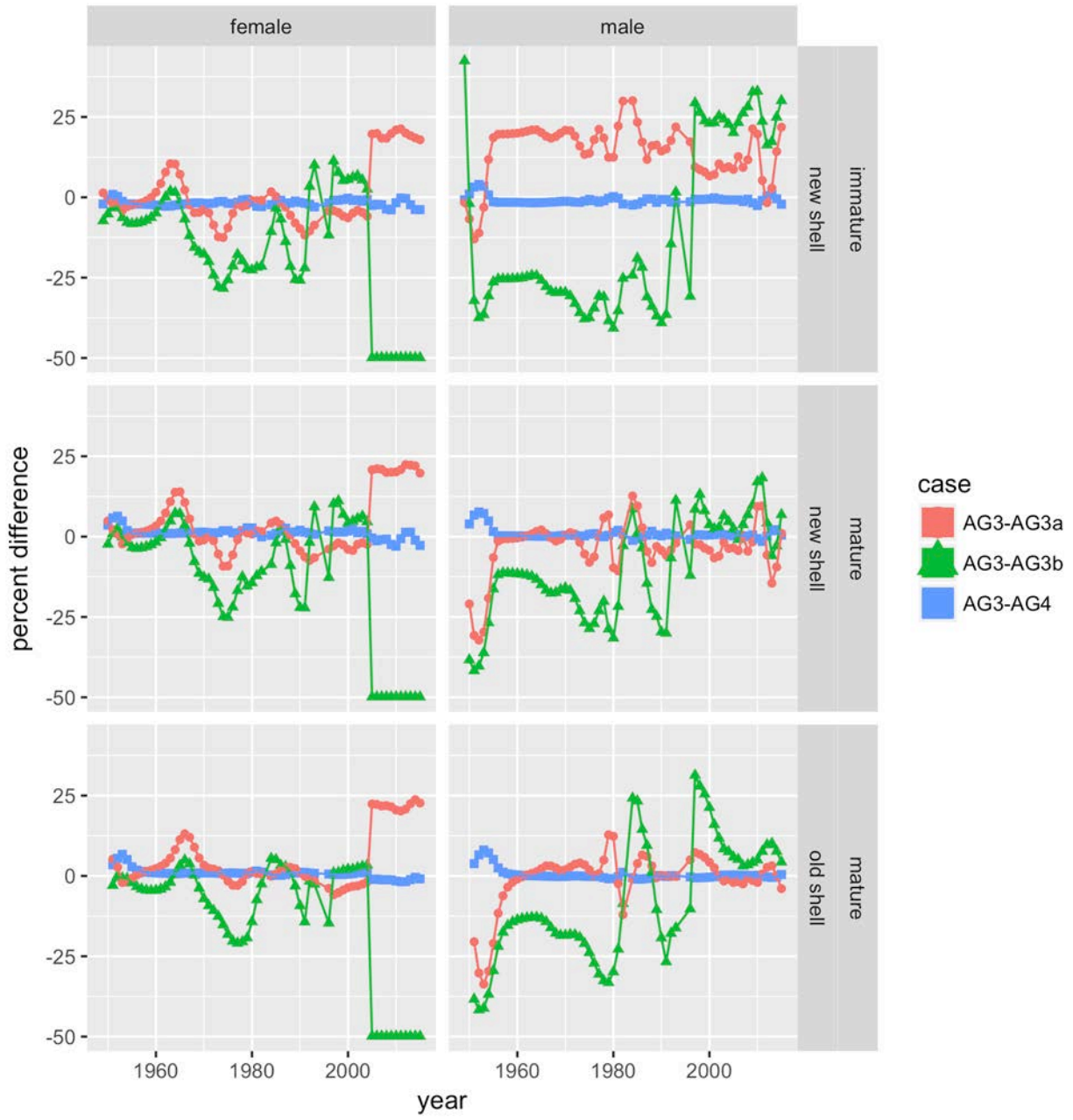


Figure 85. Differences for RKF: fishery catch abundance.

RKF: fishery catch abundance

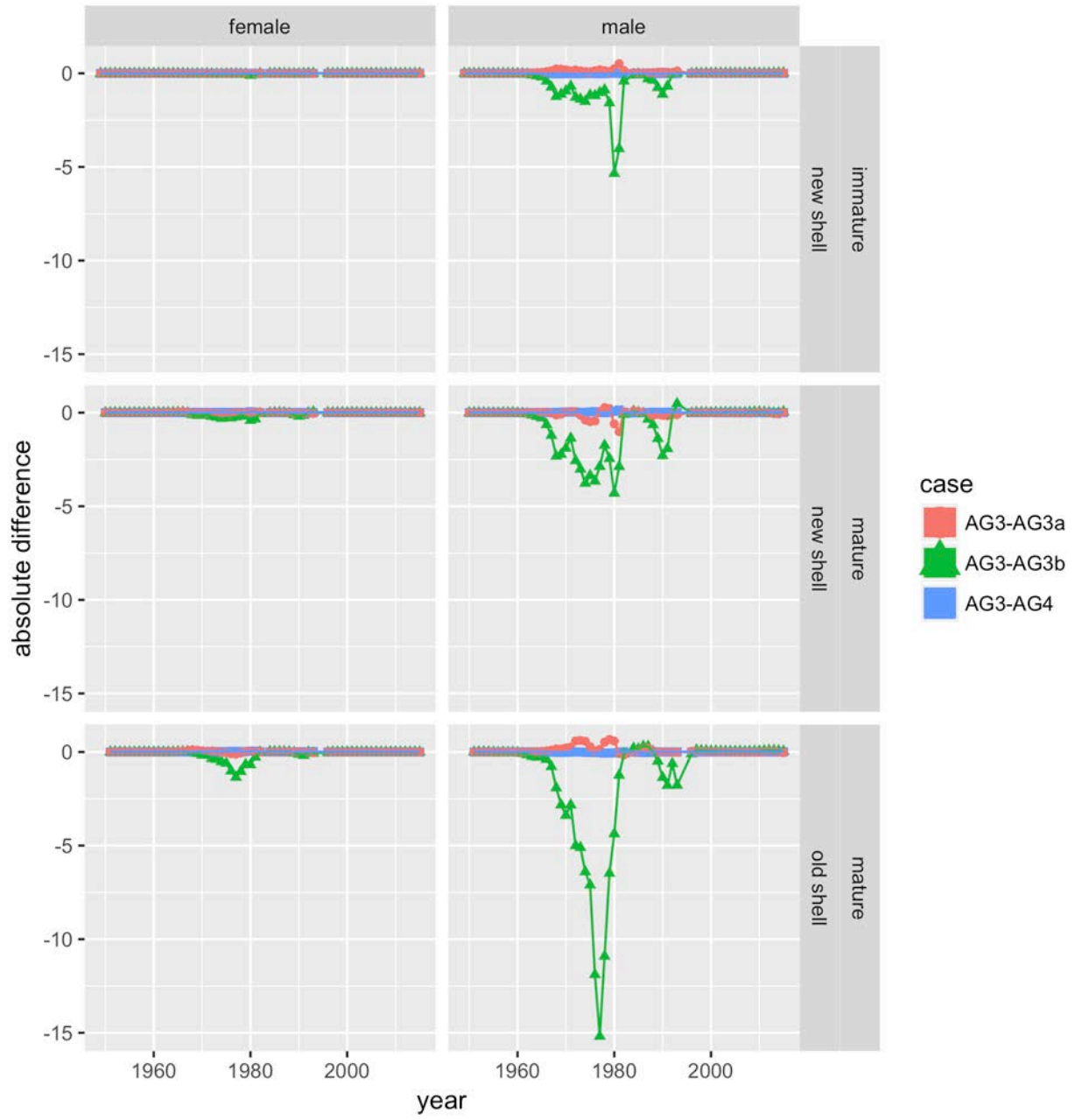


Figure 86. Differences for RKF: fishery catch abundance.

TCF fishery catch abundance for female immature new shell

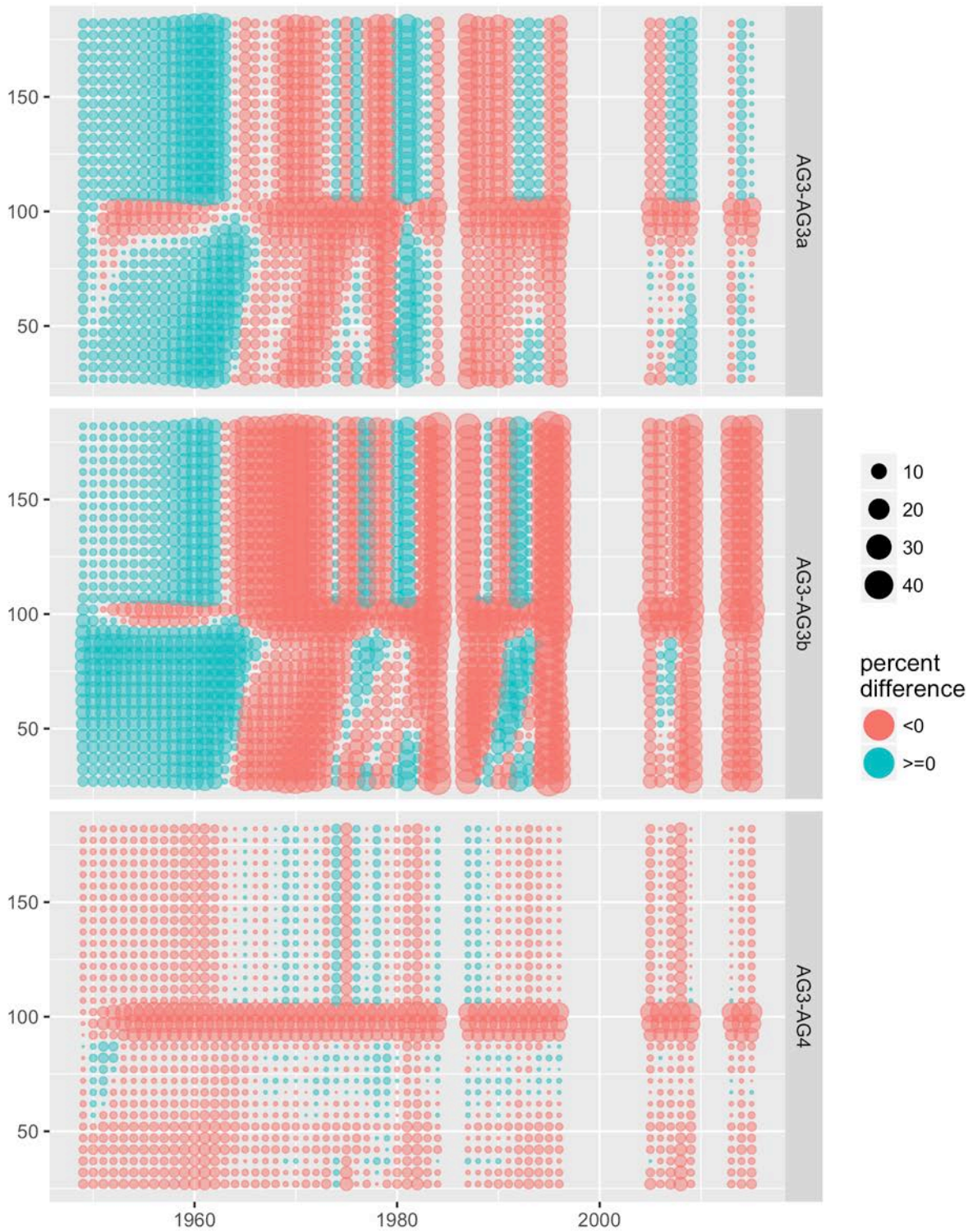


Figure 87. Differences for TCF fishery catch abundance for female immature new shell.

TCF fishery catch abundance
for female mature new shell

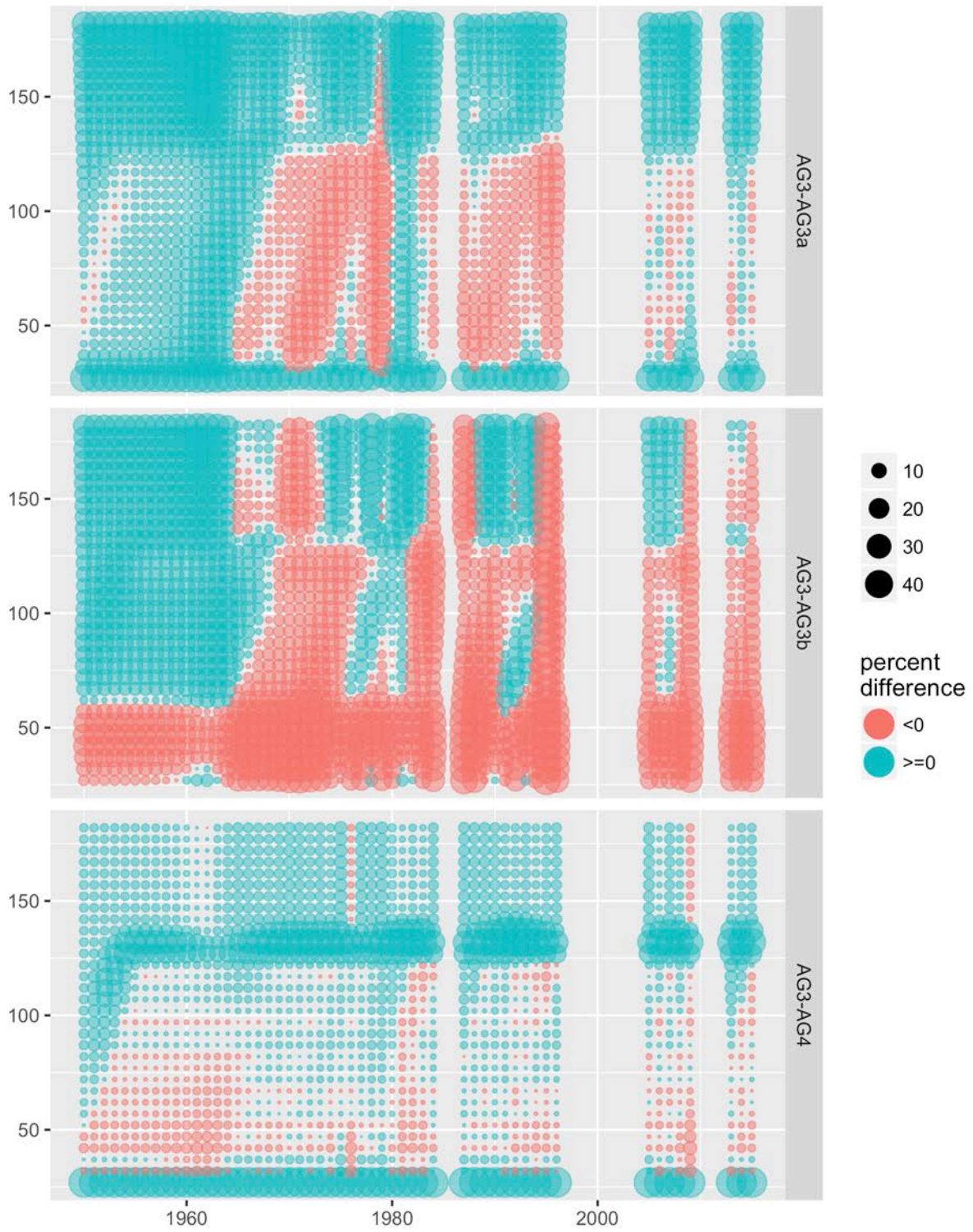


Figure 88. Differences for TCF fishery catch abundance for female mature new shell.

TCF fishery catch abundance
for female mature old shell

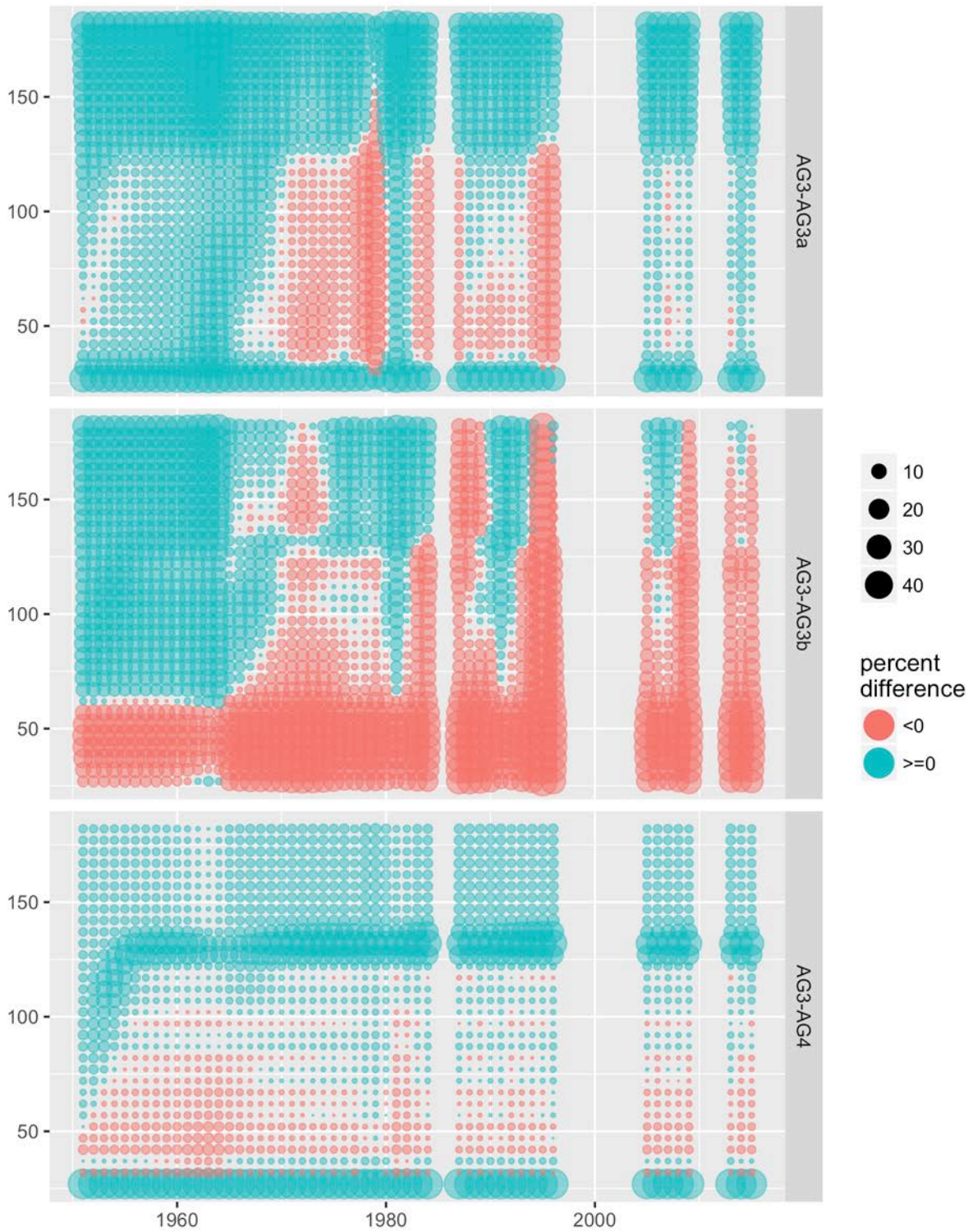


Figure 89. Differences for TCF fishery catch abundance for female mature old shell.

TCF fishery catch abundance
for male immature new shell

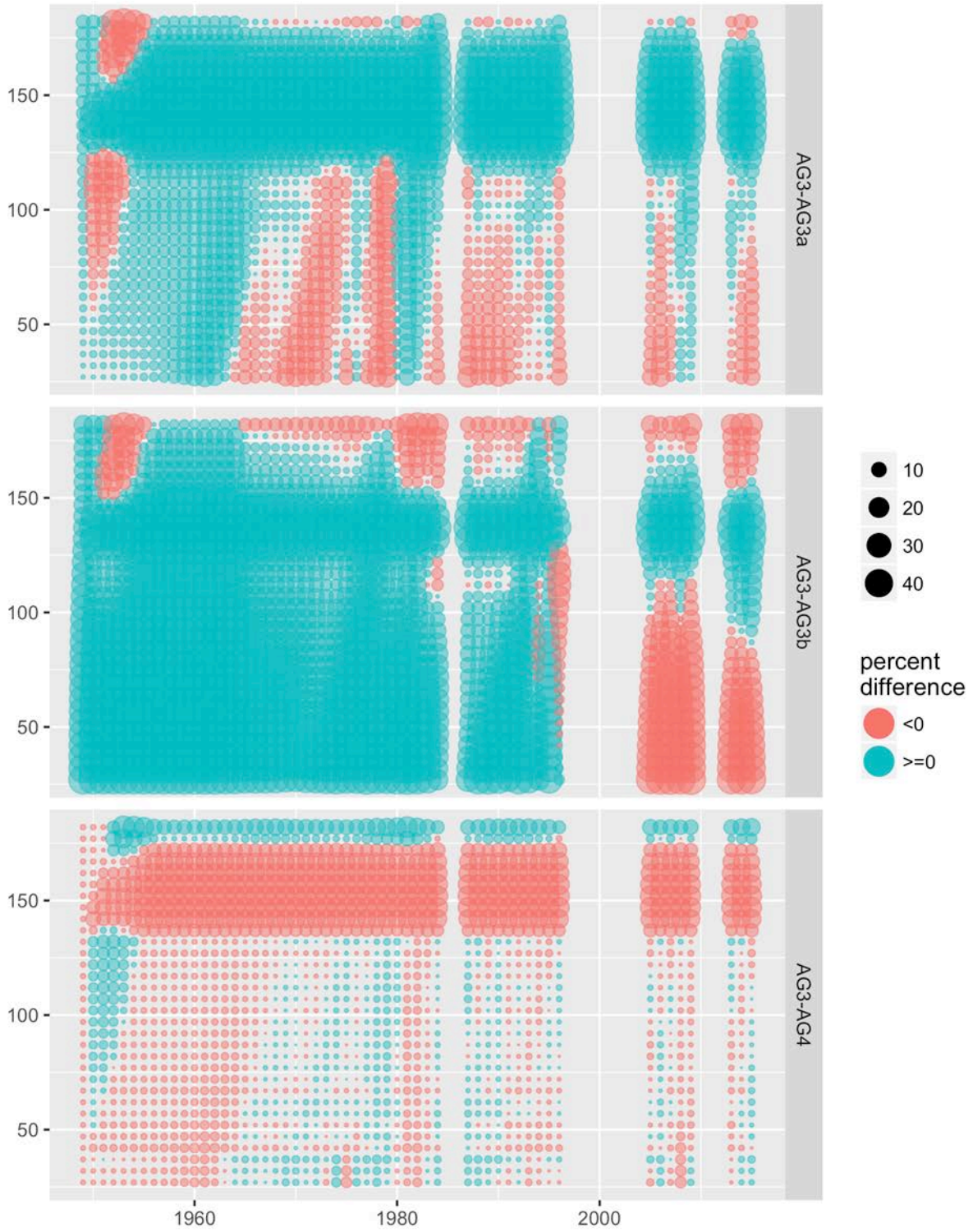


Figure 90. Differences for TCF fishery catch abundance for male immature new shell.

TCF fishery catch abundance
for male mature new shell

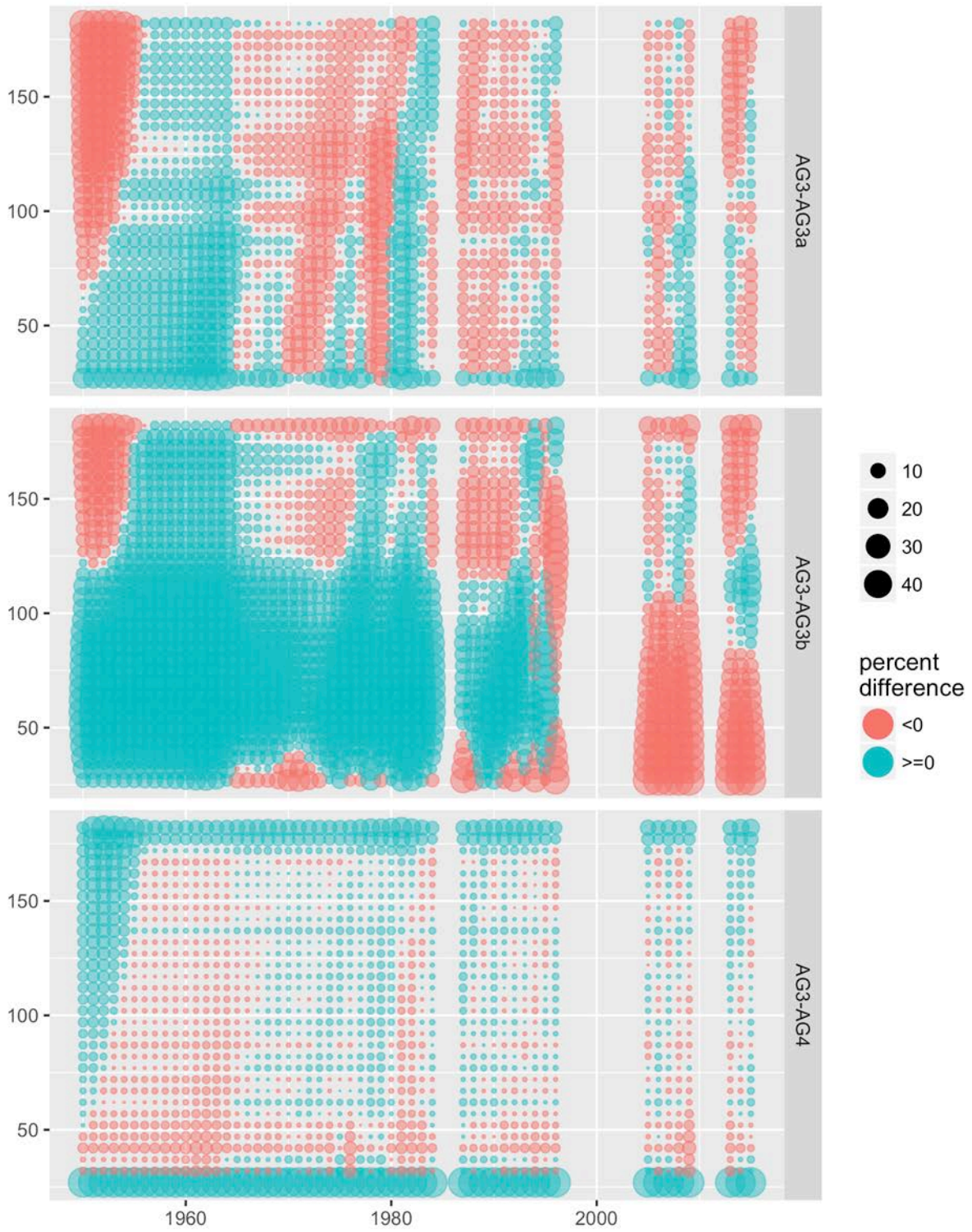


Figure 91. Differences for TCF fishery catch abundance for male mature new shell.

TCF fishery catch abundance
for male mature old shell

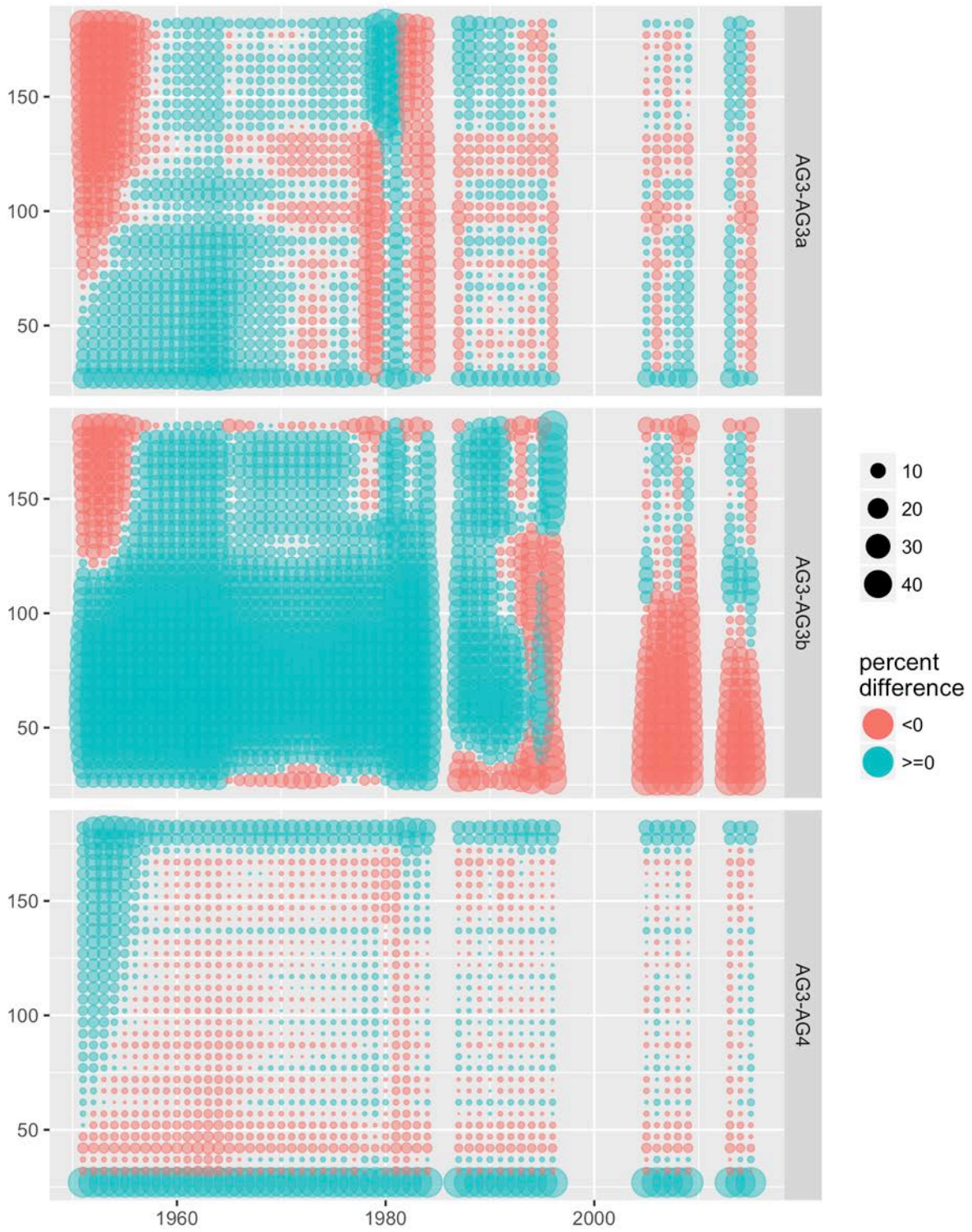


Figure 92. Differences for TCF fishery catch abundance for male mature old shell.

