

Fig. 2.1A. Atmospheric sounding sequence (skewT/logP) for Corpus Christi, TX (CRP) for 8/21/98 12 UTC - 8/24/98 00 UTC, every 12 hours (left to right, then down)

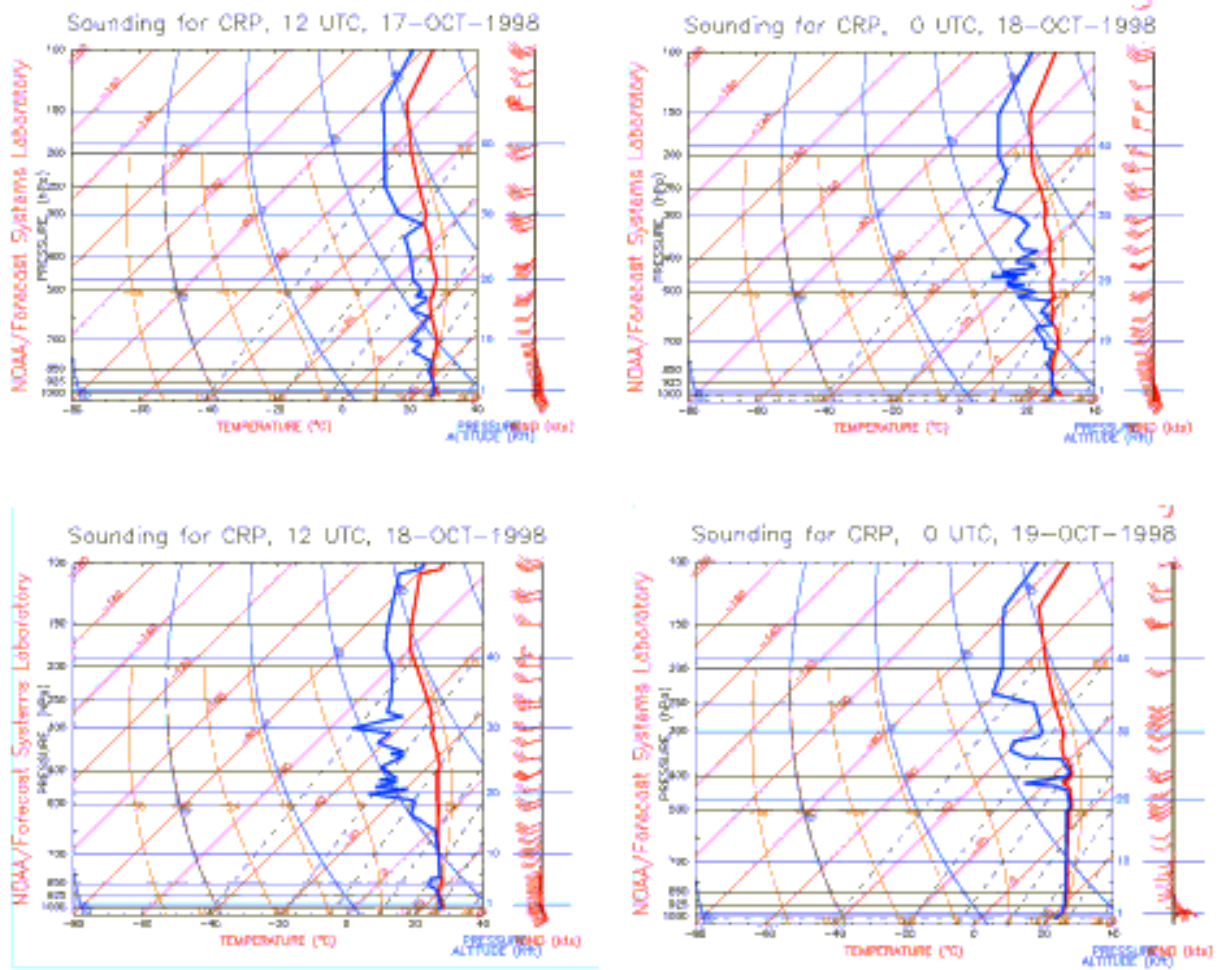


Fig. 2.10. Atmospheric sounding sequence (skewT/logP) for Corpus Christi, TX (CRP) for 10/17/98 12 UTC - 10/19/98 00 UTC, every 12 hours (left to right, then down)

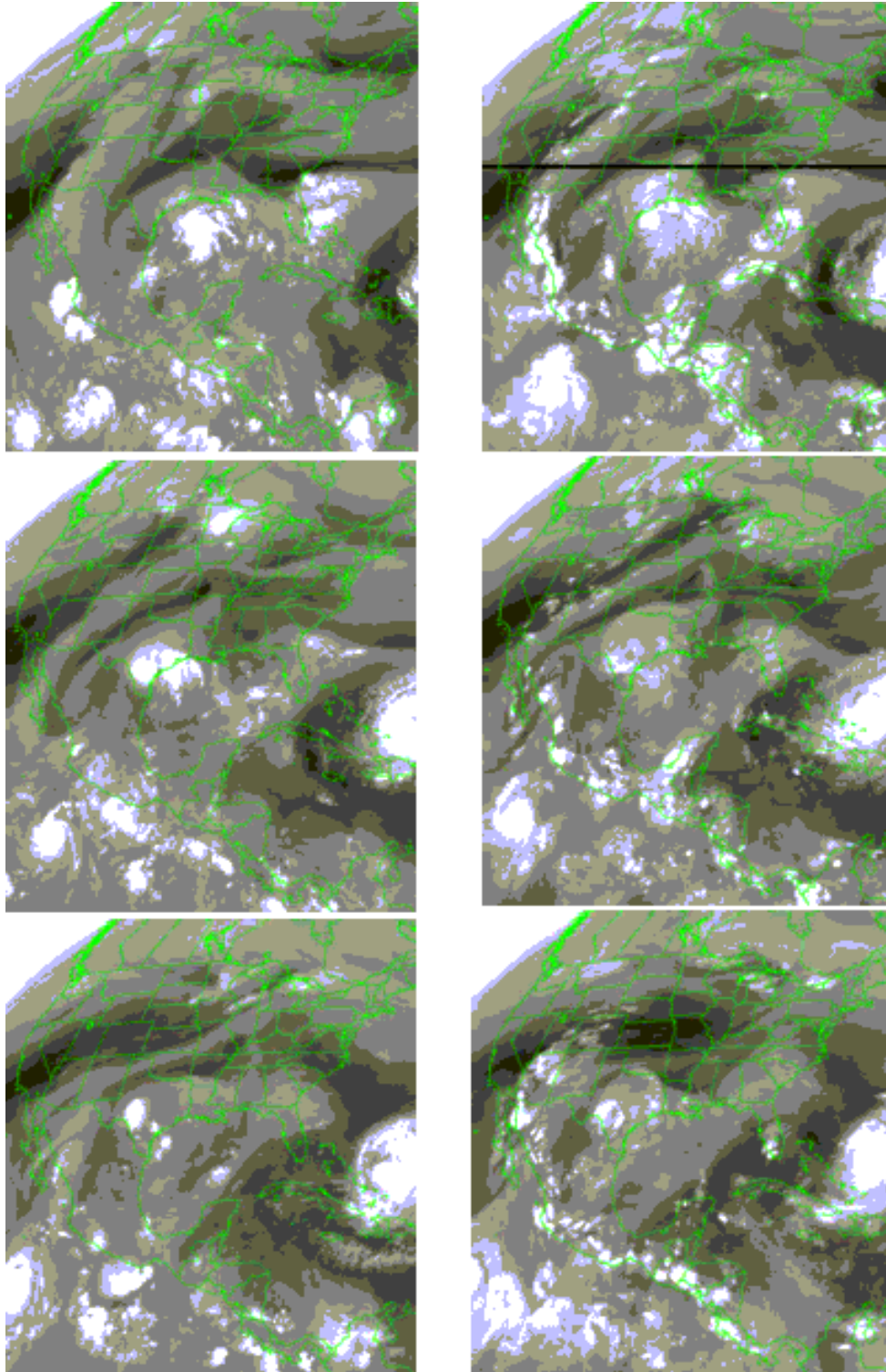


Fig. 2.2A. GOES Satellite - water vapor imagery sequence for 8/21/98 12 UTC - 8/24/98 00 UTC, every 12 hours (left to right, then down)

