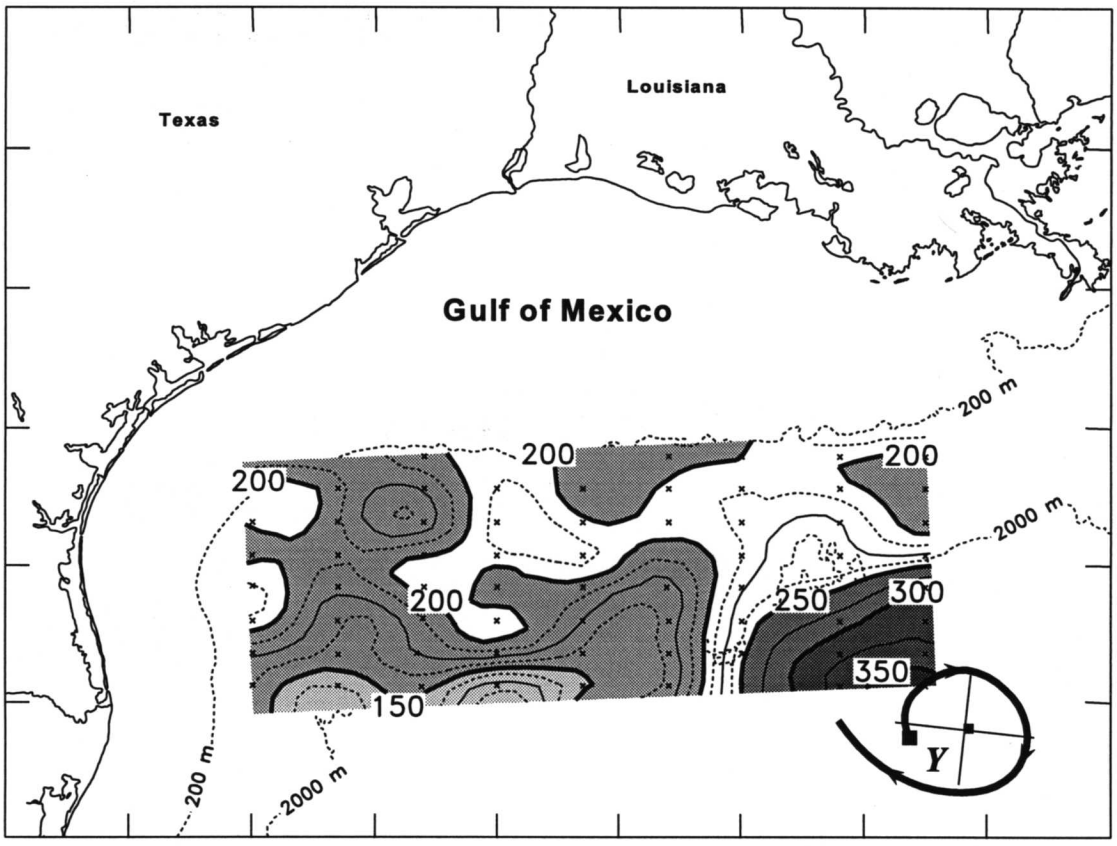
OCS Study
MMS 96-0052

Louisiana/Texas Shelf Physical Oceanography Program: Eddy Circulation Study

Final Synthesis Report

Volume II: Appendices



MMS U.S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region

OCS Study
MMS 96-0052

Louisiana/Texas Shelf Physical Oceanography Program: Eddy Circulation Study

Final Synthesis Report

Volume II: Appendices

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COVER

The cover shows the depth of the 15°C isotherm on November 4, 1994 and the path of drifter 12376 (***Y***) during November 1-11, 1994. Arrow heads are at 3-day intervals (Volume I: Figure 5.6-5b).

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Appendix A - Gulf of Mexico Sea Surface Topography Climatology Derived from GEOSAT Altimeter Data

A.1 Introduction

The complete climatology of sea surface height anomalies with respect to the Ohio State University mean sea surface (OSUMSS95) is presented in this appendix. The GEOSAT Geodetic Mission climatology is presented in Appendix A.2. The GEOSAT Exact Repeat Mission climatology is presented in Appendix A.3. Maps of the seasonal and annual root mean square (RMS) sea surface height variability are presented in Appendix A.4. Maps of the seasonal and annual RMS geostrophic velocity variability are presented in Appendix A.5. Data processing, editing and presentation have been described in Section 3.4.2 of this report.

A.2 GEOSAT Geodetic Mission Climatology

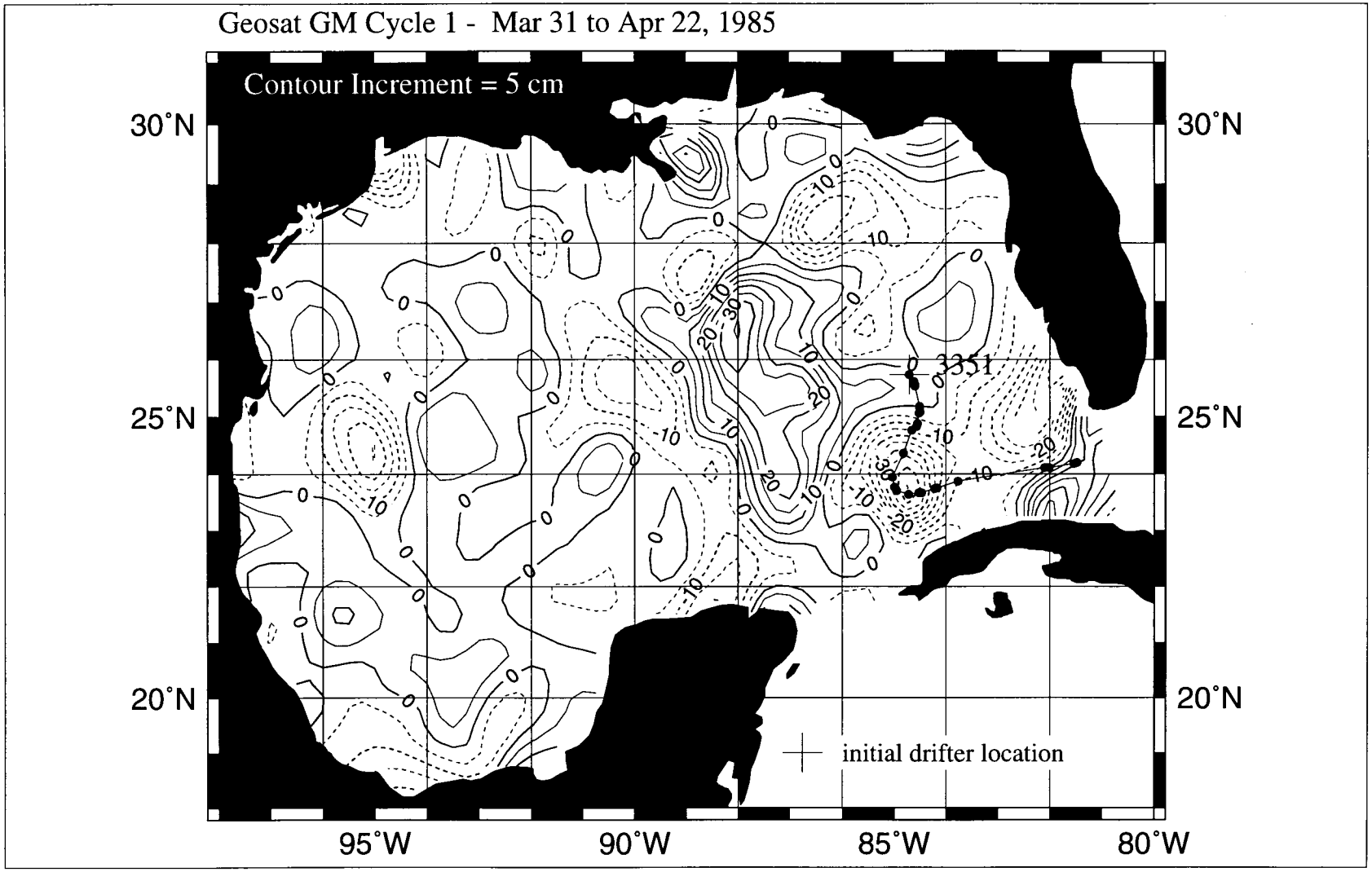

Figure A.2-1. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 1 (March 31 to April 22, 1985). Drifter locations within five days of the midpoint of the cycle are shown.

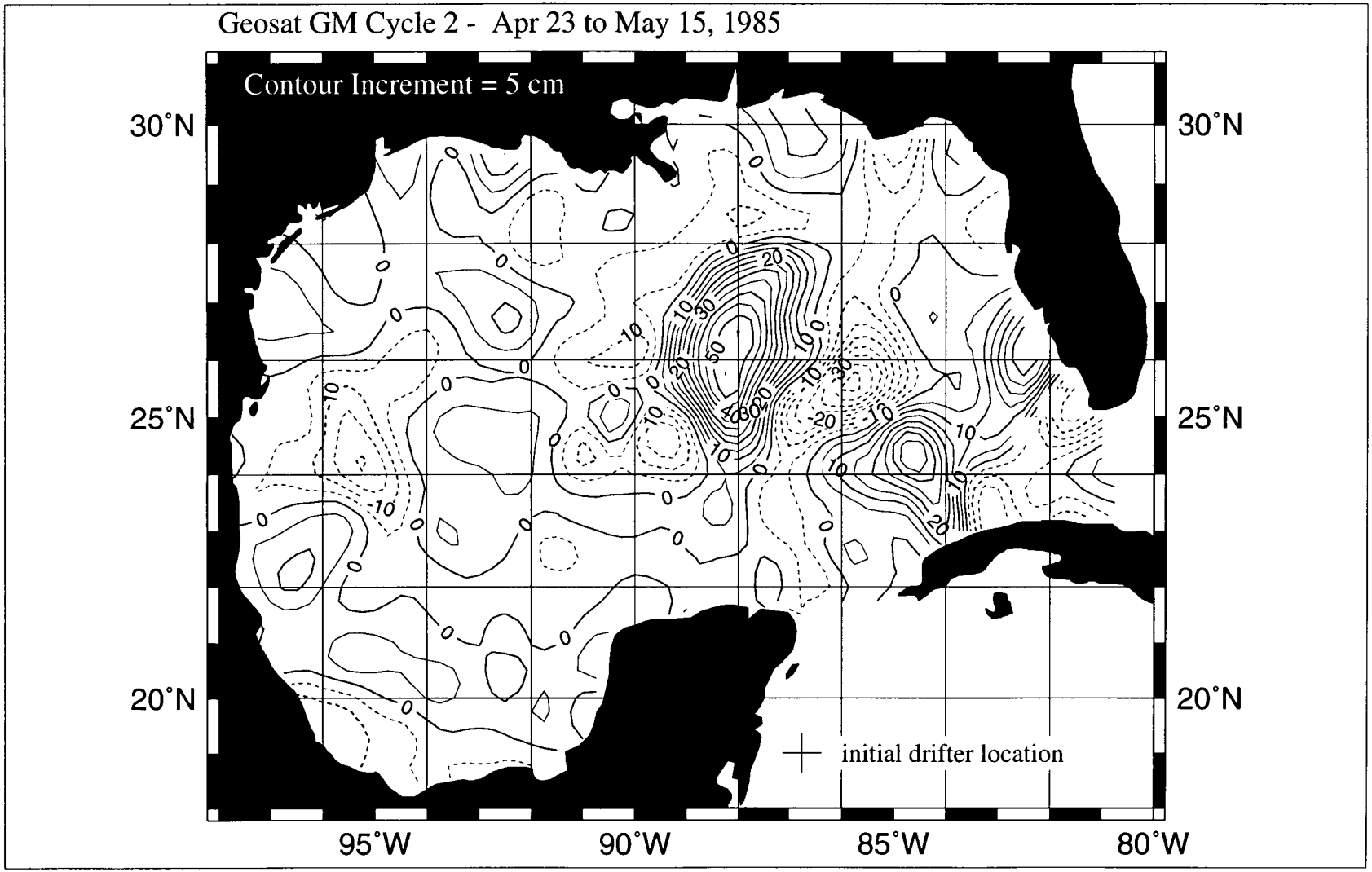

Figure A.2-2. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 2 (April 23 to May 15, 1985).

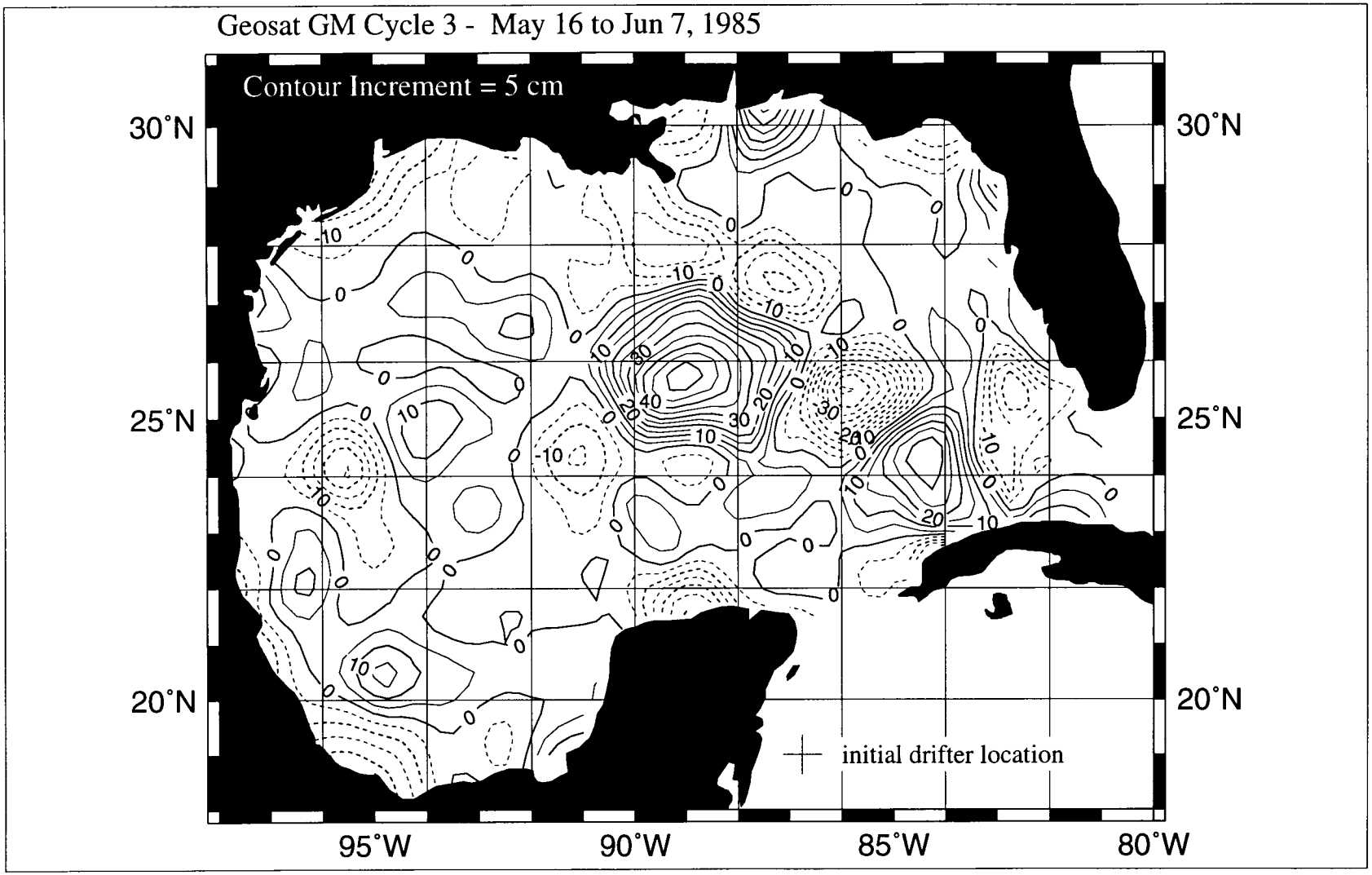

Figure A.2-3. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 3 (May 16 to June 7, 1985).

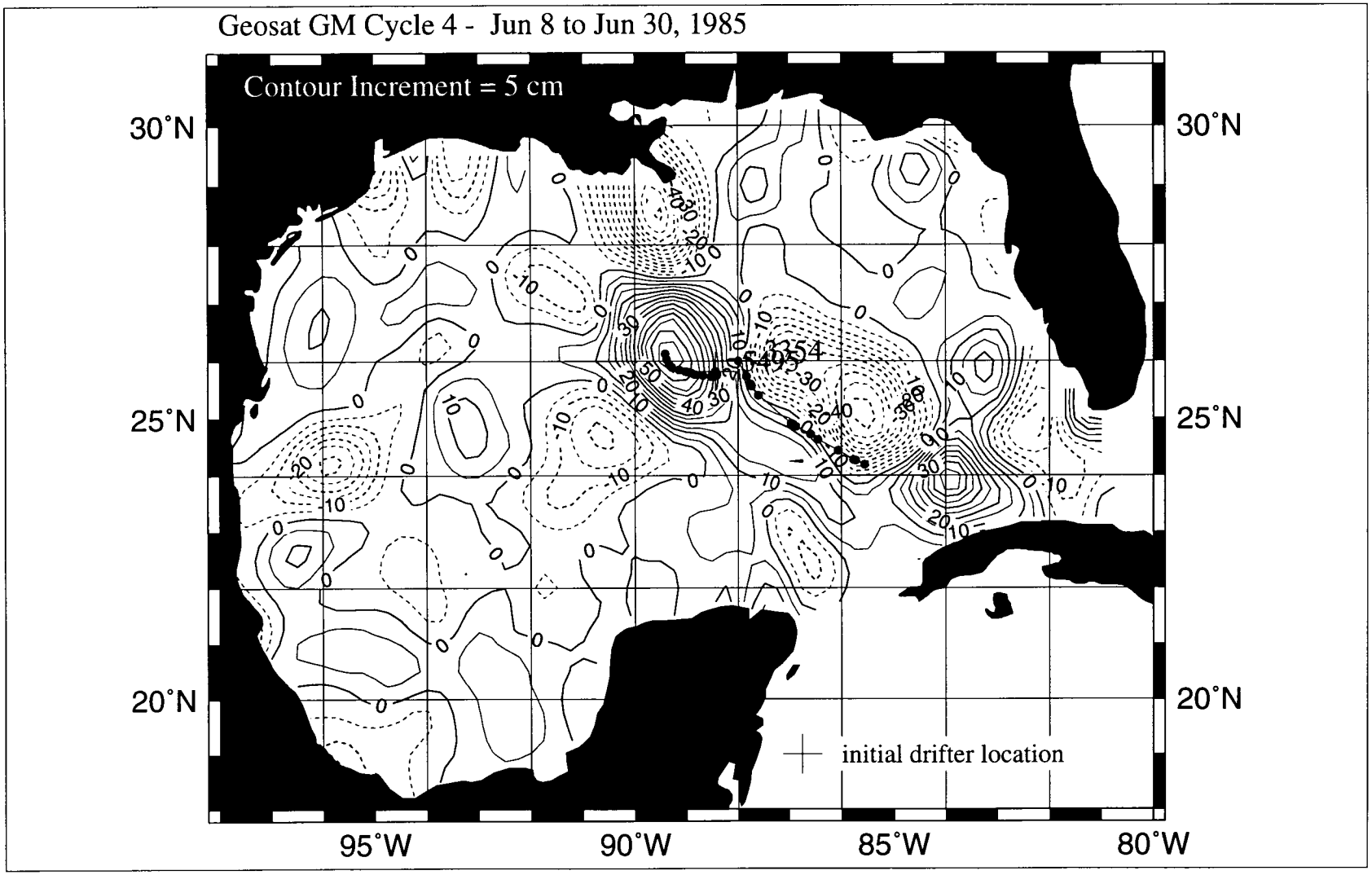

Figure A.2-4. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 4 (June 8 to 30, 1985). Drifter locations within five days of the midpoint of the cycle are shown.

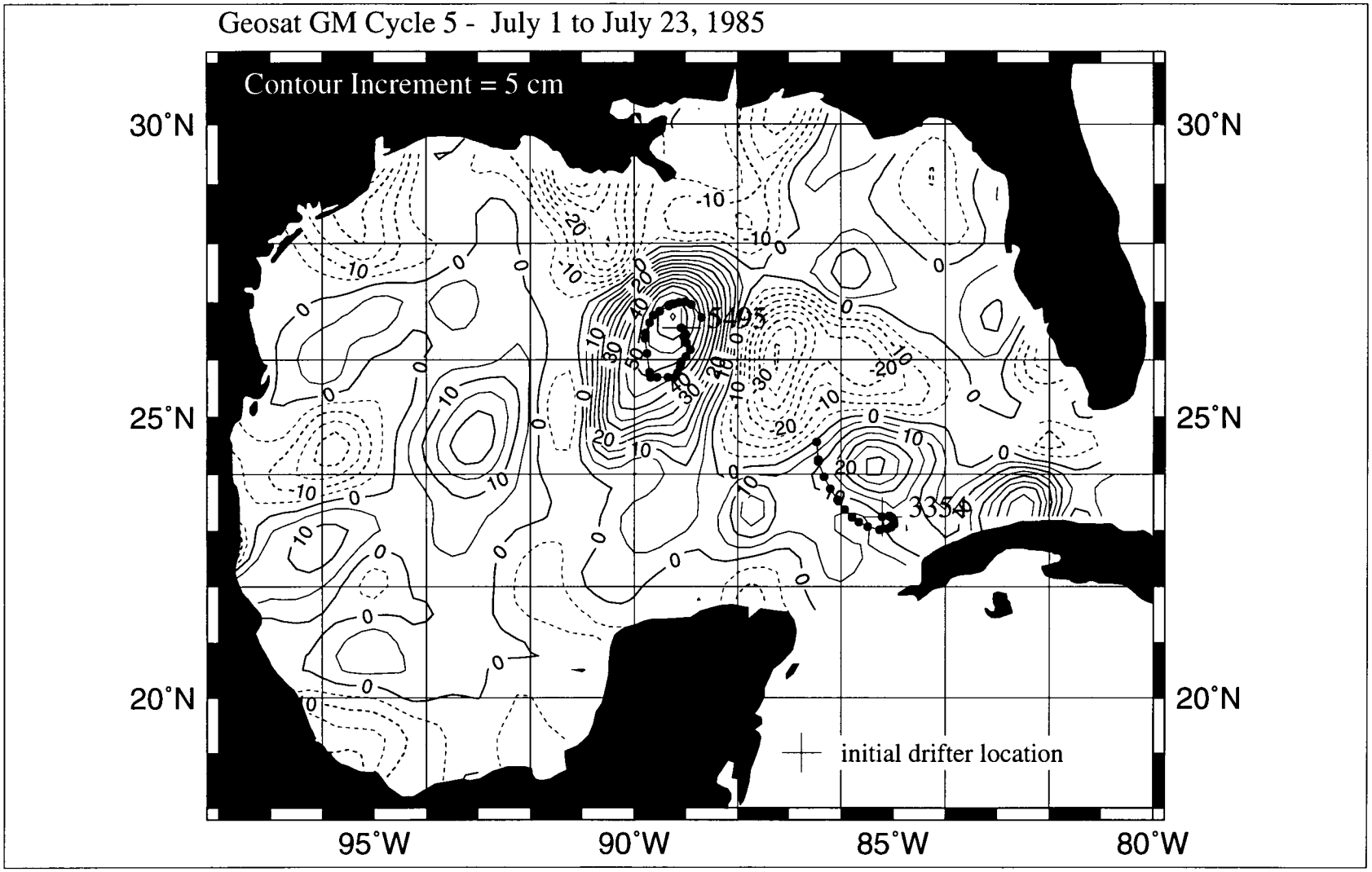

Figure A.2-5. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 5 (July 1 to 23, 1985). Drifter locations within five days of the midpoint of the cycle are shown.

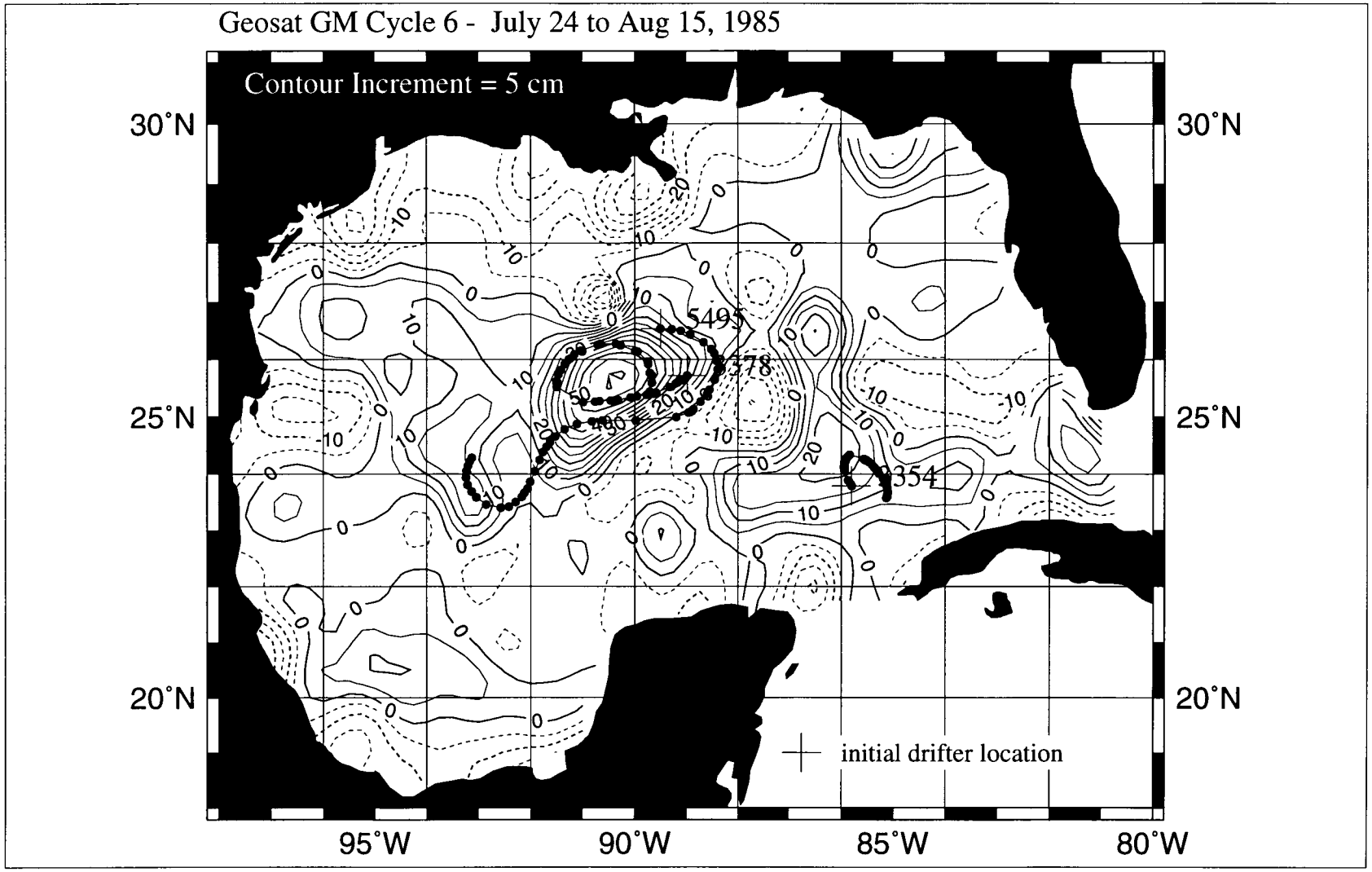

Figure A.2-6. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 6 (July 24 to August 15, 1985). Drifter locations within five days of the midpoint of the cycle are shown.

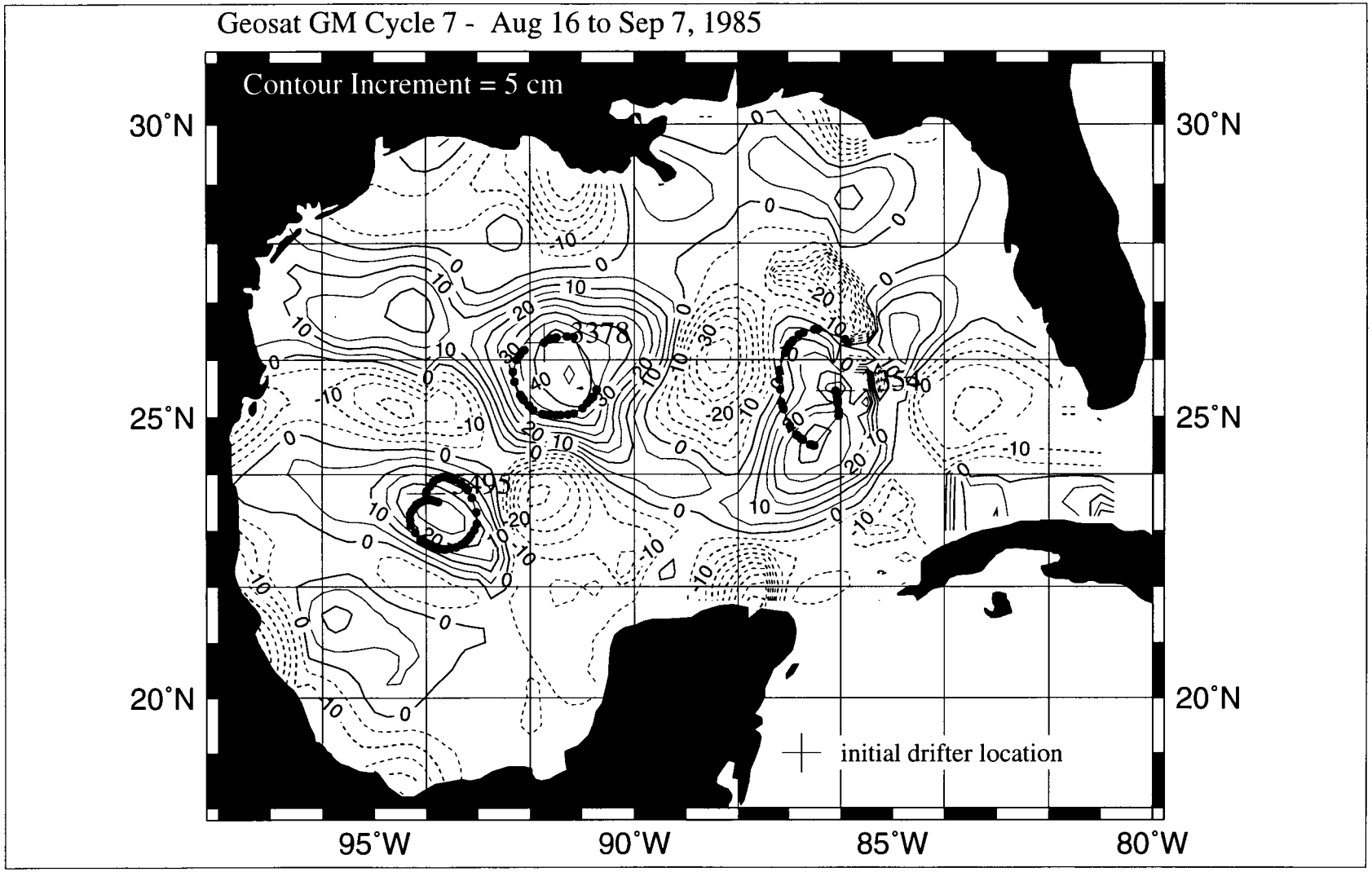

Figure A.2-7. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 7 (August 16 to September 7, 1985). Drifter locations within five days of the midpoint of the cycle are shown.

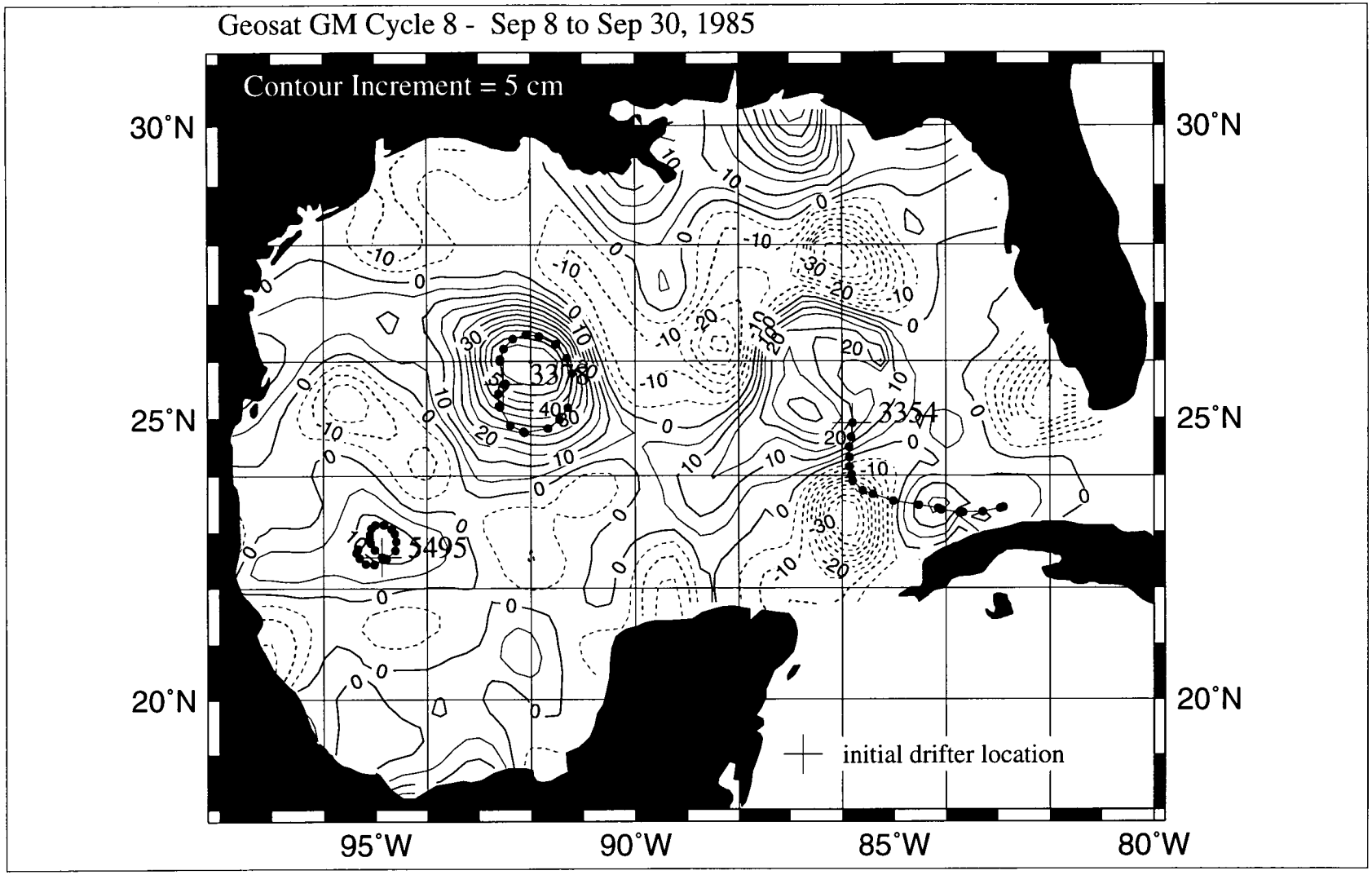

Figure A.2-8. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 8 (September 8 to 30, 1985). Drifter locations within five days of the midpoint of the cycle are shown.

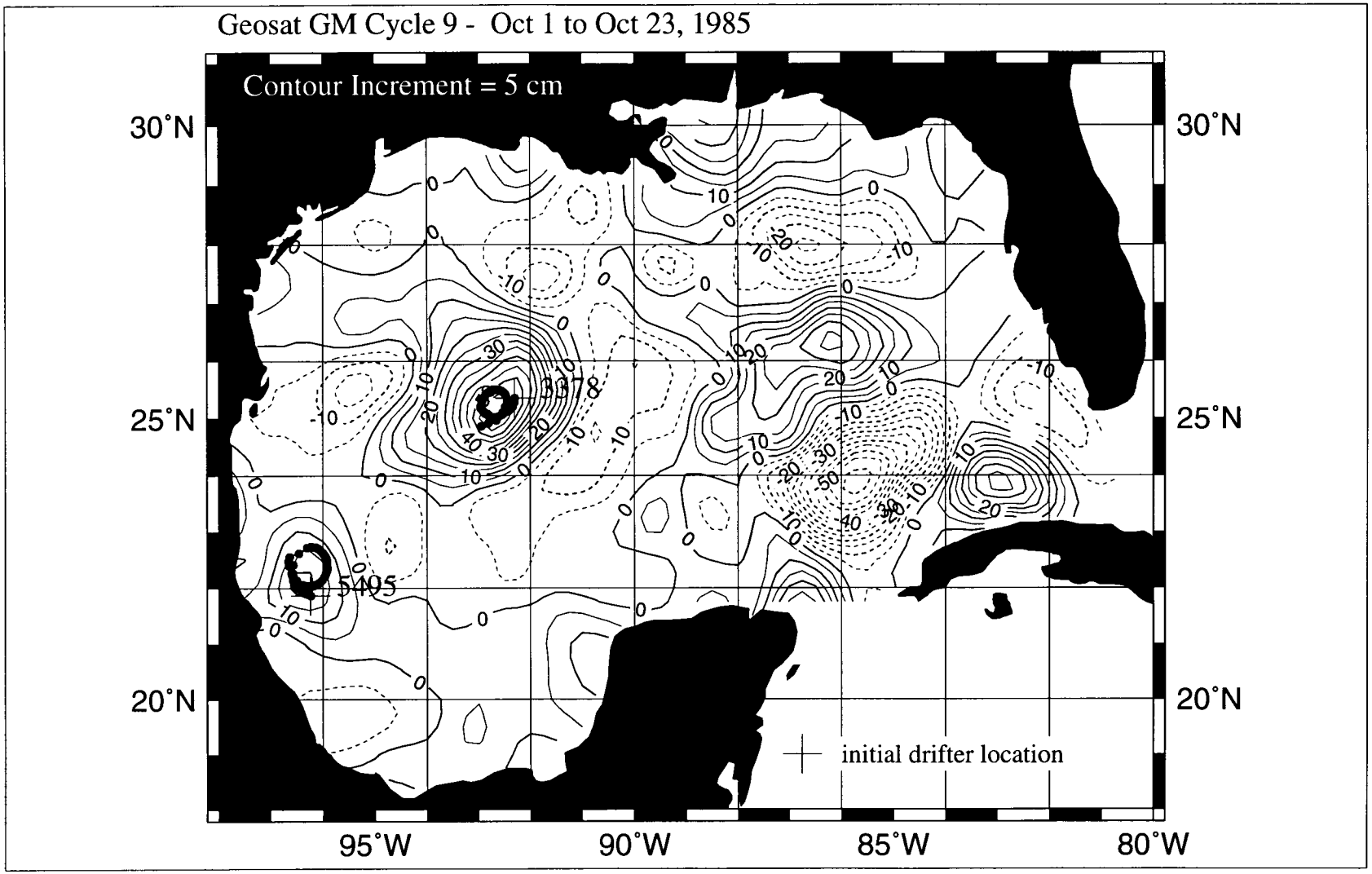

Figure A.2-9. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 9 (October 1 to 23, 1985). Drifter locations within five days of the midpoint of the cycle are shown.

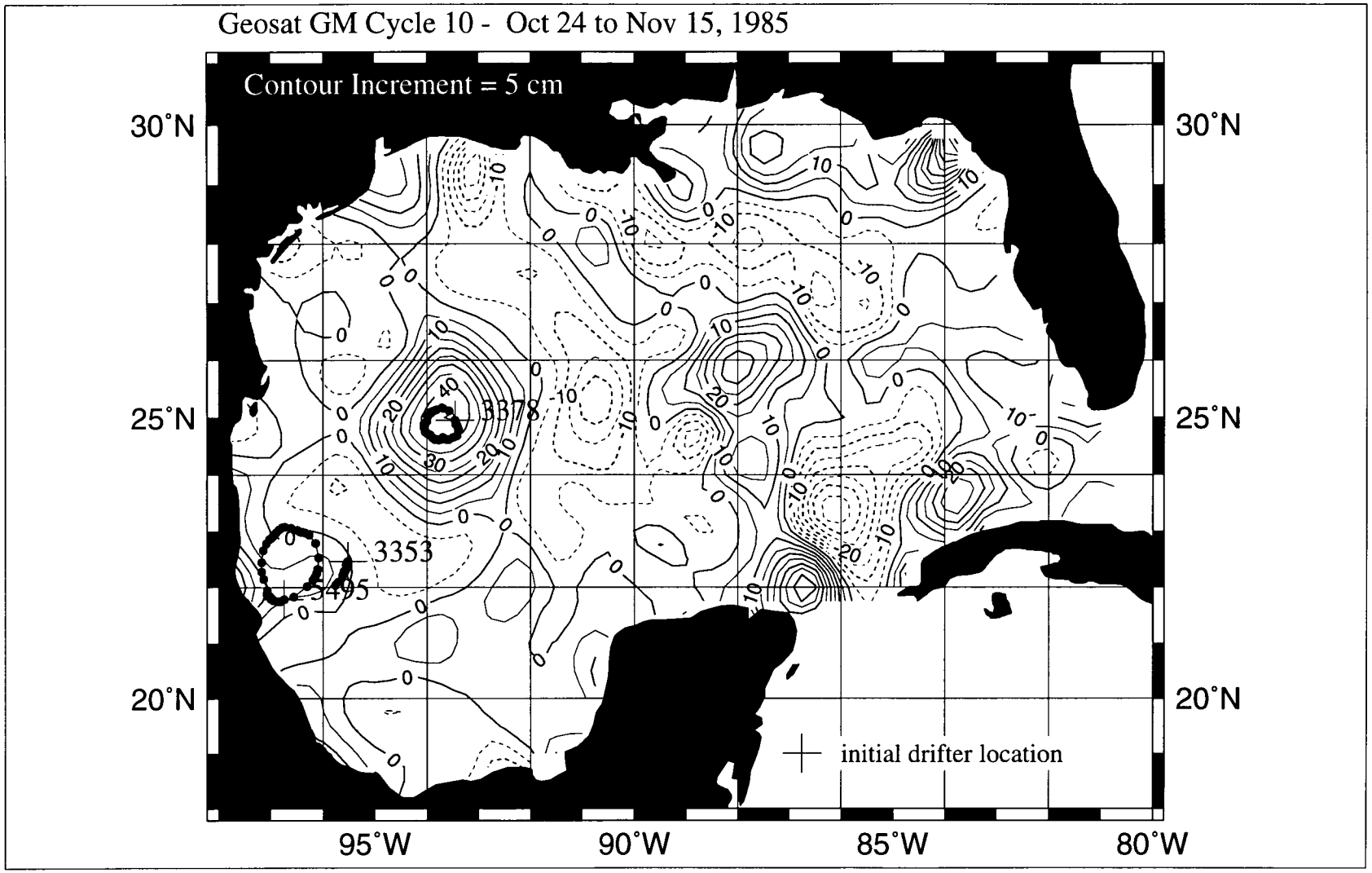

Figure A.2-10. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 10 (October 24 to November 15, 1985). Drifter locations within five days of the midpoint of the cycle are shown.

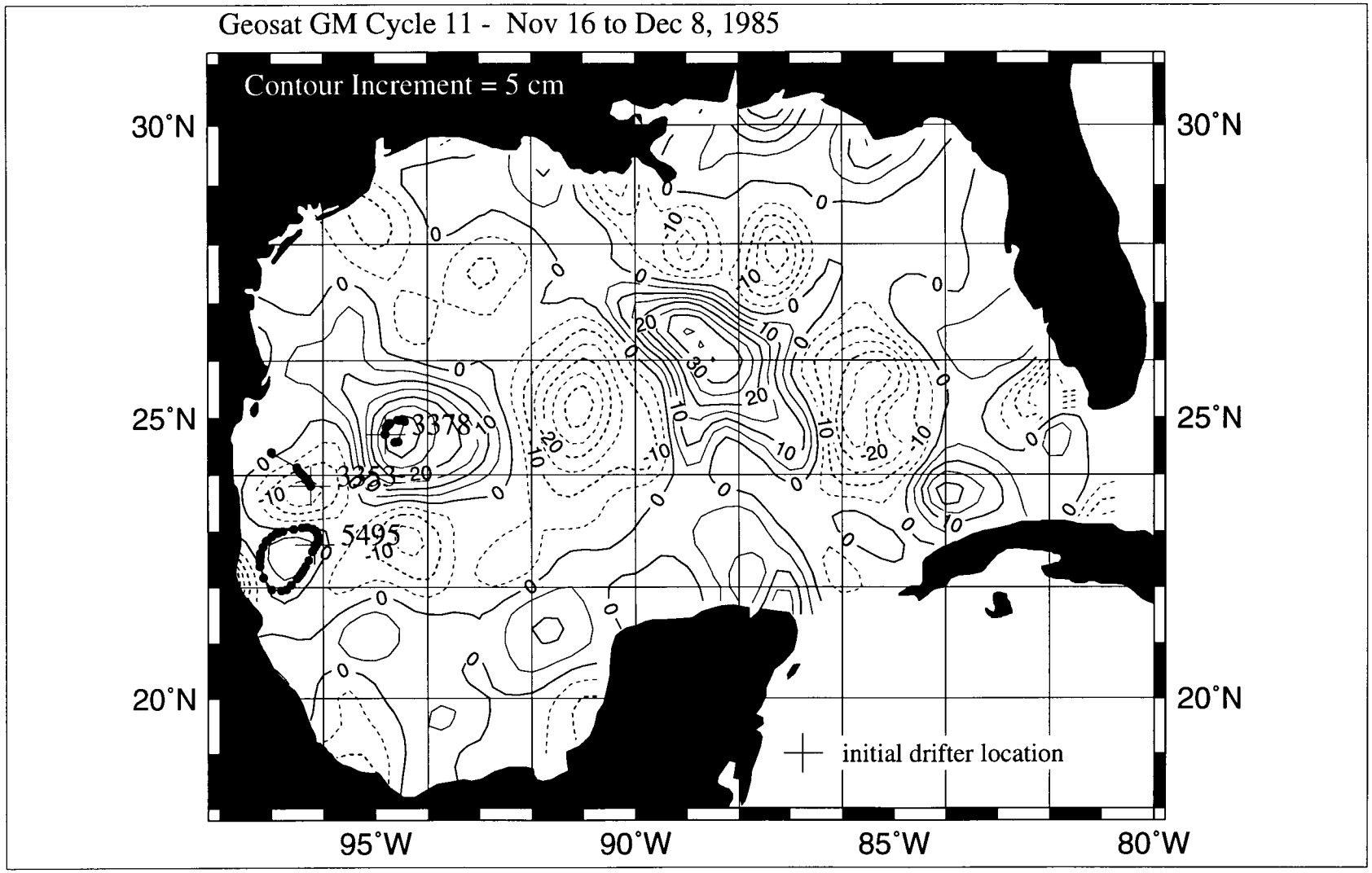

Figure A.2-11. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 11 (November 16 to December 8, 1985). Drifter locations within five days of the midpoint of the cycle are shown.

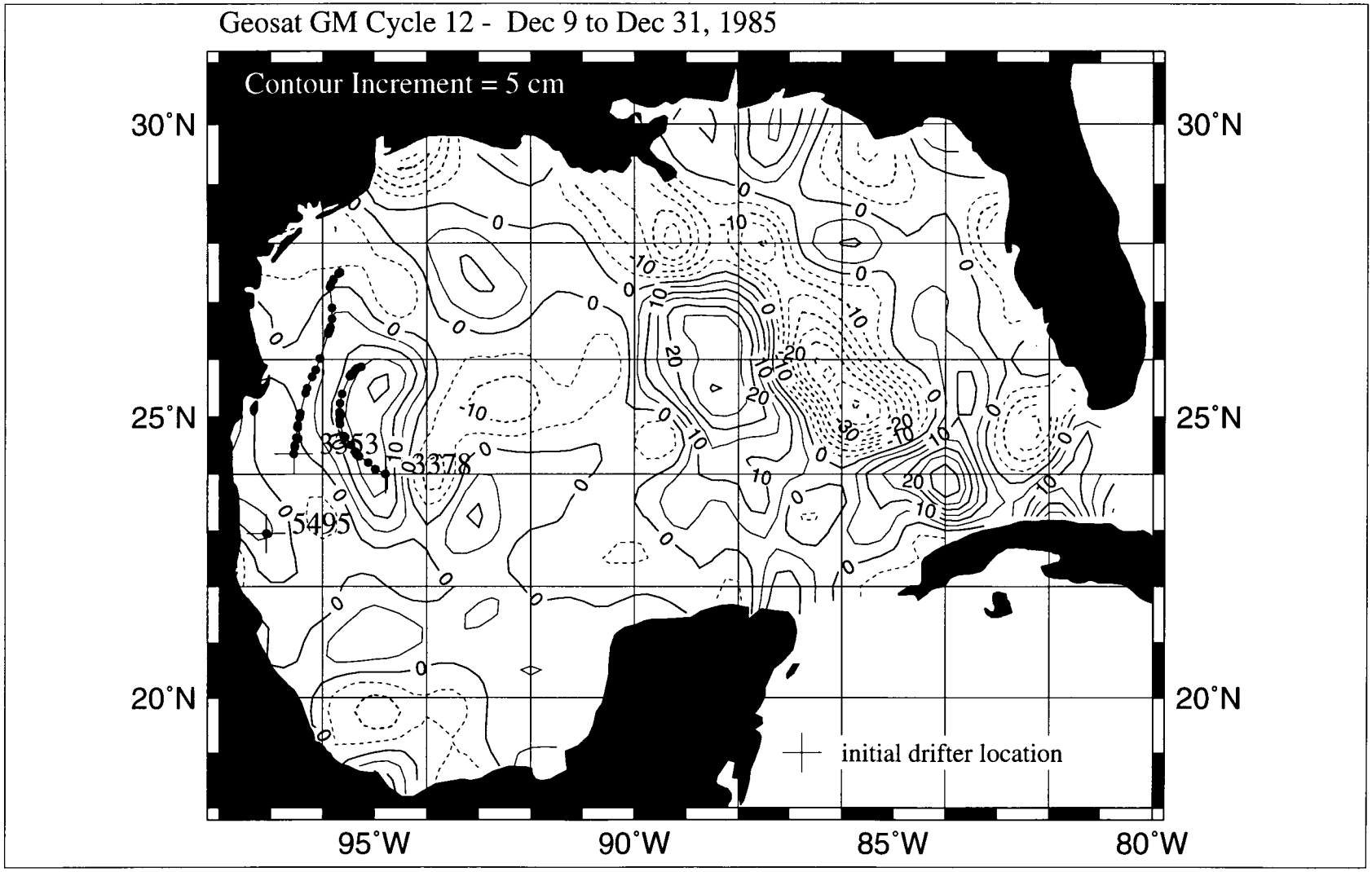

Figure A.2-12. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 12 (December 9 to 31, 1985). Drifter locations within five days of the midpoint of the cycle are shown.

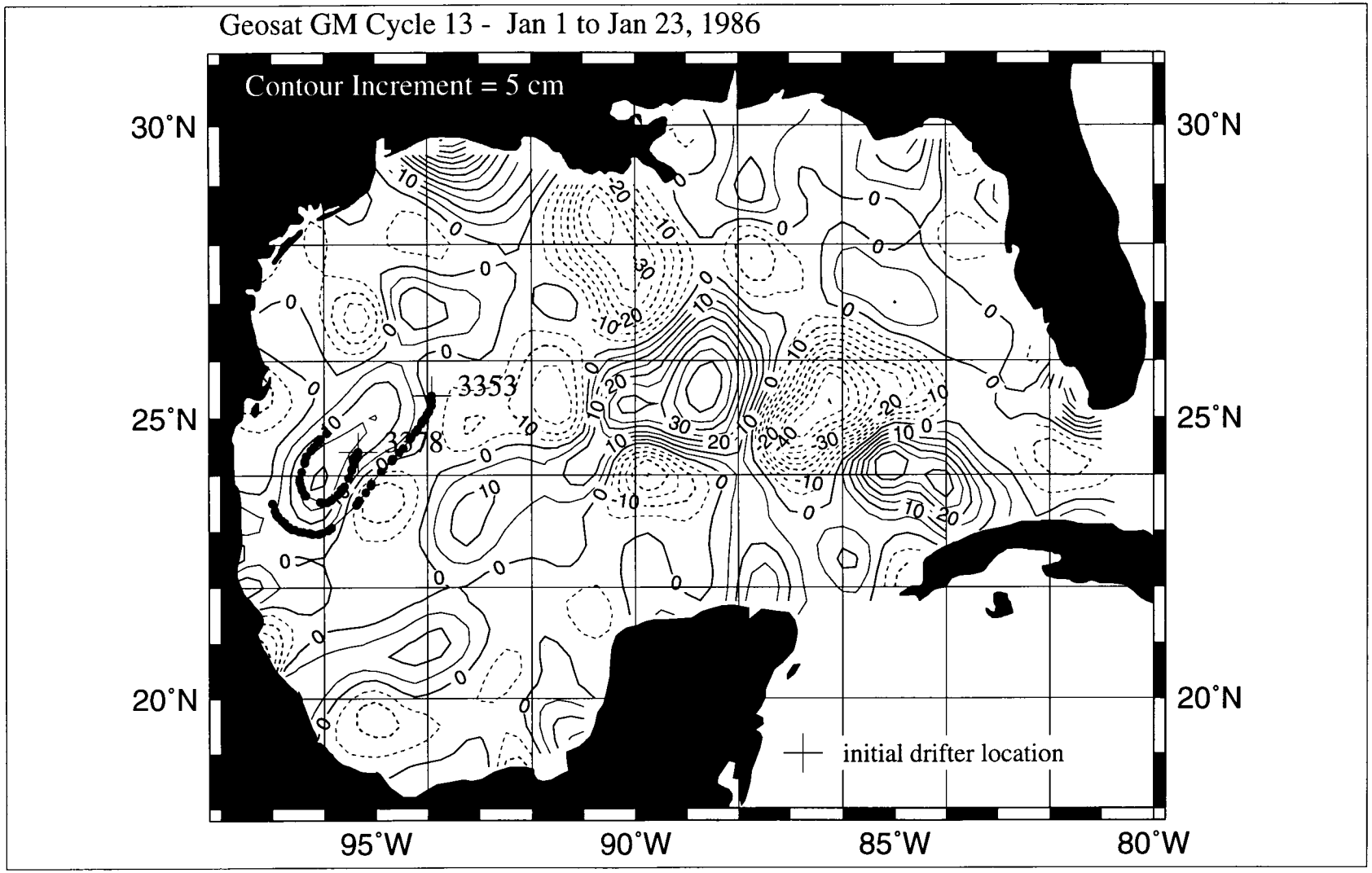

Figure A.2-13. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 13 (January 1 to 23, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

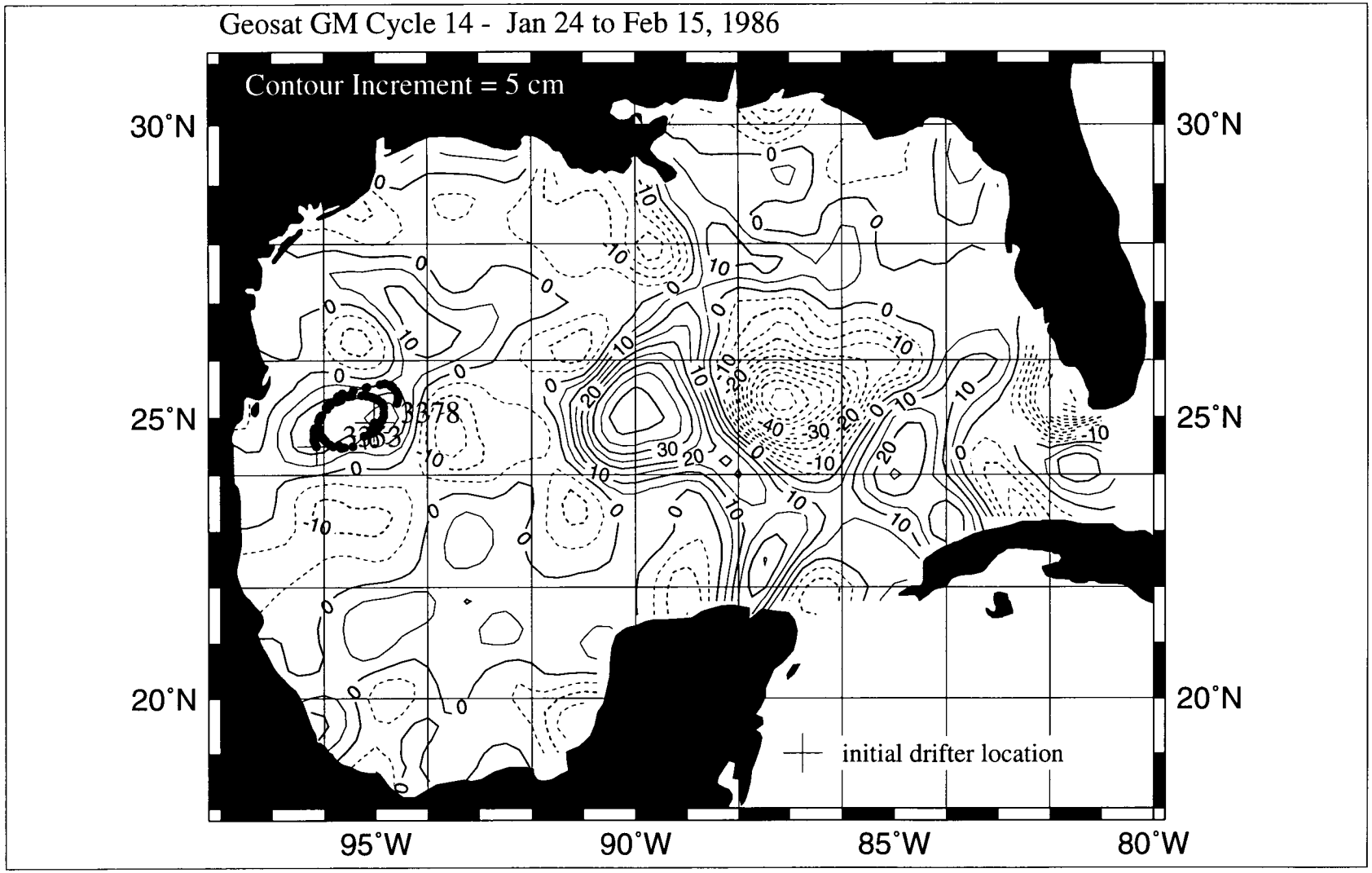

Figure A.2-14. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 14 (January 24 to February 15, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

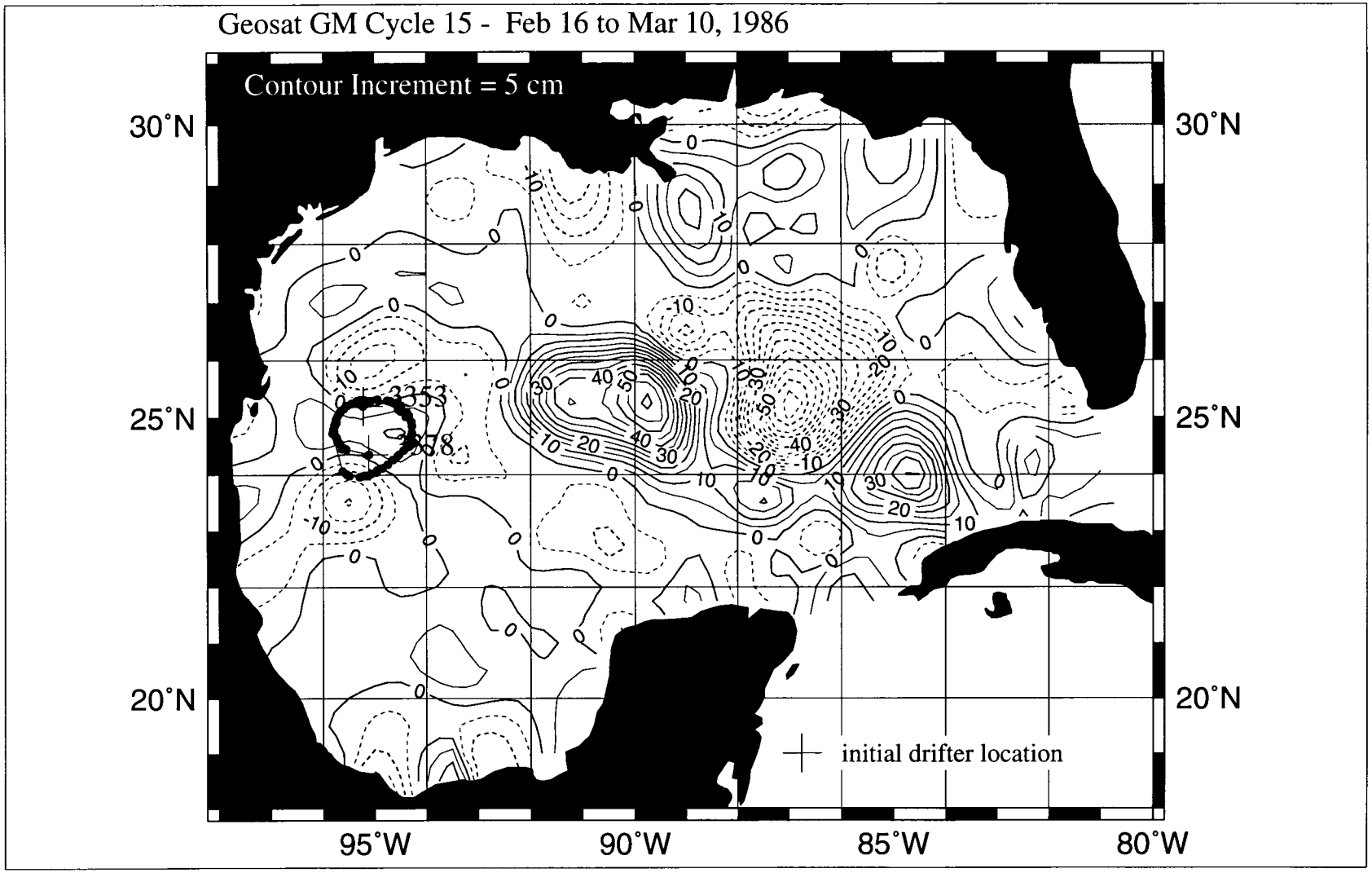

Figure A.2-15. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 15 (February 16 to March 10, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