TCF fishery catch abundance for female immature new shell

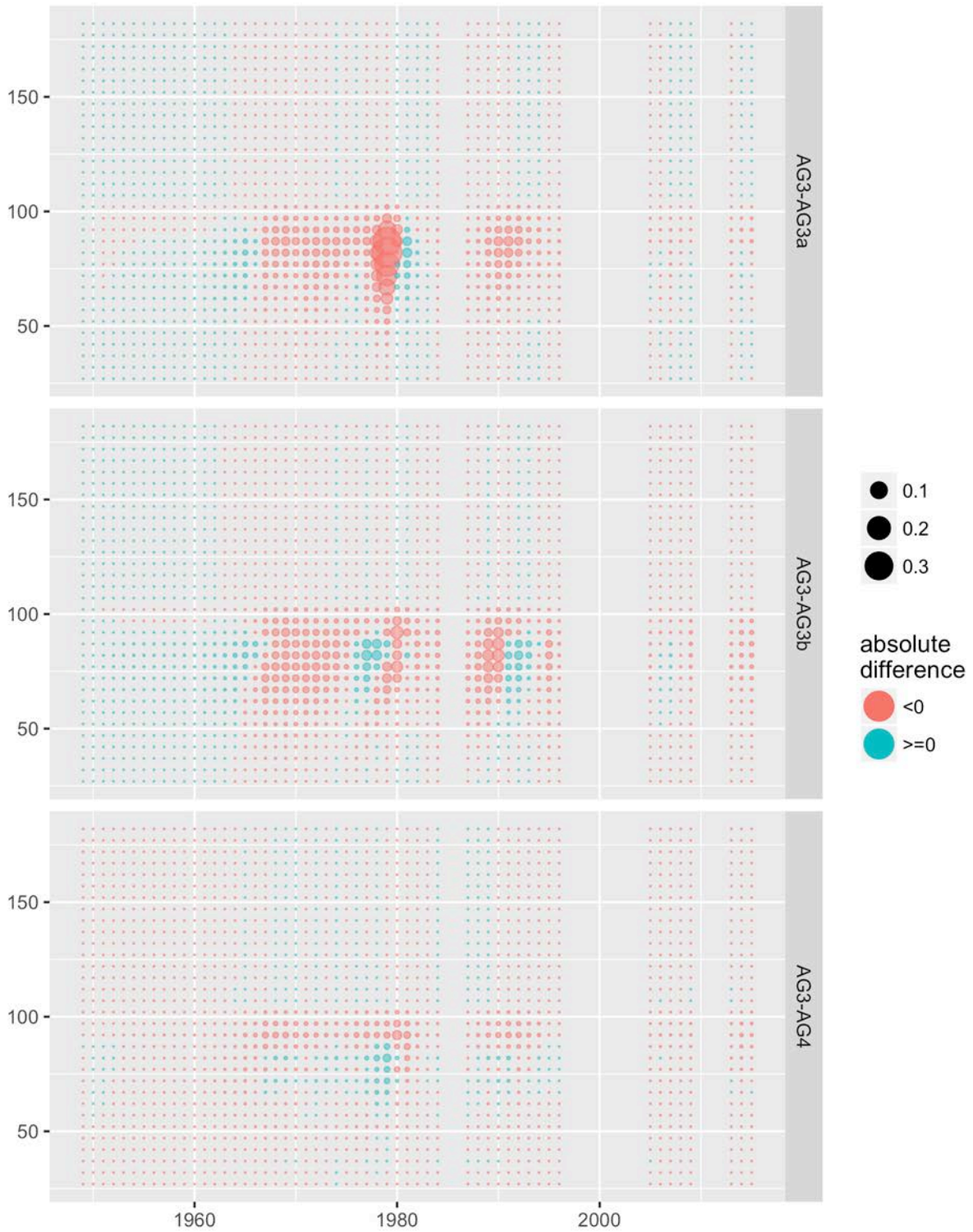


Figure 93. Differences for TCF fishery catch abundance for female immature new shell.

TCF fishery catch abundance for female mature new shell

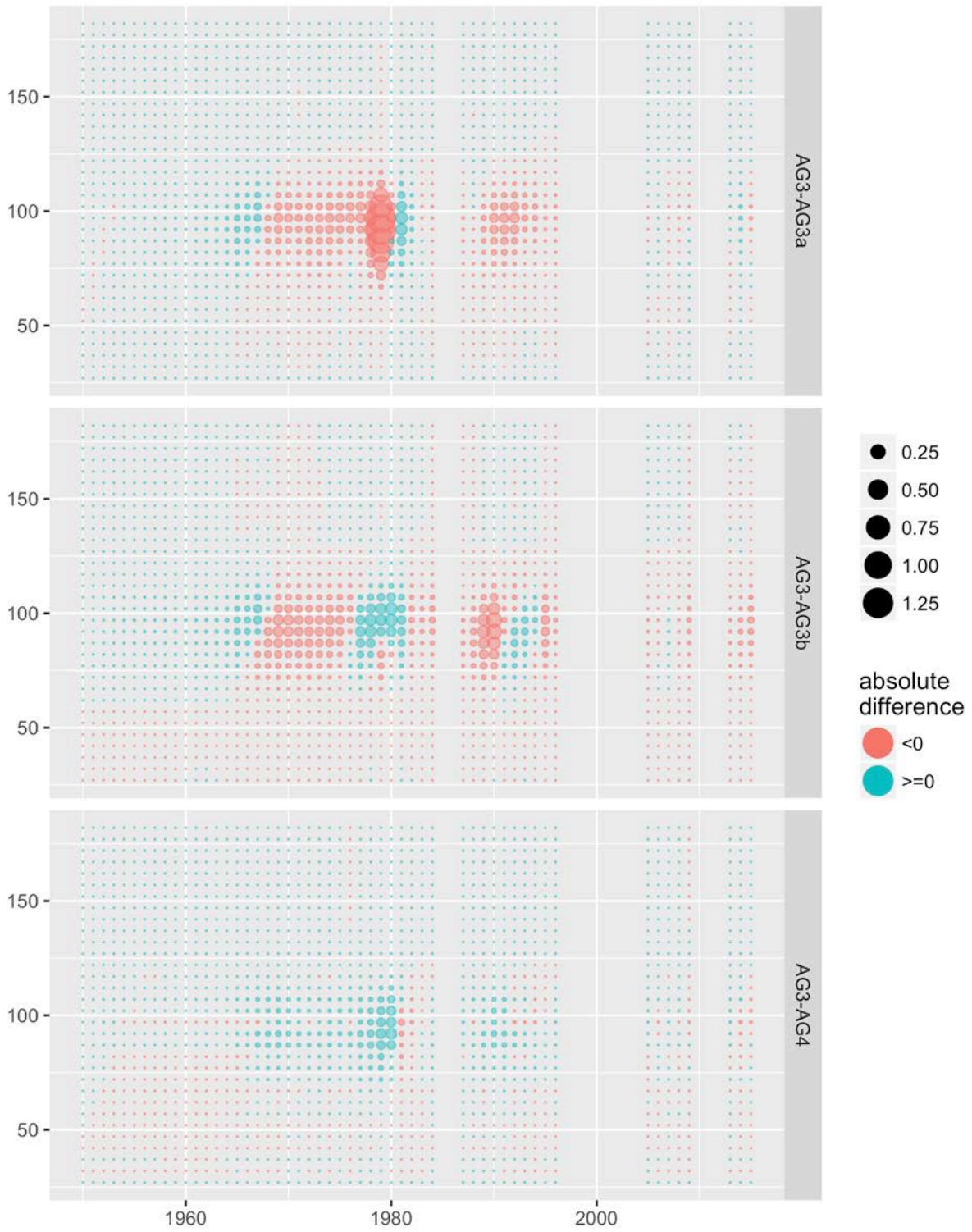


Figure 94. Differences for TCF fishery catch abundance for female mature new shell.

TCF fishery catch abundance
for female mature old shell

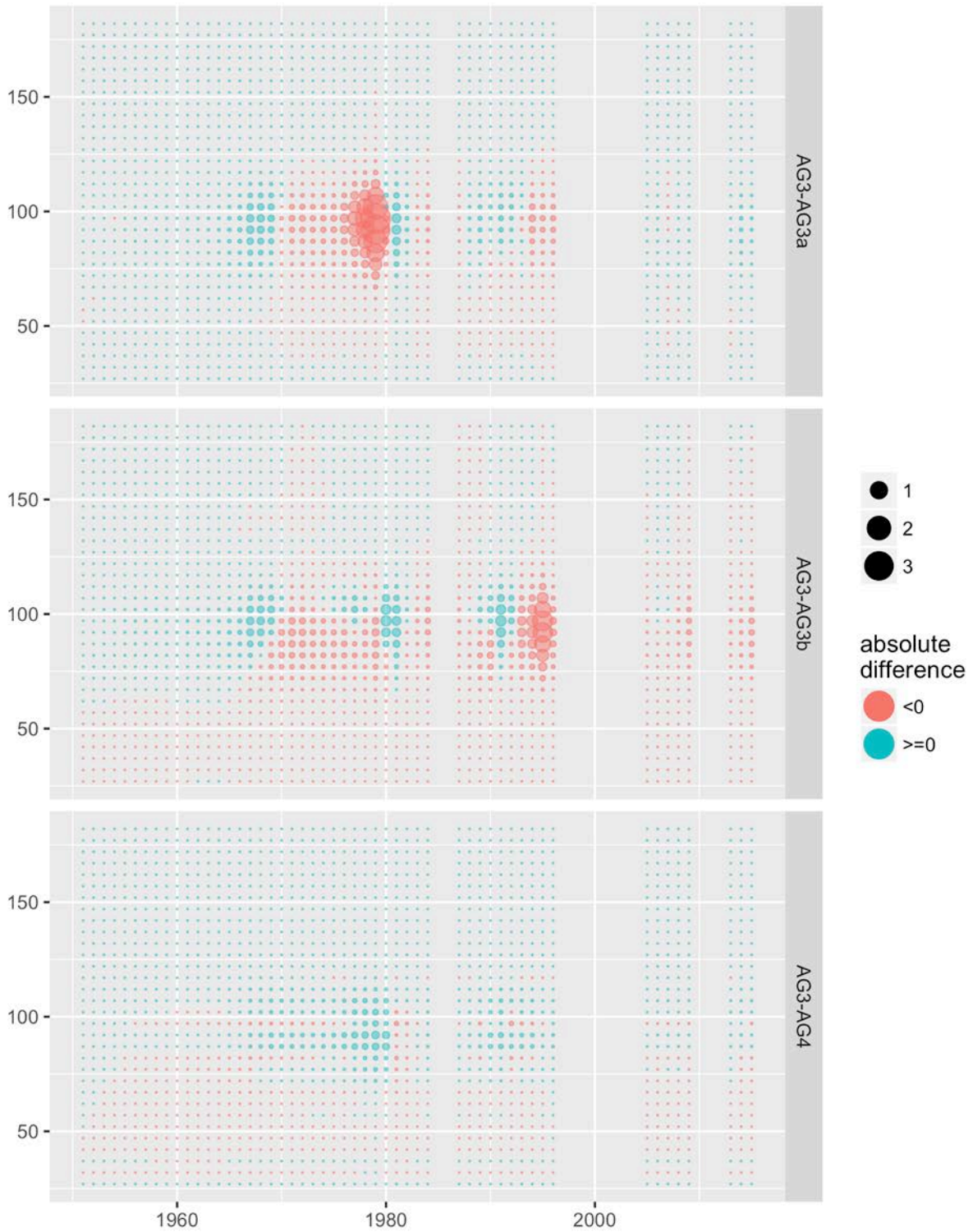


Figure 95. Differences for TCF fishery catch abundance for female mature old shell.

TCF fishery catch abundance
for male immature new shell

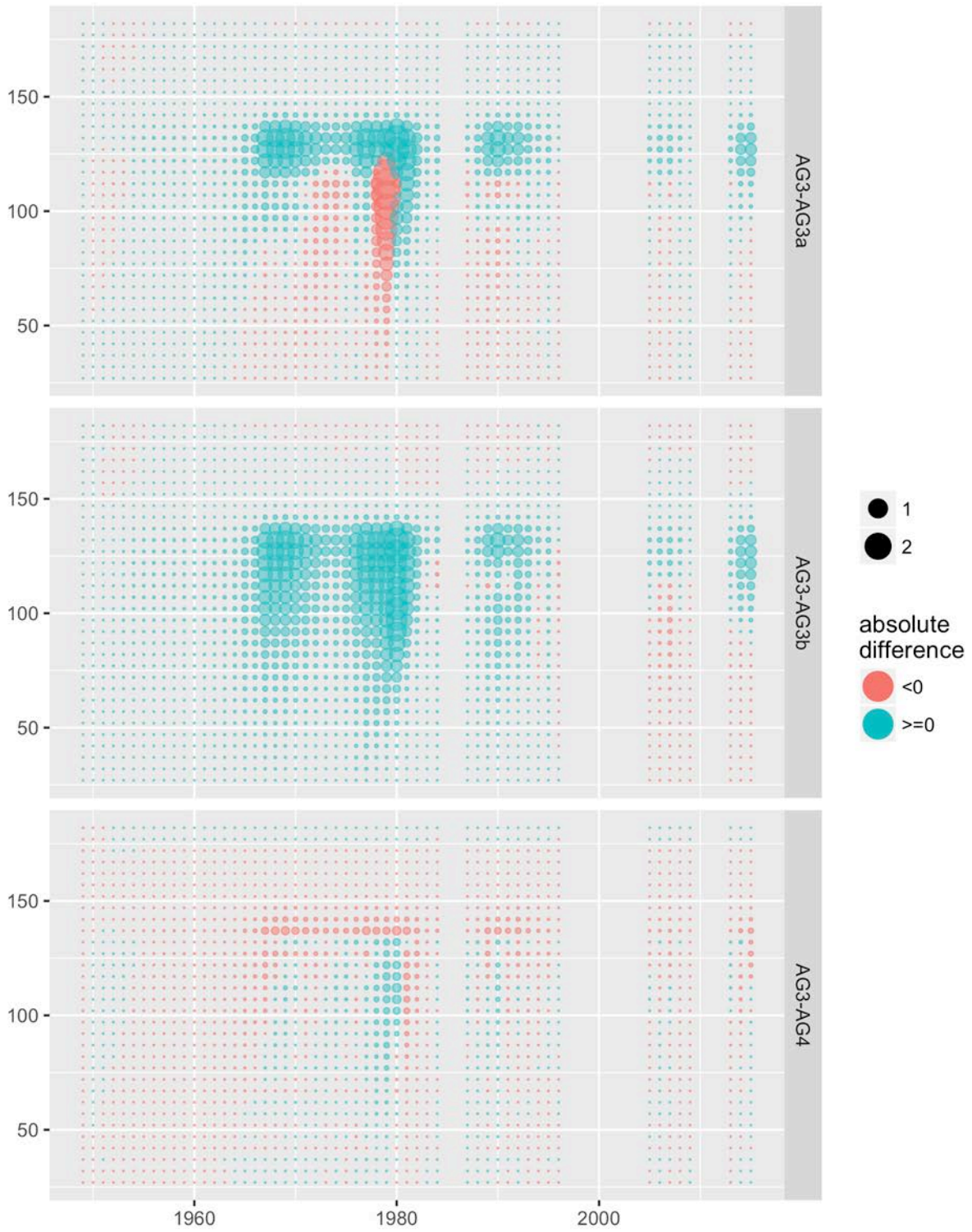


Figure 96. Differences for TCF fishery catch abundance for male immature new shell.

TCF fishery catch abundance
for male mature new shell

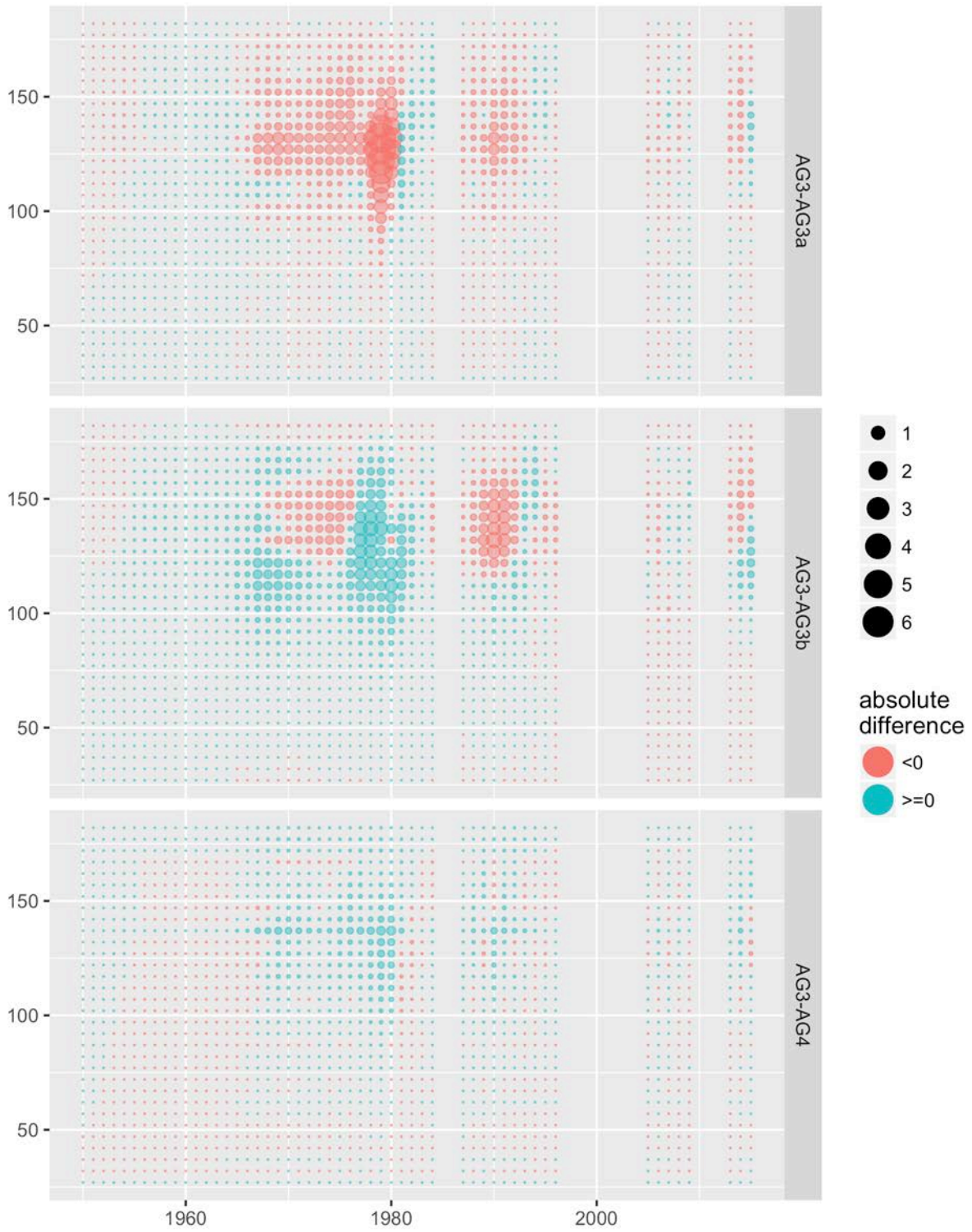


Figure 97. Differences for TCF fishery catch abundance for male mature new shell.

TCF fishery catch abundance for male mature old shell

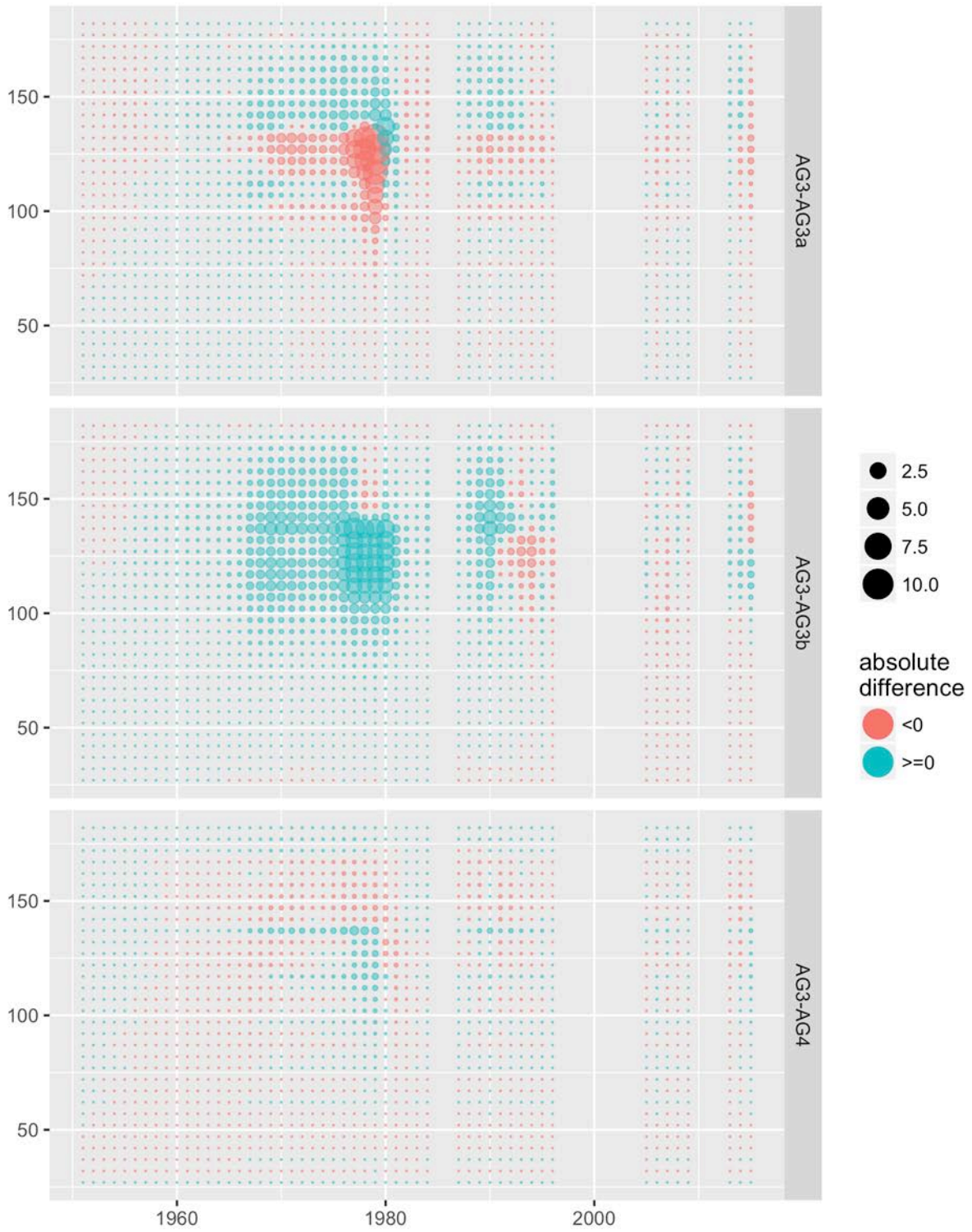


Figure 98. Differences for TCF fishery catch abundance for male mature old shell.

SCF fishery catch abundance for female immature new shell

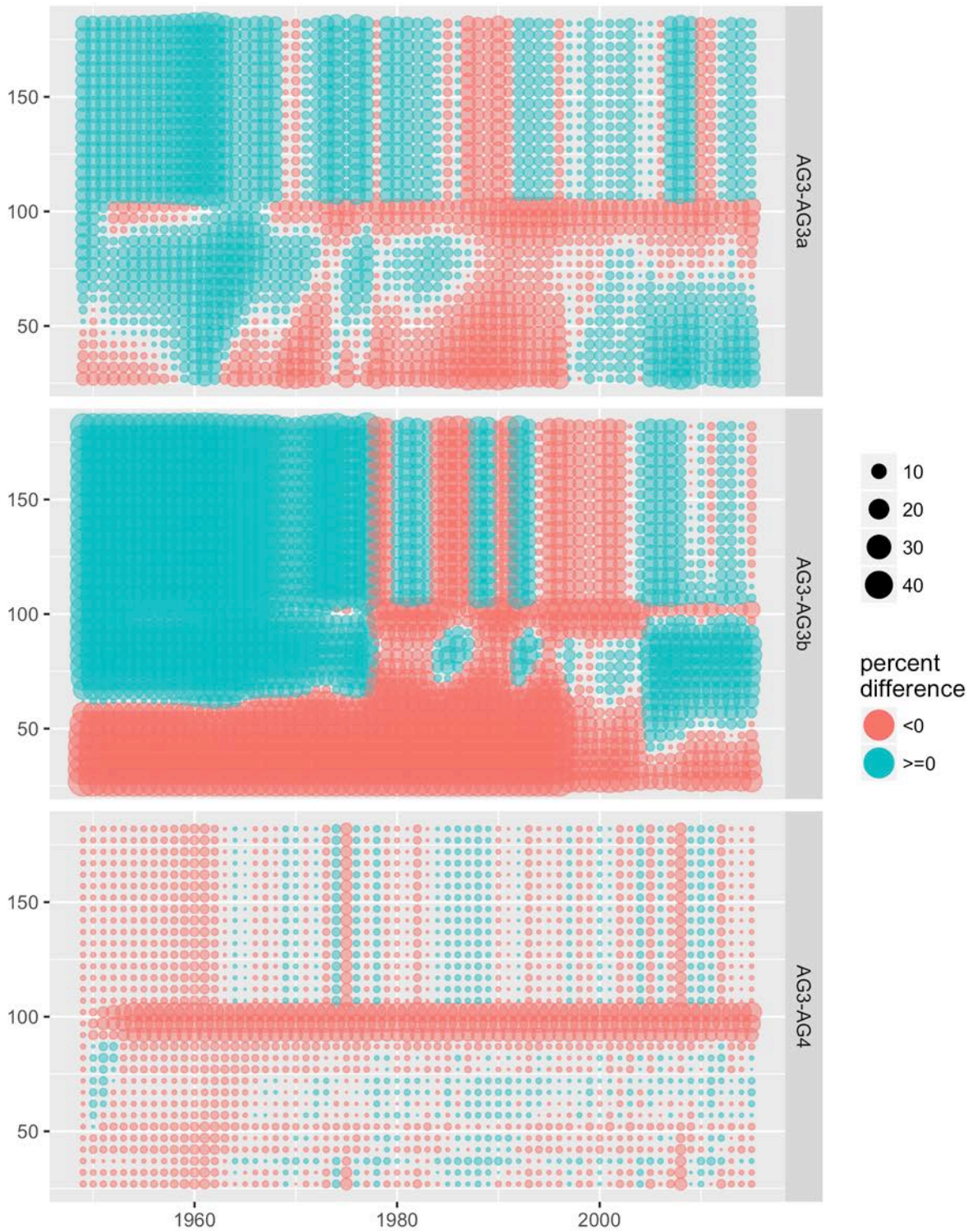


Figure 99. Differences for SCF fishery catch abundance for female immature new shell.

SCF fishery catch abundance
for female mature new shell

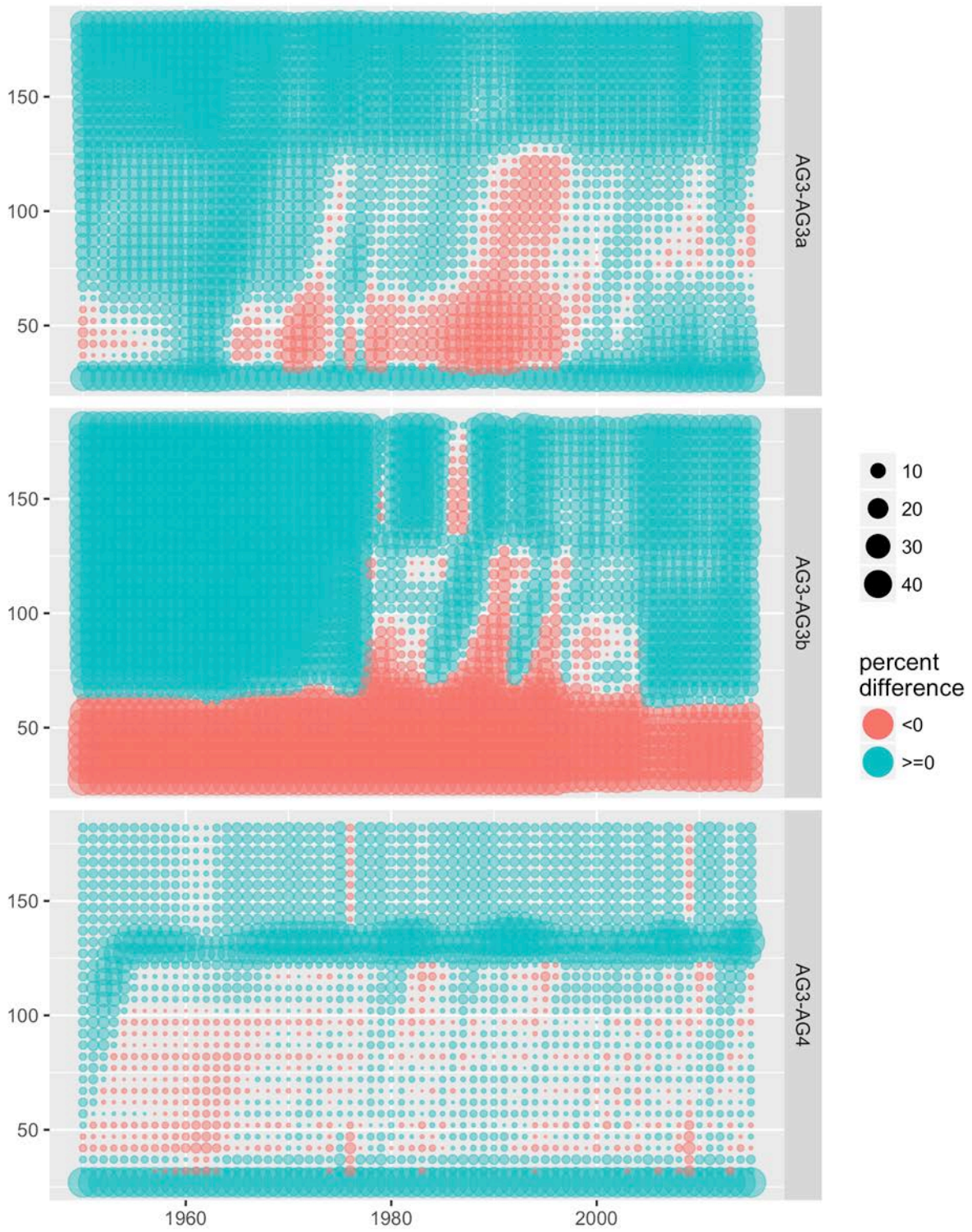


Figure 100. Differences for SCF fishery catch abundance for female mature new shell.