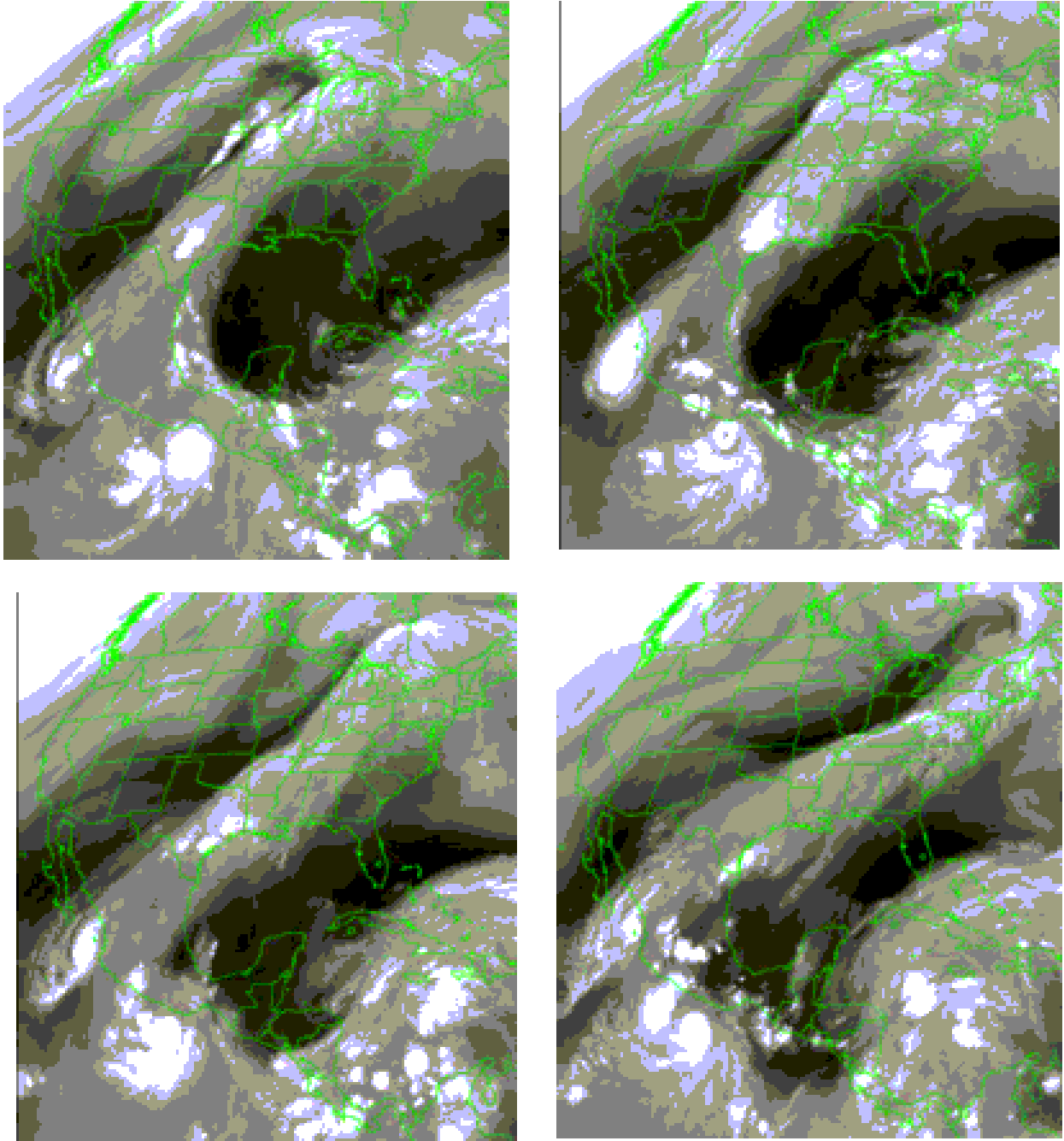


Fig. 2.20. GOES Satellite - water vapor imagery sequence for 10/17/98 12 UTC - 10/19/98 00 UTC, every 12 hours (left to right, then down)

Houston, TX (HGX) 08/21-24/98: Level 1 Base Reflectivity Images

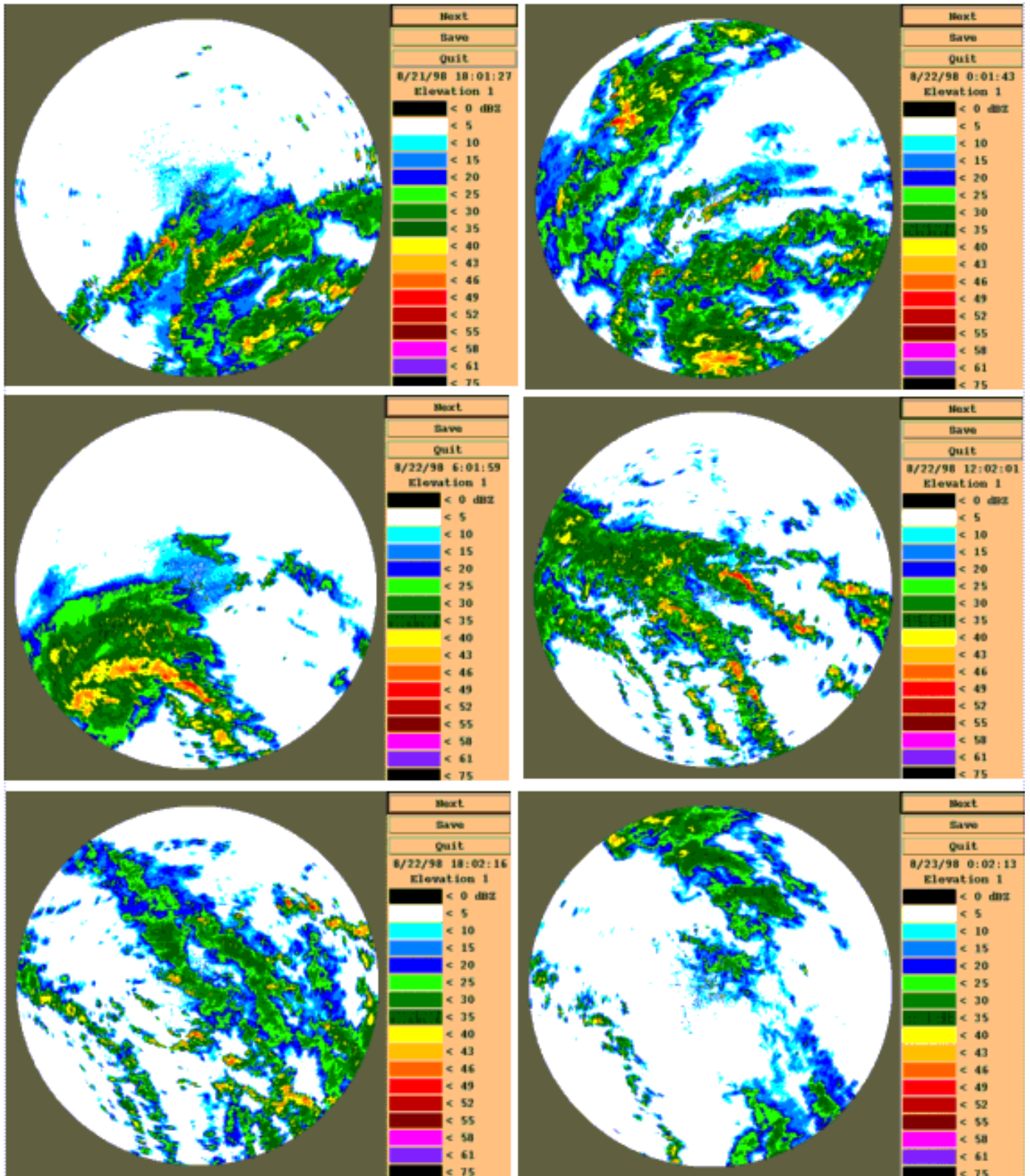


Fig . 2.3A.H: Overview of evolution of August 21-24 Houston (KHGX) simulation provided by level 1 Base Reflectivity images (every 6 hours).

San Angelo, TX (SJT) 08/21-24/98: Level 1 Base Reflectivity Images

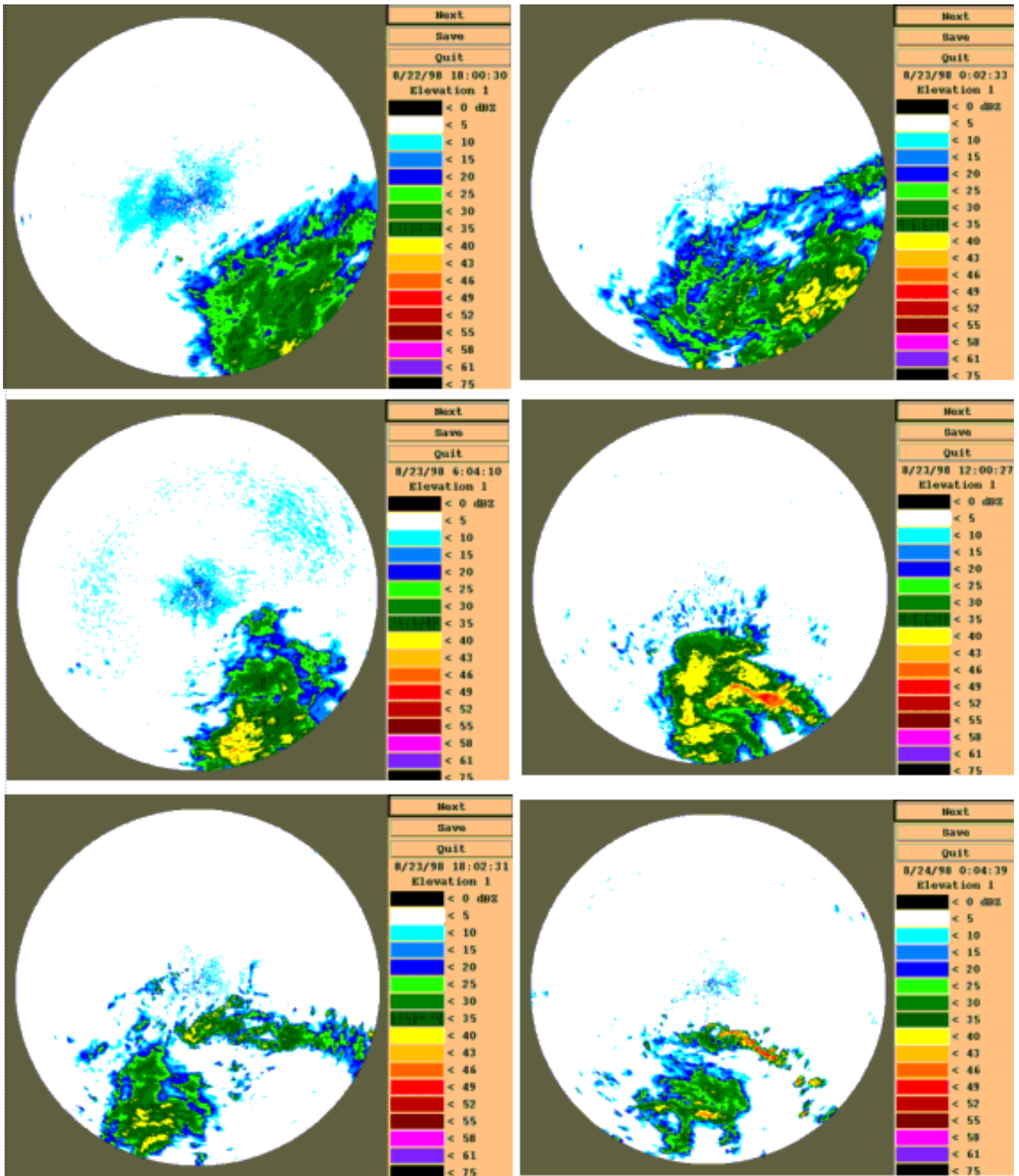


Fig . 2.3A.S: Overview of evolution of August 21-24 San Angelo (KSJT) simulation provided by level 1 Base Reflectivity images (every 6 hours).