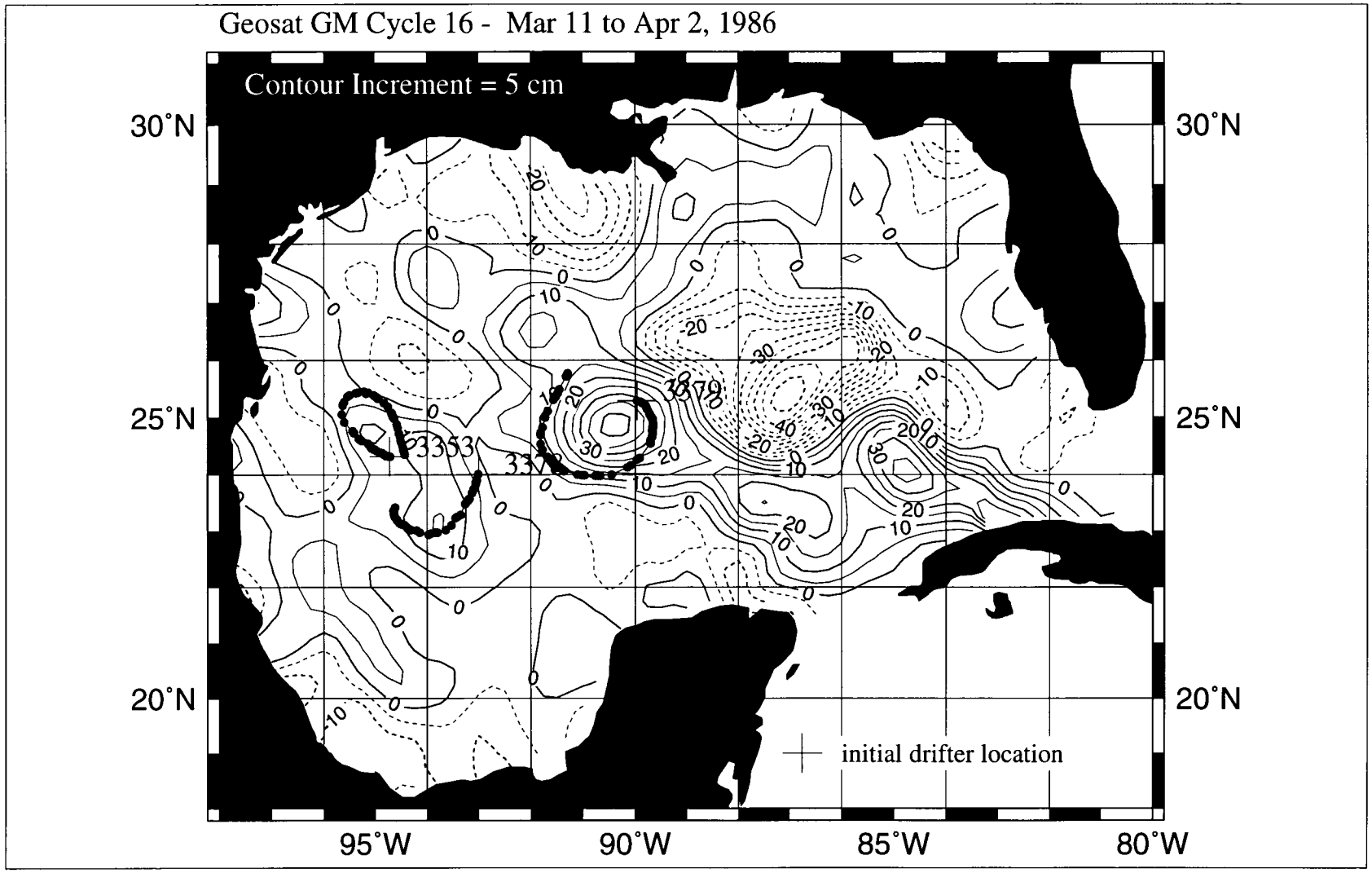

Figure A.2-16. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 16 (March 11 to April 2, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

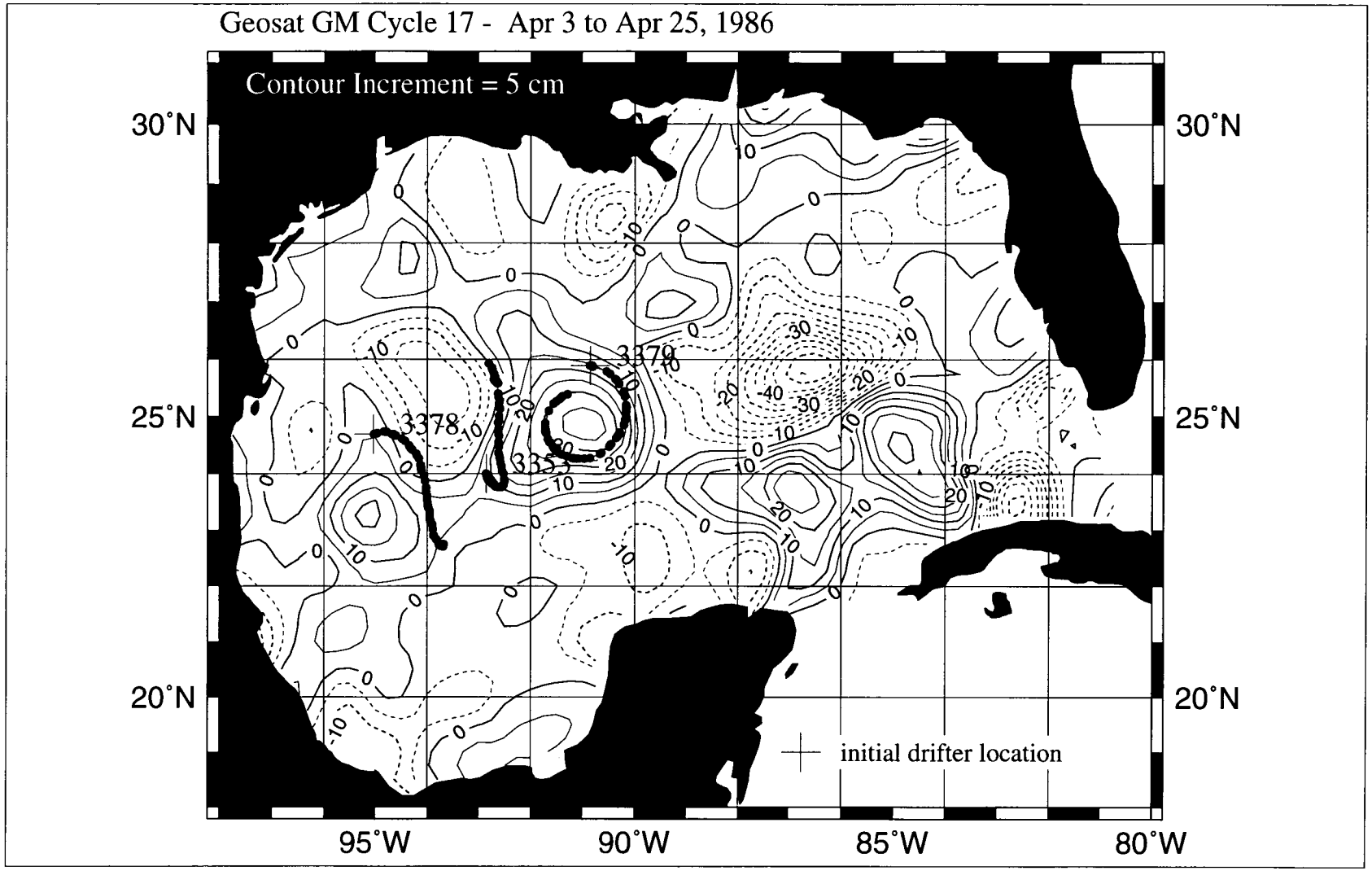

Figure A.2-17. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 17 (April 3 to 25, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

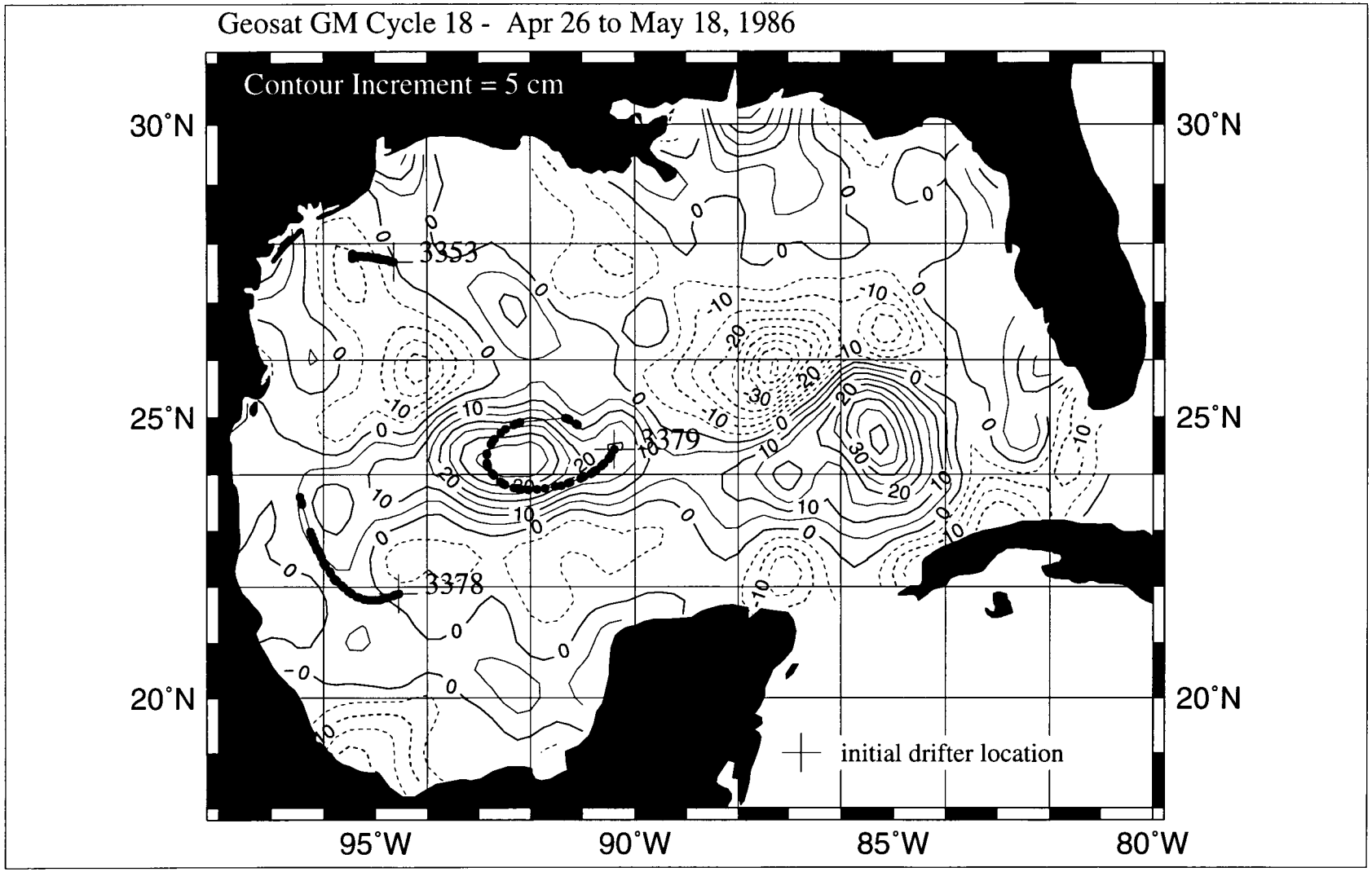

Figure A.2-18. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 18 (April 26 to May 18, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

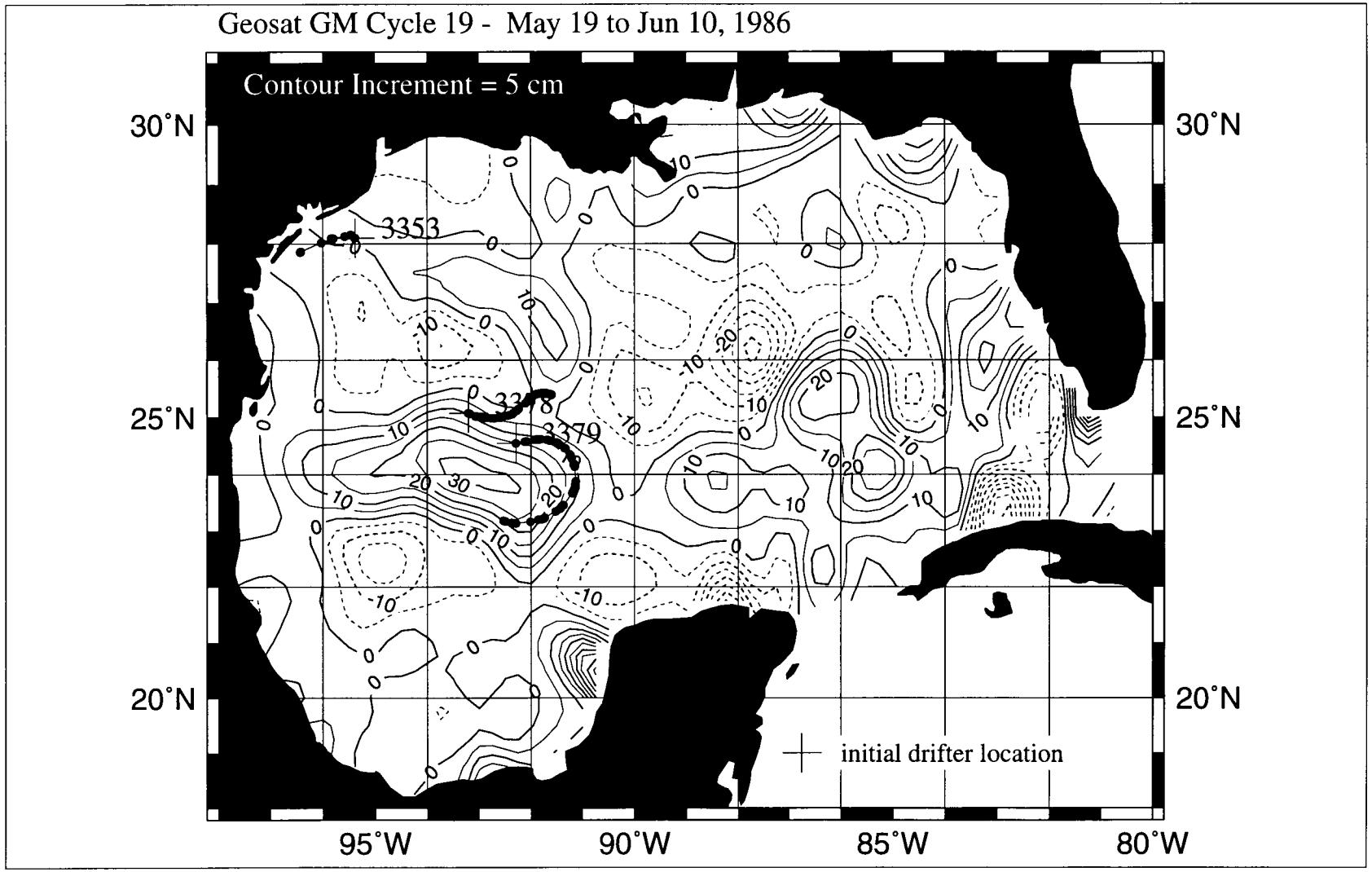

Figure A.2-19. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 19 (May 19 to June 10, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

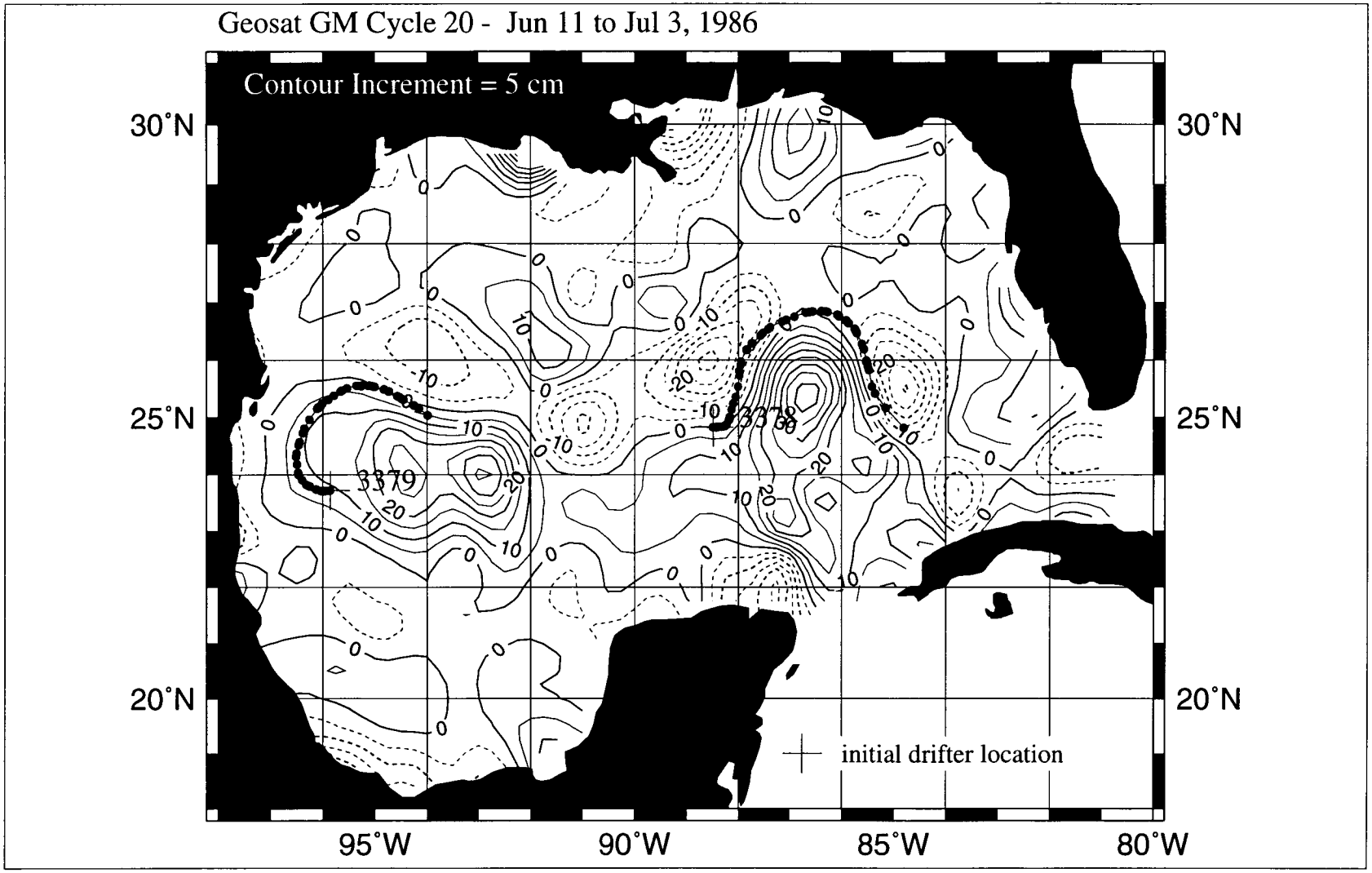

Figure A.2-20. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 20 (June 11 to July 3, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

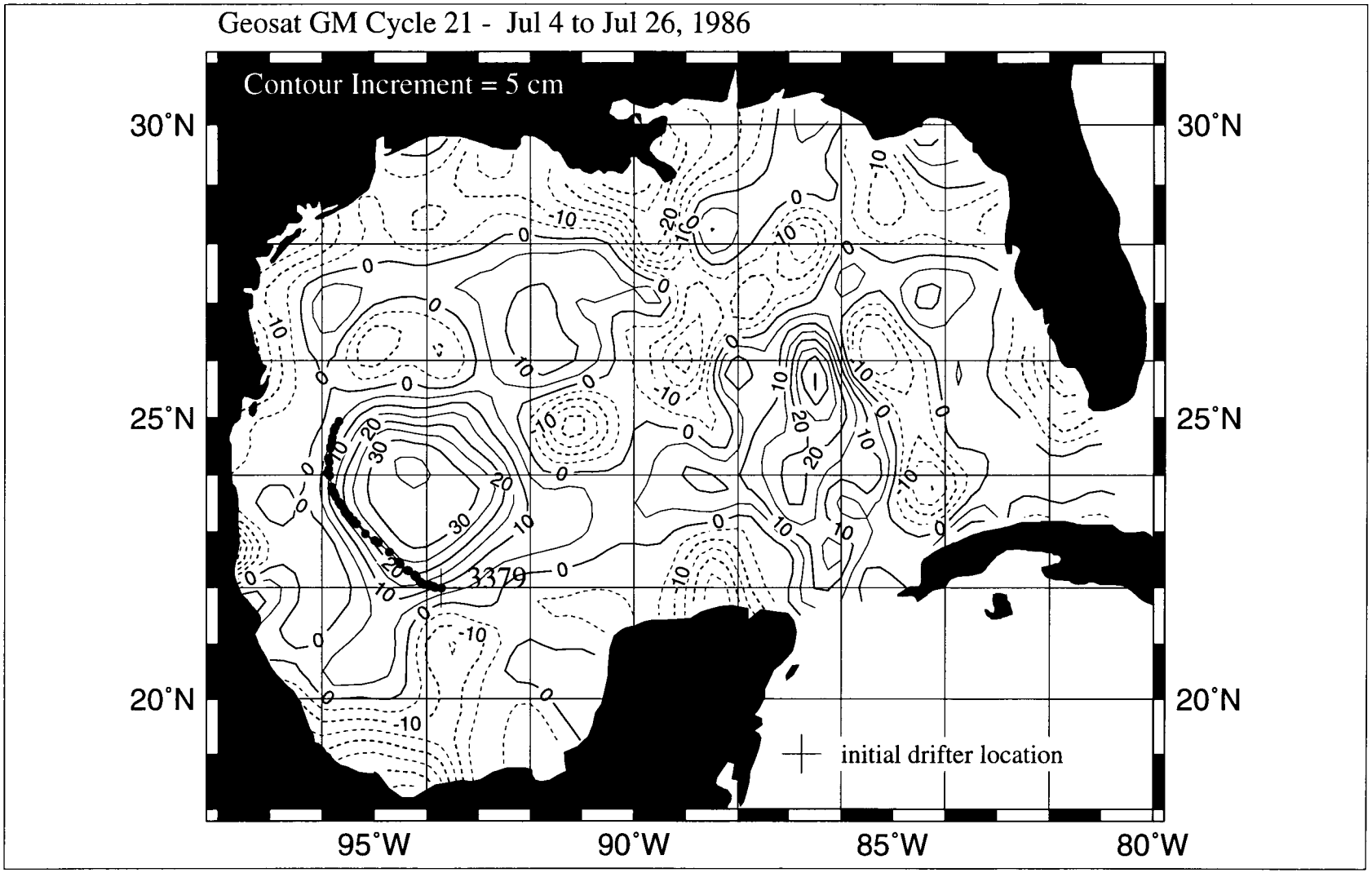

Figure A.2-21. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 21 (July 4 to 26, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

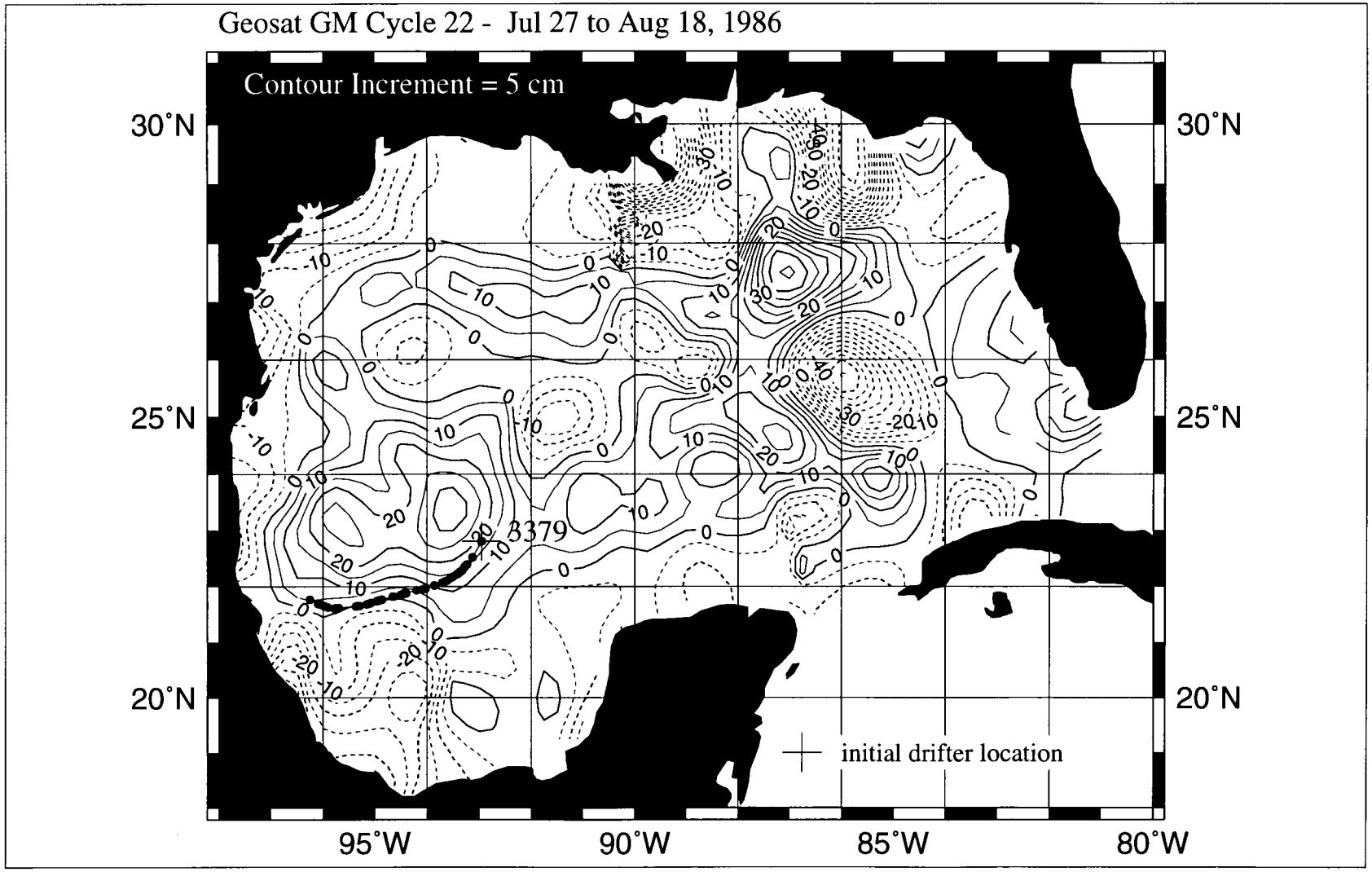

Figure A.2-22. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 22 (July 27 to August 18, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

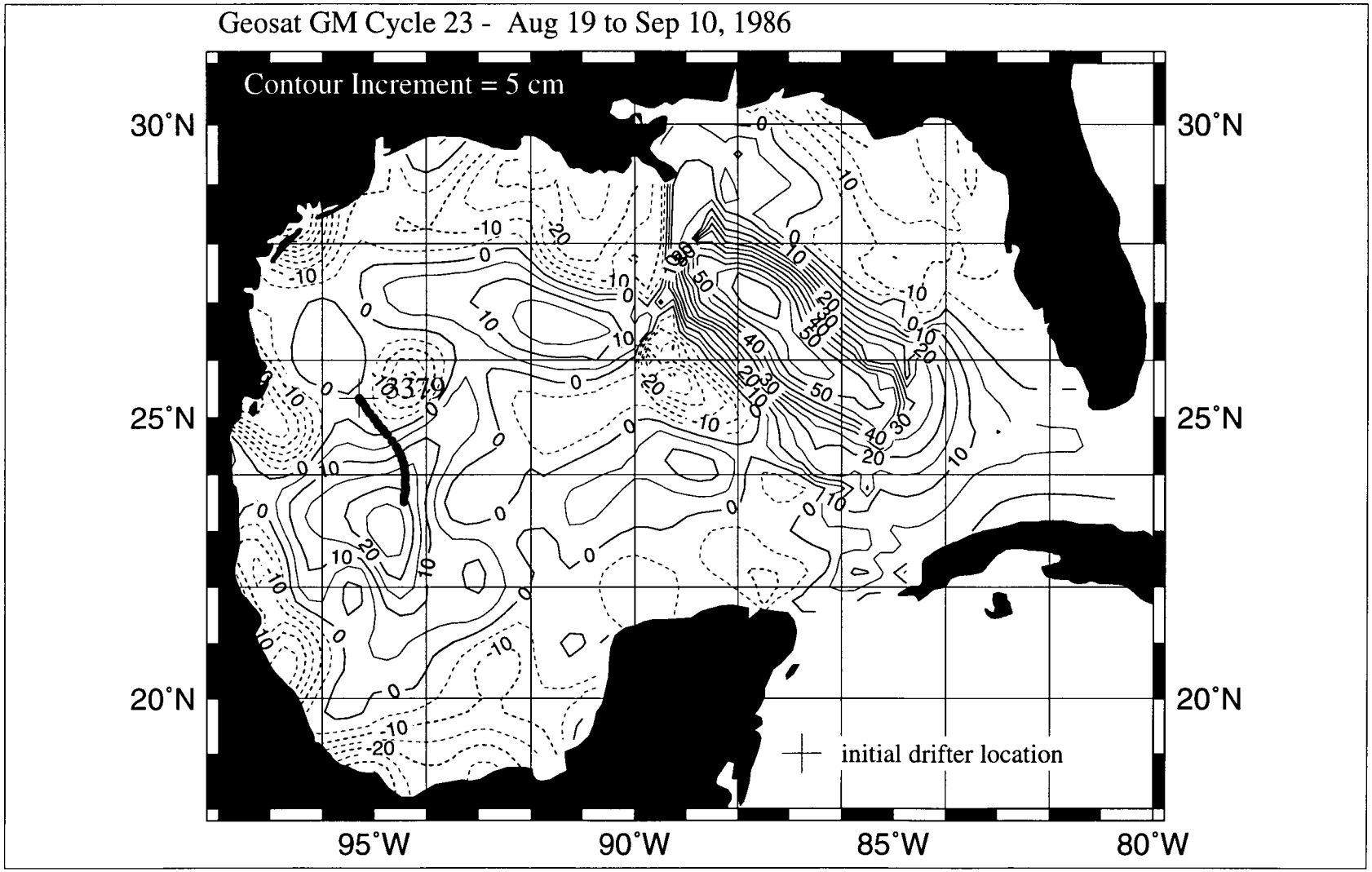

Figure A.2-23. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 23 (August 19 to September 10, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

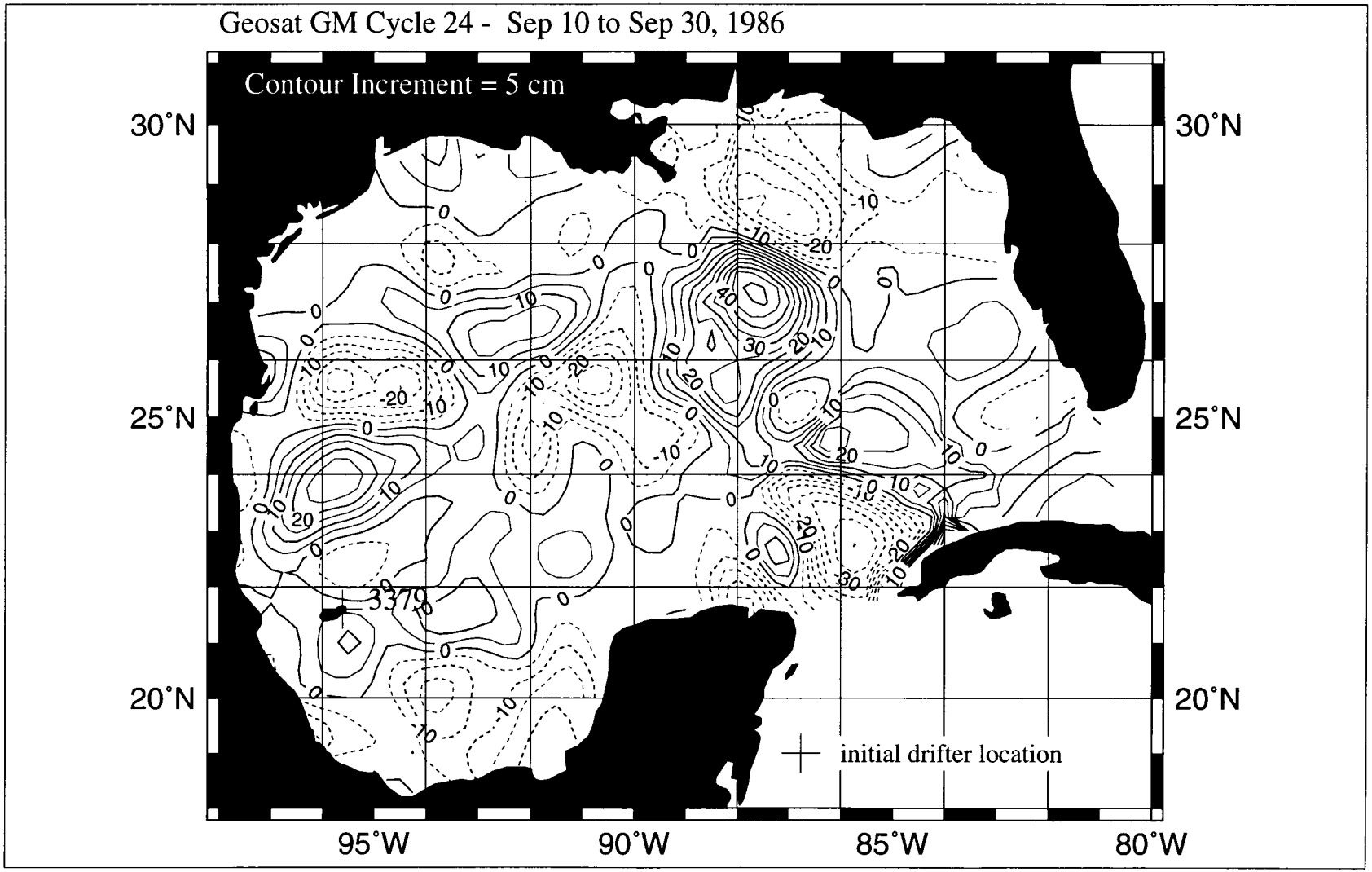

Figure A.2-24. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT GM Cycle 24 (September 10 to 30, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

A.3 Exact Repeat Mission Climatology

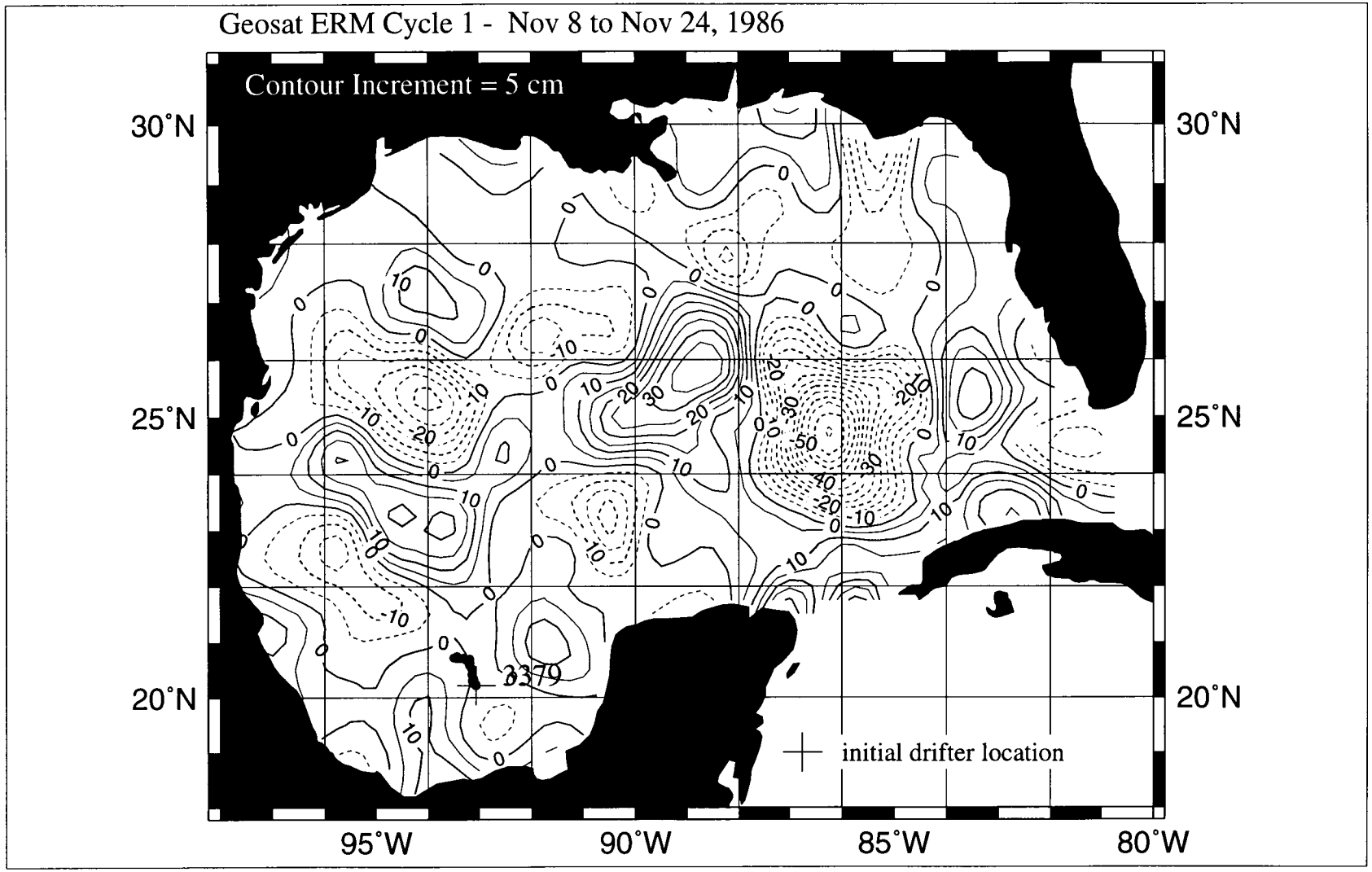

Figure A.3-1. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 1 (November 8 to 24, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

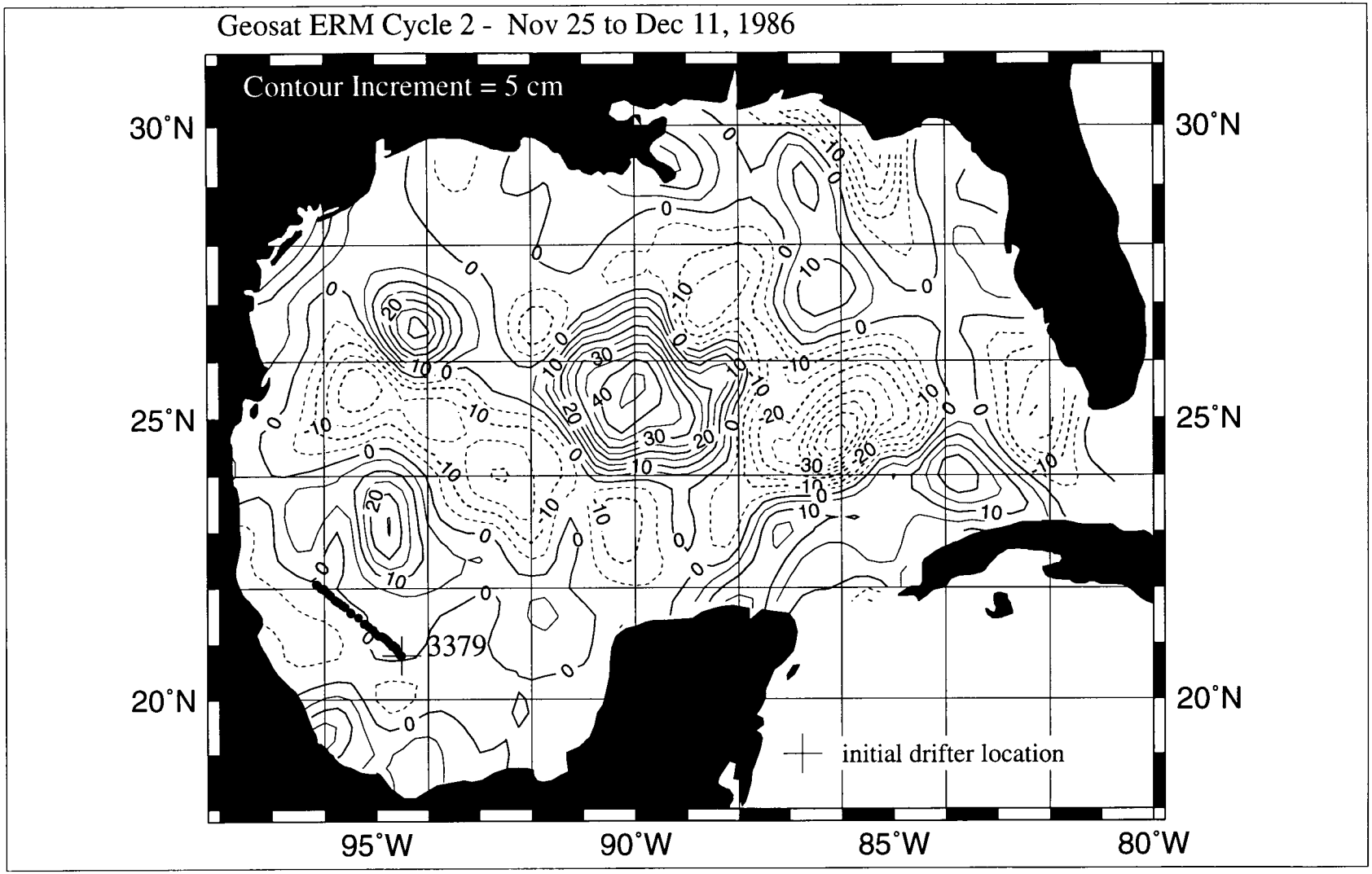

Figure A.3-2. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 2 (November 25 to December 11, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

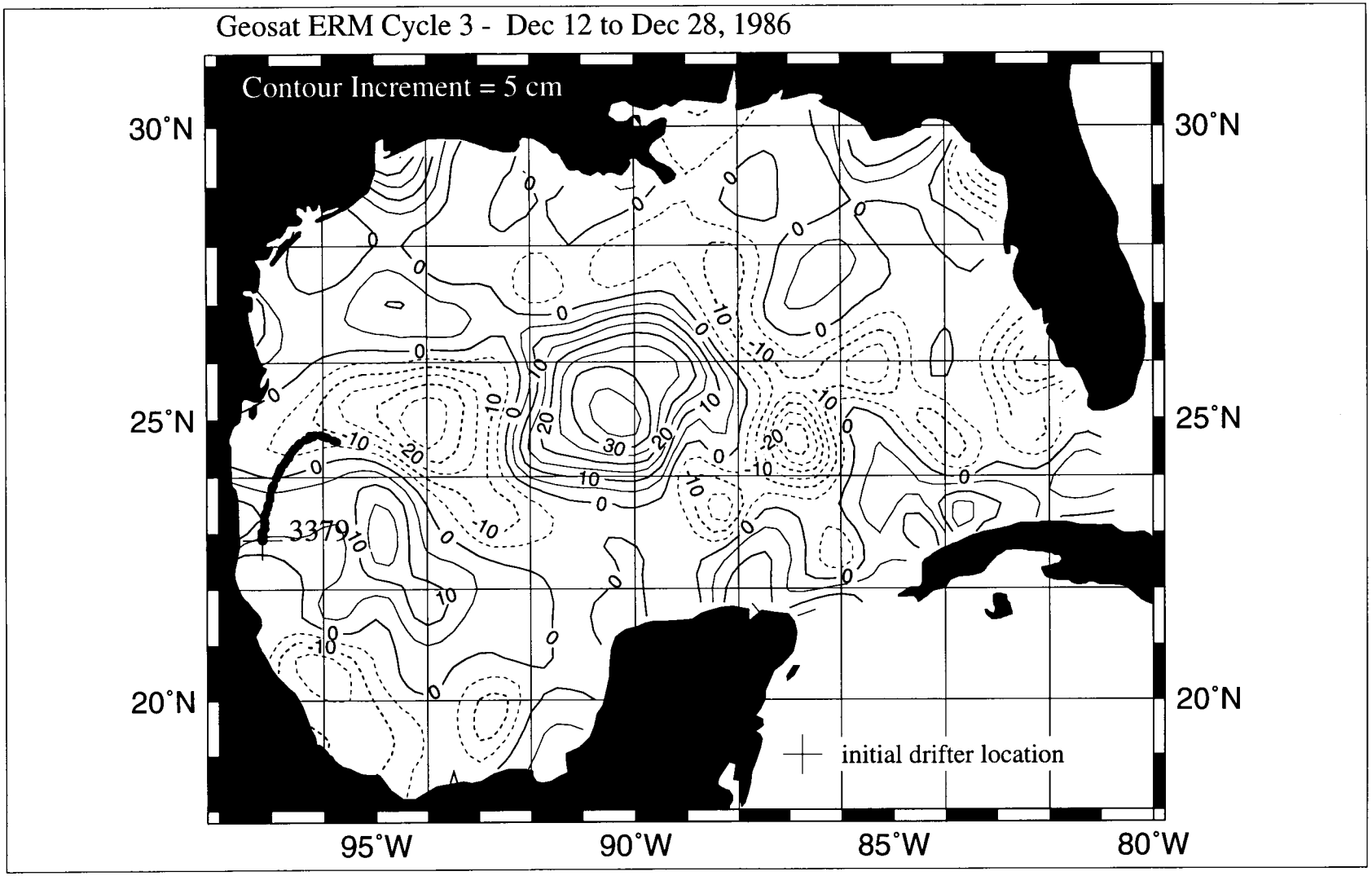

Figure A.3-3. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 3 (December 12 to 28, 1986). Drifter locations within five days of the midpoint of the cycle are shown.

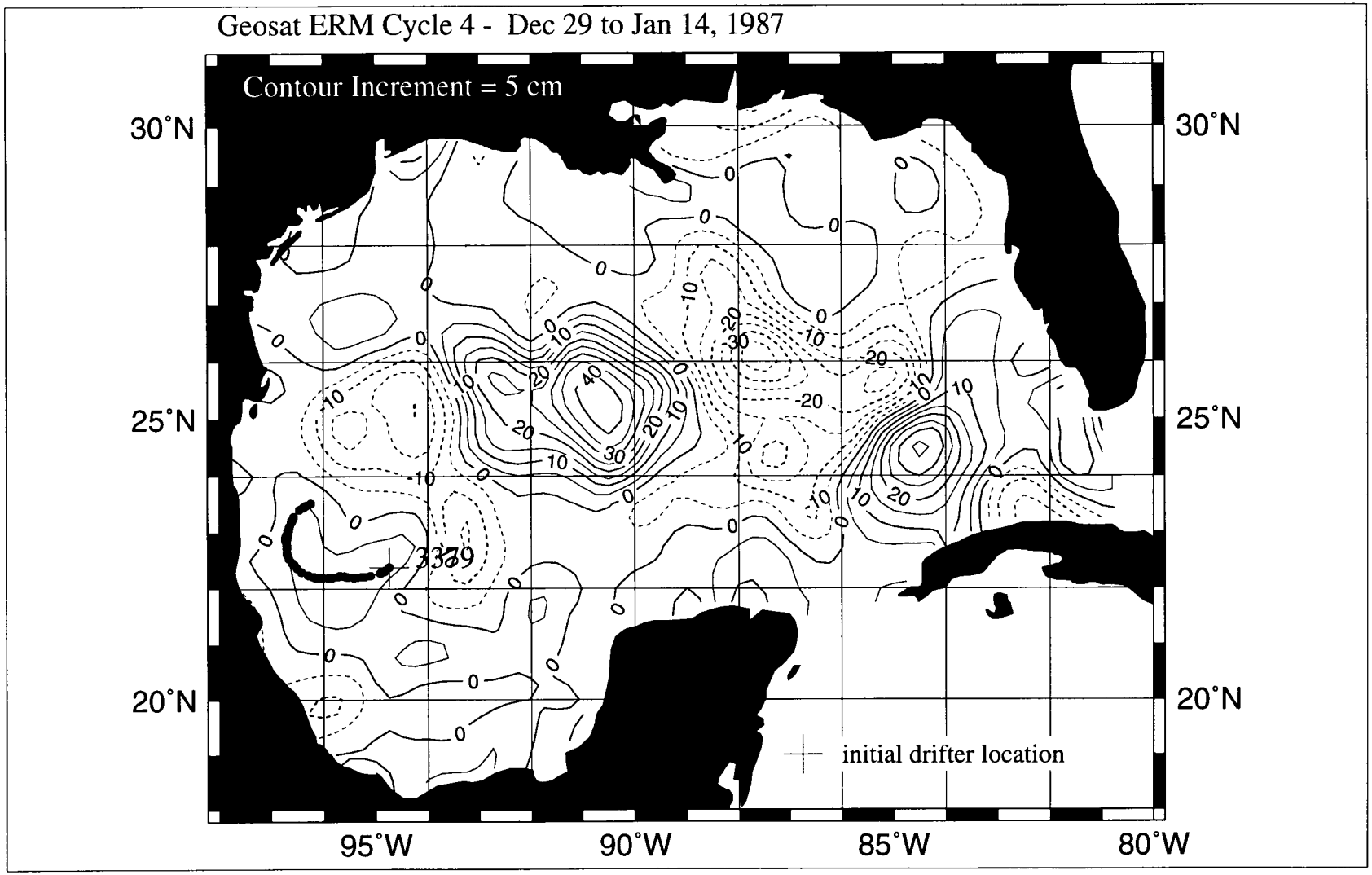

Figure A.3-4. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 4 (December 29, 1986 to January 24, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

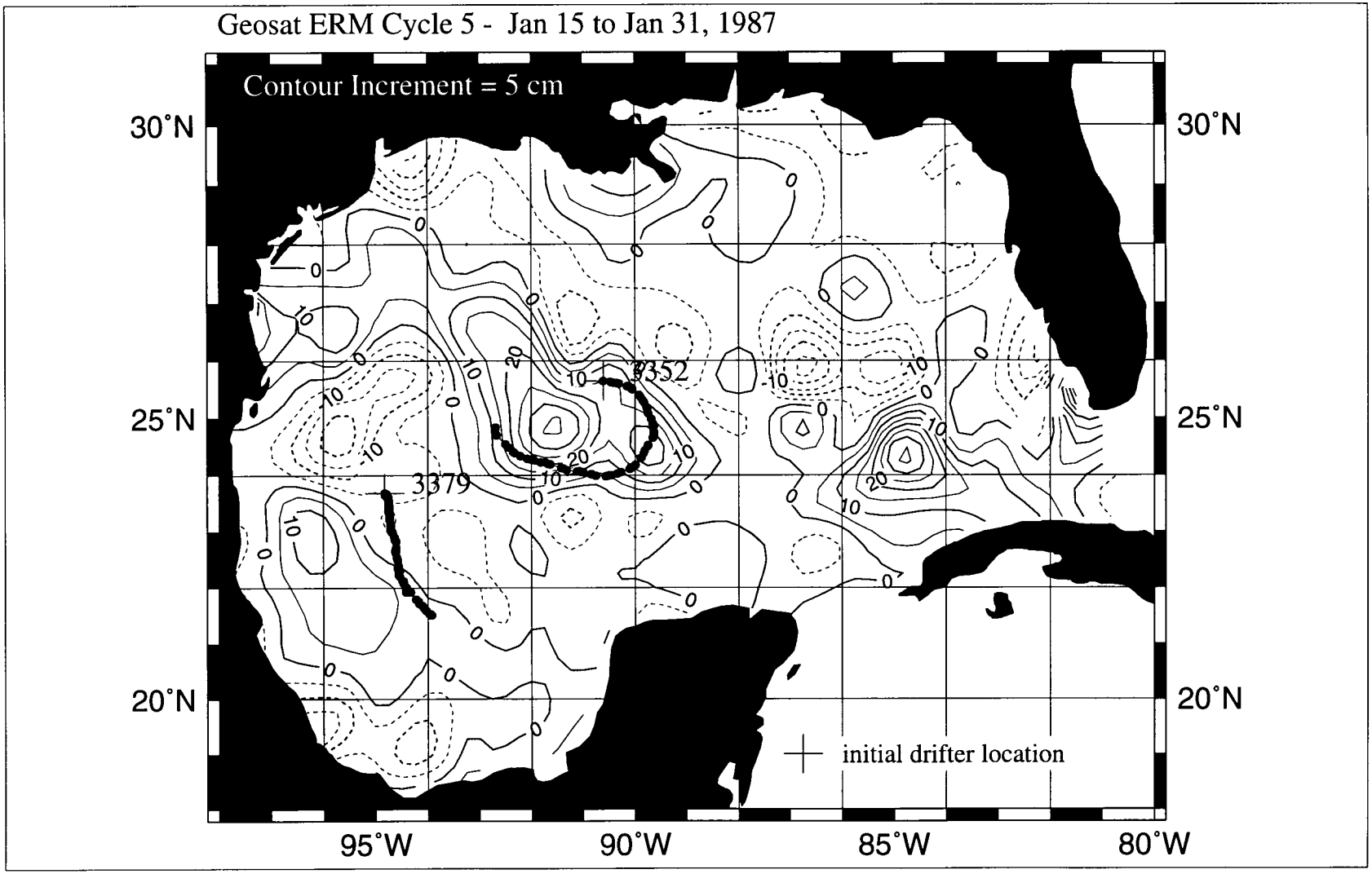

Figure A.3-5. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 5 (January 15 to 31, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

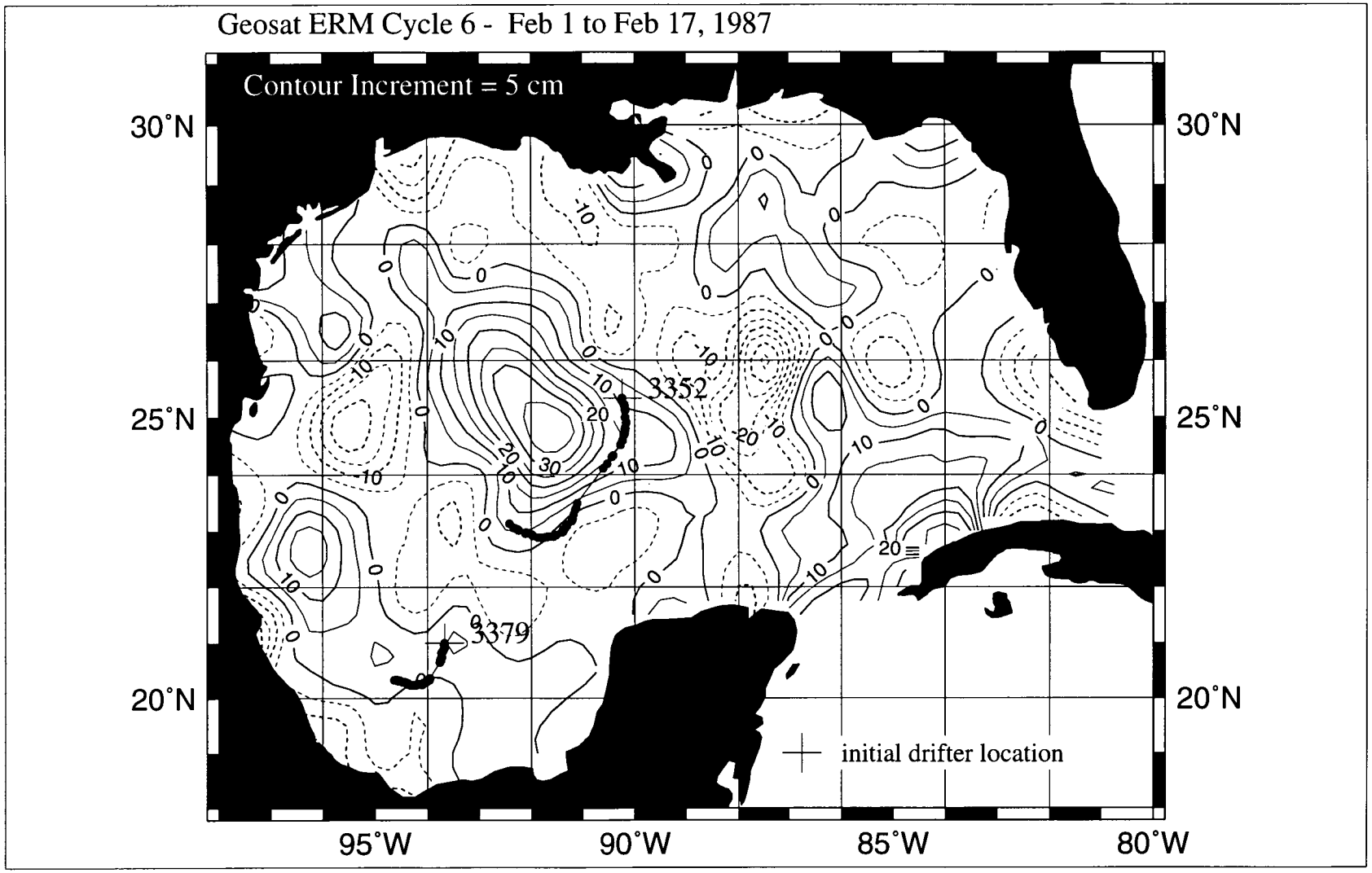

Figure A.3-6. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 6 (February 1 to 17, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

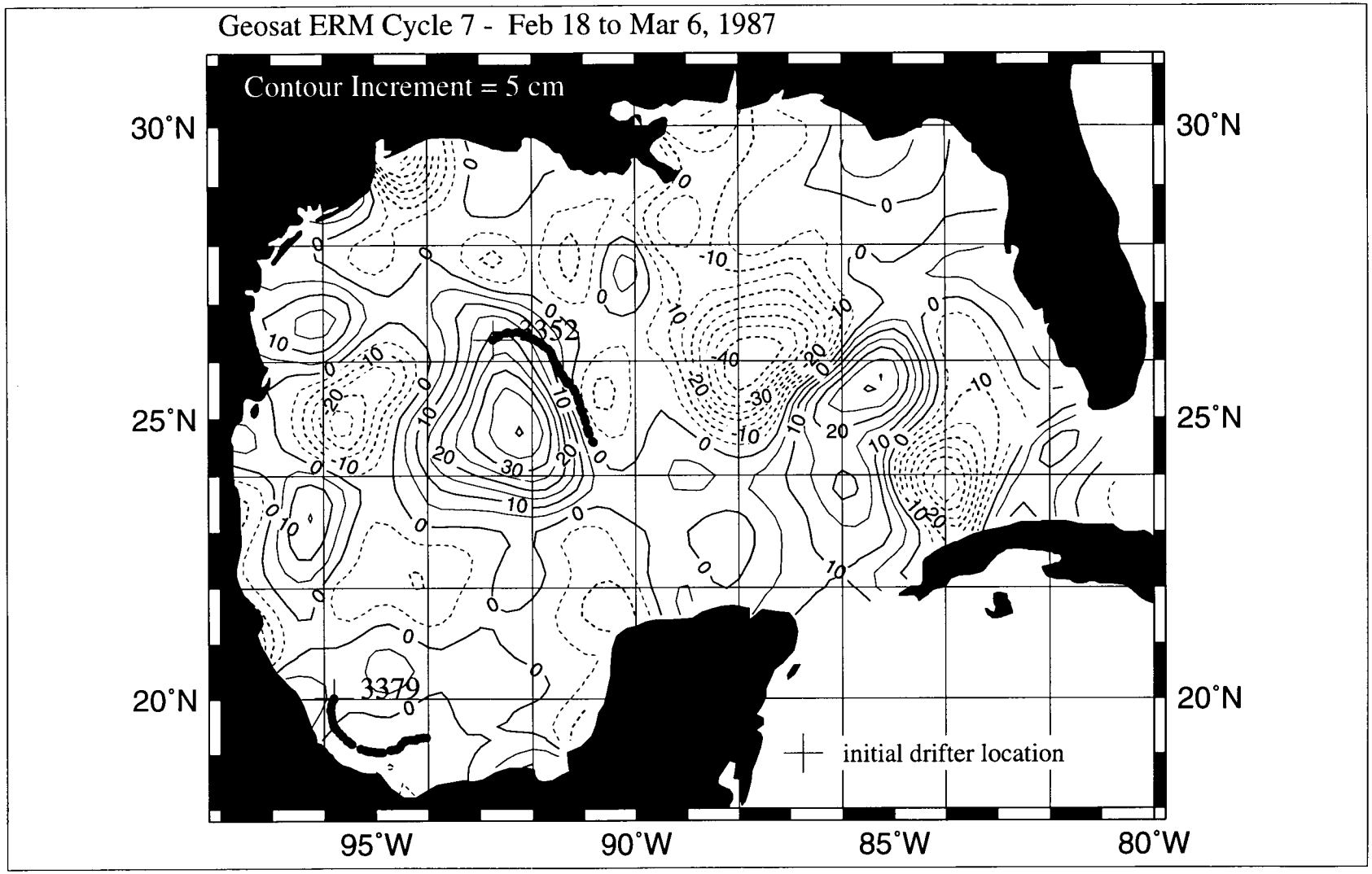

Figure A.3-7. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 7 (February 18 to March 6, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