SCF fishery catch abundance
for female mature old shell

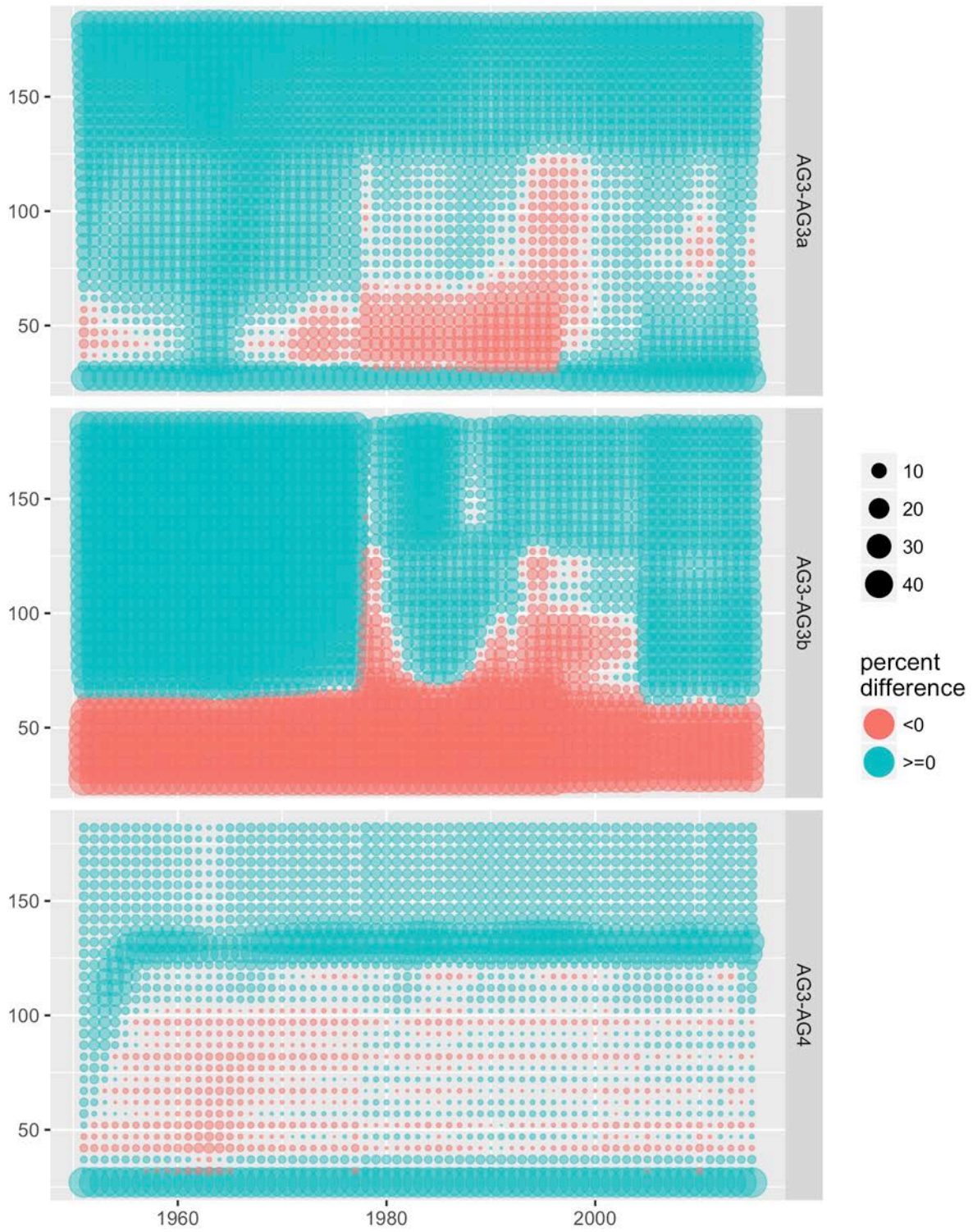


Figure 101. Differences for SCF fishery catch abundance for female mature old shell.

SCF fishery catch abundance
for male immature new shell

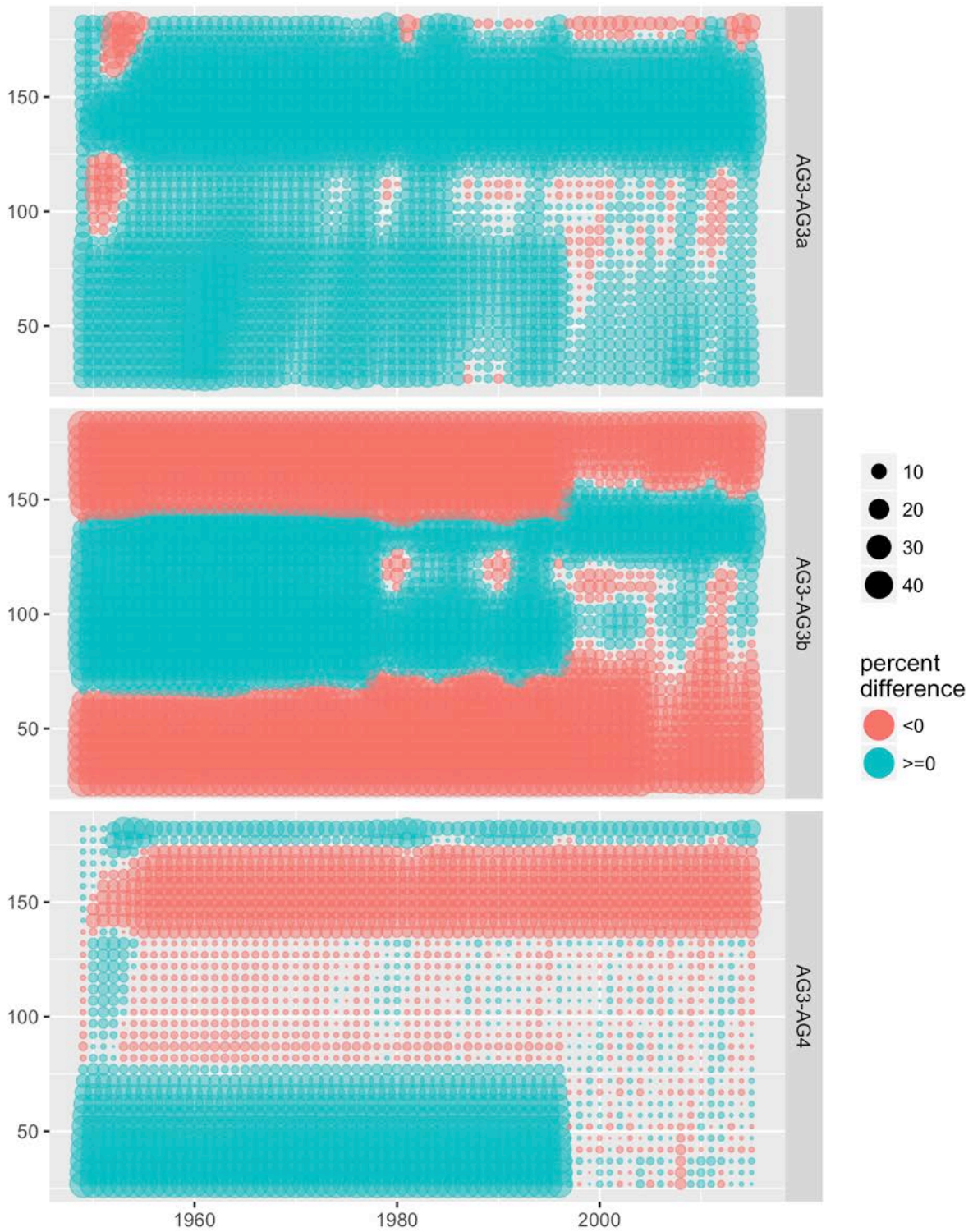


Figure 102. Differences for SCF fishery catch abundance for male immature new shell.

SCF fishery catch abundance
for male mature new shell

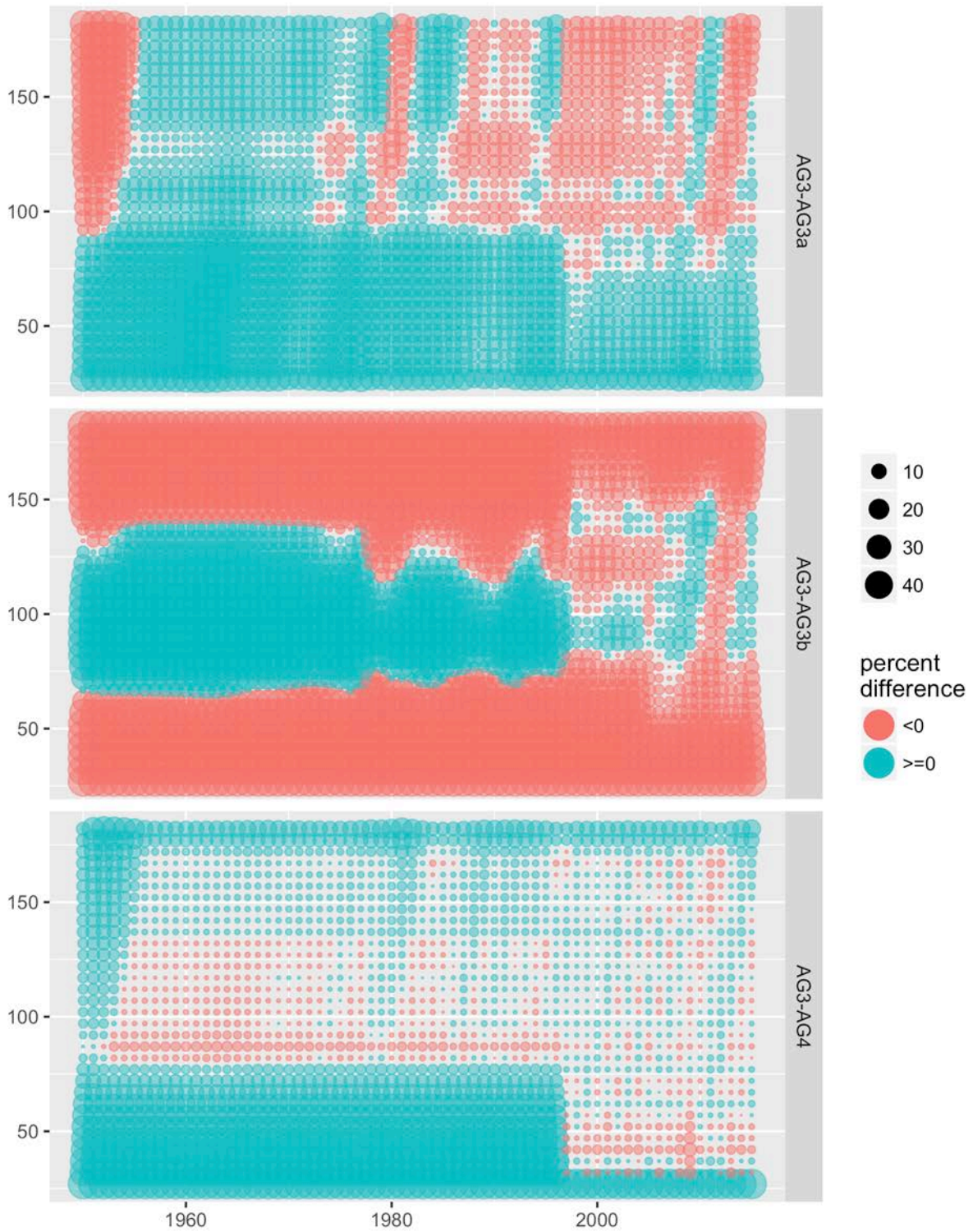


Figure 103. Differences for SCF fishery catch abundance for male mature new shell.

SCF fishery catch abundance for male mature old shell

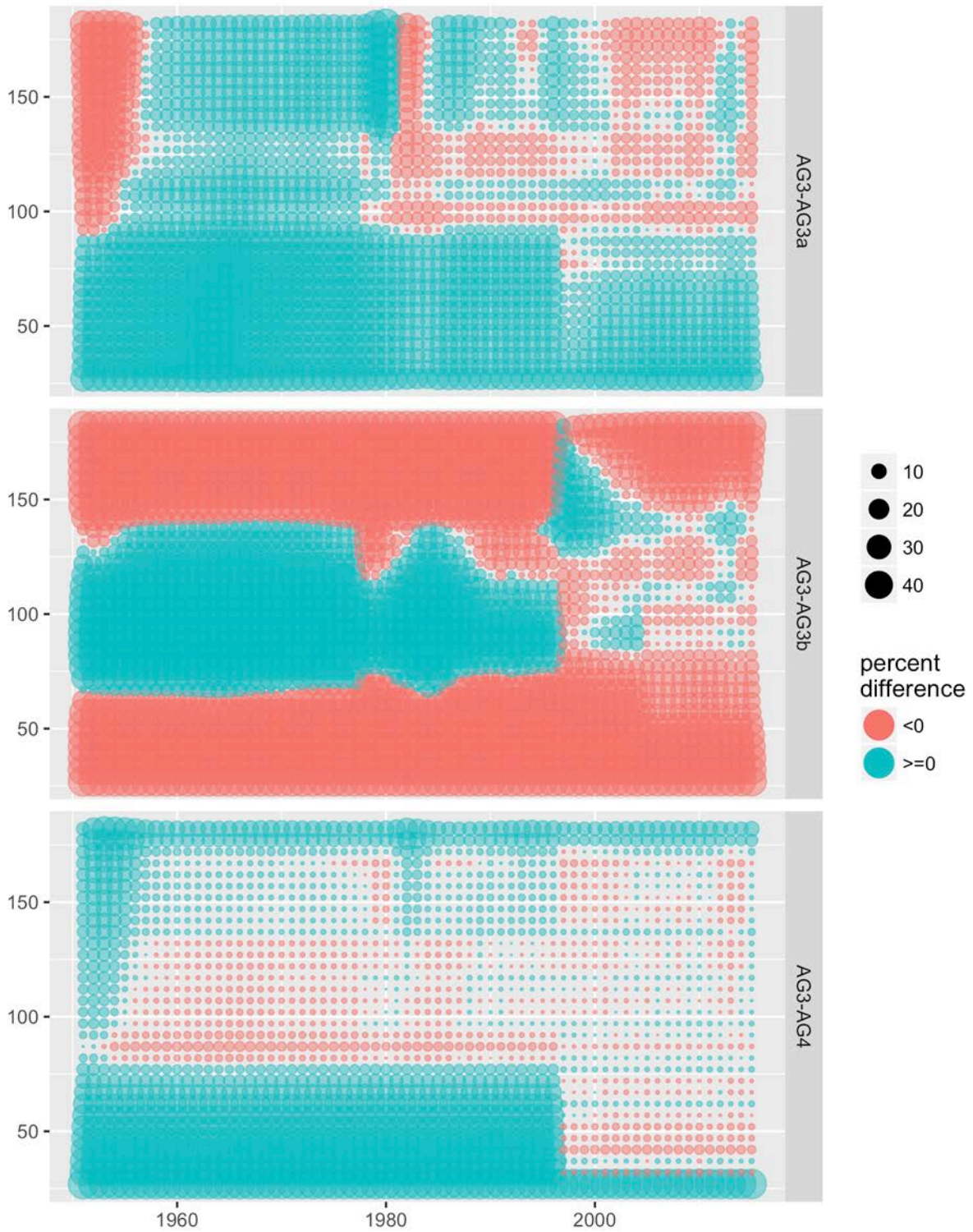


Figure 104. Differences for SCF fishery catch abundance for male mature old shell.

SCF fishery catch abundance for female immature new shell

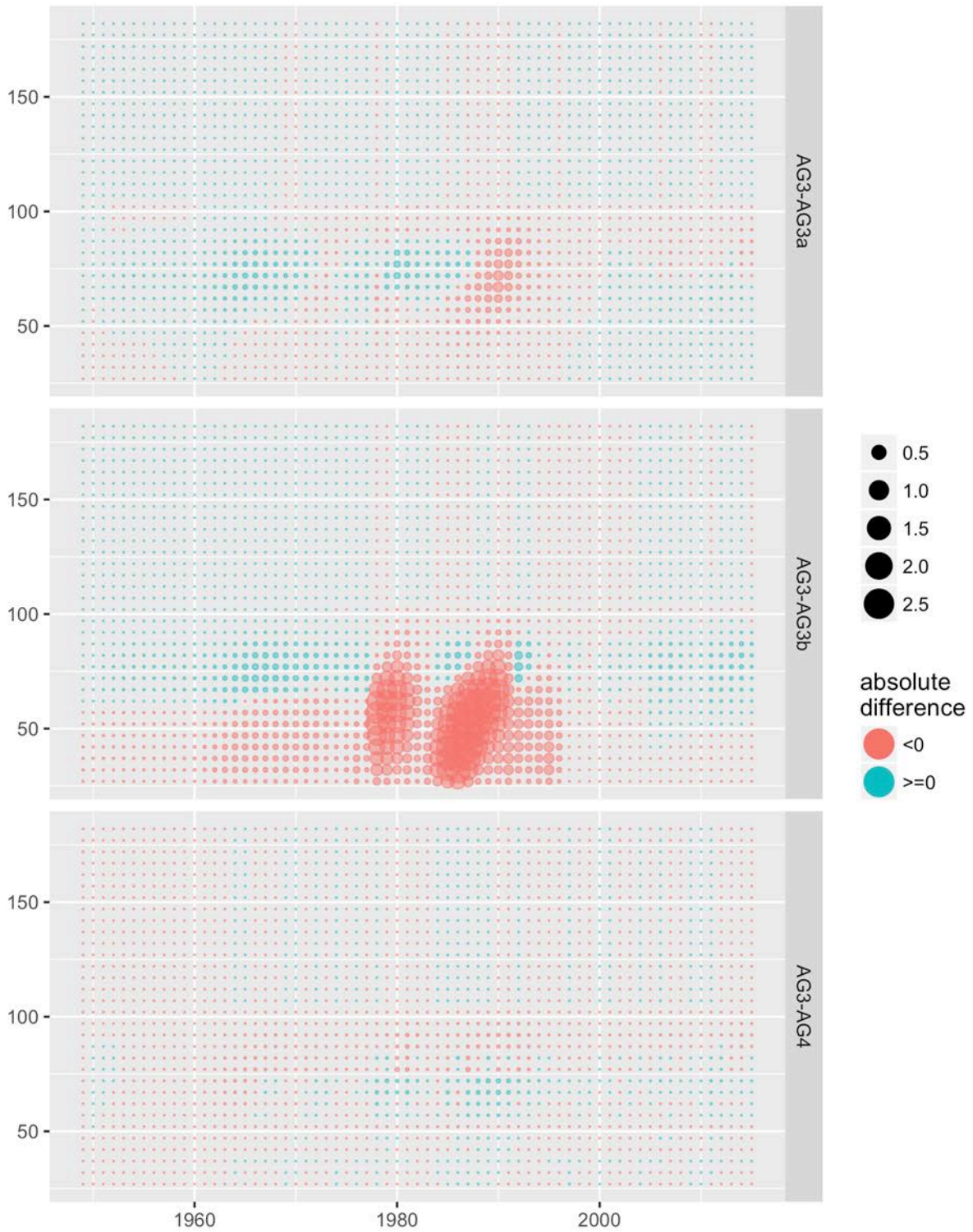


Figure 105. Differences for SCF fishery catch abundance for female immature new shell.

SCF fishery catch abundance
for female mature new shell

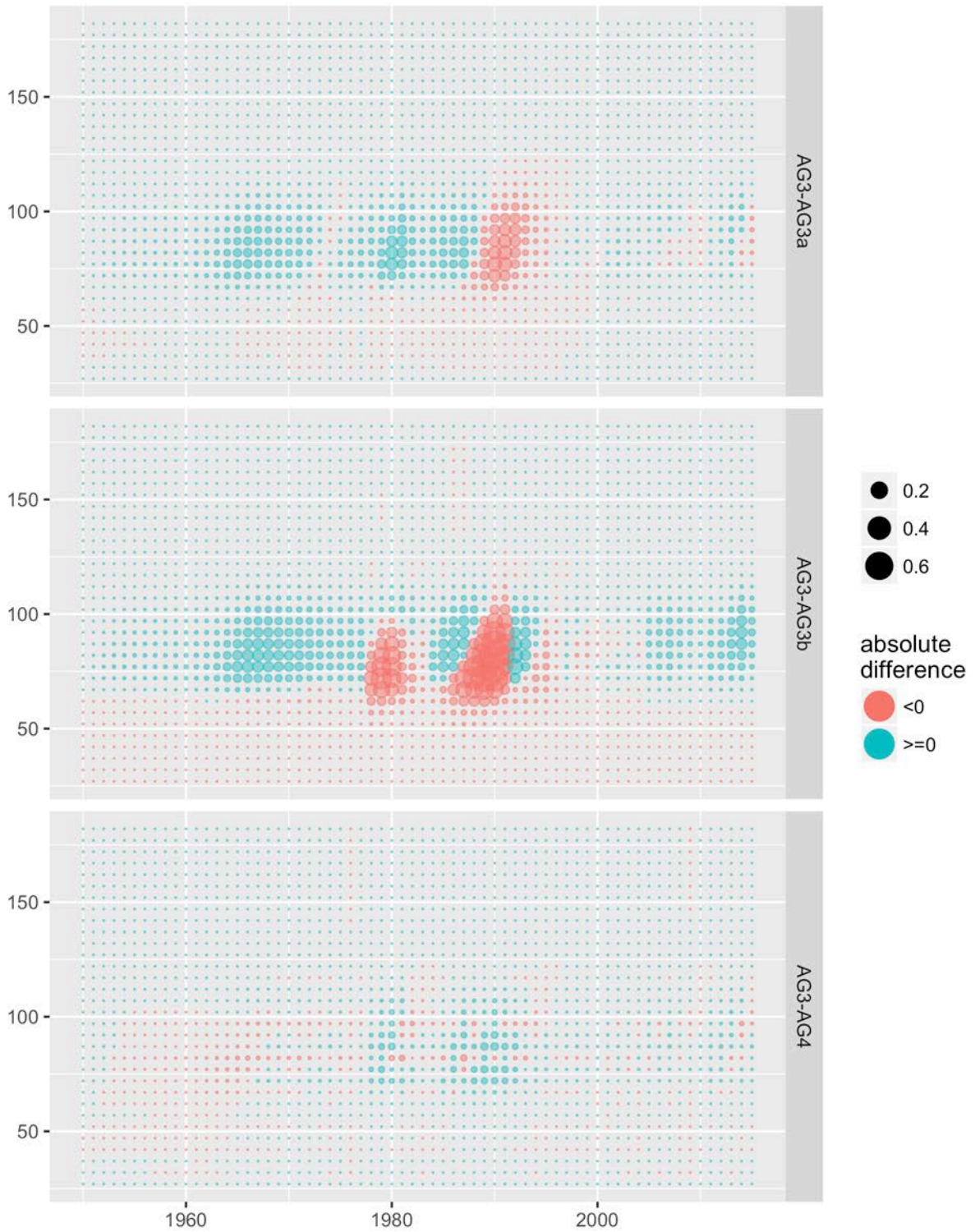


Figure 106. Differences for SCF fishery catch abundance for female mature new shell.

SCF fishery catch abundance
for female mature old shell

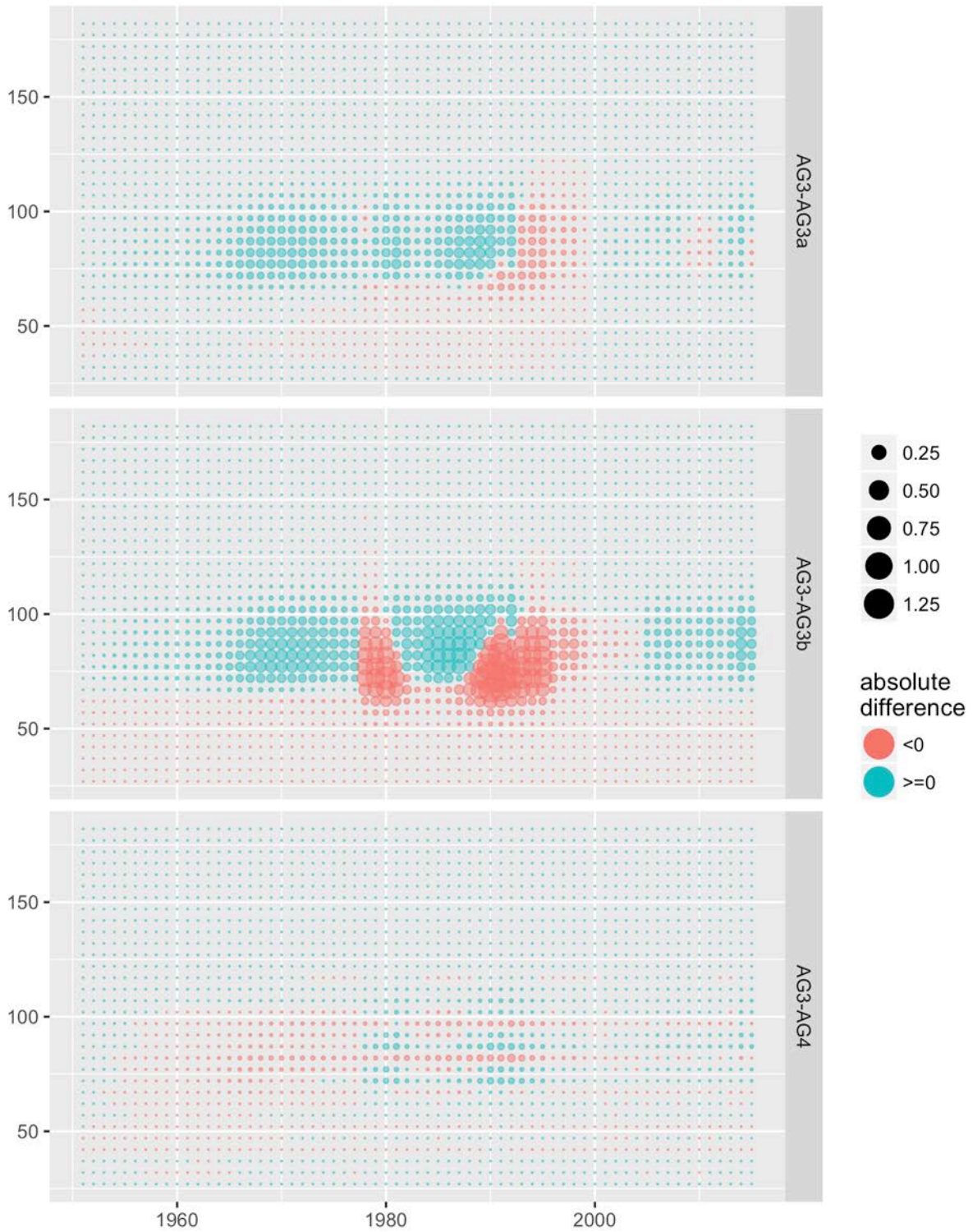


Figure 107. Differences for SCF fishery catch abundance for female mature old shell.

