

VERIFICATION OF THE CPC 8-14 DAY
TEMPERATURE AND PRECIPITATION
OUTLOOK OVER THE GOODLAND COUNTY
WARNING AREA, 2002-2008

Chris Foltz

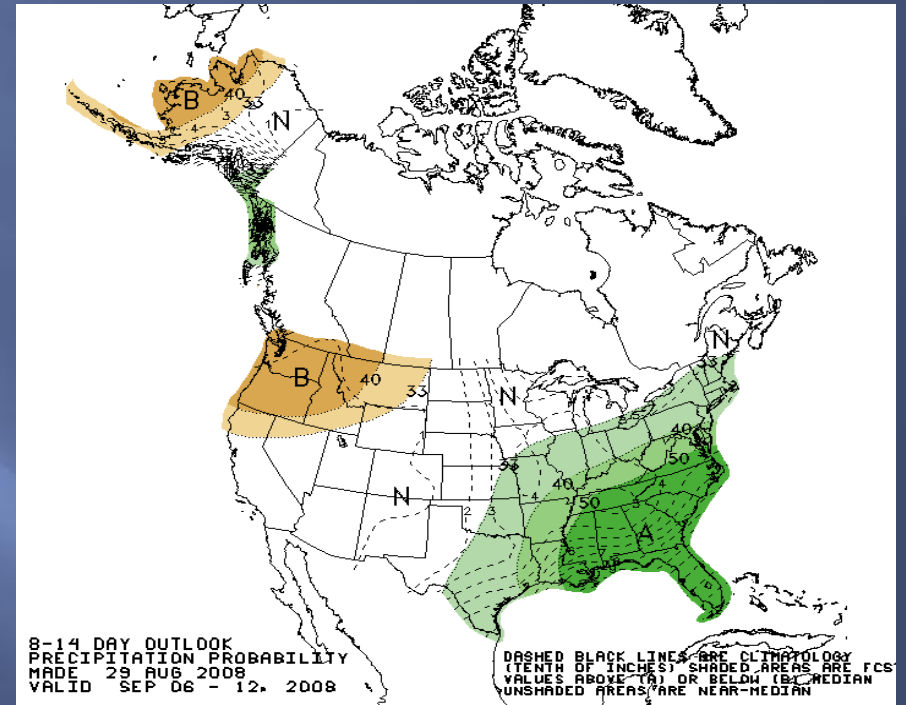
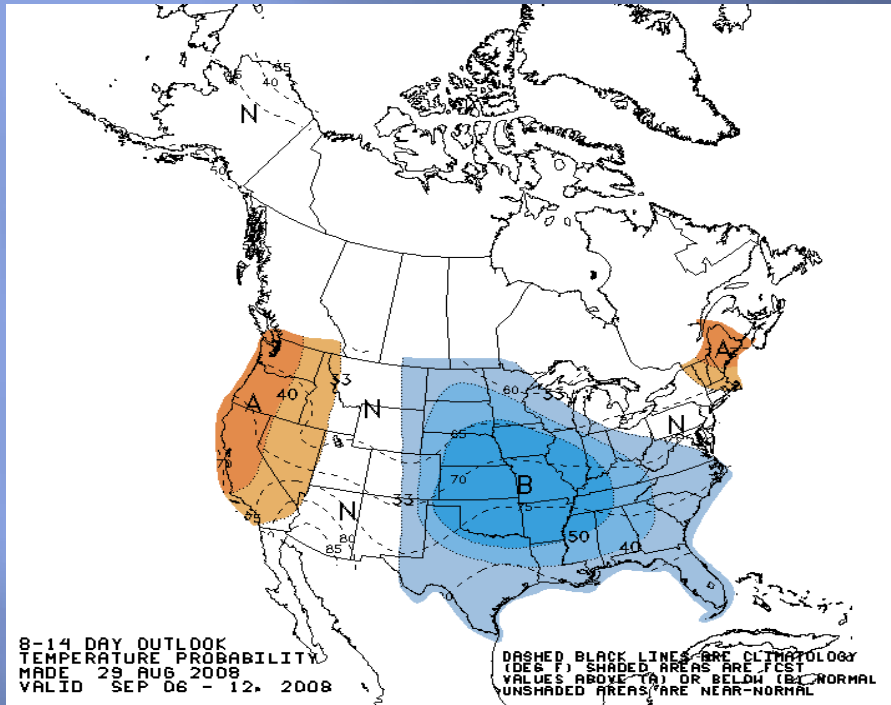
NWS WFO Goodland

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Purpose of this research

- ▣ NWS WFO Goodland issues an Extended Forecast Product (EFP) based on the Climate Prediction Center's (CPC) 8-14 Temperature and Precipitation Outlooks
- ▣ This information is utilized by various stakeholders across the County Warning Area (CWA) for medium range planning purposes.
- ▣ Wanted to investigate in an effort to see if we were providing a value-added product to our customer.

CPC 8-14 TEMP/PRECIP OUTLOOK



FEUS63 KGLD 291929
EFPGLD

EXTENDED FORECAST
NATIONAL WEATHER SERVICE GOODLAND KS
128 PM MDT FRI AUG 29 2008

KSZ013-301928-
SHERMAN KS-
128 PM MDT FRI AUG 29 2008

THE EXTENDED OUTLOOK FOR SEPTEMBER 6TH THROUGH SEPTEMBER 12TH INDICATES BELOW NORMAL TEMPERATURES AND NEAR NORMAL PRECIPITATION.

NORMAL HIGH TEMPERATURES FOR THE PERIOD ARE IN THE LOWER 80S.
NORMAL LOW TEMPERATURES FOR THE PERIOD ARE IN THE LOWER 50S.

PRECIPITATION DURING THE SEVEN DAY PERIOD AVERAGES TWENTY NINE HUNDREDTHS OF AN INCH.

How data were collected and analyzed

- ▣ Reviewed CPC archive which was available as far back as December 2001
- ▣ Compiled data beginning January 1, 2002
- ▣ Categorized outlooks as Above Normal, Near Normal or Below Normal
- ▣ Disregarded confidence levels as these are not taken into consideration in issuance of the EFP
- ▣ Obtained official climate data for the four Automated Surface Observation Station (ASOS) sites in the Goodland CWA: Goodland KS (KGLD), Burlington CO (KITR), Hill City KS (KHLC), McCook NE (KMCK)

SCORING OF FORECAST SUCCESS

2 Points for correctly predicting the category

-I.E. Prediction was for above normal conditions and above normal conditions were observed