Houston, TX (HGX) 10/17-19/98: Level 1 Base Reflectivity Images

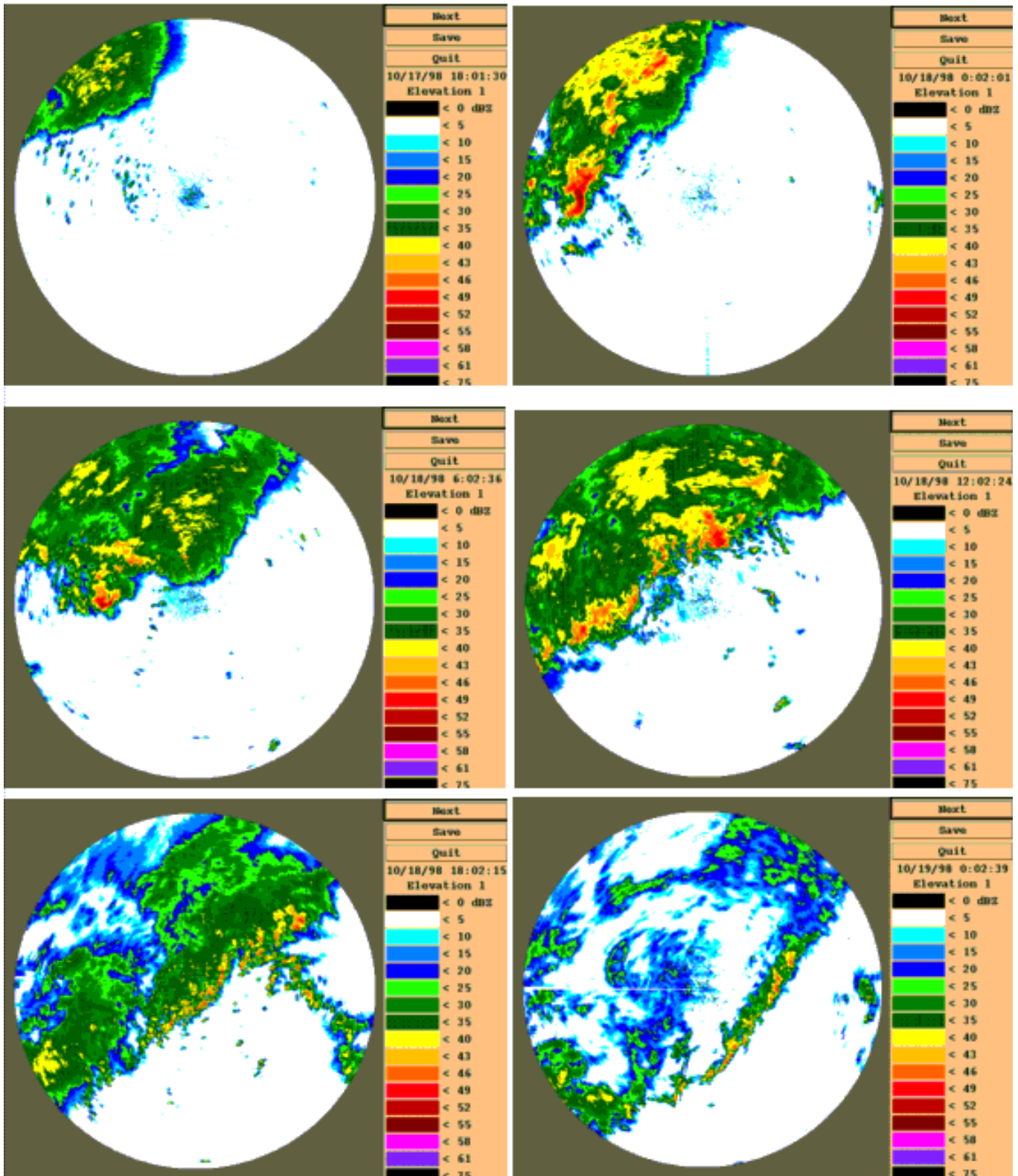


Fig . 2.30.H: Overview of evolution of October 17-19 Houston (KHGX) simulation provided by level 1 Base Reflectivity images (every 6 hours).

Corpus Christi, TX (CRP) 10/17-19/98: Level 1 Base Reflectivity Images

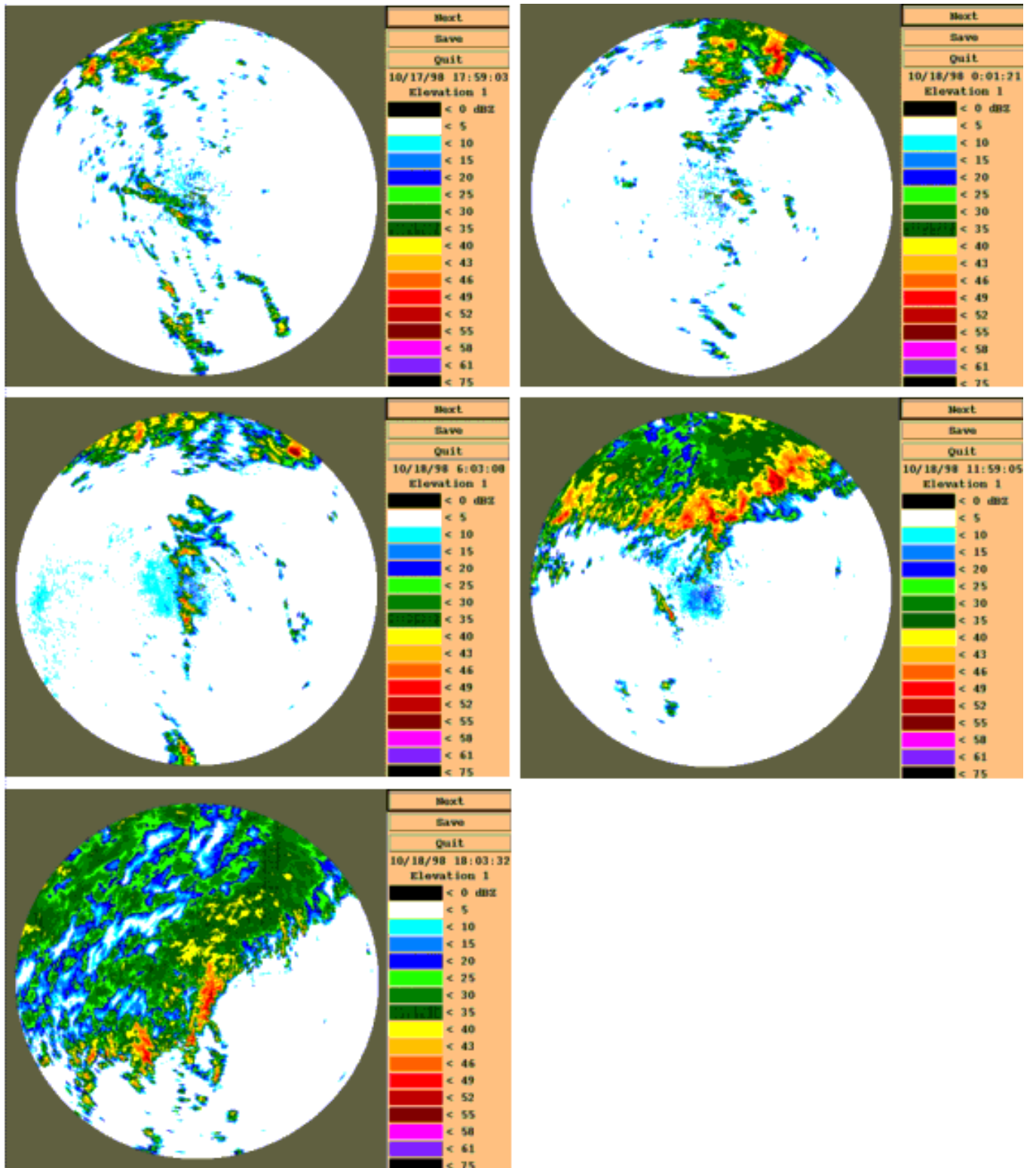


Fig . 2.30.C: Overview of evolution of Oct. 17-19 Corpus Christi (KCRP) simulation provided by level 1 Base Reflectivity images (every 6 hours).