SCF fishery catch abundance for male immature new shell

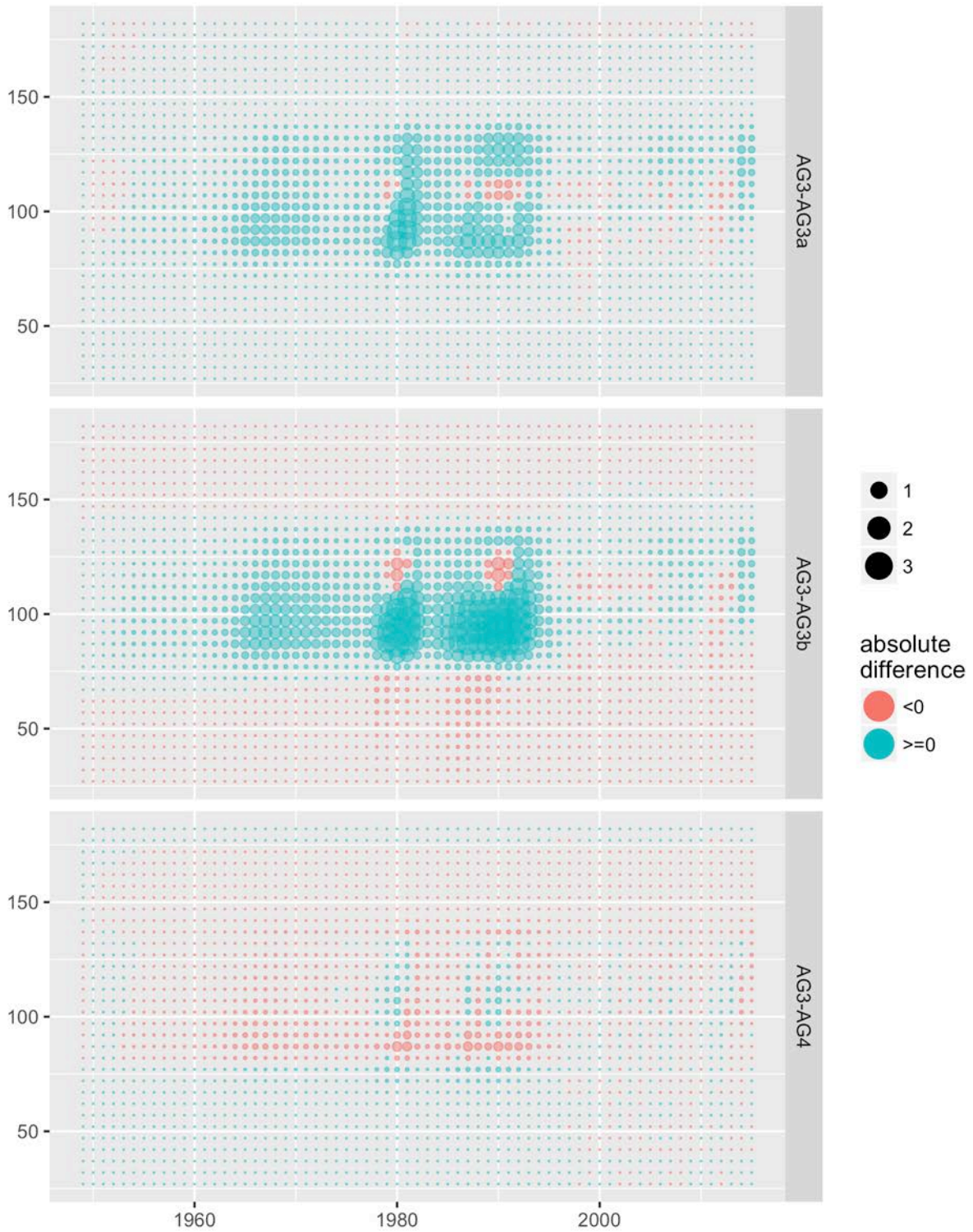


Figure 108. Differences for SCF fishery catch abundance for male immature new shell.

SCF fishery catch abundance
for male mature new shell

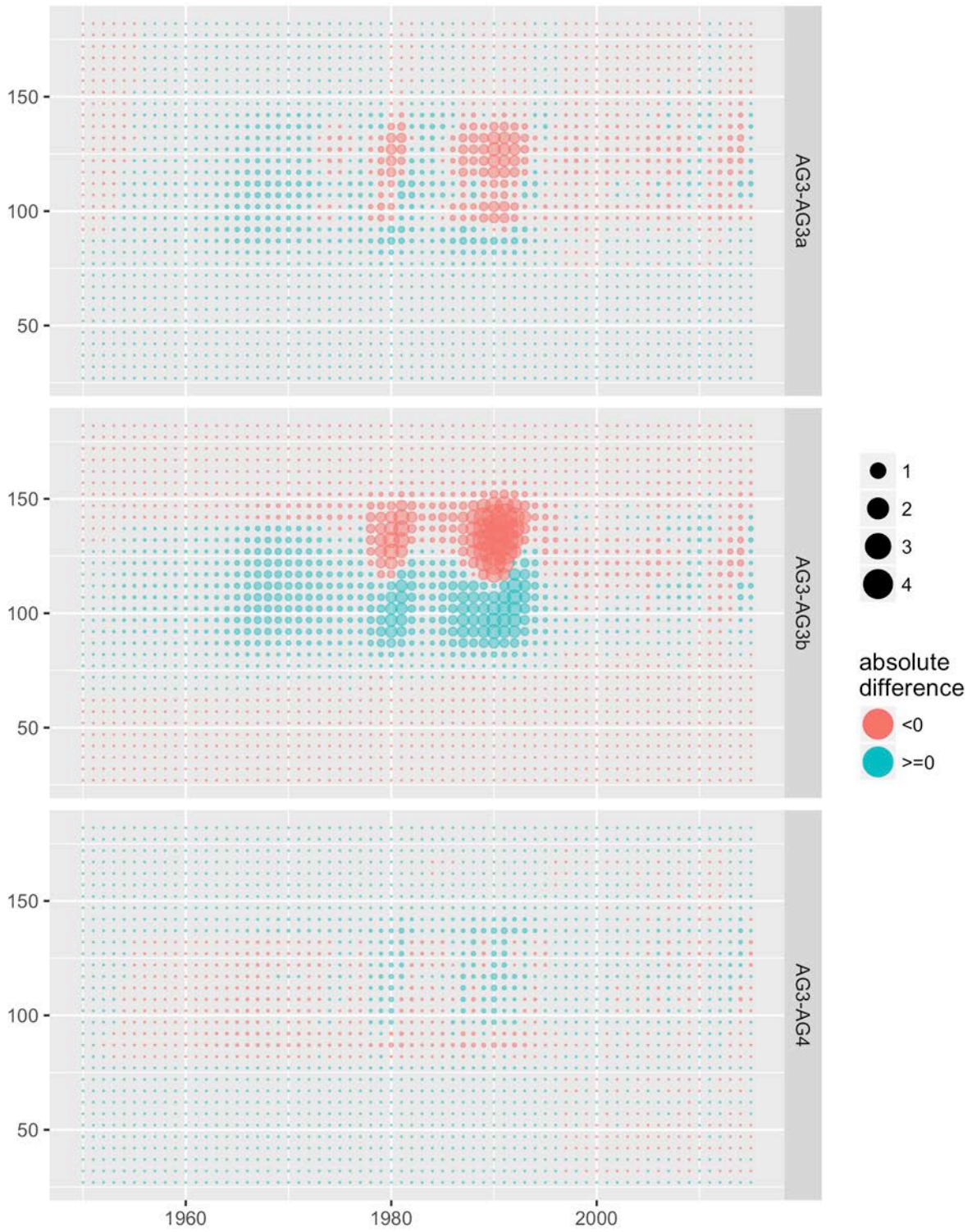


Figure 109. Differences for SCF fishery catch abundance for male mature new shell.

SCF fishery catch abundance
for male mature old shell

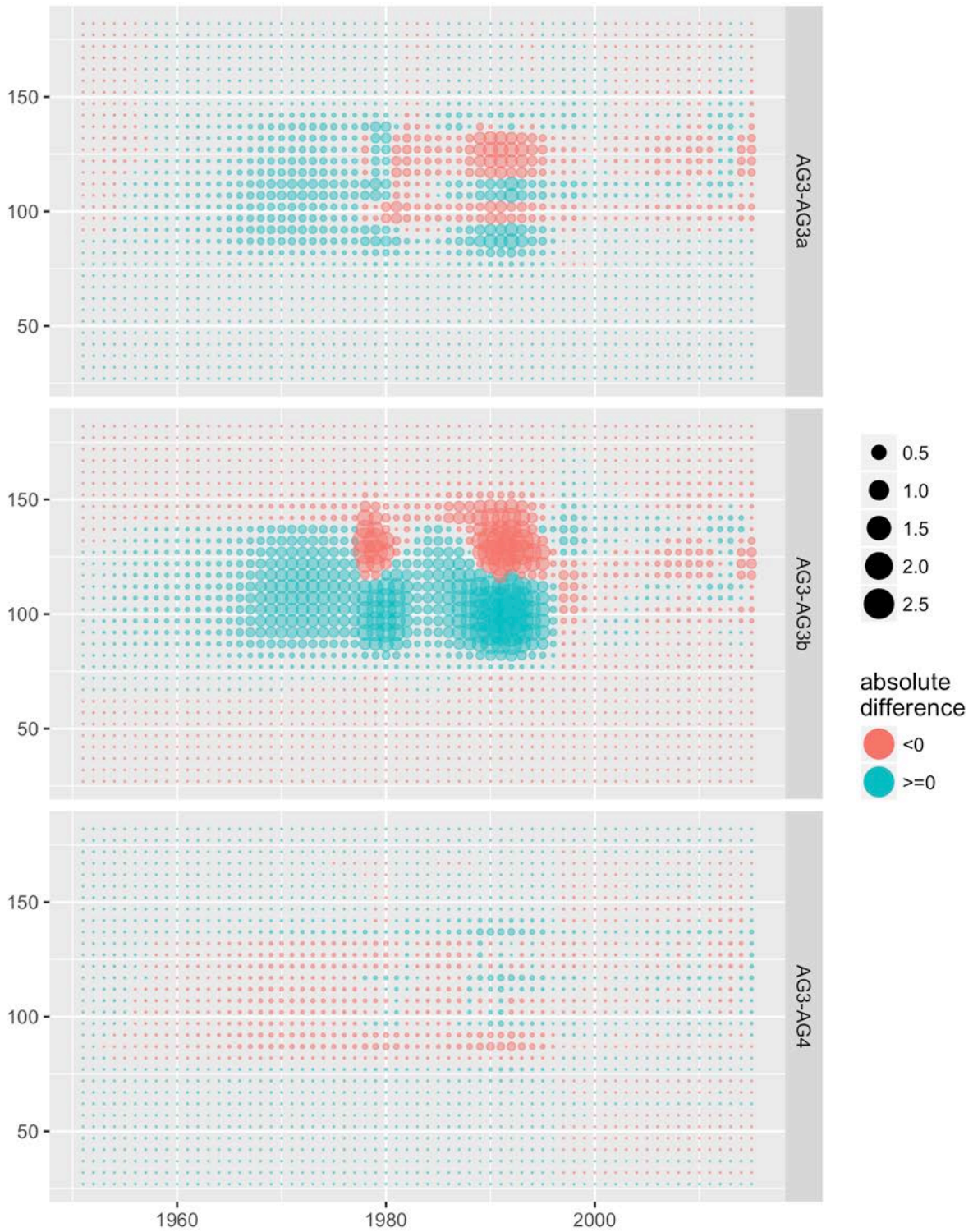


Figure 110. Differences for SCF fishery catch abundance for male mature old shell.

GTF fishery catch abundance for female immature new shell

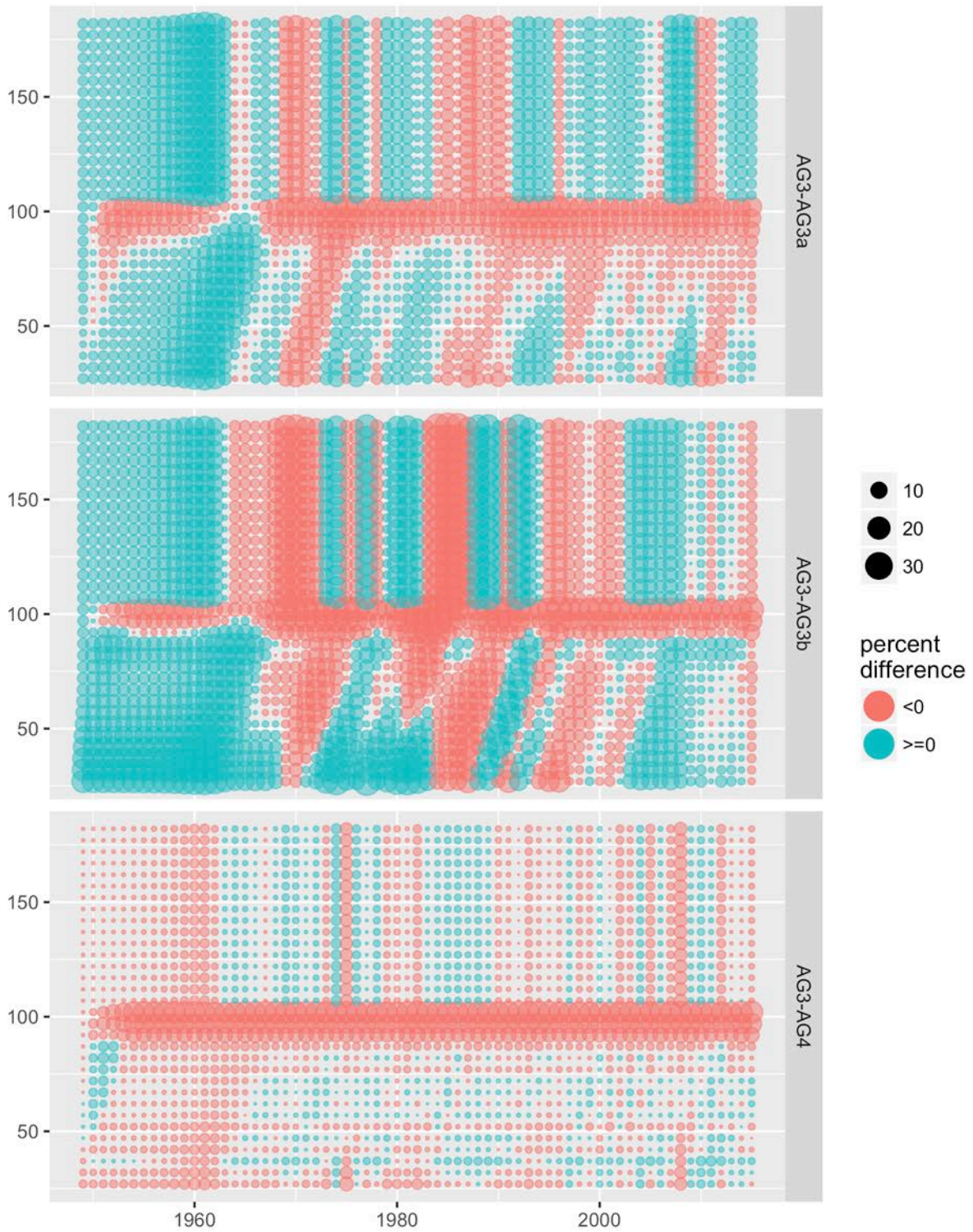


Figure 111. Differences for GTF fishery catch abundance for female immature new shell.

GTF fishery catch abundance
for female mature new shell

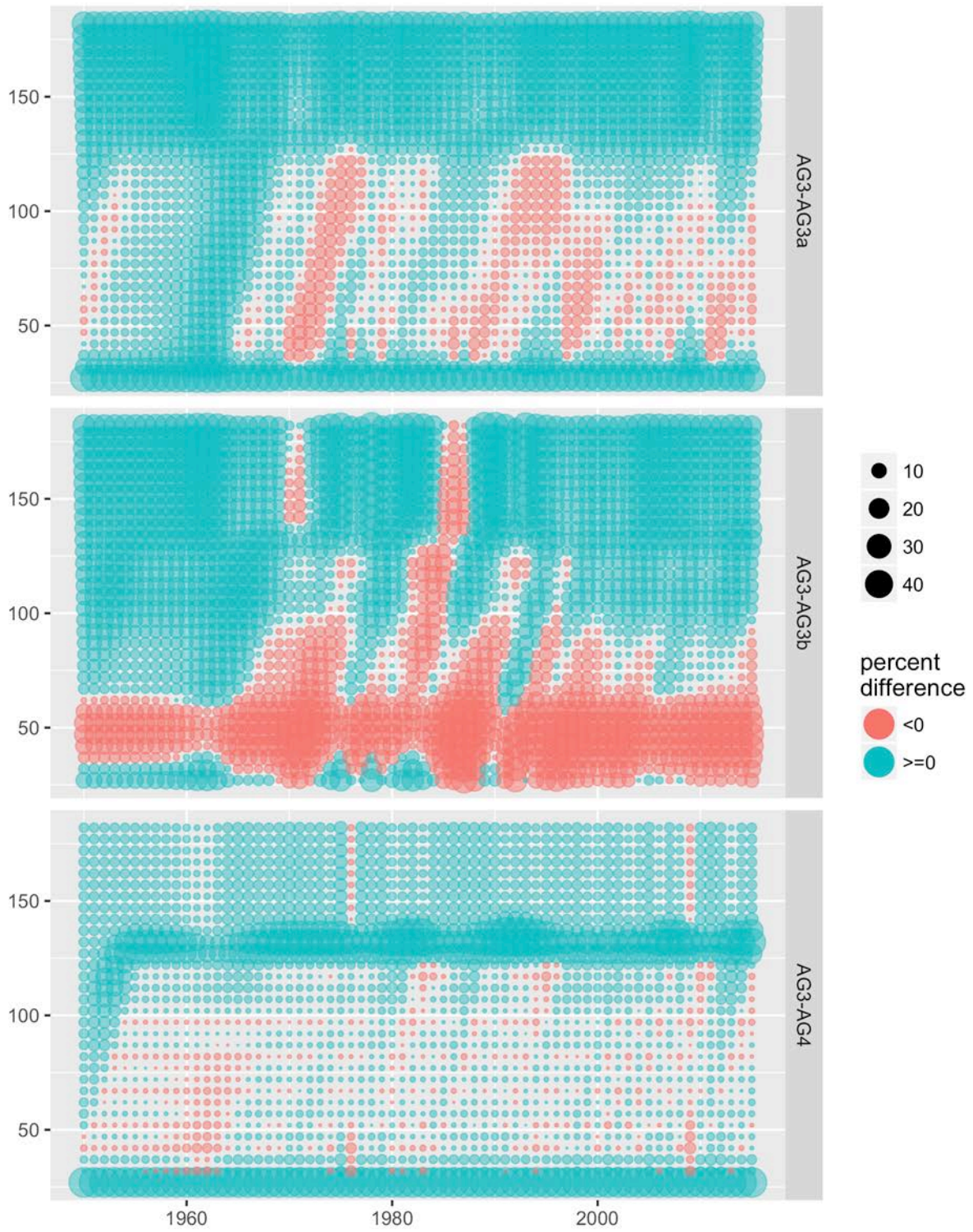


Figure 112. Differences for GTF fishery catch abundance for female mature new shell.

GTF fishery catch abundance
for female mature old shell

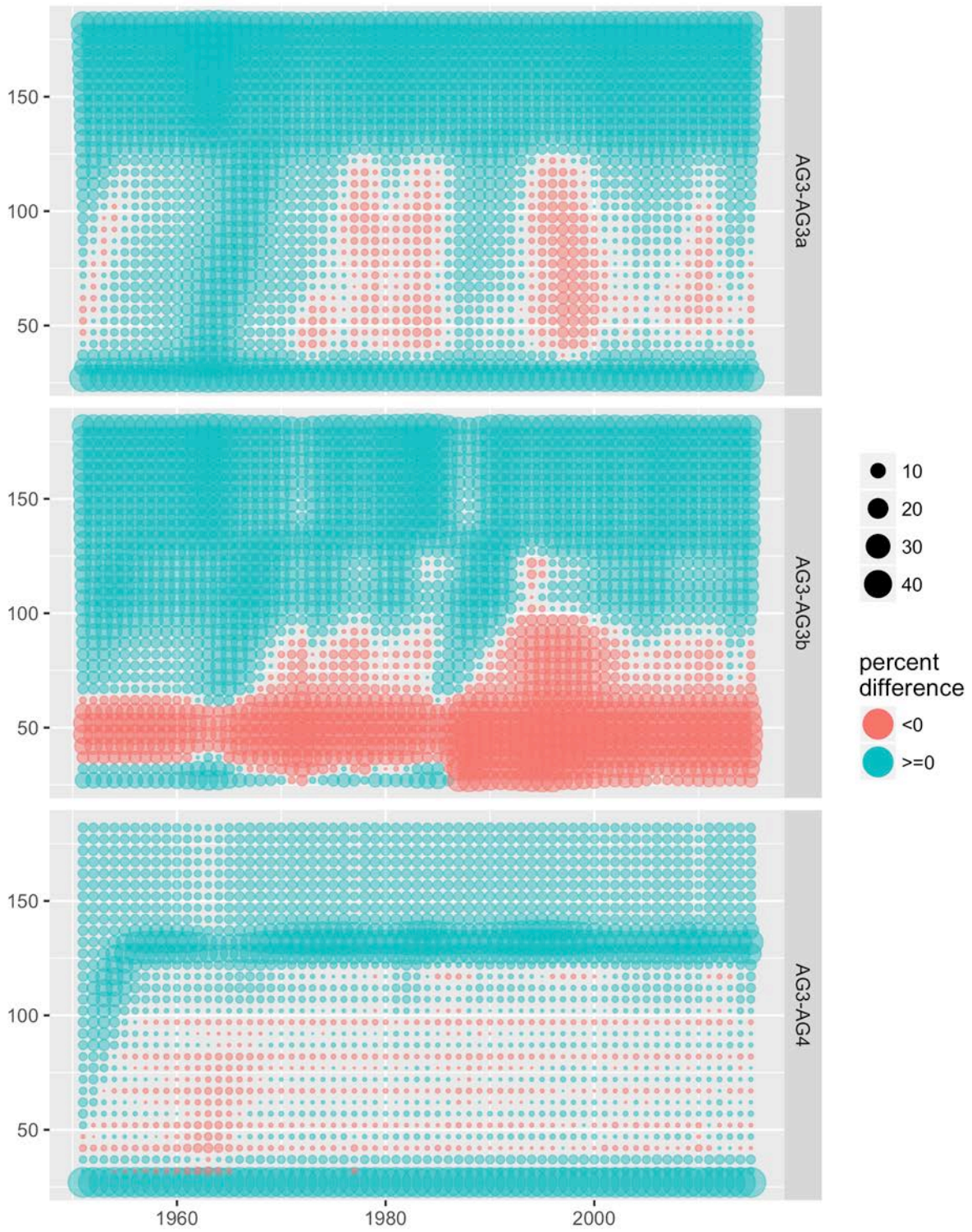


Figure 113. Differences for GTF fishery catch abundance for female mature old shell.

GTF fishery catch abundance for male immature new shell

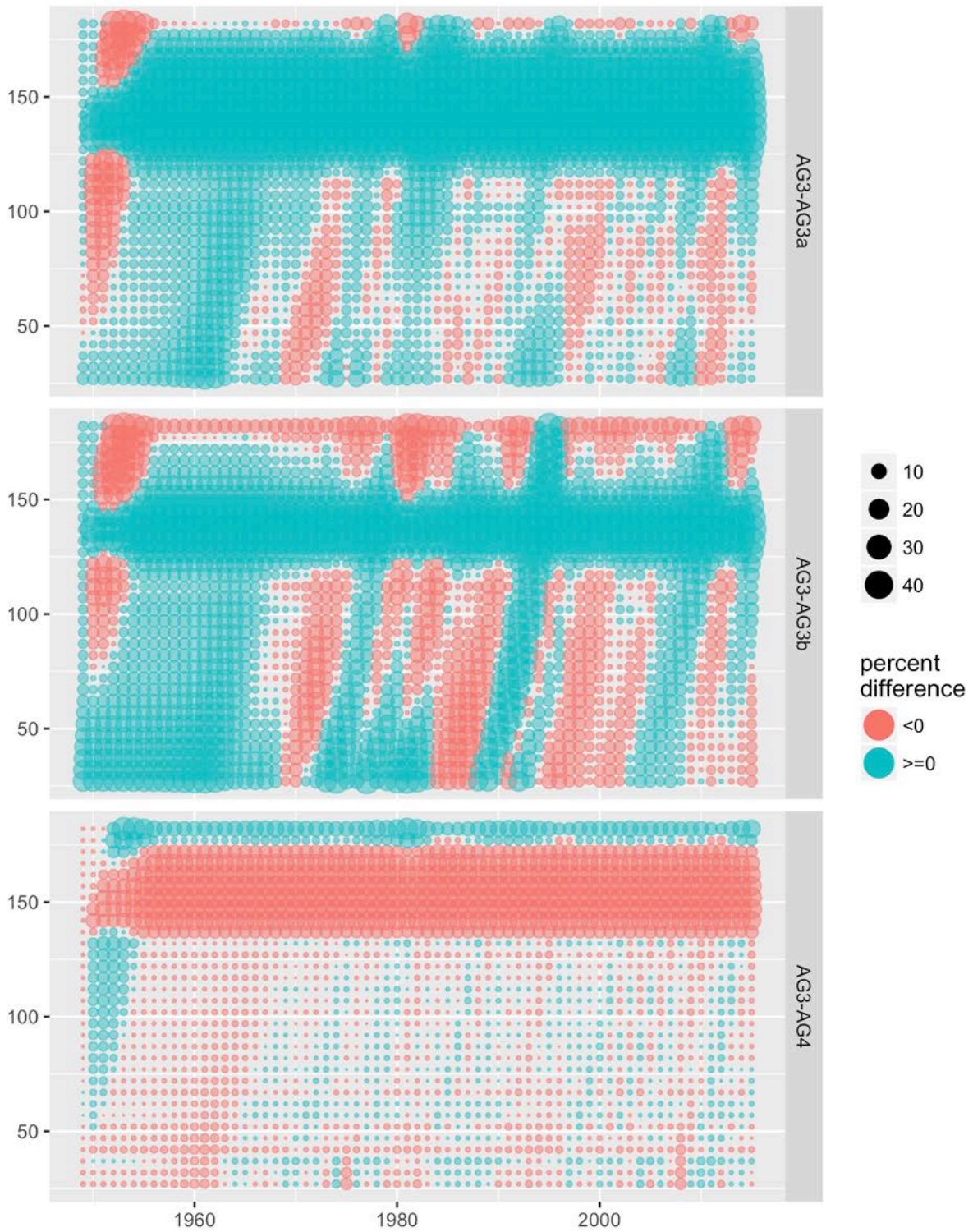


Figure 114. Differences for GTF fishery catch abundance for male immature new shell.

GTF fishery catch abundance
for male mature new shell

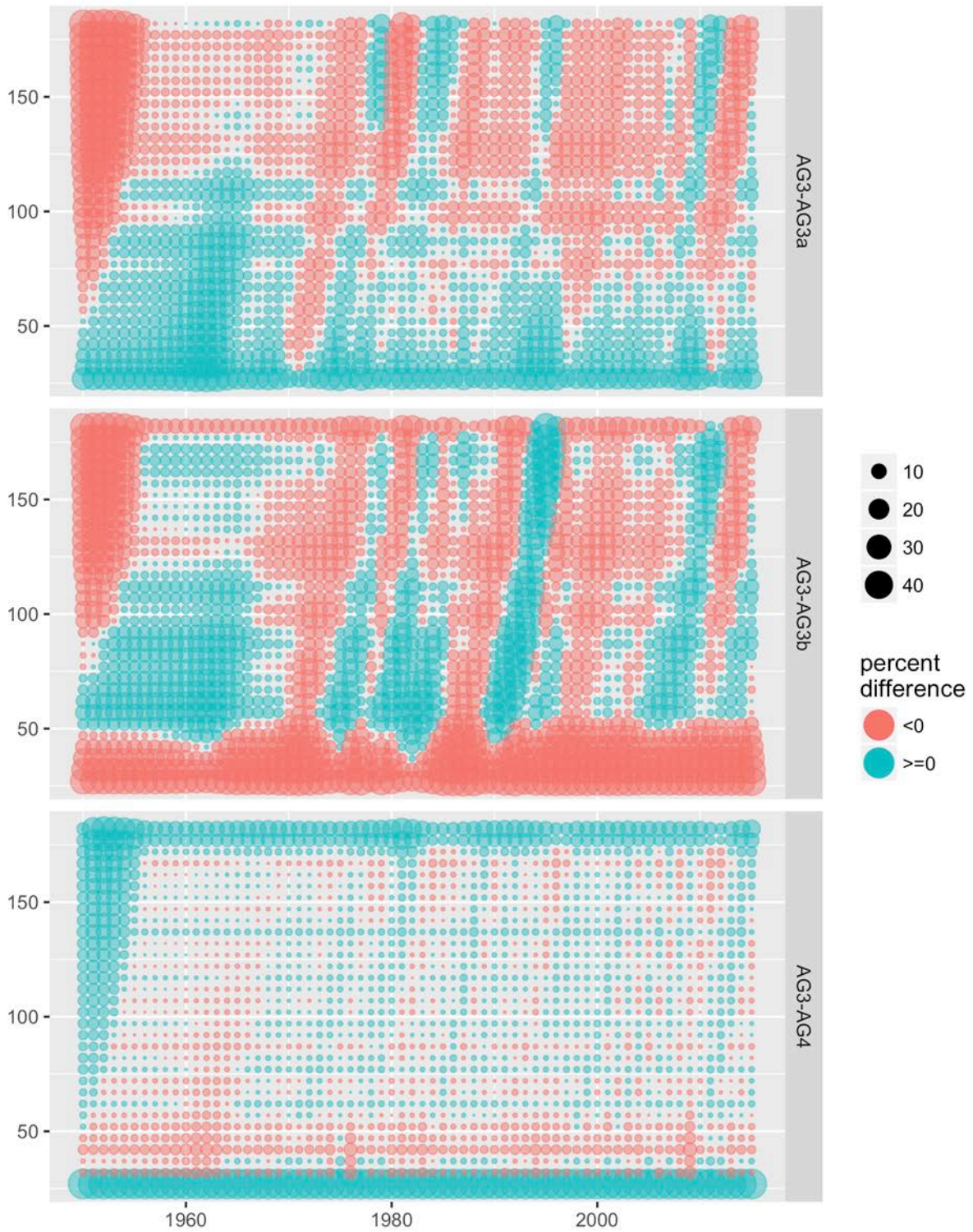


Figure 115. Differences for GTF fishery catch abundance for male mature new shell.