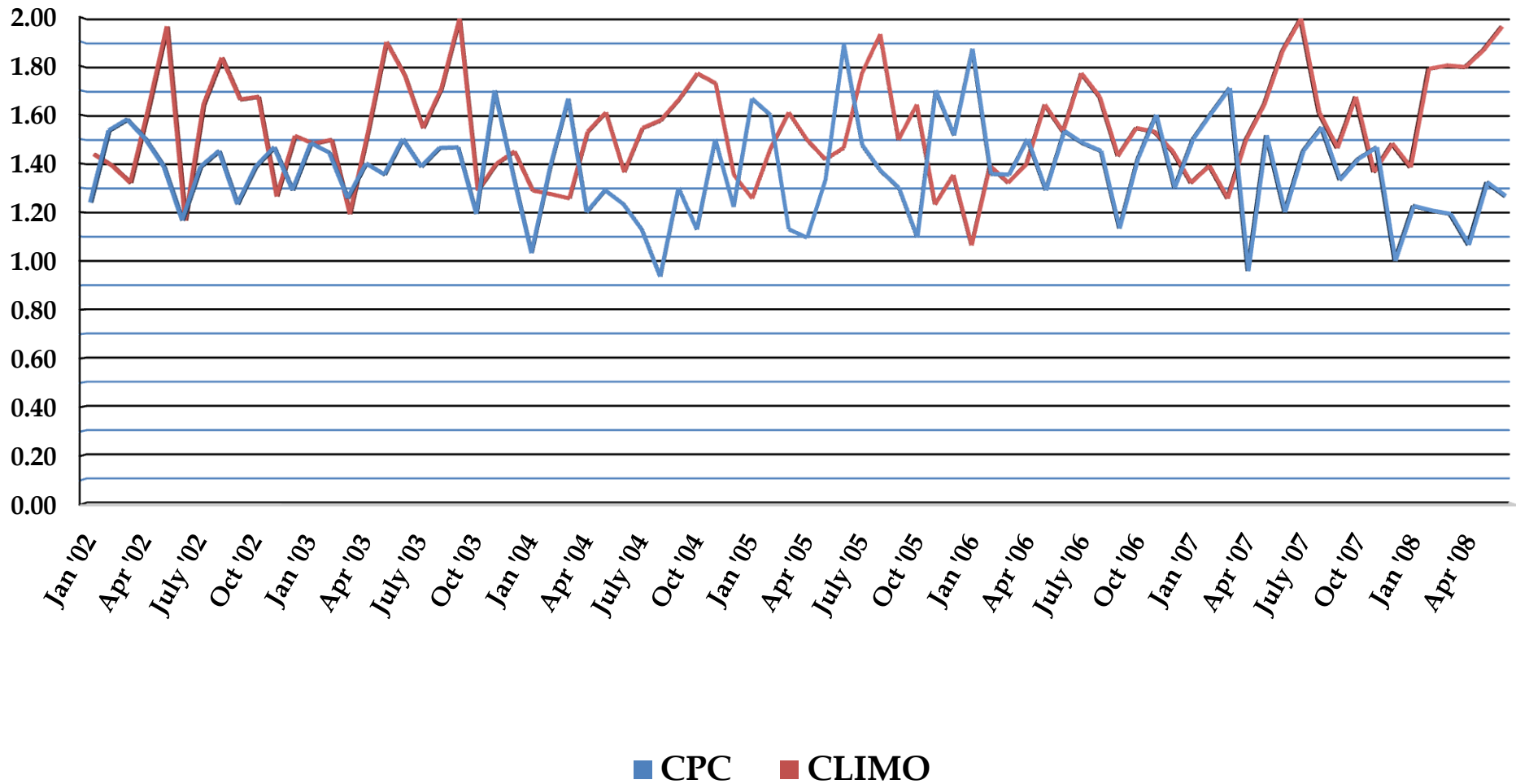
1 Point if forecast was off by 1 category

-I.E. Prediction was for near normal conditions and observed conditions were either above or below normal

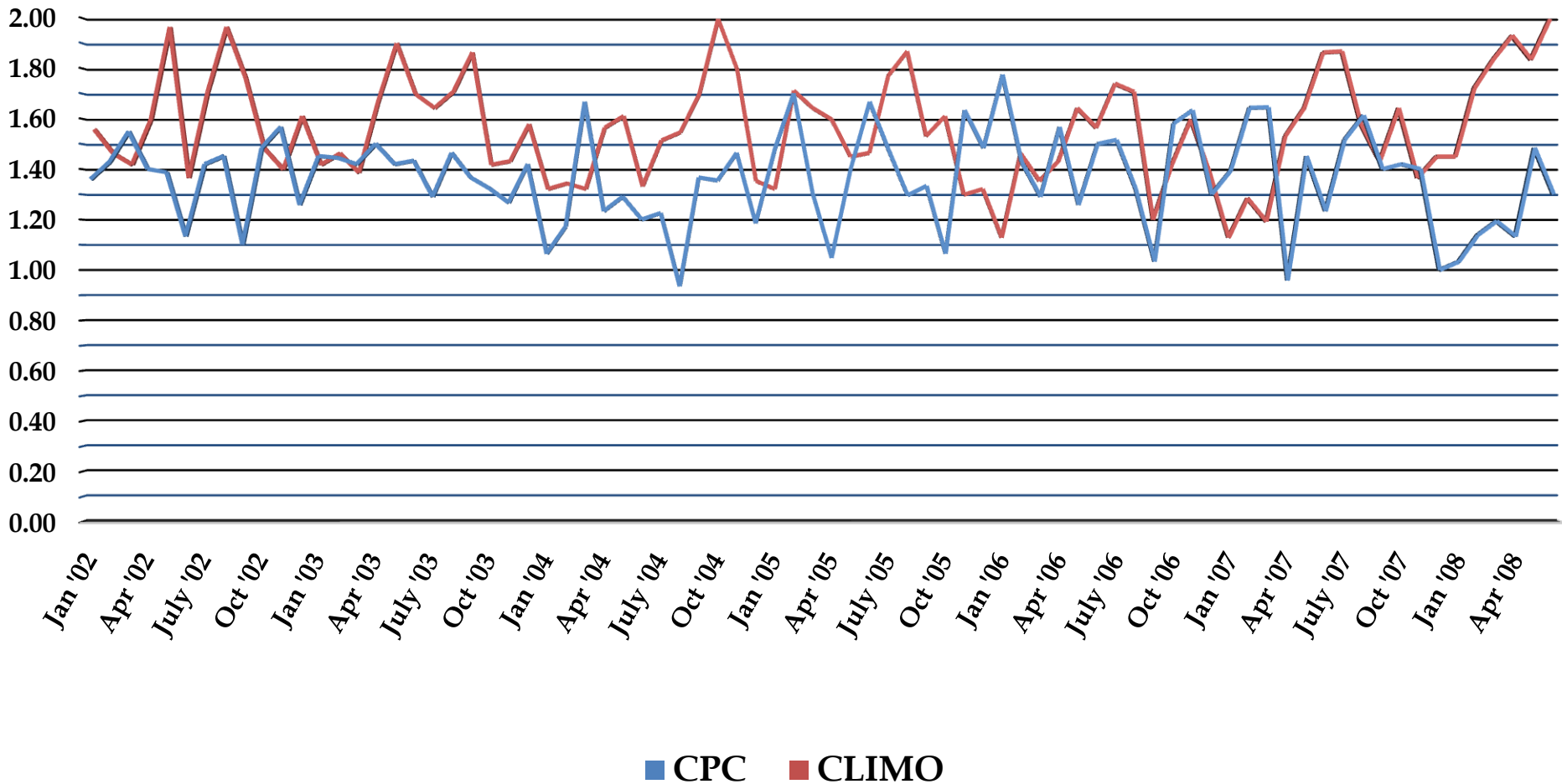
0 Points if forecast was off by 2 categories