Houston, TX (HGX) 08/21-24/98: Default Z-R; Default Hail Cap simulations

1-Hour Gage-Radar analyses

24-Hour Gage-Radar analyses

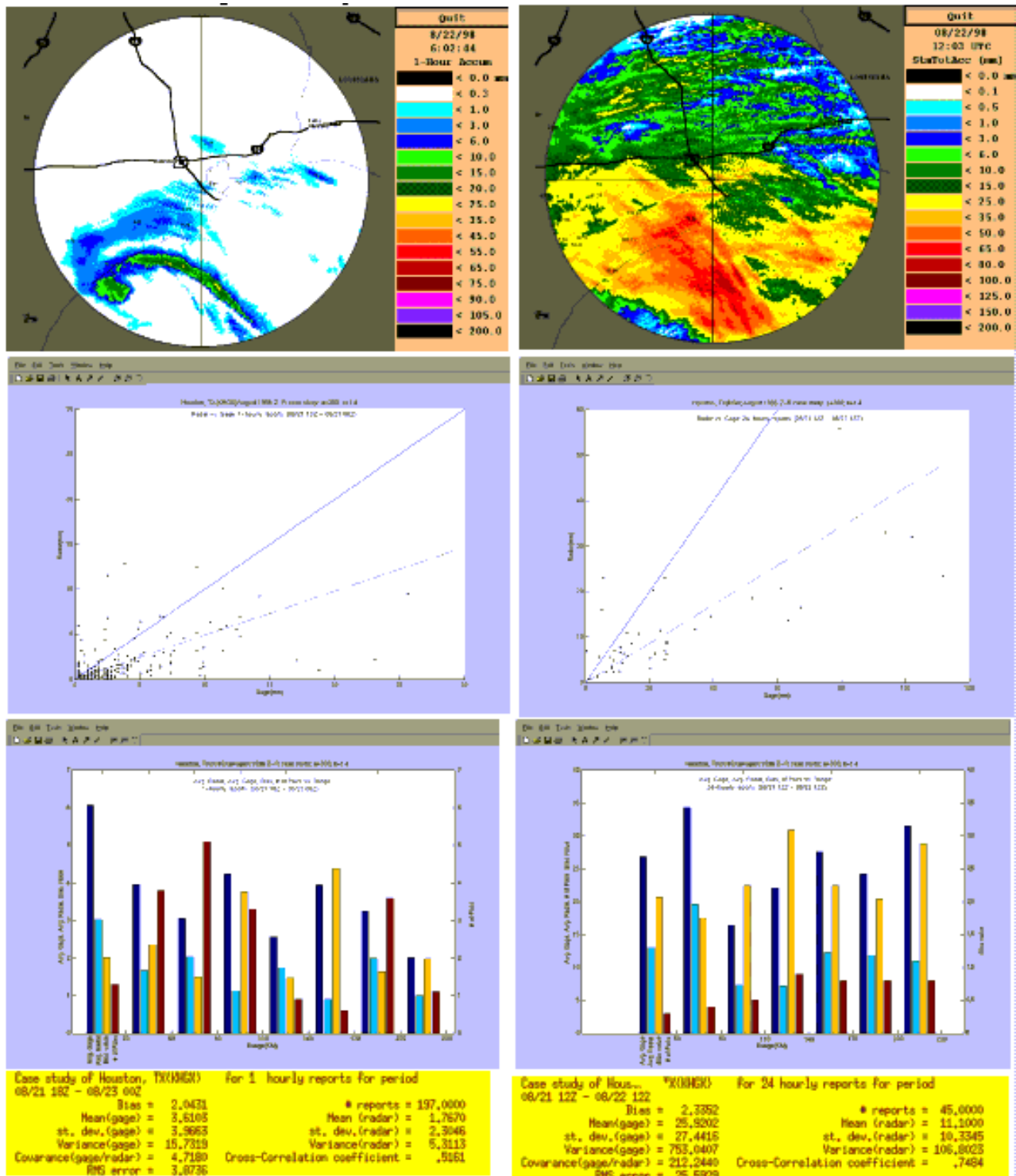
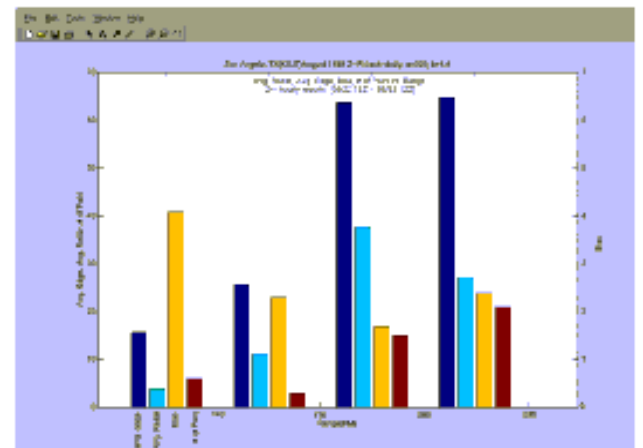
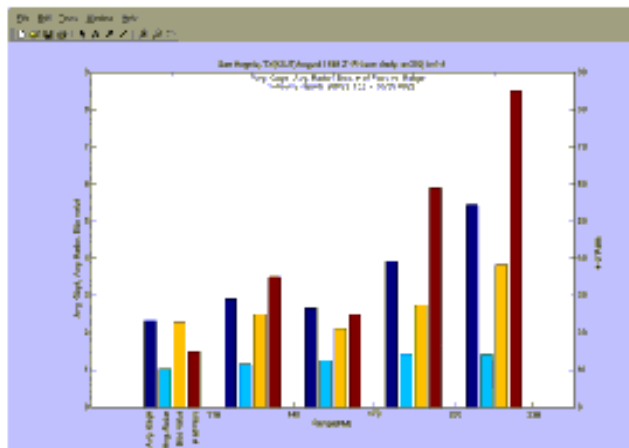
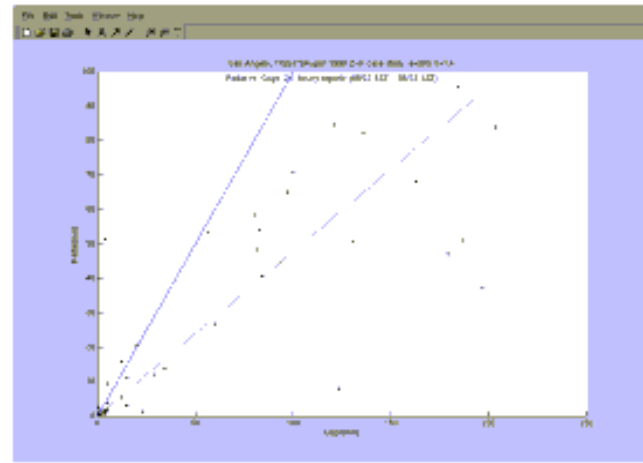
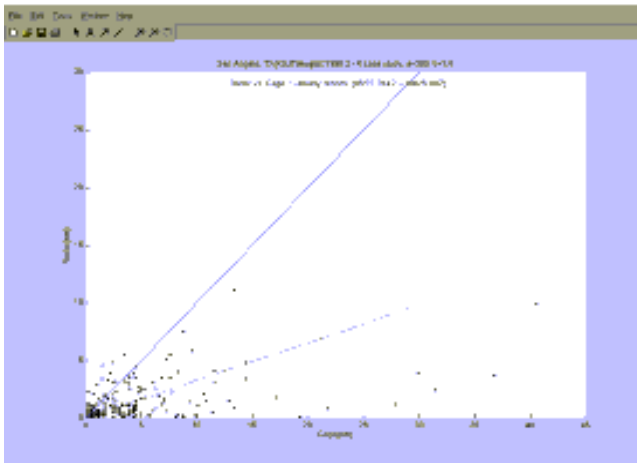
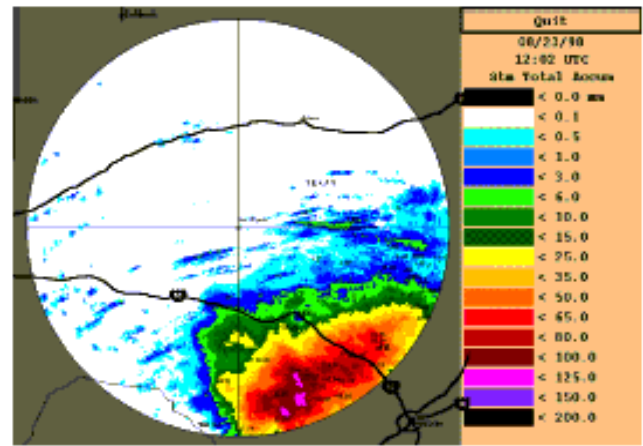
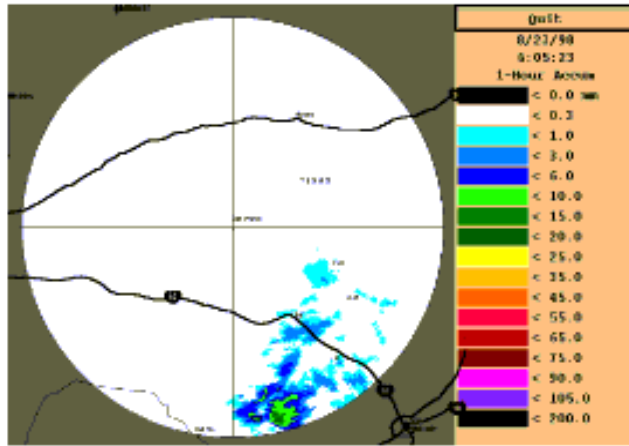


Fig. 2.4A.H: Overview of results from August 21-24 Houston (KHGX) simulation with Default Z-R ($a=300$; $b=1.4$) and Default Hail Cap threshold (103.8 mm/hr): Left column: analysis of all 1-hr G-R Pairs for duration of run (i.e., 08/21 18UTC - 08/23 00 UTC); Right column: analysis of 24-hr G-R pairs ending 08/22 12 UTC. Top to bottom (both columns): Accumulation product with rain gage data for matching period superimposed (Left: OHP for indicative hour (i.e., ending 08/22/98 06 UTC); Right: STP for 24 hours); Gage (X) vs. Radar (Y) "Scatter Diagram"; Bias, Avg. Gage, Avg. Radar and # G-R Pairs vs. Range; Summary of Statistics for case. (all accum. units mm)