GTF fishery catch abundance
for male mature old shell

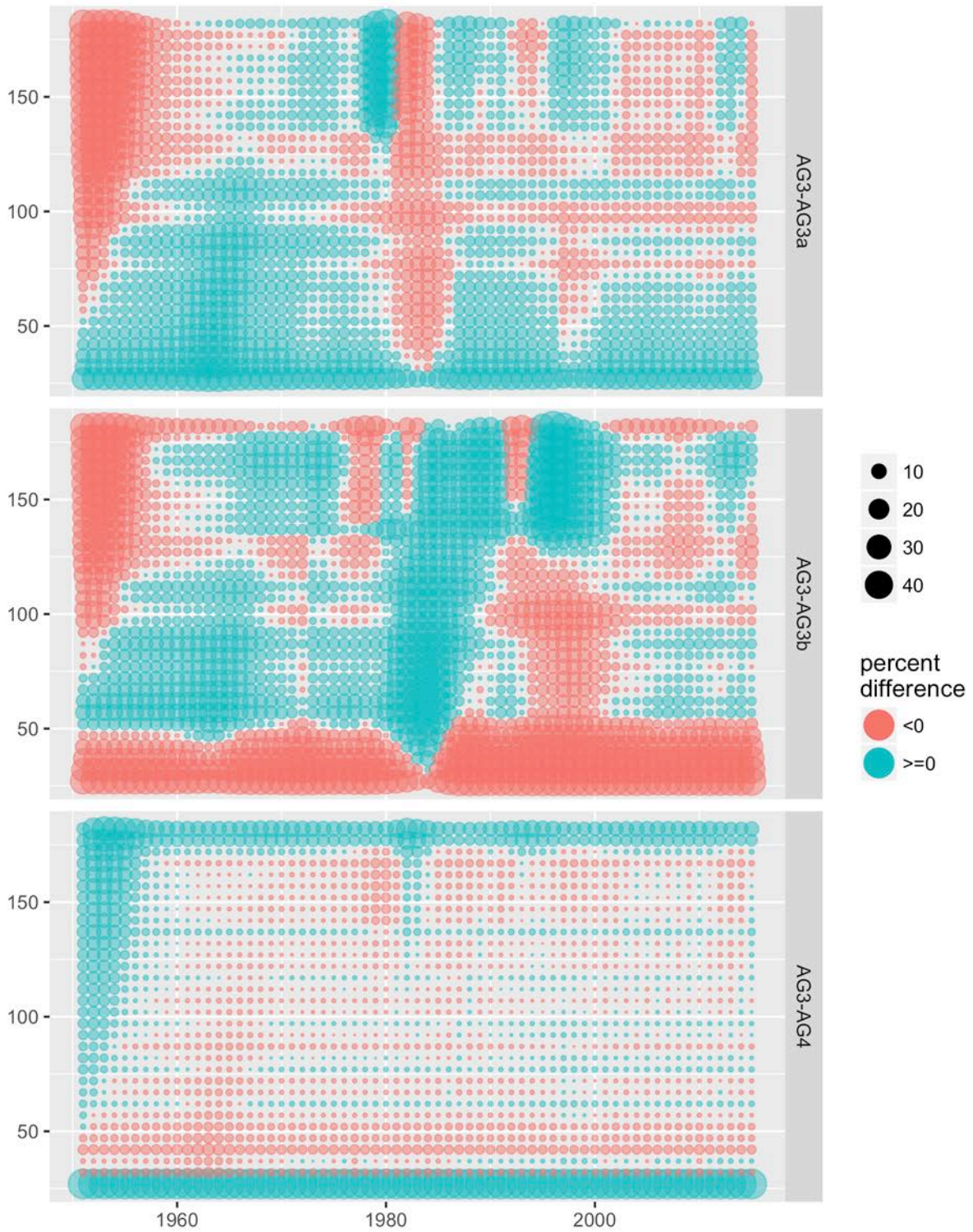


Figure 116. Differences for GTF fishery catch abundance for male mature old shell.

GTF fishery catch abundance for female immature new shell

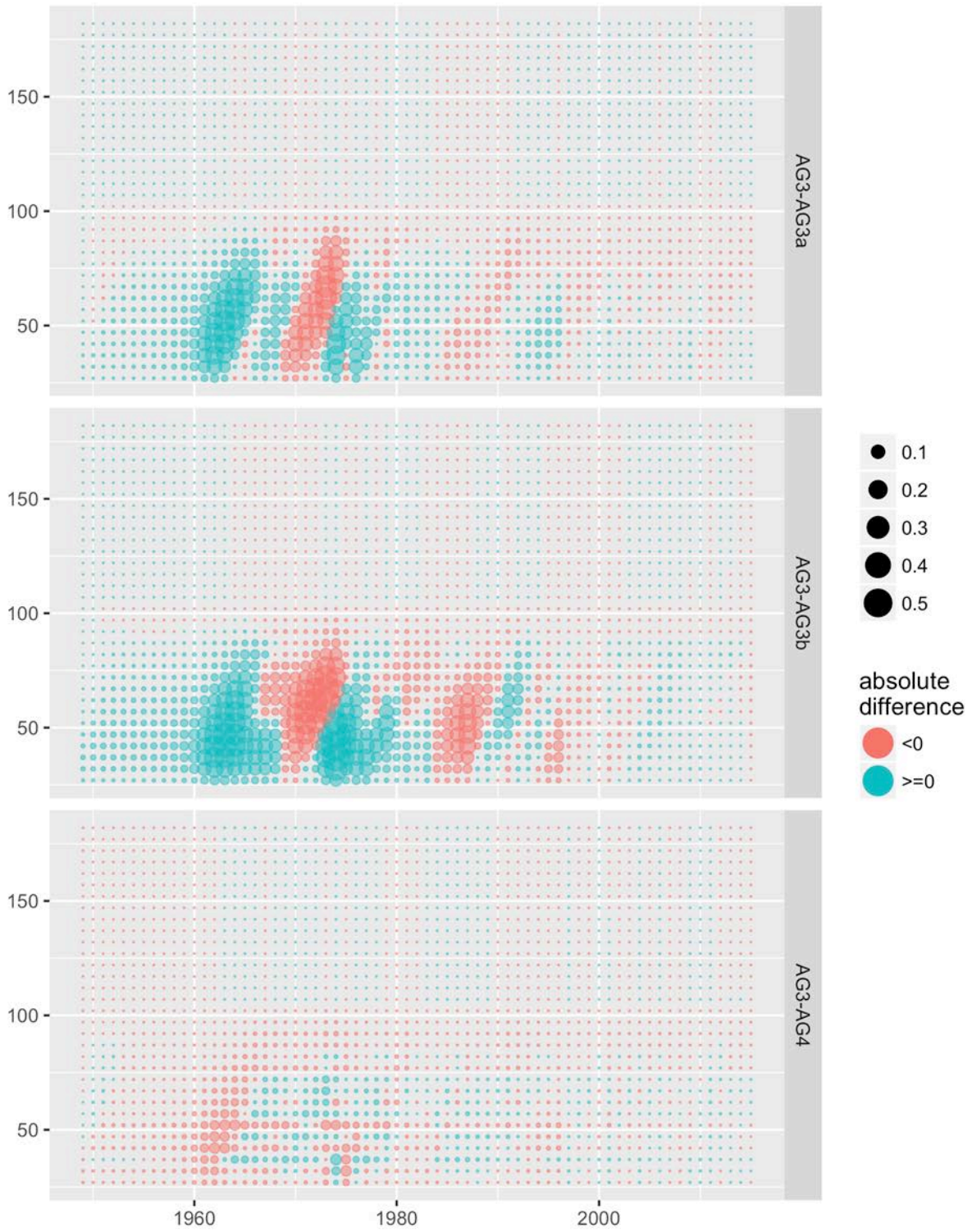


Figure 117. Differences for GTF fishery catch abundance for female immature new shell.

GTF fishery catch abundance for female mature new shell

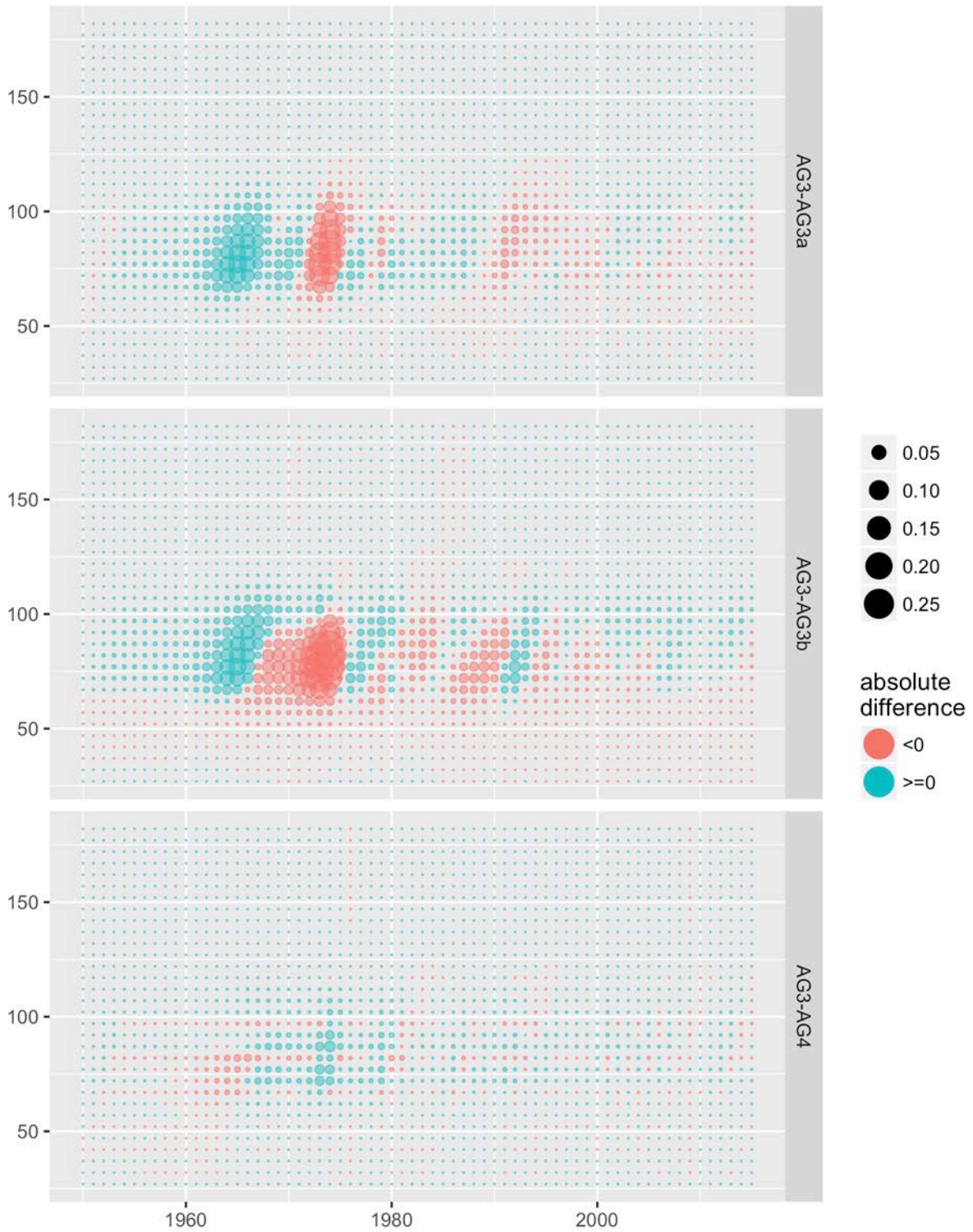


Figure 118. Differences for GTF fishery catch abundance for female mature new shell.

GTF fishery catch abundance
for female mature old shell

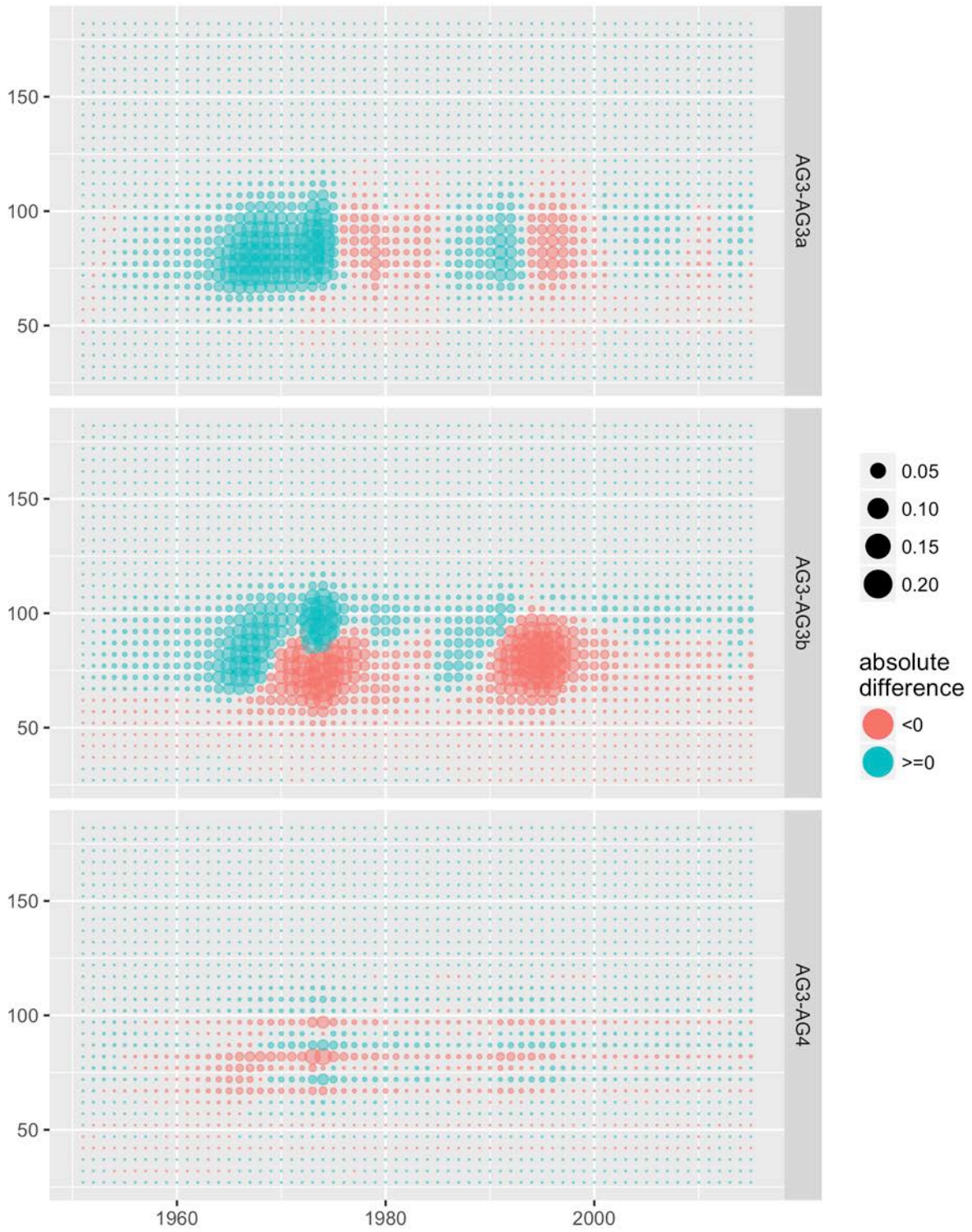


Figure 119. Differences for GTF fishery catch abundance for female mature old shell.

GTF fishery catch abundance for male immature new shell

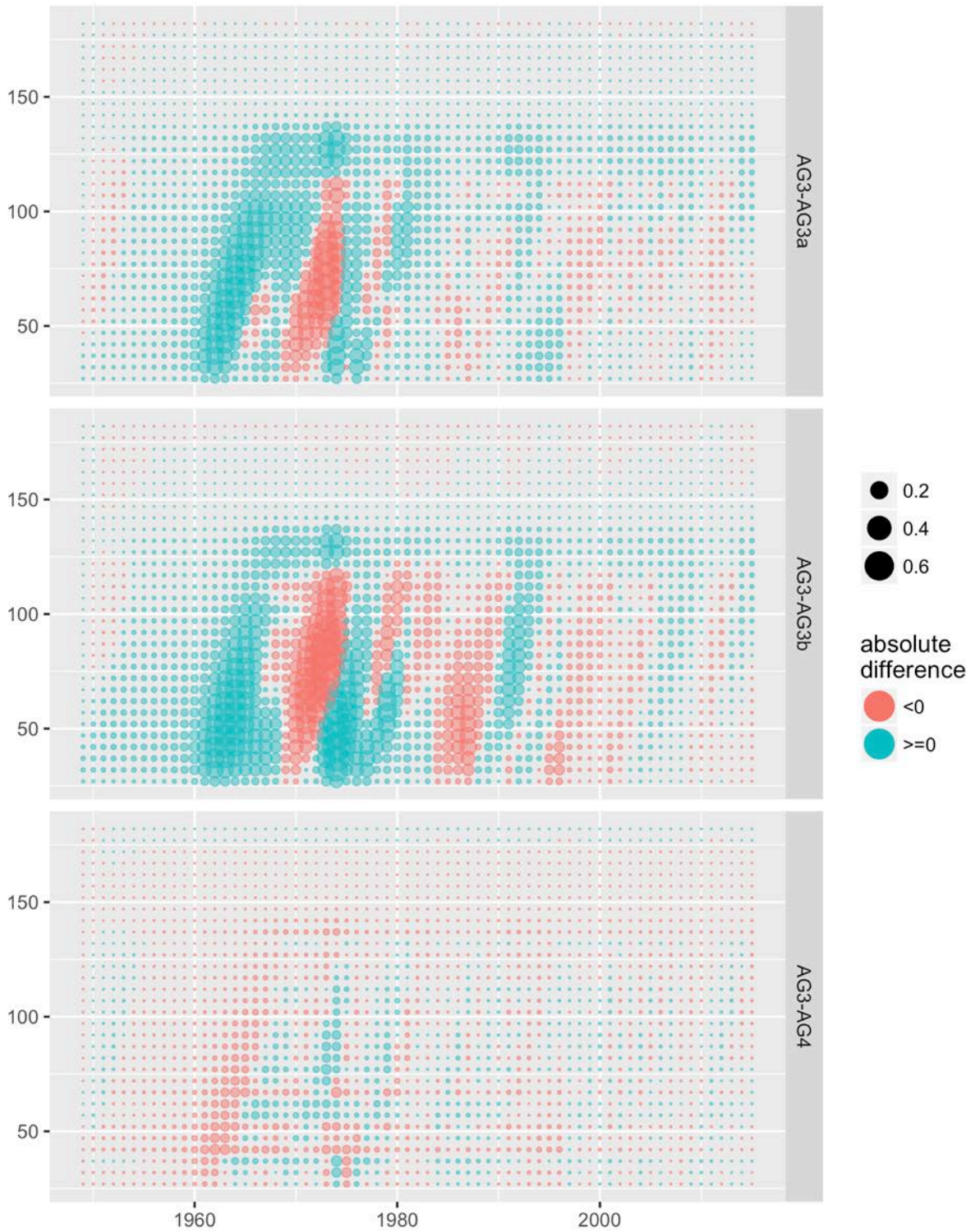


Figure 120. Differences for GTF fishery catch abundance for male immature new shell.

GTF fishery catch abundance for male mature new shell

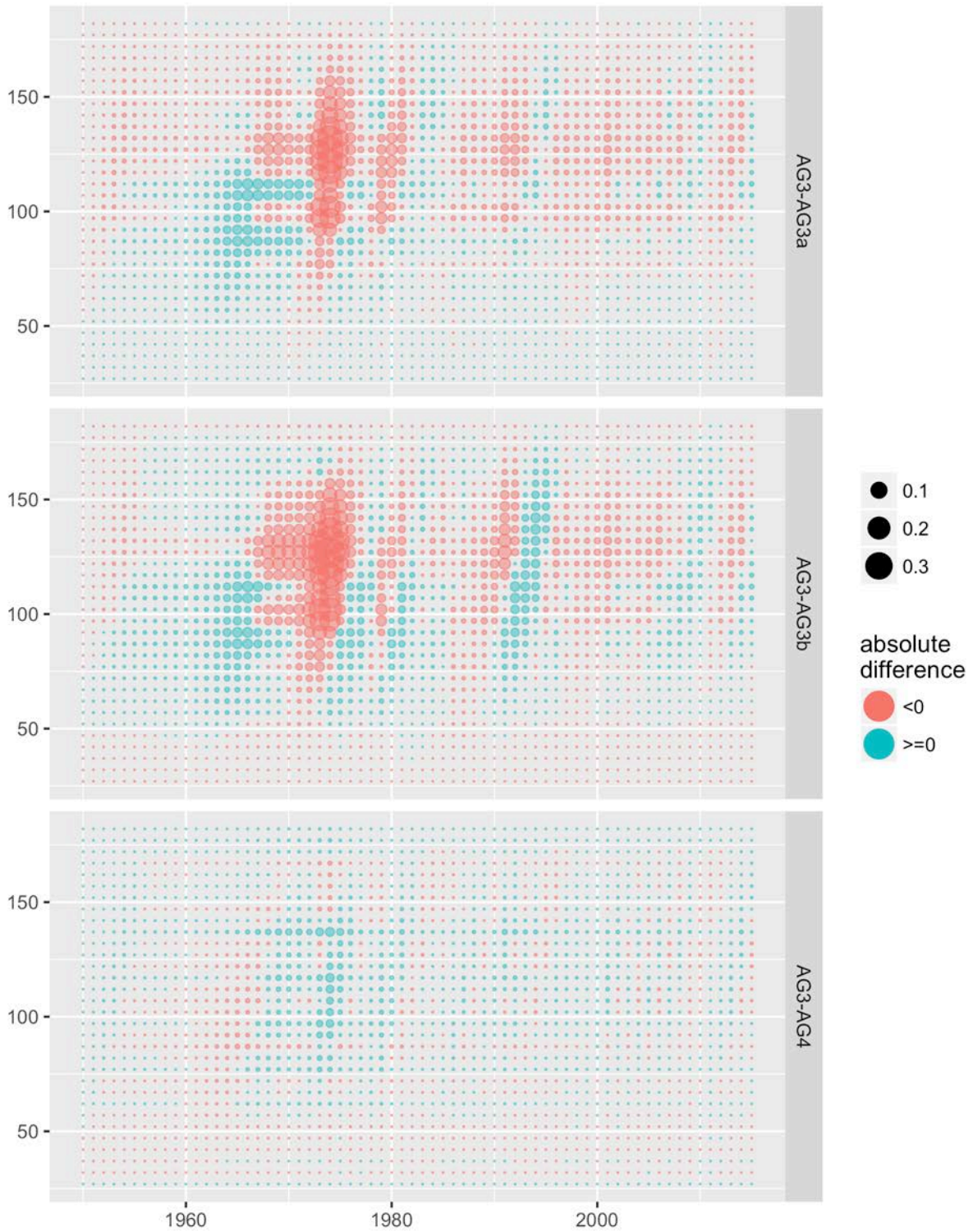


Figure 121. Differences for GTF fishery catch abundance for male mature new shell.

GTF fishery catch abundance
for male mature old shell

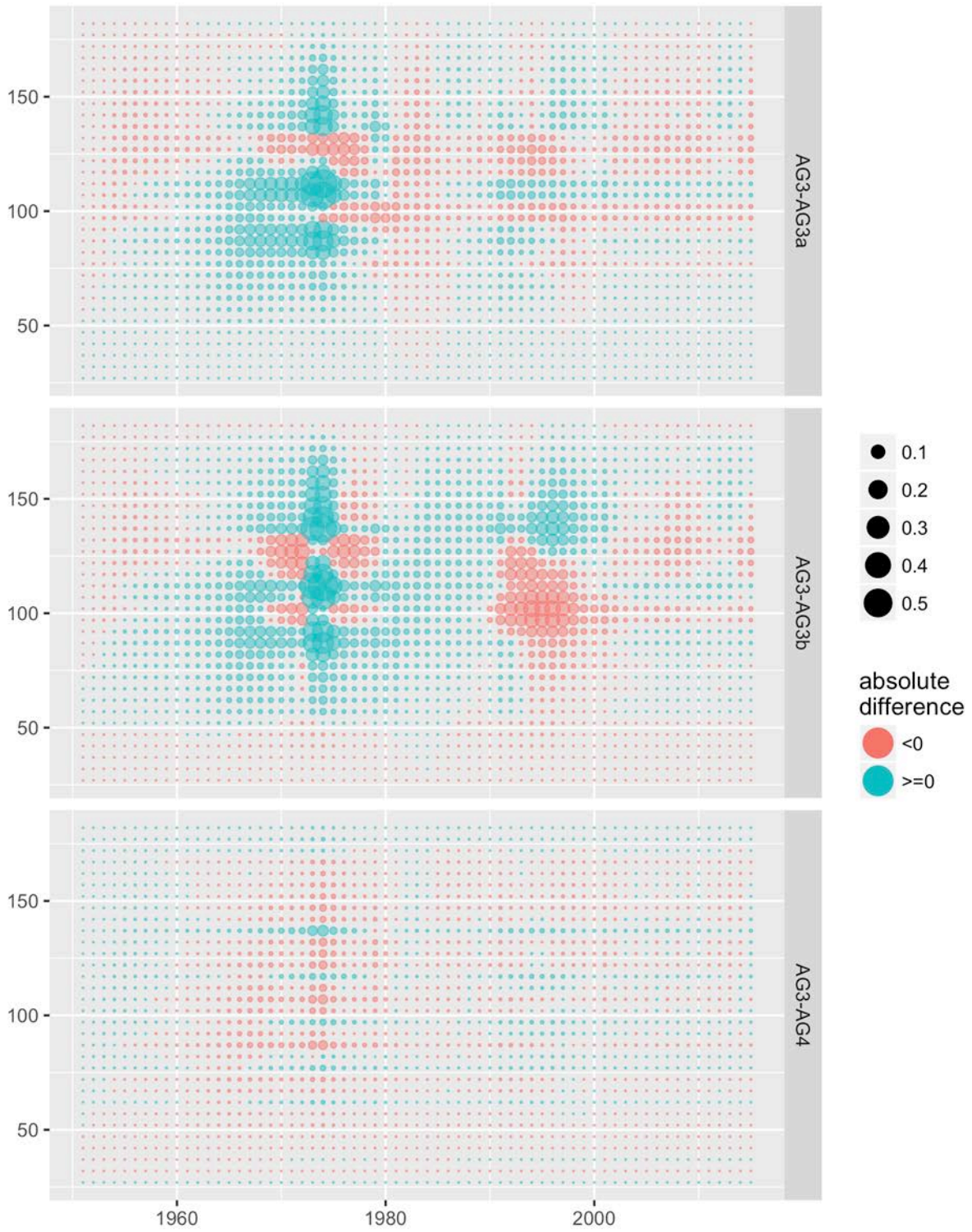


Figure 122. Differences for GTF fishery catch abundance for male mature old shell.

RKF fishery catch abundance
for female immature new shell

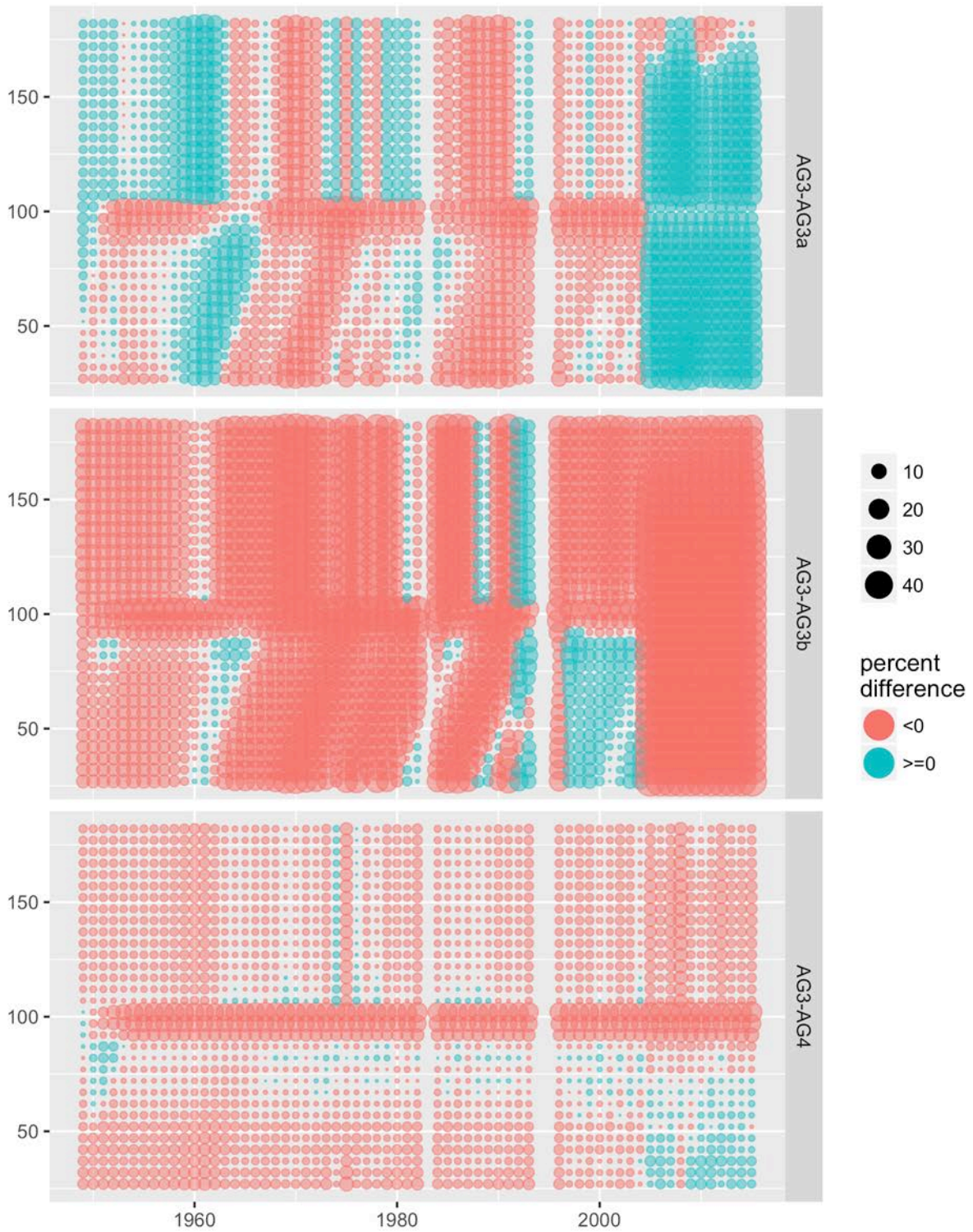


Figure 123. Differences for RKF fishery catch abundance for female immature new shell.