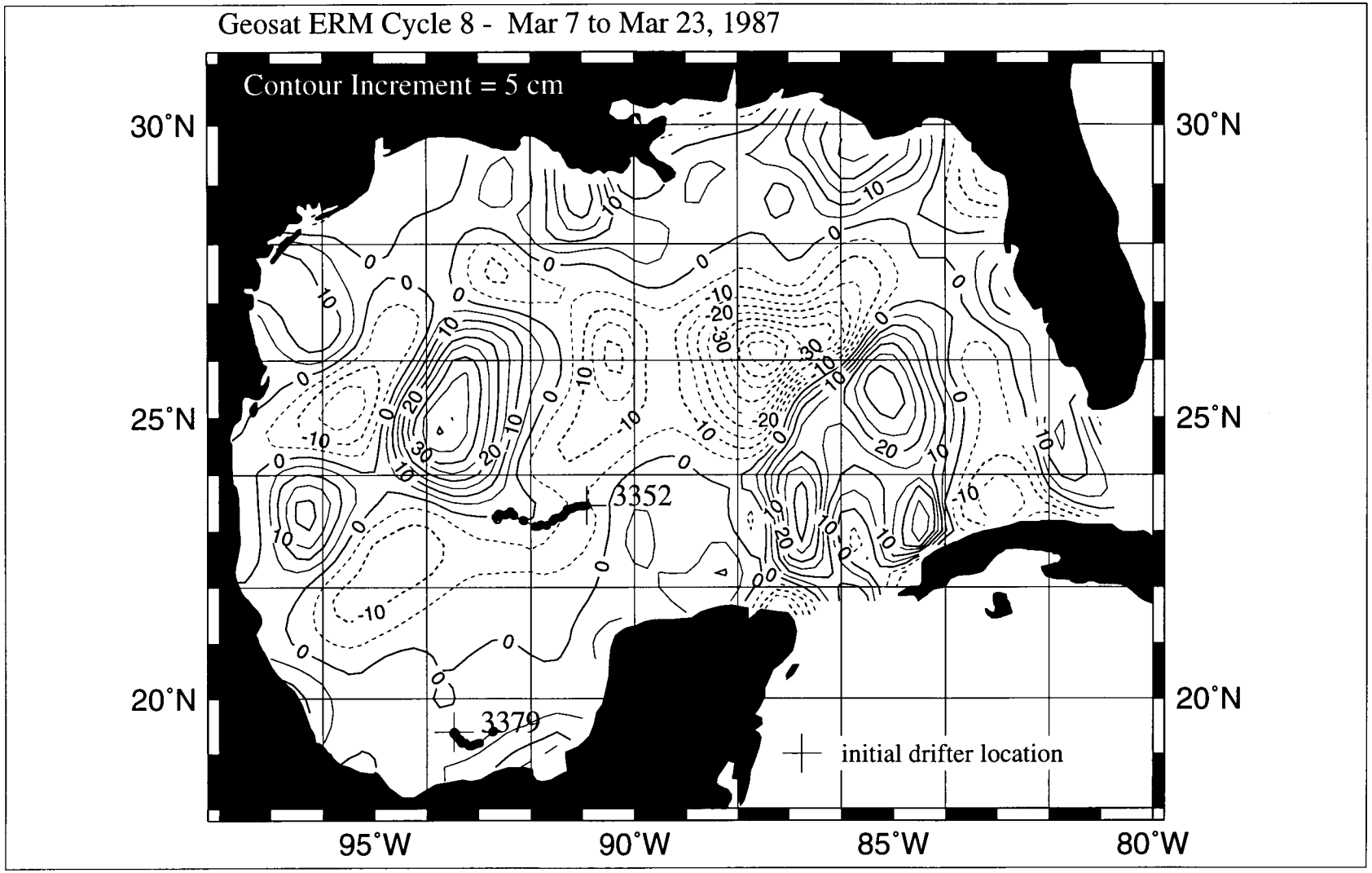

Figure A.3-8. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 8 (March 7 to 23, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

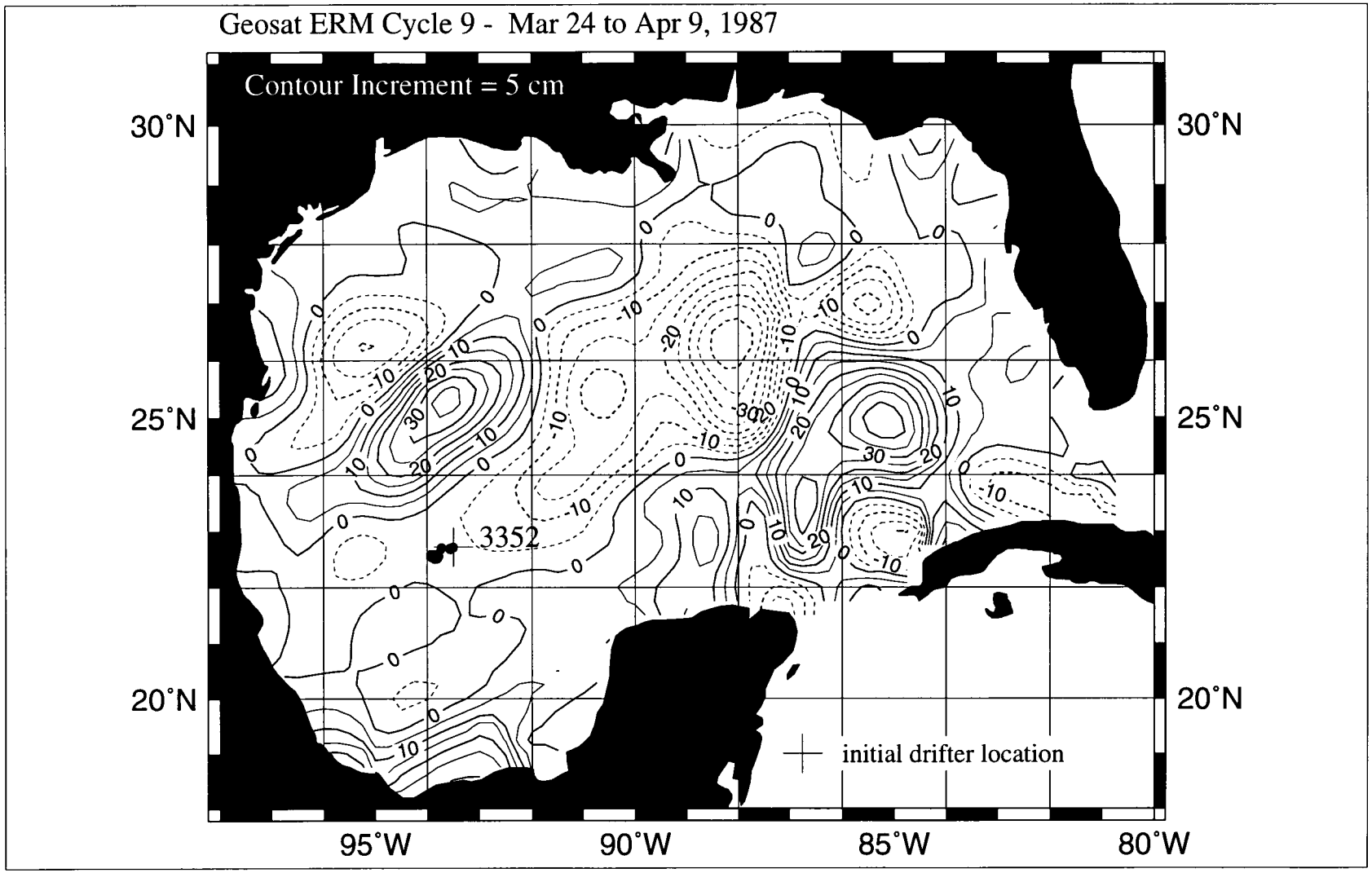

Figure A.3-9. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 9 (March 24 to April 9, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

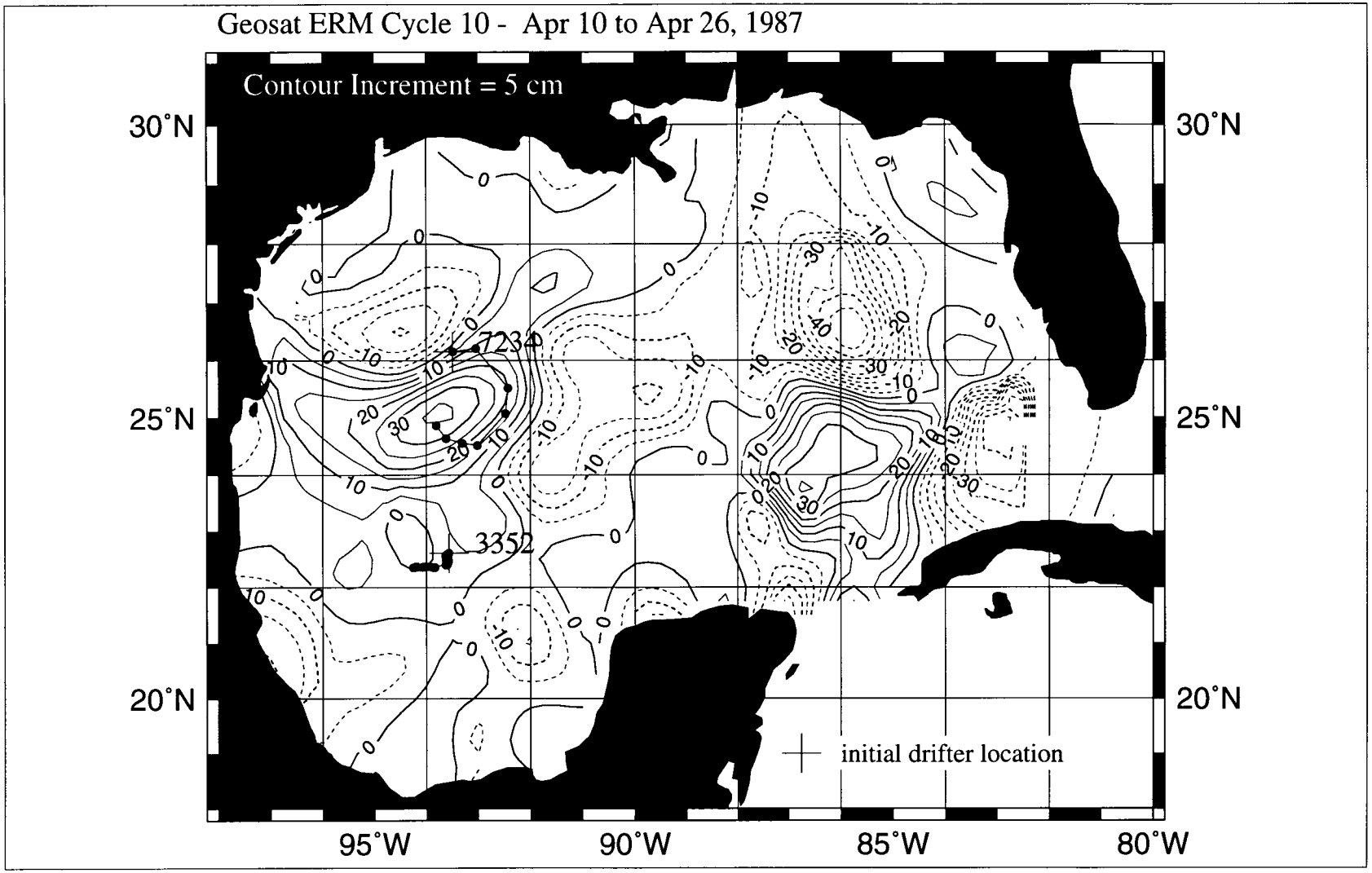

Figure A.3-10. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 10 (April 10 to 26, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

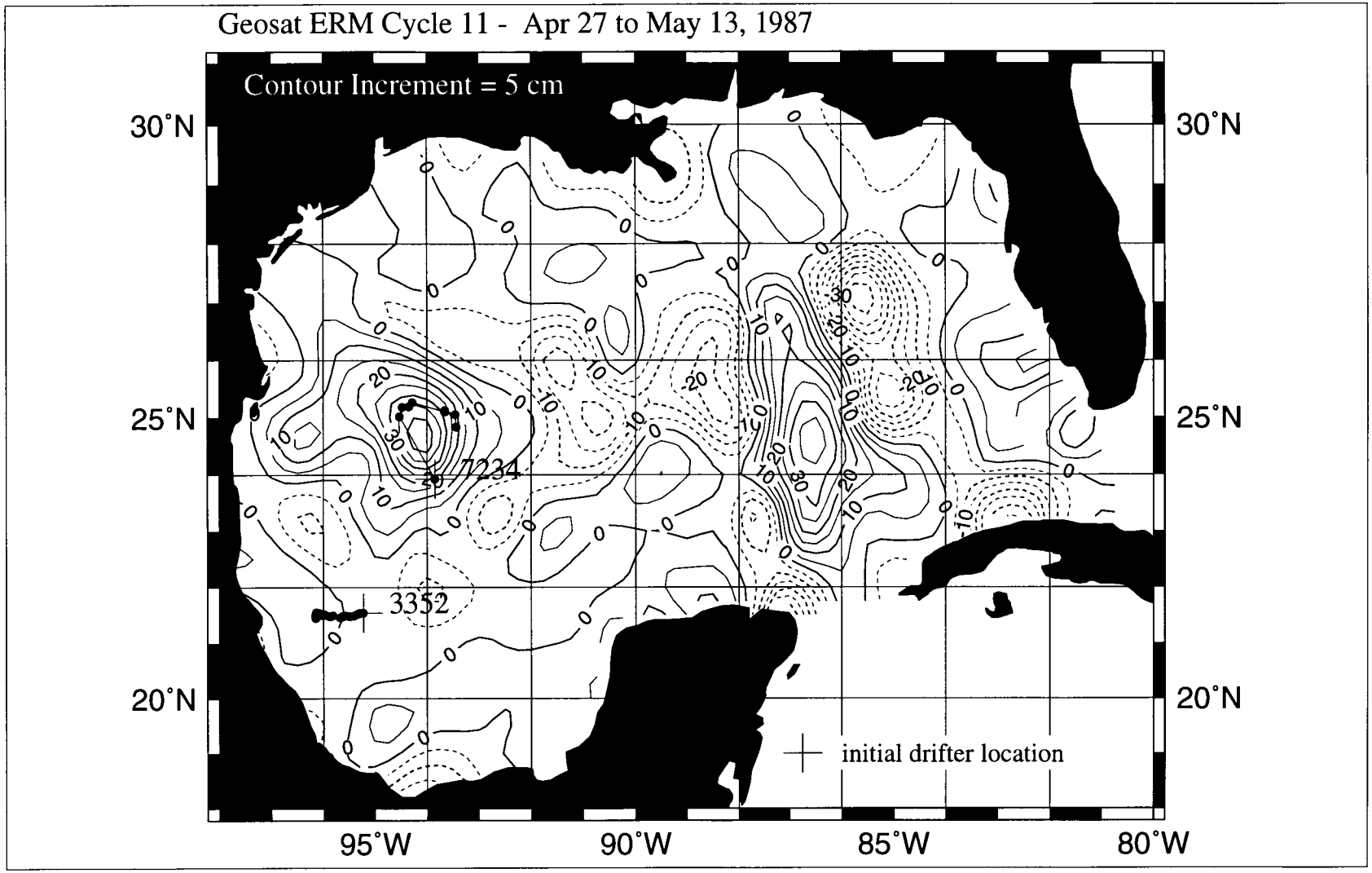

Figure A.3-11. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 11 (April 27 to May 13, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

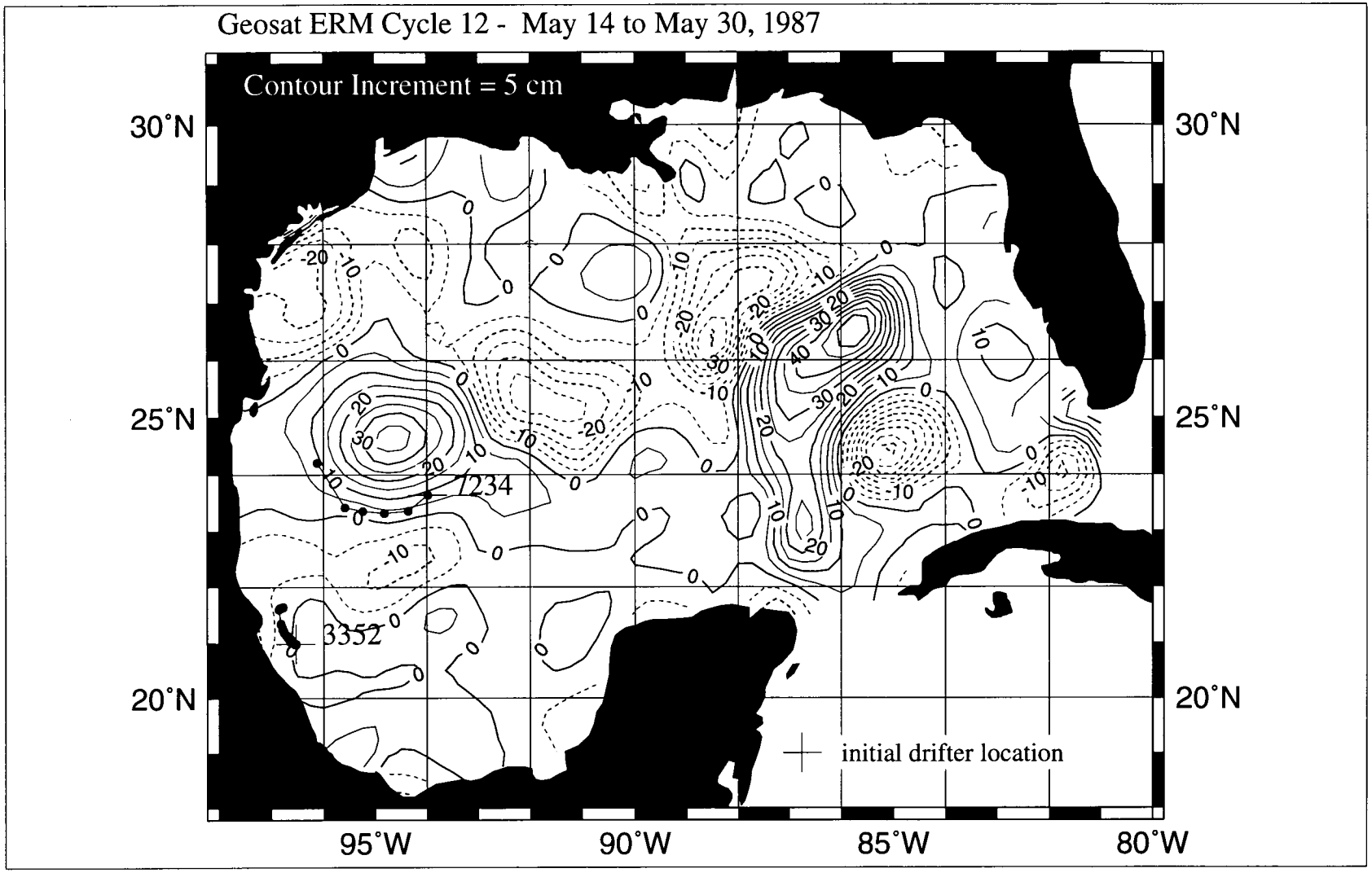

Figure A.3-12. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 12 (May 14 to 30, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

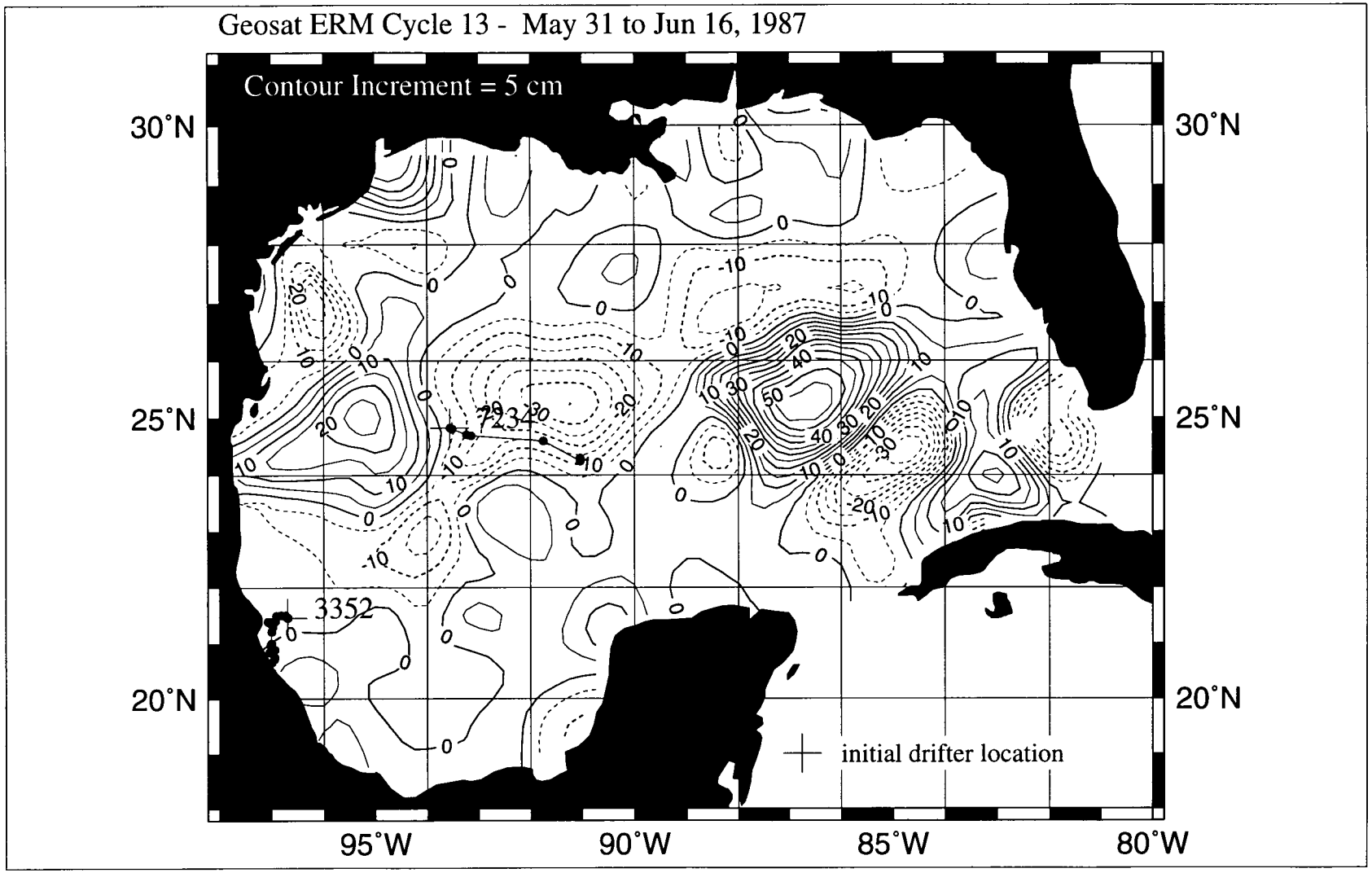

Figure A.3-13. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 13 (May 31 to June 16, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

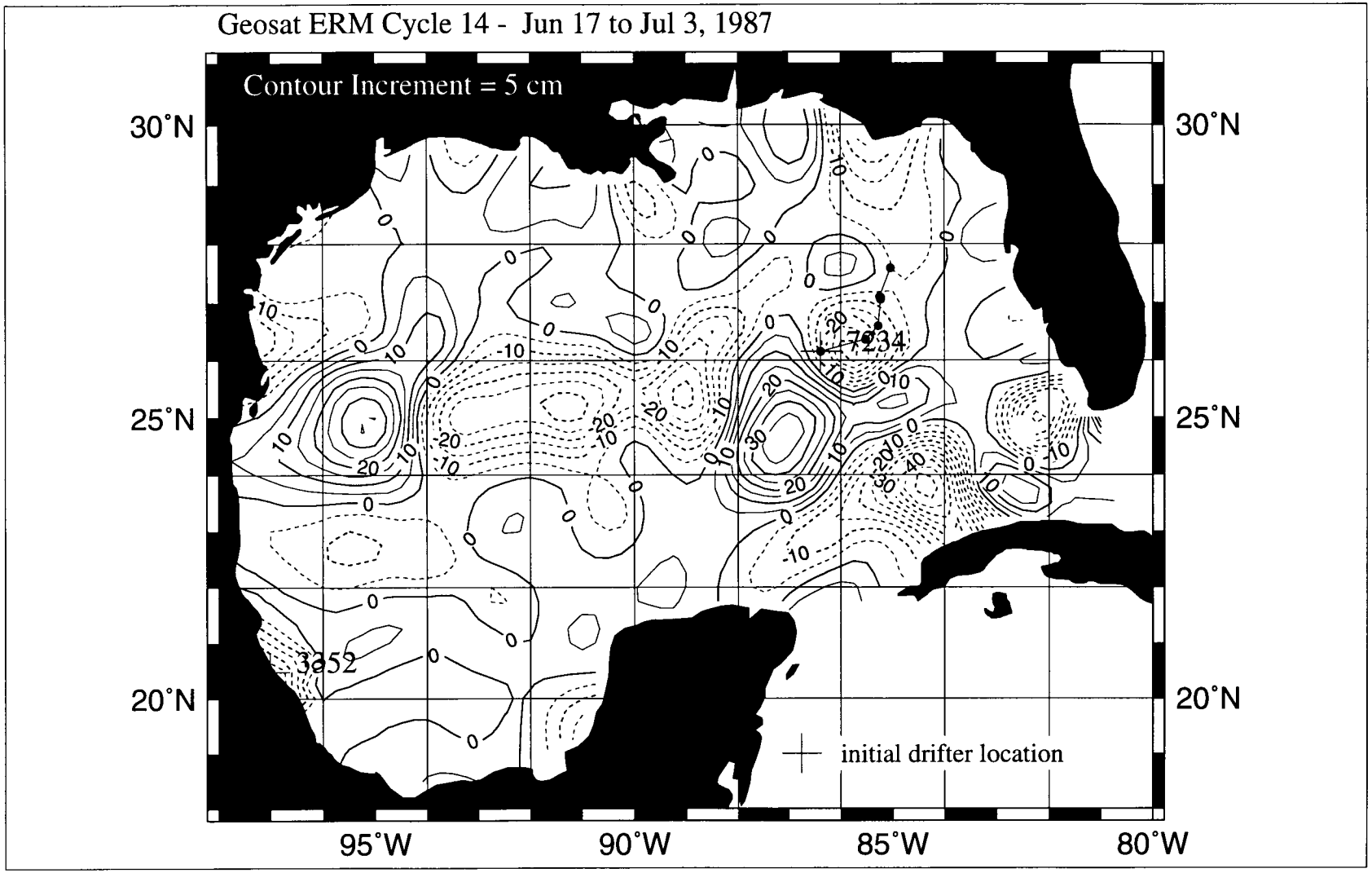

Figure A.3-14. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 14 (June 17 to July 3, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

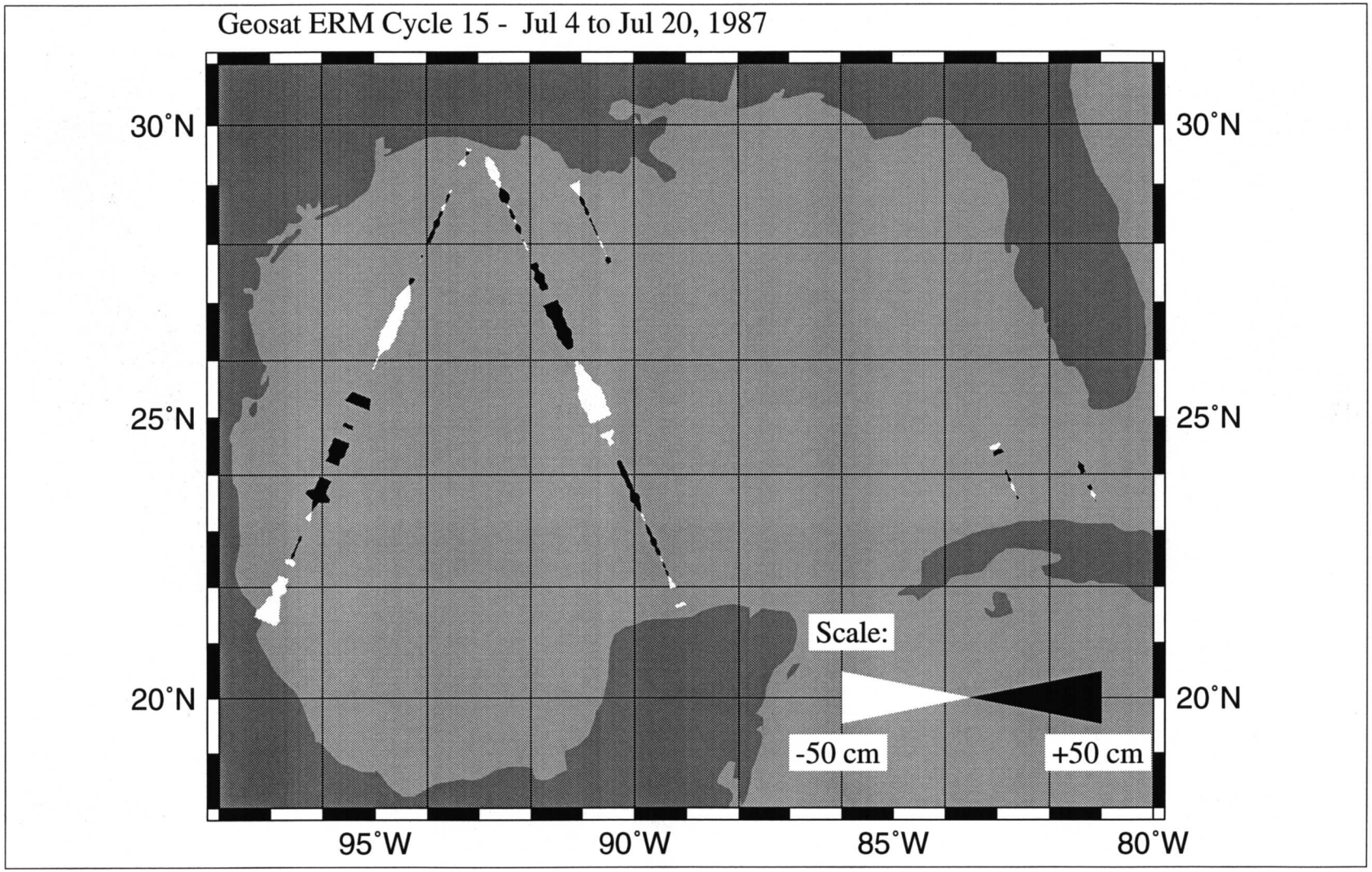

Figure A.3-15. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 15 (July 4 to 20, 1987). Stick plot format used because of data outages during this cycle.

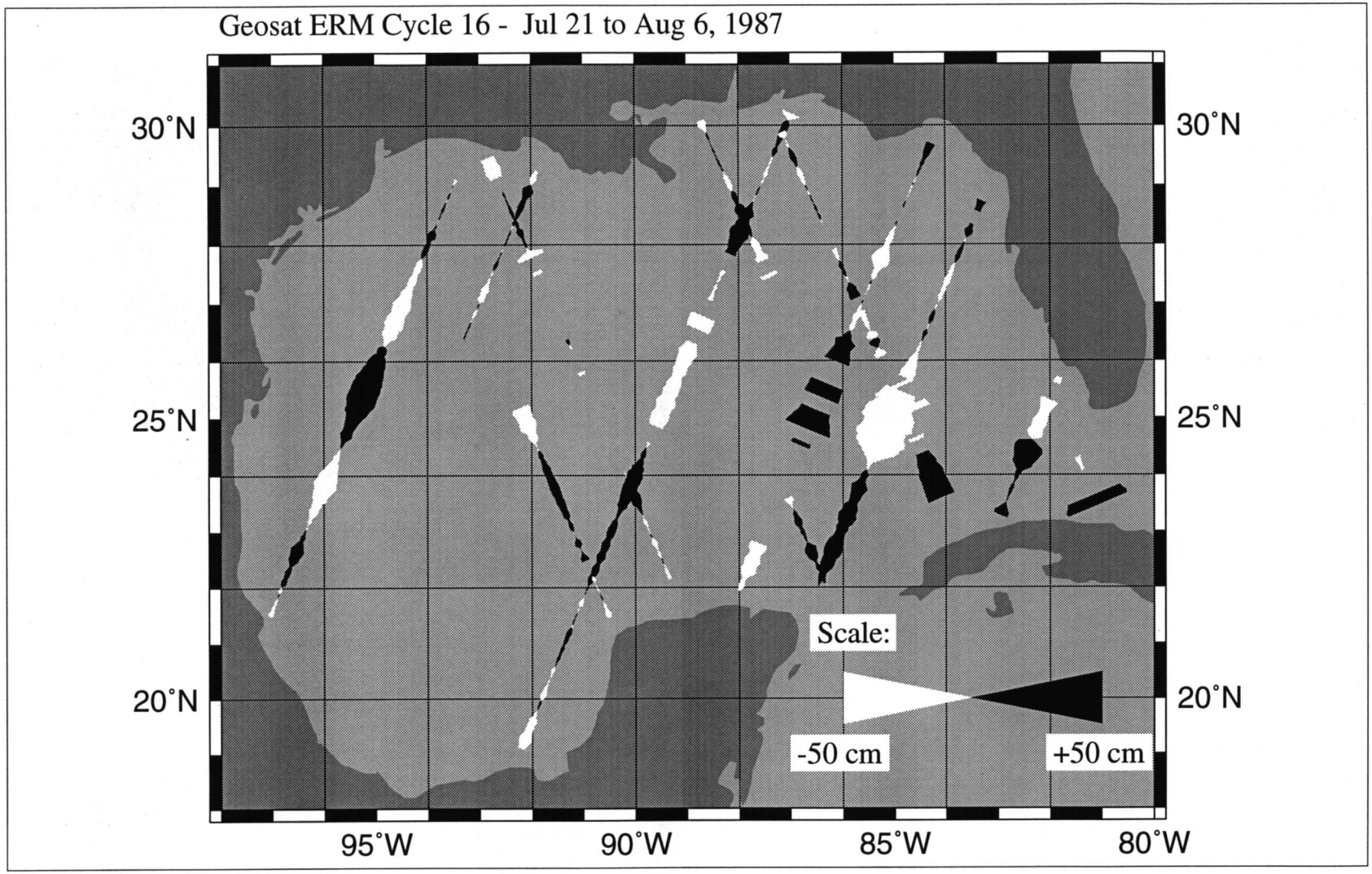

Figure A.3-16. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 16 (July 21 to August 6, 1987). Stick plot format used because of data outages during this cycle.

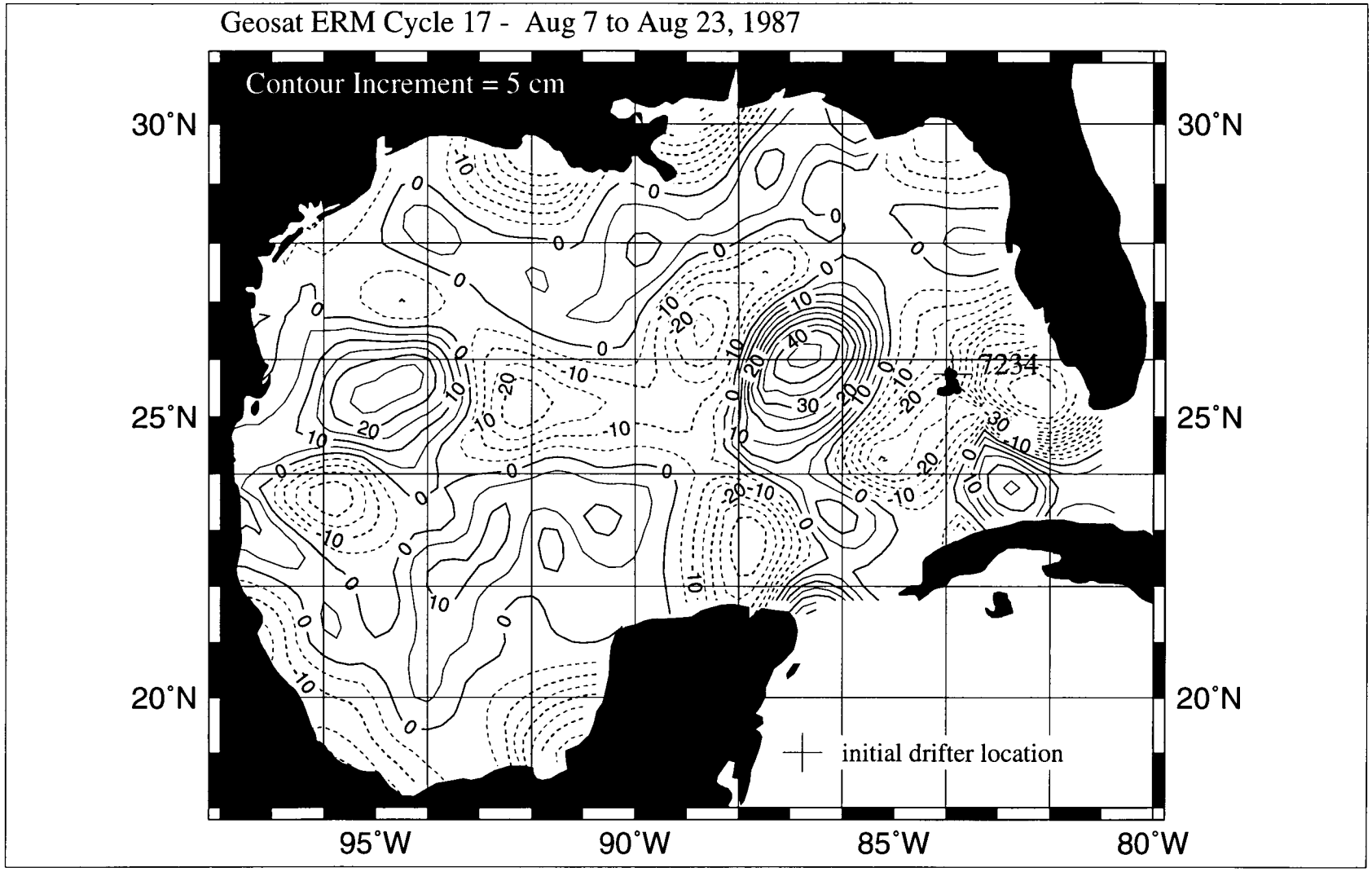

Figure A.3-17. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 17 (August 7 to 23, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

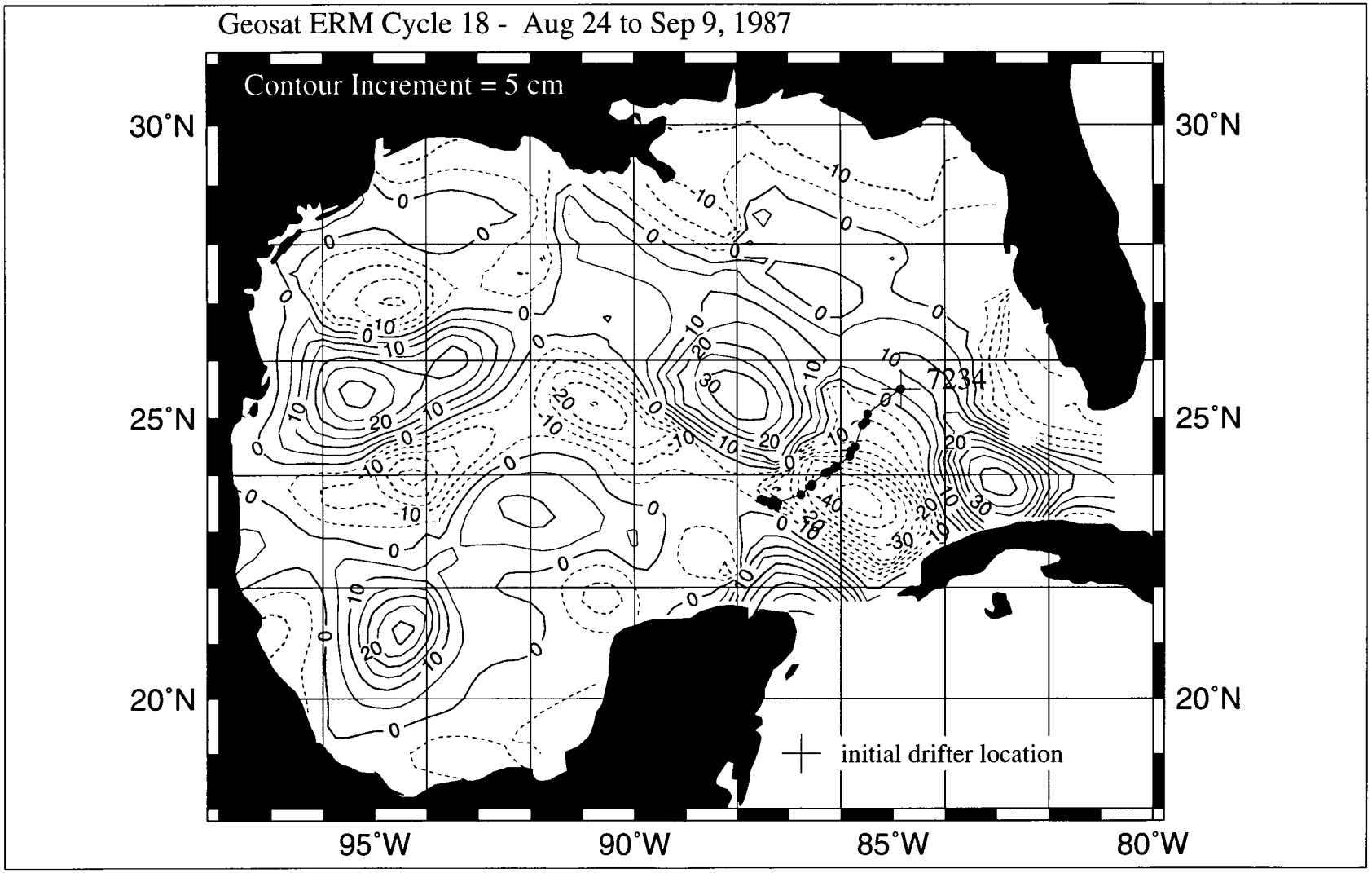

Figure A.3-18. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 18 (August 24 to September 9, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

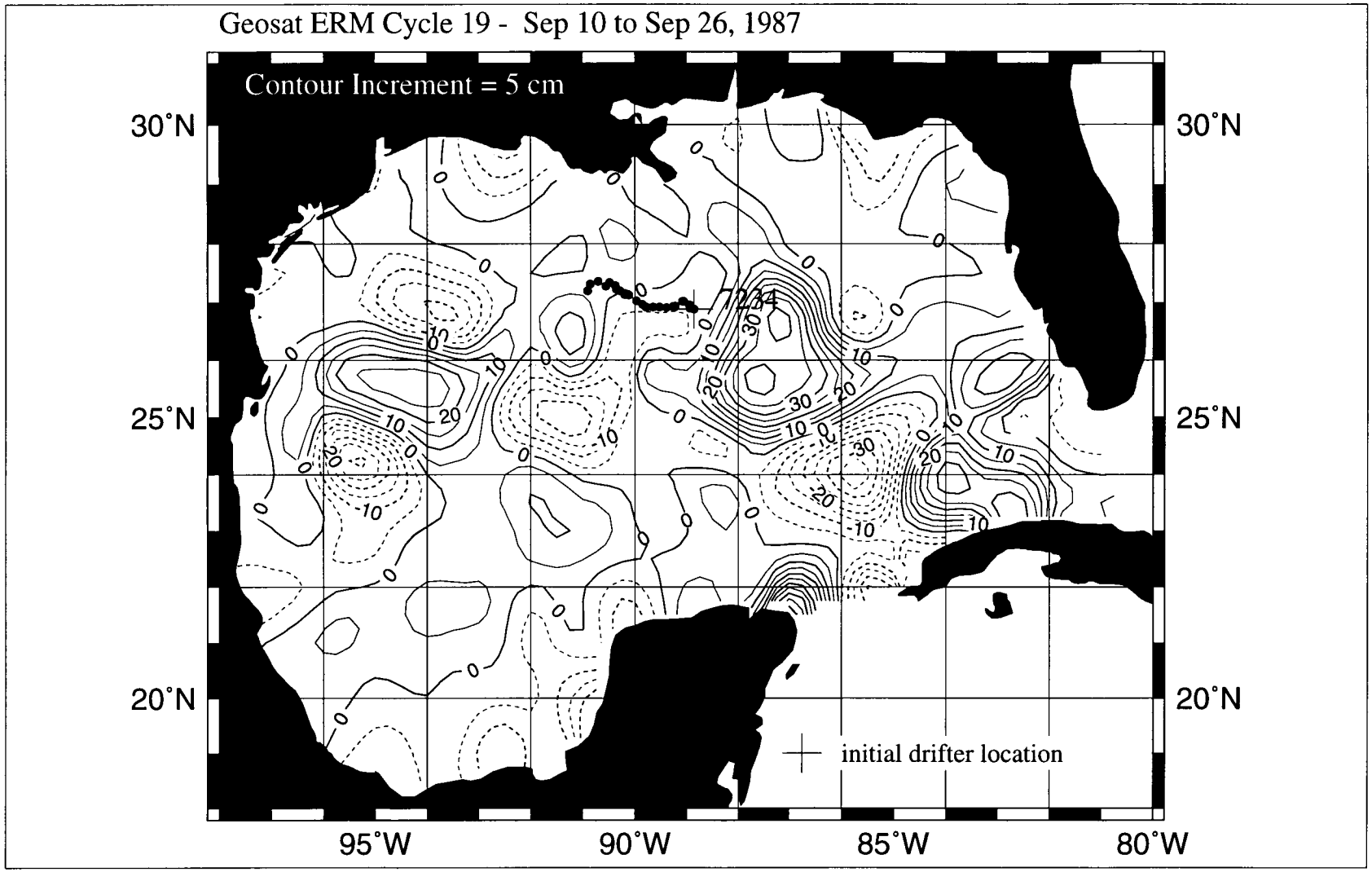

Figure A.3-19. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 19 (September 10 to 26, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

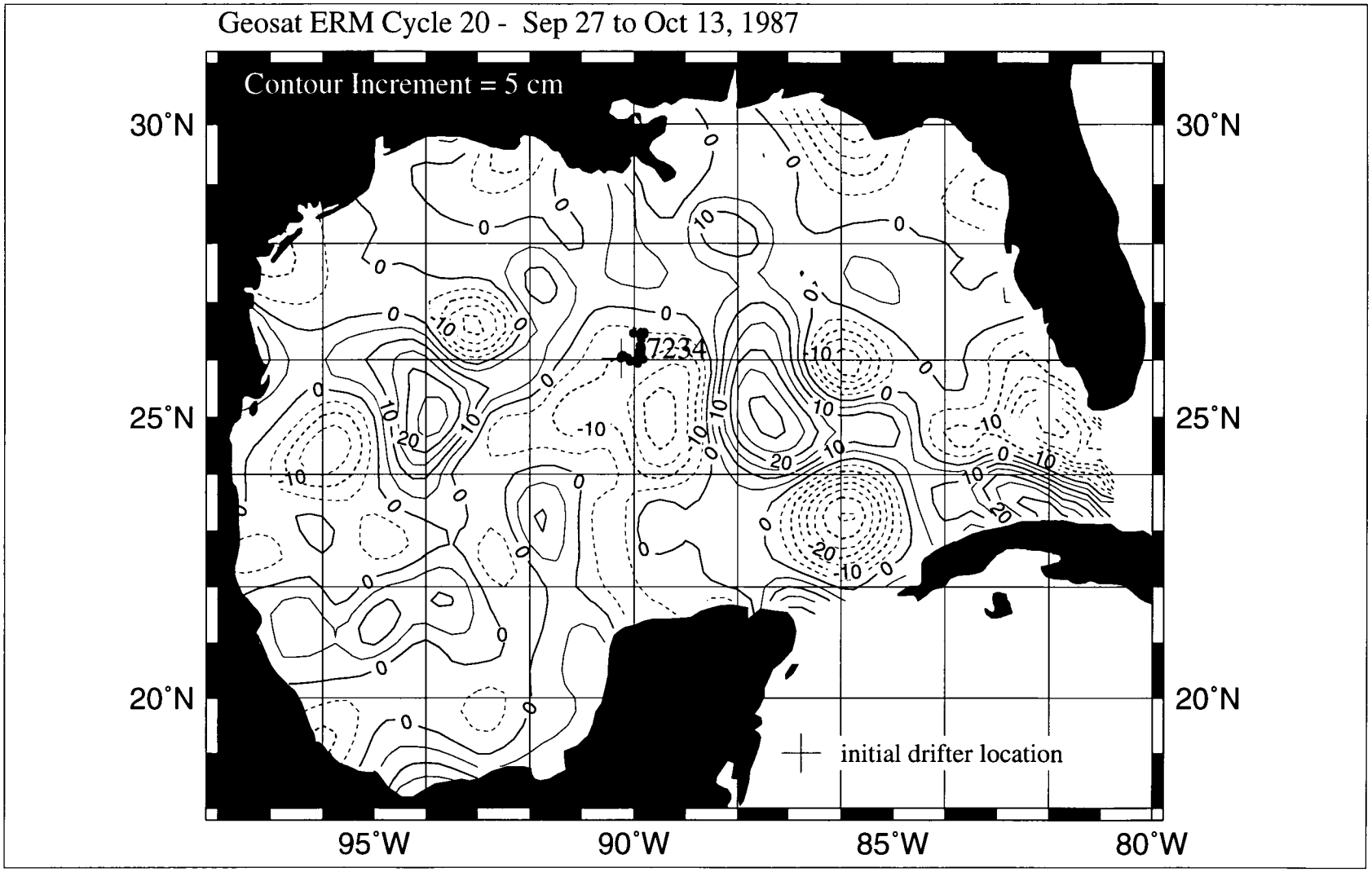

Figure A.3-20. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 20 (September 27 to October 13, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

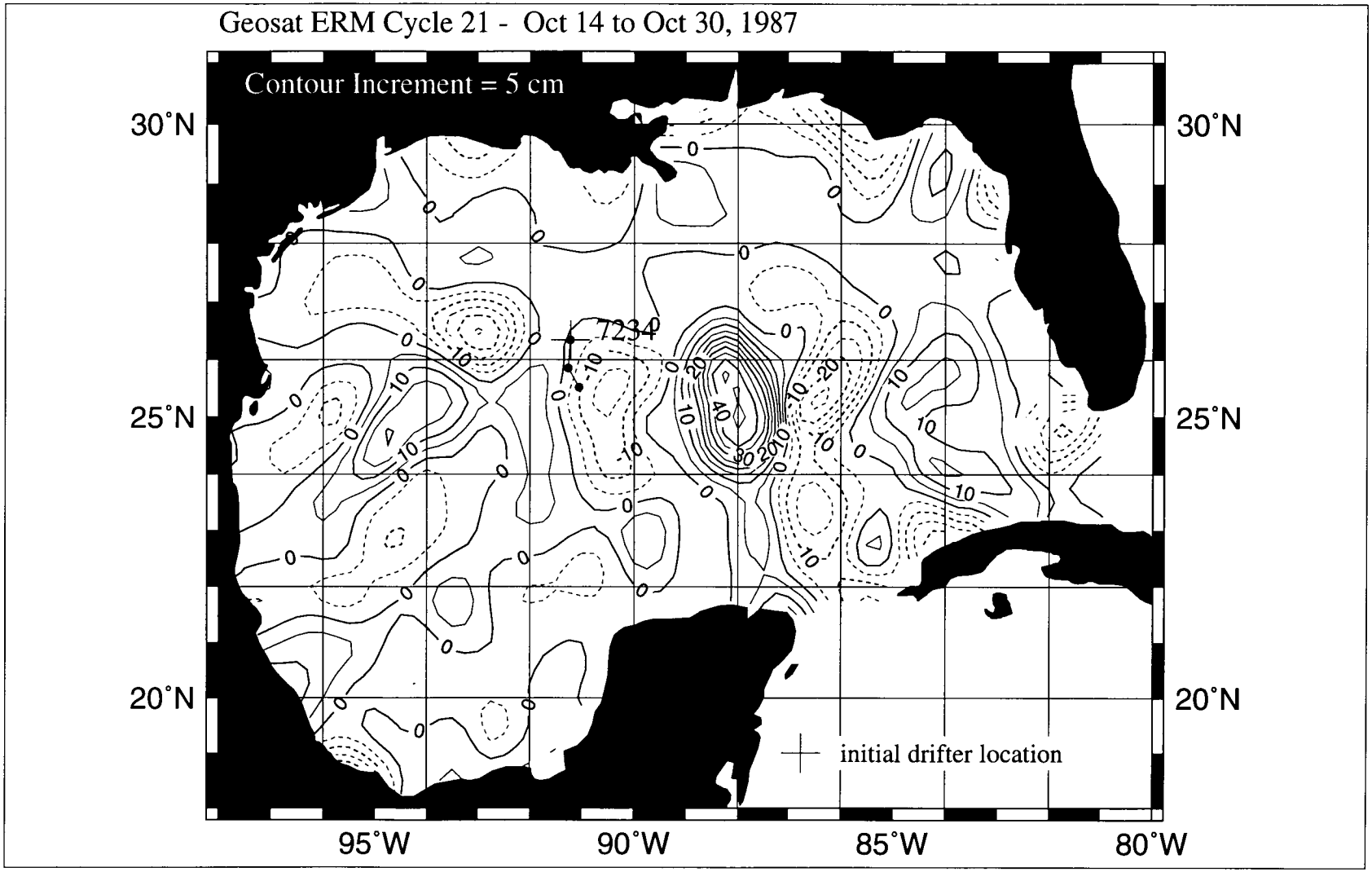

Figure A.3-21. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 21 (October 14 to 30, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

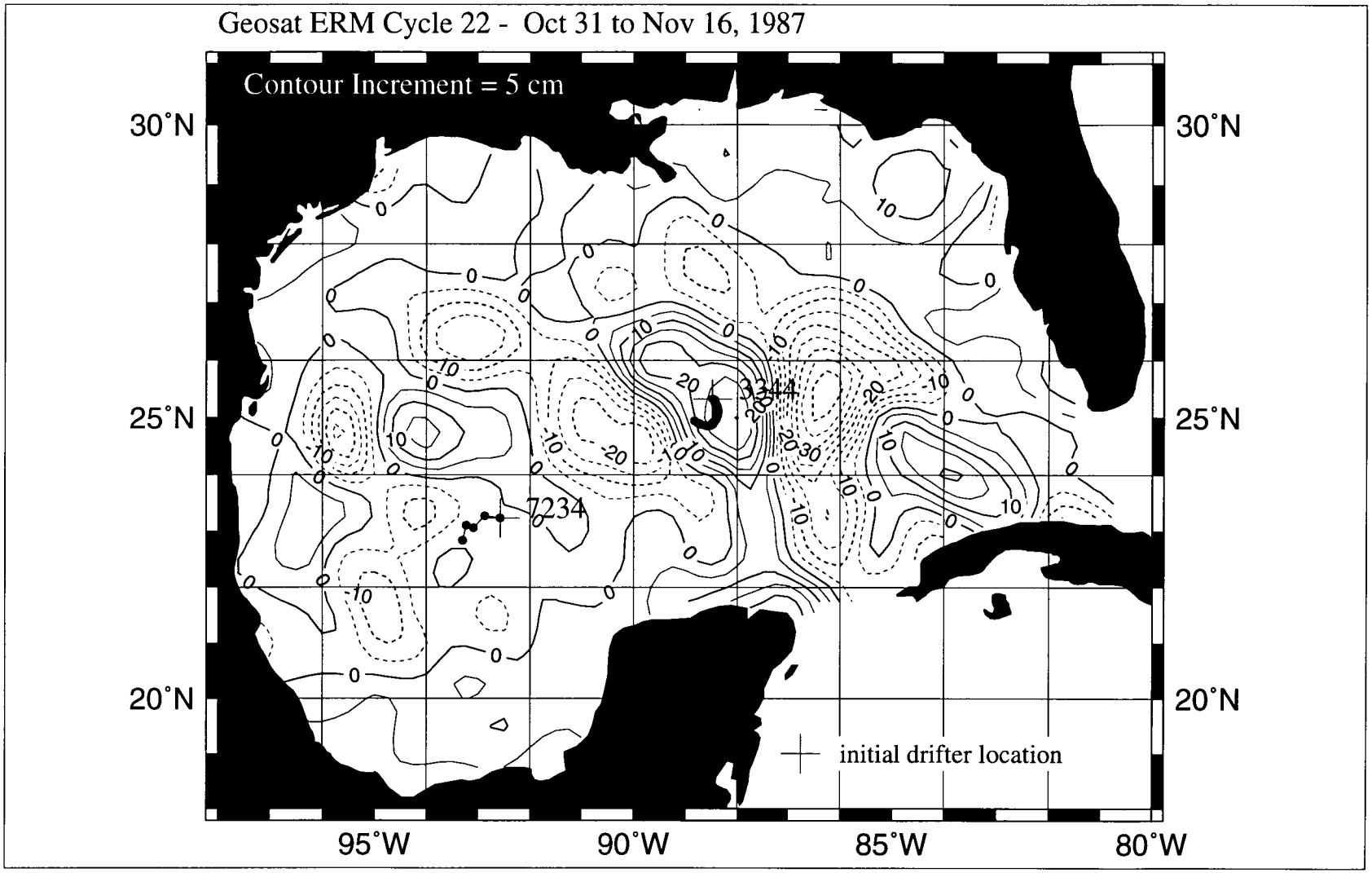

Figure A.3-22. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 22 (October 31 to November 16, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

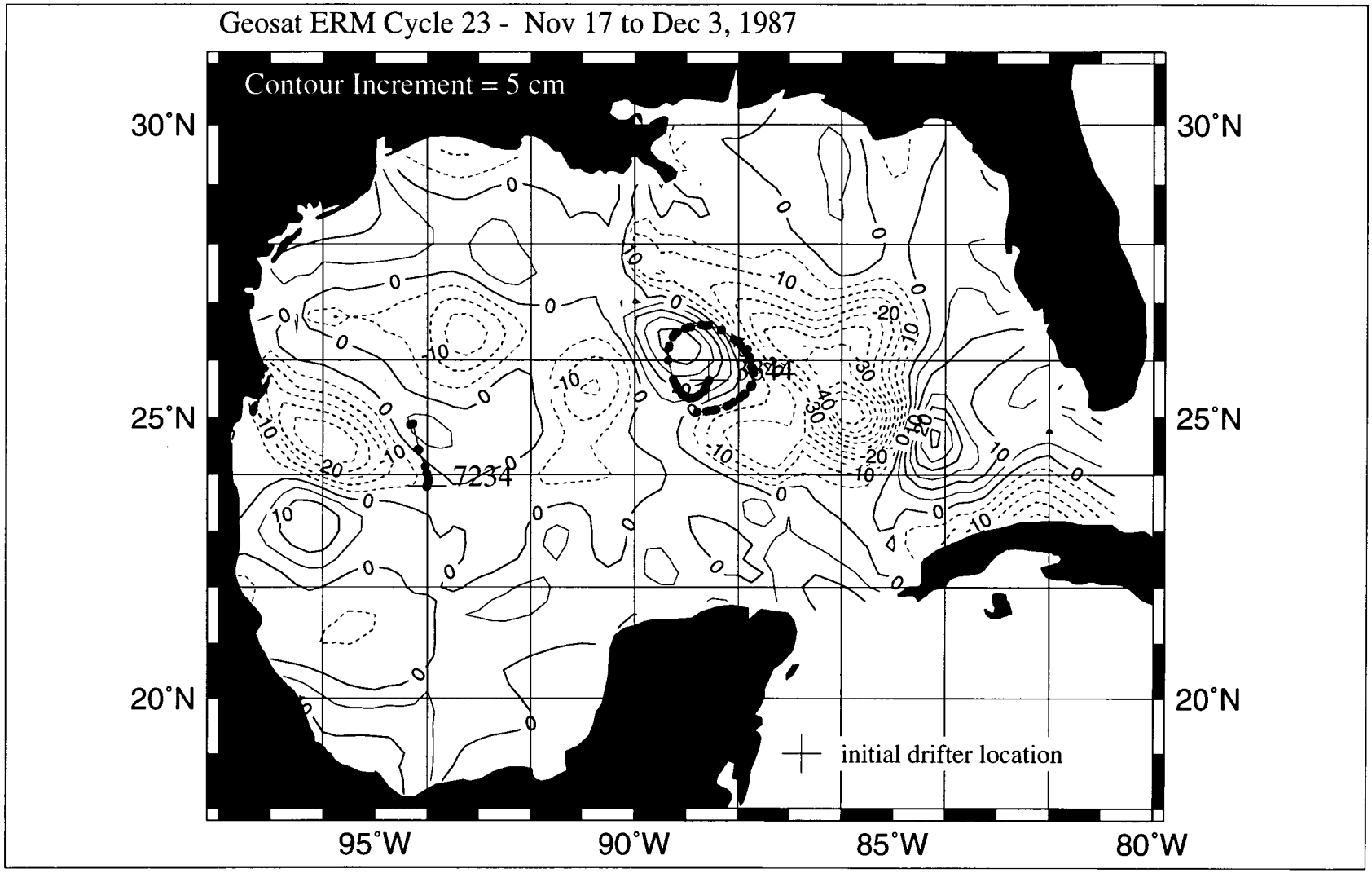

Figure A.3-23. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 23 (November 17 to December 3, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

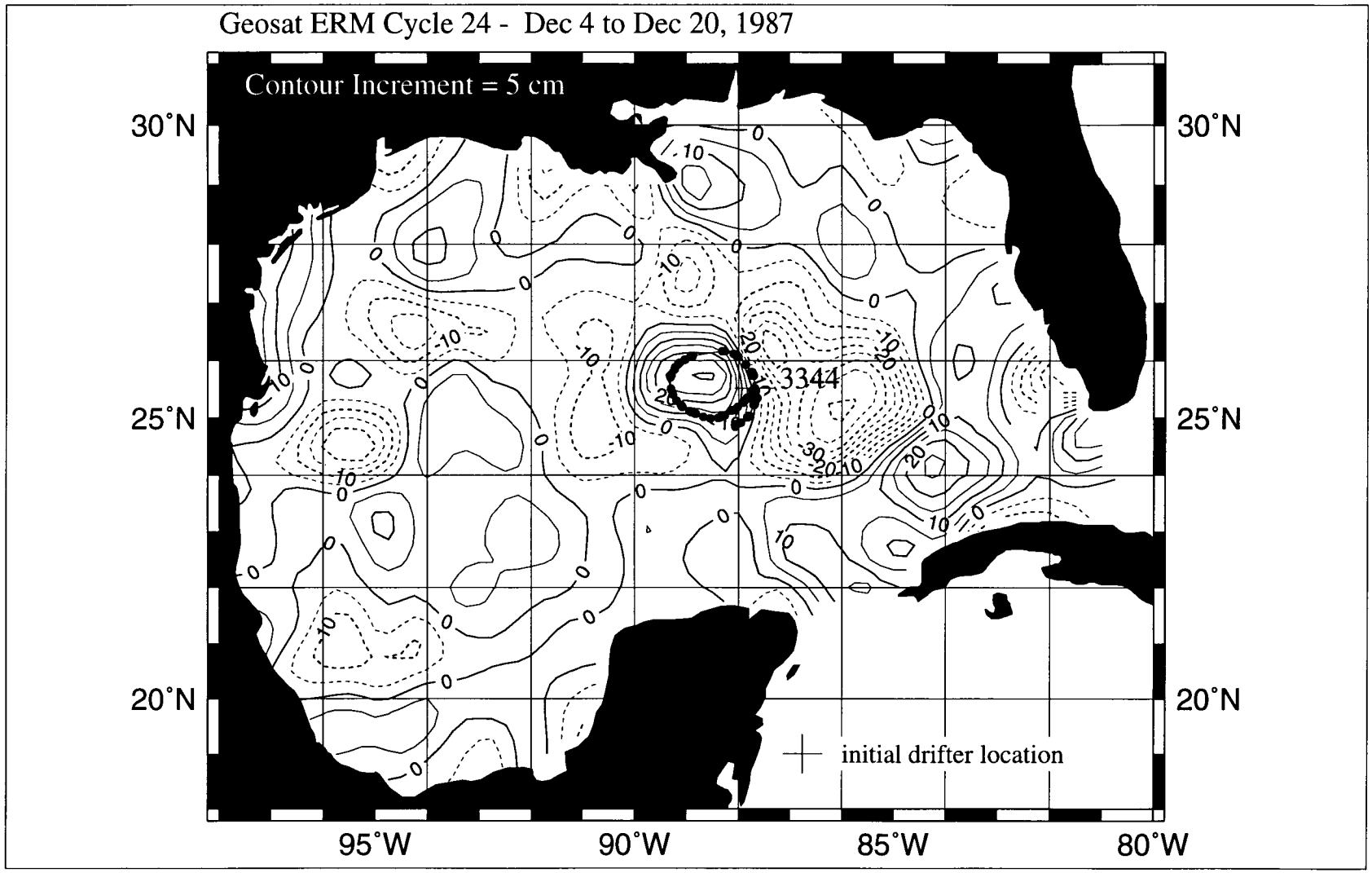

Figure A.3-24. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 24 (December 4 to 20, 1987). Drifter locations within five days of the midpoint of the cycle are shown.