-I.E. Prediction was for above normal conditions and below normal conditions were observed or vice versa

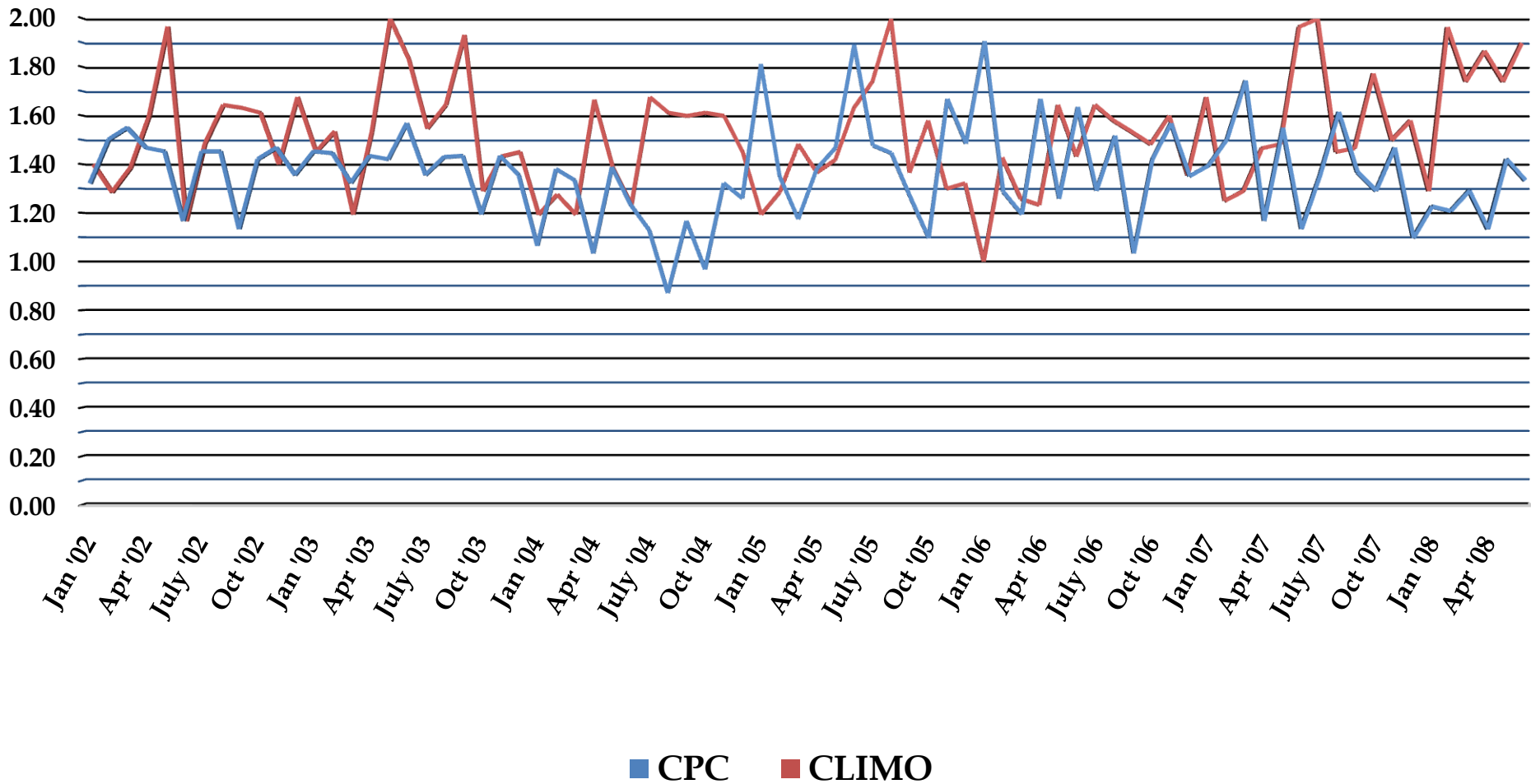
GOODLAND, KS (KGLD)
CPC vs. CLIMO
TEMPERATURE VERIFICATION
1/2002-6/2008



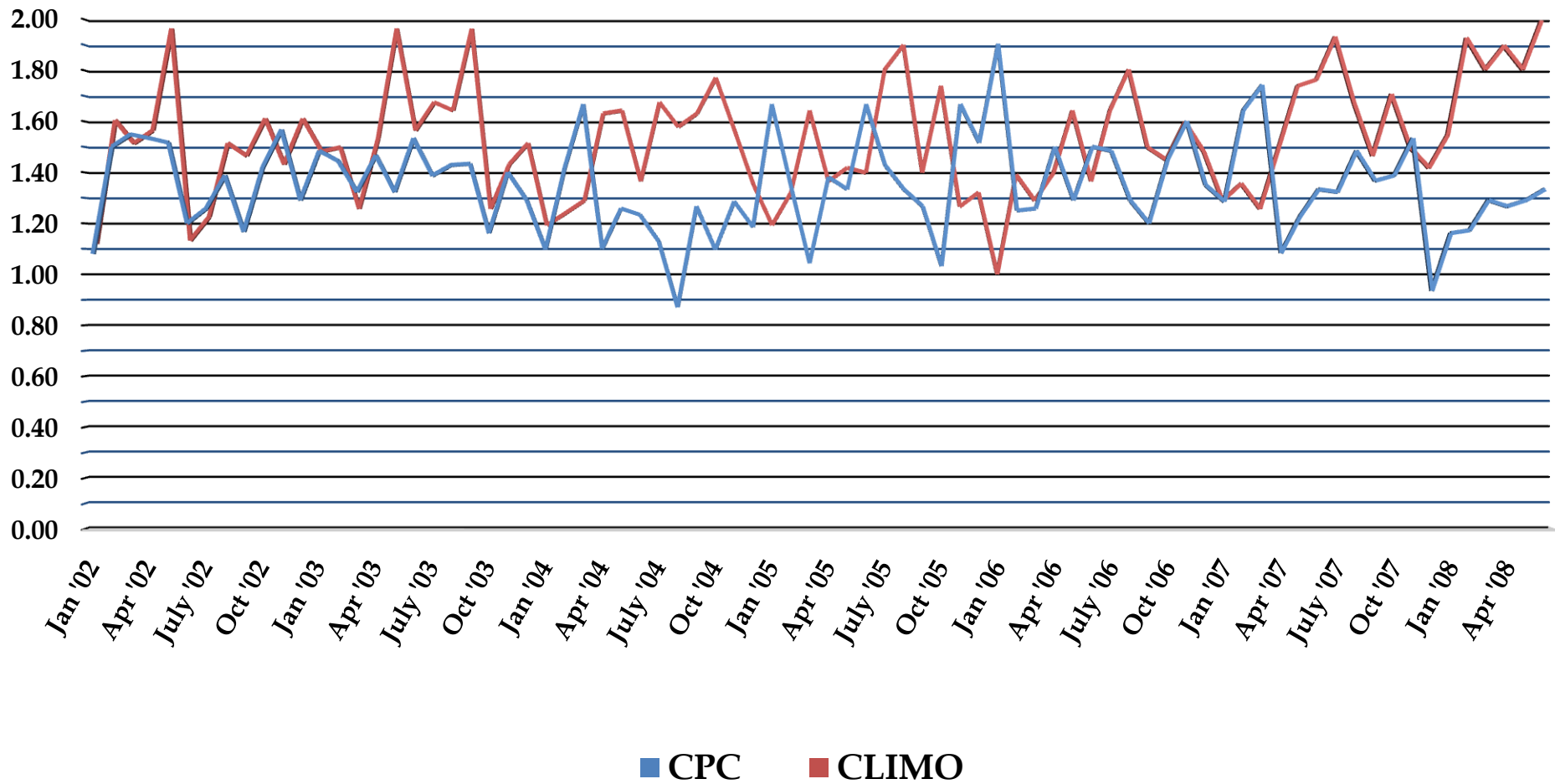
BURLINGTON, CO (KITR)
CPC vs. CLIMO
TEMPERATURE VERIFICATION
1/2002-6/2008