RKF fishery catch abundance
for female mature new shell

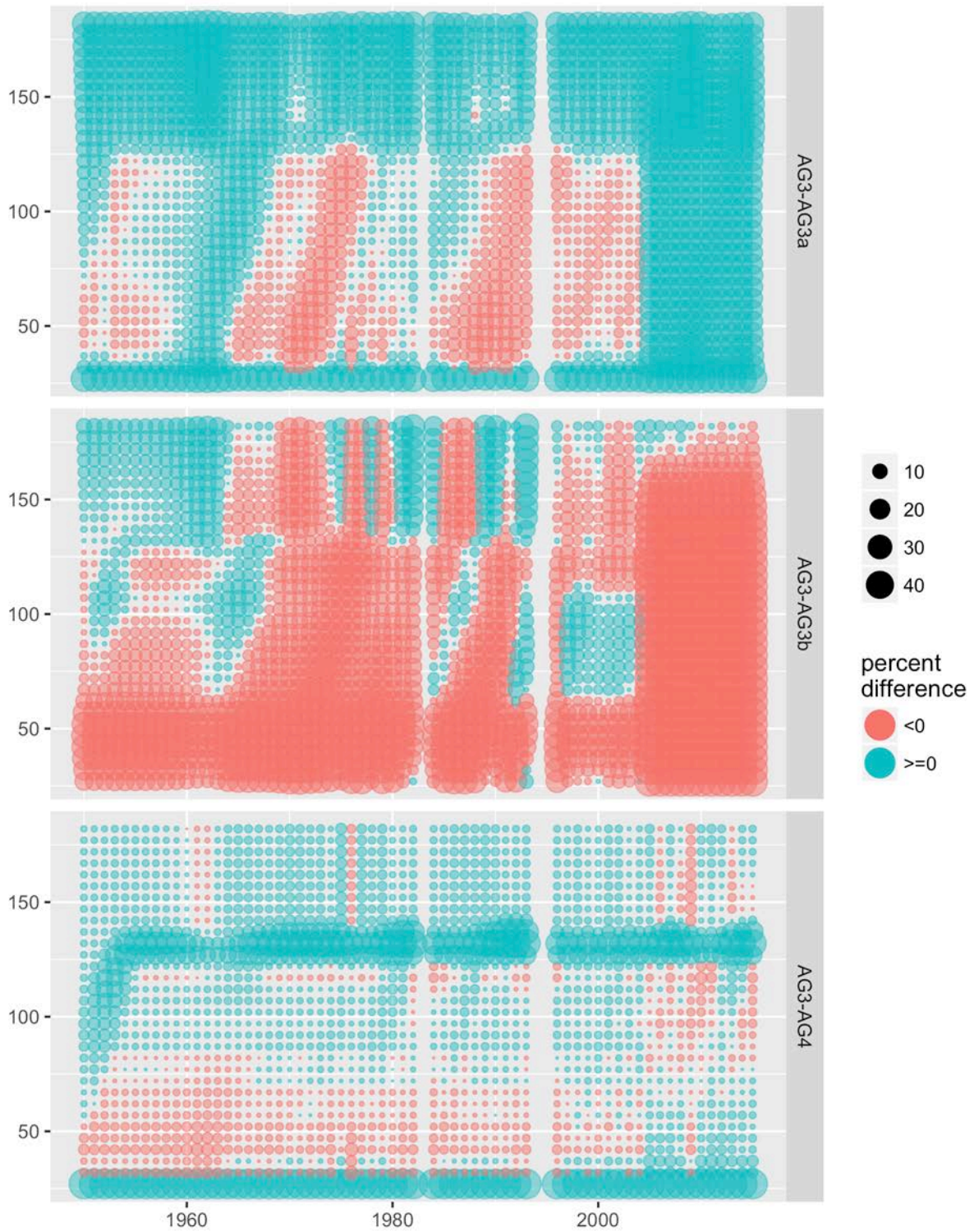


Figure 124. Differences for RKF fishery catch abundance for female mature new shell.

RKF fishery catch abundance
for female mature old shell

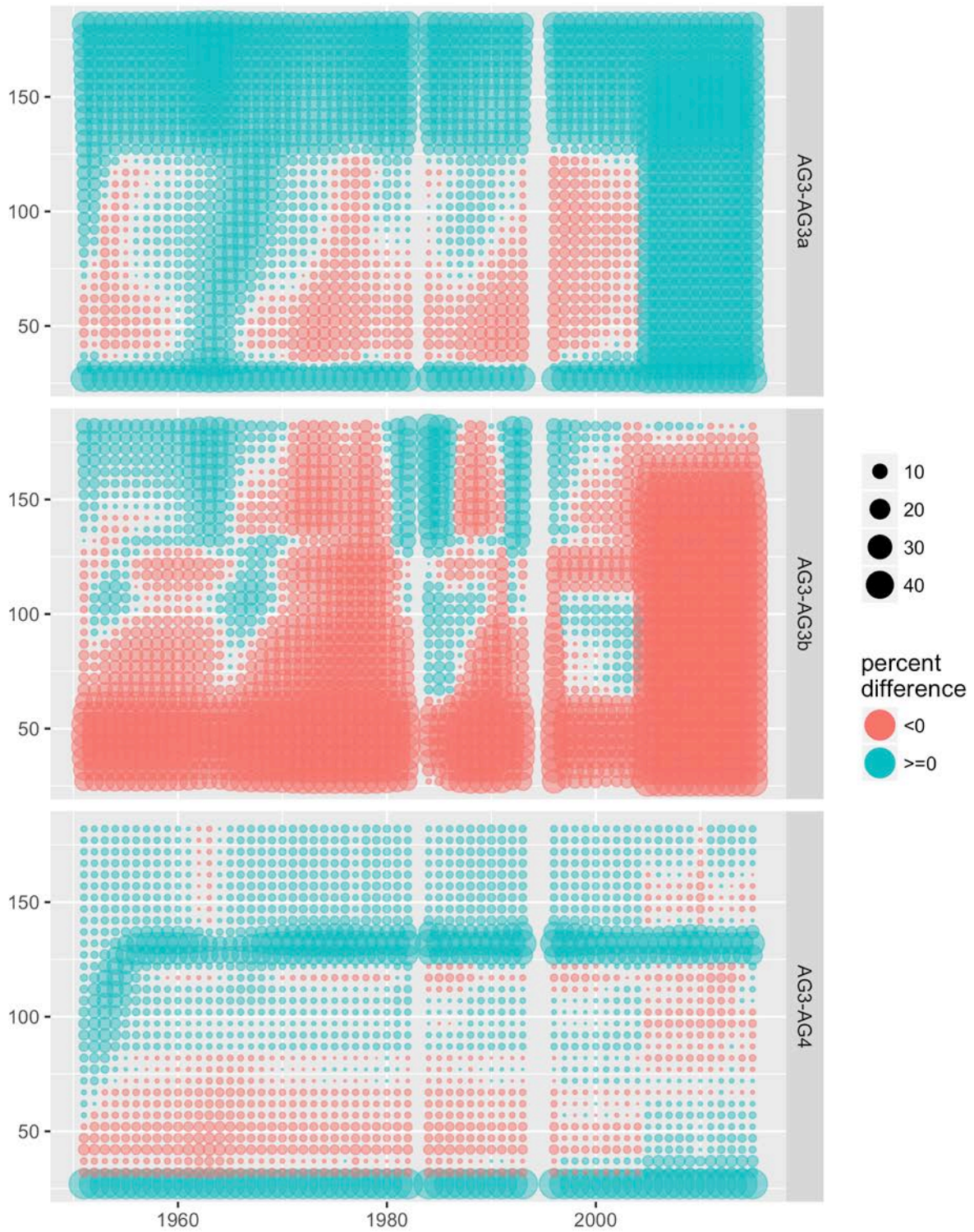


Figure 125. Differences for RKF fishery catch abundance for female mature old shell.

RKF fishery catch abundance
for male immature new shell

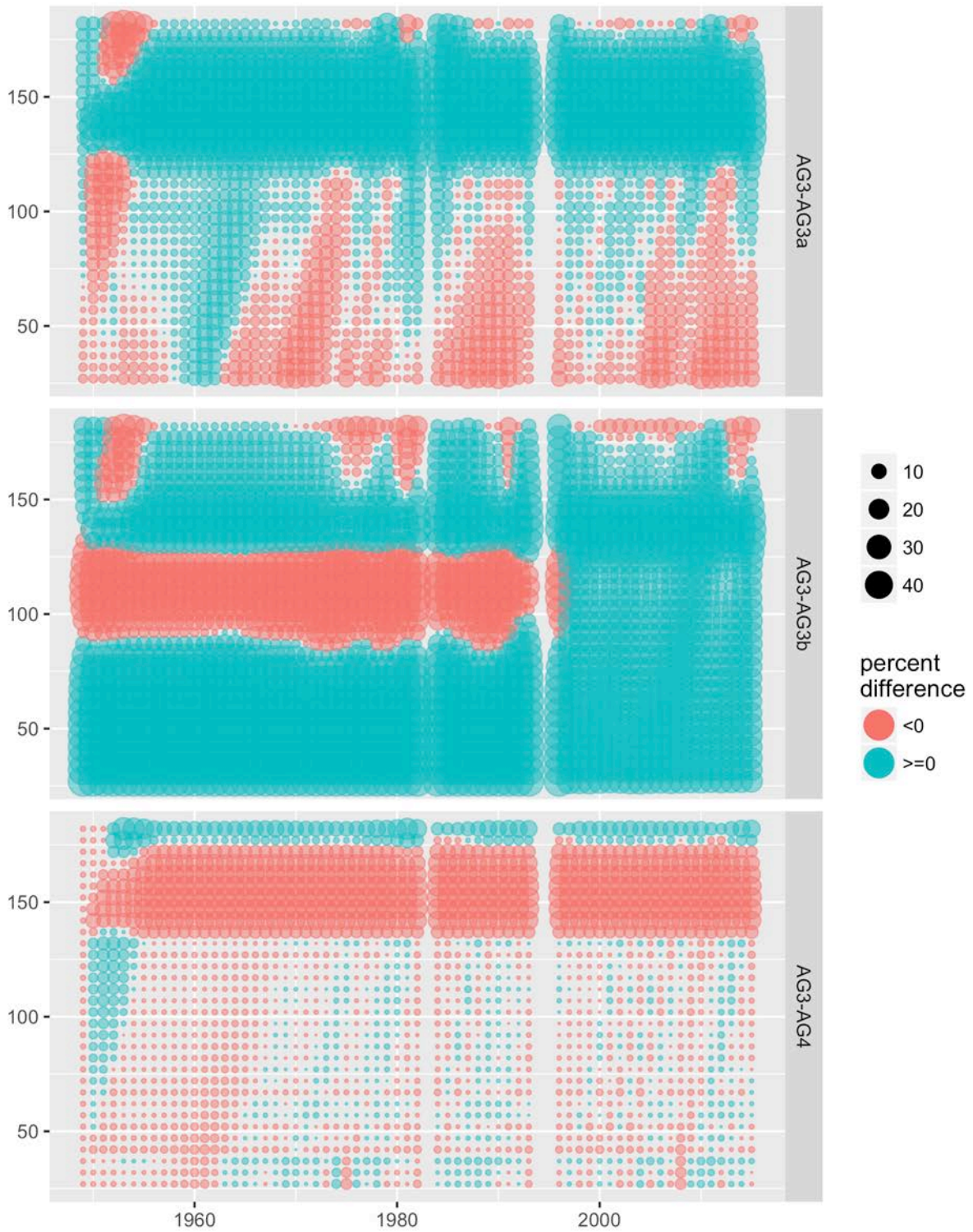


Figure 126. Differences for RKF fishery catch abundance for male immature new shell.

RKF fishery catch abundance
for male mature new shell

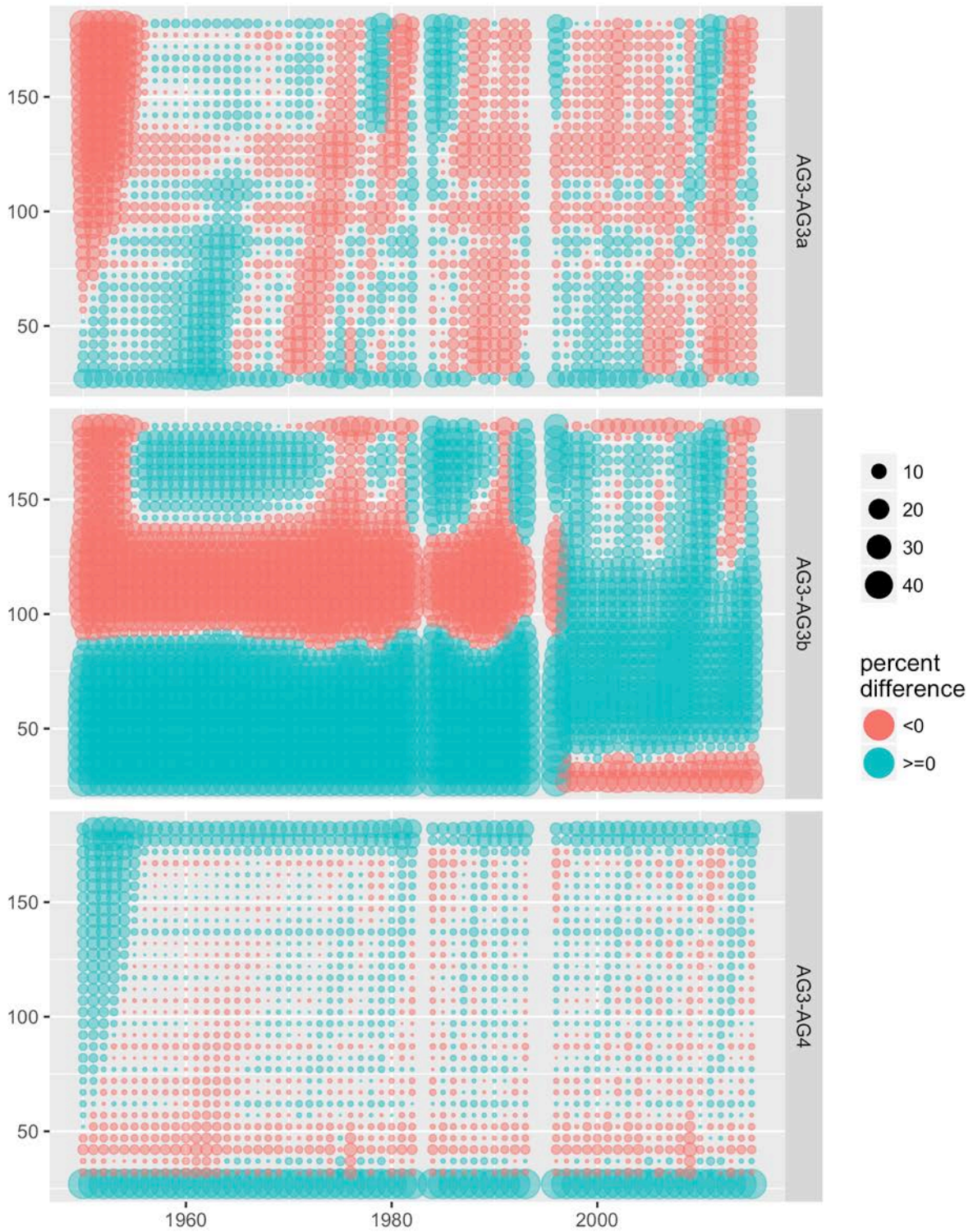


Figure 127. Differences for RKF fishery catch abundance for male mature new shell.

RKF fishery catch abundance
for male mature old shell

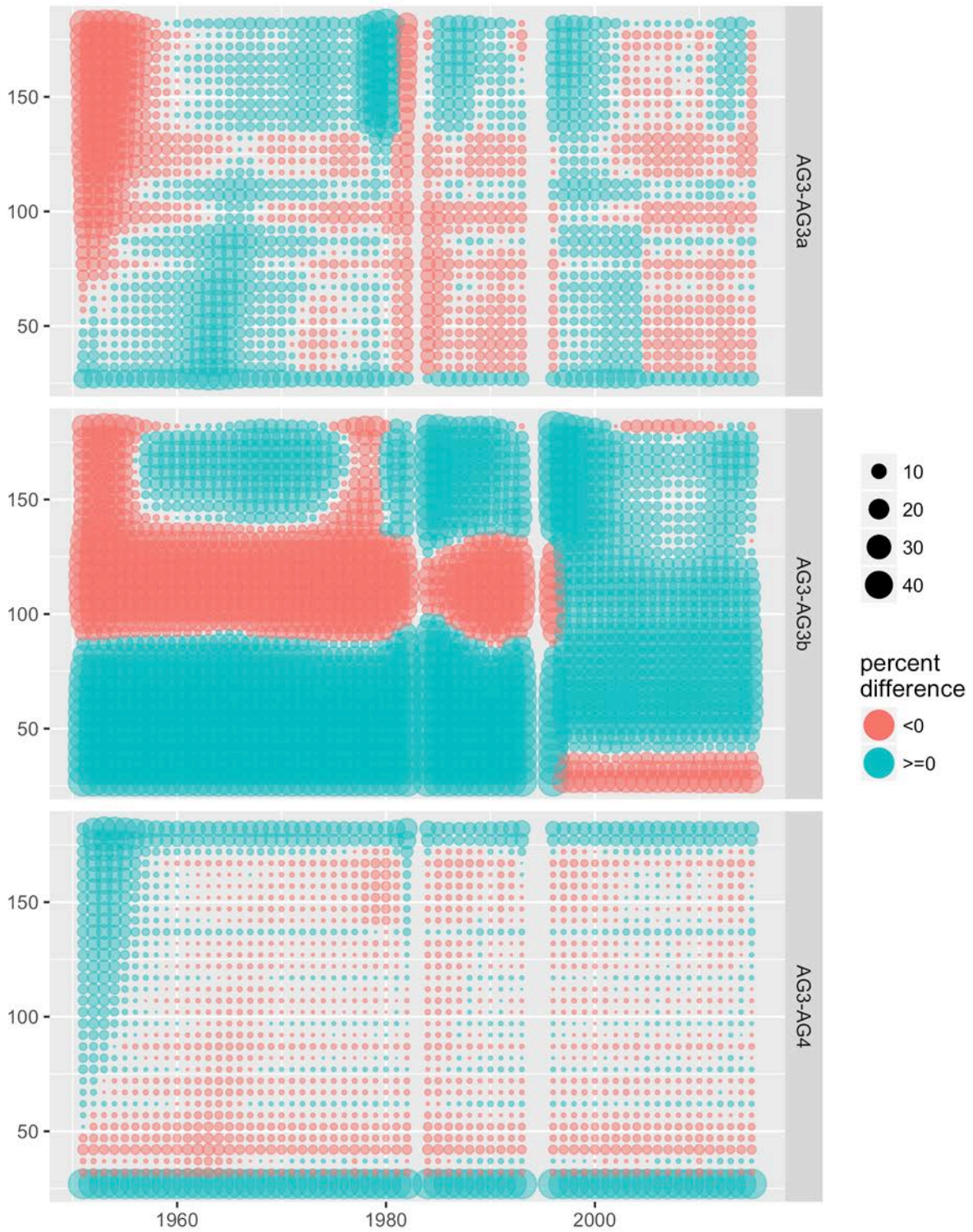


Figure 128. Differences for RKF fishery catch abundance for male mature old shell.

RKF fishery catch abundance for female immature new shell

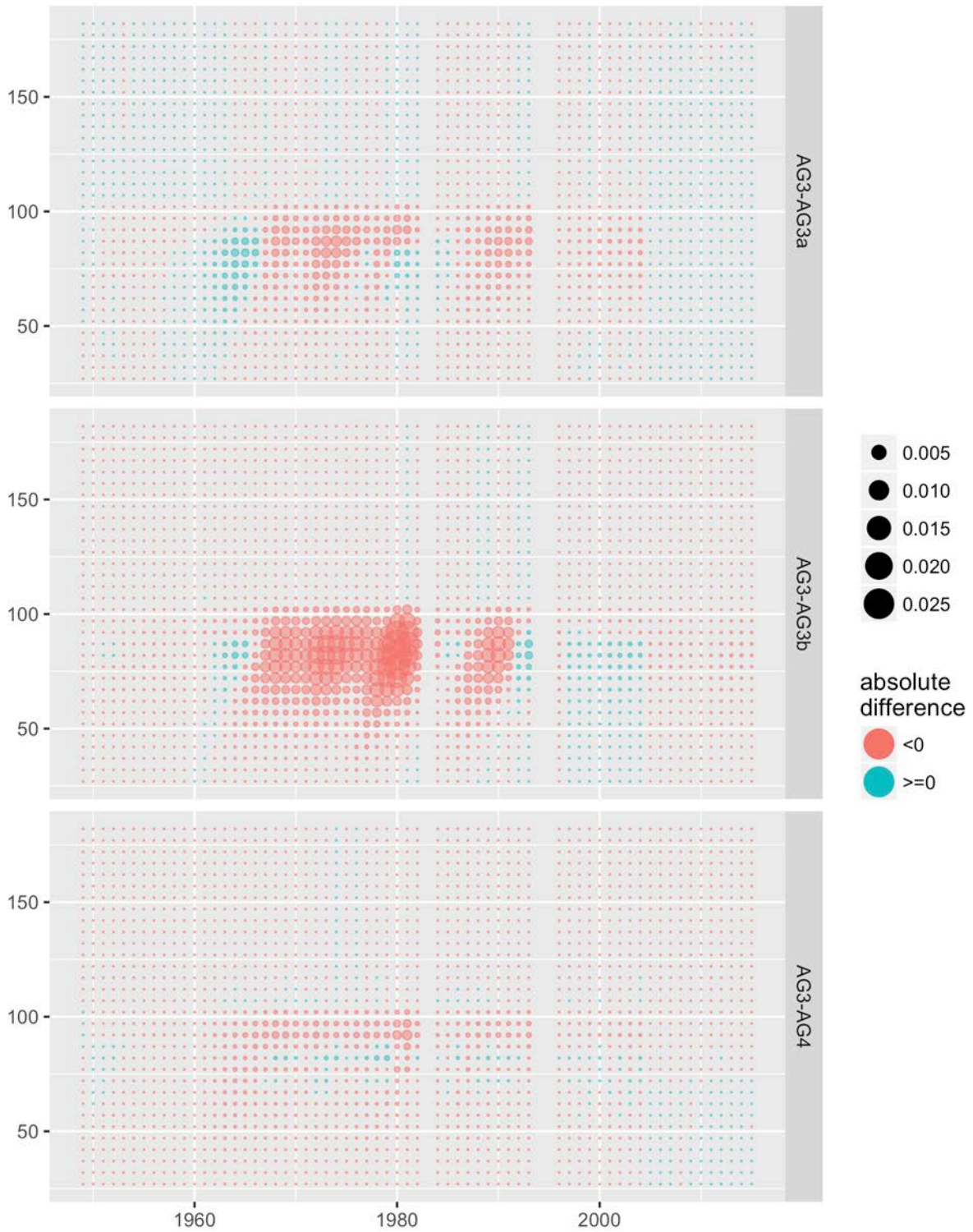


Figure 129. Differences for RKF fishery catch abundance for female immature new shell.

RKF fishery catch abundance
for female mature new shell

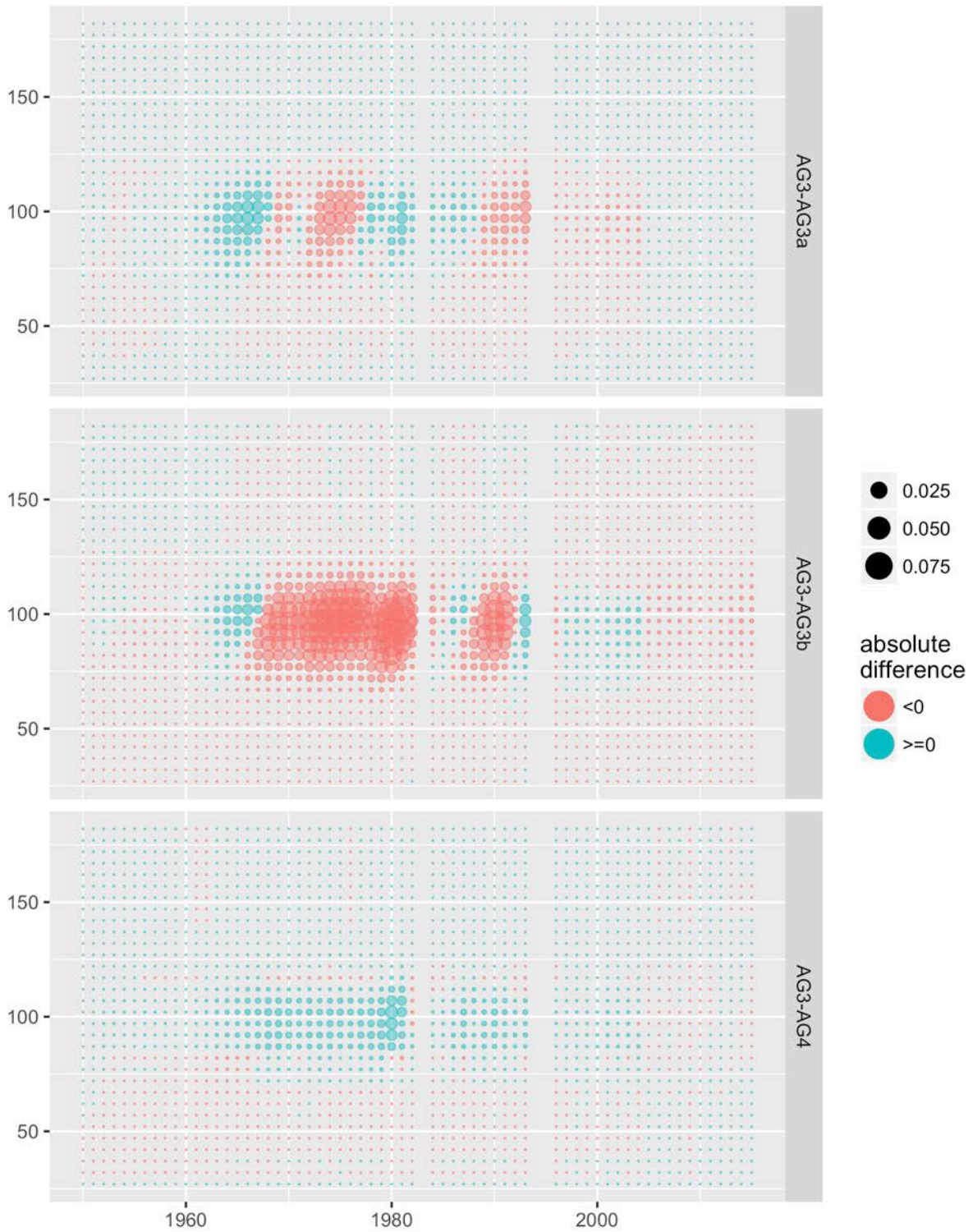


Figure 130. Differences for RKF fishery catch abundance for female mature new shell.

RKF fishery catch abundance
for female mature old shell

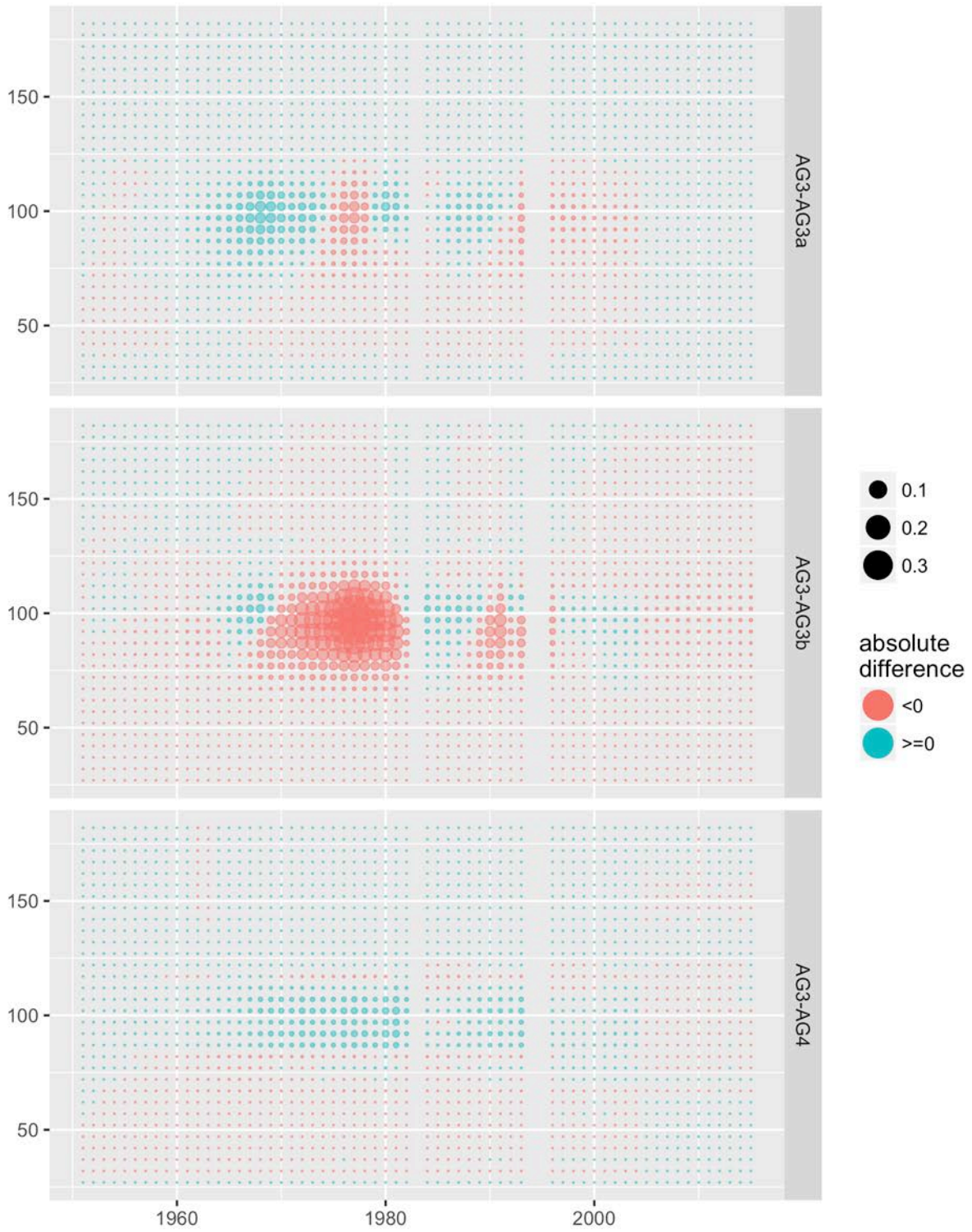


Figure 131. Differences for RKF fishery catch abundance for female mature old shell.