San Angelo, TX (SJT) 08/21-24/98: Default Z-R; Default Hail Cap simulations

1-Hour Gage-Radar analyses

24-Hour Gage-Radar analyses



Case study of San Angelo, TX(SJT) for 1 hourly reports for period 08/22 12Z - 08/25 00Z

Bias = 3.0648	# reports = 219,000
Mean(gage) = 4.1032	Mean(radar) = 1.3389
st. dev.(gage) = 5.8154	st. dev.(radar) = 1.5796
Variance(gage) = 33.8188	Variance(radar) = 2.4951
Covariance(gage/radar) = 4.2742	Cross-Correlation coefficient = .4653
RMS error = 5.9604	

Case study of San Angelo, TX(SJT) for 24 hourly reports for period 08/22 12Z - 08/23 12Z

Bias = 2.8905	# reports = 45,000
Mean(gage) = 56.3380	Mean(radar) = 26.4680
st. dev.(gage) = 65.3767	st. dev.(radar) = 29.4716
Variance(gage) = 4274.1162	Variance(radar) = 868.5728
Covariance(gage/radar) = 1571.2003	Cross-Correlation coefficient = .6155
RMS error = 53.2527	

Fig. 2.4A.S: Overview of results from August 21-24 San Angelo (KSJT) simulation with Default Z-R (a=300; b=1.4) and Default Hail Cap threshold (103.8 mm/hr): Left column: analysis of all 1-hr G-R Pairs for duration of run (i.e., 08/22 12 UTC - 08/25 00 UTC); Right column: analysis of 24-hr G-R pairs ending 08/23 12 UTC. Top to bottom (both columns): Accumulation product with rain gage data for matching period superimposed (Left: OHP for indicative hour (i.e., ending 08/23/98 06 UTC); Right: STP for 24 hours); Gage (X) vs. Radar (Y) "Scatter Diagram"; Bias, Avg. Gage, Avg. Radar and # G-R Pairs vs. Range; Summary of Statistics for case. (all accum. units mm)

Houston, TX (HGX) 10/17-19/98: Default Z-R; Default Hail Cap simulations

1-Hour Gage-Radar analyses

24-Hour Gage-Radar analyses

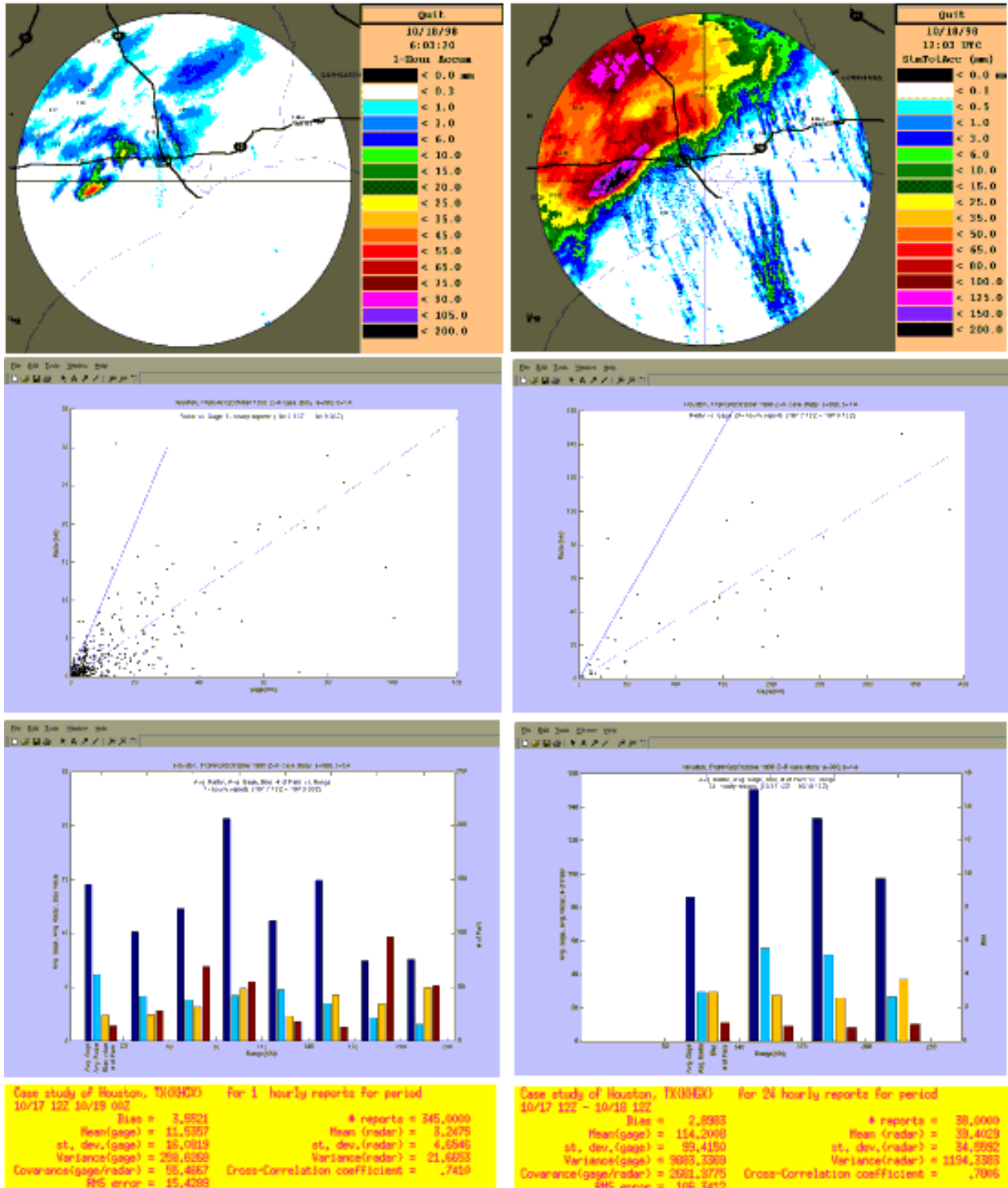
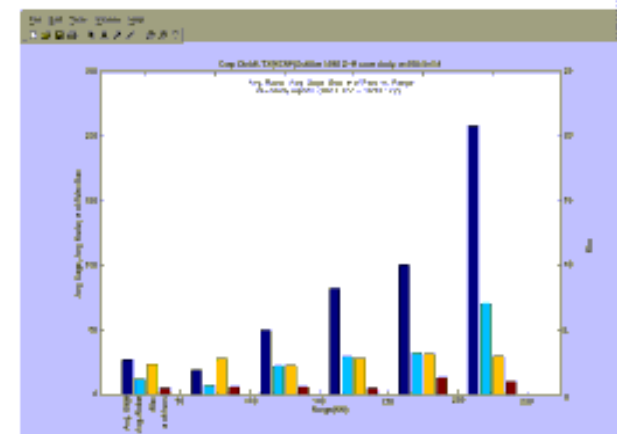
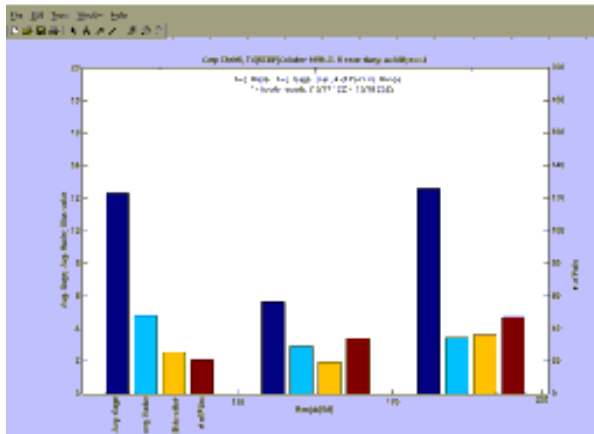
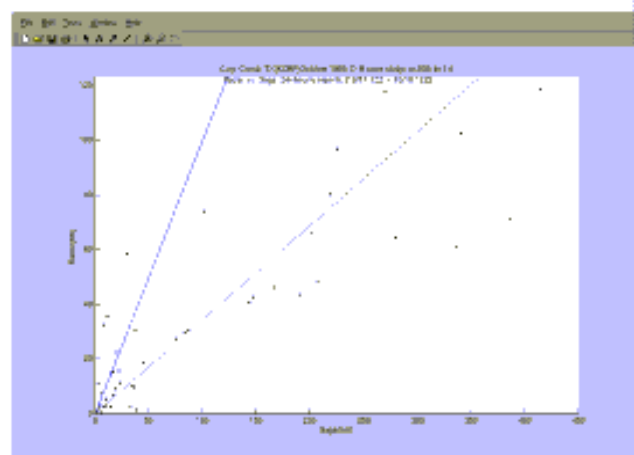
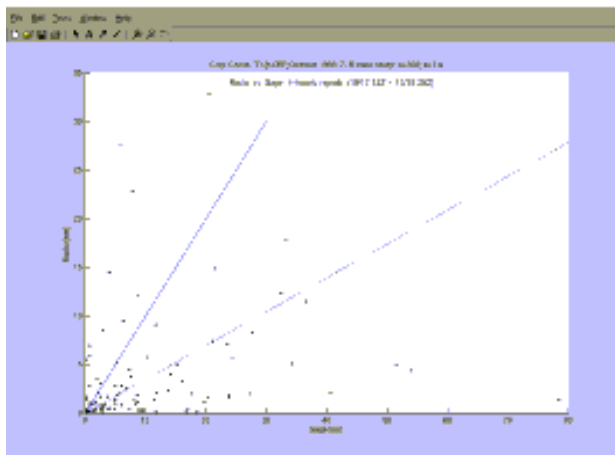
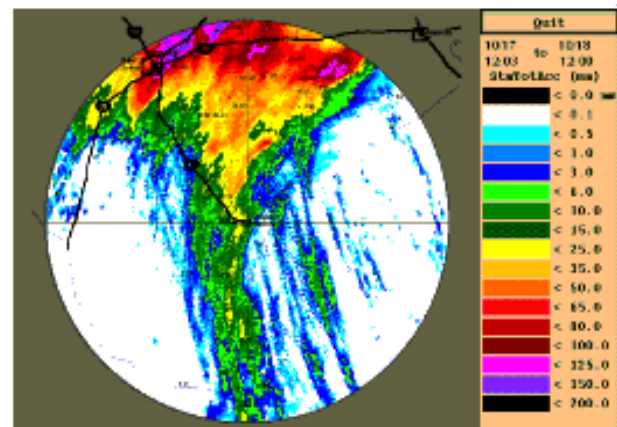
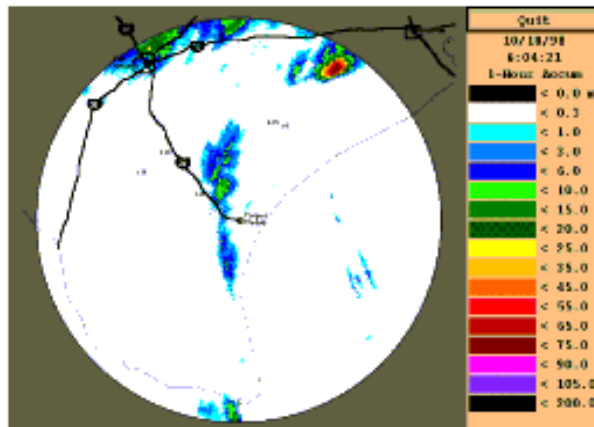