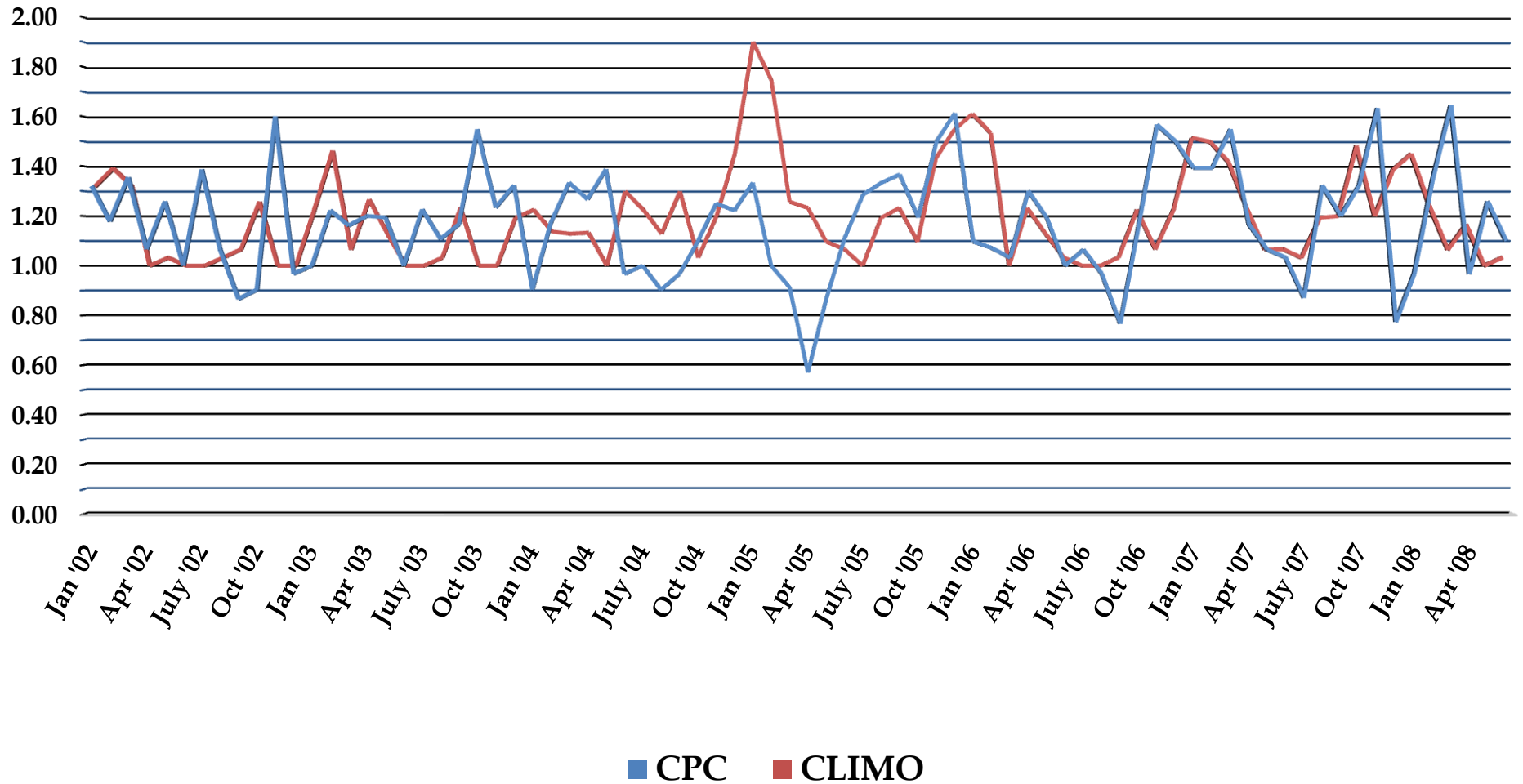
HILL CITY, KS (KHLC)
CPC vs. CLIMO
TEMPERATURE VERIFICATION
1/2002-6/2008