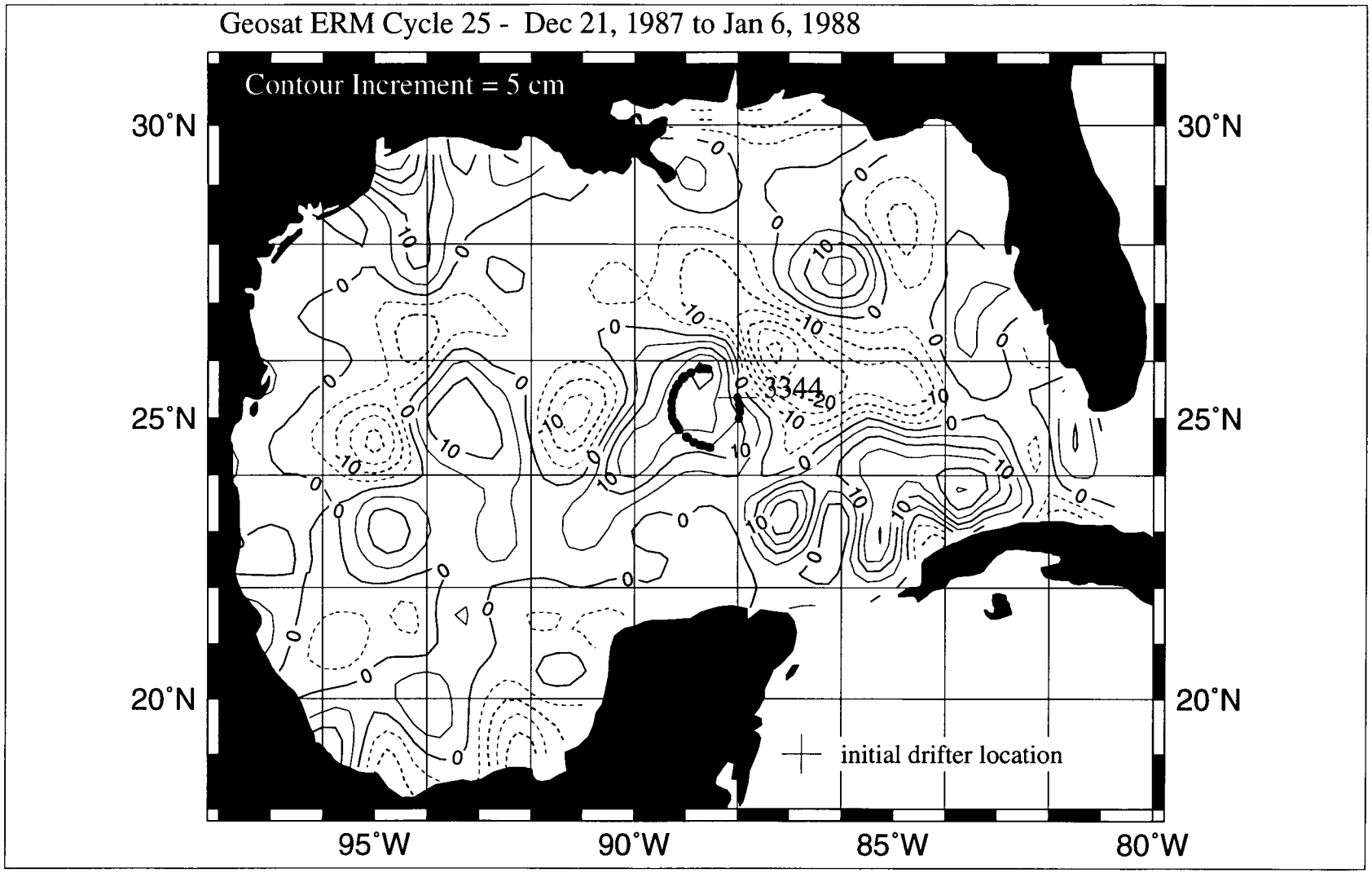

Figure A.3-25. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 25 (December 21, 1987 to January 6, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

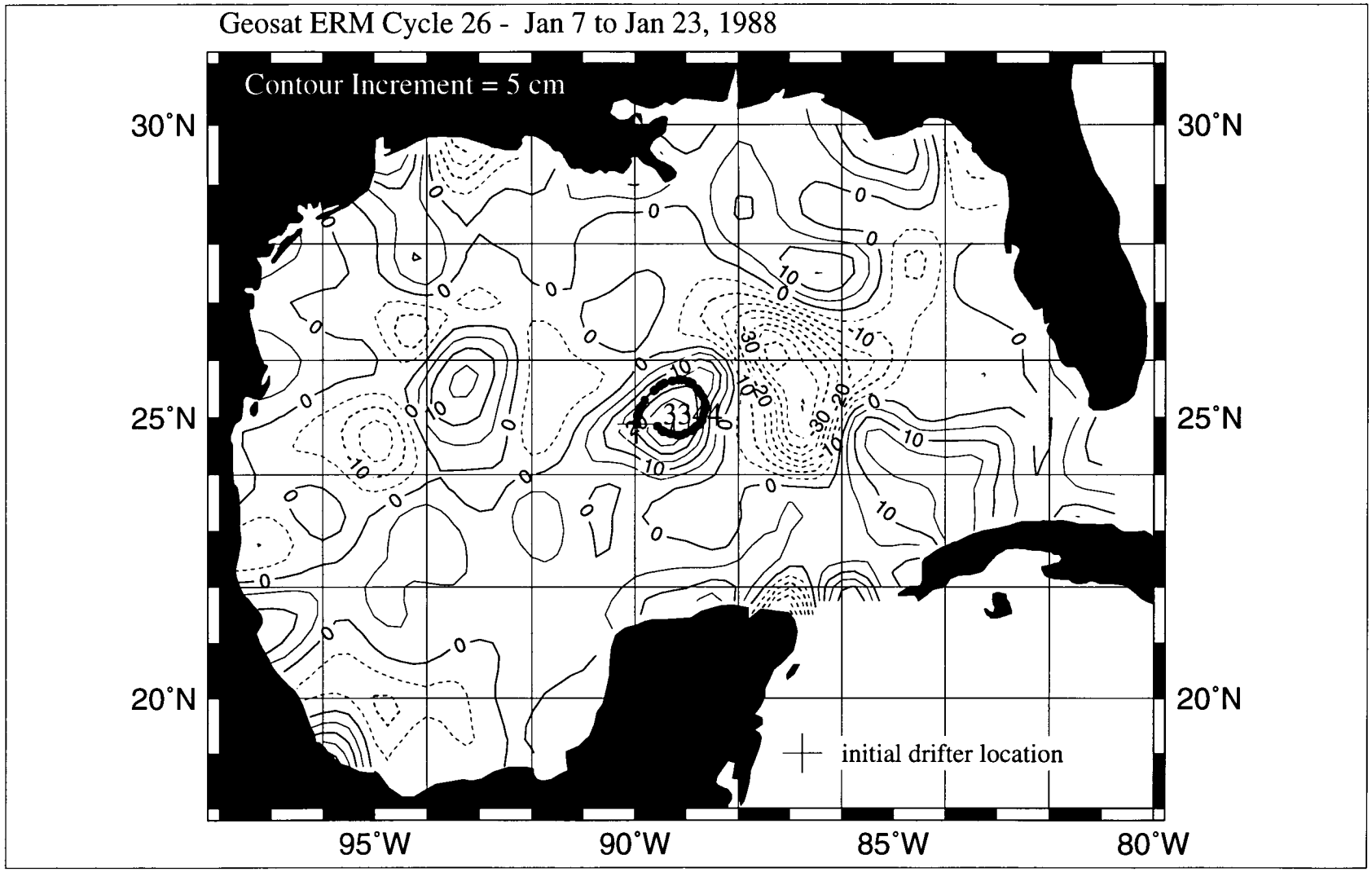

Figure A.3-26. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 26 (January 7 to 23, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

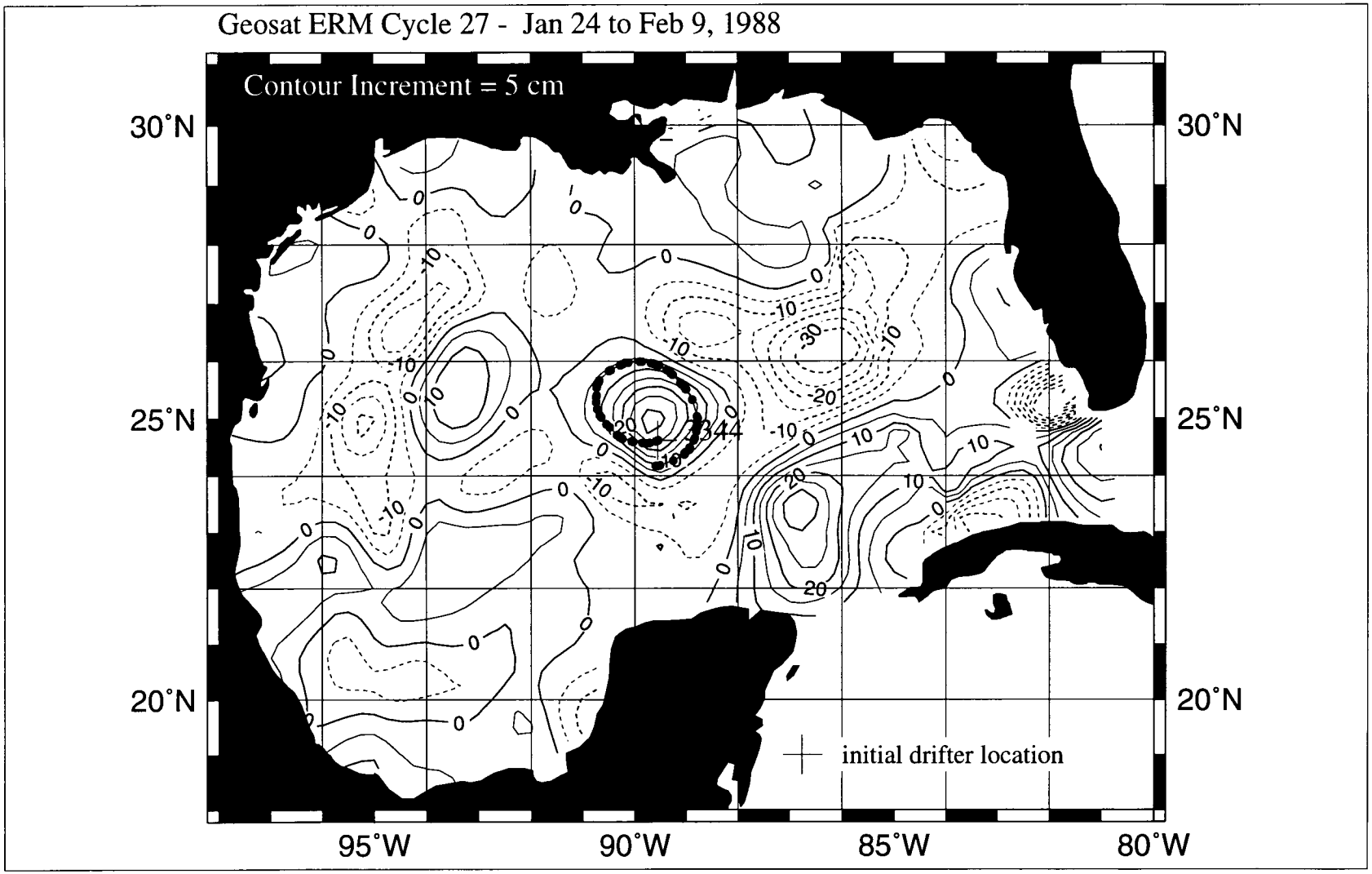

Figure A.3-27. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 27 (January 24 to February 9, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

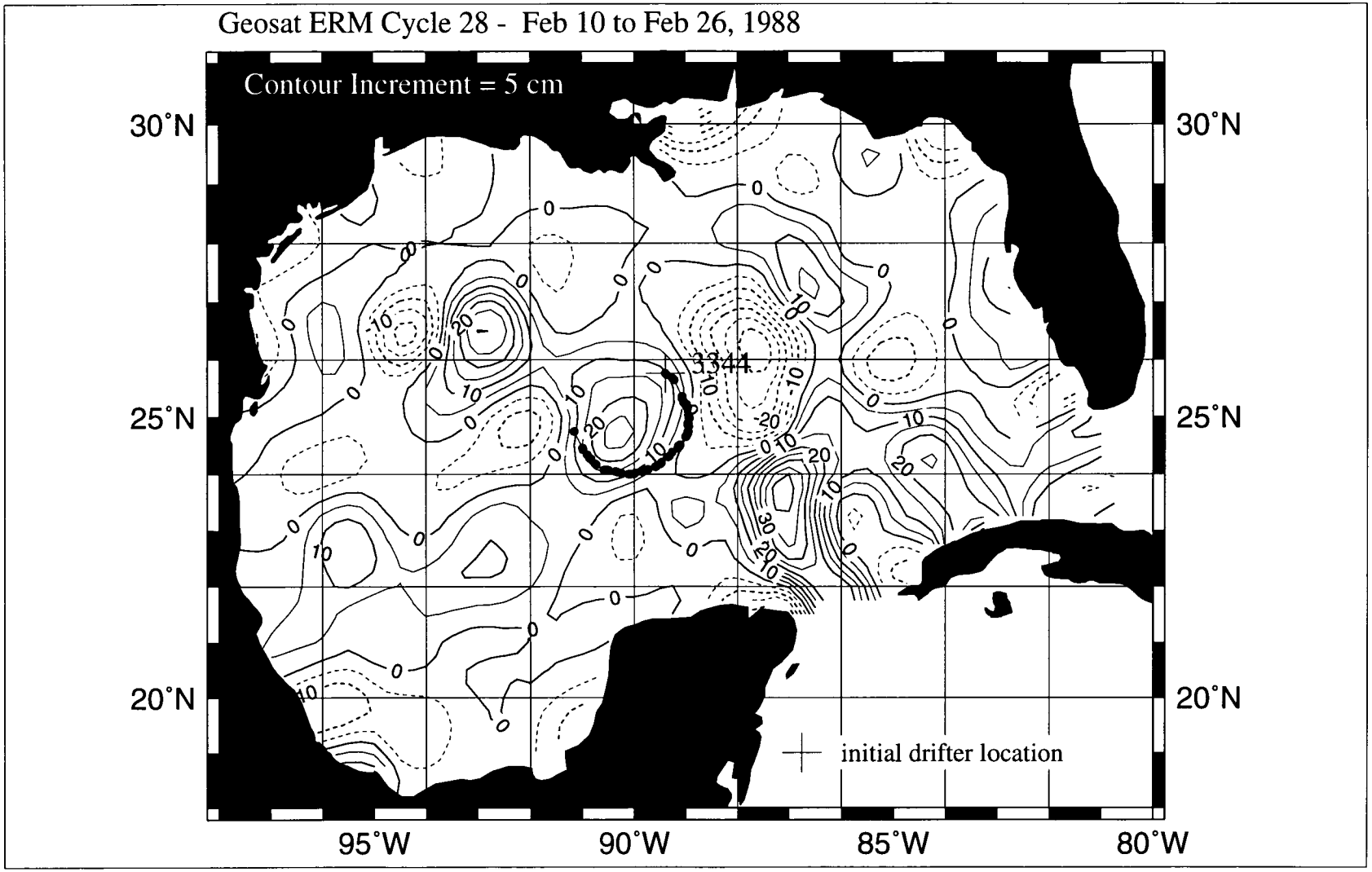

Figure A.3-28. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 28 (February 10 to 26, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

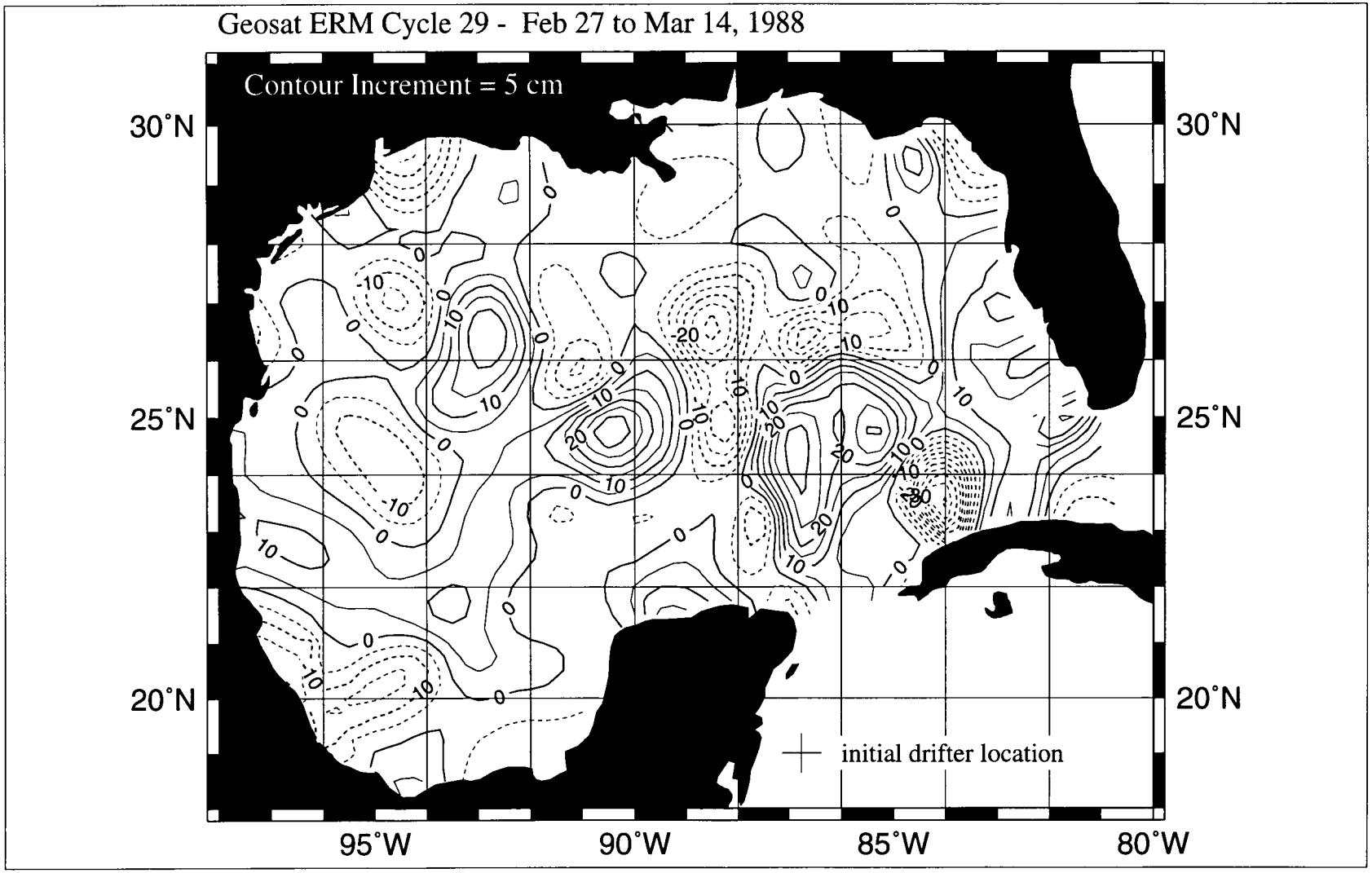

Figure A.3-29. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 29 (February 27 to March 14, 1988).

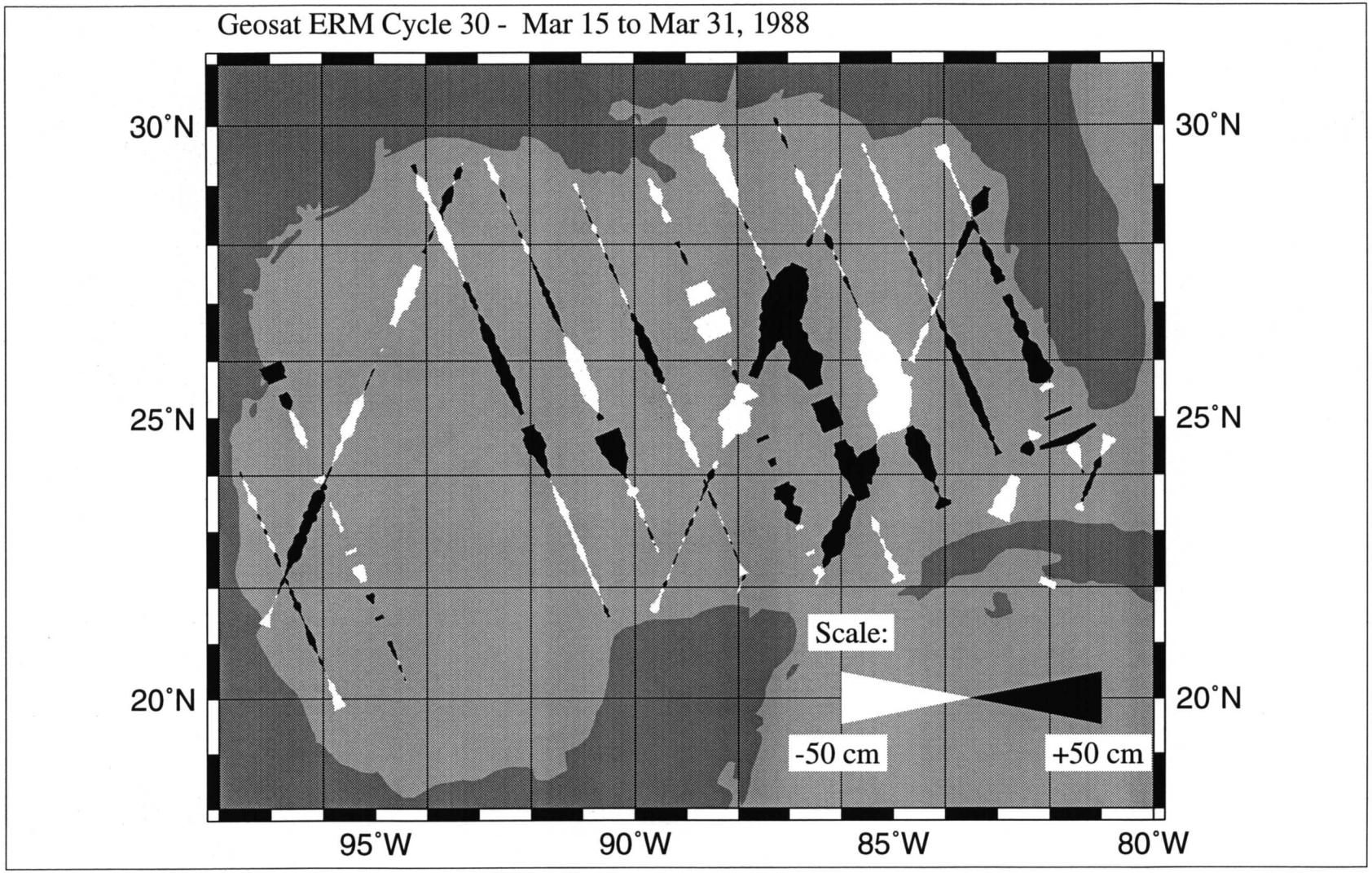

Figure A.3-30. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 30 (March 15 to 31, 1988). Stick plot format used because of data outages during this cycle.

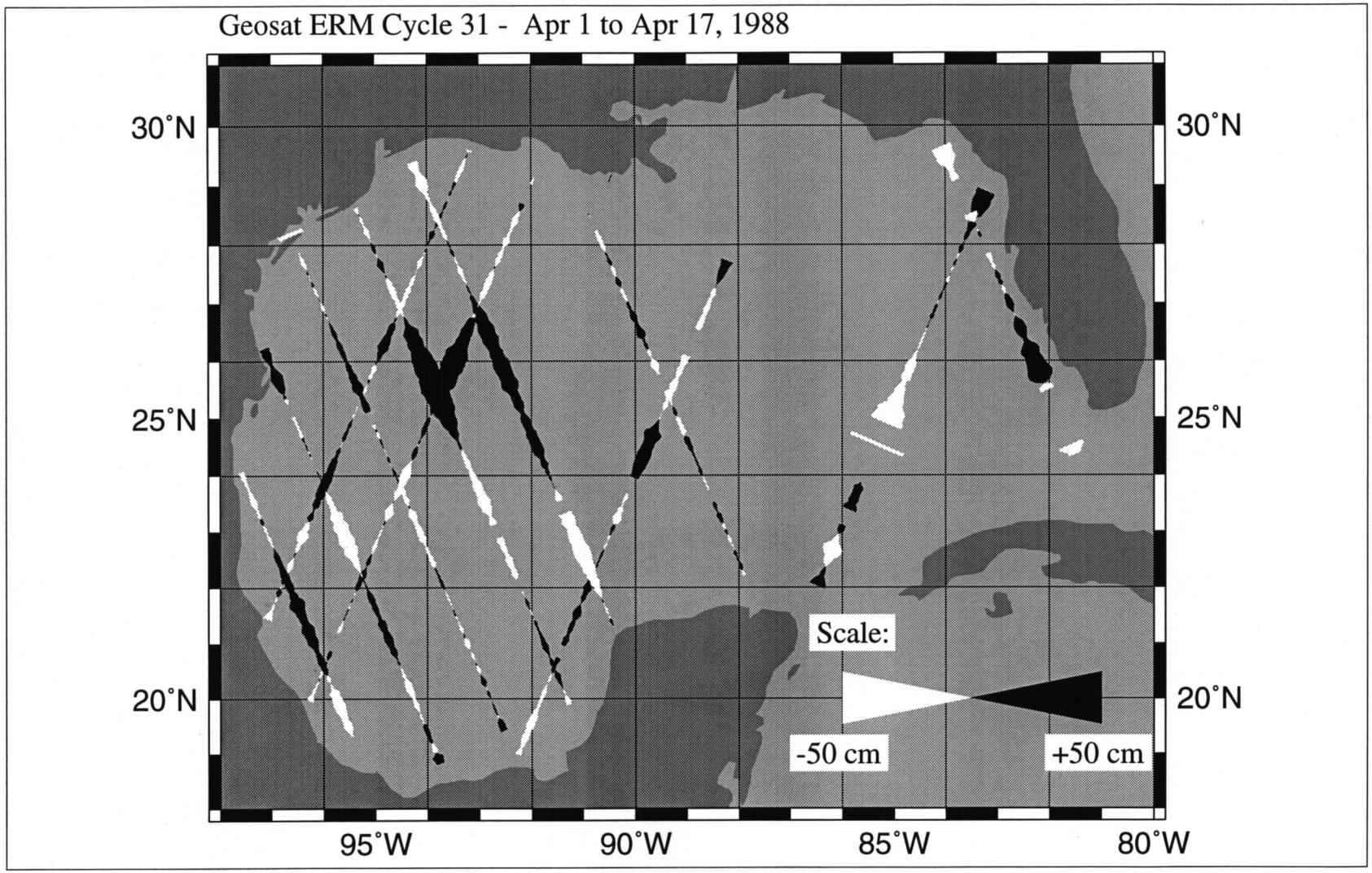

Figure A.3-31. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 31 (April 1 to 17, 1988). Stick plot format used because of data outages during this cycle.

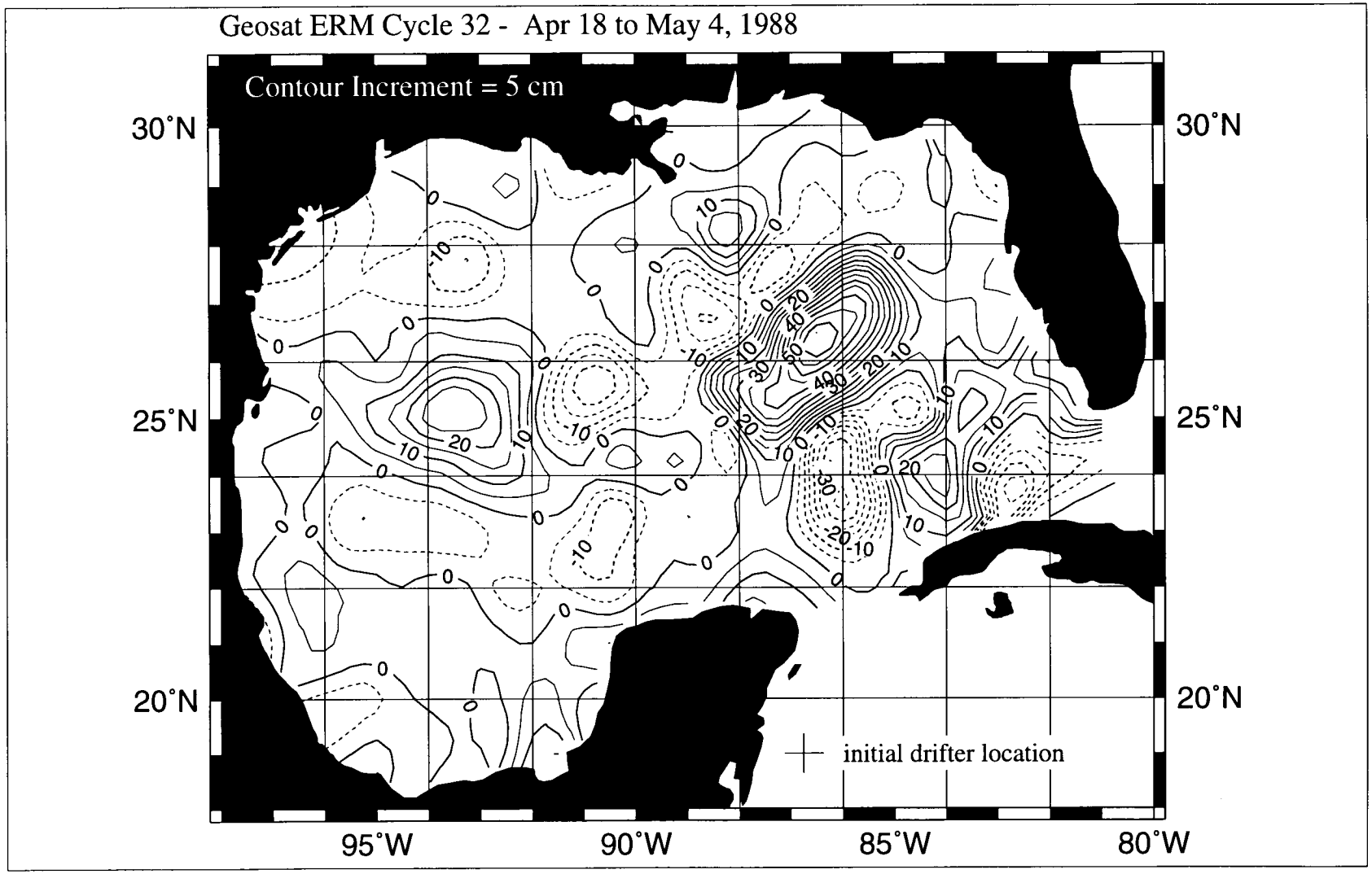

Figure A.3-32. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 32 (April 18 to May 4, 1988).

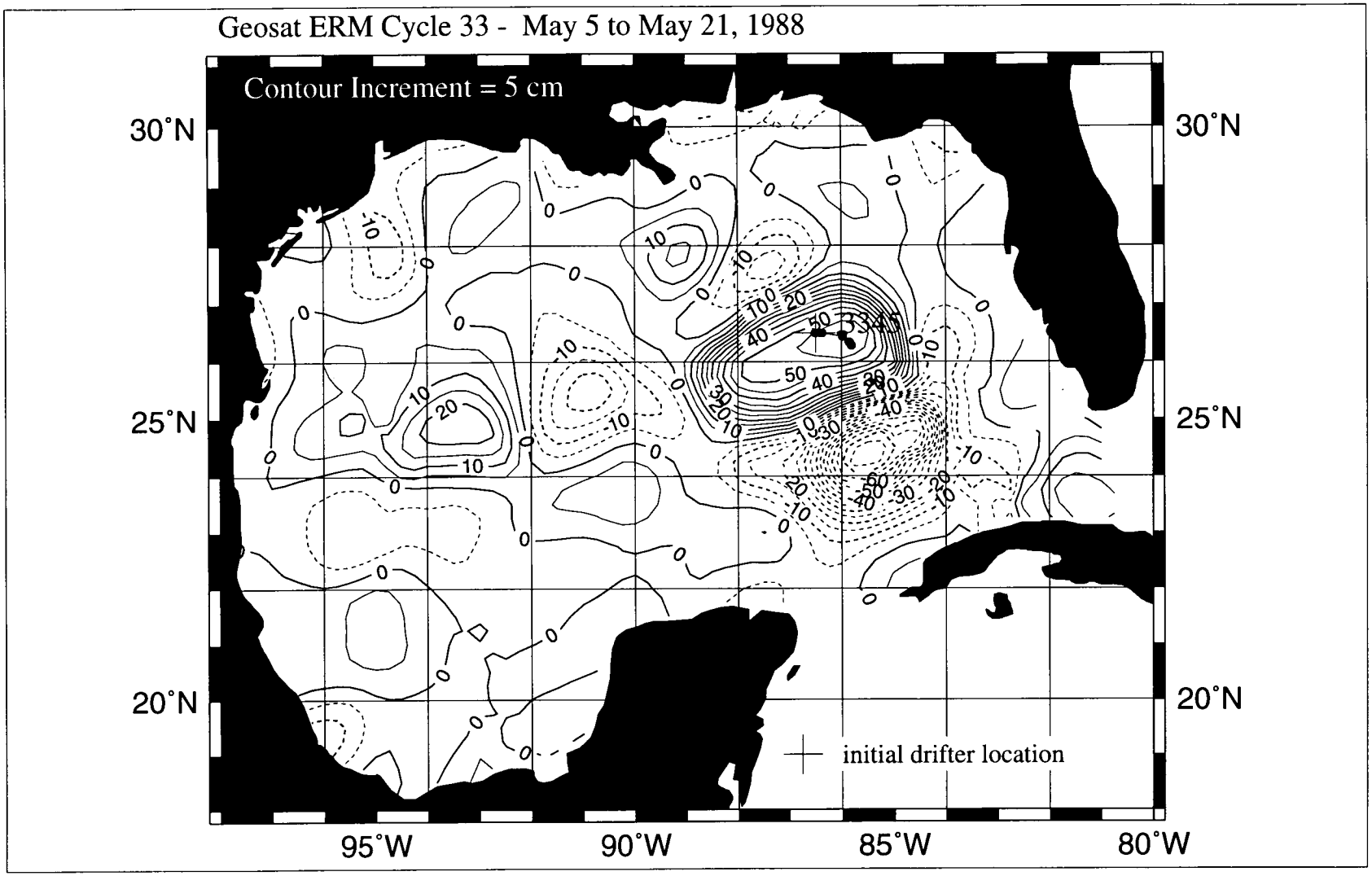

Figure A.3-33. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 33 (May 5 to 21, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

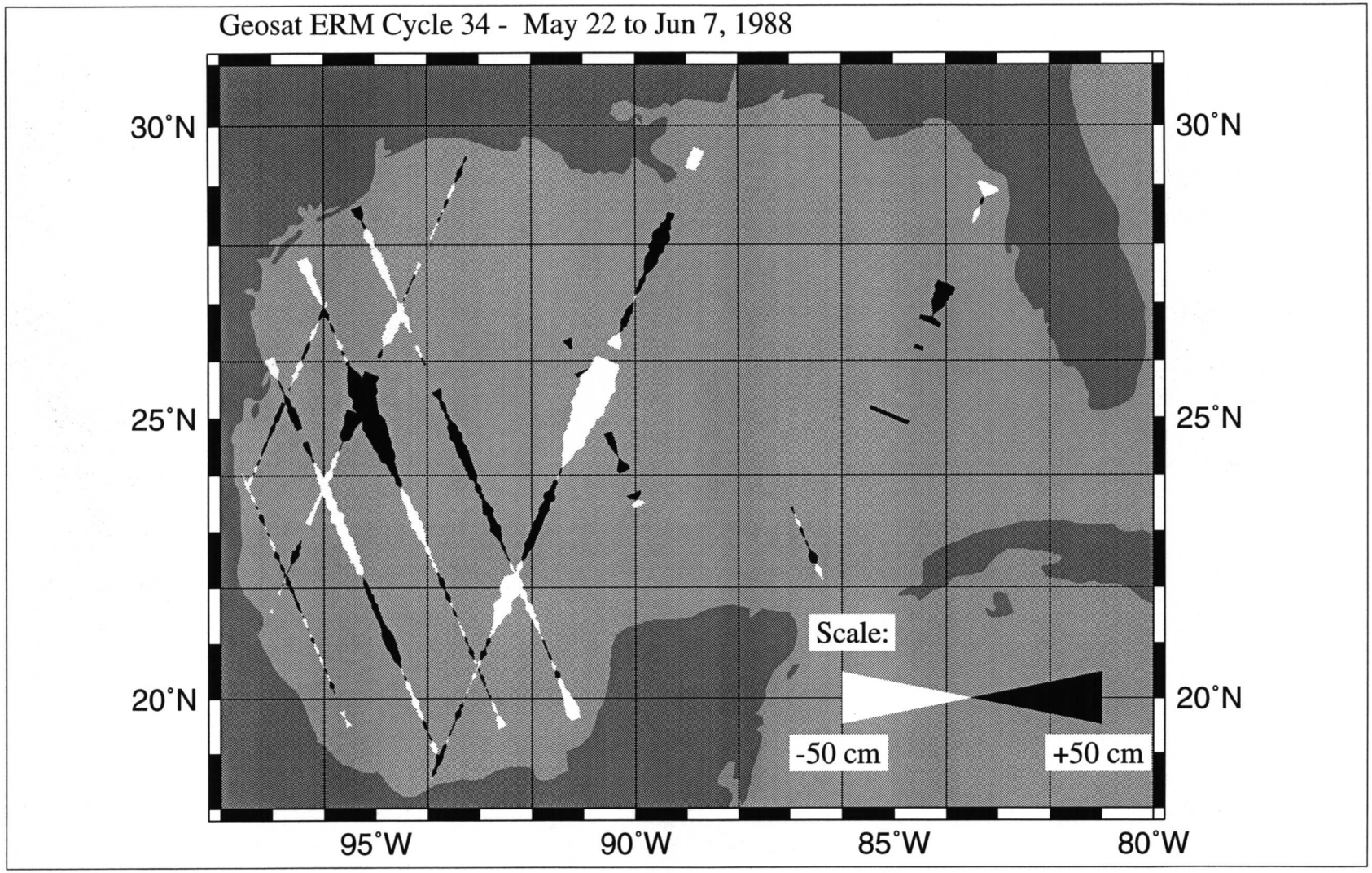

Figure A.3-34. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 34 (May 22 to June 7, 1988). Stick plot format used because of data outages during this cycle.

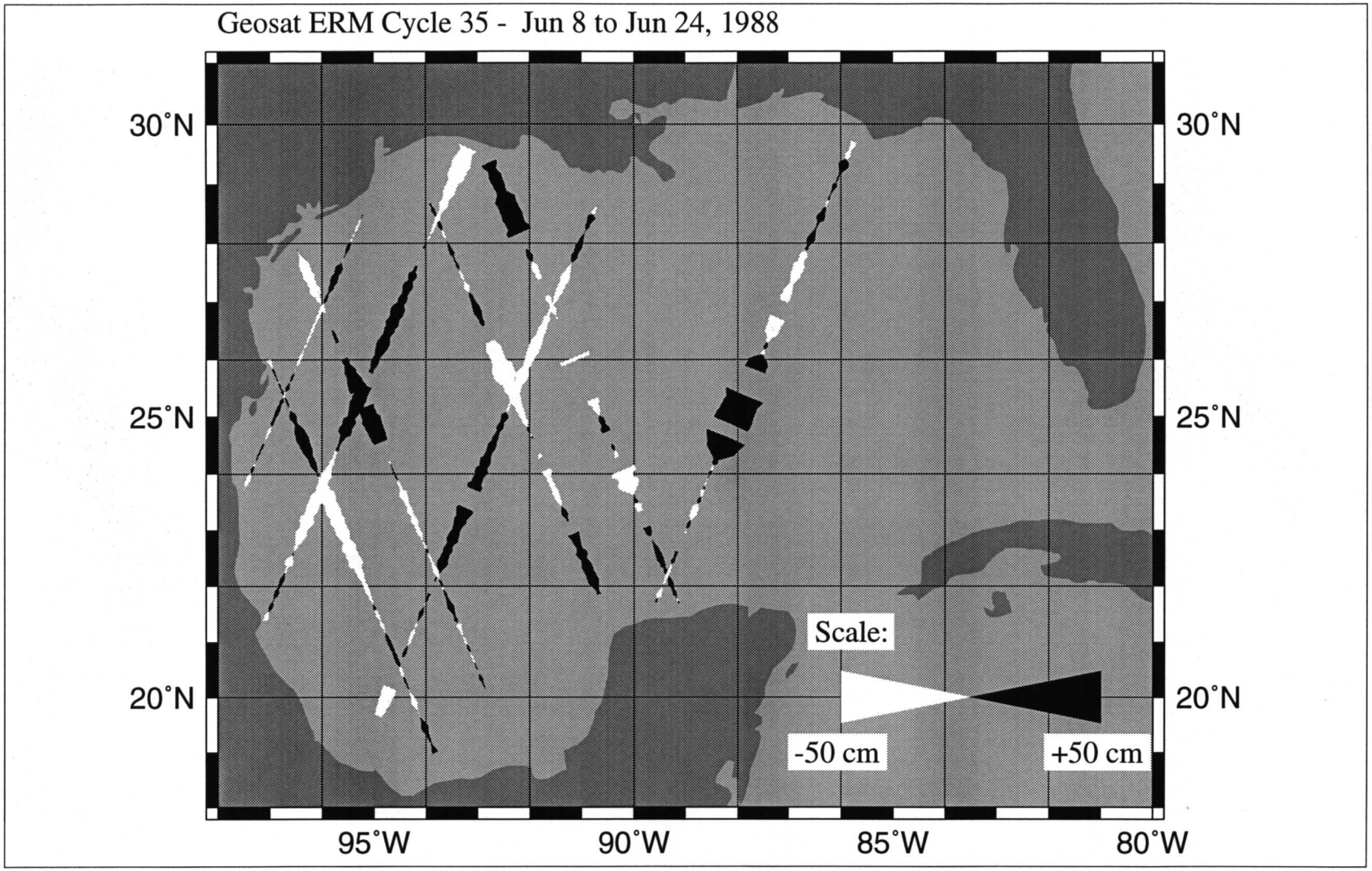

Figure A.3-35. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 35 (June 8 to 24, 1988). Stick plot format used because of data outages during this cycle.

Geosat ERM Cycle 36 - Jun 25 to Jul 11, 1988

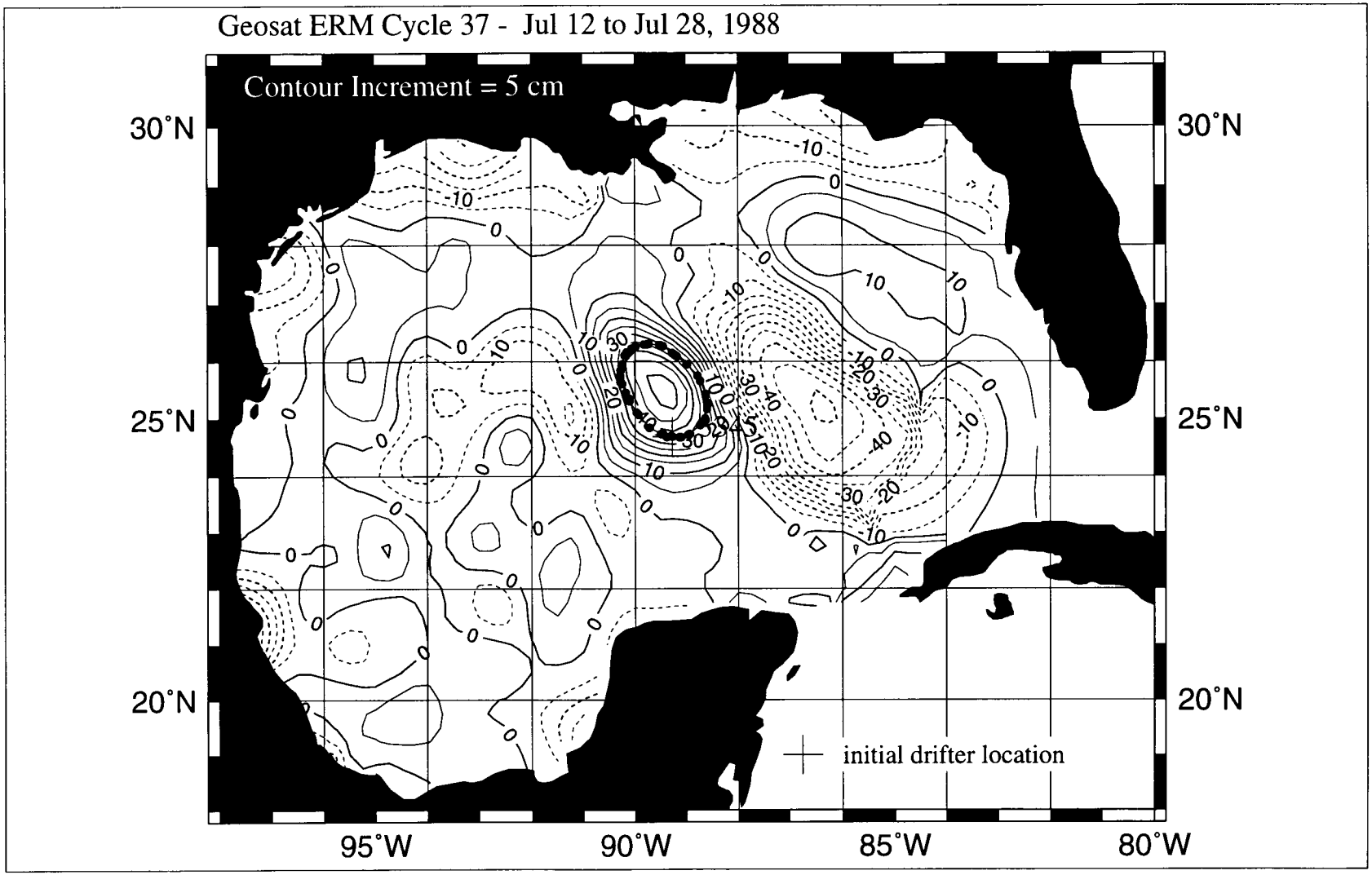

Figure A.3-37. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 37 (July 12 to 28, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

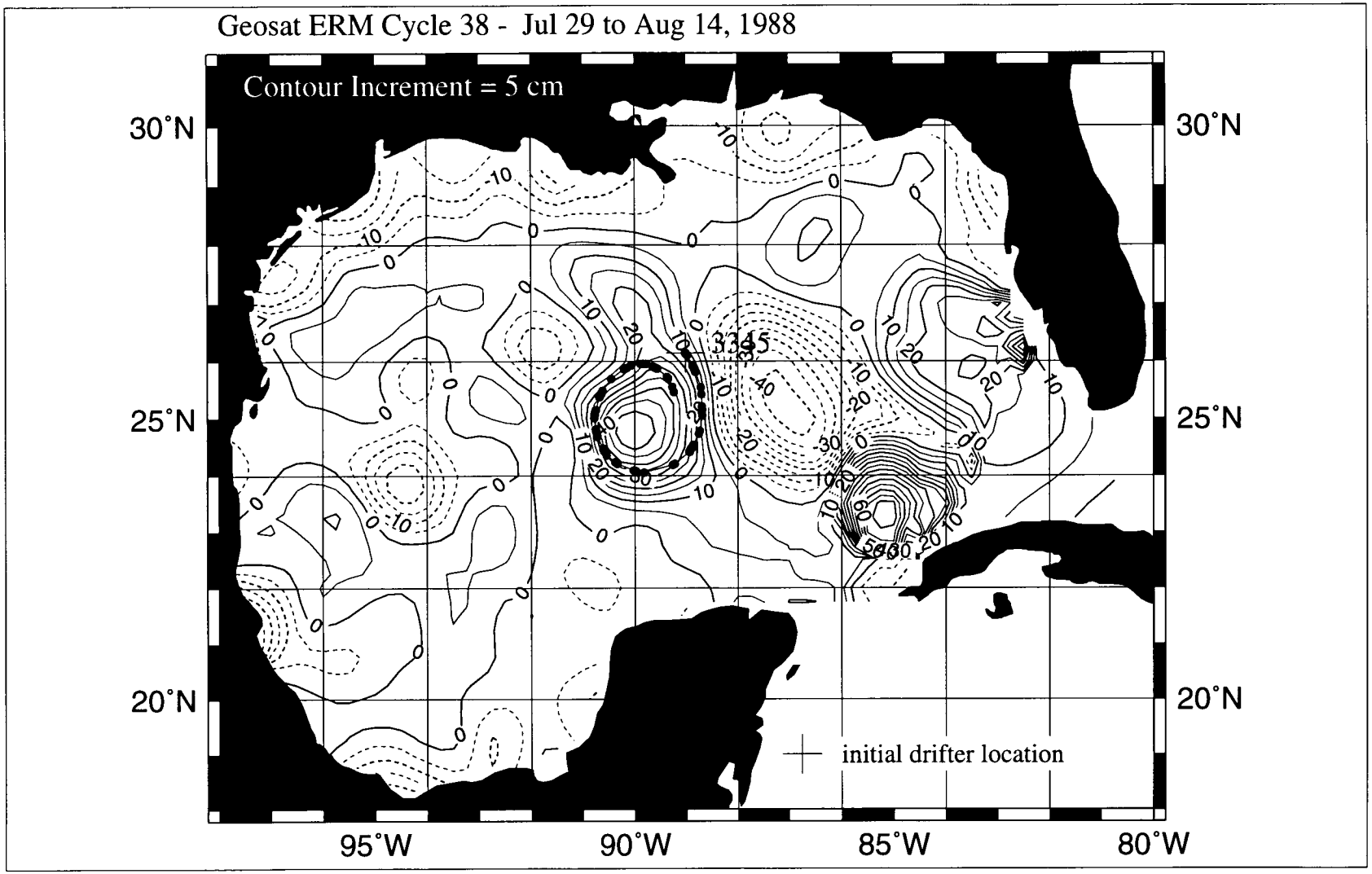

Figure A.3-38. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 38 (July 29 to August 14, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

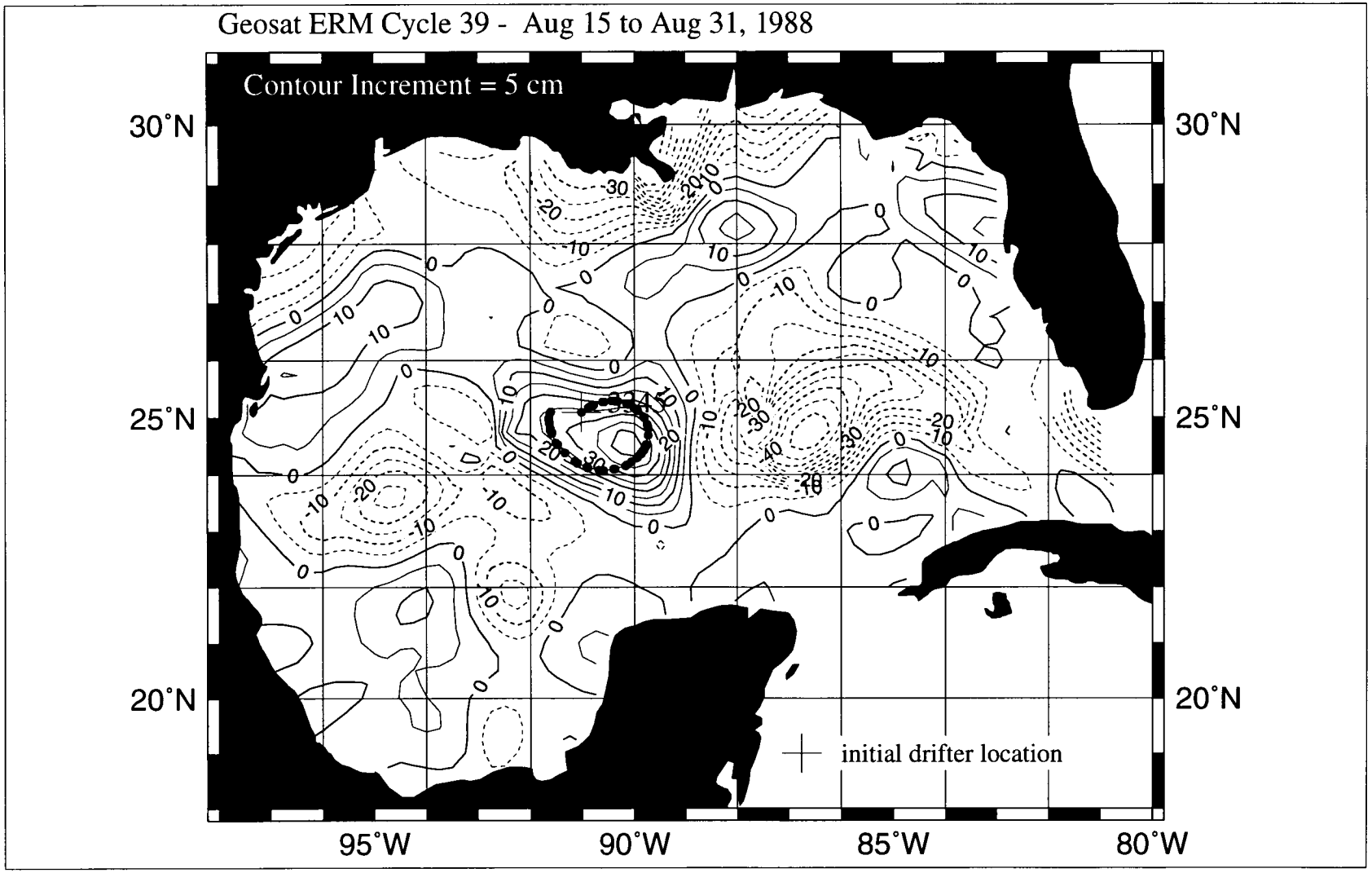

Figure A.3-39. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 39 (August 15 to 31, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

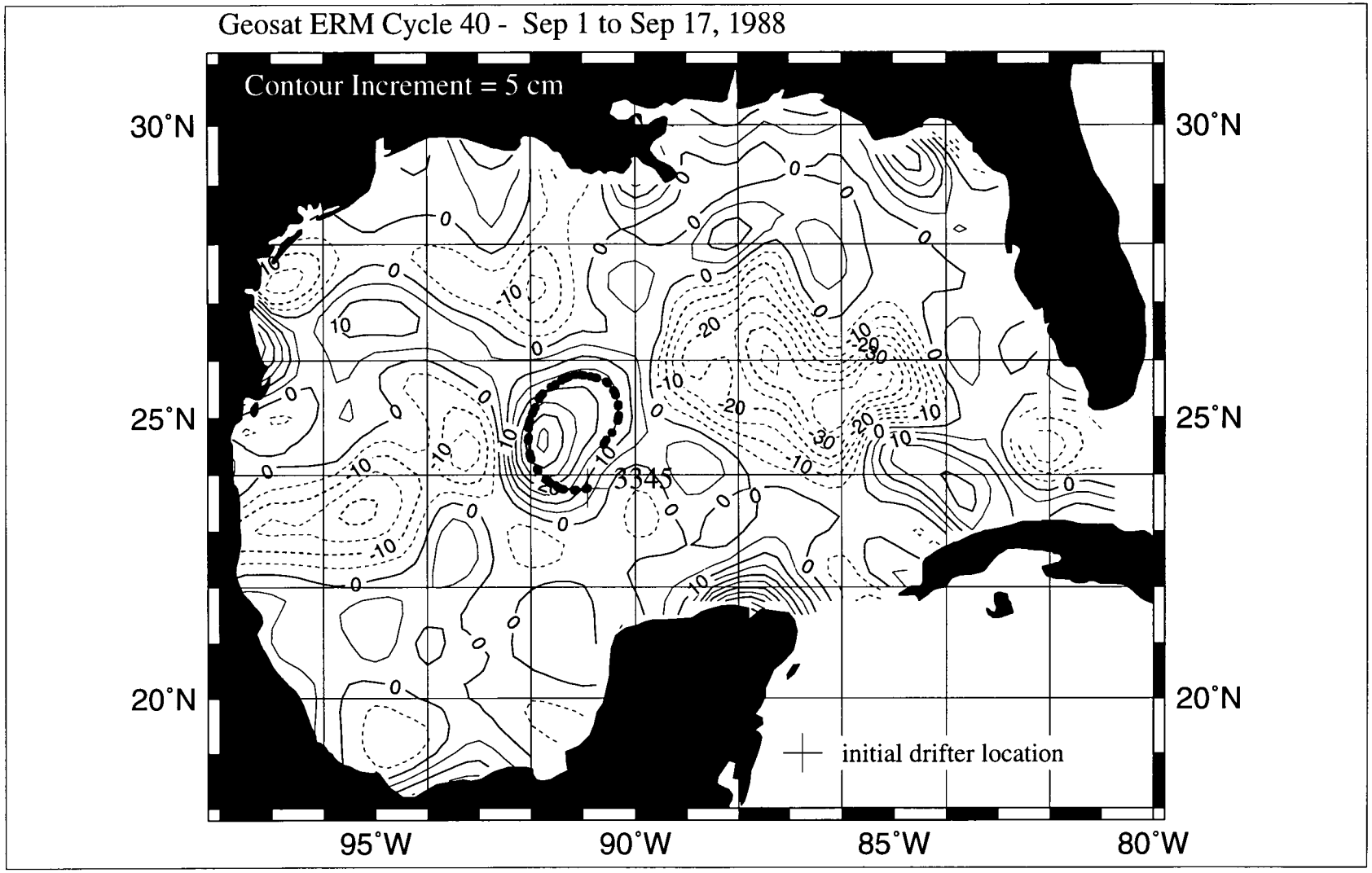

Figure A.3-40. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 40 (September 1 to 17, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