Fig. 2.40.H: Overview of results from October 17-19 Houston (KHGX) simulation with Default Z-R ($a=300$; $b=1.4$) and Default Hail Cap threshold (103.8 mm/hr): Left column: analysis of all 1-hr G-R Pairs for duration of run (i.e., 10/17 12 UTC - 10/19 00 UTC); Right column: analysis of 24-hr G-R pairs ending 10/18 12 UTC. Top to bottom (both columns): Accumulation product with rain gage data for matching period superimposed (Left: OHP for indicative hour (i.e., ending 10/18/98 06 UTC); Right: STP for 24 hours); Gage (X) vs. Radar (Y) "Scatter Diagram"; Bias, Avg. Gage, Avg. Radar and # G-R Pairs vs. Range; Summary of Statistics for case. (all accum. units mm)

Corpus Christi, TX (CRP) 10/17-19/98: Default Z-R; Default Hail Cap simulations

1-Hour Gage-Radar analyses

24-Hour Gage-Radar analyses



Case study of Corp Christi, TXCRP for 1 hourly reports for period 10/17 12Z - 10/18 00Z

Bias = 2,8707	# reports = 102,0000
Mean(gage) = 10,2191	Mean (radar) = 3,5938
st. dev.(gage) = 13,1179	st. dev.(radar) = 5,5724
Variance(gage) = 172,0900	Variance(radar) = 31,0512
Covariance(gage/radar) = 17,6902	Cross-Correlation coefficient = ,3443
RMS error = 14,9520	

Case study of Corp Christi, TXCRP for 24 hourly reports for period 10/17 12Z - 10/18 12Z

Bias = 2,9080	# reports = 45,0000
Mean(gage) = 56,6320	Mean (radar) = 33,2225
st. dev.(gage) = 116,6425	st. dev.(radar) = 32,8440
Variance(gage) = 13595,4727	Variance(radar) = 1079,7275
Covariance(gage/radar) = 3328,9214	Cross-Correlation coefficient = ,8685
RMS error = 109,7476	

Fig. 2.40.C: Overview of results from October 17-19 Corpus Christi (KCRP) simulation with Default Z-R ($a=300$; $b=1.4$) and Default Hail Cap threshold (103.8 mm/hr): Left column: analysis of all 1-hr G-R Pairs for duration of run (i.e., 10/17 12 UTC - 10/18 20 UTC); Right column: analysis of 24-hr G-R pairs ending 10/18 12 UTC. Top to bottom (both columns): Accumulation product with rain gage data for matching period superimposed (Left: OHP for indicative hour (i.e., ending 10/18/98 06 UTC); Right: STP for 24 hours); Gage (X) vs. Radar (Y) "Scatter Diagram"; Bias, Avg. Gage, Avg. Radar and # G-R Pairs vs. Range; Summary of Statistics for case. (all accum. units mm)

Houston, TX (HGX) 08/21-24/98: Tropical Z-R; Default Hail Cap simulations

1-Hour Gage-Radar analyses

24-Hour Gage-Radar analyses

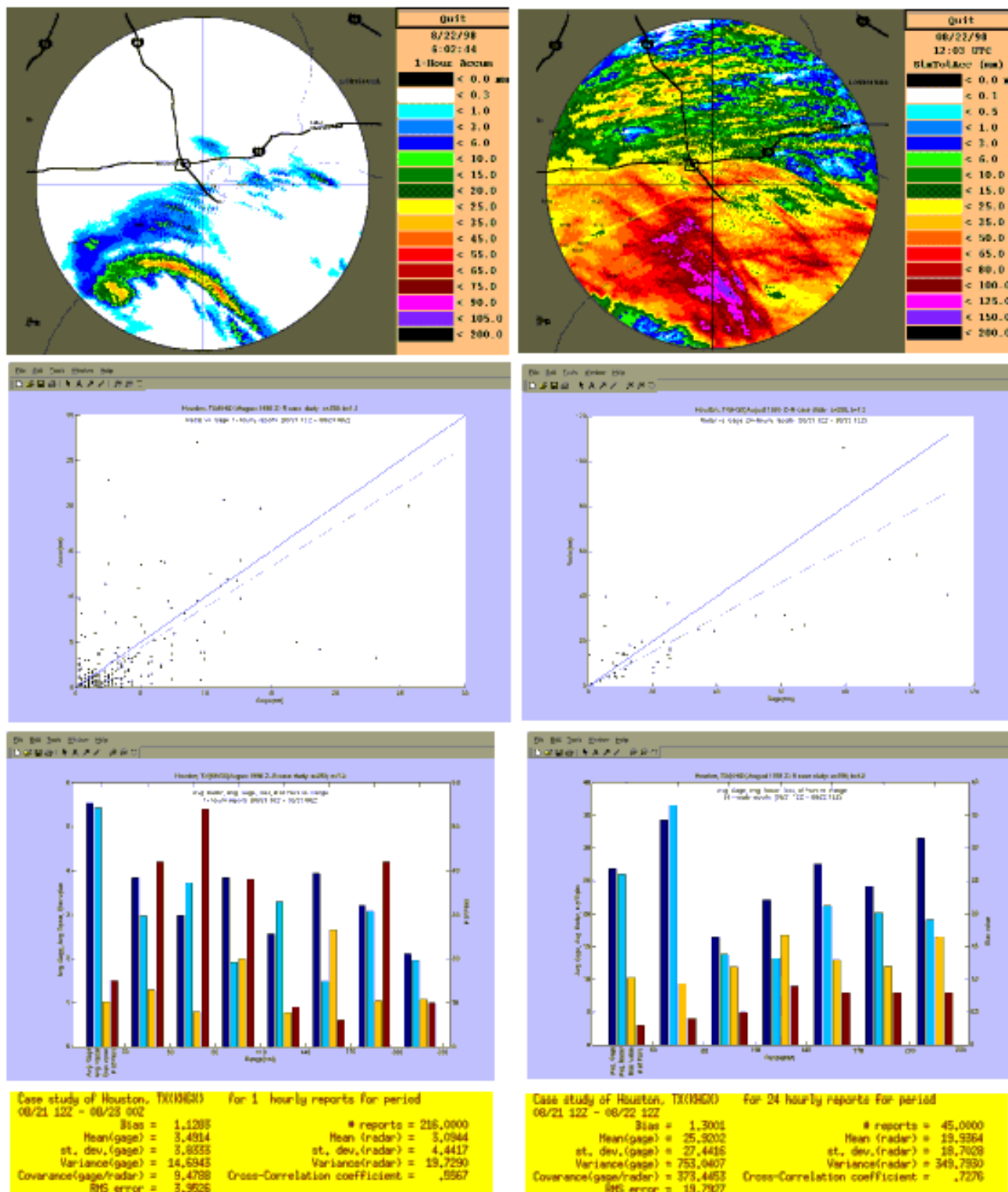


Fig. 2.5A.H: Overview of results from August 21-24 Houston (KHGX) simulation with Tropical Z-R ($a=250$; $b=1.2$) and Default Hail Cap threshold (103.8 mm/hr): Left column: analysis of all 1-hr G-R Pairs for duration of run (i.e., 08/21 18UTC - 08/23 00UTC); Right column: analysis of 24-hr G-R pairs ending 08/22 12 UTC. Top to bottom (both columns): Accumulation product with rain gage data for matching period superimposed (Left: OHP for indicative hour (i.e., ending 08/22/98 06 UTC); Right: STP for 24 hours); Gage (X) vs. Radar (Y) "Scatter Diagram"; Bias, Avg. Gage, Avg. Radar and # G-R Pairs vs. Range; Summary of Statistics for case. (all accum. units mm)