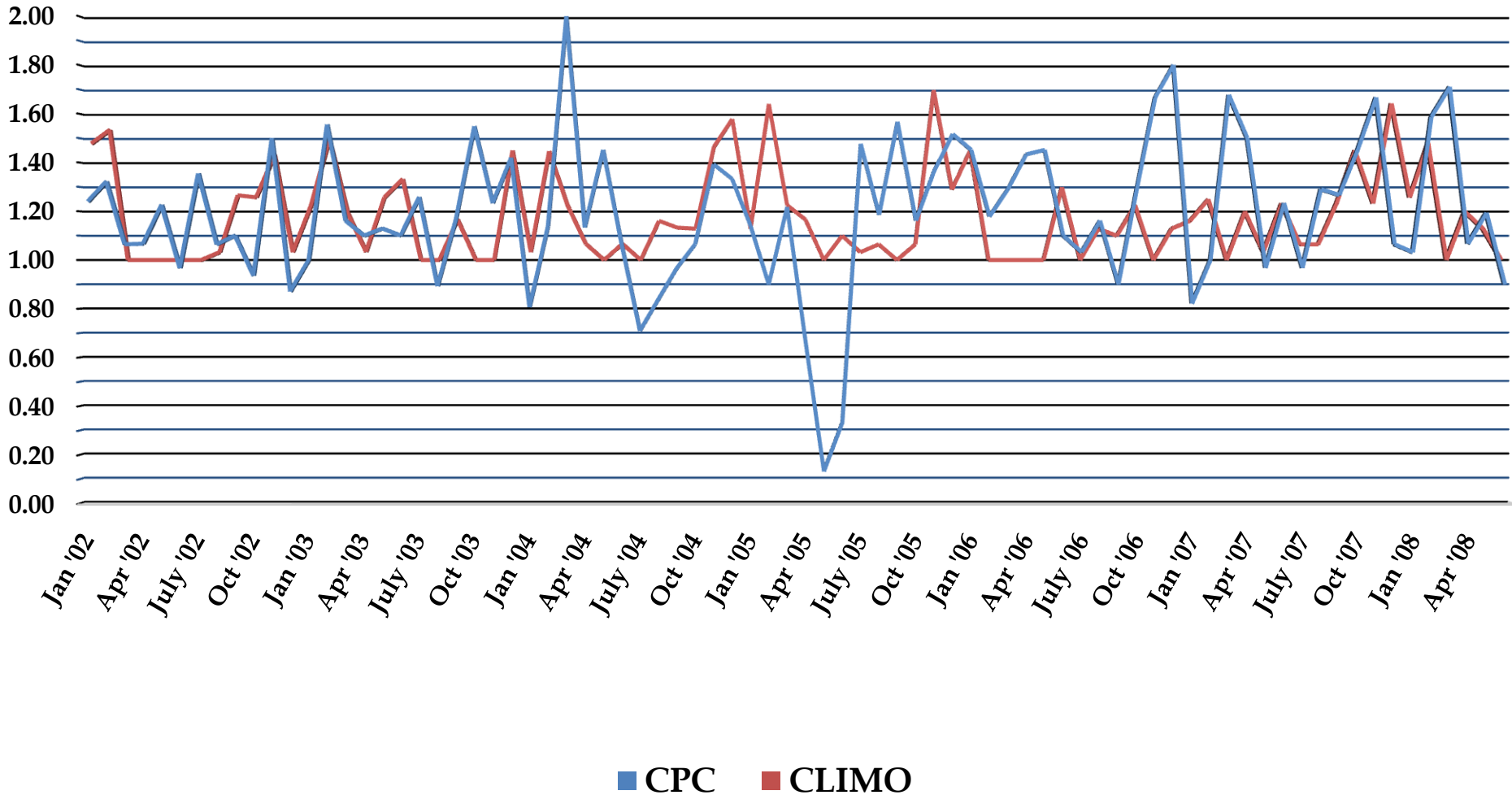
MCCOOK, NE (KMCK)
CPC vs. CLIMO
TEMPERATURE VERIFICATION
1/2002-6/2008



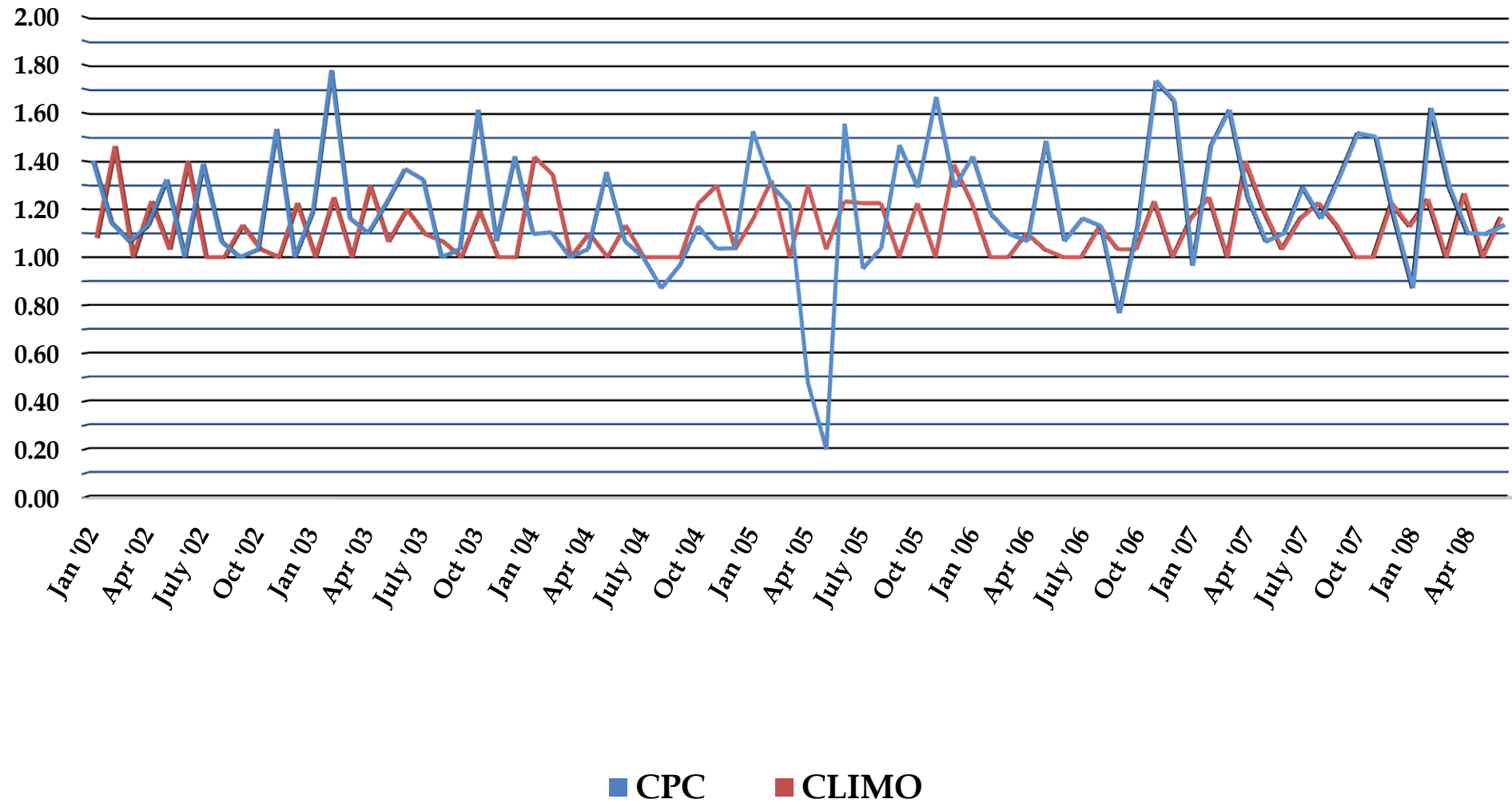
GOODLAND, KS (KGLD)
CPC vs. CLIMO
PRECIPITATION VERIFICATION
1/2002-6/2008