RKF fishery catch abundance
for male immature new shell

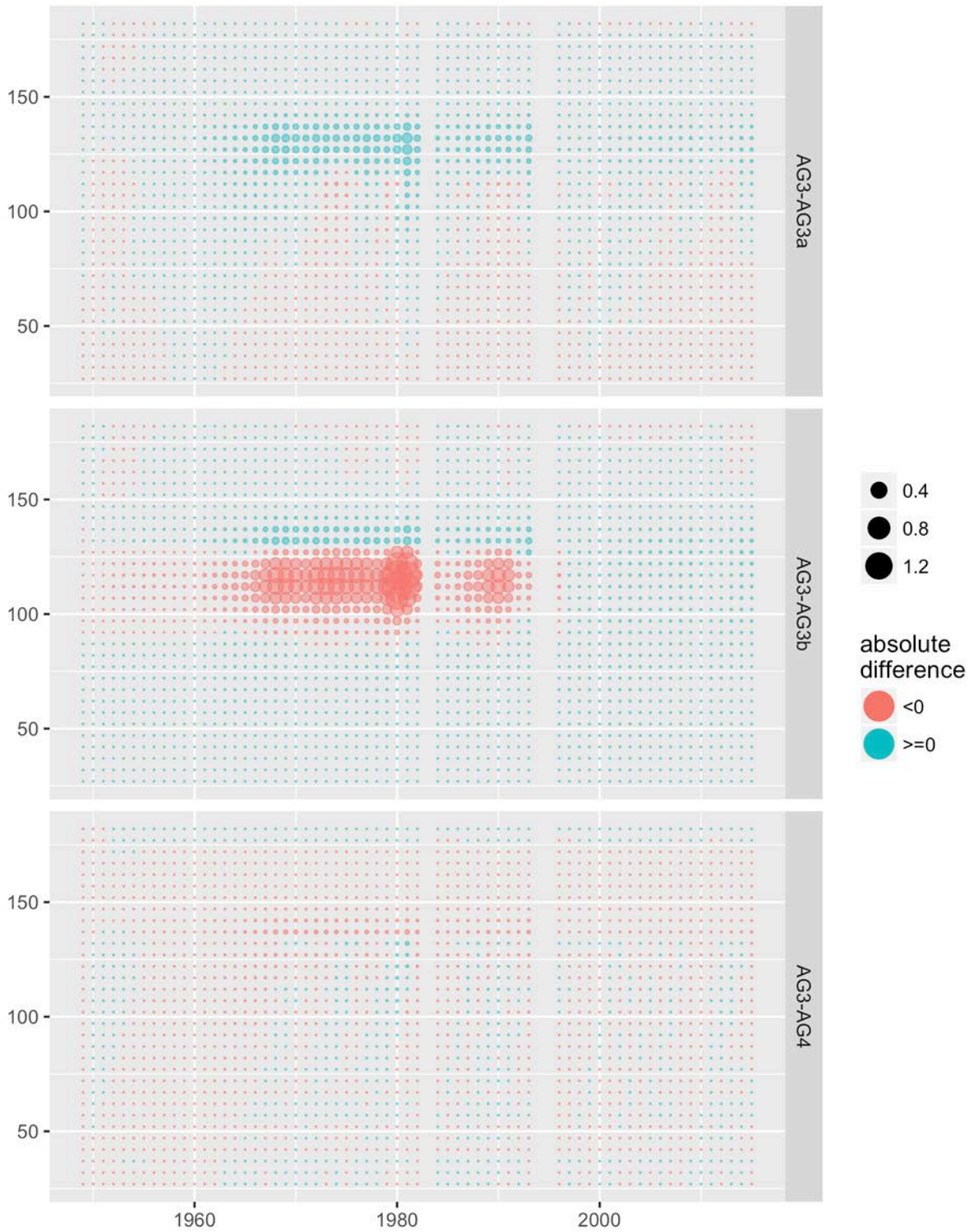


Figure 132. Differences for RKF fishery catch abundance for male immature new shell.

RKF fishery catch abundance for male mature new shell

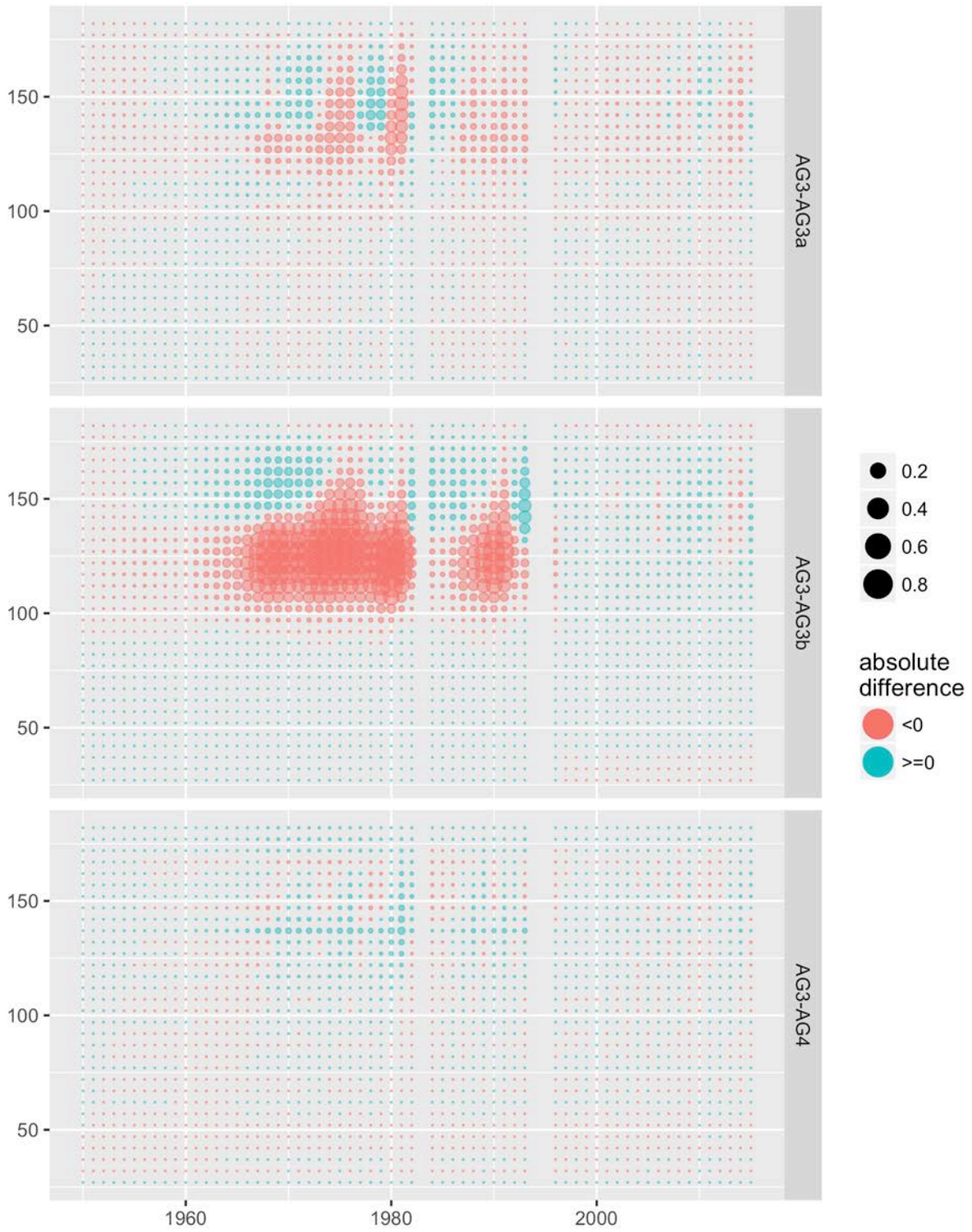


Figure 133. Differences for RKF fishery catch abundance for male mature new shell.

RKF fishery catch abundance
for male mature old shell

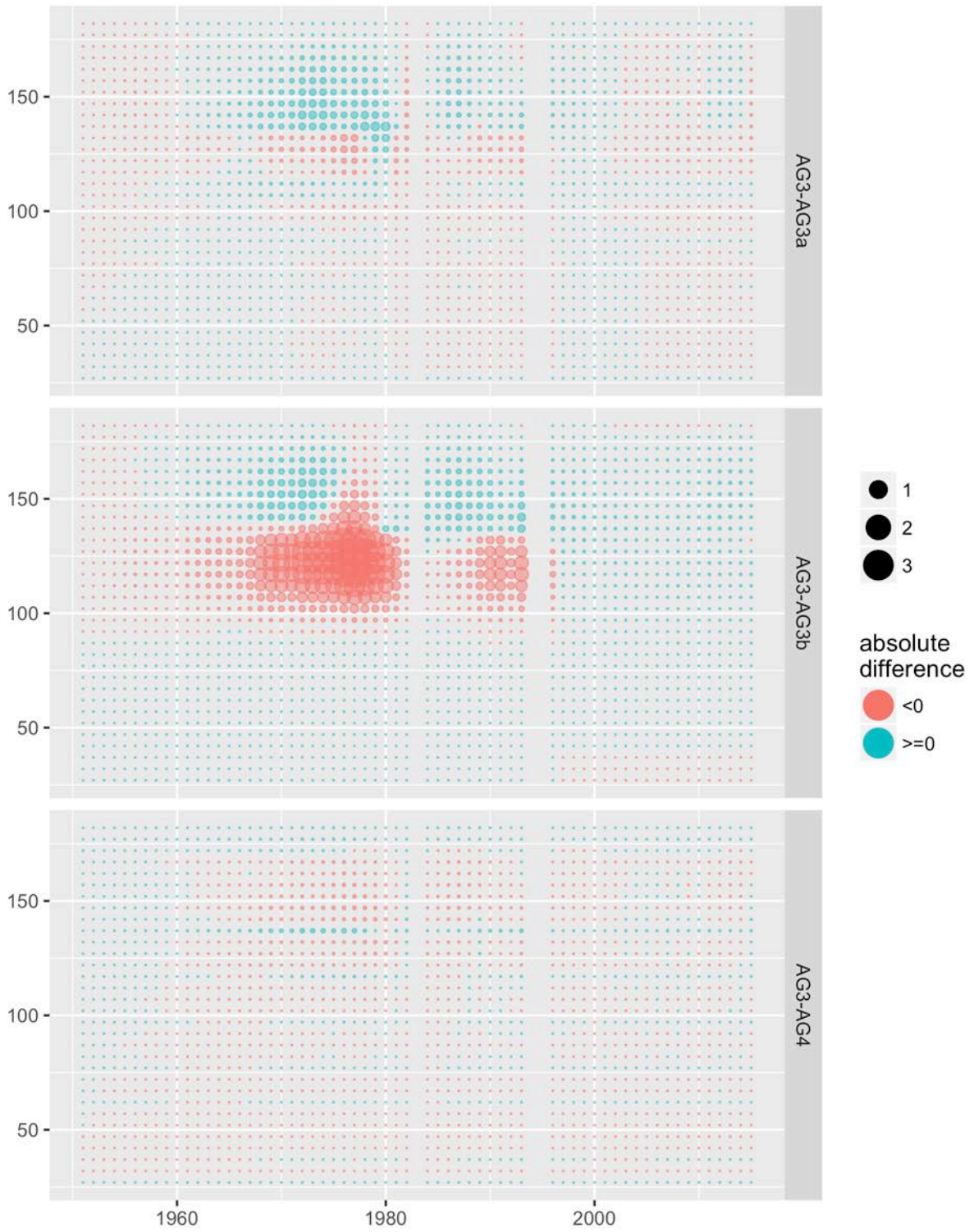


Figure 134. Differences for RKF fishery catch abundance for male mature old shell.

Total catch biomass

TCF: fishery total biomass

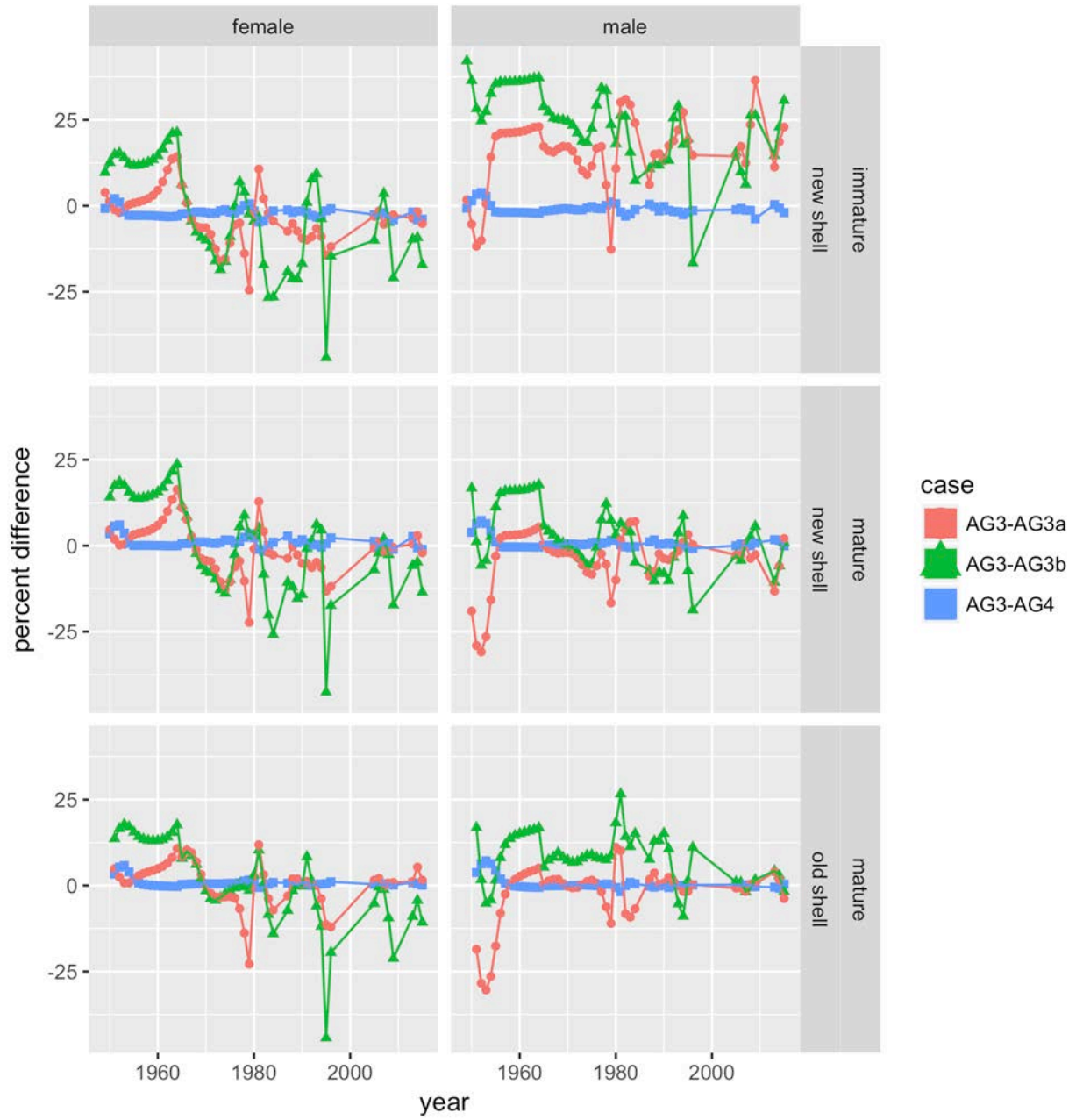


Figure 135. Differences for TCF: fishery total biomass.

TCF: fishery total biomass

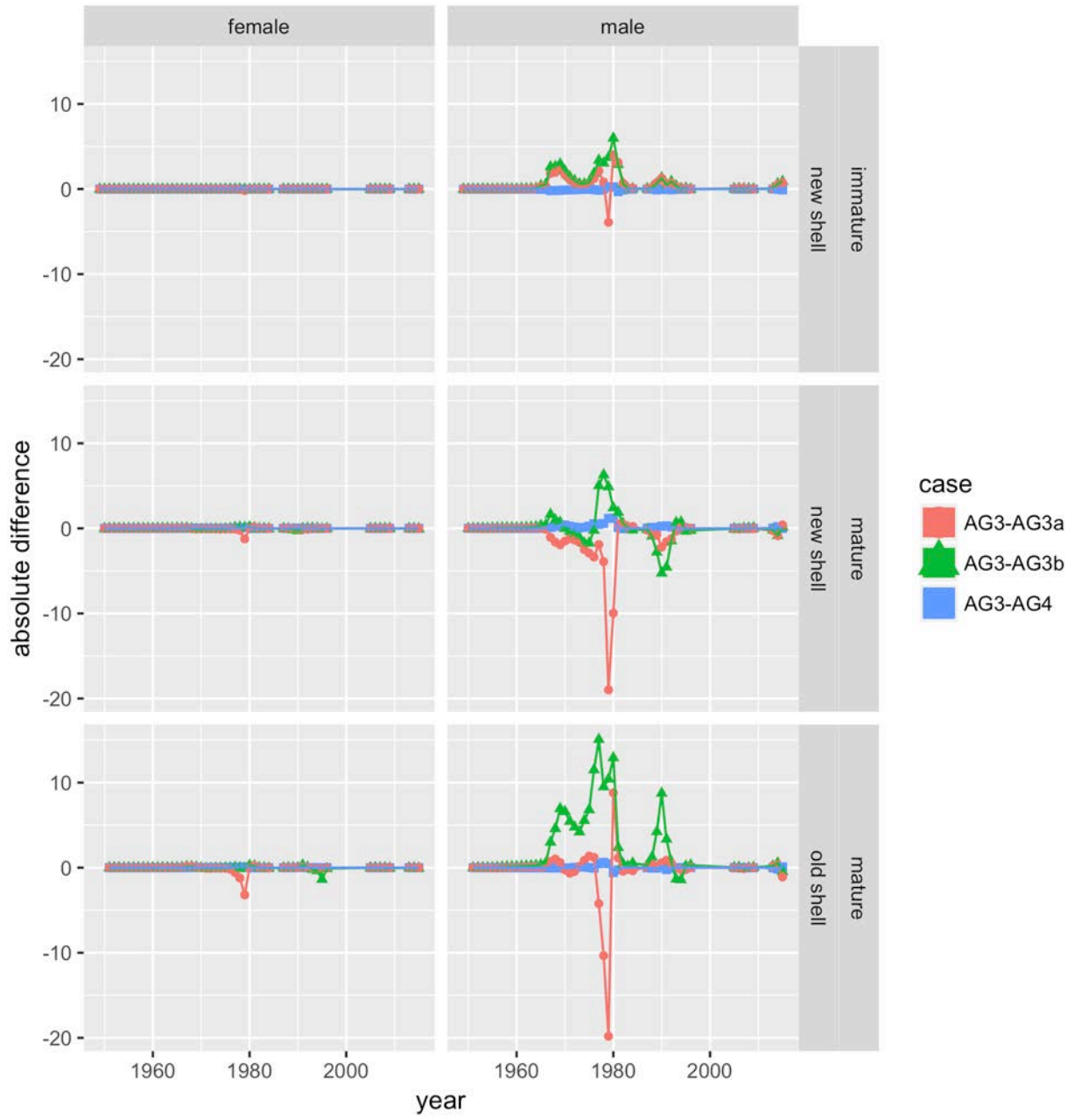


Figure 136. Differences for TCF: fishery total biomass.

SCF: fishery total biomass

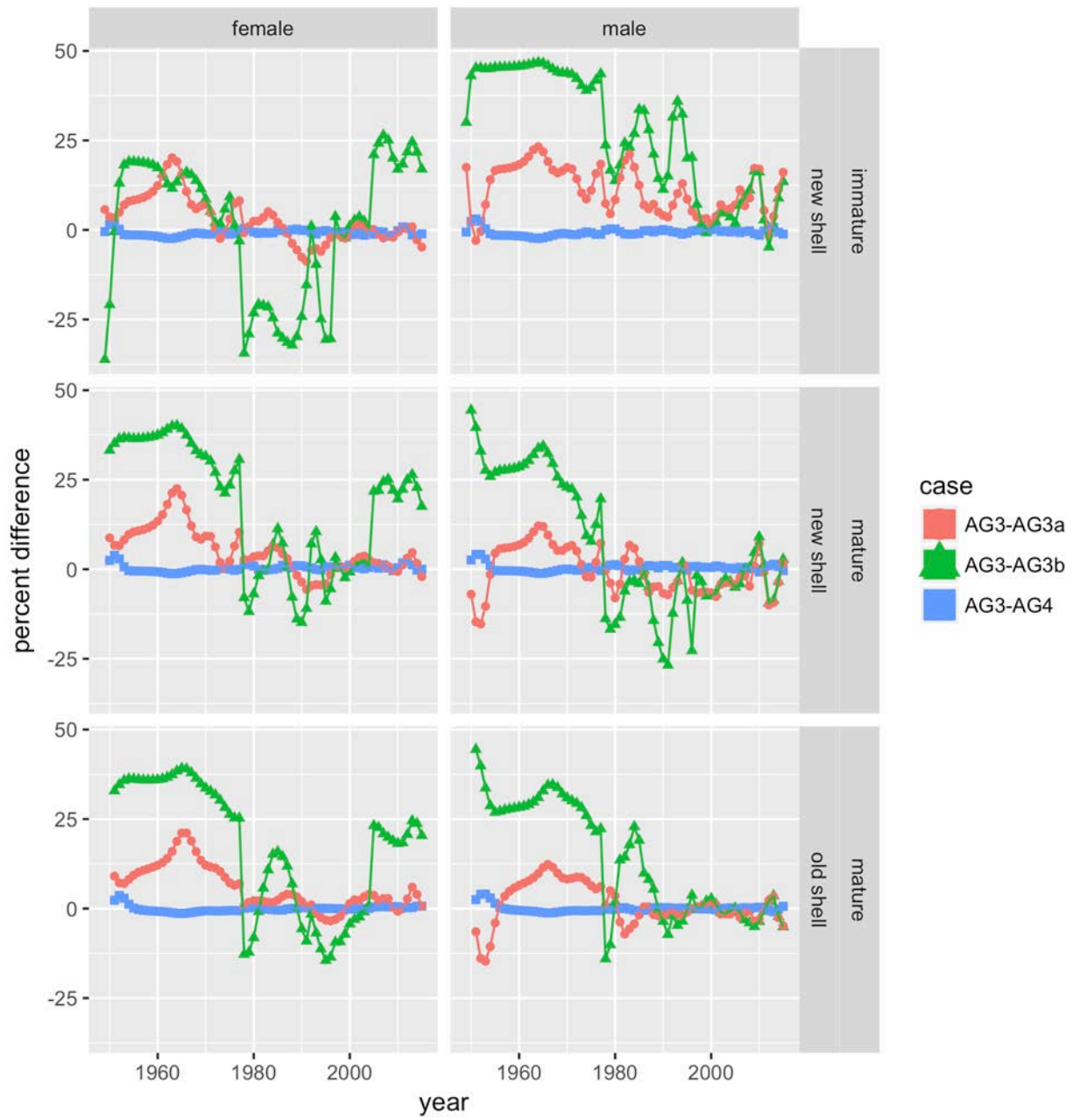


Figure 137. Differences for SCF: fishery total biomass.

SCF: fishery total biomass

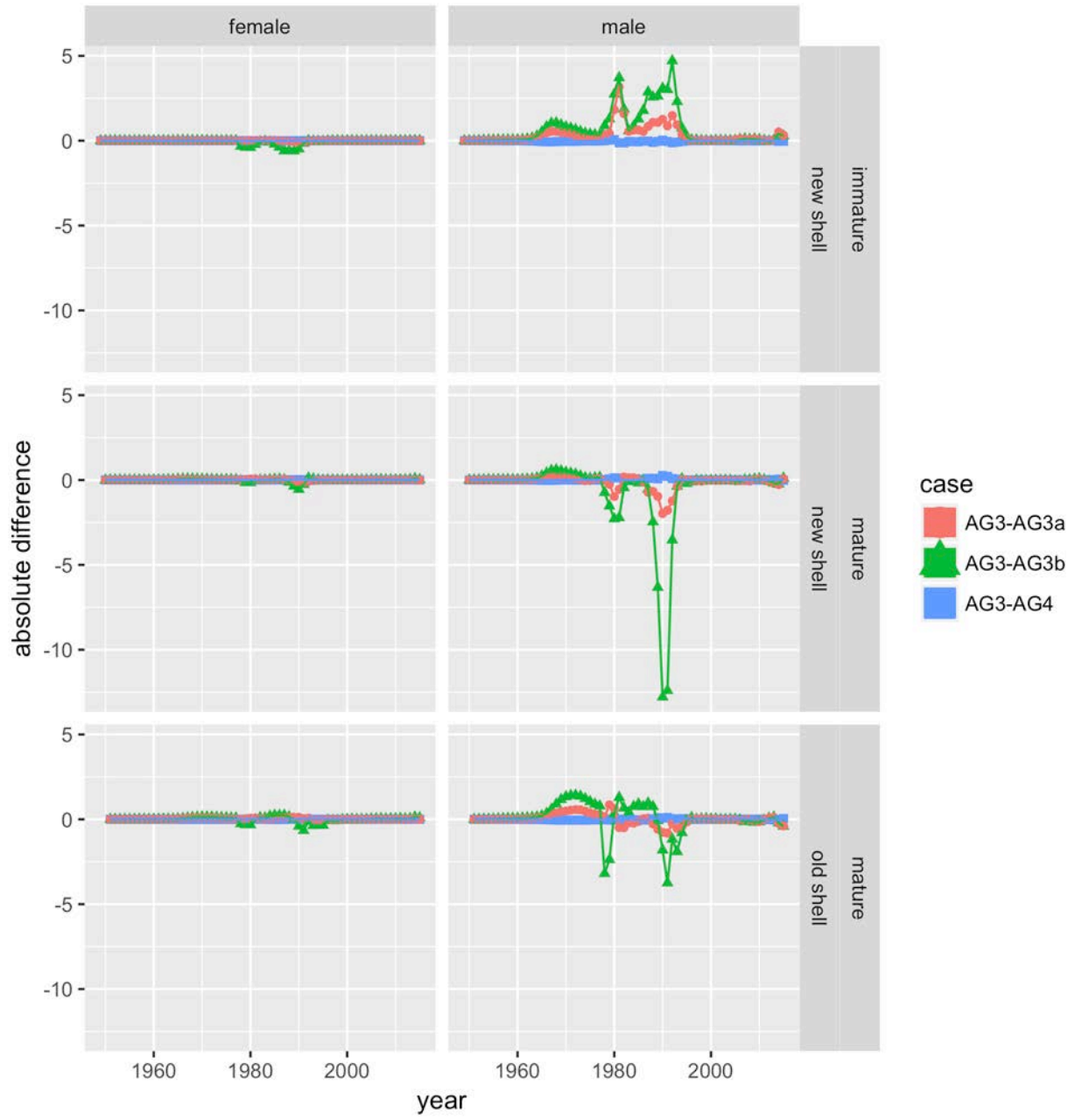


Figure 138. Differences for SCF: fishery total biomass.

GTF: fishery total biomass

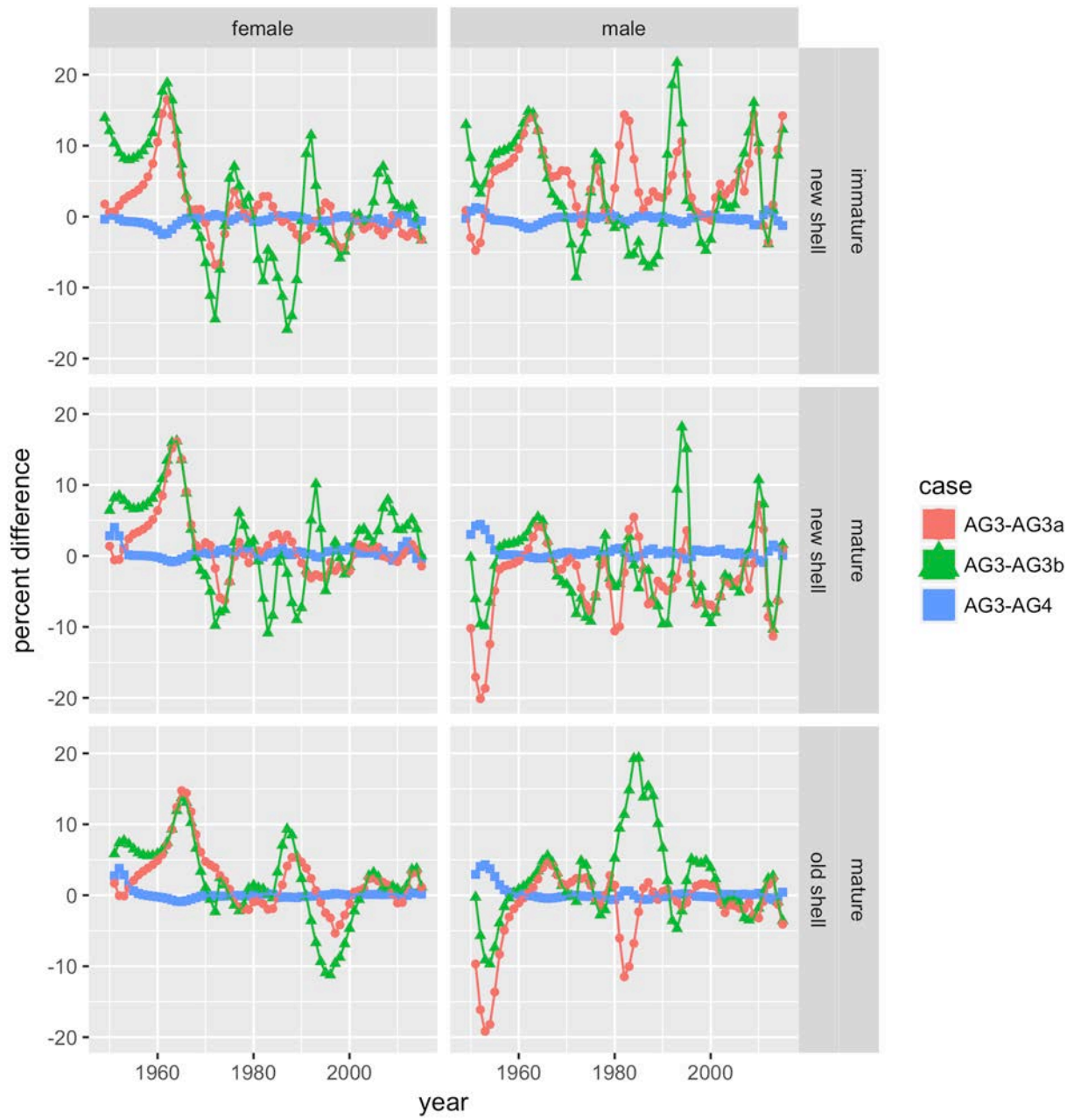


Figure 139. Differences for GTF: fishery total biomass.