San Angelo, TX (SJT) 08/21-24/98: Tropical Z-R; Default Hail Cap simulations

1-Hour Gage-Radar analyses

24-Hour Gage-Radar analyses

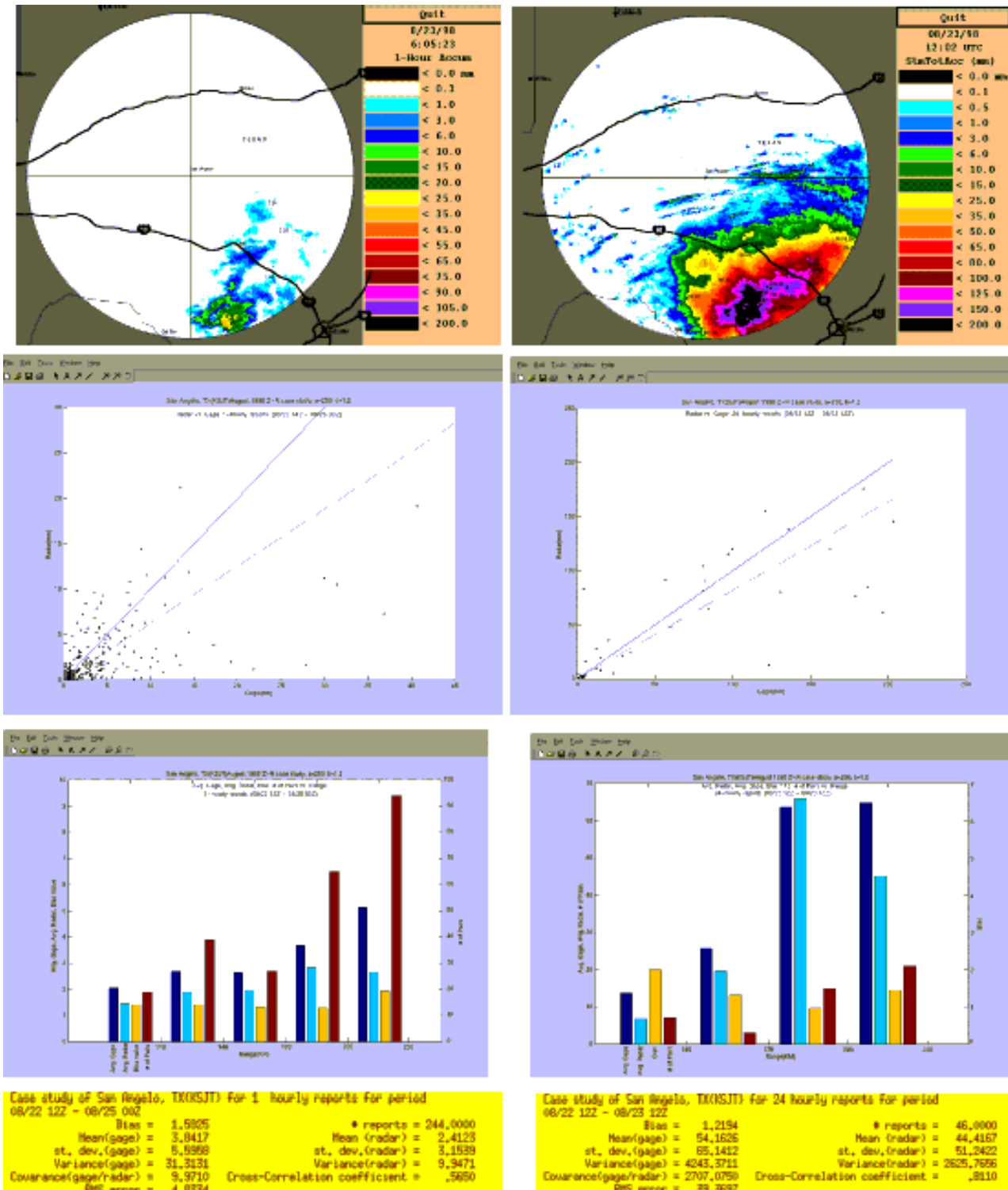
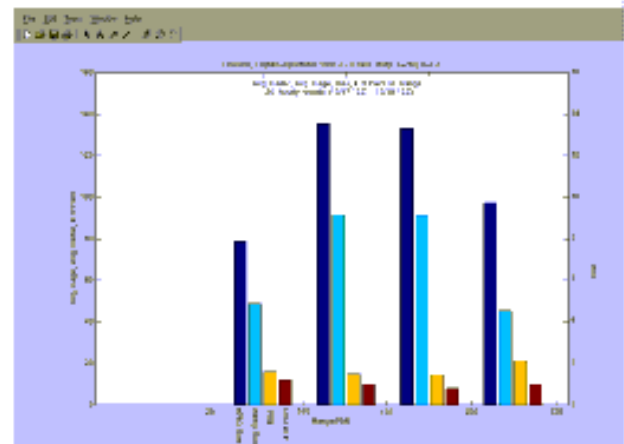
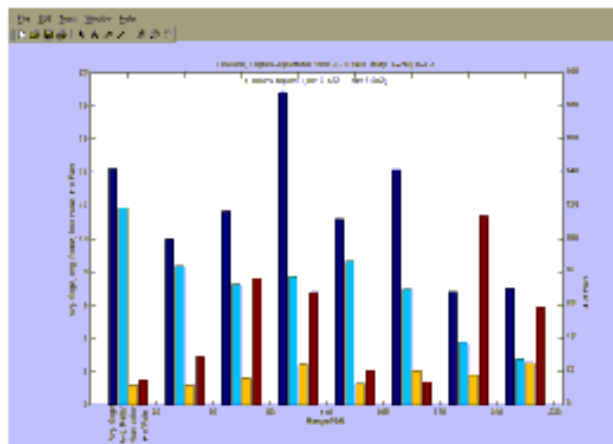
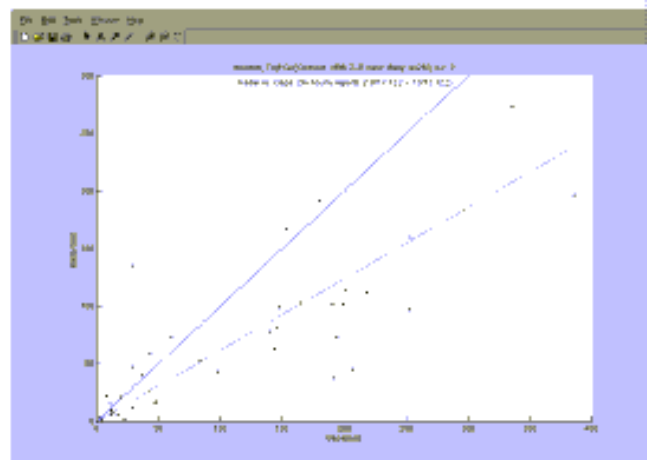
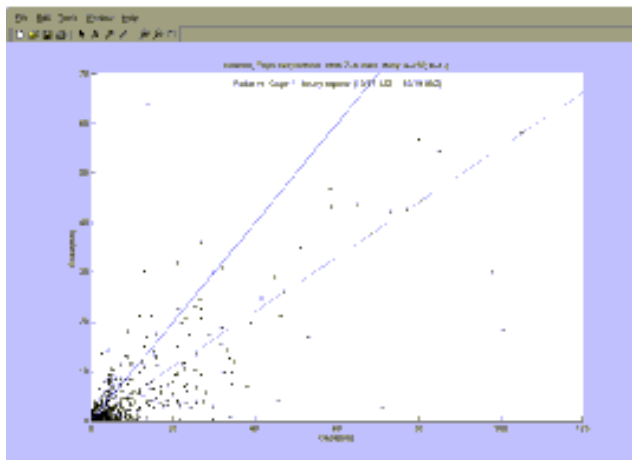
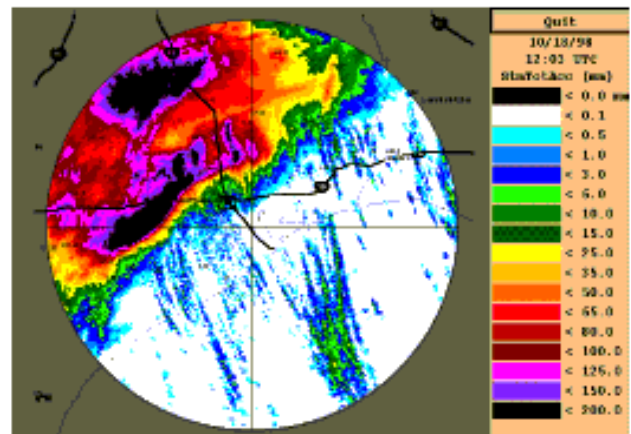
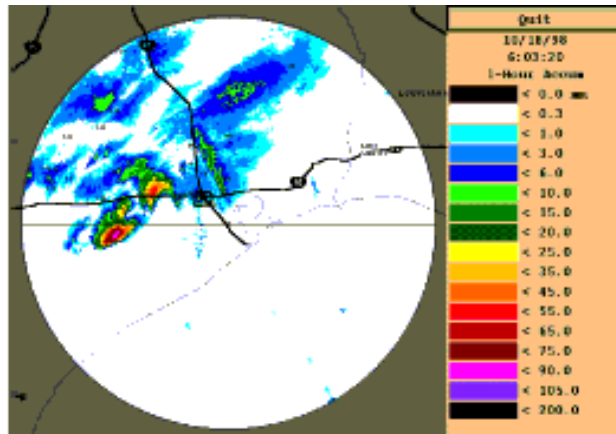


Fig. 2.5A.S: Overview of results from August 21-24 San Angelo (KSJT) simulation with Tropical Z-R (a=250; b=1.2) and Default Hail Cap threshold (103.8 mm/hr): Left column: analysis of all 1-hr G-R Pairs for duration of run (i.e., 08/22 12 UTC - 08/25 00 UTC); Right column: analysis of 24-hr G-R pairs ending 08/23 12 UTC. Top to bottom (both columns): Accumulation product with rain gage data for matching period superimposed (Left: OHP for indicative hour (i.e., ending 08/23/98 06 UTC); Right: STP for 24 hours); Gage (X) vs. Radar (Y) "Scatter Diagram"; Bias, Avg. Gage, Avg. Radar and # G-R Pairs vs. Range; Summary of Statistics for case. (all accum. units mm)