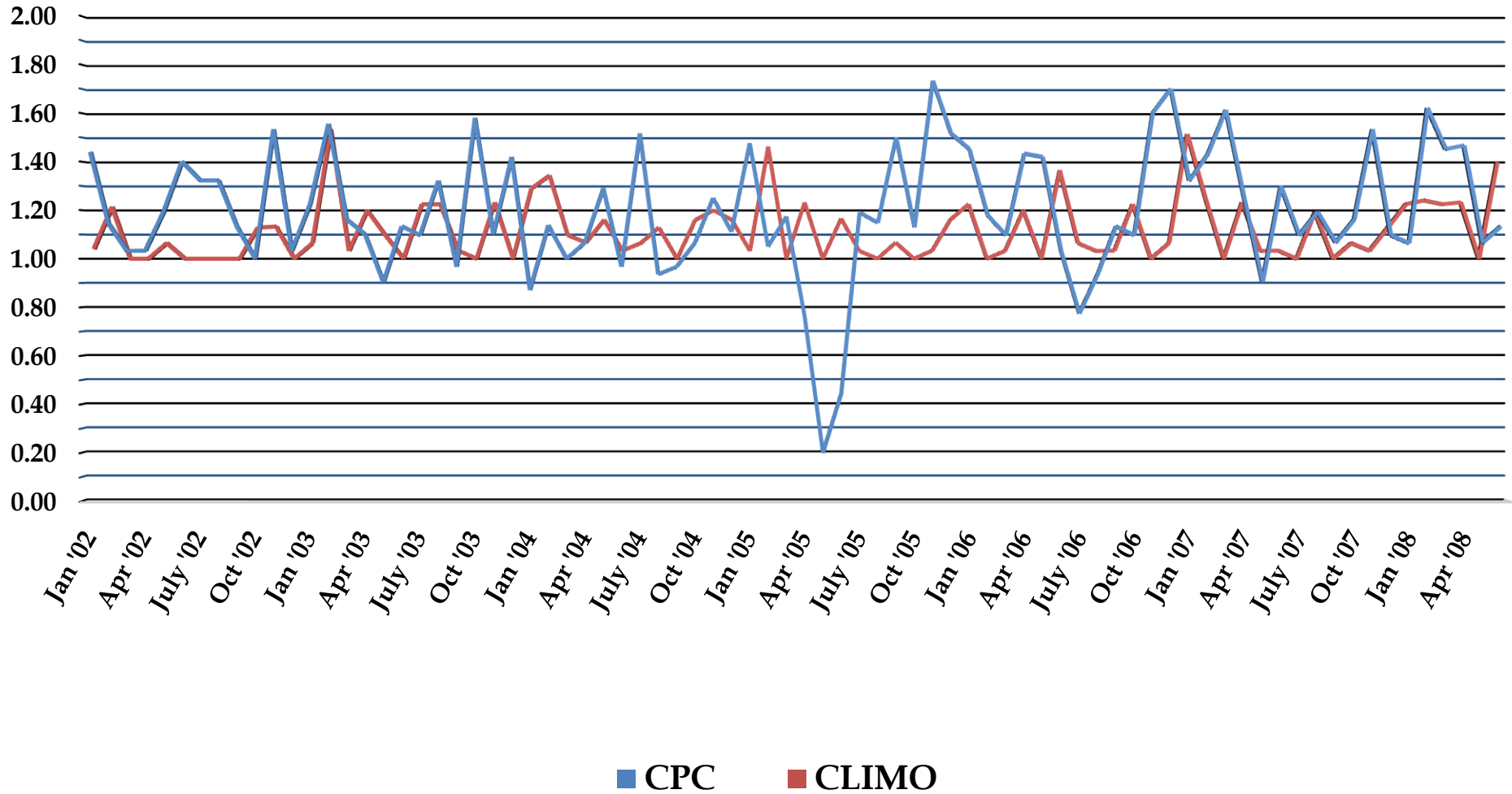
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PRECIPITATION VERIFICATION
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HILL CITY, KS (KHLC)
CPC vs. CLIMO
PRECIPITATION VERIFICATION
1/2002-6/2008



MCCOOK, NE (KMCK)
CPC vs. CLIMO
PRECIPITATION VERIFICATION
1/2002-6/2008



CPC vs. CLIMO Summary

	CPC TEMPS	CLIMO TEMPS	CPC PRECIP	CLIMO PRECIP
KGLD	1.28	1.58	1.21	1.16
KITR	1.28	1.59	1.24	1.18
KHLC	1.30	1.57	1.20	1.16
KMCK	1.29	1.60	1.26	1.20