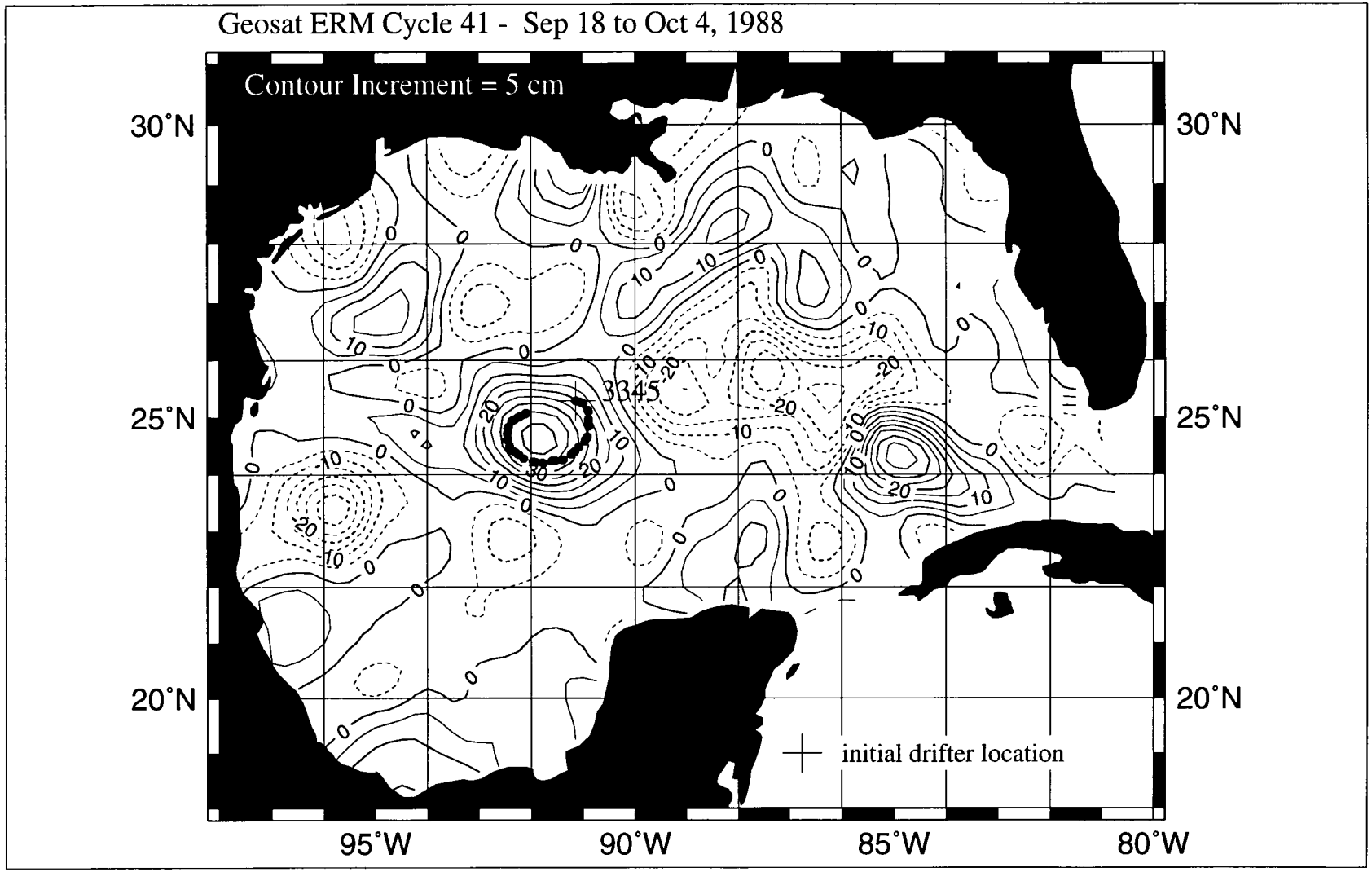

Figure A.3-41. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 41 (September 18 to October 4, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

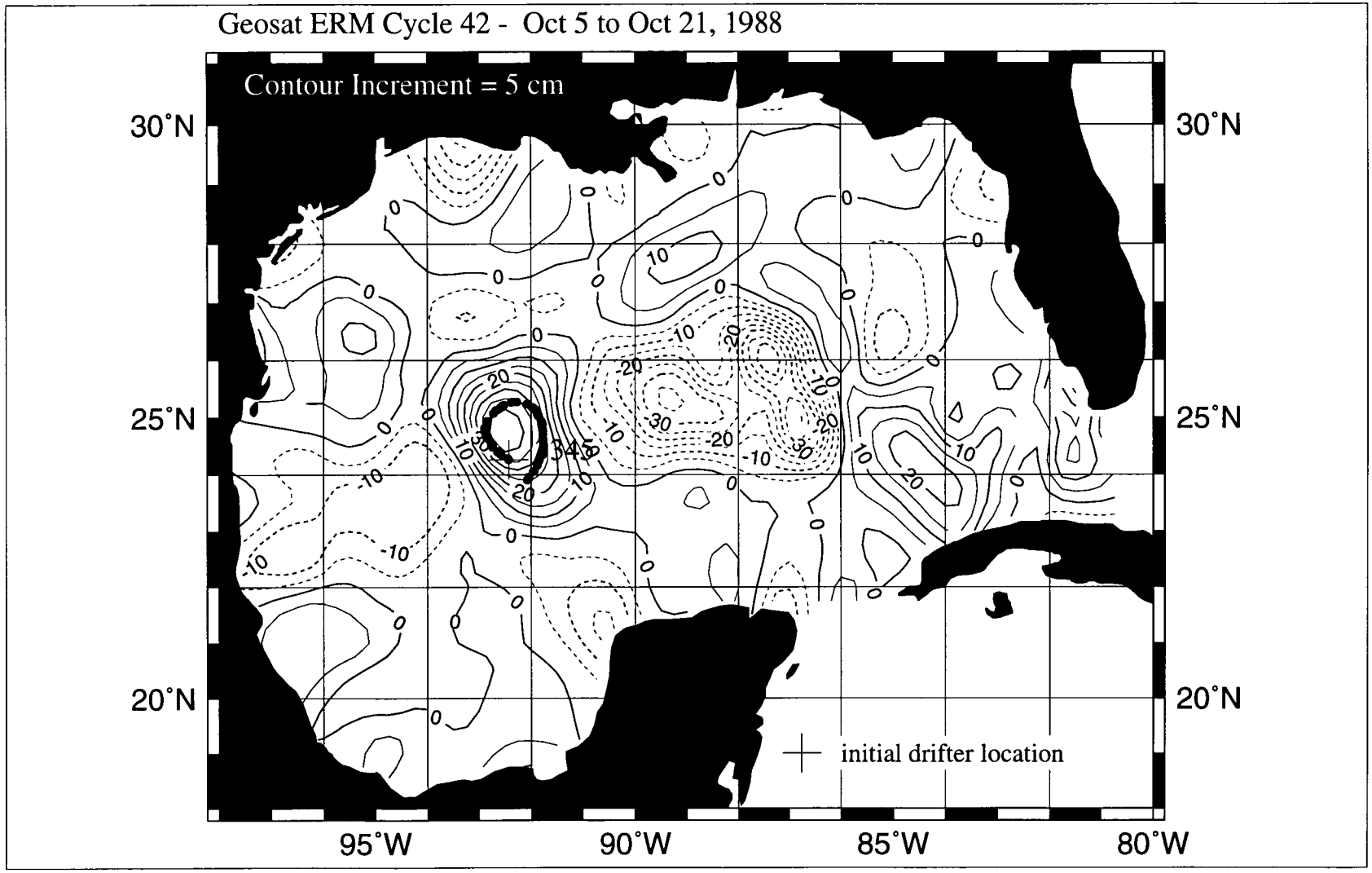

Figure A.3-42. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 42 (October 5 to 21, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

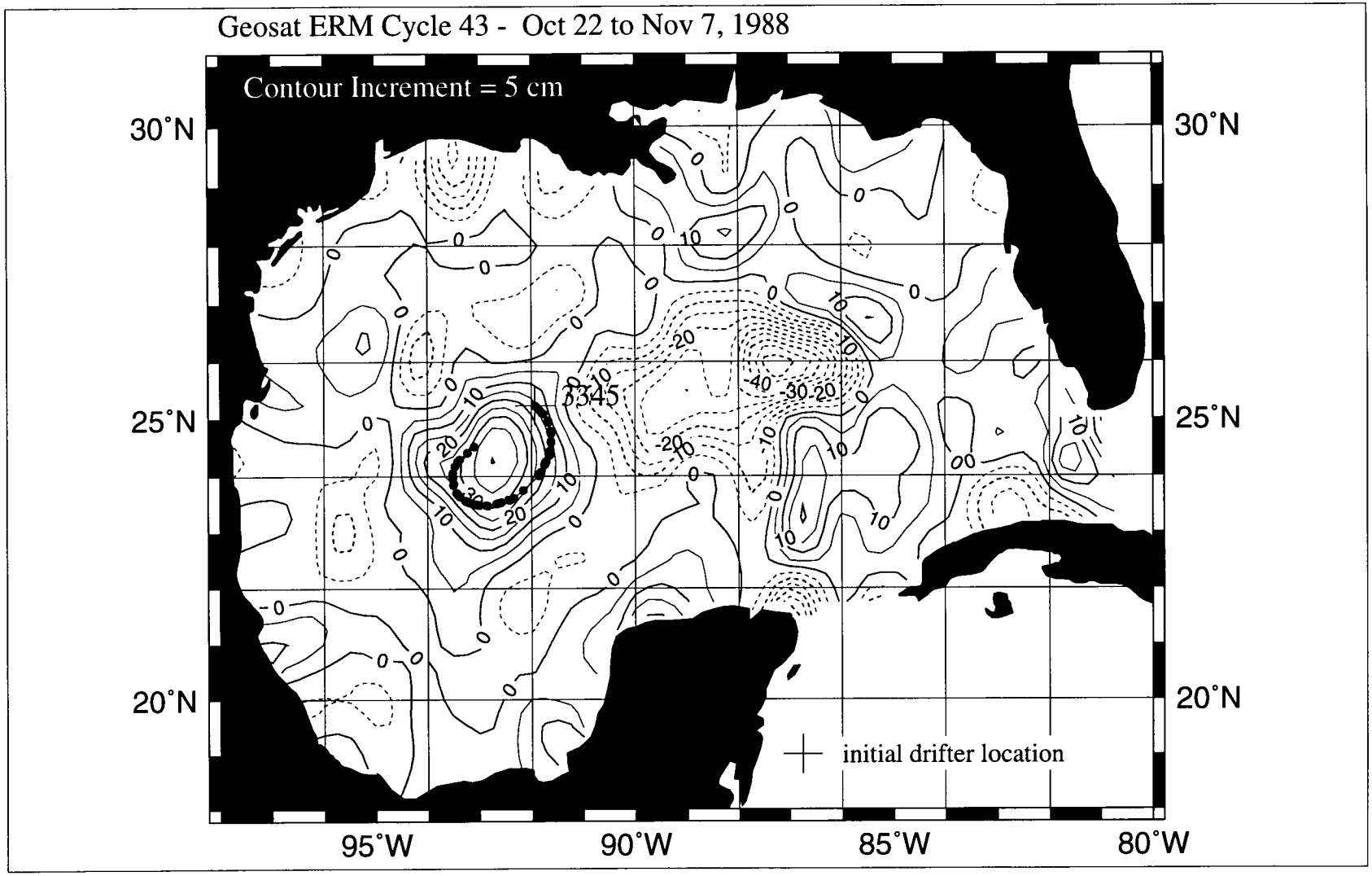

Figure A.3-43. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 43 (October 22 to November 7, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

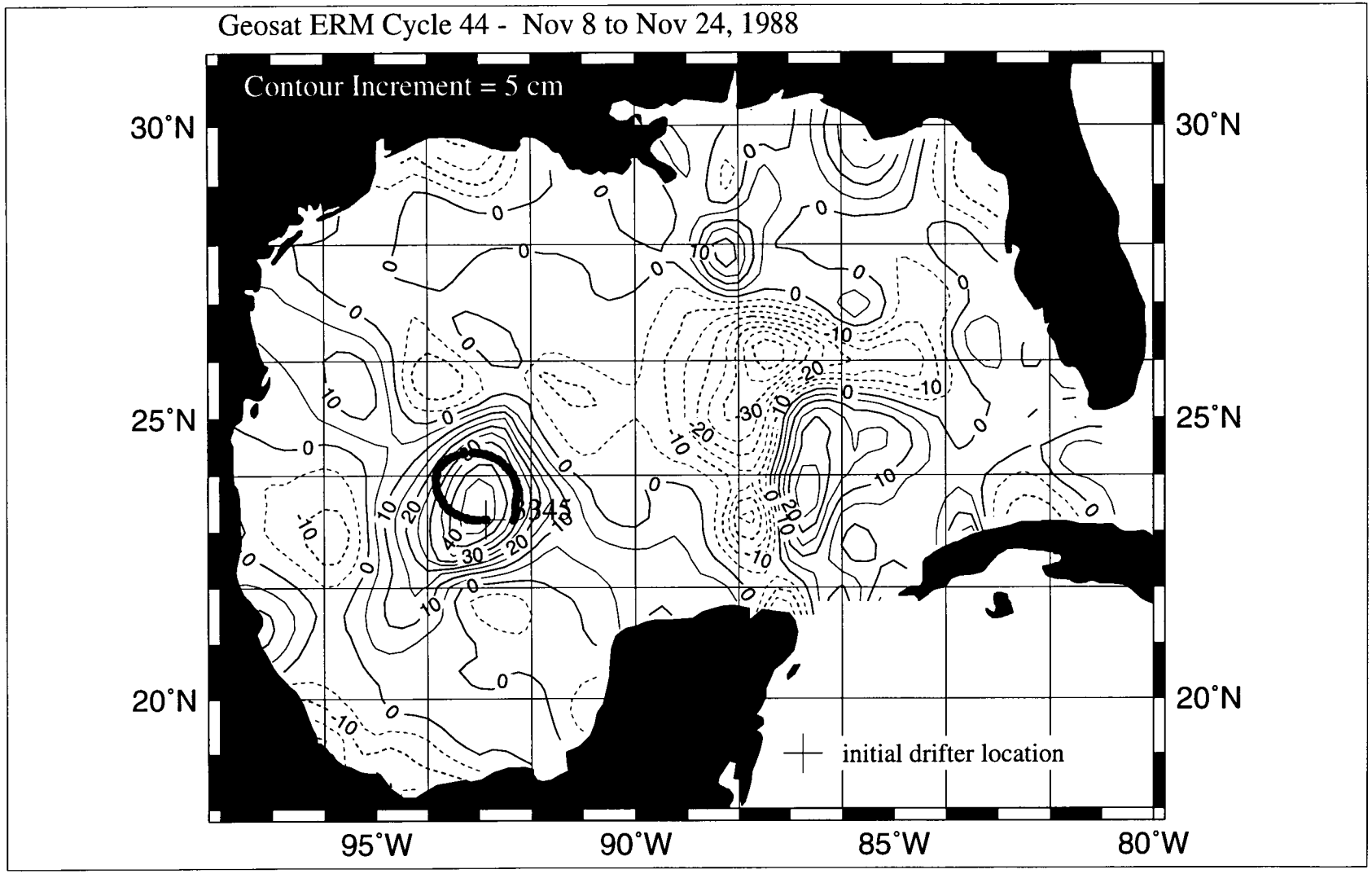

Figure A.3-44. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 44 (November 8 to 24, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

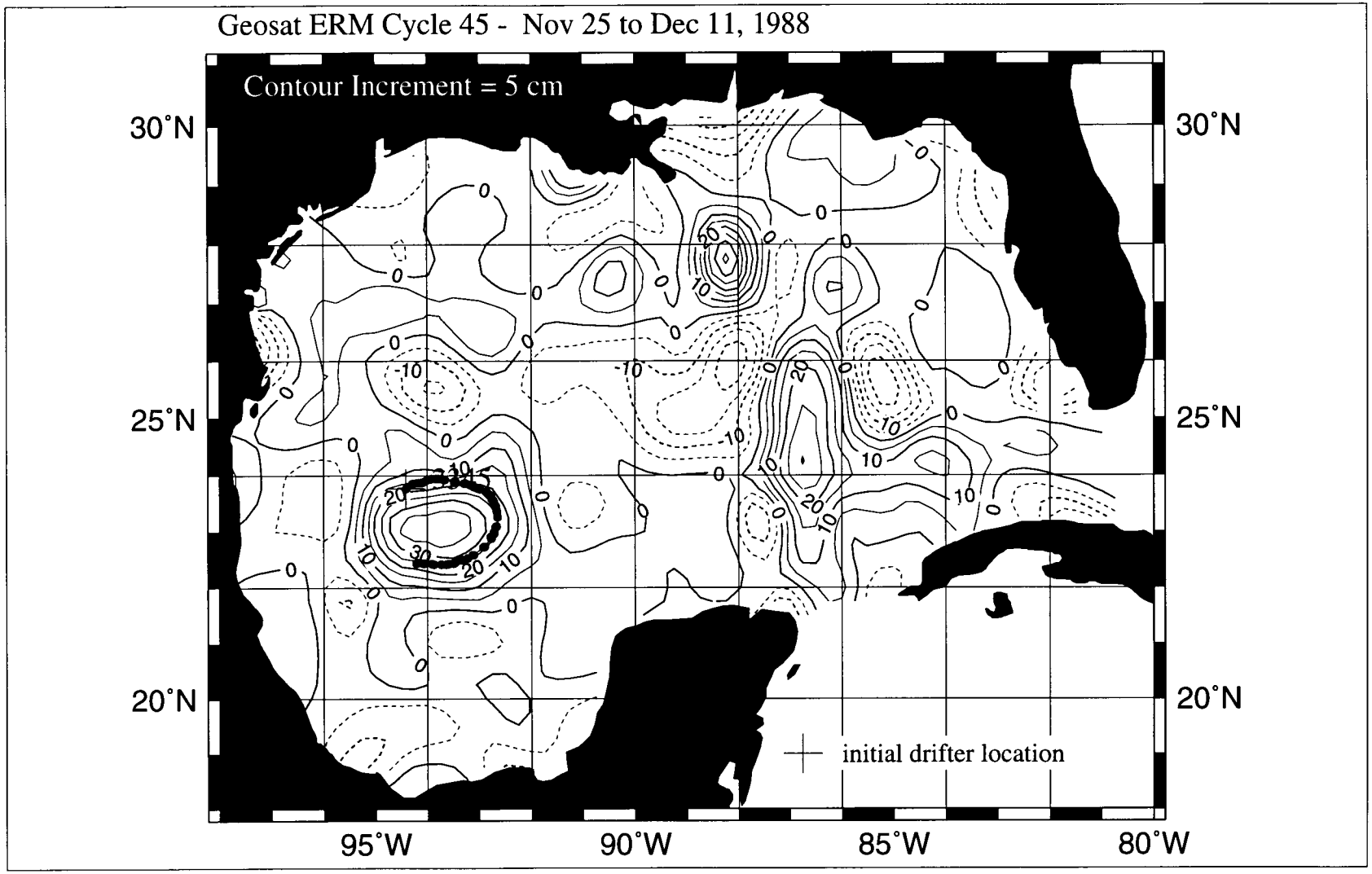

Figure A.3-45. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 45 (November 25 to December 11, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

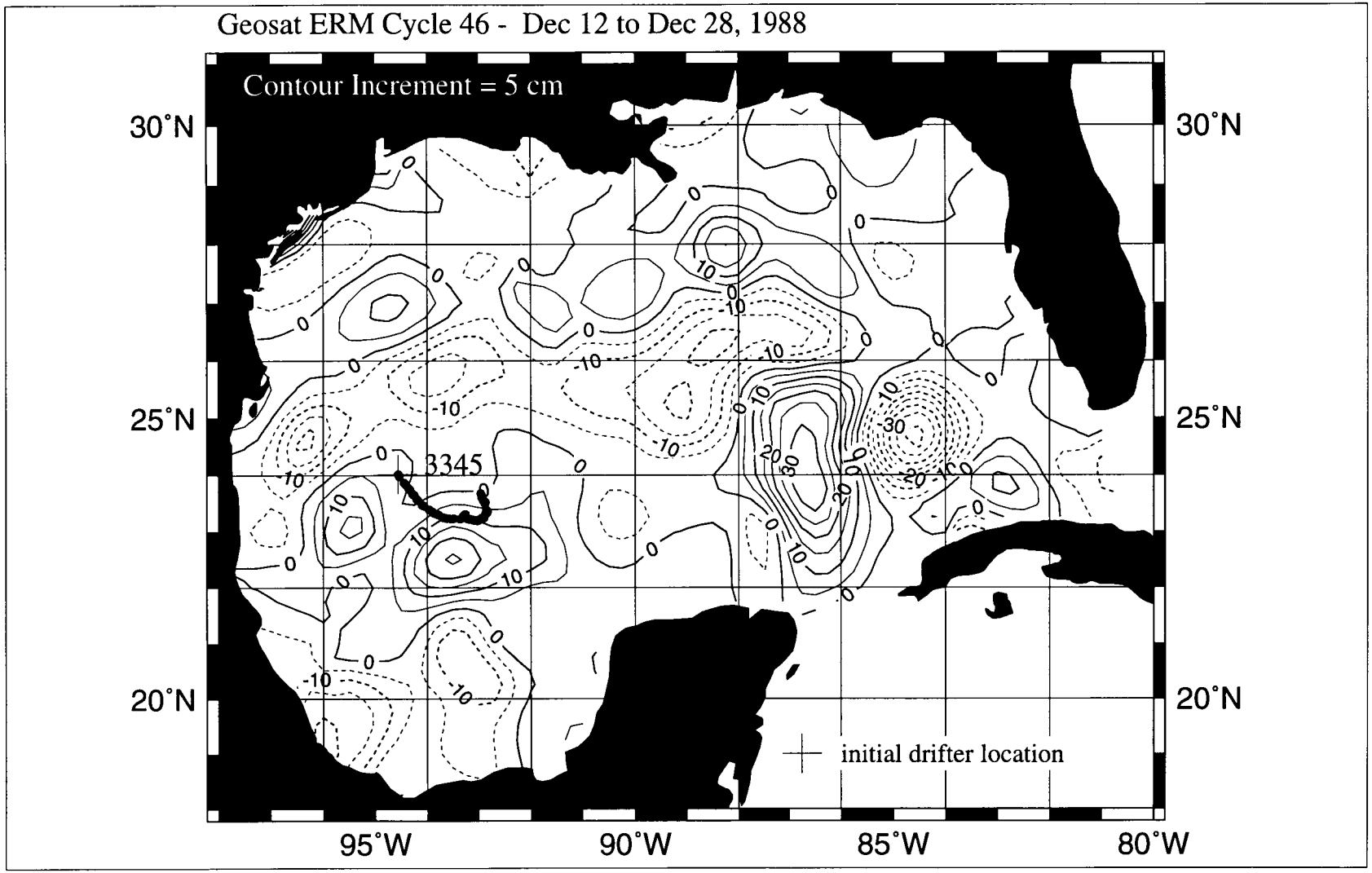

Figure A.3-46. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 46 (December 12 to 28, 1988). Drifter locations within five days of the midpoint of the cycle are shown.

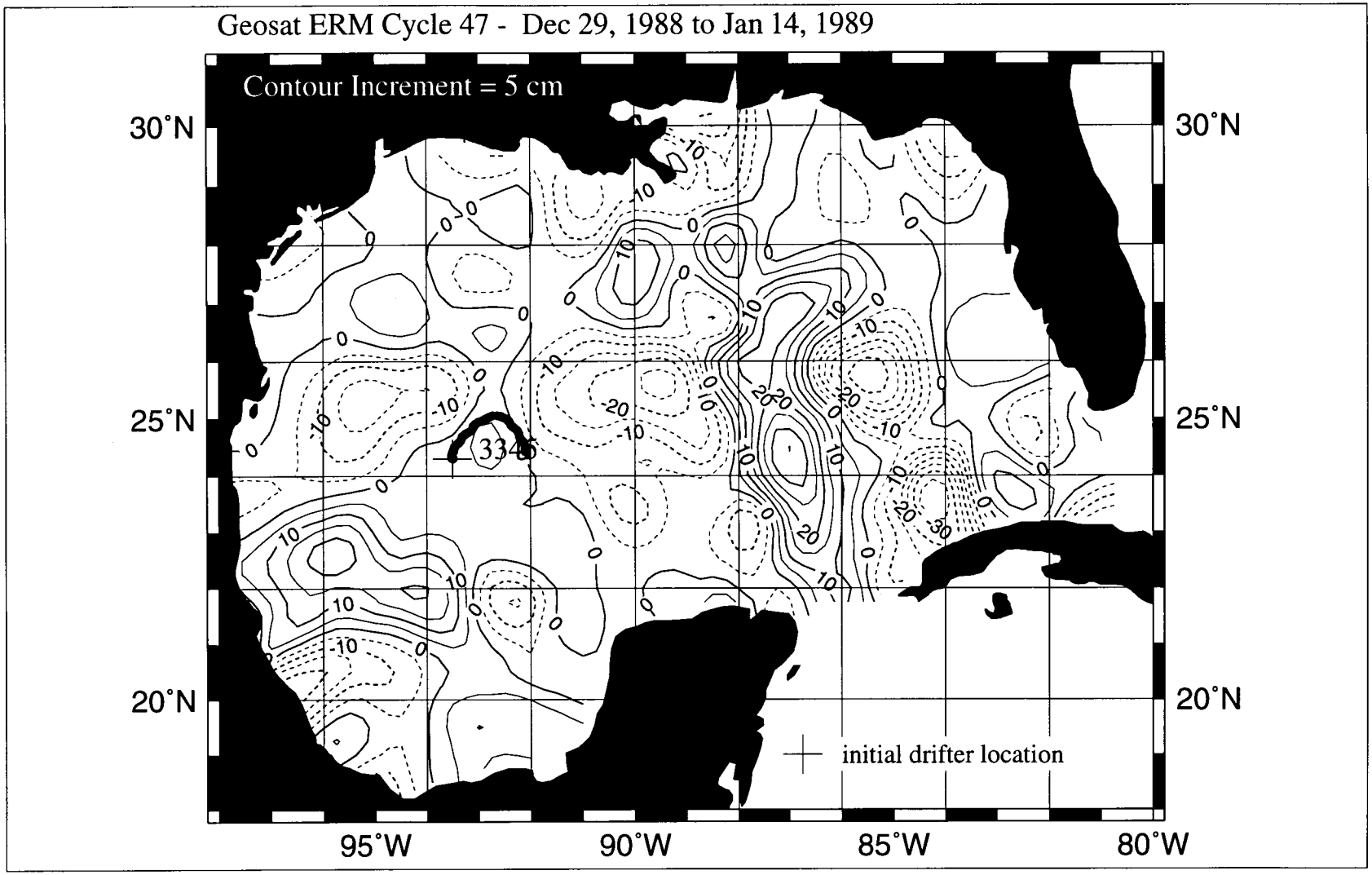

Figure A.3-47. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 47 (December 29, 1988 to January 14, 1989). Drifter locations within five days of the midpoint of the cycle are shown.

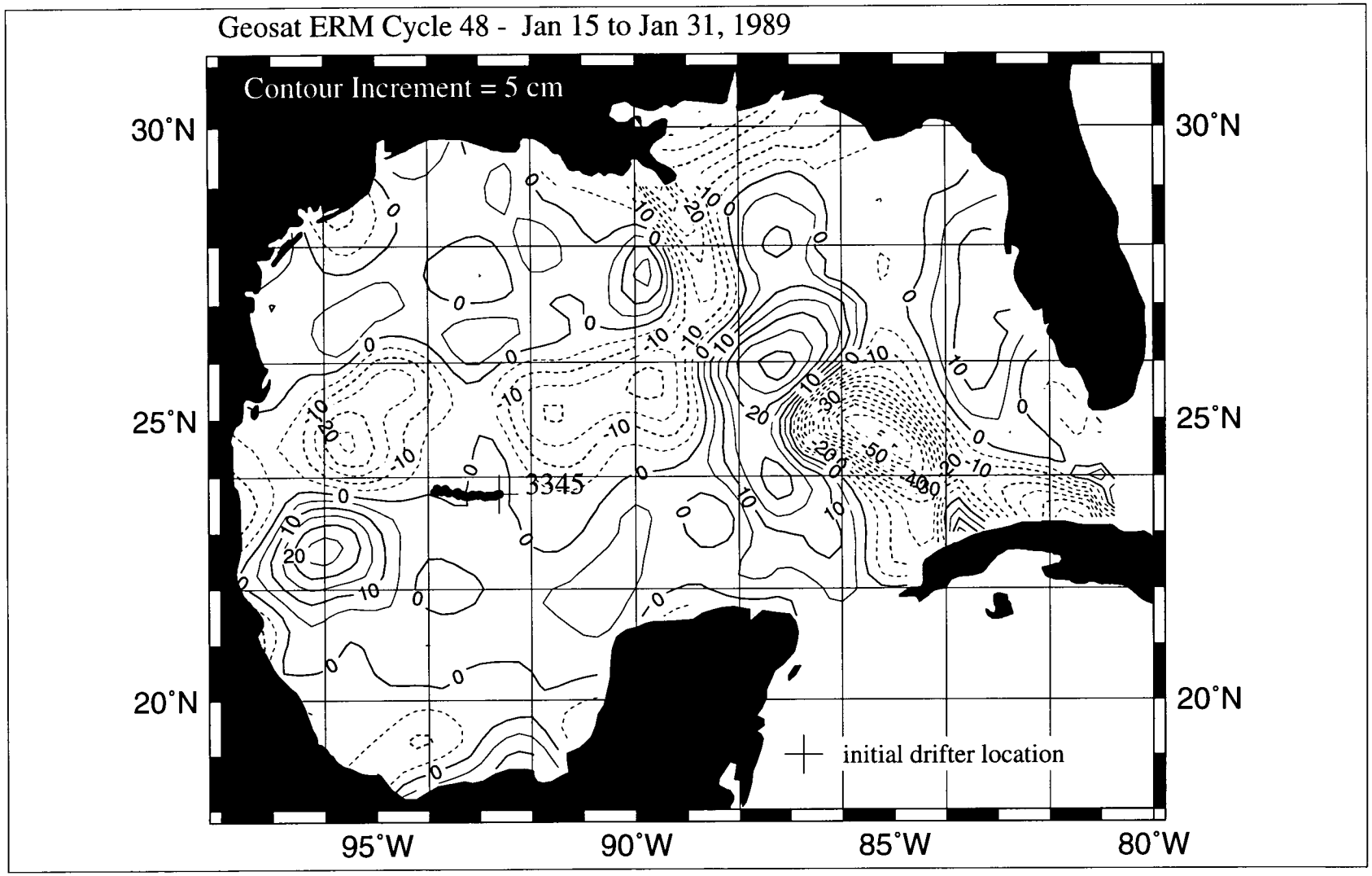

Figure A.3-48. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 48 (January 15 to 31, 1989). Drifter locations within five days of the midpoint of the cycle are shown.

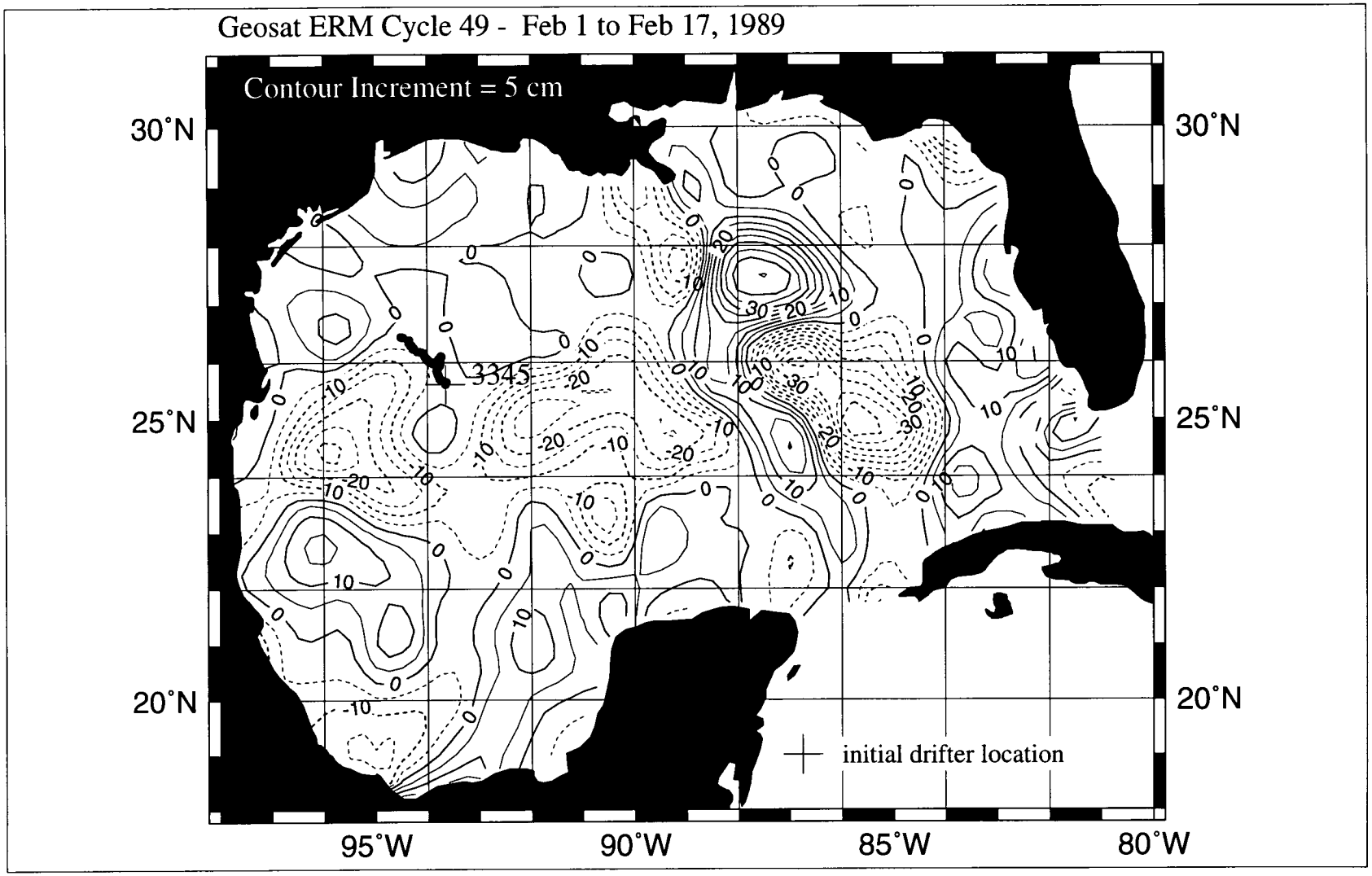

Figure A.3-49. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 49 (February 1 to 17, 1989). Drifter locations within five days of the midpoint of the cycle are shown.

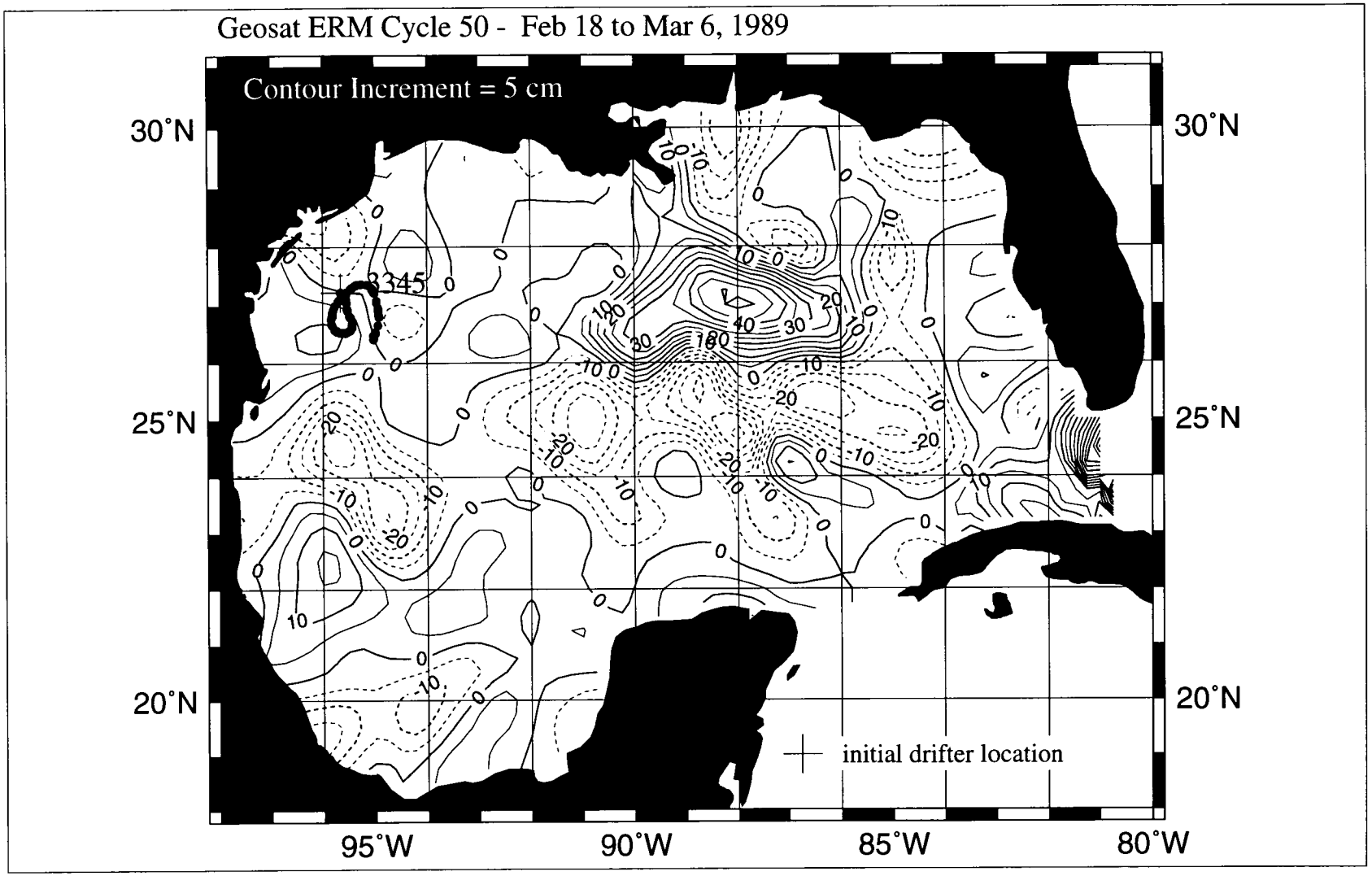

Figure A.3-50. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 50 (February 18 to March 6, 1989). Drifter locations within five days of the midpoint of the cycle are shown.

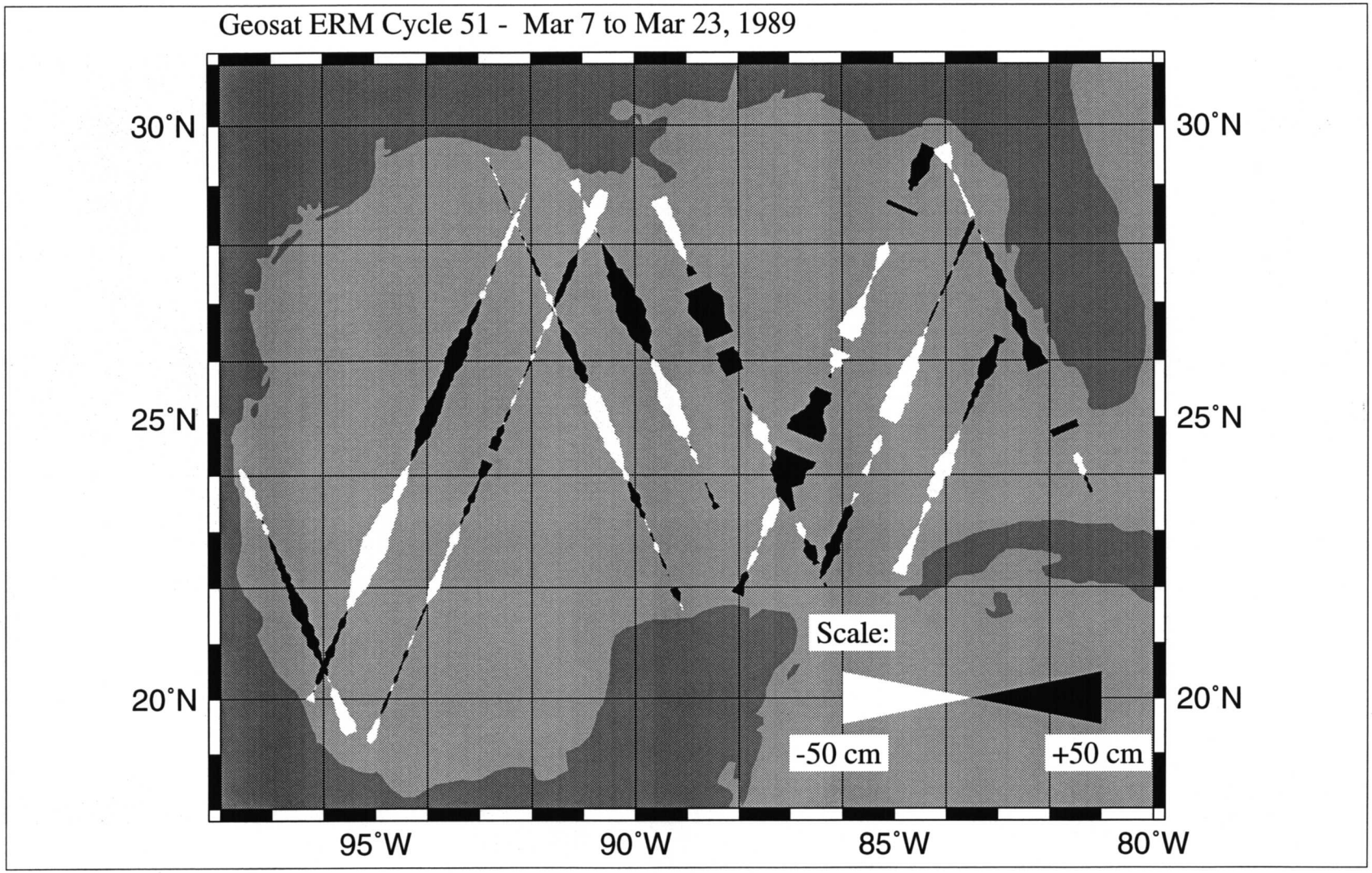

Figure A.3-51. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 51 (March 7 to 23, 1989). Stick plot format used because of data outages during this cycle.

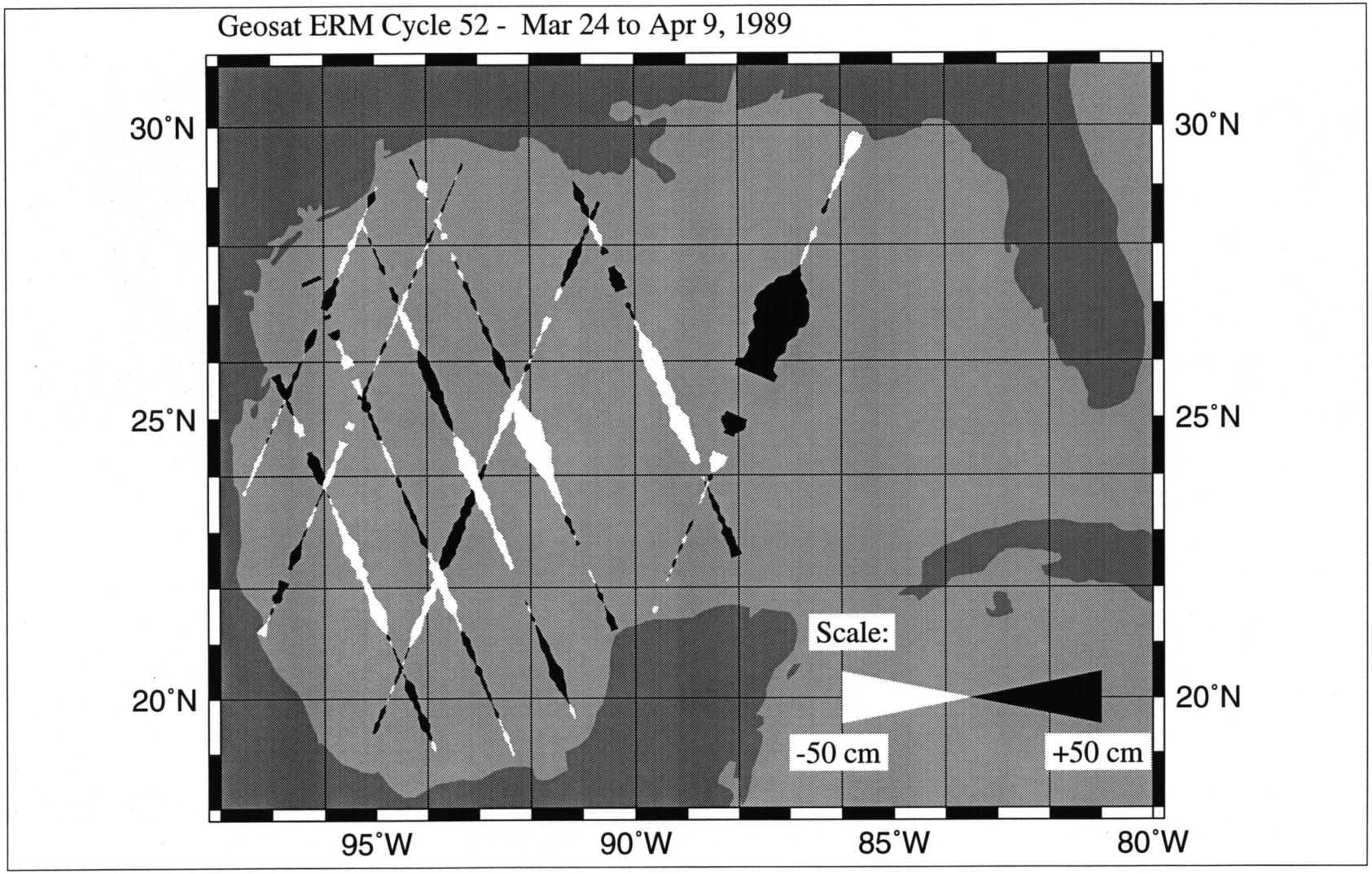

Figure A.3-52. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 52 (March 24 to April 9, 1989). Stick plot format used because of data outages during this cycle.

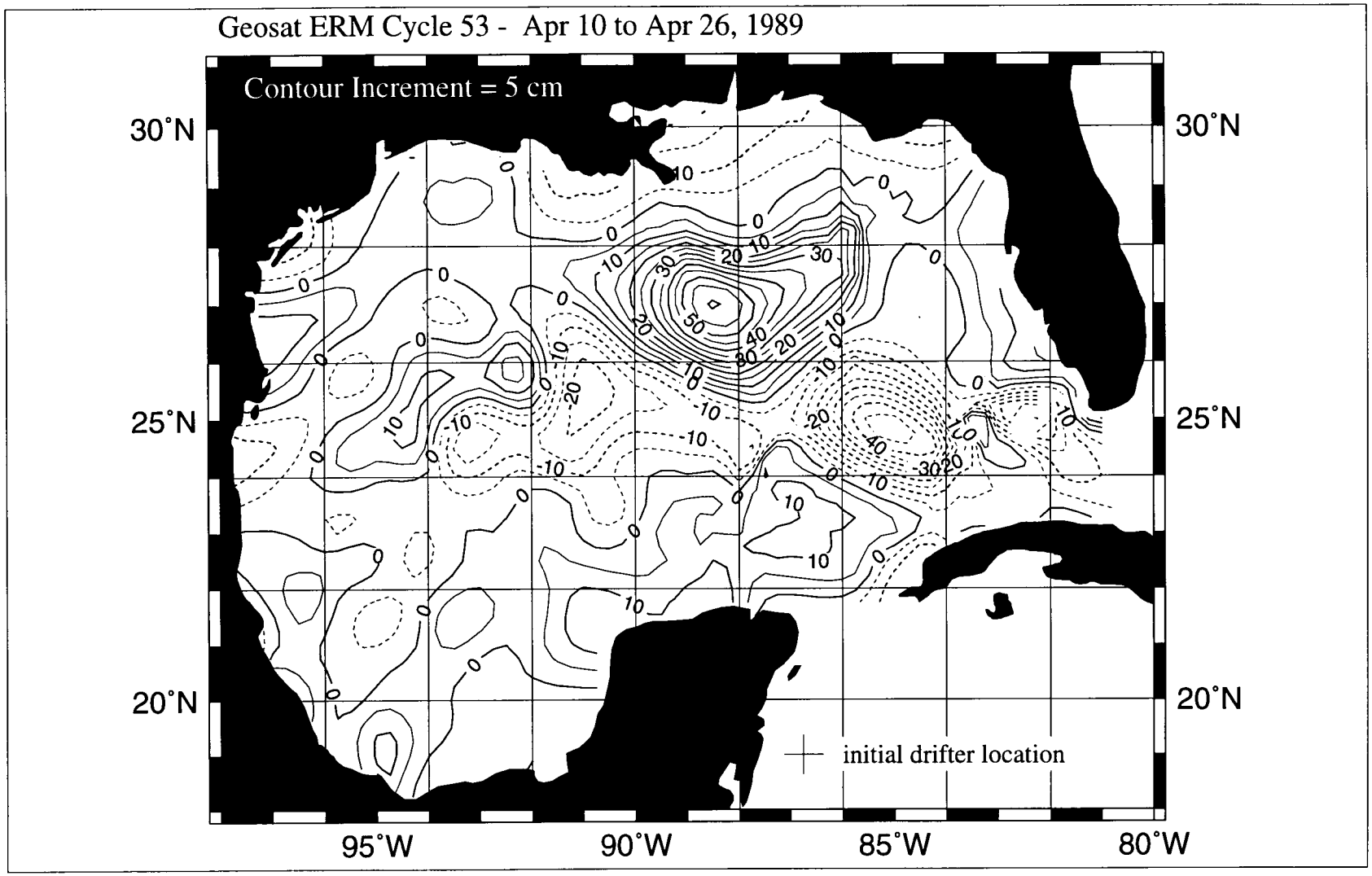

Figure A.3-53. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 53 (April 10 to 26, 1989).

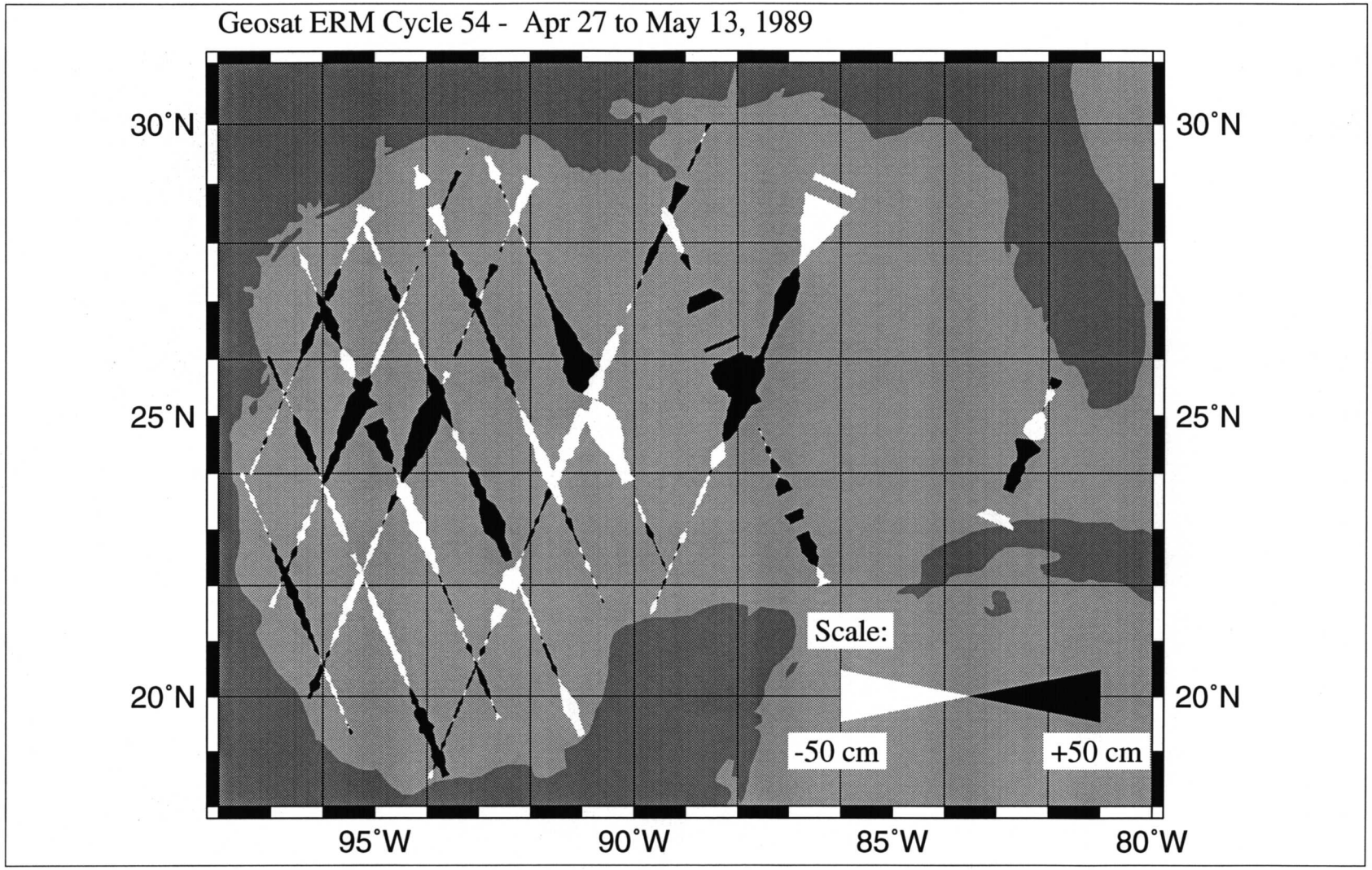

Figure A.3-54. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 54 (April 27 to May 13, 1989). Stick plot format used because of data outages during this cycle.

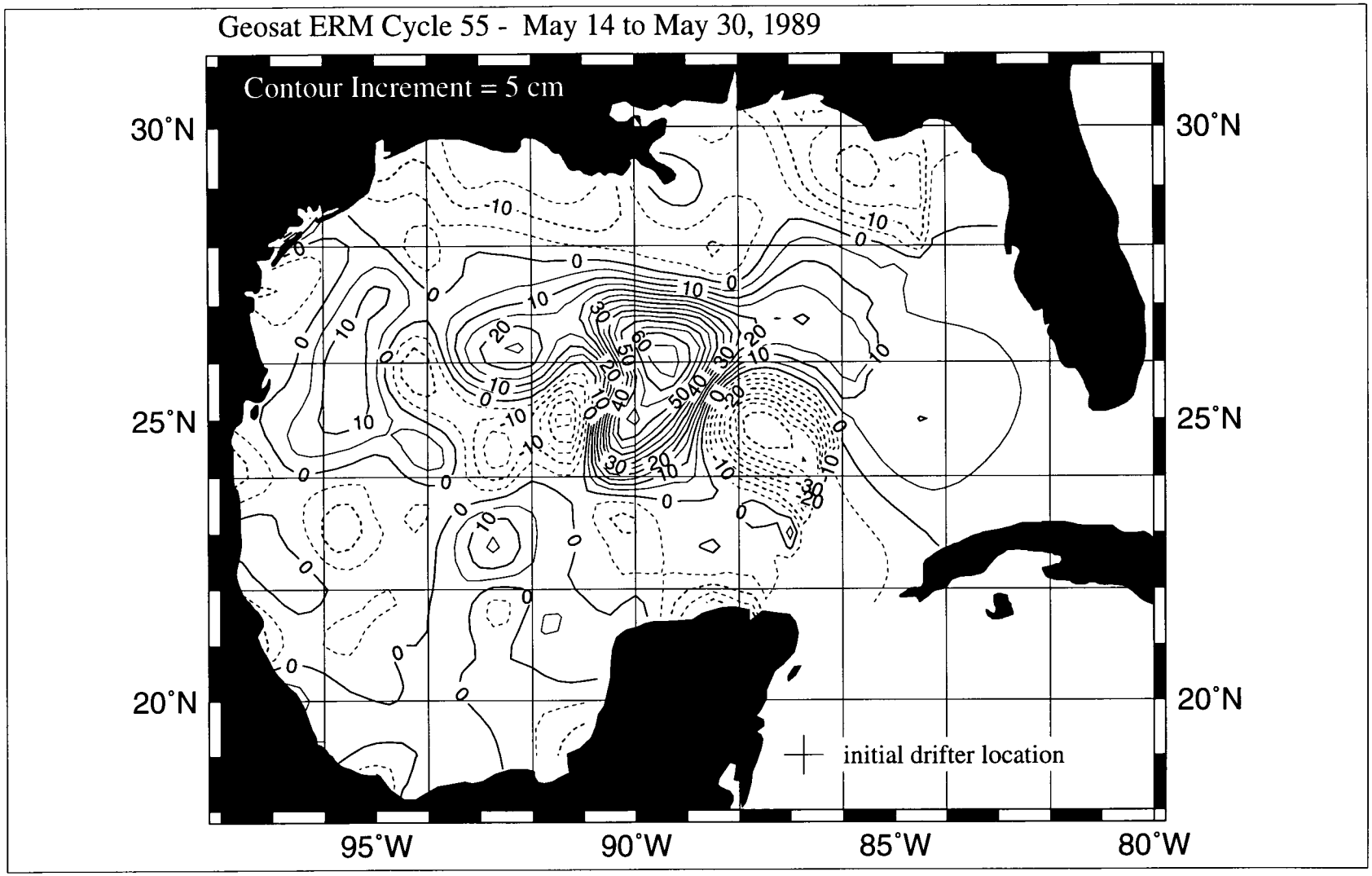

Figure A.3-55. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 55 (May 14 to 30, 1989).

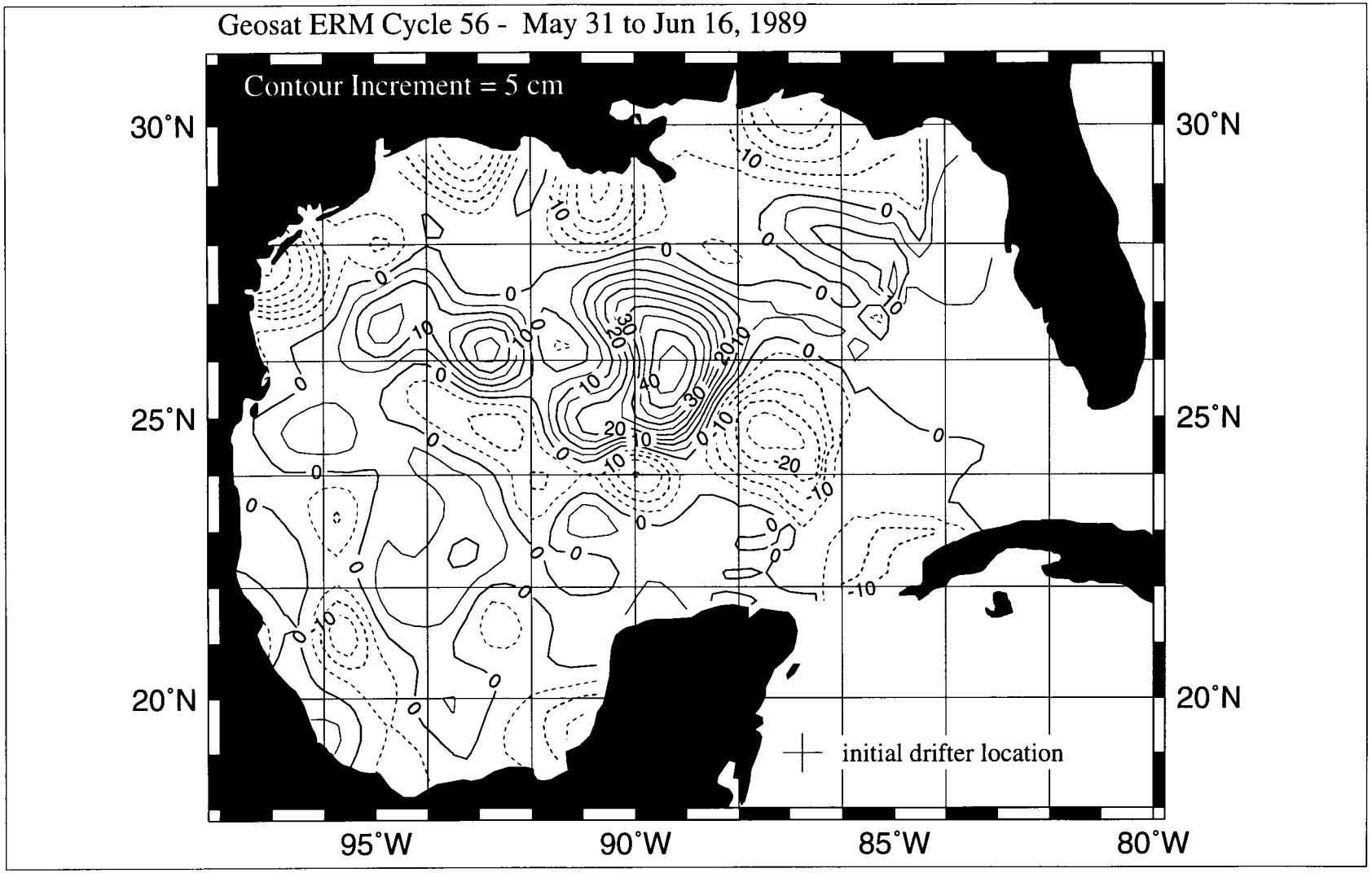

Figure A.3-56. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 56 (May 31 to June 16, 1989).