GTF: fishery total biomass

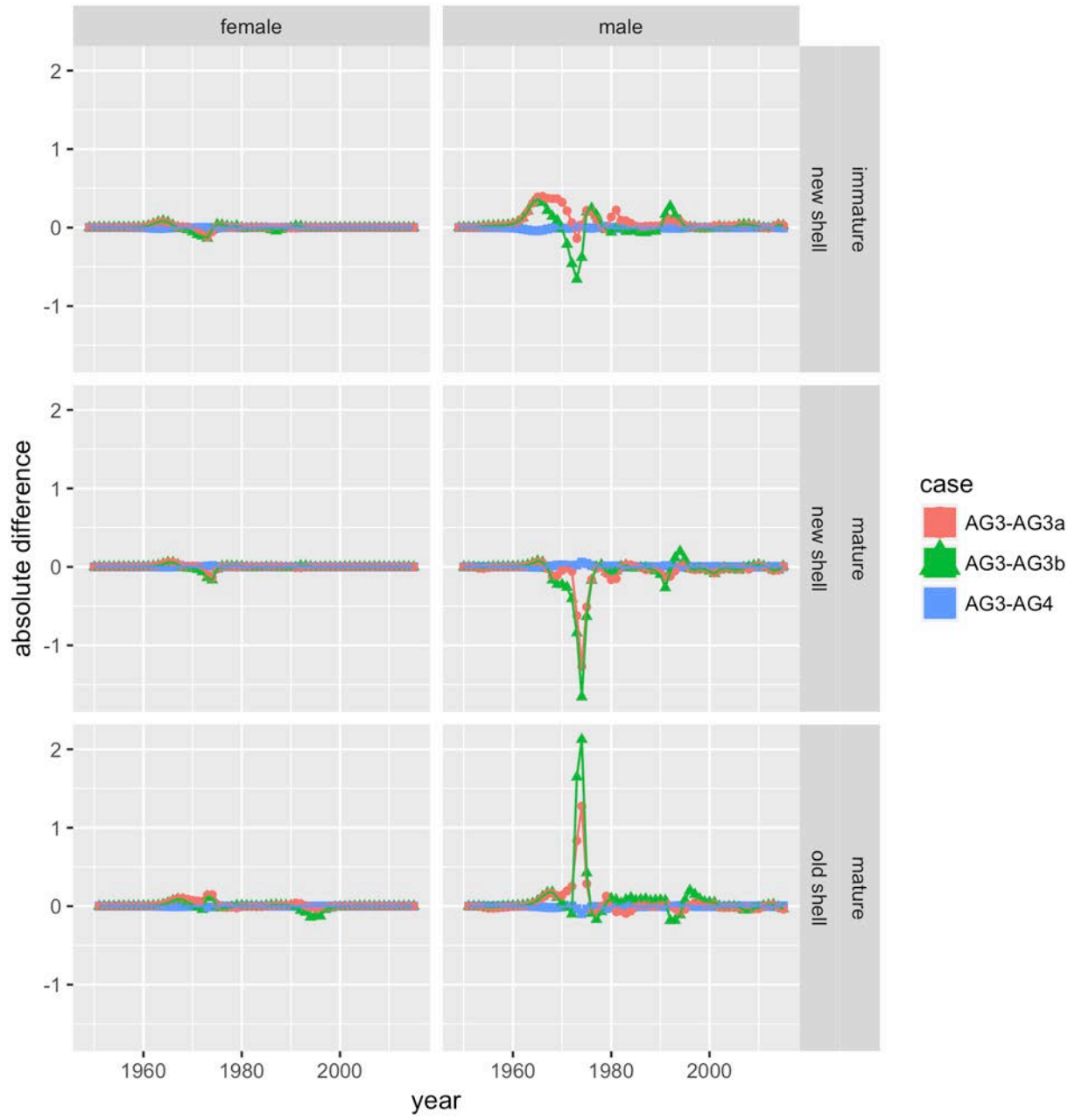


Figure 140. Differences for GTF: fishery total biomass.

RKF: fishery total biomass

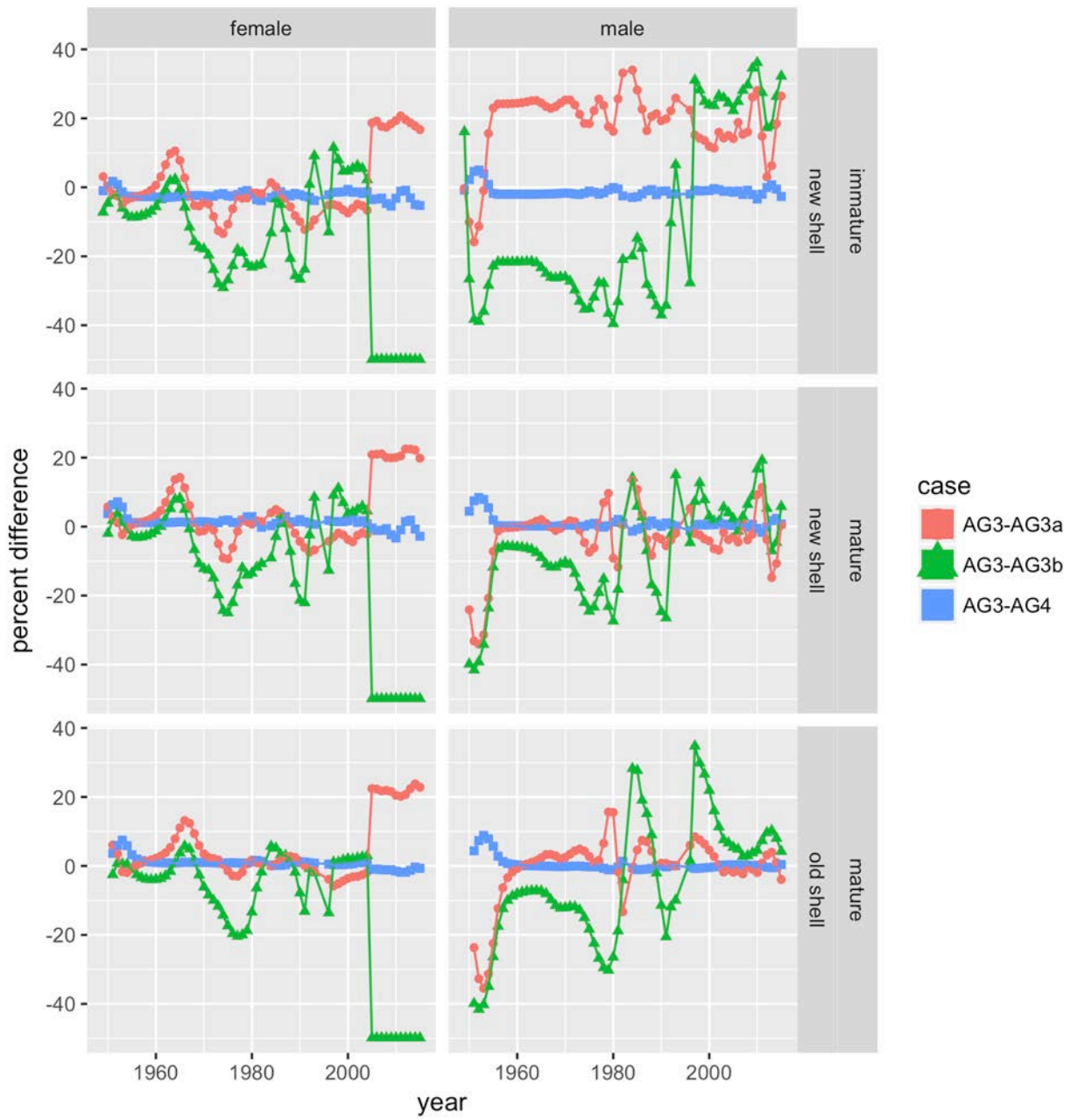


Figure 141. Differences for RKF: fishery total biomass.

RKF: fishery total biomass

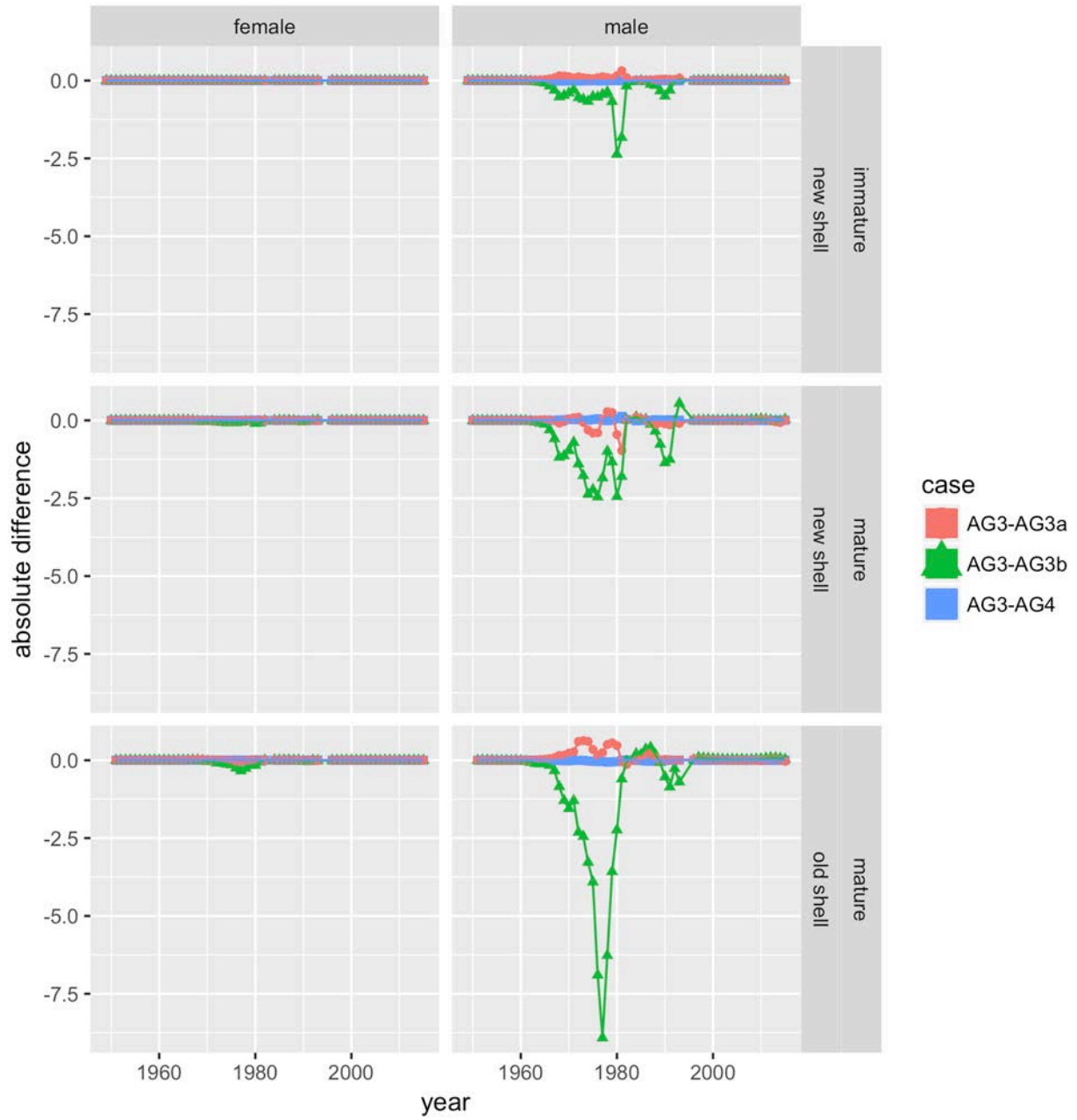


Figure 142. Differences for RKF: fishery total biomass.

Retained catch abundance

TCF: retained catch abundance

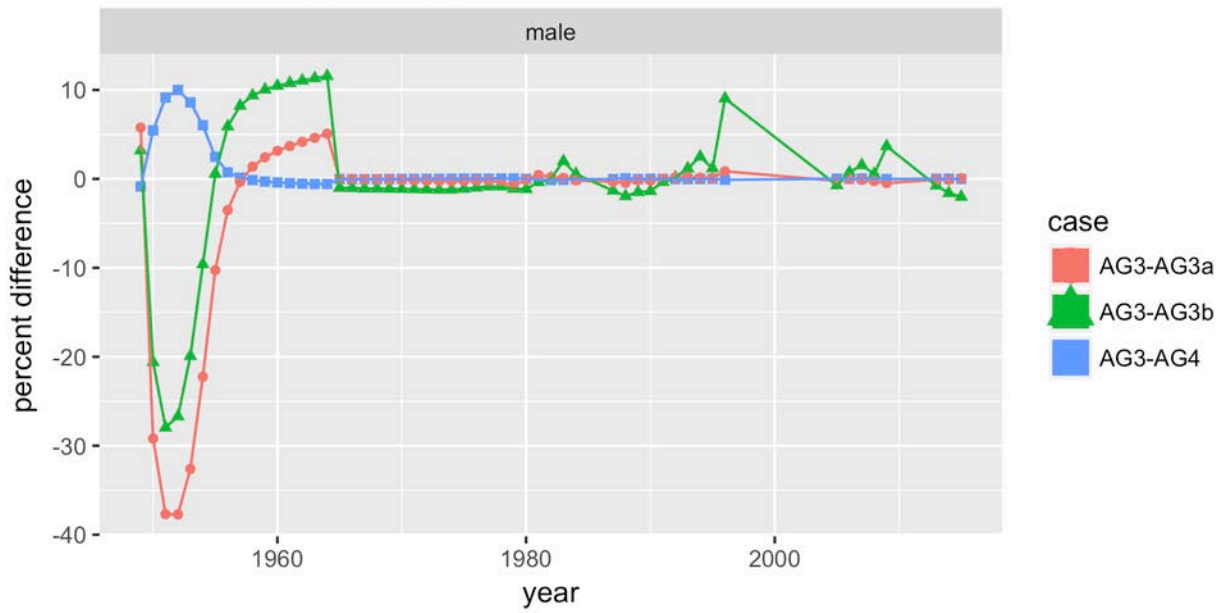


Figure 143. Differences for TCF: retained catch abundance.

TCF: retained catch abundance

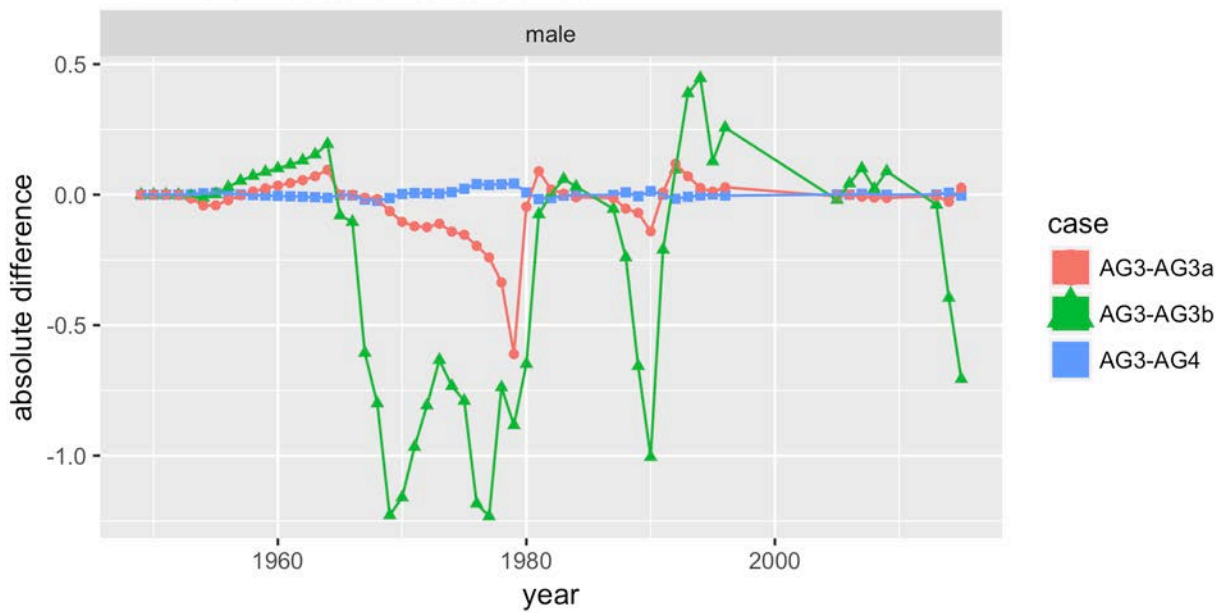


Figure 144. Differences for TCF: retained catch abundance.

TCF retained catch abundance
for male all maturity all shell

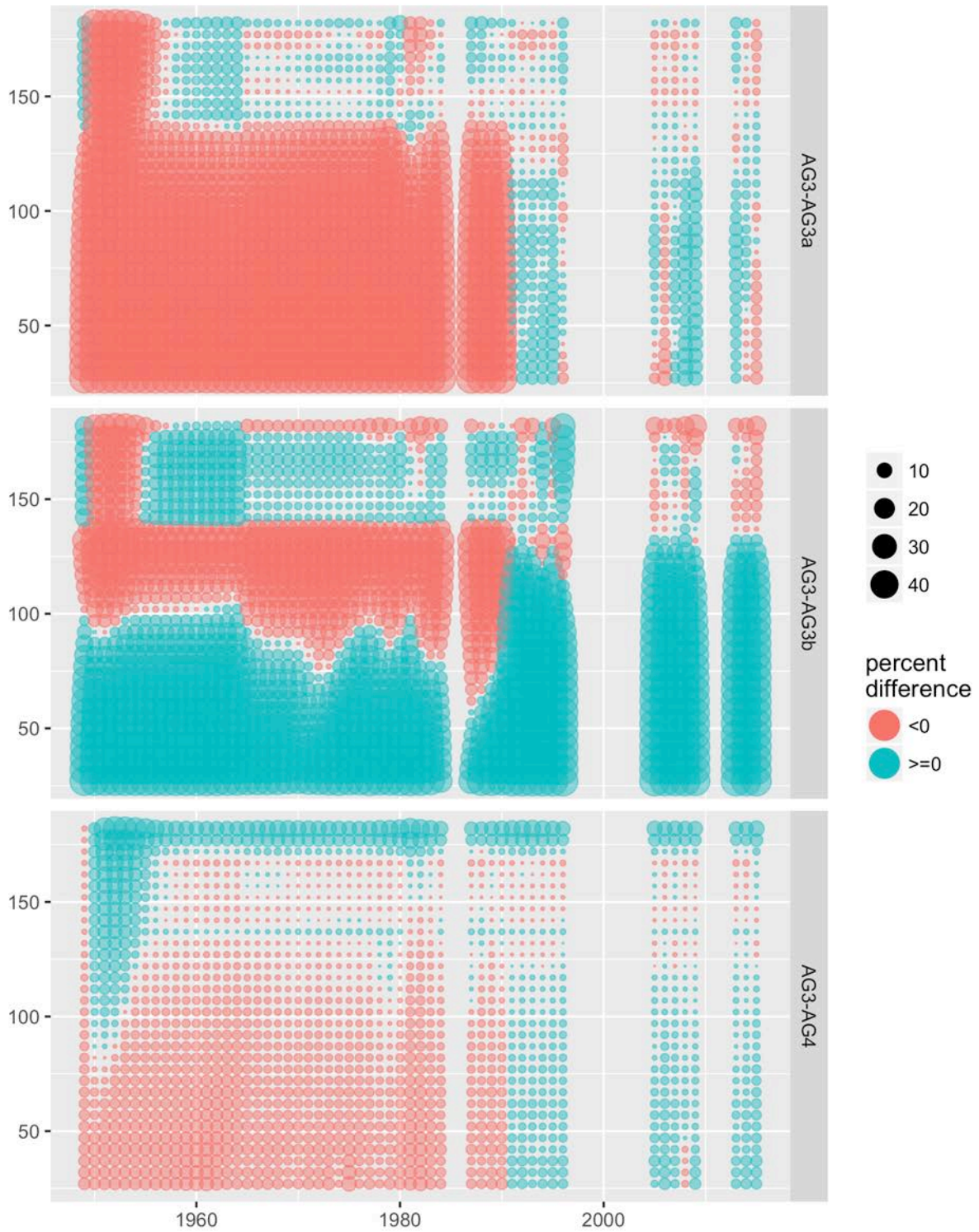


Figure 145. Differences for TCF retained catch abundance for male all maturity all shell.

TCF retained catch abundance
for male all maturity all shell

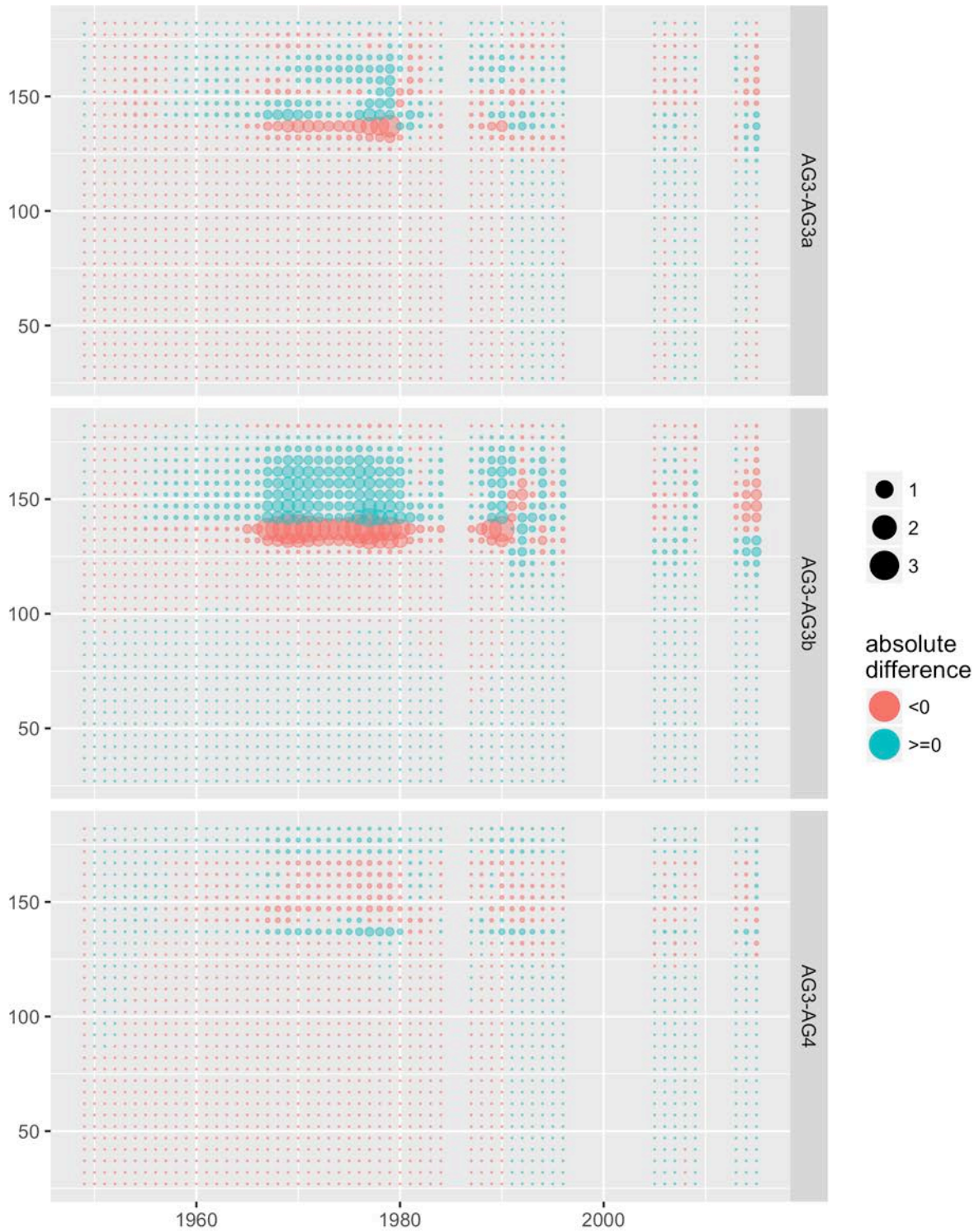


Figure 146. Differences for TCF retained catch abundance for male all maturity all shell.

Retained catch biomass

TCF: retained catch biomass

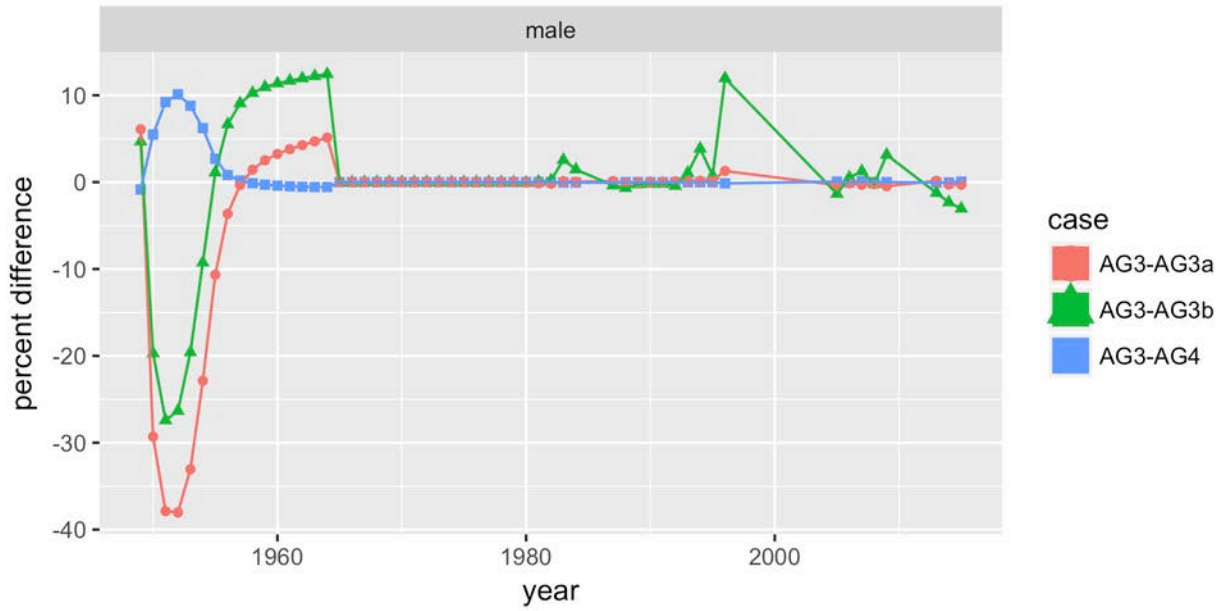


Figure 147. Differences for TCF: retained catch biomass.

TCF: retained catch biomass

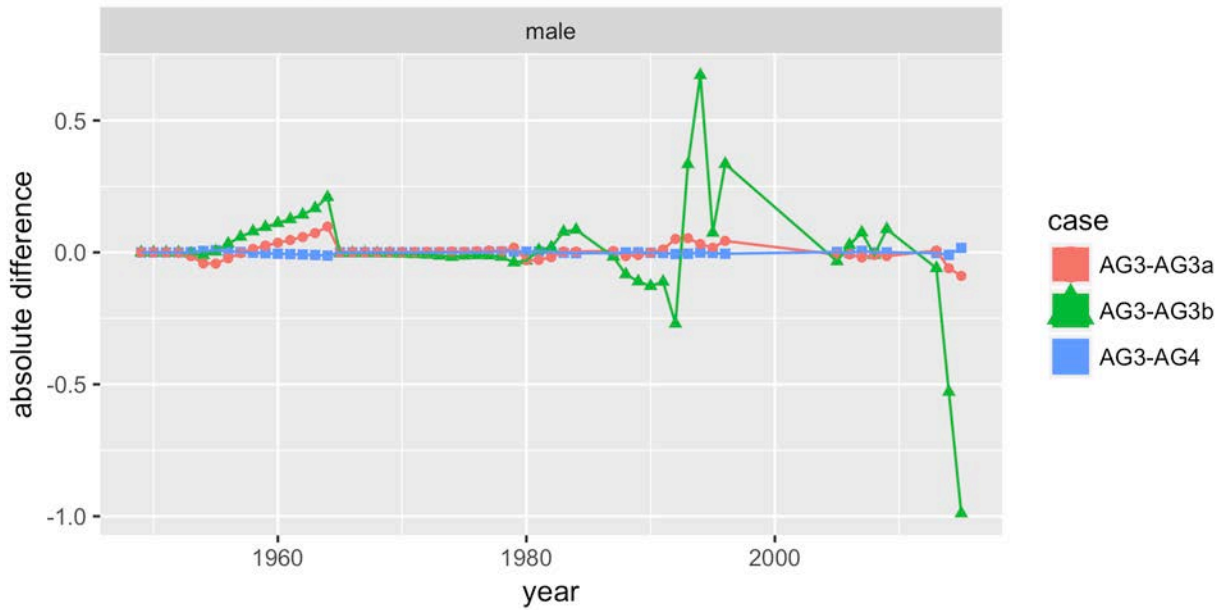


Figure 148. Differences for TCF: retained catch biomass.