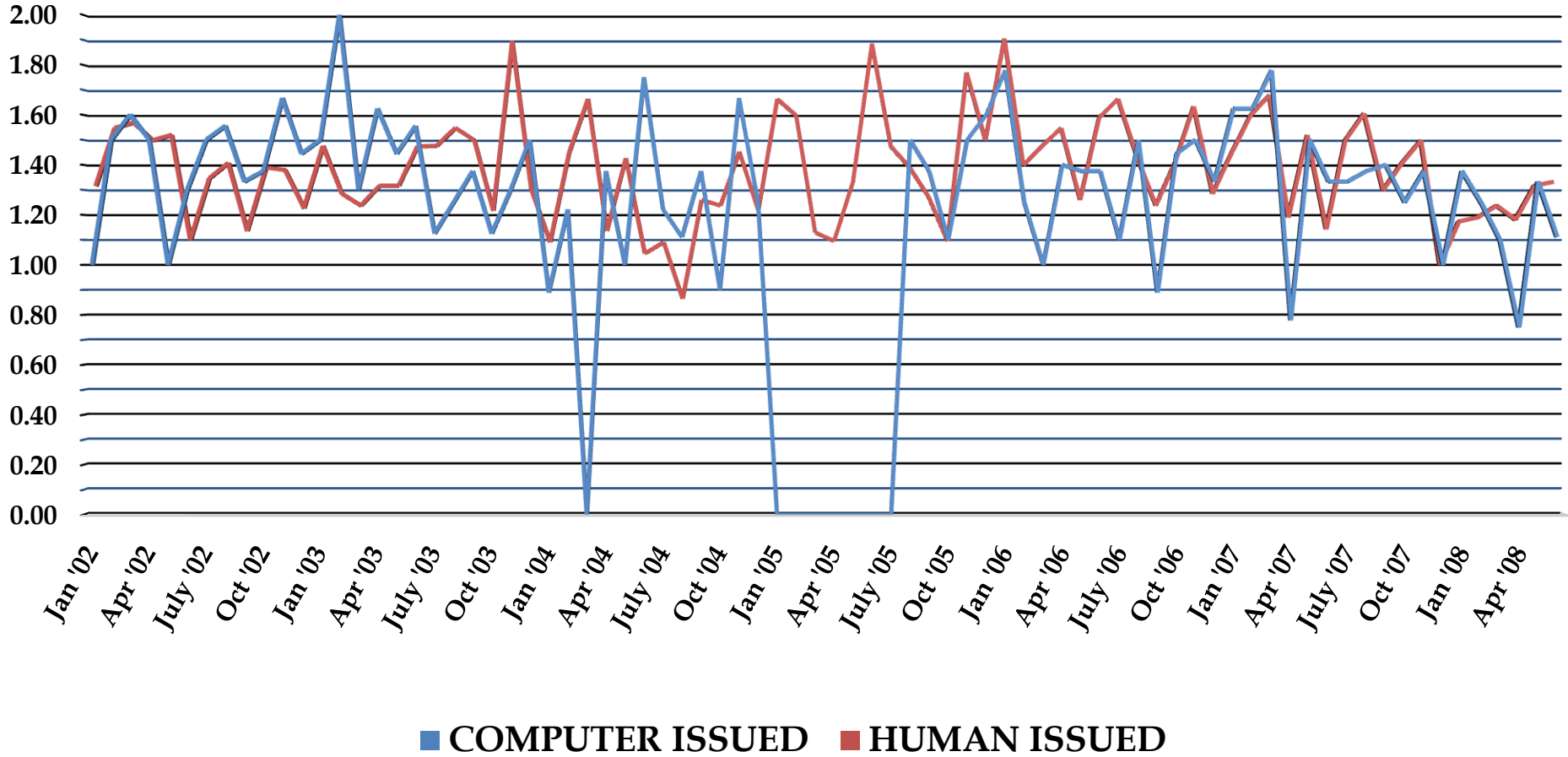
CPC vs. CLIMO Summary

	CPC TEMPS MONTH	CLIMO TEMPS MONTH	CPC PRECIP MONTH	CLIMO PRECIP MONTH
KGLD	20/78	58/78	39/78	39/78
KITR	18/78	60/78	39/78	39/78
KHLC	20/78	58/78	43/78	35/78
KMCK	19/78	59/78	48/78	30/78

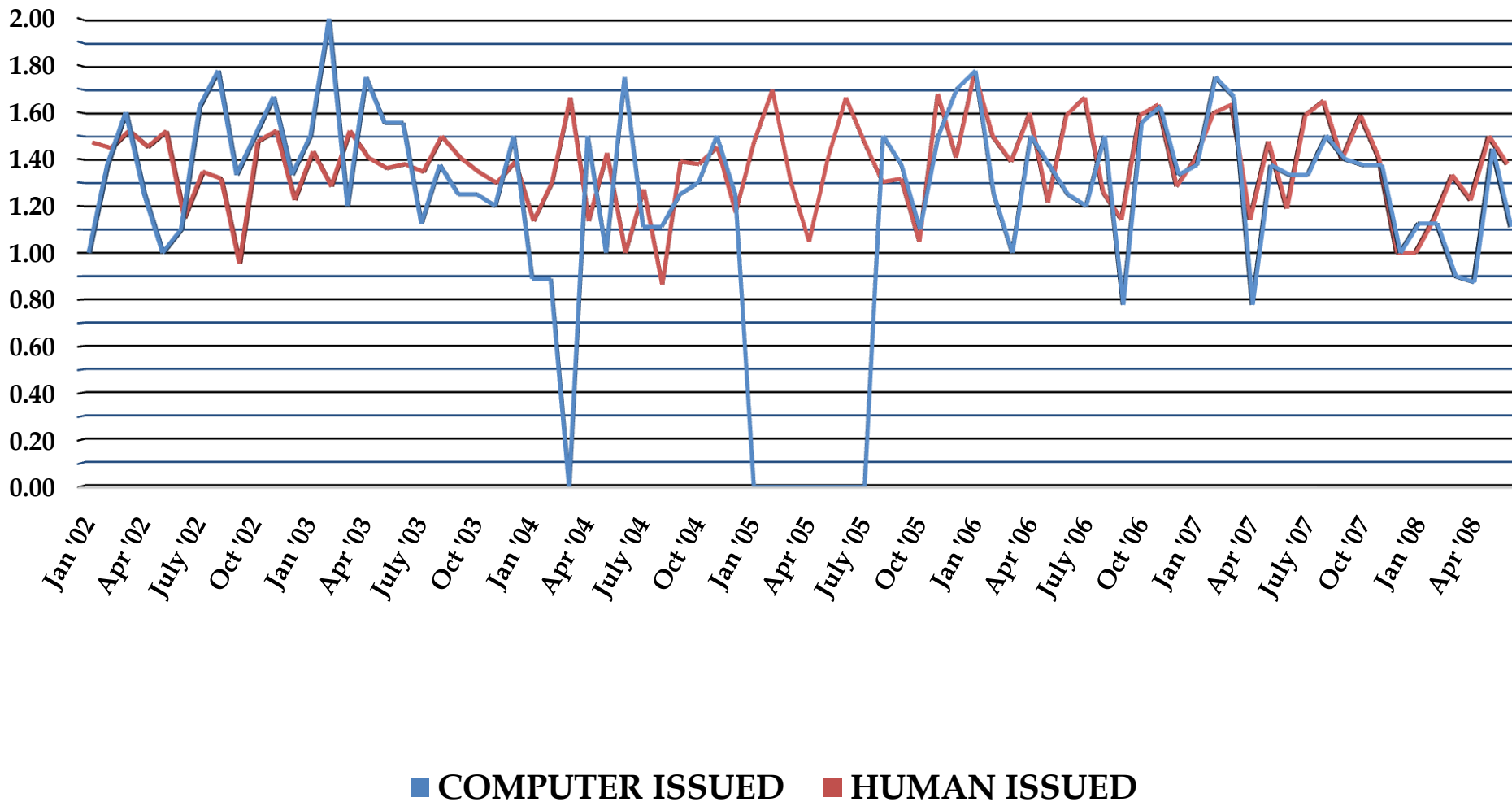
COMPUTER vs. HUMAN FORECASTS

- ▣ Computer based forecasts issued on weekends and holidays
- ▣ Monday through Friday...human forecaster manipulates output based on their interpretation of medium-range numerical guidance
- ▣ Loss of computer issued forecasts and human issued forecasts to a lesser extent at various points due to corrupted archives