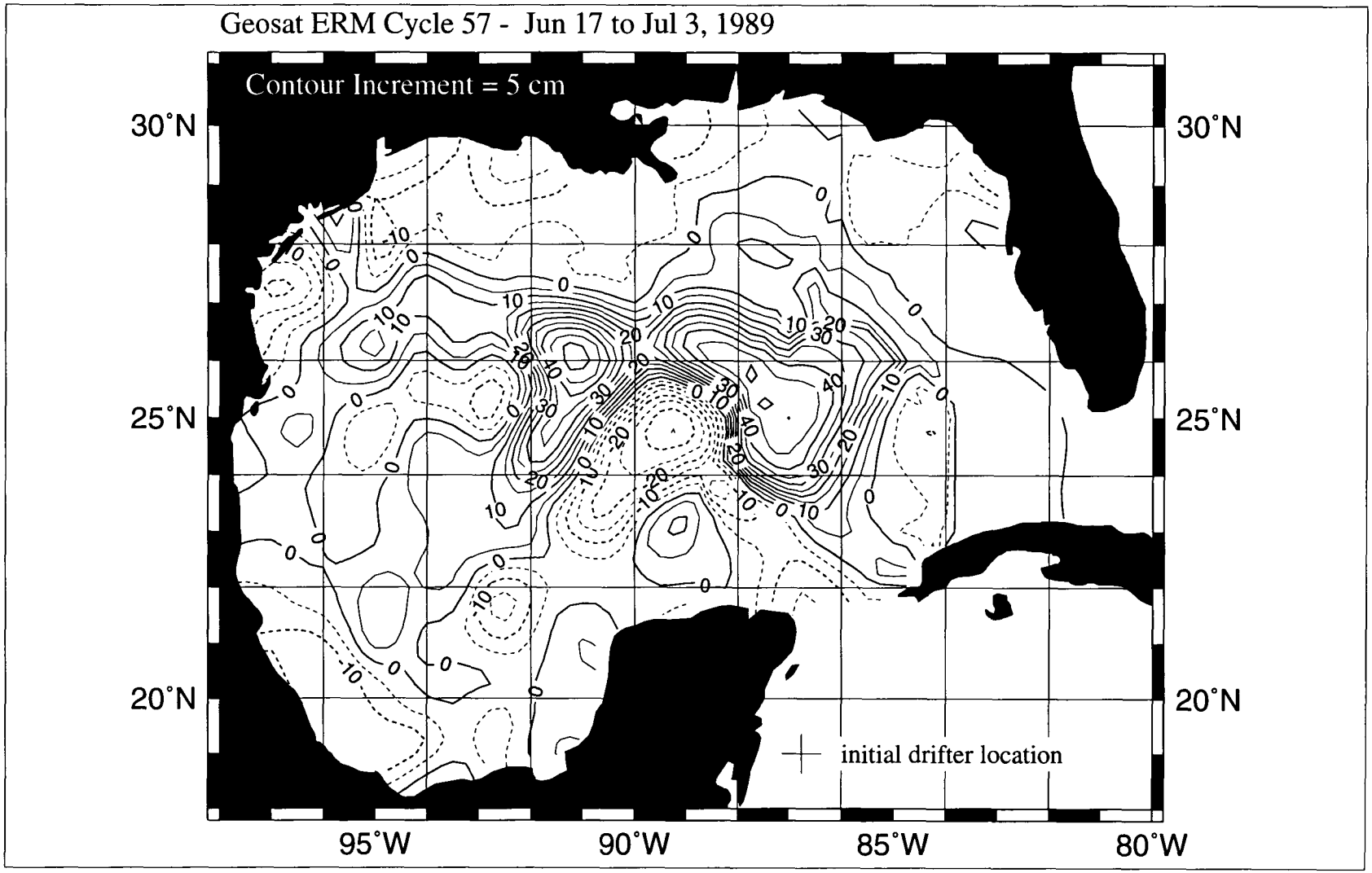

Figure A.3-57. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 57 (June 17 to July 3, 1989).

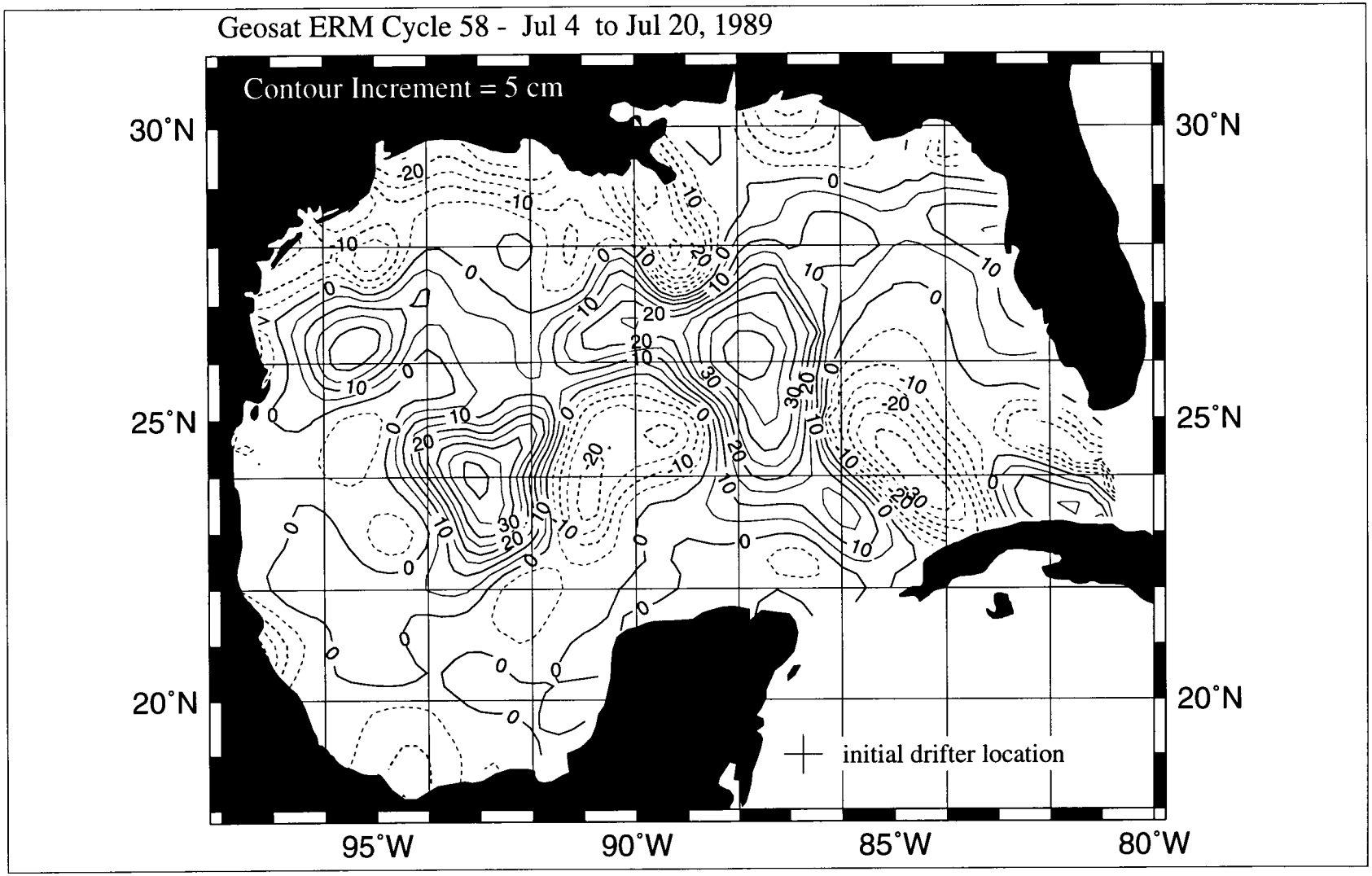

Figure A.3-58. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 58 (July 4 to 20, 1989).

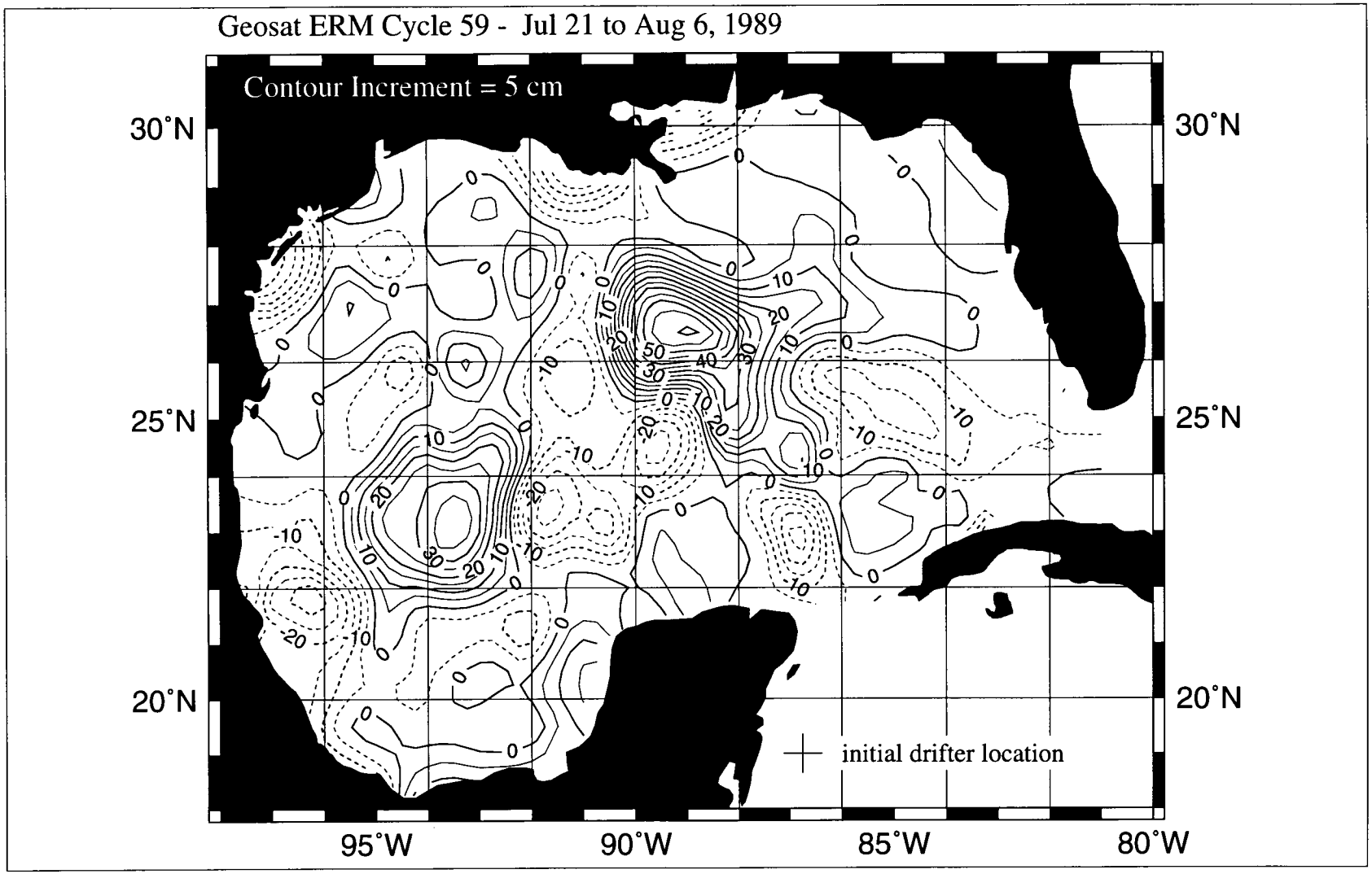

Figure A.3-59. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 59 (July 21 to August 6, 1989).

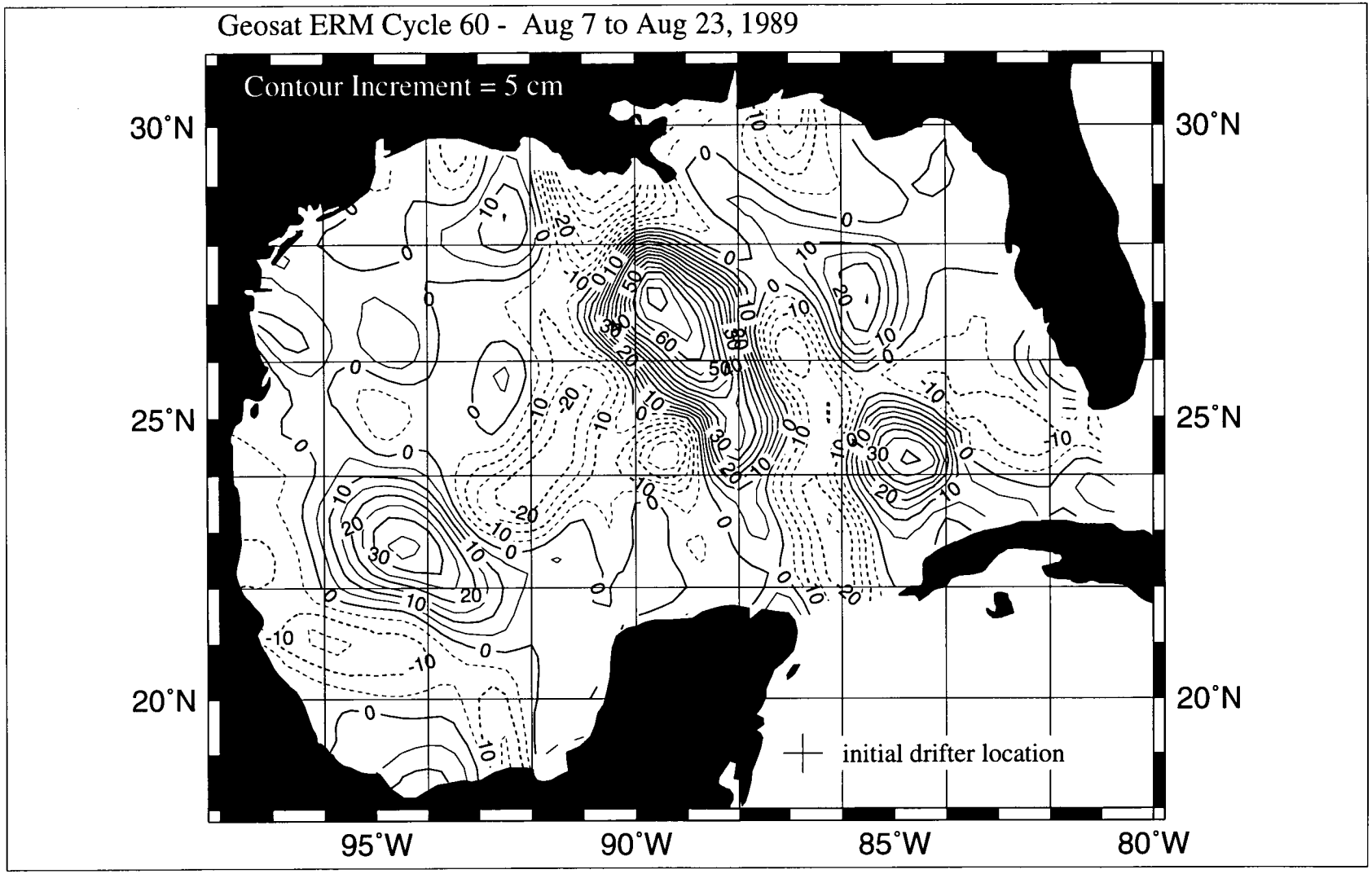

Figure A.3-60. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 60 (August 7 to 23, 1989).

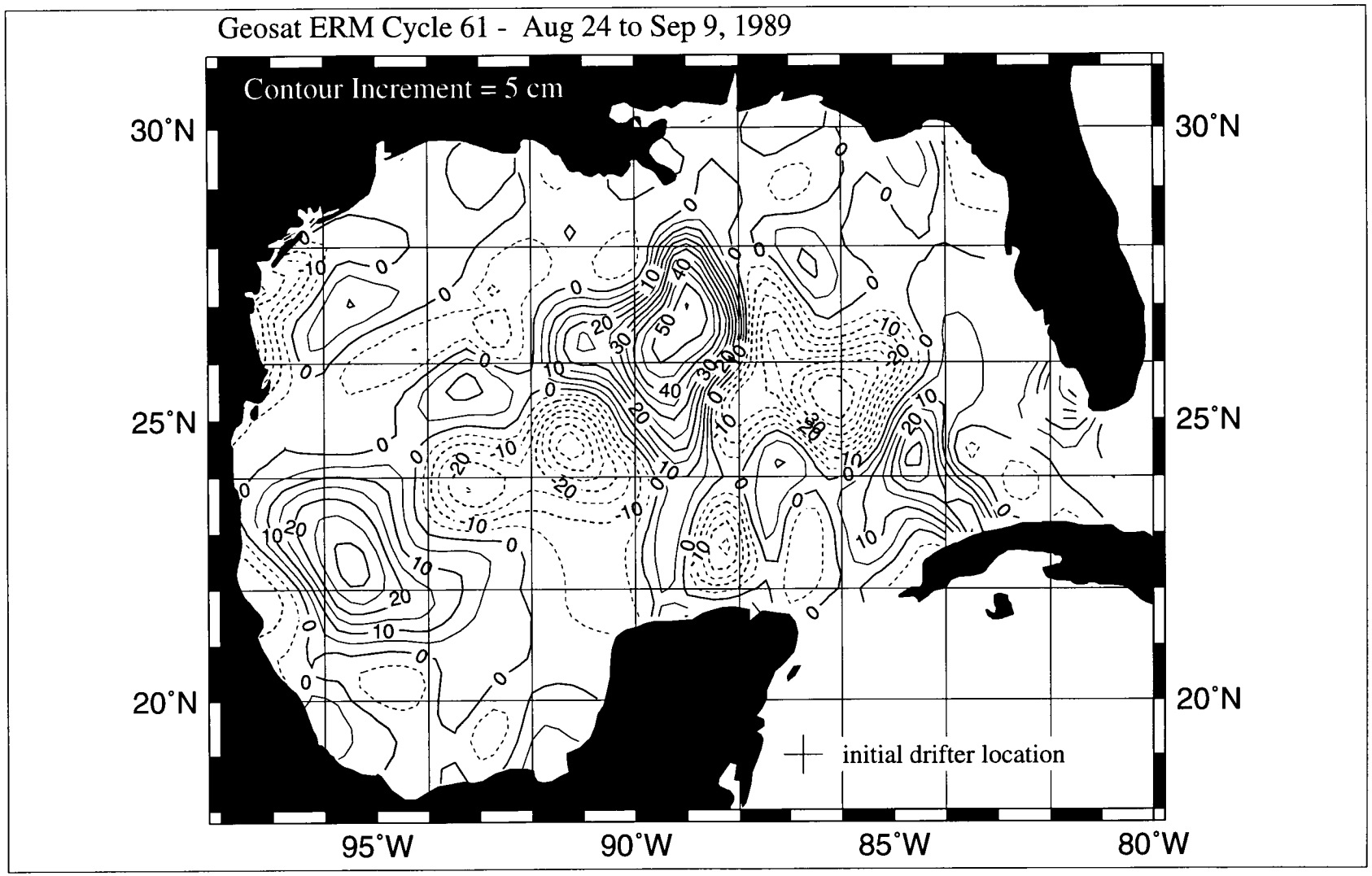

Figure A.3-61. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 61 (August 24 to September 9, 1989).

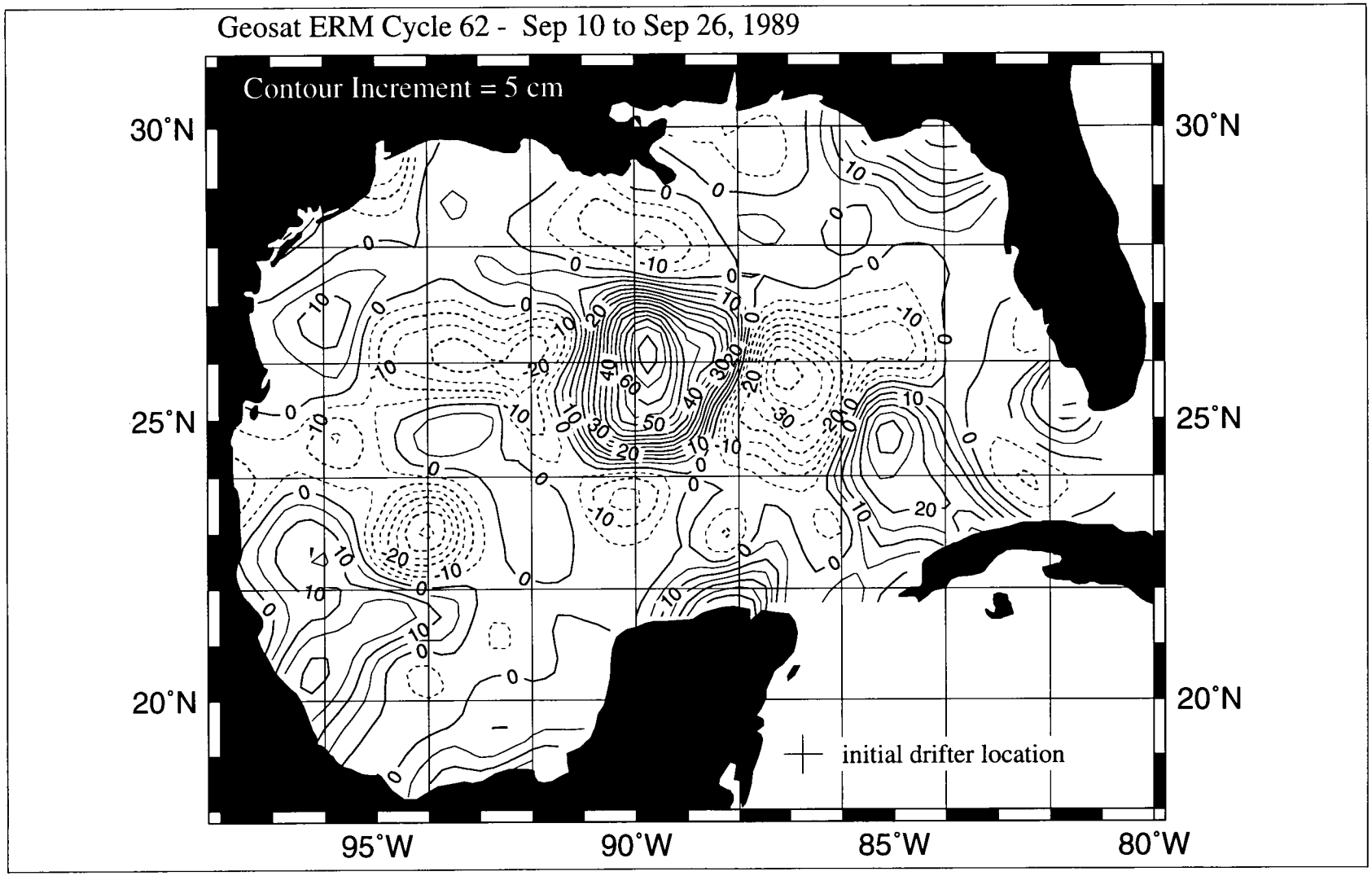

Figure A.3-62. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 62 (September 10 to 26, 1989).

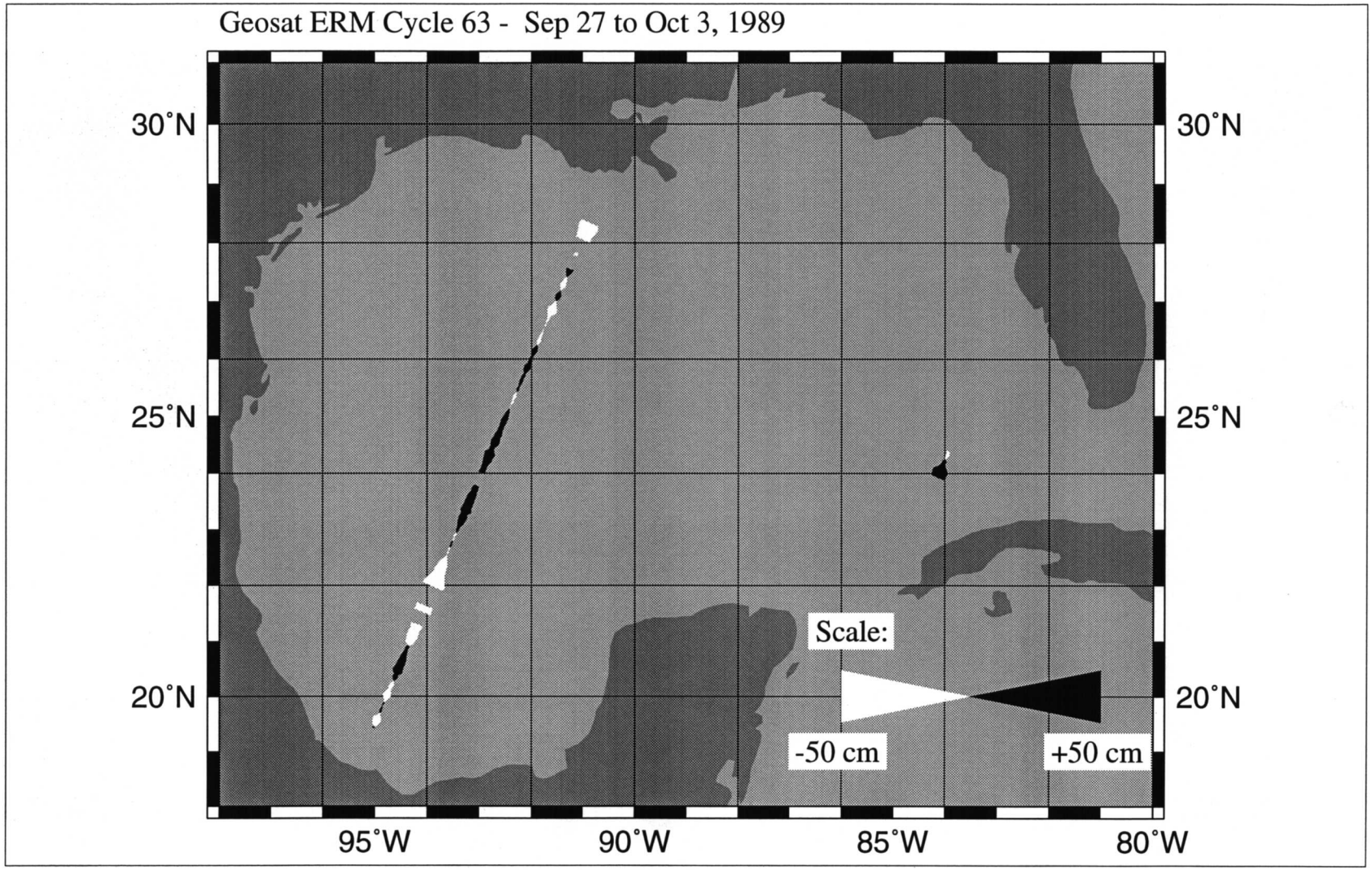

Figure A.3-63. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 63 (September 27 to October 3, 1989). Stick plot format used because of data outages during this cycle.

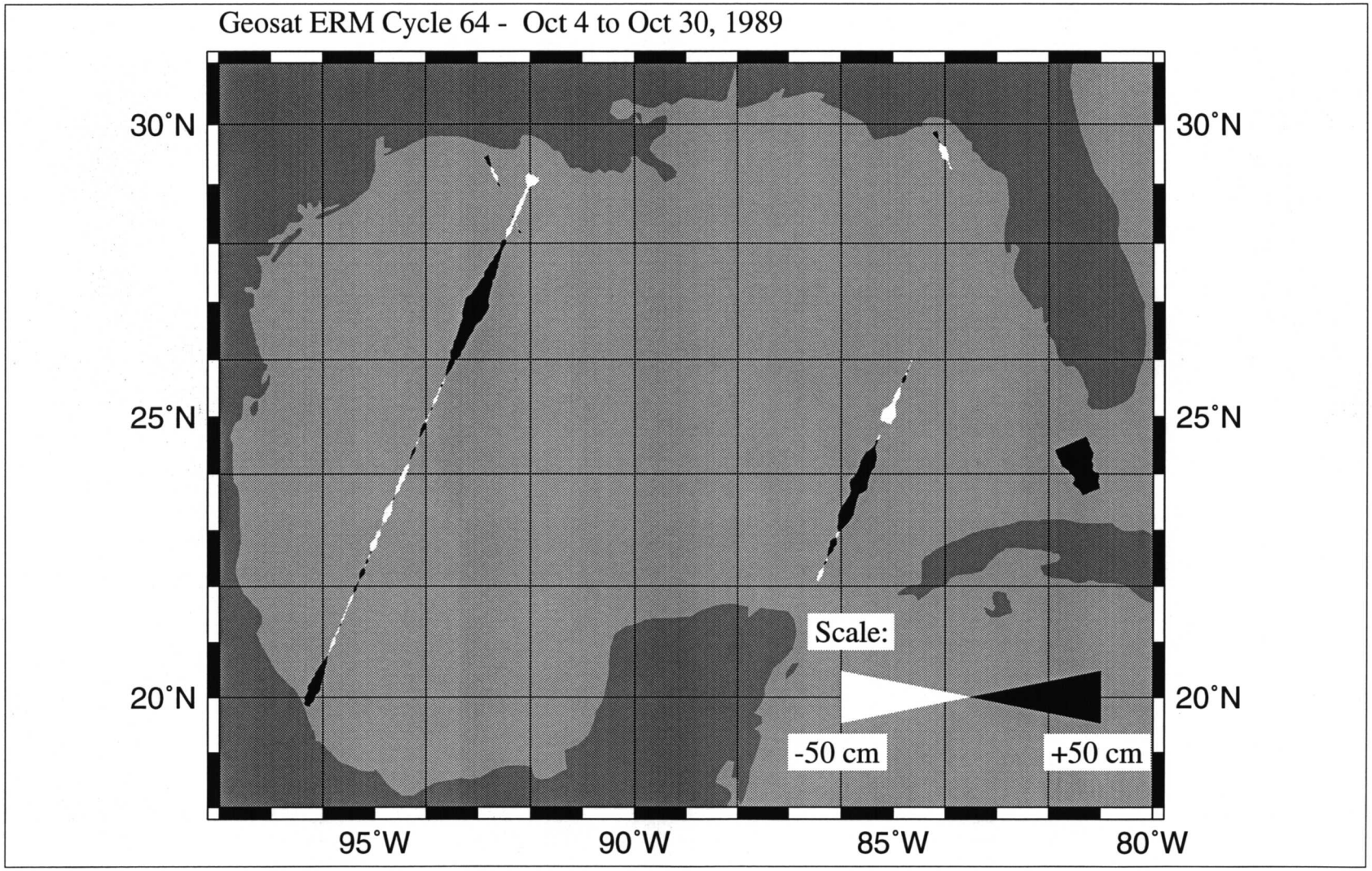

Figure A.3-64. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 64 (October 4 to 30, 1989). Stick plot format used because of data outages during this cycle.

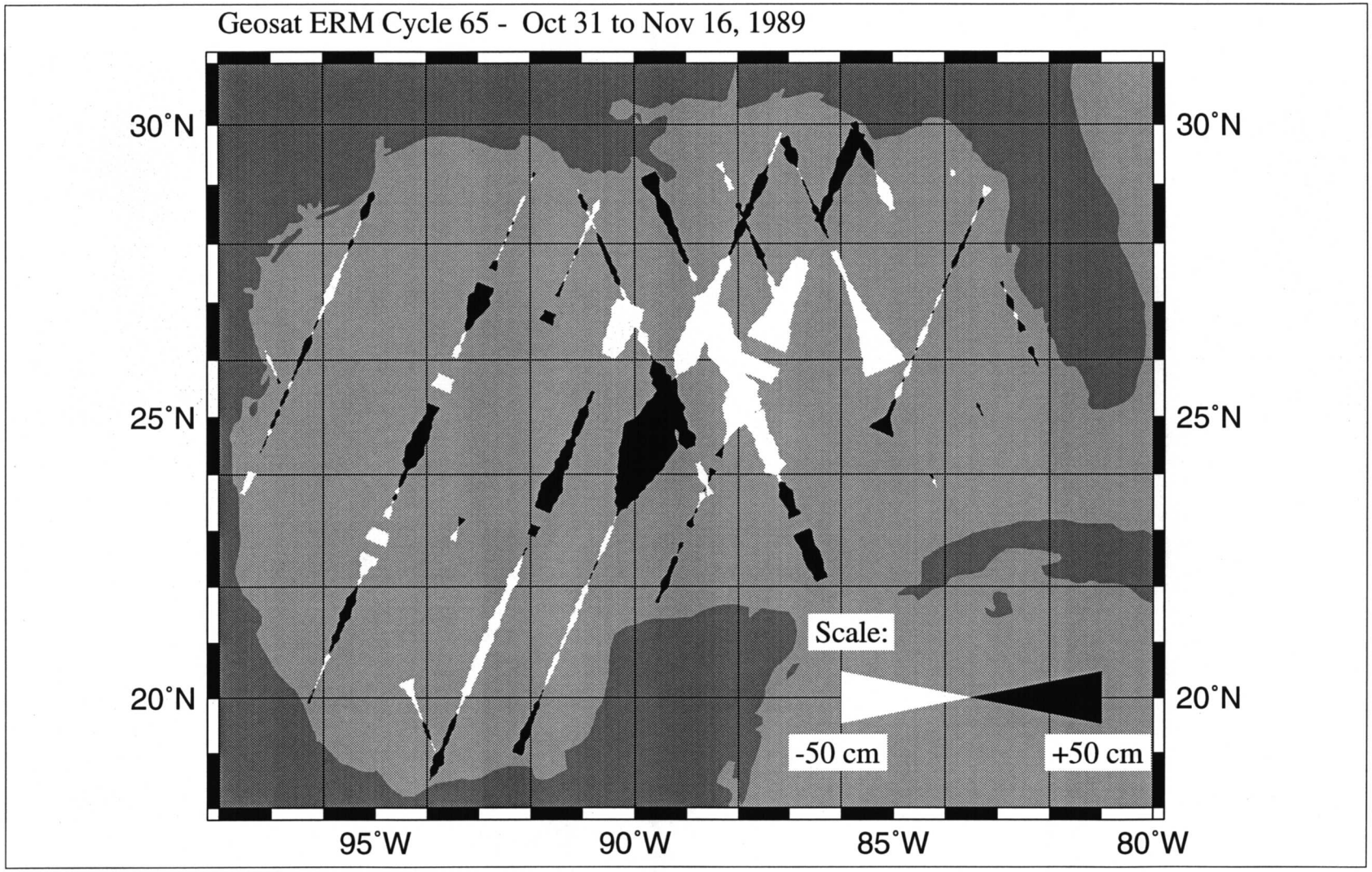

Figure A.3-65. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 65 (October 31 to November 16, 1989). Stick plot format used because of data outages during this cycle.

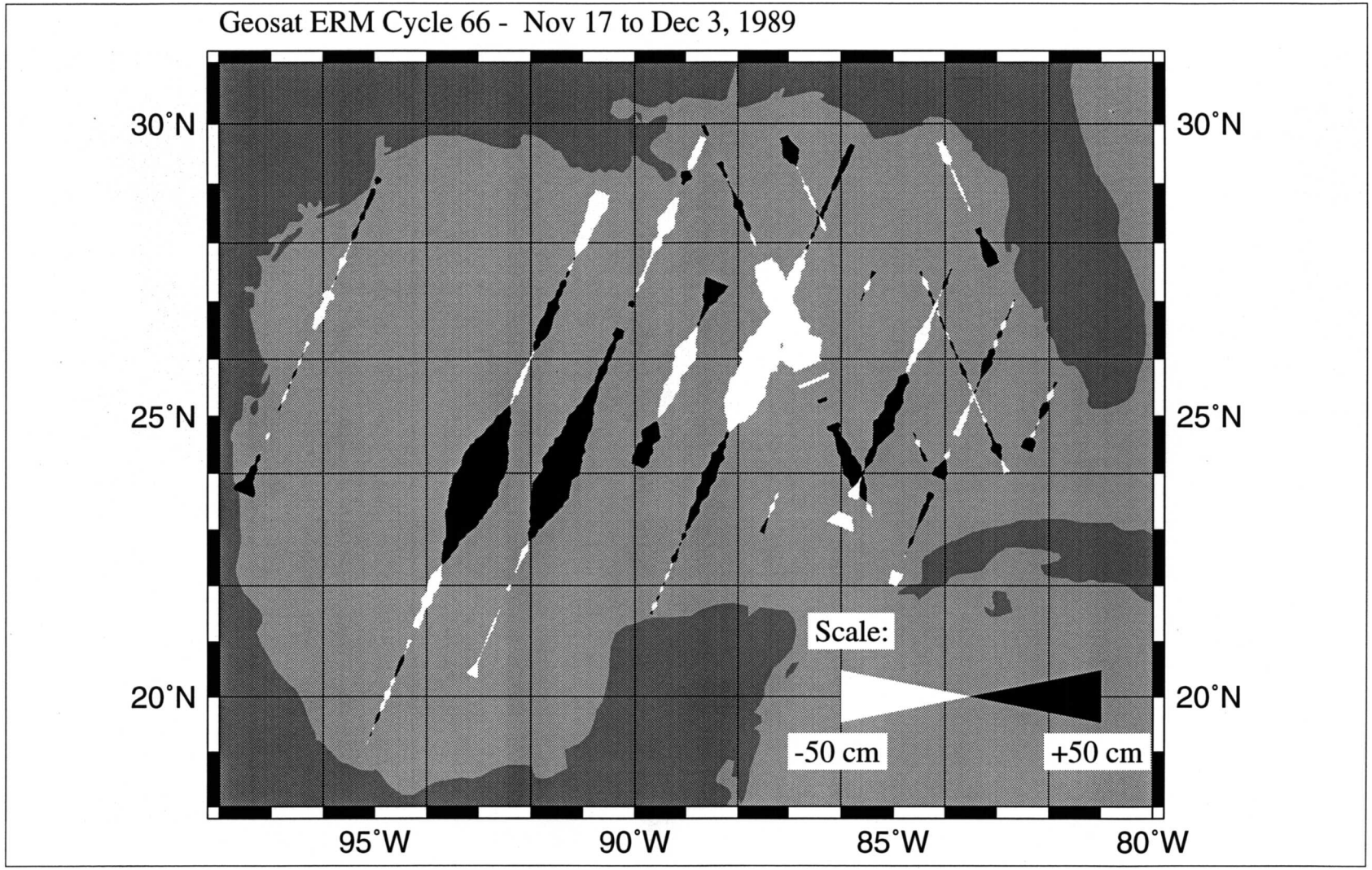

Figure A.3-66. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 66 (November 17 to December 3, 1989). Stick plot format used because of data outages during this cycle.

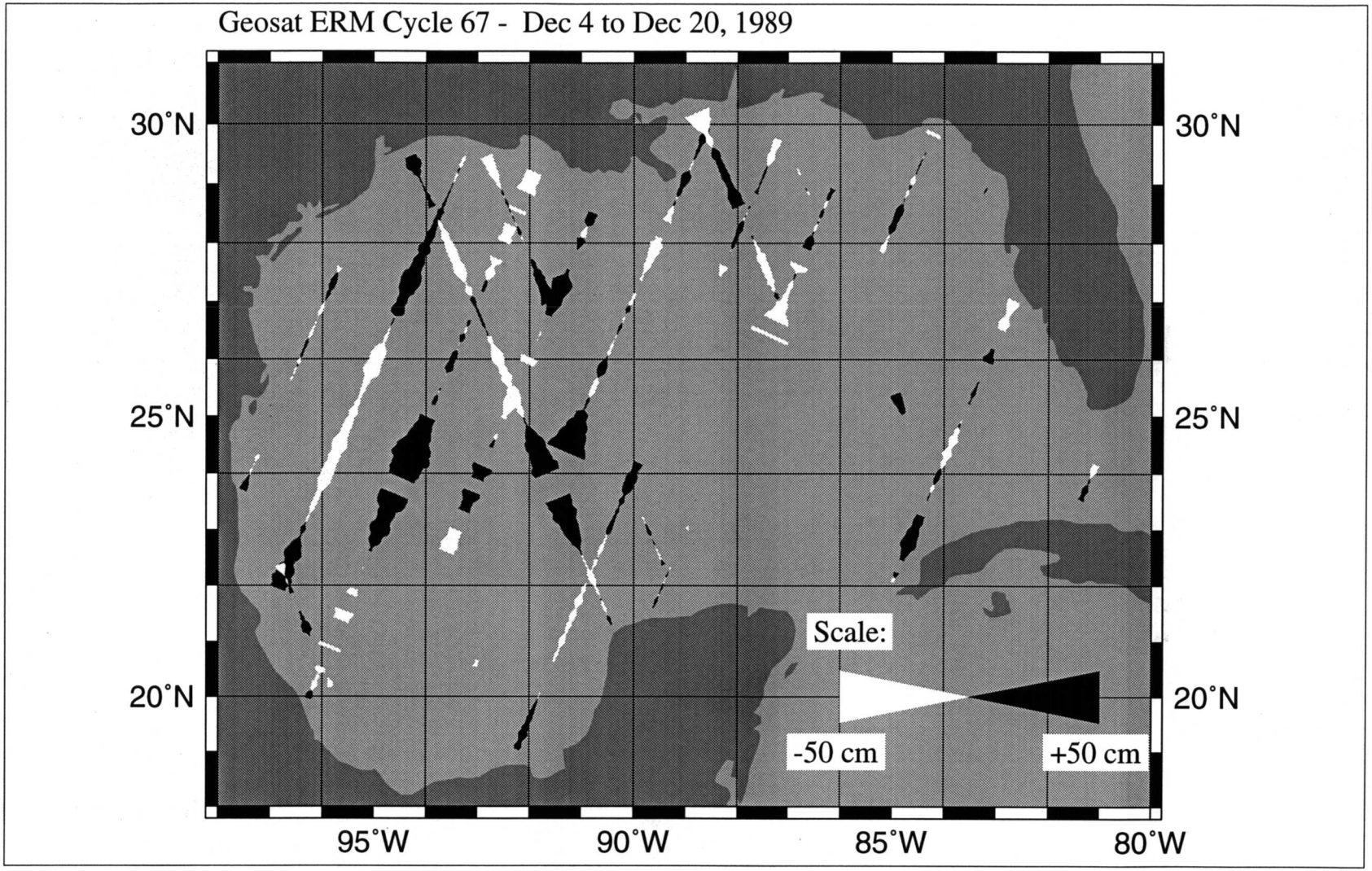

Figure A.3-67. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 67 (December 4 to 20, 1989). Stick plot format used because of data outages during this cycle.

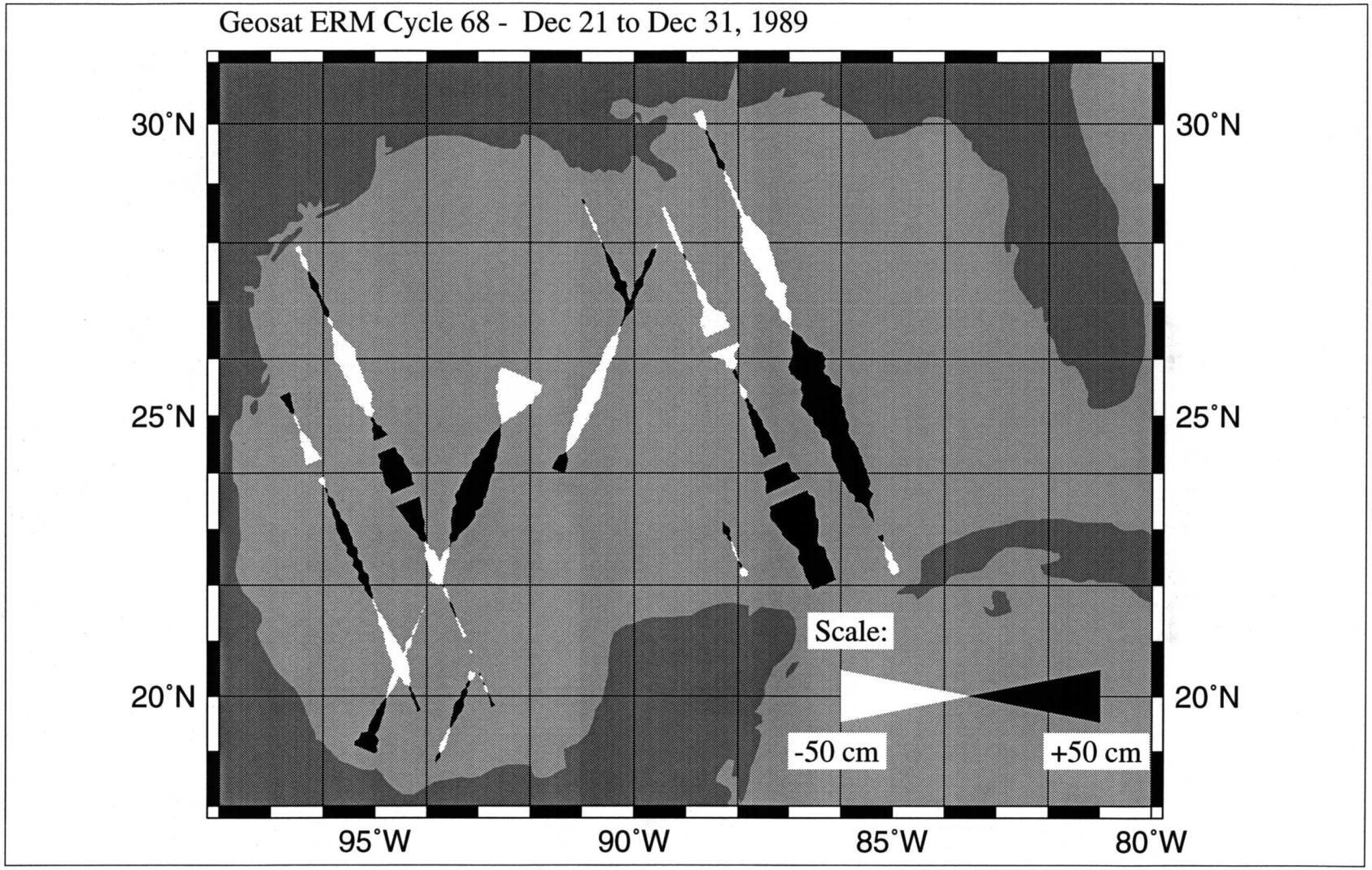

Figure A.3-68. Sea surface height anomaly with respect to mean sea surface (OSUMSS95) for GEOSAT ERM Cycle 68 (December 21 to 31, 1989). Stick plot format used because of data outages during this cycle.

A.4 Annual and Seasonal Sea Surface Height Variability

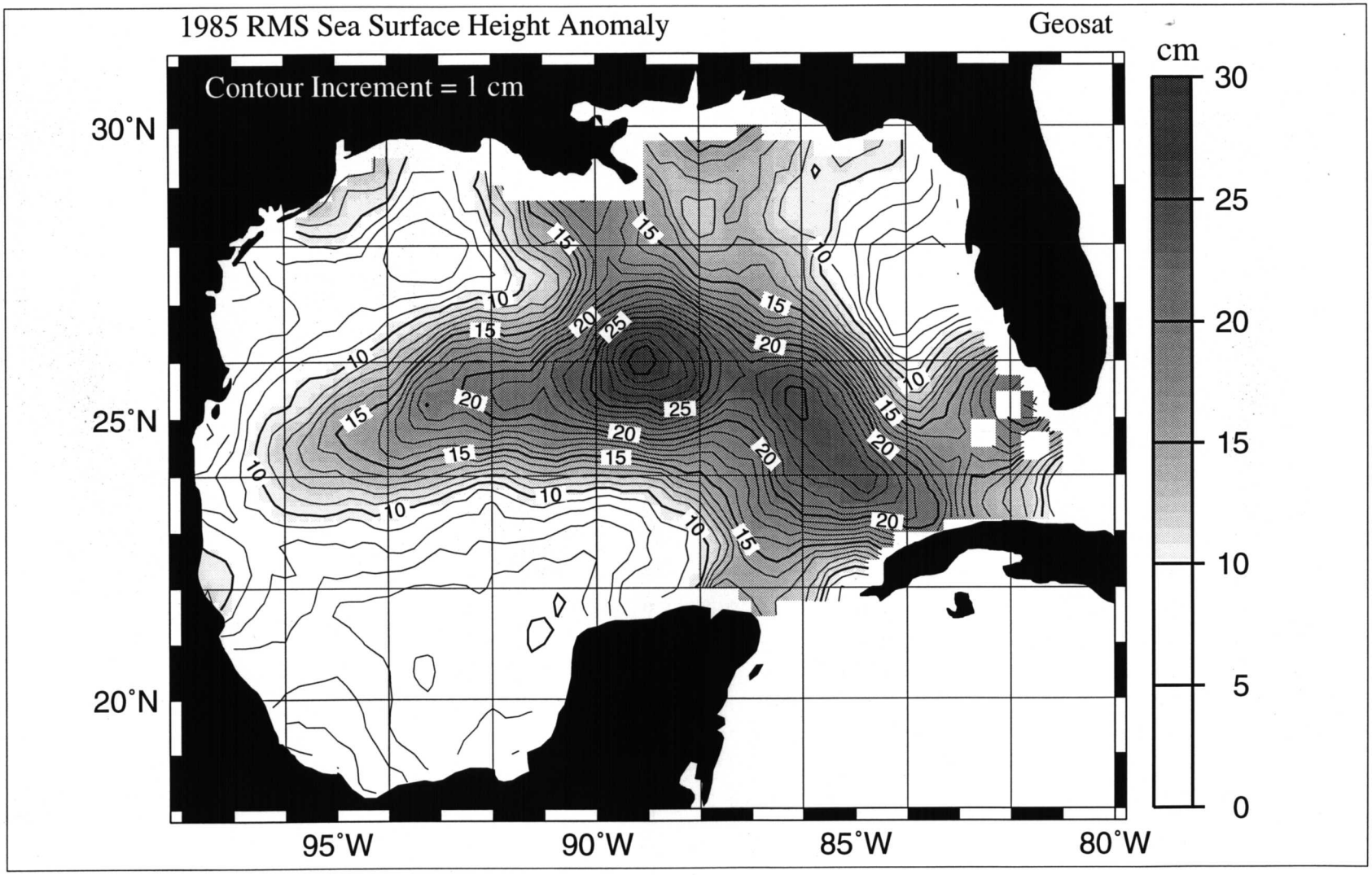

Figure A.4-1. RMS of sea surface height anomaly with respect to the mean (OSUMSS95) measured by GEOSAT during 1985. (No data collected prior to March 30, 1985).

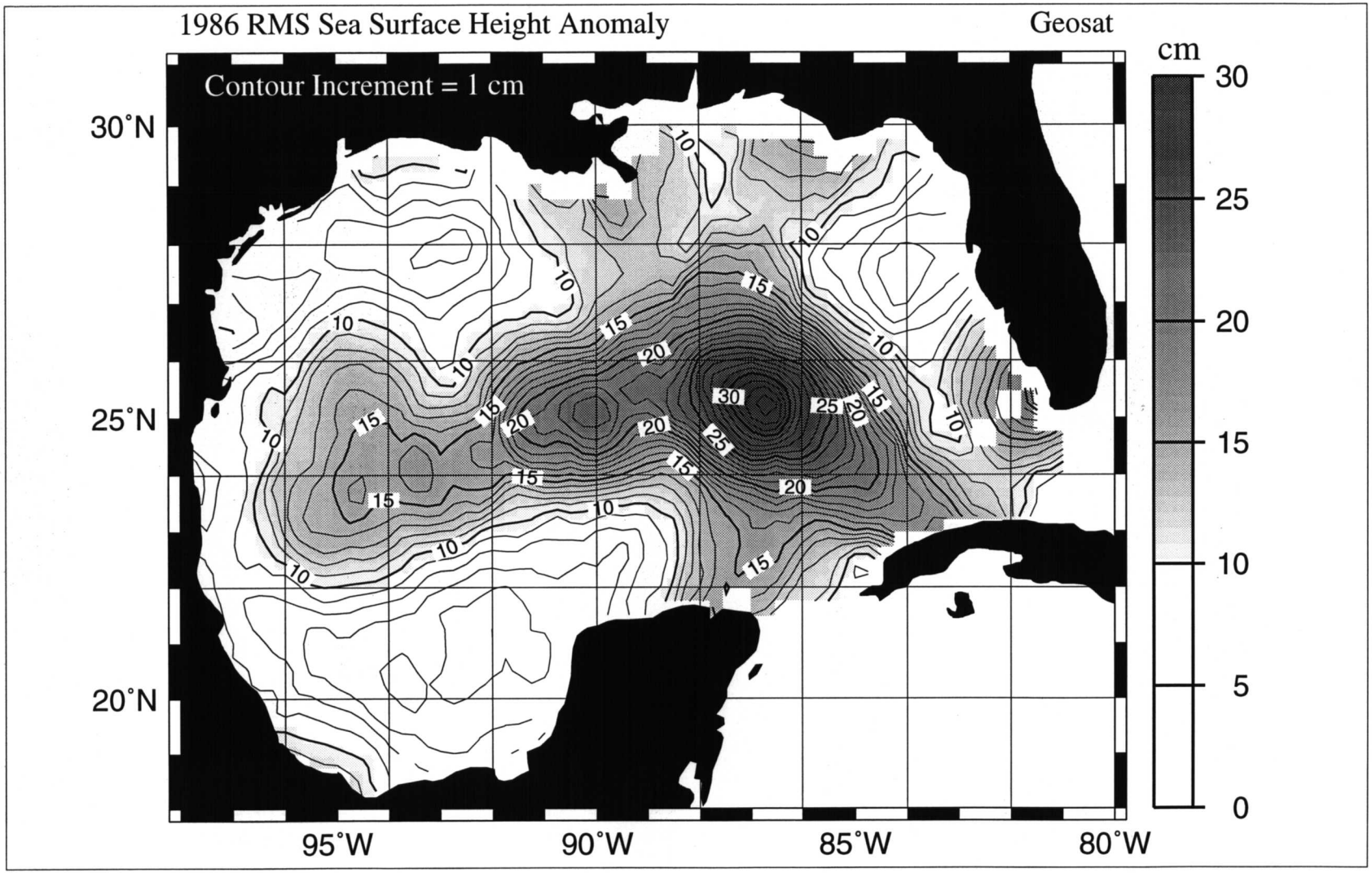

Figure A.4-2. RMS of sea surface height anomaly with respect to the mean (OSUMSS95) measured by GEOSAT during 1986.

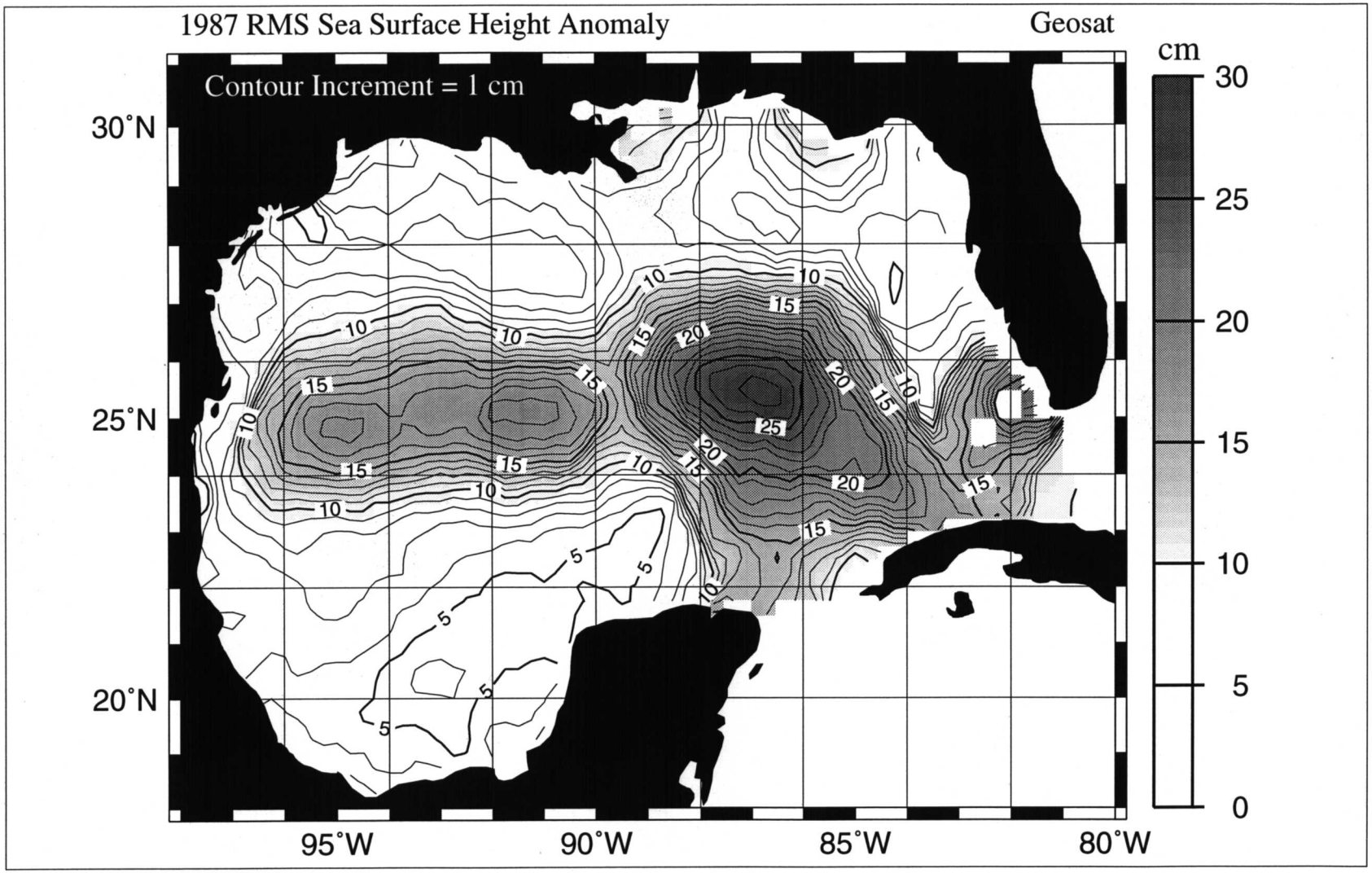

Figure A.4-3. RMS of sea surface height anomaly with respect to the mean (OSUMSS95) measured by GEOSAT during 1987.

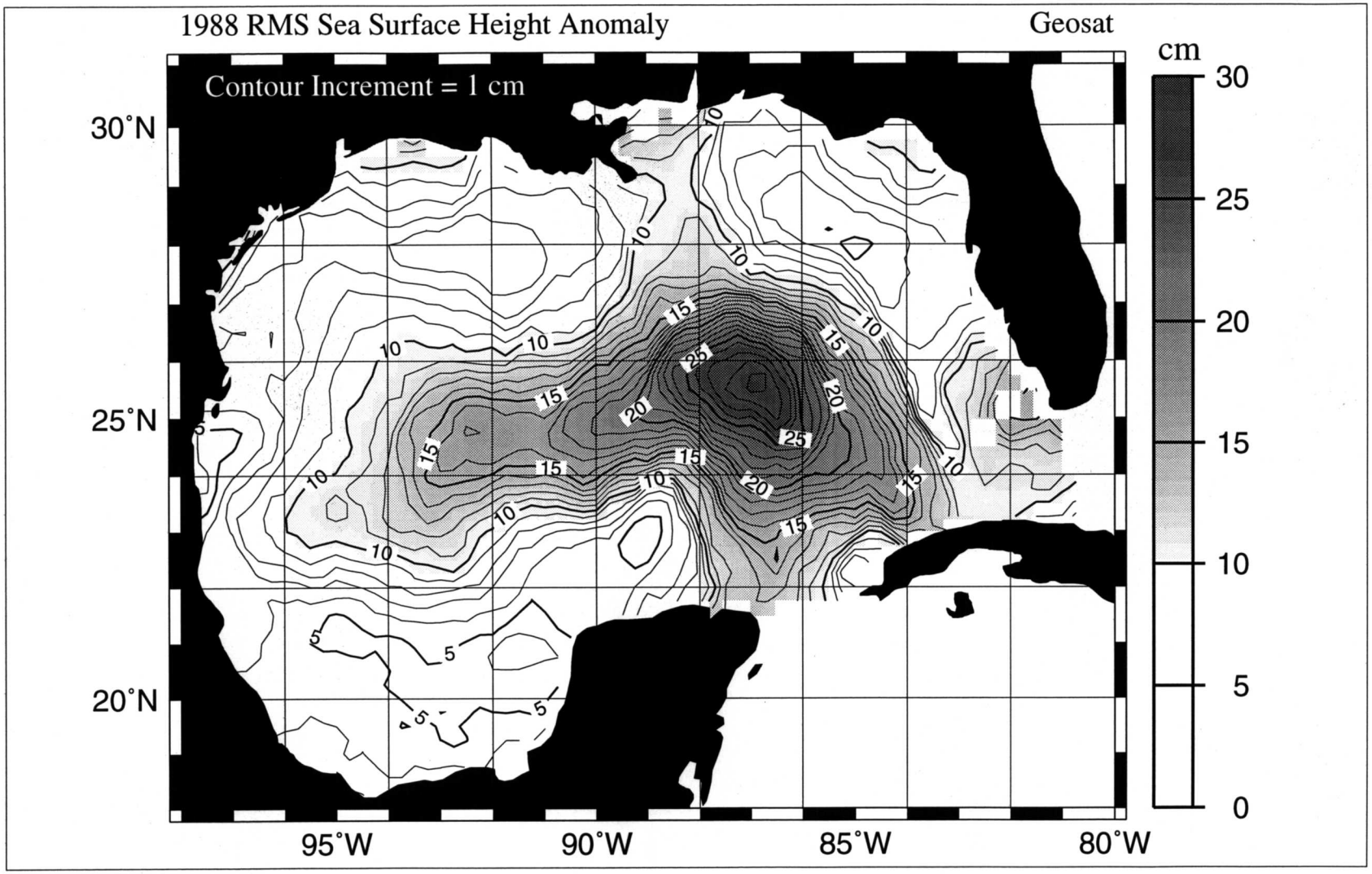

Figure A.4-4. RMS of sea surface height anomaly with respect to the mean (OSUMSS95) measured by GEOSAT during 1988.