Houston, TX (HGX) 10/17-19/98: Tropical Z-R; Default Hail Cap simulations

1-Hour Gage-Radar analyses

24-Hour Gage-Radar analyses



Case study of Houston, TX(HGX) for 1 hourly reports for period 10/17 12Z - 10/19 00Z

Bias = 1.0219	# reports = 236,000
Mean(gage) = 10.2448	Mean(radar) = 9.8954
st. dev.(gage) = 15.4272	st. dev.(radar) = 9.2540
Var(gage) = 237.8279	Var(radar) = 85.2533
Covariance(gage/radar) = 101.0266	Cross-Correlation coefficient = .7015
RSE gage = 41.48%	

Case study of Houston, TX(HGX) for 24 hourly reports for period 10/17 12Z - 10/18 12Z

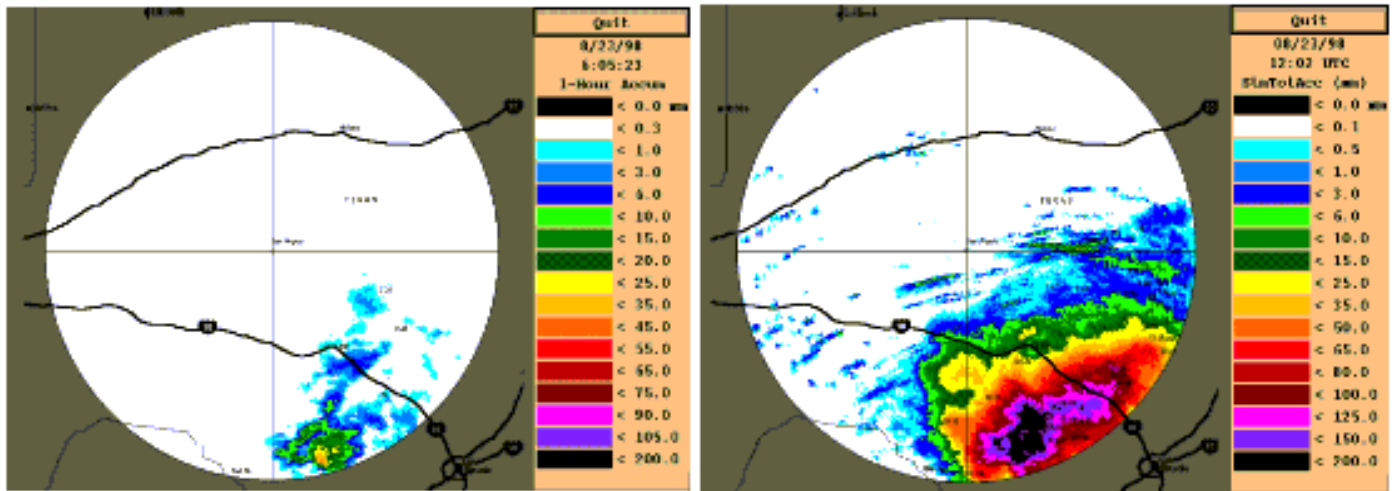
Bias = 1.0202	# reports = 40,000
Mean(gage) = 102.0202	Mean(radar) = 97.2222
st. dev.(gage) = 120.0000	st. dev.(radar) = 62.7222
Var(gage) = 20000.0000	Var(radar) = 4000.0000
Covariance(gage/radar) = 10000.0000	Cross-Correlation coefficient = .7015
RSE gage = 75.0000%	

Fig. 2.50.H: Overview of results from October 17-19 Houston (KHGX) simulation with Tropical Z-R ($a=250$; $b=1.2$) and Default Hail Cap threshold (103.8 mm/hr): Left column: analysis of all 1-hr G-R Pairs for duration of run (i.e., 10/17 12UTC - 10/19 00 UTC); Right column: analysis of 24-hr G-R pairs ending 10/18 12 UTC. Top to bottom (both columns): Accumulation product with rain gage data for matching period superimposed (Left: OHP for indicative hour (i.e., ending 10/18/98 06 UTC); Right: STP for 24 hours); Gage (X) vs. Radar (Y) "Scatter Diagram"; Bias, Avg. Gage, Avg. Radar and # G-R Pairs vs. Range; Summary of Statistics for case. (all accum. units mm)

San Angelo, TX (SJT) 08/21-24/98: Tropical Z-R; Raised Hail Cap simulations

1-Hour Gage-Radar analyses

24-Hour Gage-Radar analyses



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Case study of San Angelo, TX(SJT) for 1 hourly reports for period
08/22 12Z - 08/25 00Z
      Bias = 1,5853          # reports = 244,000
      Mean(gage) = 3,9417      Mean(radar) = 2,4234
      st. dev.(gage) = 5,5956   st. dev.(radar) = 3,2238
      Variance(gage) = 31,3131  Variance(radar) = 10,3506
      Covariance(gage/radar) = 10,5774  Cross-Correlation coefficient = .5506
      RMS error = 4,3541
    
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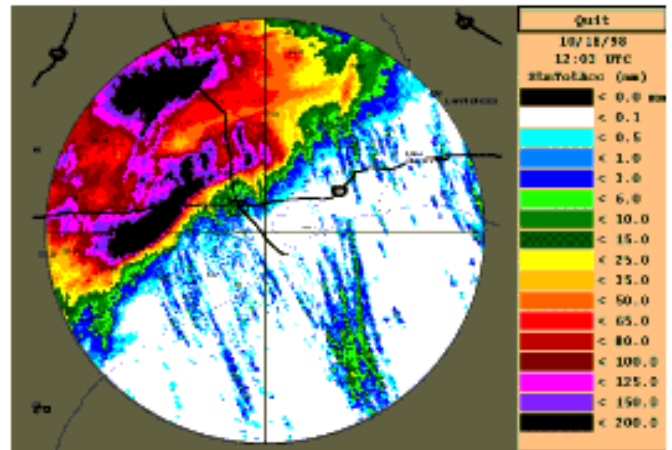
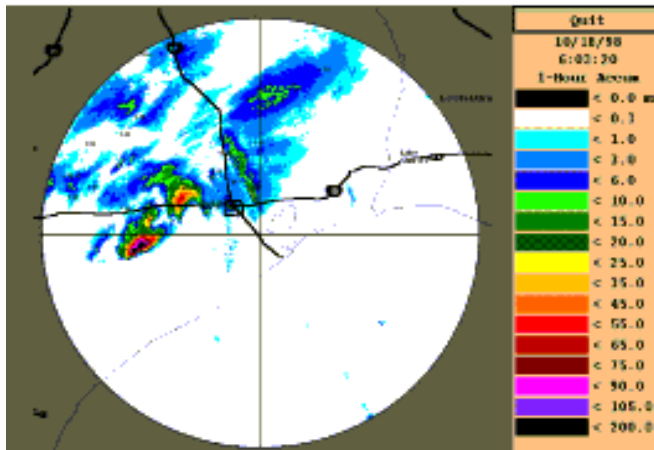
Case study of San Angelo, TX(SJT) for 24 hourly reports for period
08/22 12Z - 08/23 12Z
      Bias = 1,2191          # reports = 46,000
      Mean(gage) = 54,1626     Mean(radar) = 44,4278
      st. dev.(gage) = 65,1412  st. dev.(radar) = 51,2506
      Variance(gage) = 4243,3711  Variance(radar) = 2626,5279
      Covariance(gage/radar) = 2706,5153  Cross-Correlation coefficient = .2107
      RMS error = 39,3926
    
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Fig. 2.6A.S: Overview of results from August 21-24 San Angelo (KSJT) simulation with Tropical Z-R ($a=250$; $b=1.2$) and Raised Hail Cap threshold (262.0 mm/hr): Left column: analysis of all 1-hr G-R Pairs for duration of run (i.e., 08/22 12 UTC - 08/25 00 UTC); Right column: analysis of 24-hr G-R pairs ending 08/23 12 UTC. Top to bottom (both columns): Accumulation product with rain gage data for matching period superimposed (Left: OHP for indicative hour (i.e., ending 08/23/98 06 UTC); Right: STP for 24 hours); Summary of Statistics for case. (all accum. units mm)

Houston, TX (HGX) 10/17-19/98: Tropical Z-R; Raised Hail Cap simulations

1-Hour Gage-Radar analyses

24-Hour Gage-Radar analyses



Case study of Houston, TX(HGX) For 1 hourly reports for period	
10/17 12Z - 10/19 00Z	
Bias = 1.7931	# reports = 396,0000
Mean(gage) = 10.8448	Mean (radar) = 6.0480
st. dev.(gage) = 15.4152	st. dev.(radar) = 9.7153
Variance(gage) = 237.6270	Variance(radars) = 94.3964
Covariance(gage/radar) = 112.2219	Cross-Correlation coefficient = .7495
RMS error = 11.4271	

Case study of Houston, TX(HGX) For 24 hourly reports for period	
10/17 12Z - 10/18 12Z	
Bias = 1.5704	# reports = 40,0000
Mean(gage) = 100.5297	Mean (radar) = 63.1070
st. dev.(gage) = 100.0022	st. dev.(radar) = 66.9068
Variance(gage) = 10000.4395	Variance(radars) = 4467.2354
Covariance(gage/radar) = 5454.1909	Cross-Correlation coefficient = .8142
RMS error = 71.6475	

Fig. 2.60.H: Overview of results from October 17-19 Houston (KHGX) simulation with Tropical Z-R ($a=250$; $b=1.2$) and Raised Hail Cap threshold (262.0 mm/hr): Left column: analysis of all 1-hr G-R Pairs for duration of run (i.e., 10/12 12UTC - 10/19 00UTC); Right column: analysis of 24-hr G-R pairs ending 10/18 12 UTC. Top to bottom (both columns): Accumulation product with rain gage data for matching period superimposed (Left: OHP for indicative hour (i.e., ending 10/18/98 06 UTC); Right: STP for 24 hours); Summary of Statistics for case. (all accum. units mm)