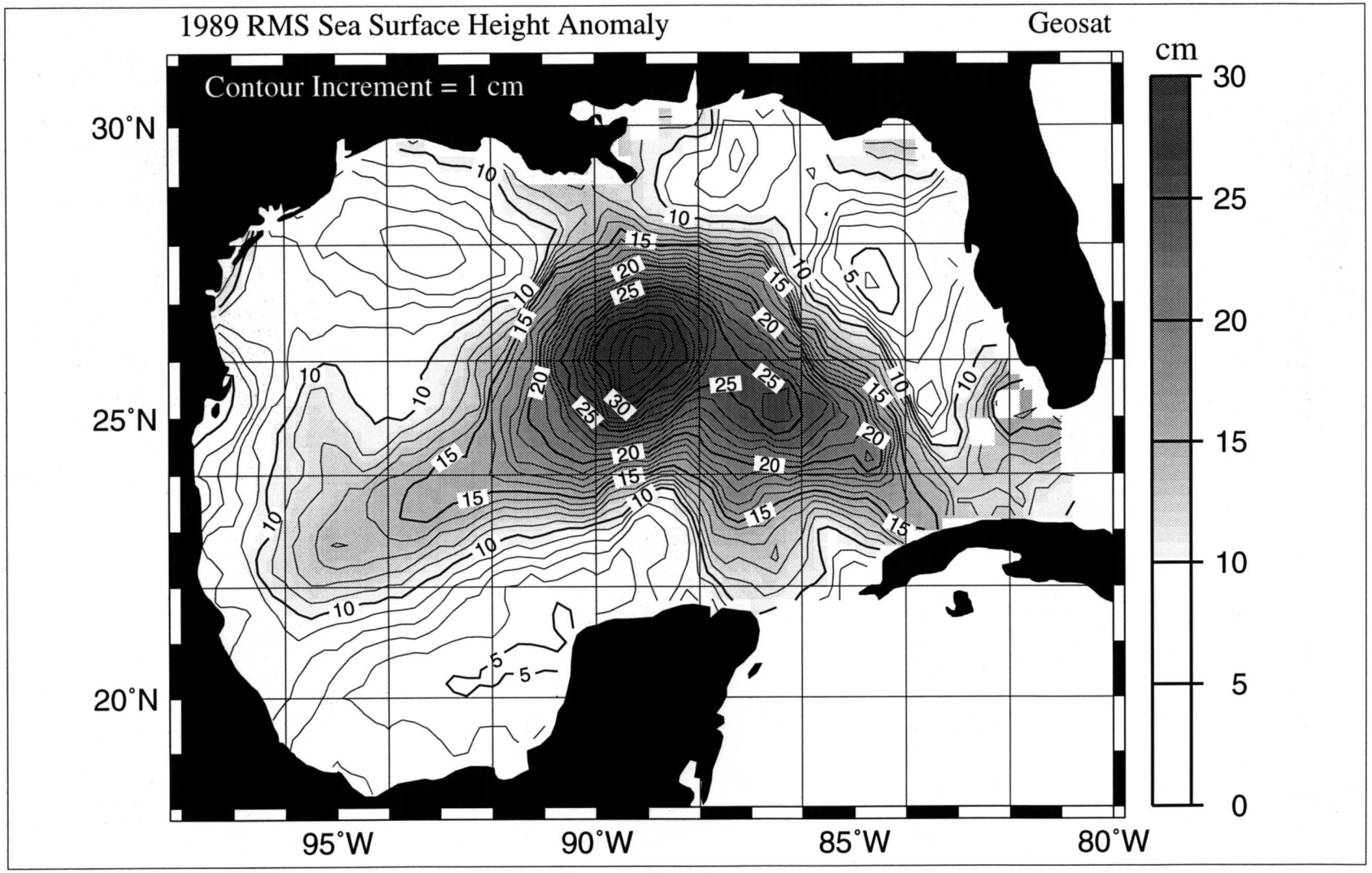

Figure A.4-5. RMS of sea surface height anomaly with respect to the mean (OSUMSS95) measured by GEOSAT during 1989.

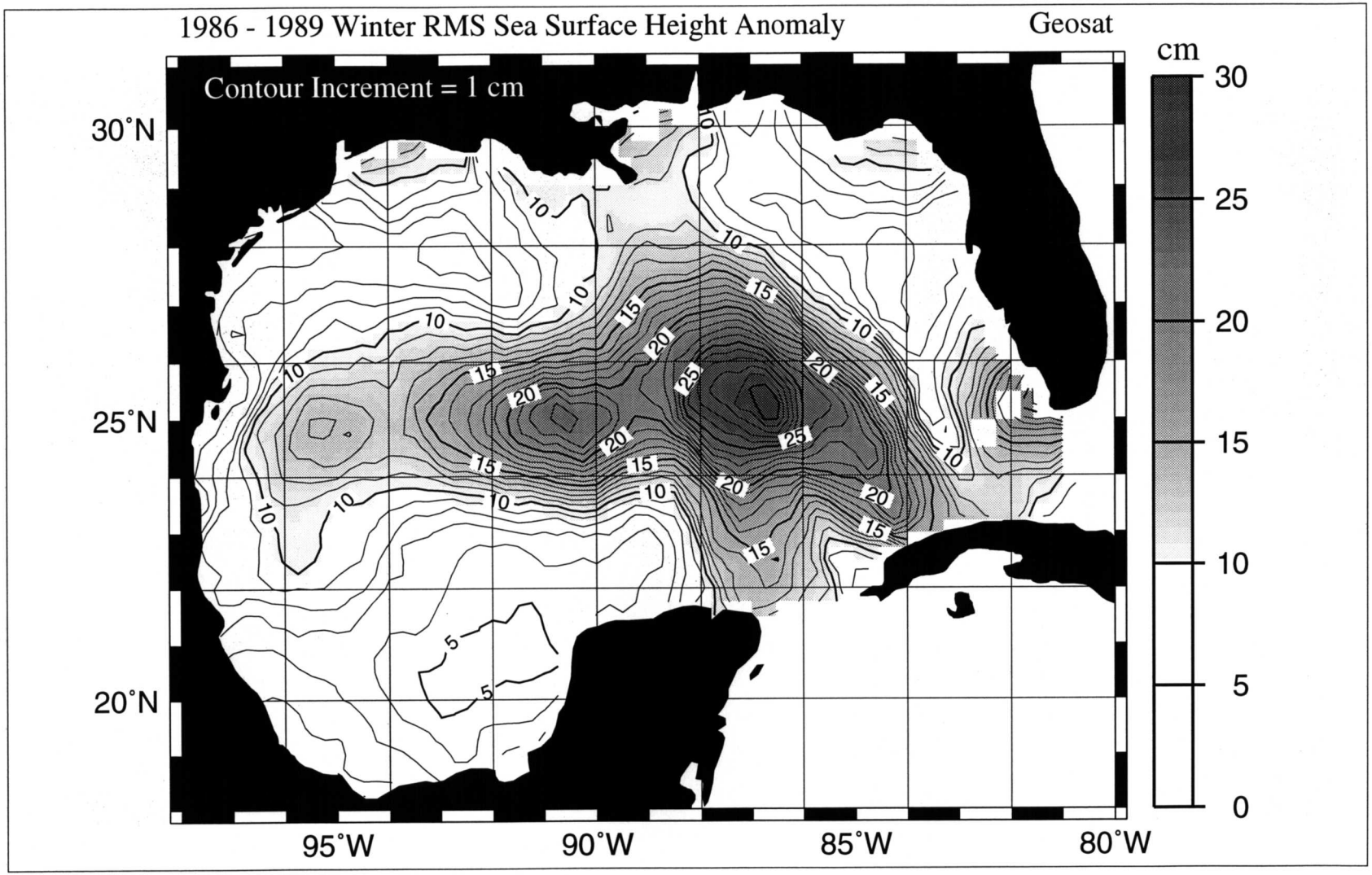

Figure A.4-6. Seasonal RMS of sea surface height anomaly with respect to the mean (OSUMSS95) measured by GEOSAT during Winter (January, February and March) from 1986 to 1989.

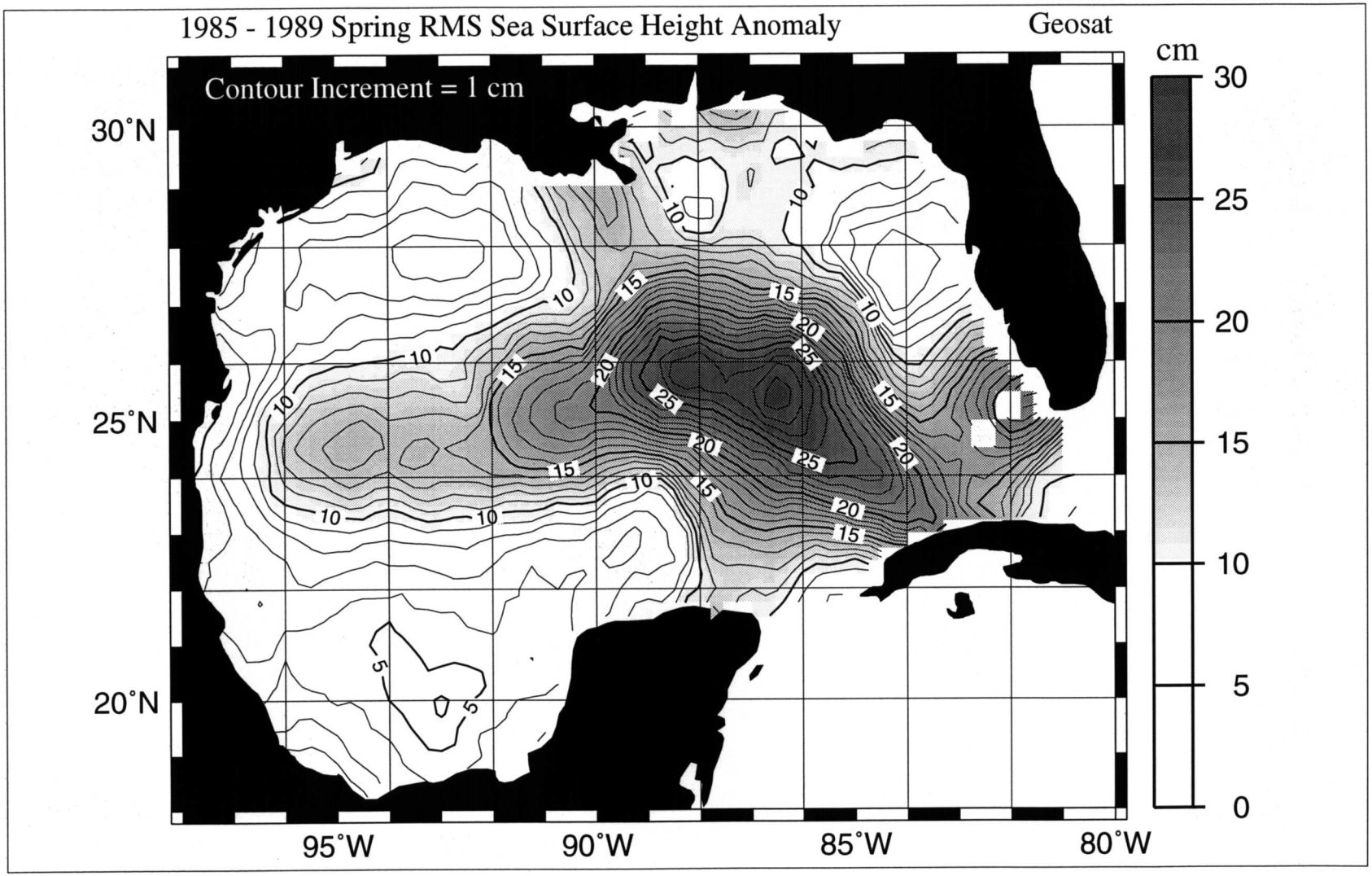

Figure A.4-7. Seasonal RMS of sea surface height anomaly with respect to the mean (OSUMSS95) measured by GEOSAT during Spring (April, May and June) from 1985 to 1989.

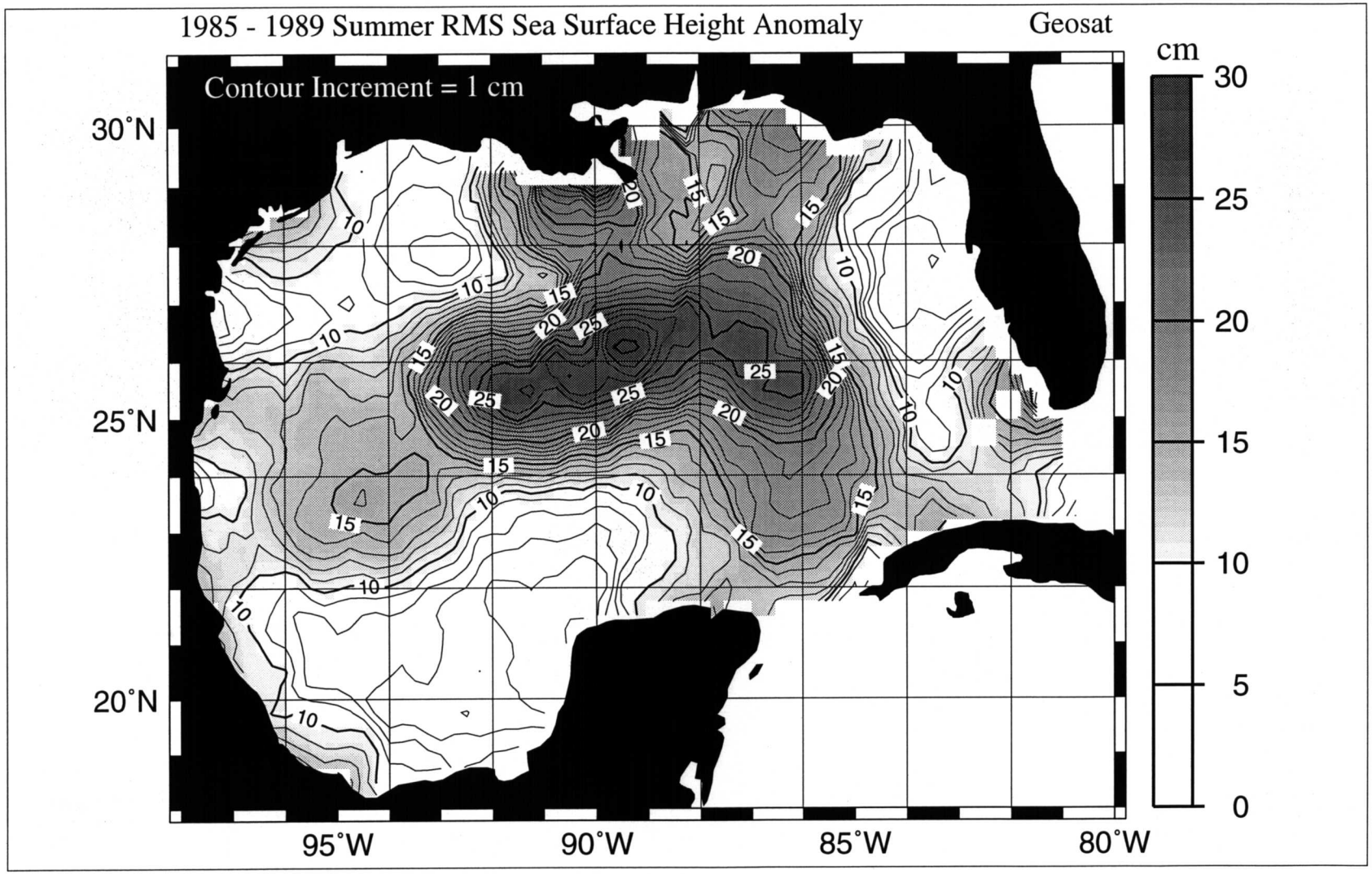

Figure A.4-8. Seasonal RMS of sea surface height anomaly with respect to the mean (OSUMSS95) measured by GEOSAT during Summer (July, August and September) from 1985 to 1989.

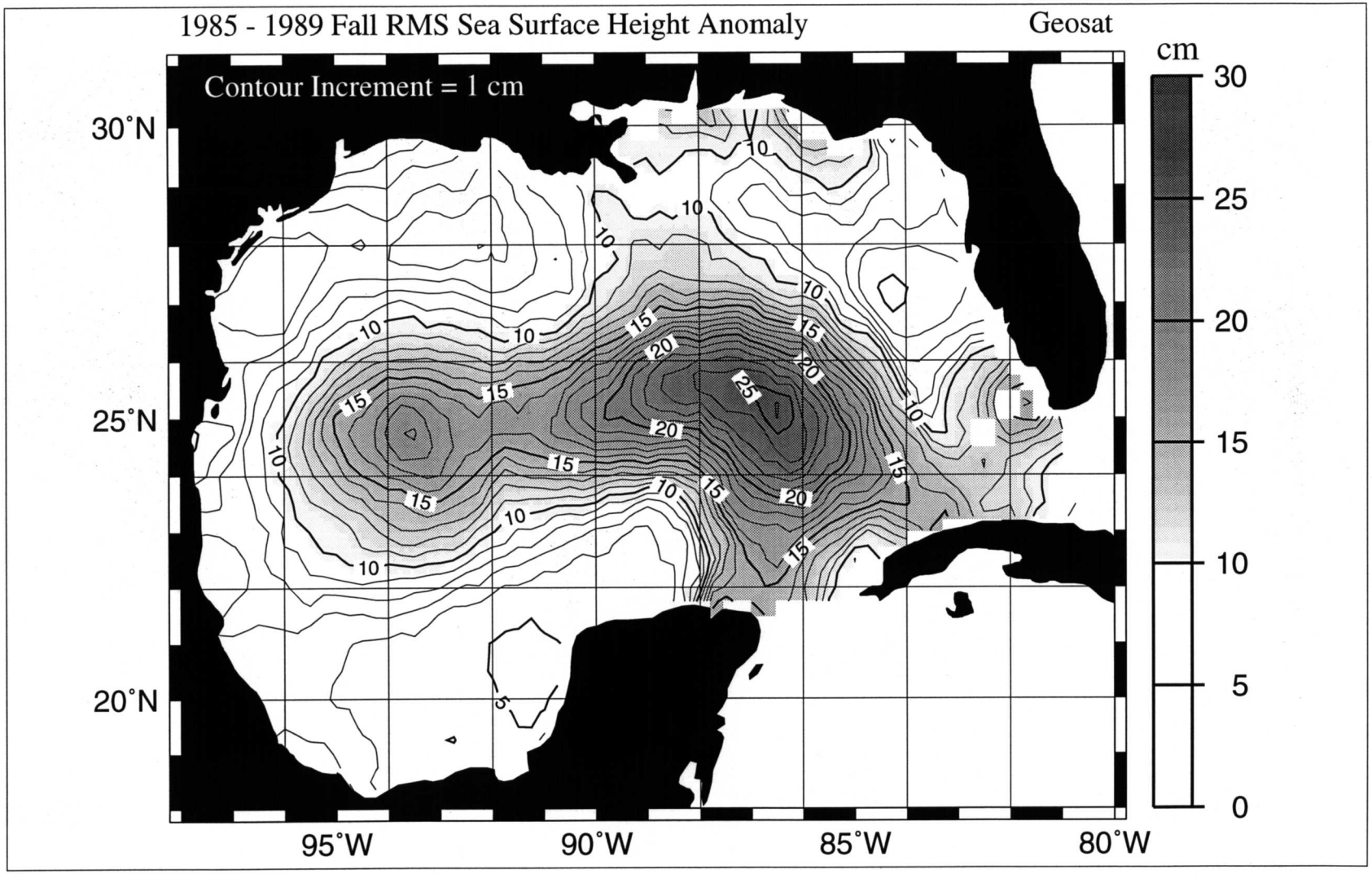

Figure A.4-9. Seasonal RMS of sea surface height anomaly with respect to the mean (OSUMSS95) measured by GEOSAT during Fall (October, November and December) from 1985 to 1989.

A.5 Annual and Seasonal Geostrophic Velocity Variability

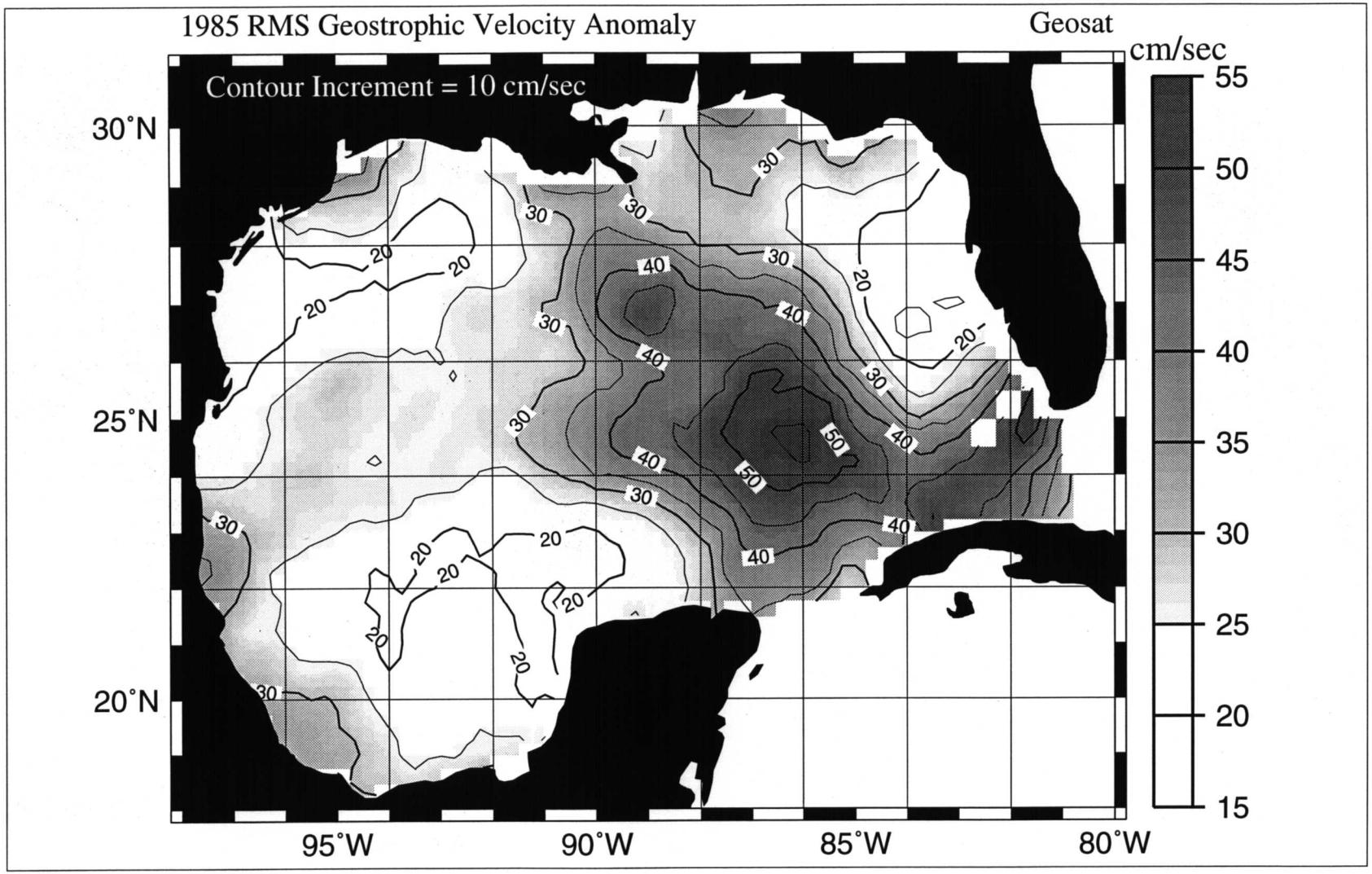

Figure A.5-1. 1985 RMS geostrophic velocity anomaly estimated using GEOSAT altimeter data.

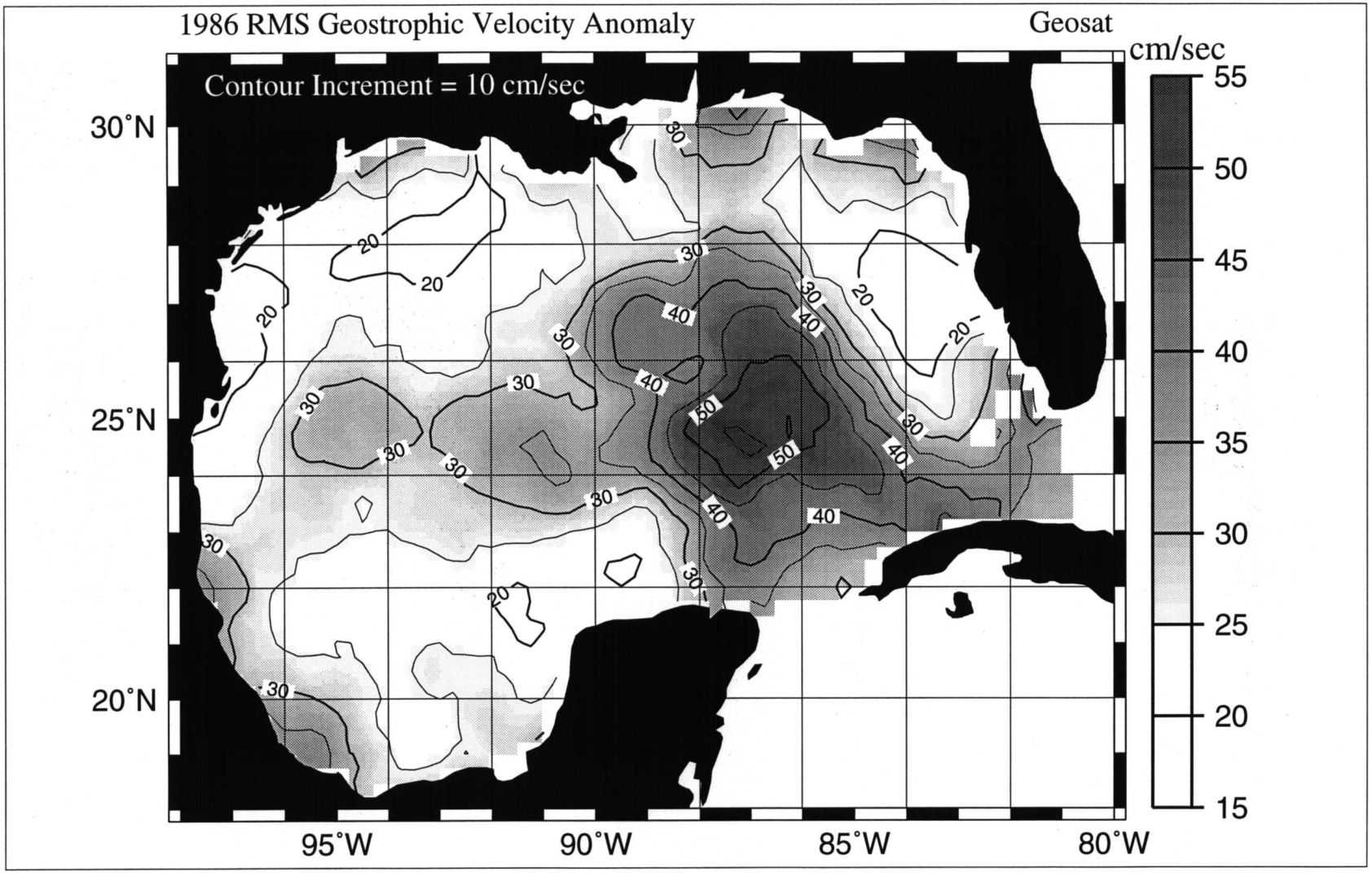

Figure A.5-2. 1986 RMS geostrophic velocity anomaly estimated using GEOSAT altimeter data.

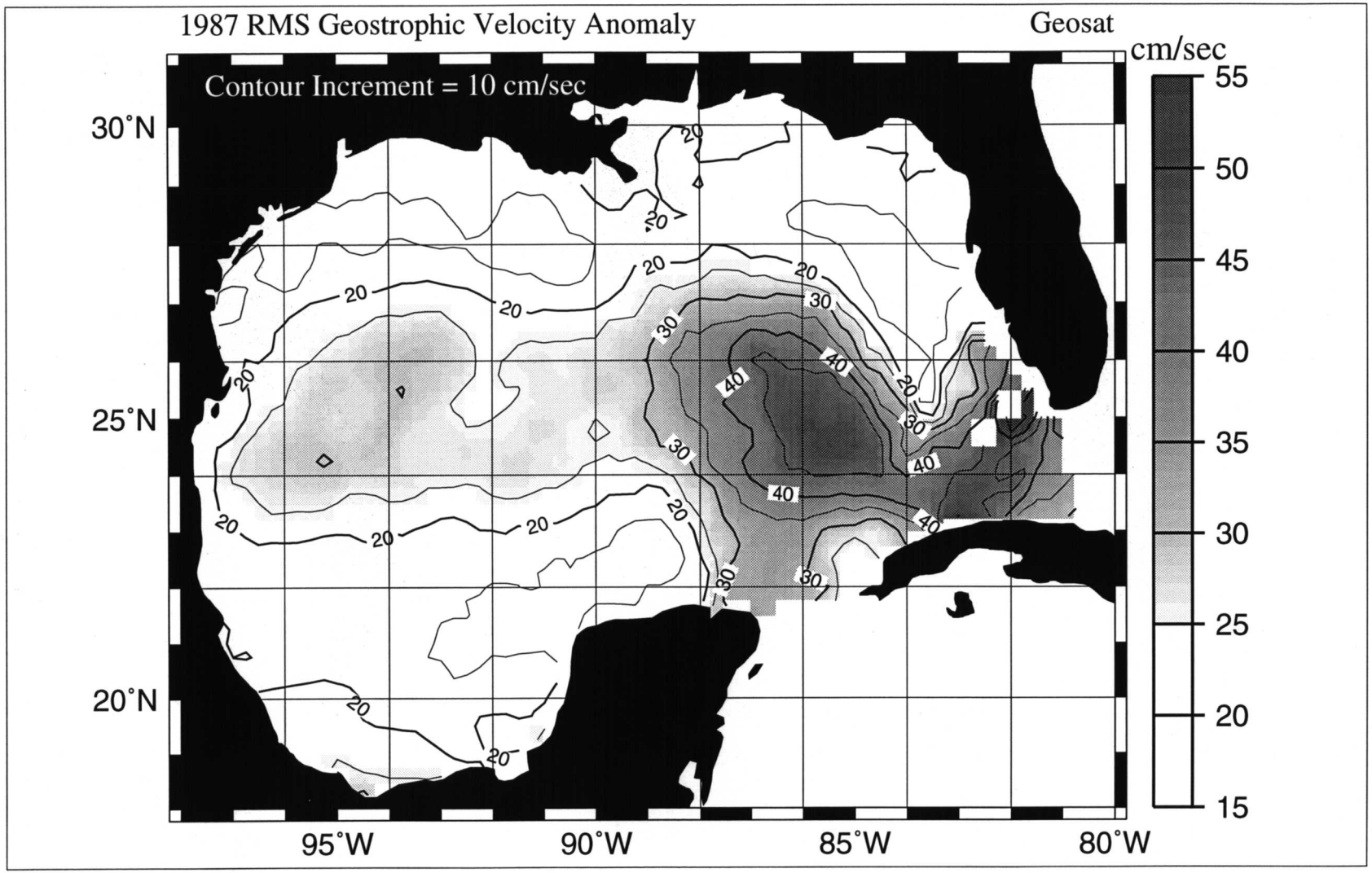

Figure A.5-3. 1987 RMS geostrophic velocity anomaly estimated using GEOSAT altimeter data.

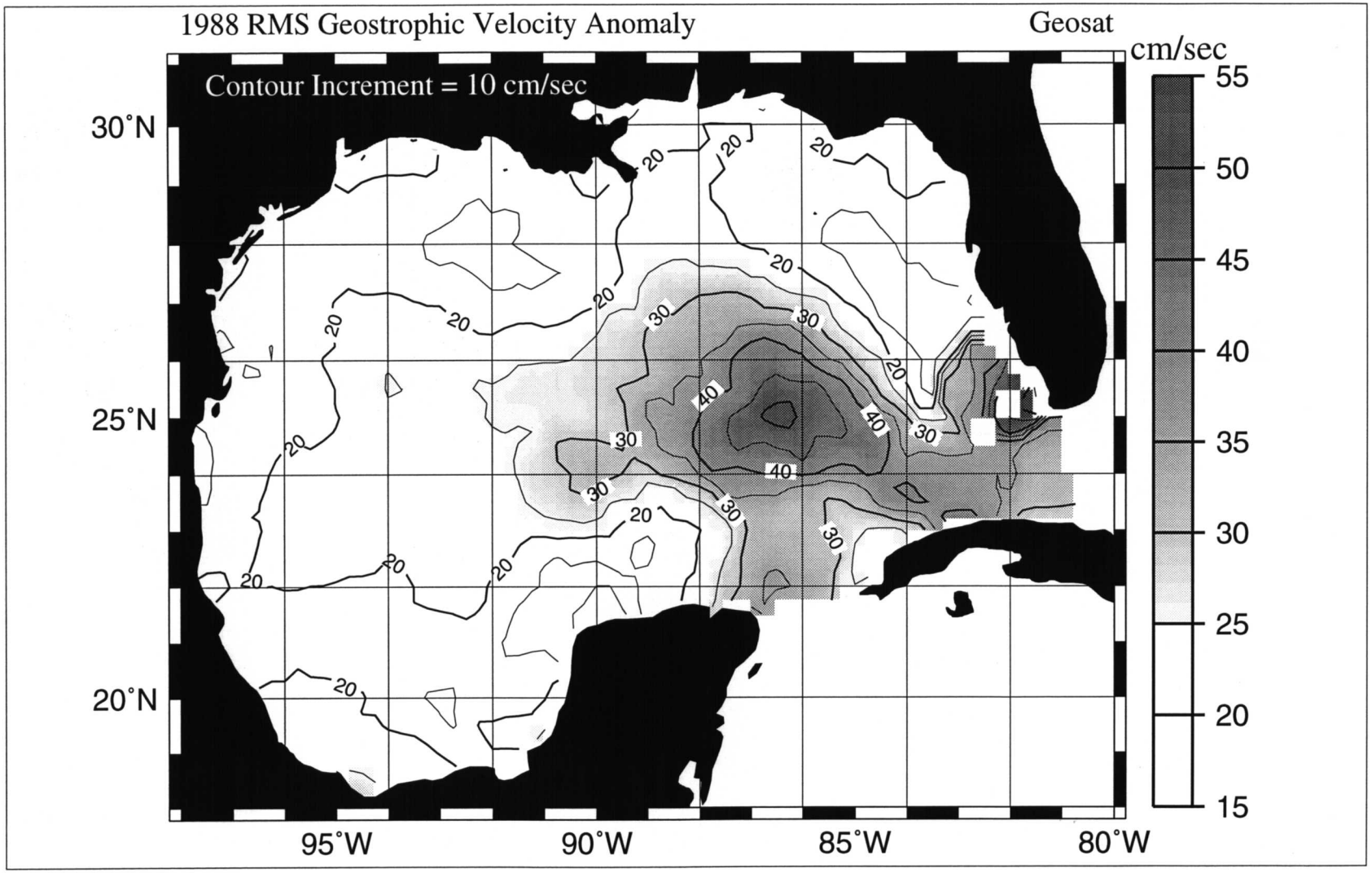

Figure A.5-4. 1988 RMS geostrophic velocity anomaly estimated using GEOSAT altimeter data.

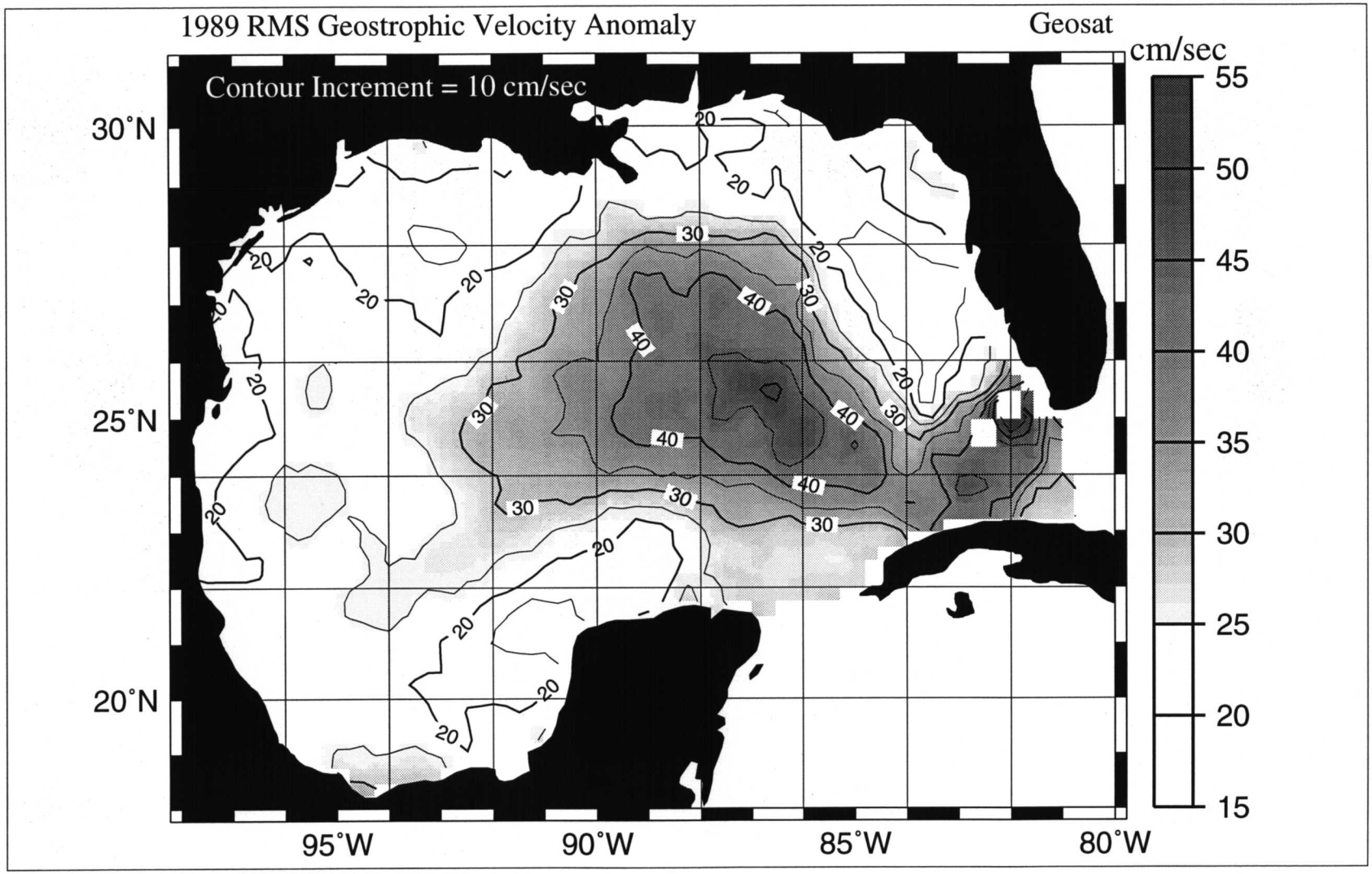

Figure A.5-5. 1989 RMS geostrophic velocity anomaly estimated using GEOSAT altimeter data.

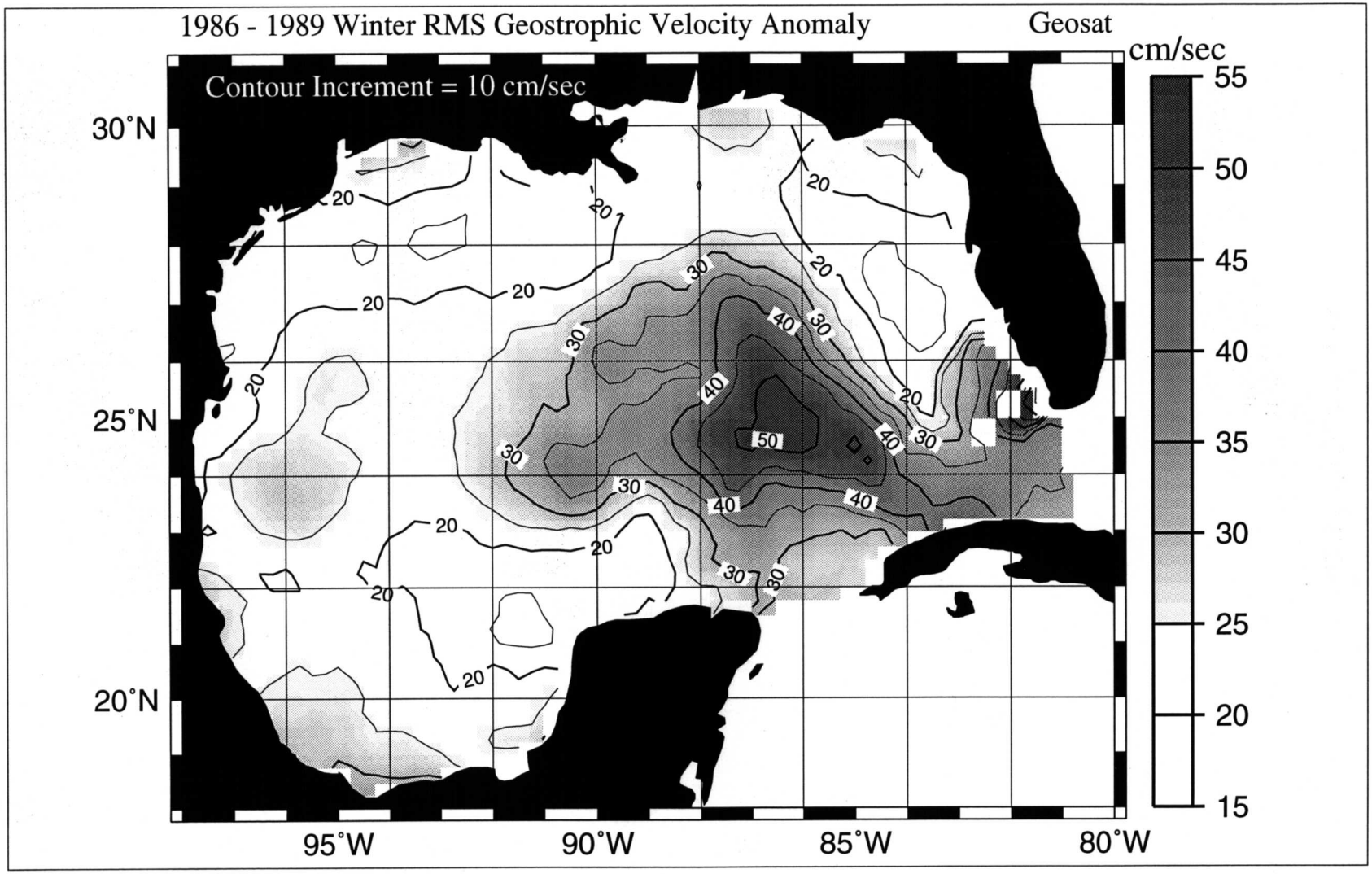

Figure A.5-6. Seasonal RMS geostrophic velocity anomaly estimated from GEOSAT altimeter data during Winter (January, February and March) 1986 to 1989.

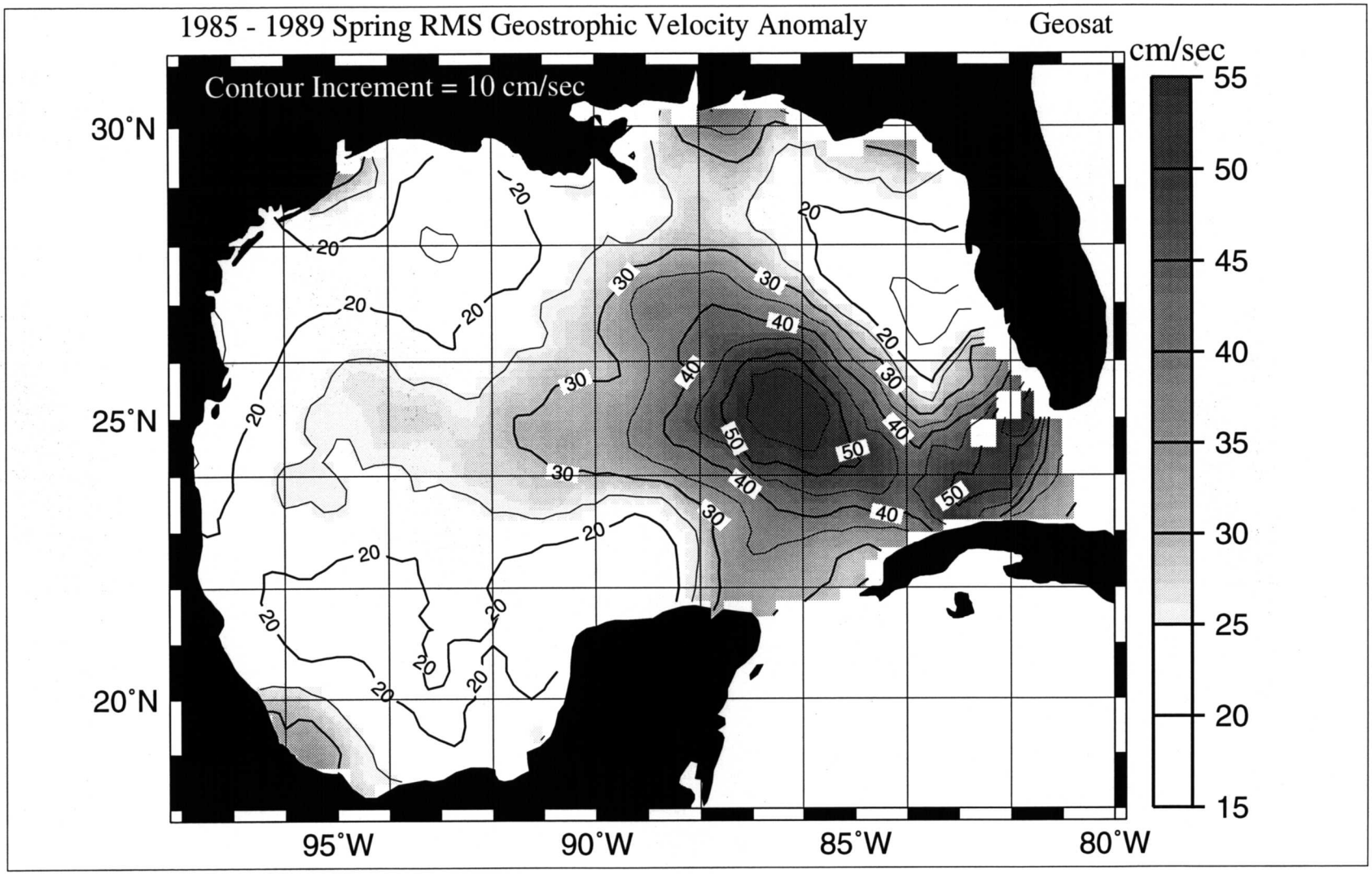

Figure A.5-7. Seasonal RMS geostrophic velocity anomaly estimated from GEOSAT altimeter data during Spring (April, May and June) 1985 to 1989.

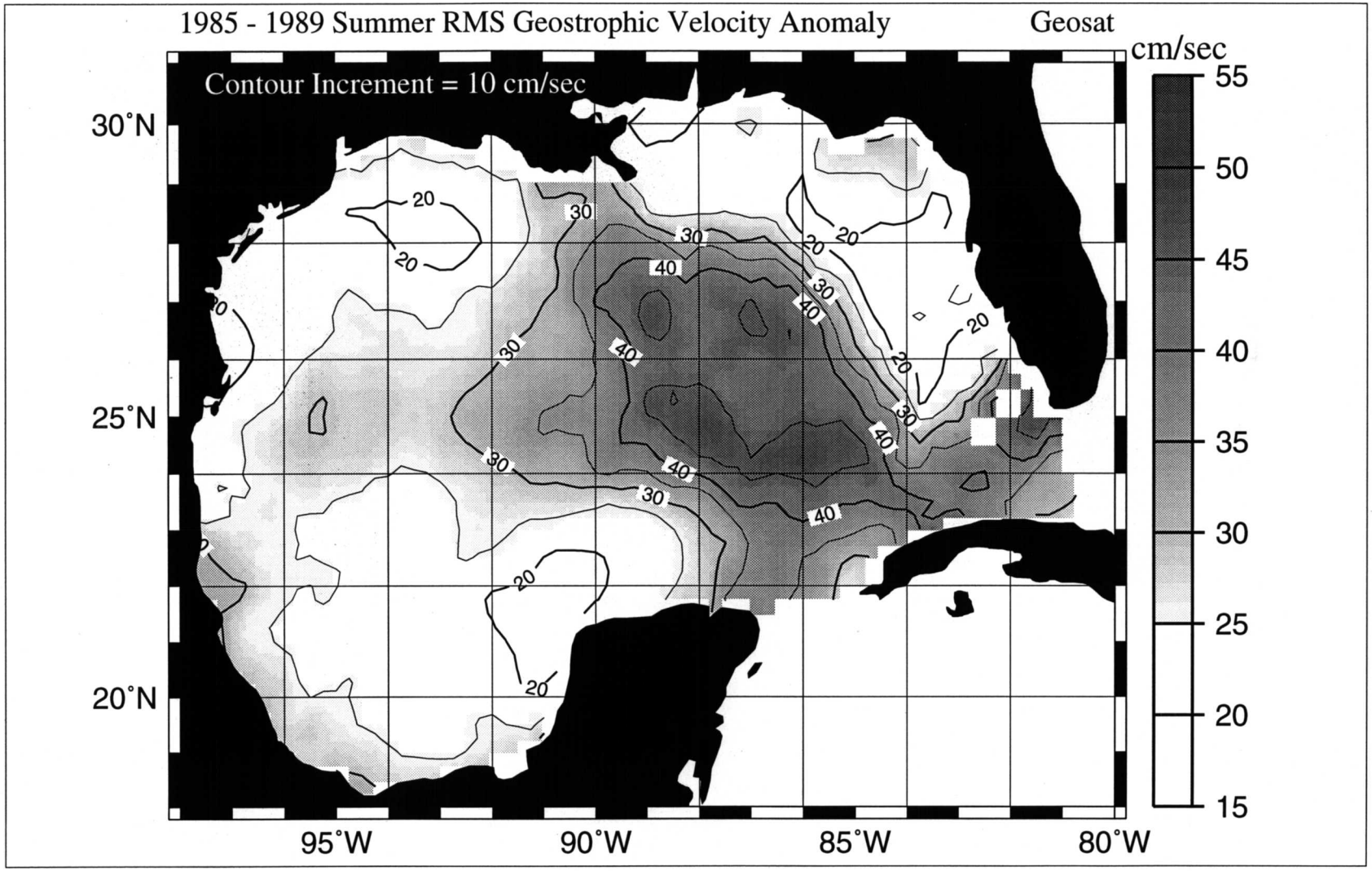

Figure A.5-8. Seasonal RMS geostrophic velocity anomaly estimated from GEOSAT altimeter data during Summer (July, August and September) 1985 to 1989.

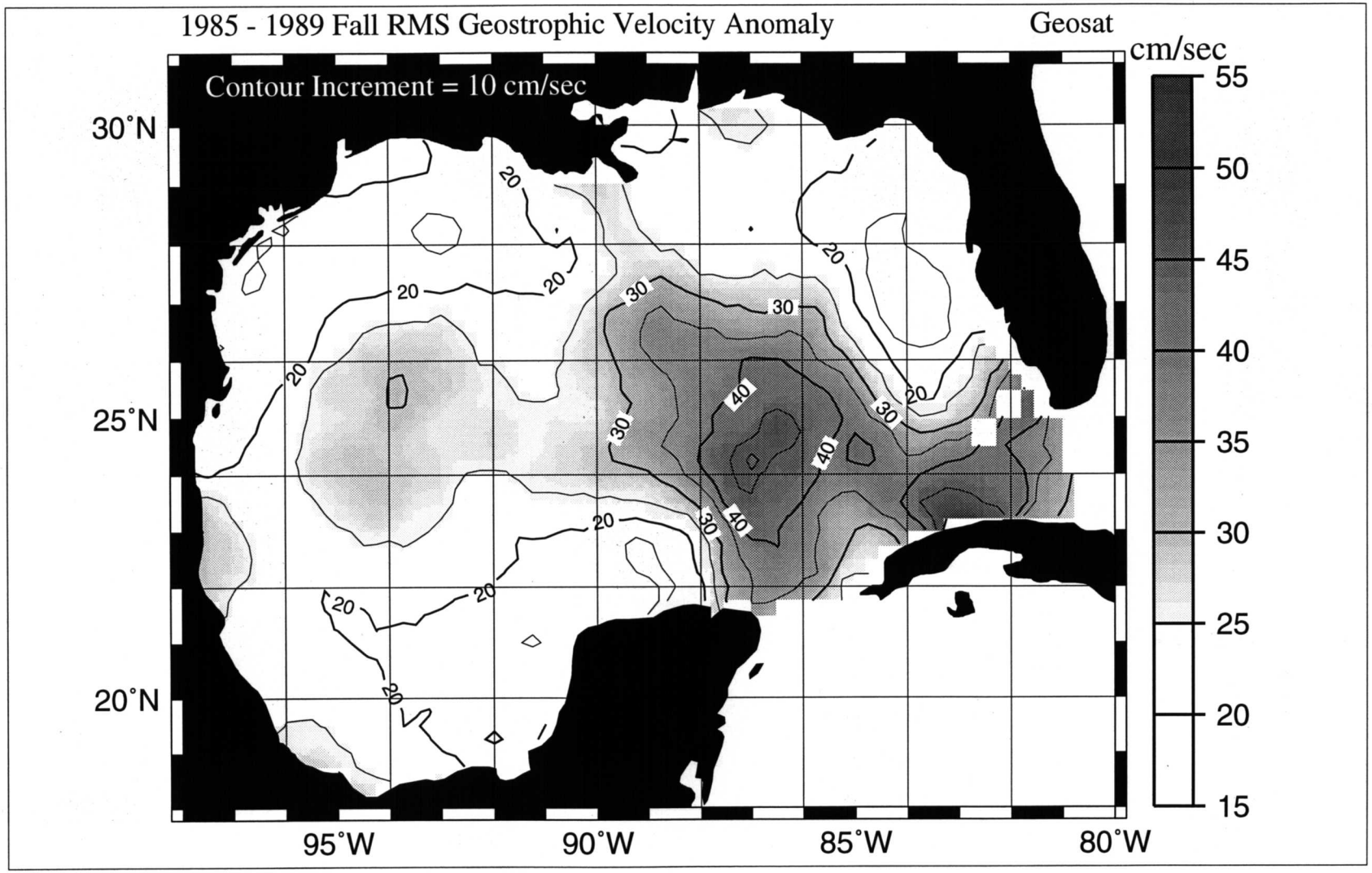

Figure A.5-9. Seasonal RMS geostrophic velocity anomaly estimated from GEOSAT altimeter data during Fall (October, November and December) 1985 to 1989.

Appendix B - Gulf of Mexico Significant Wave Height Climatology Derived from GEOSAT Altimeter Data

B.1 Introduction

Maps of the annual and seasonal mean significant wave heights as measured by GEOSAT are presented in this appendix. Data processing, editing and presentation have been described in Section 3.4.3 of this report. Maps of the 1985 to 1989 annual means are presented in Appendix B.2. Maps of the seasonal means over the GEOSAT time period are presented in Appendix B.3.

B.2 Annual Means

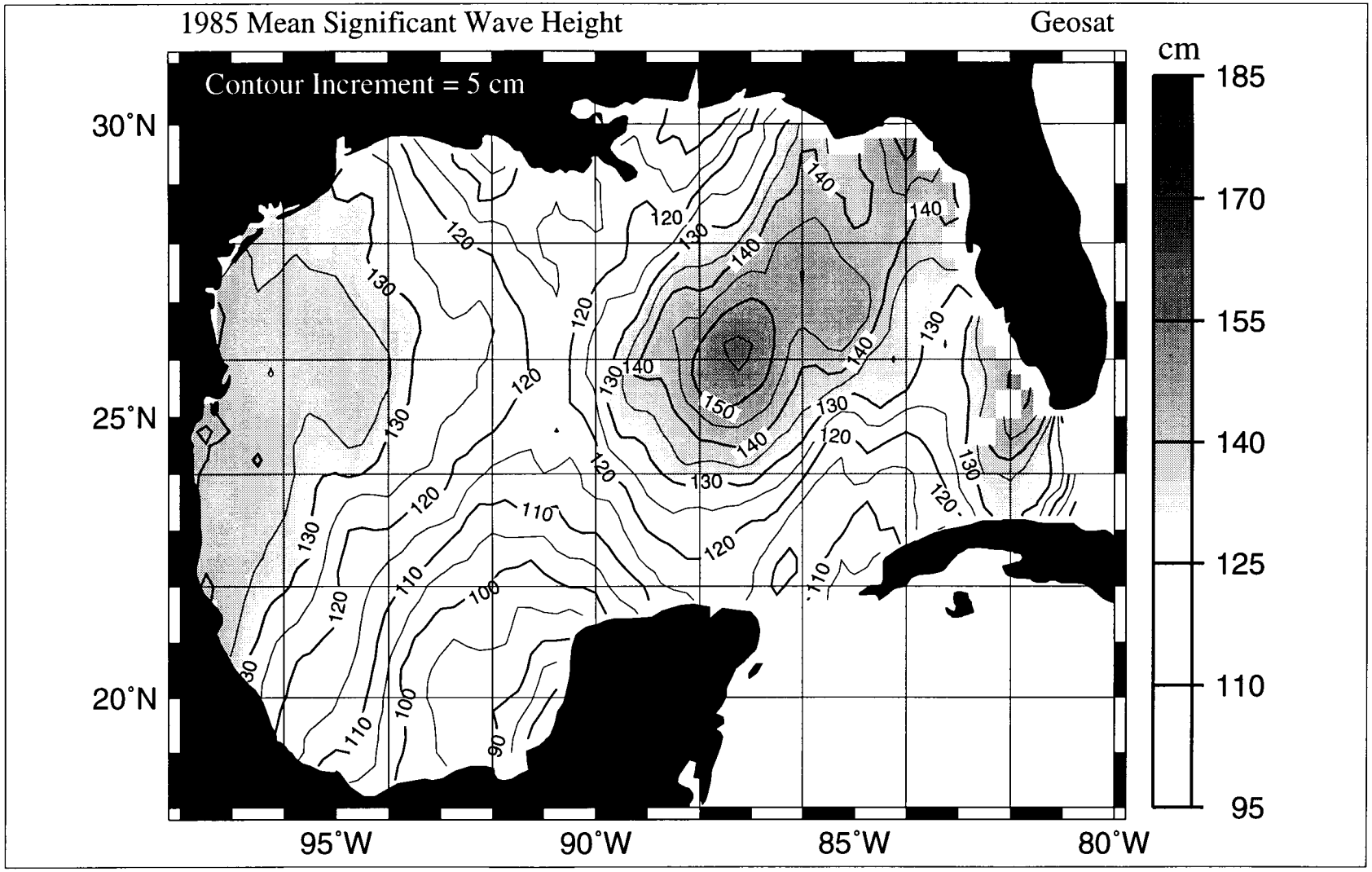

Figure B.2-1. Mean significant wave height measured by GEOSAT during 1985. (No data collected prior to March 30, 1985).

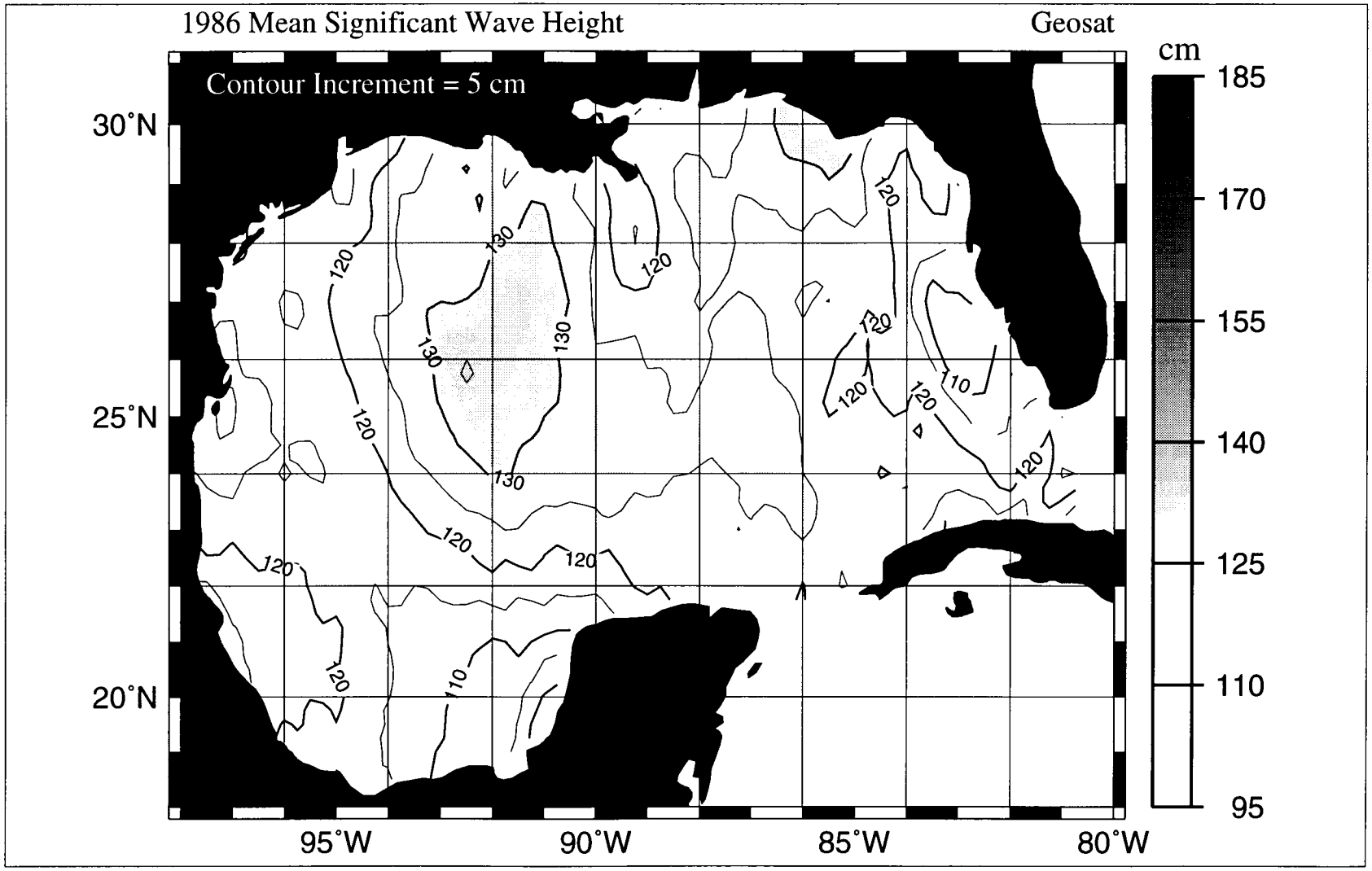

Figure B.2-2. Mean significant wave height measured by GEOSAT during 1986.

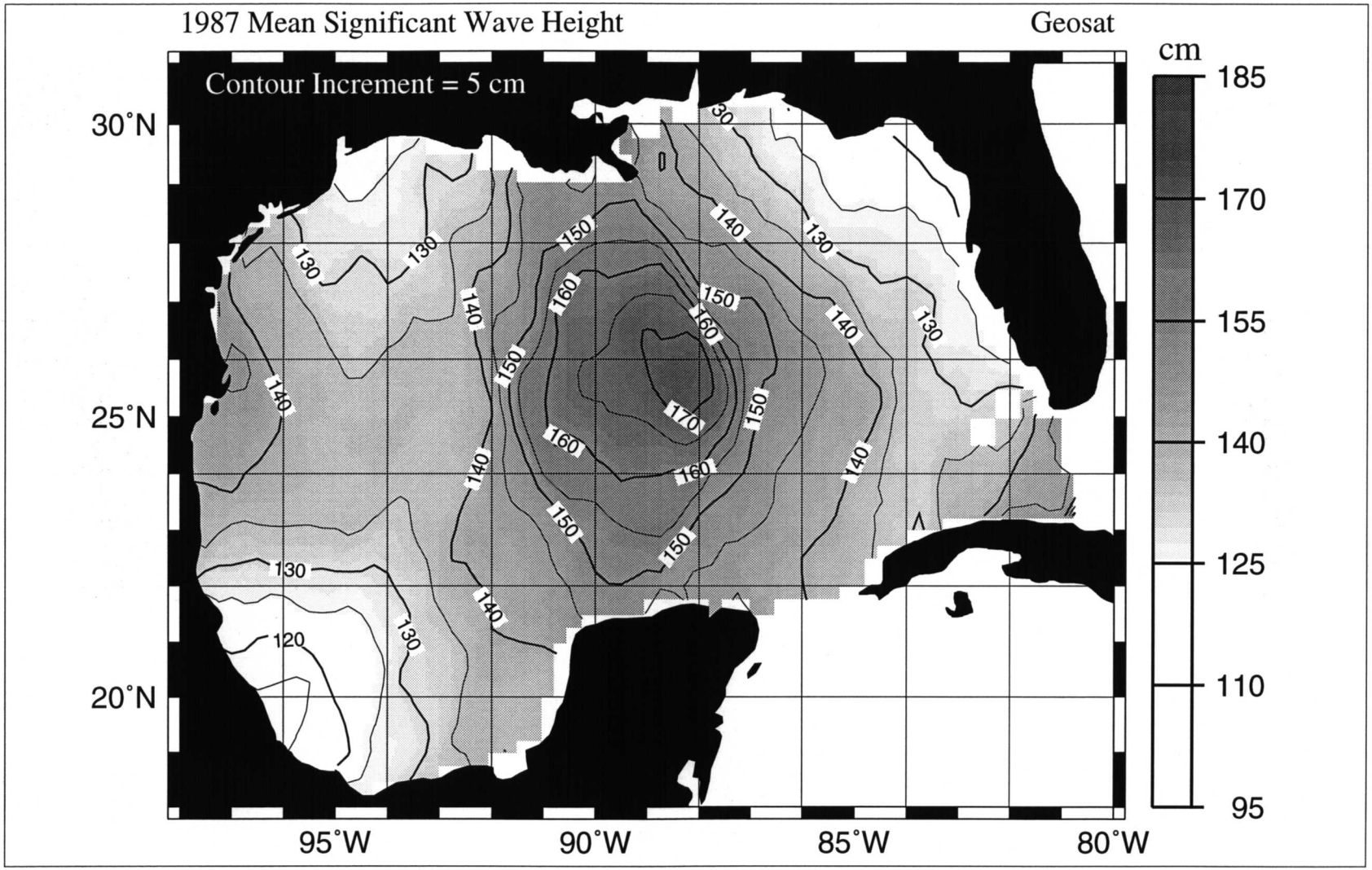

Figure B.2-3. Mean significant wave height measured by GEOSAT during 1987.

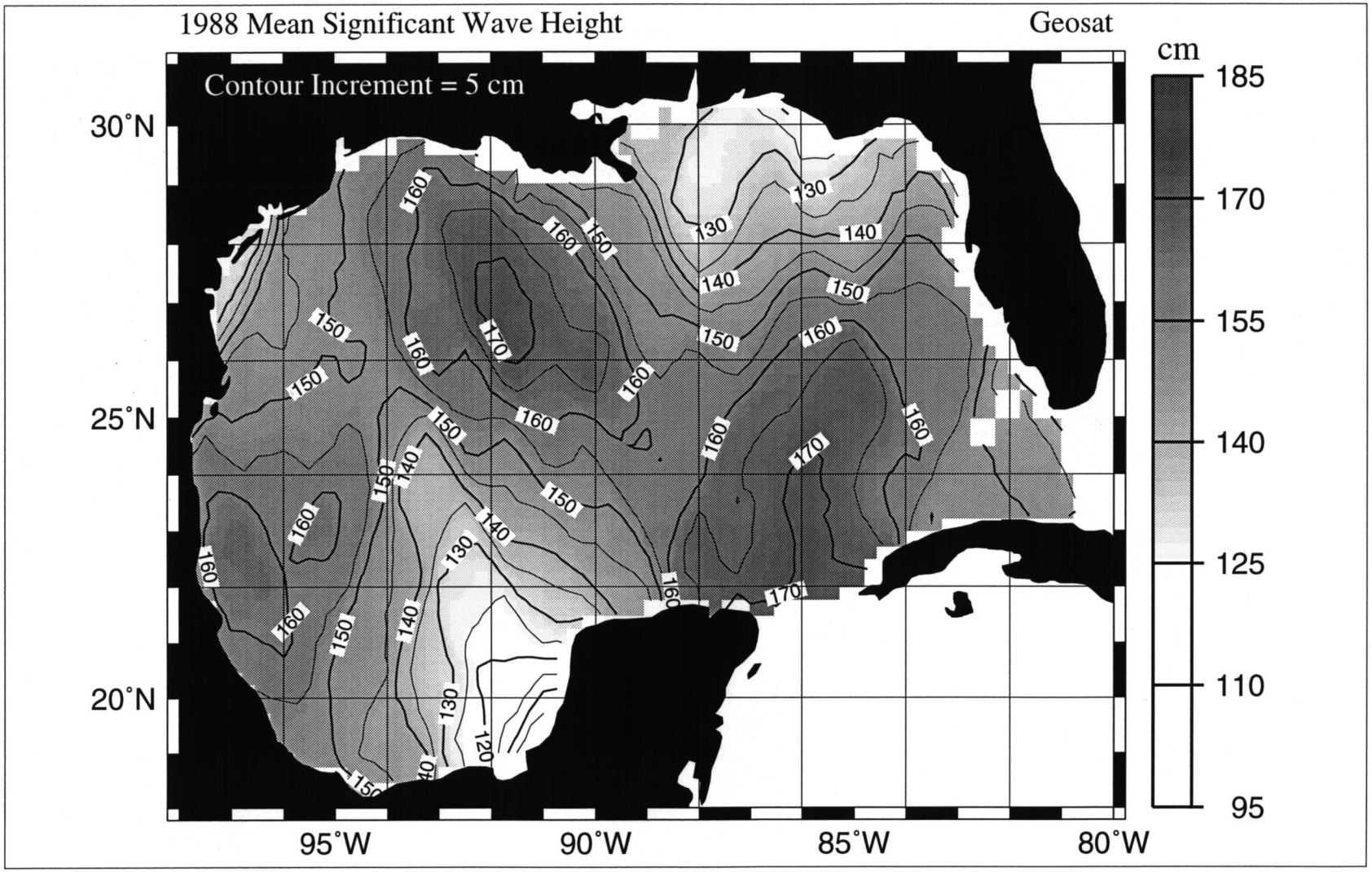

Figure B.2-4. Mean significant wave height measured by GEOSAT during 1988.

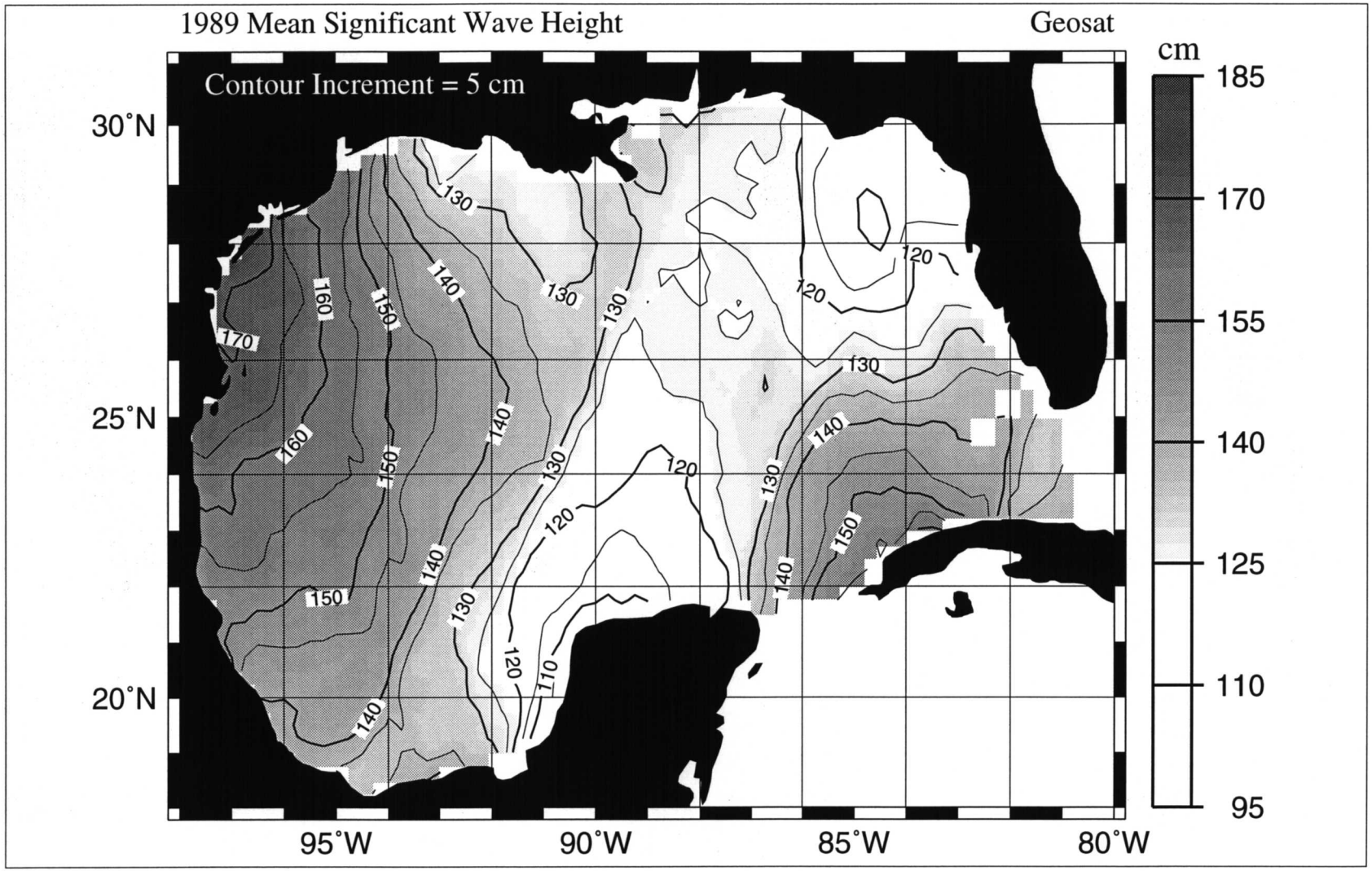

Figure B.2-5. Mean significant wave height measured by GEOSAT during 1989.

B.3 Seasonal Means

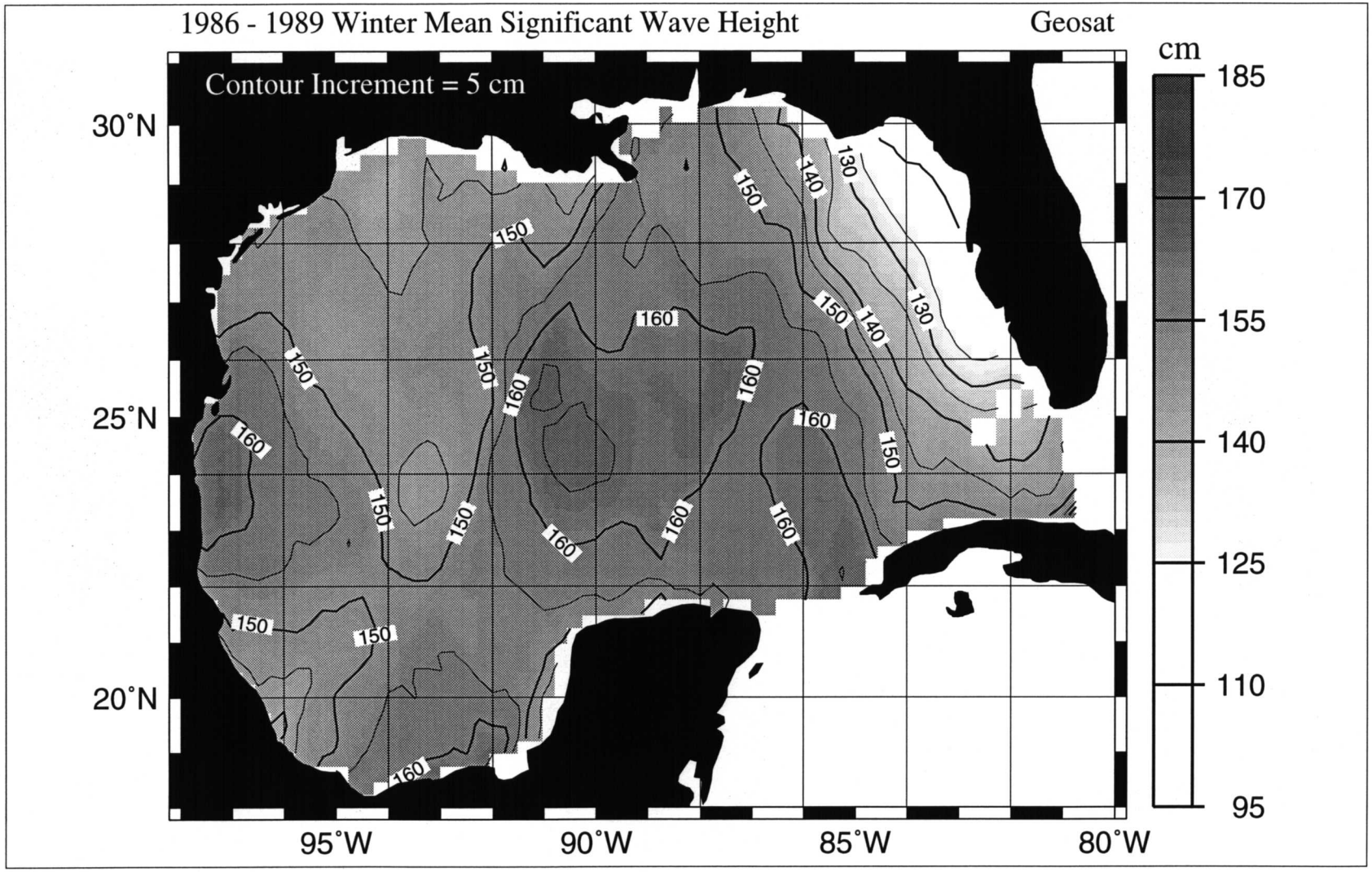

Figure B.3-1. Seasonal mean significant wave height measured by GEOSAT during Winter (January, February and March) from 1986 to 1989.

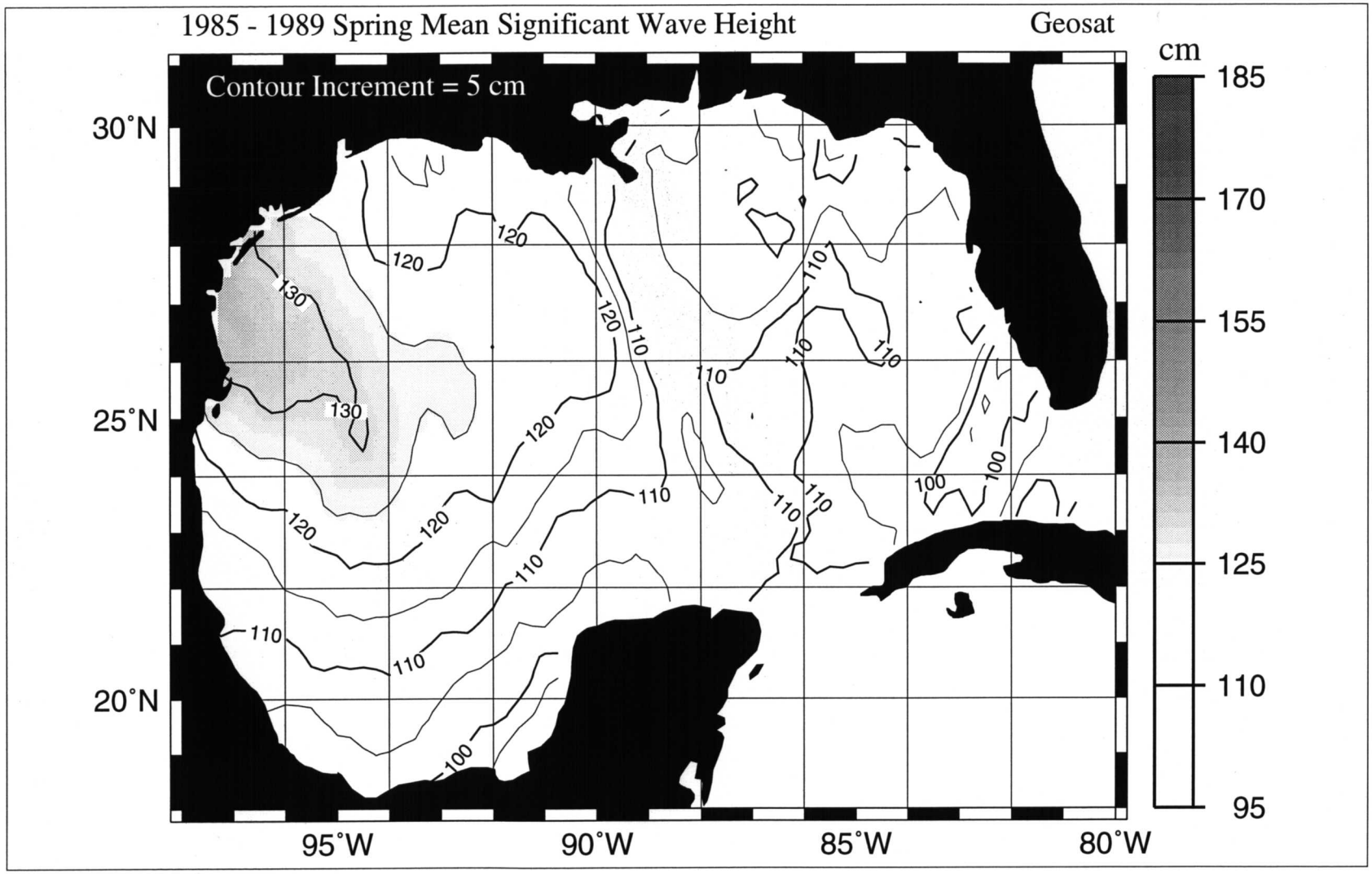

Figure B.3-2. Seasonal mean significant wave height measured by GEOSAT during Spring (April, May and June) from 1985 to 1989.

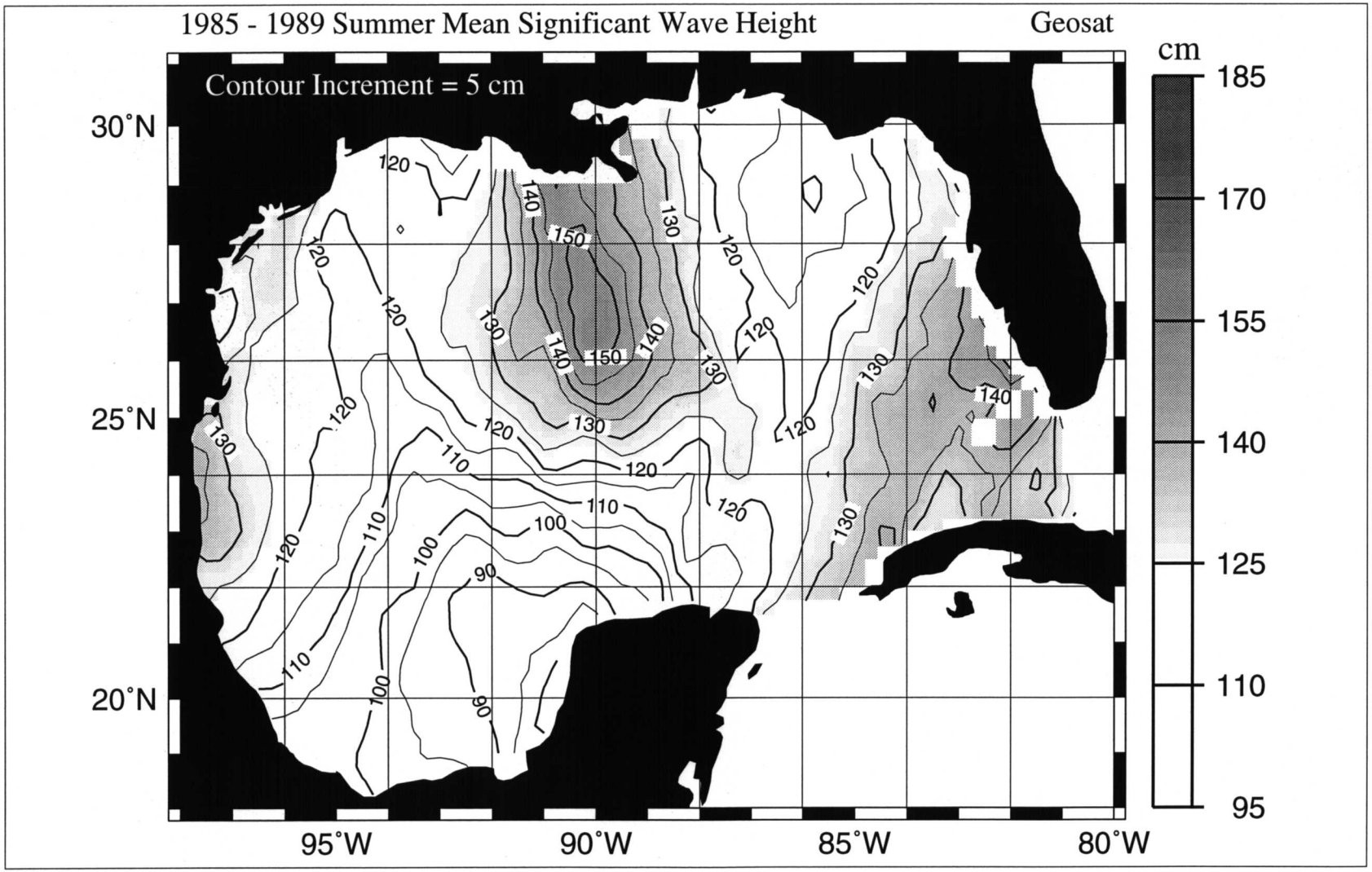

Figure B.3-3. Seasonal mean significant wave height measured by GEOSAT during Summer (July, August and September) from 1985 to 1989.

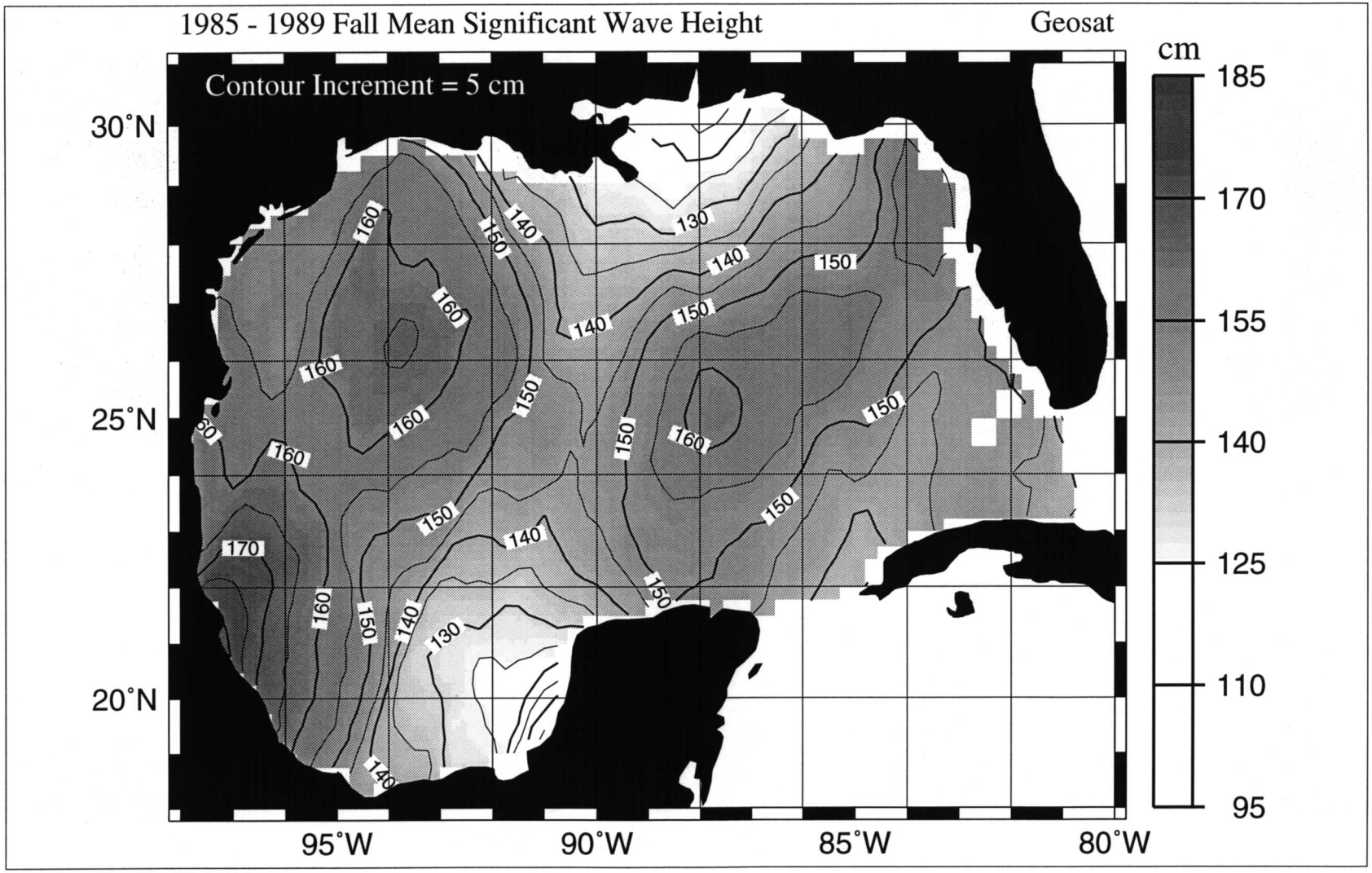

Figure B.3-4. Seasonal mean significant wave height measured by GEOSAT during Fall (October, November and December) from 1985 to 1989.

Appendix C - Gulf of Mexico Wind Speed Climatology Derived from GEOSAT Altimeter Data

C.1 Introduction

Maps of the annual and seasonal mean wind speed at 10 meters above the ocean surface are presented in this appendix. The wind speed estimate was derived from GEOSAT altimeter data. Data processing, editing and presentation have been described in Section 3.4.4 of this report. Maps of the 1985 to 1989 annual means are presented in Appendix C.2. Maps of the seasonal means over the GEOSAT time period are presented in Appendix C.3.

C.2 Annual Means

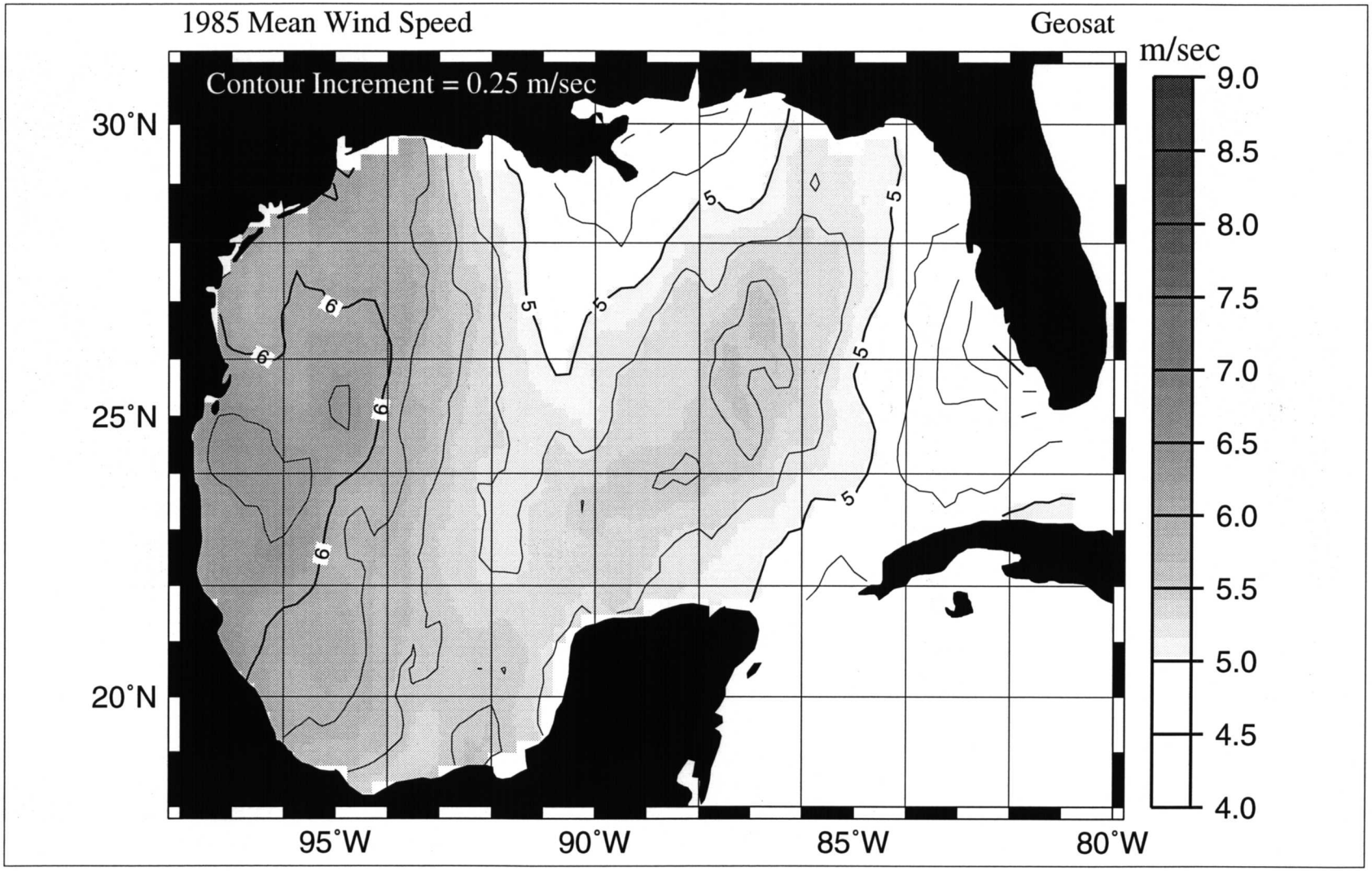

Figure C.2-1. Mean wind speed measured by GEOSAT during 1985. (No data collected prior to March 30, 1985).

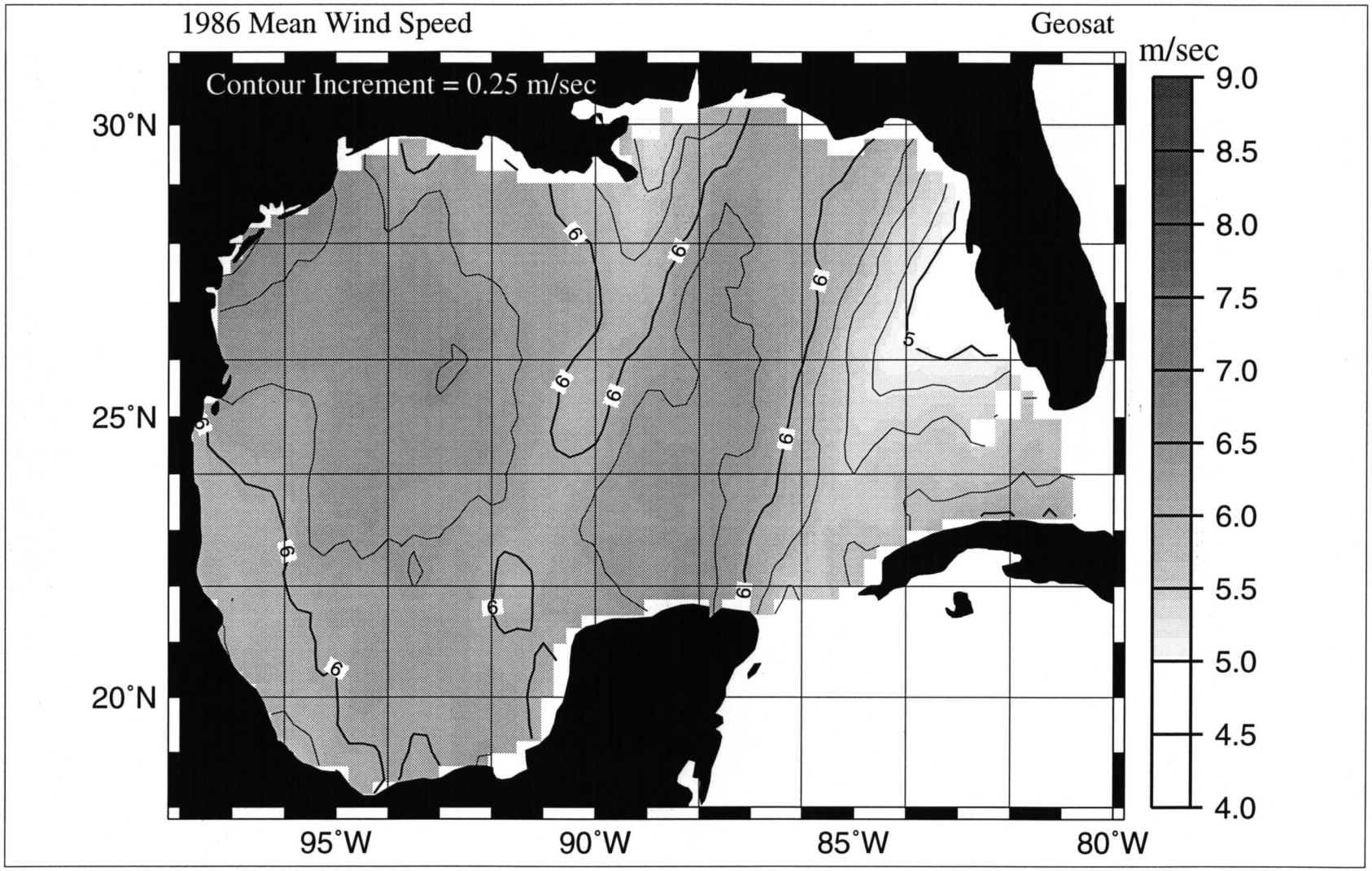

Figure C.2-2. Mean wind speed measured by GEOSAT during 1986.

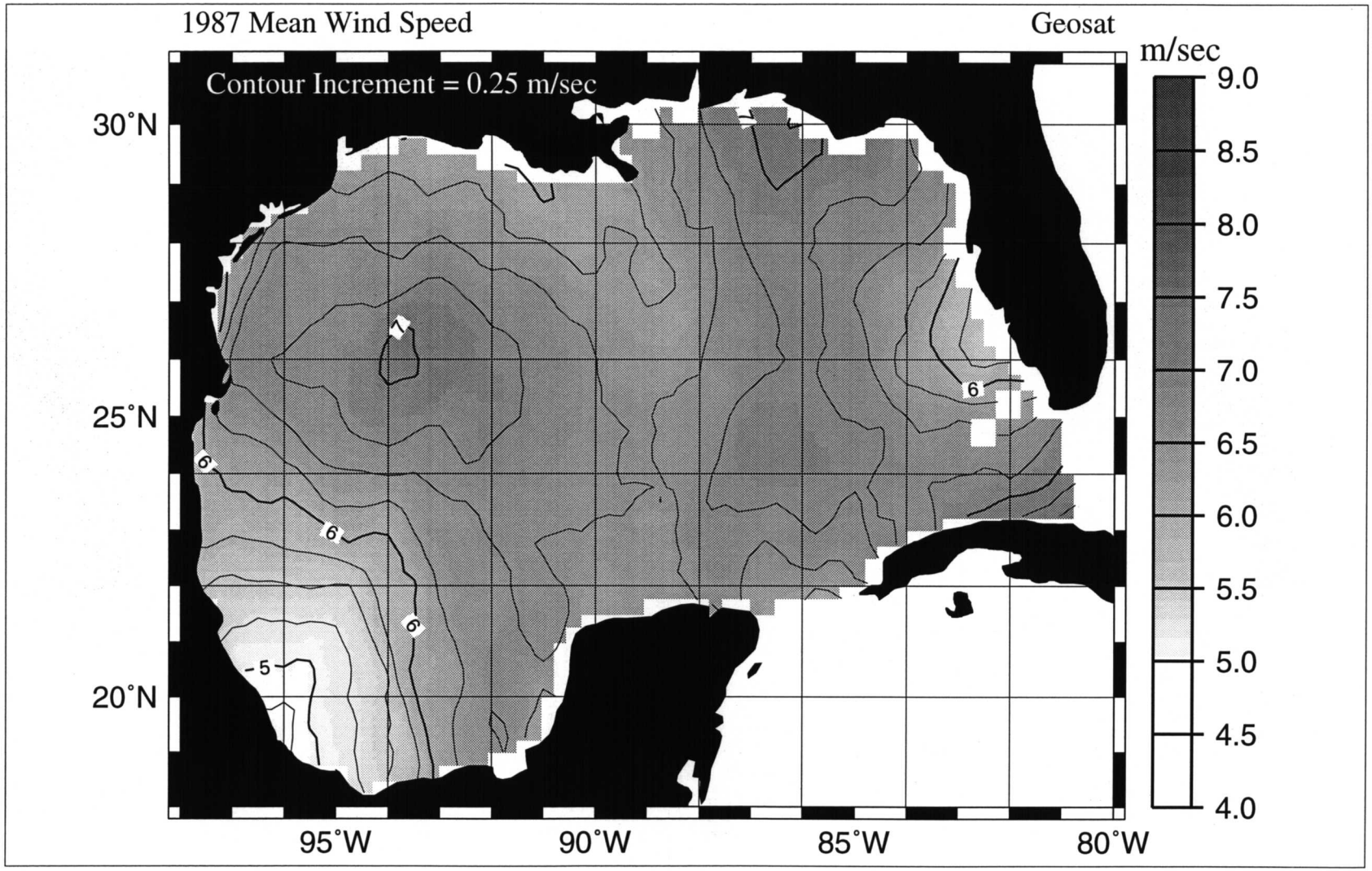

Figure C.2-3. Mean wind speed measured by GEOSAT during 1987.

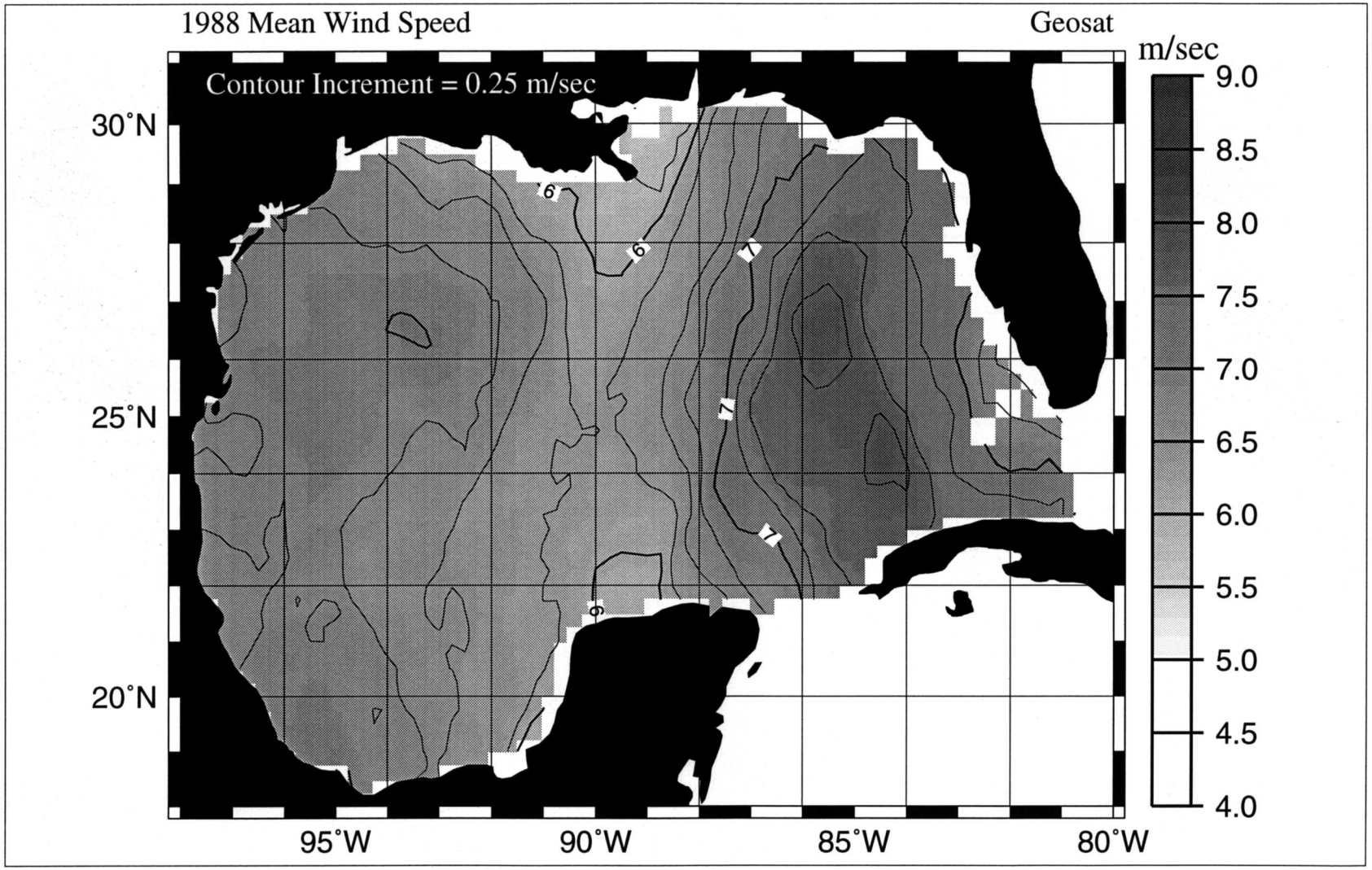

Figure C.2-4. Mean wind speed measured by GEOSAT during 1988.

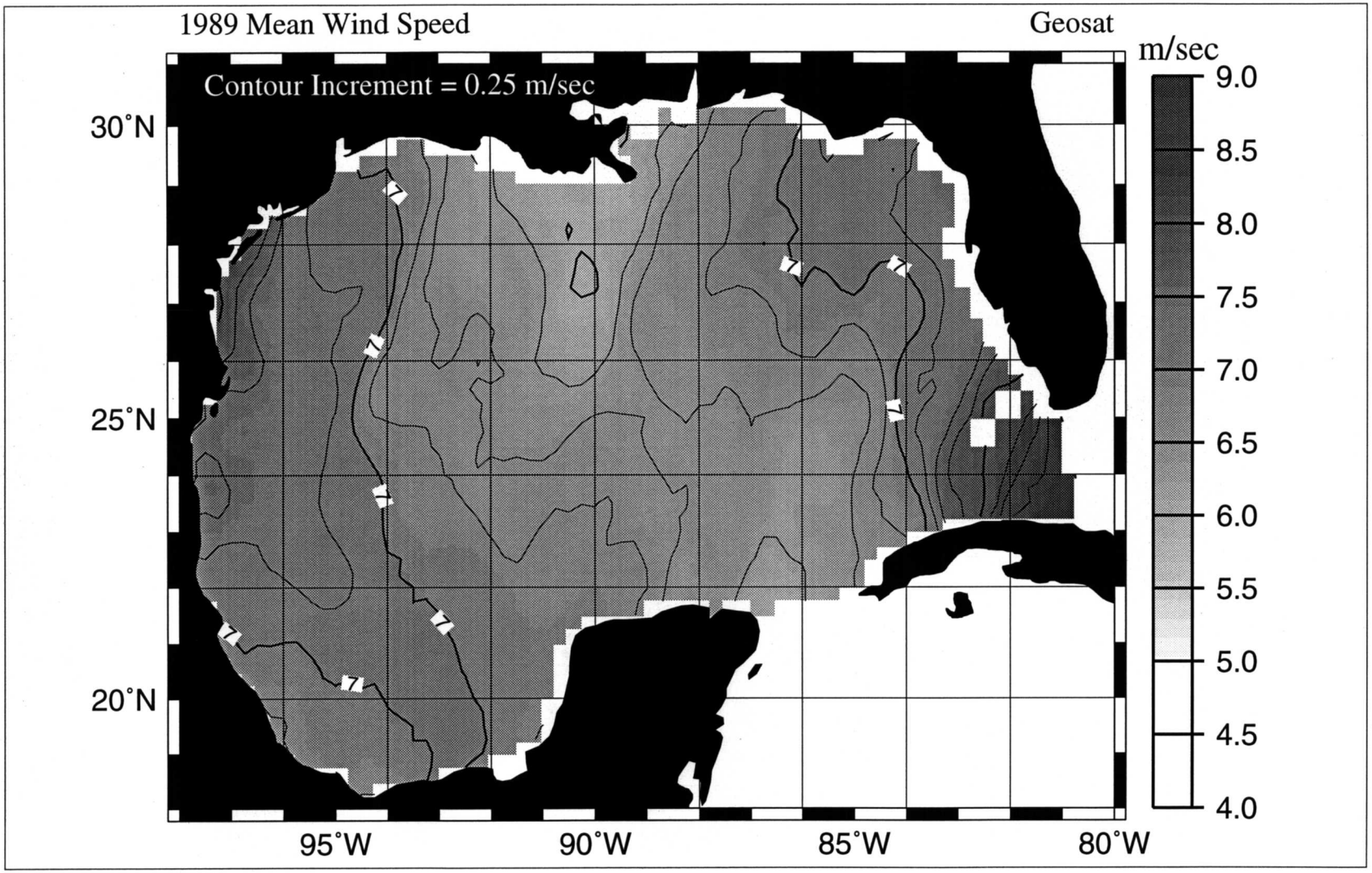

Figure C.2-5. Mean wind speed measured by GEOSAT during 1989.

C.3 Seasonal Means

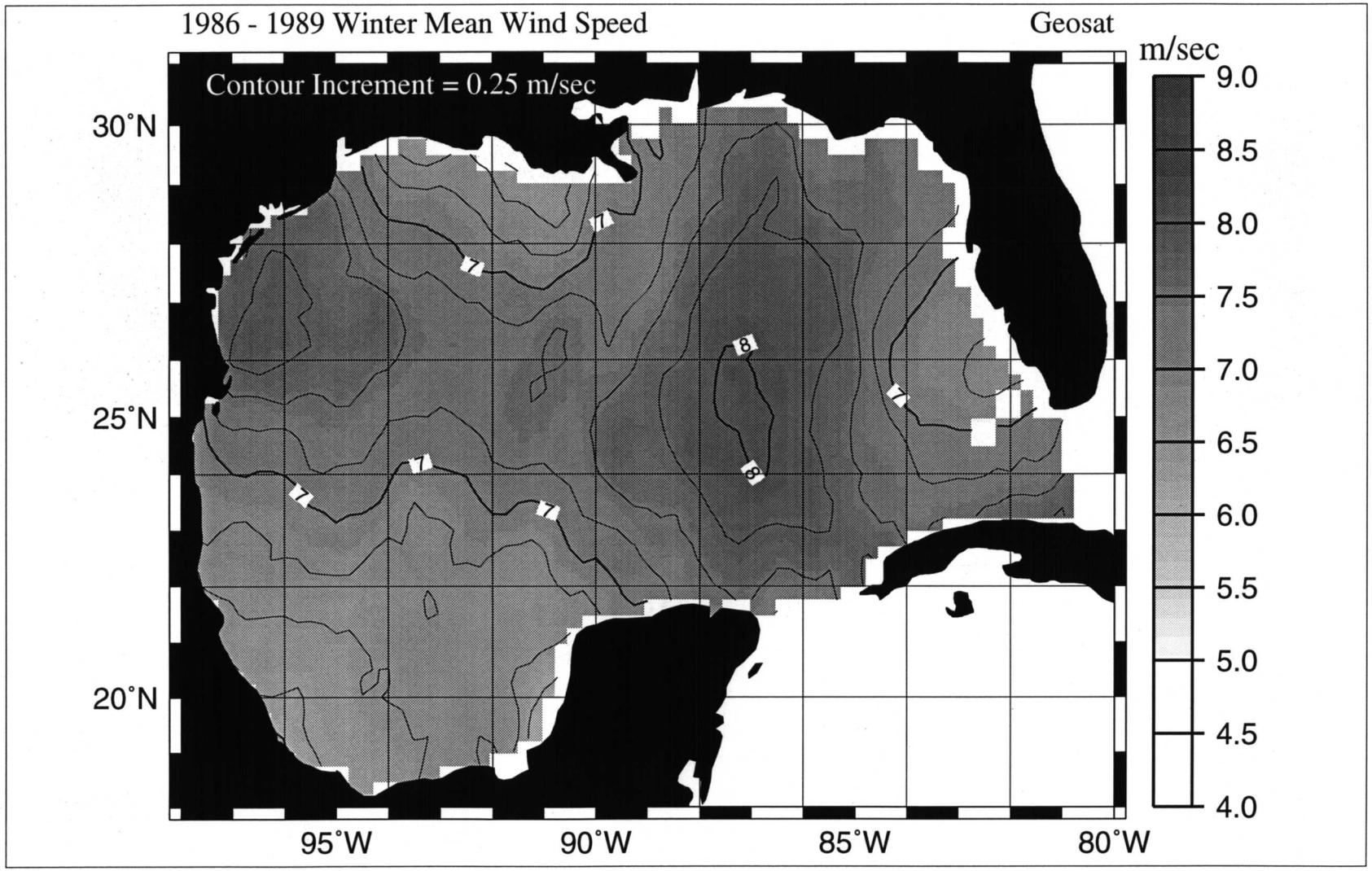

Figure C.3-1. Seasonal mean wind speed measured by GEOSAT during Winter (January, February and March) from 1986 to 1989.

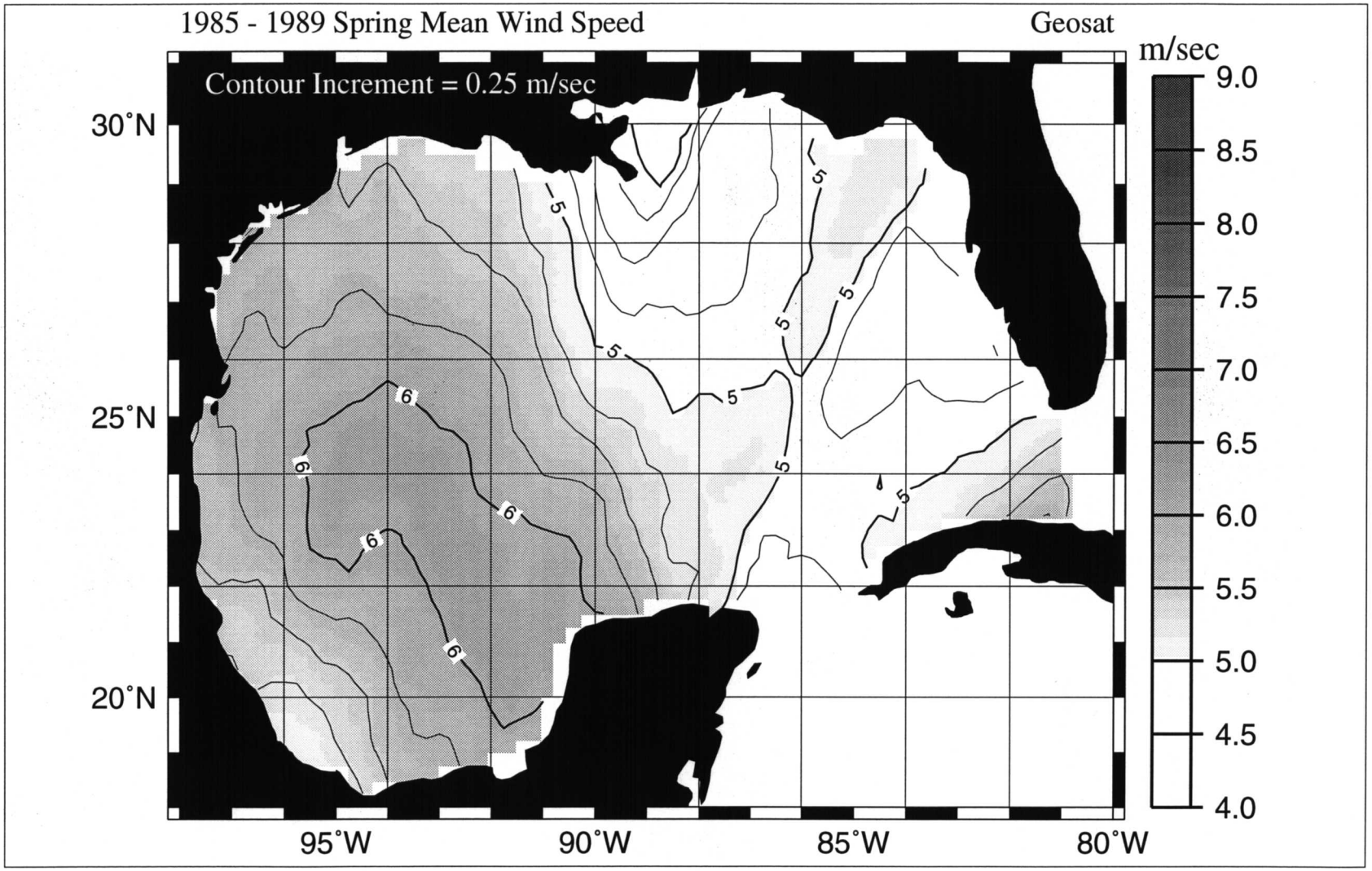

Figure C.3-2. Seasonal mean wind speed measured by GEOSAT during Spring (April, May and June) from 1985 to 1989.

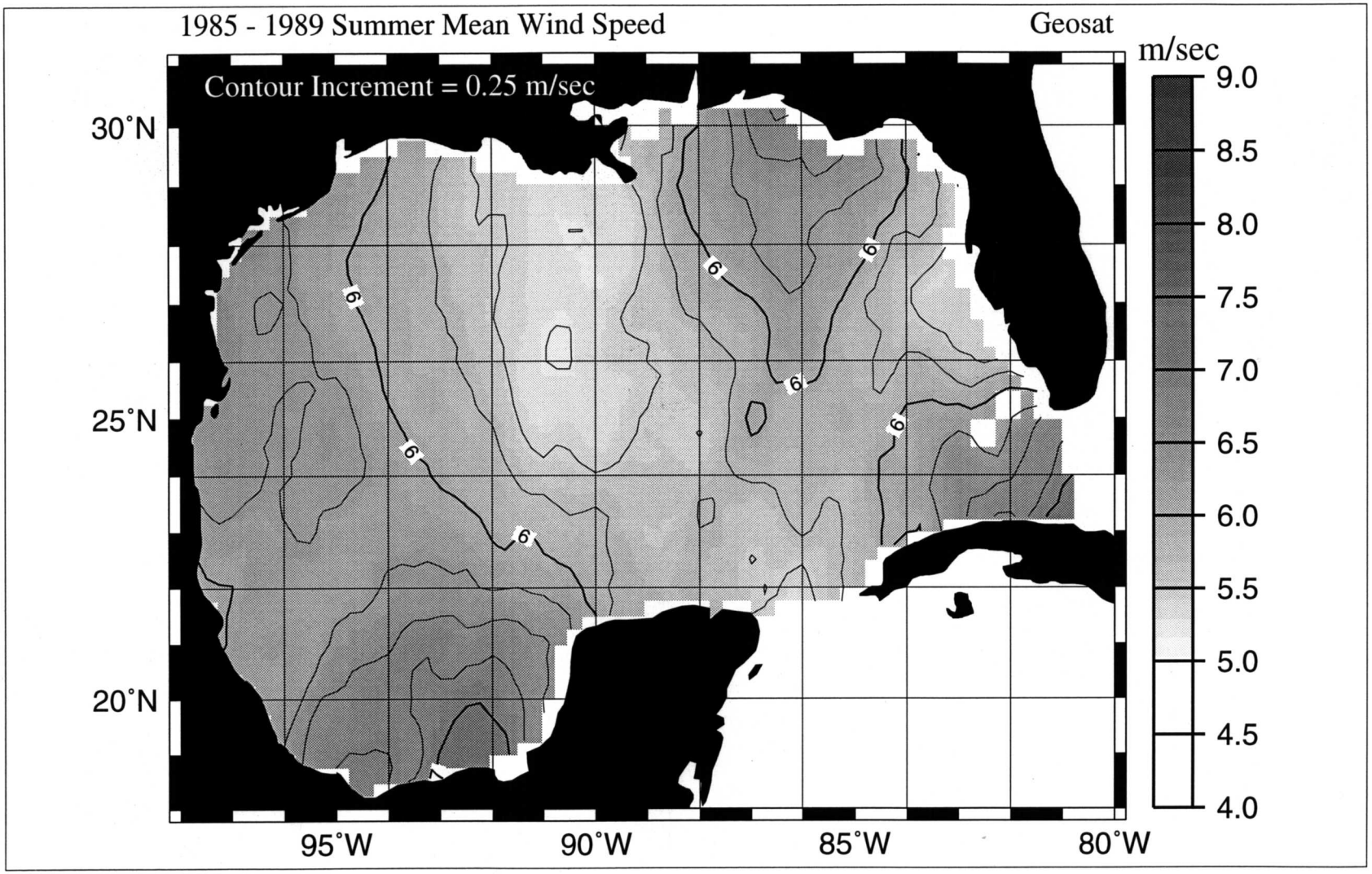

Figure C.3-3. Seasonal mean wind speed measured by GEOSAT during Summer (July, August and September) from 1985 to 1989.

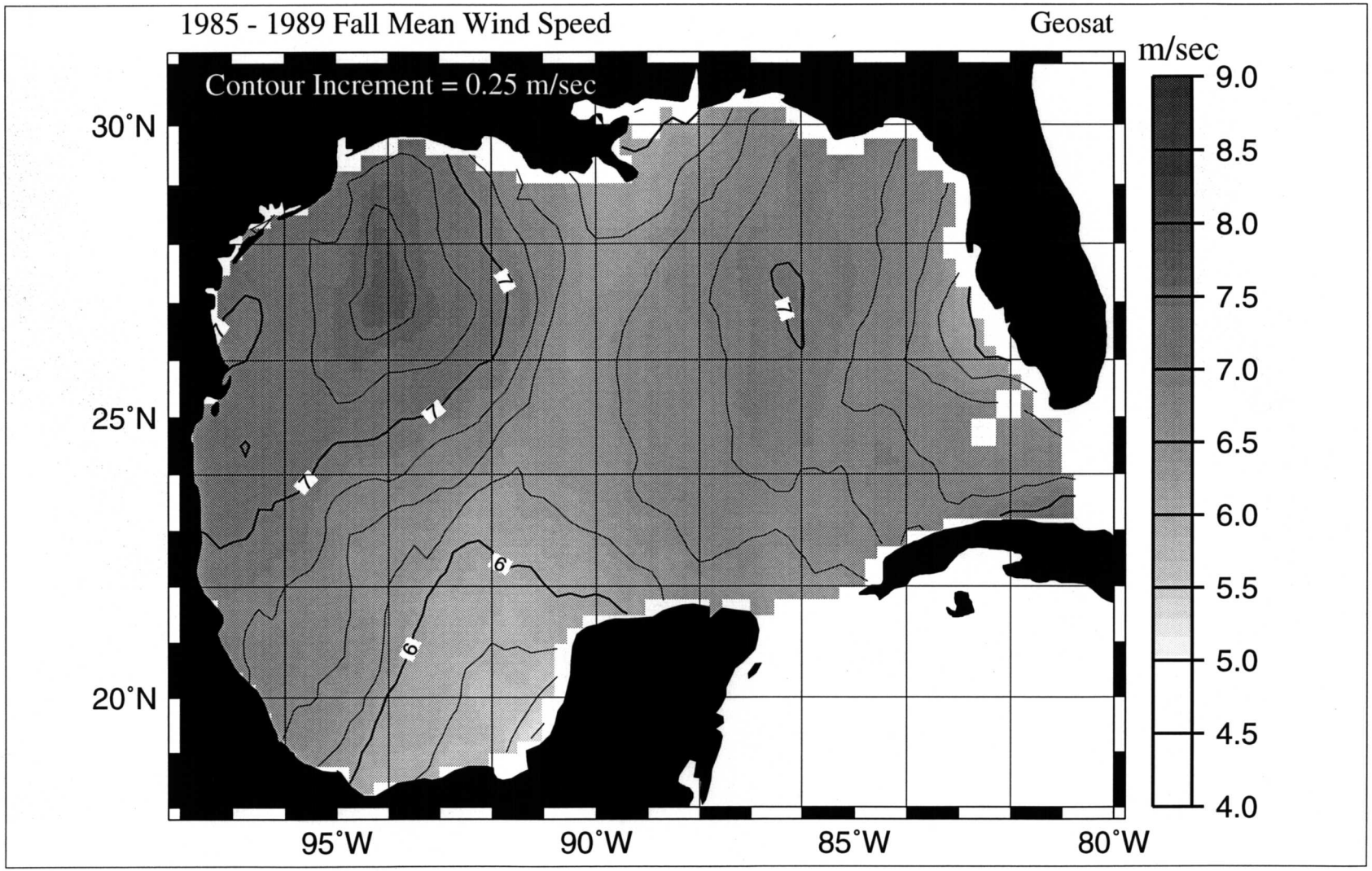

Figure C.3-4. Seasonal mean wind speed measured by GEOSAT during Fall (October, November and December) from 1985 to 1989.

The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The Minerals Management Service Mission

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Royalty Management Program** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.