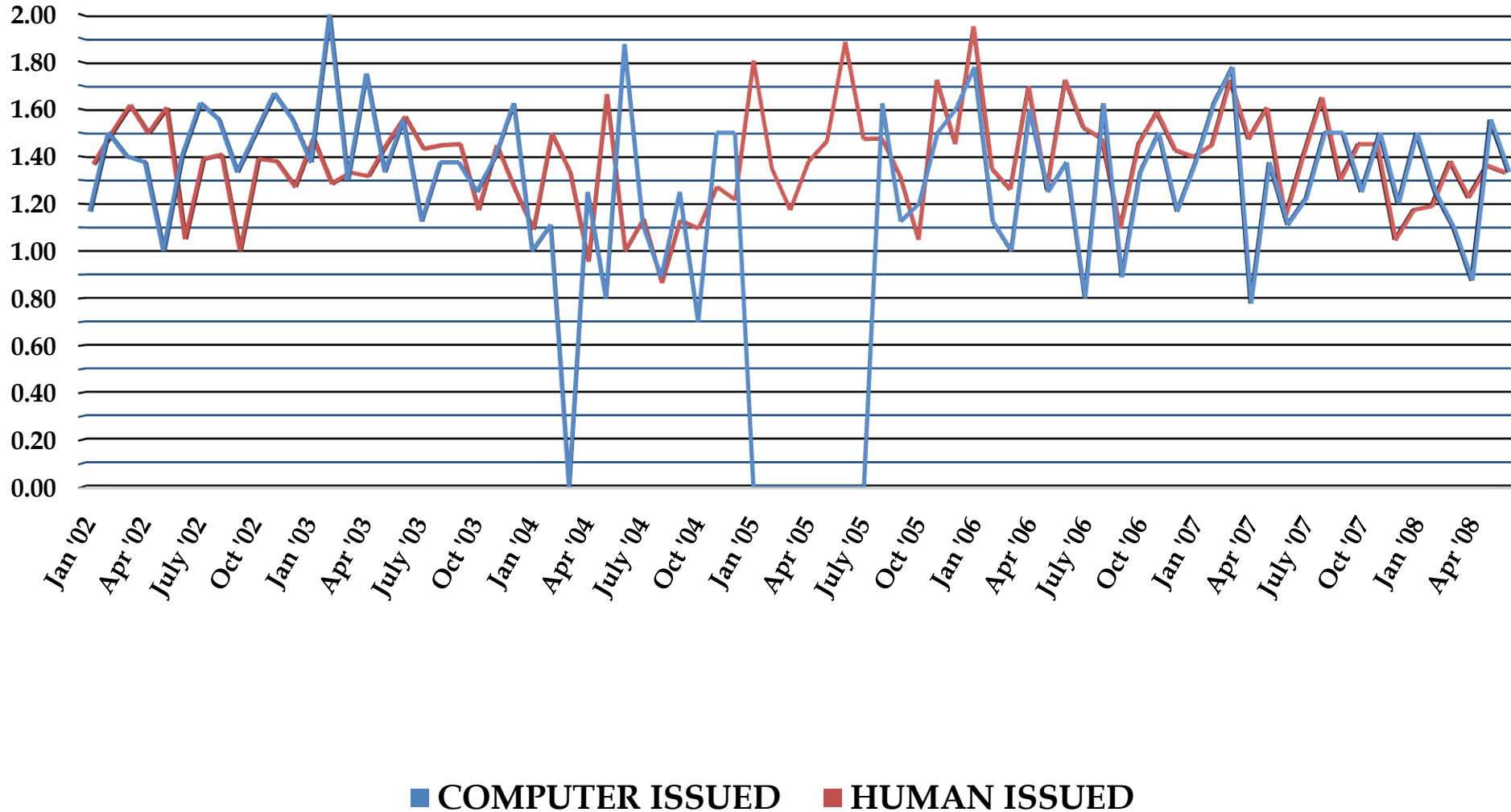
**GOODLAND, KS (KGLD)
COMPUTER VS. HUMAN
TEMPERATURE VERIFICATION
1/2002-6/2008**



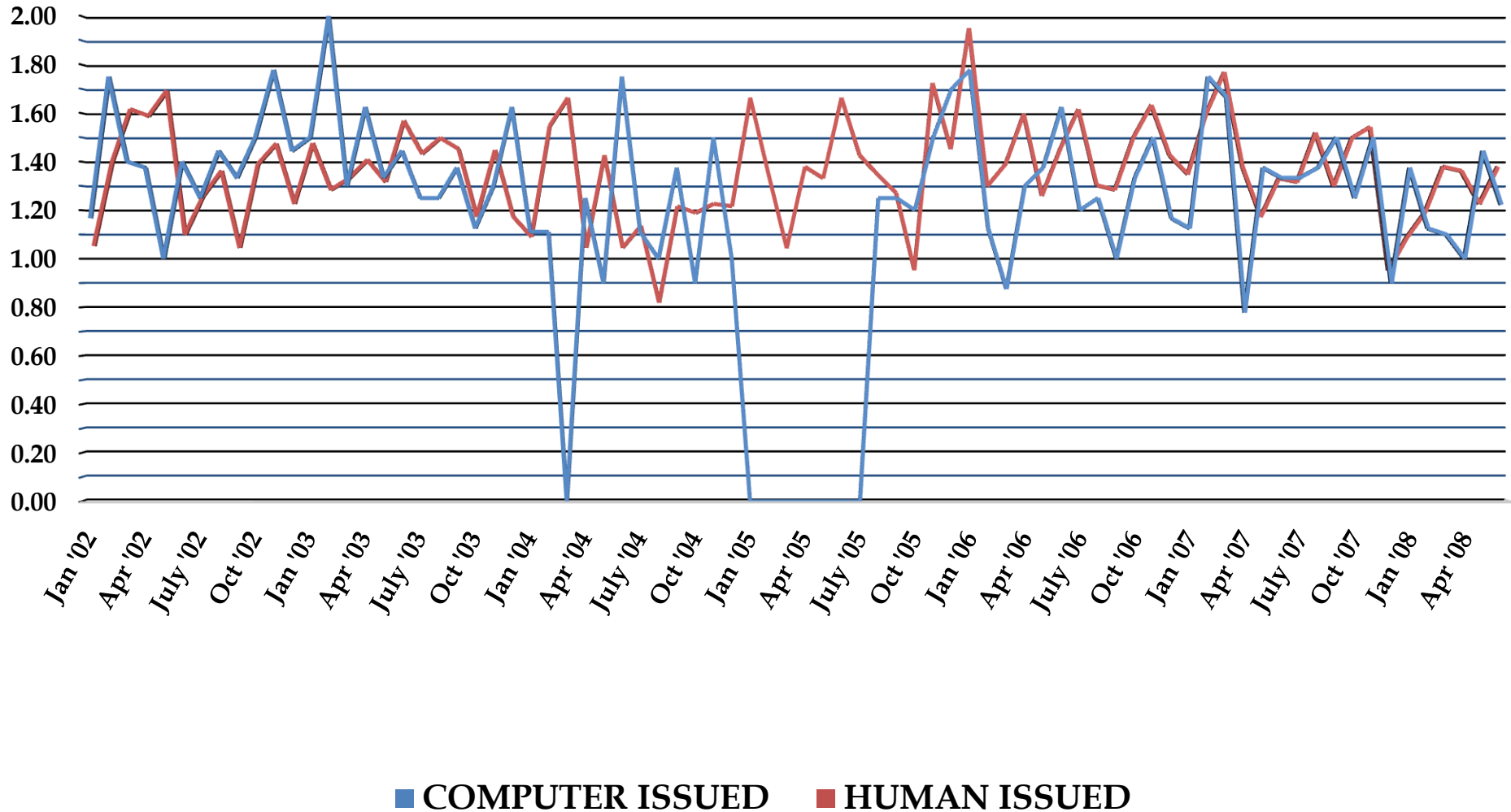
**BURLINGTON, CO (KITR)
COMPUTER VS. HUMAN
TEMPERATURE VERIFICATION
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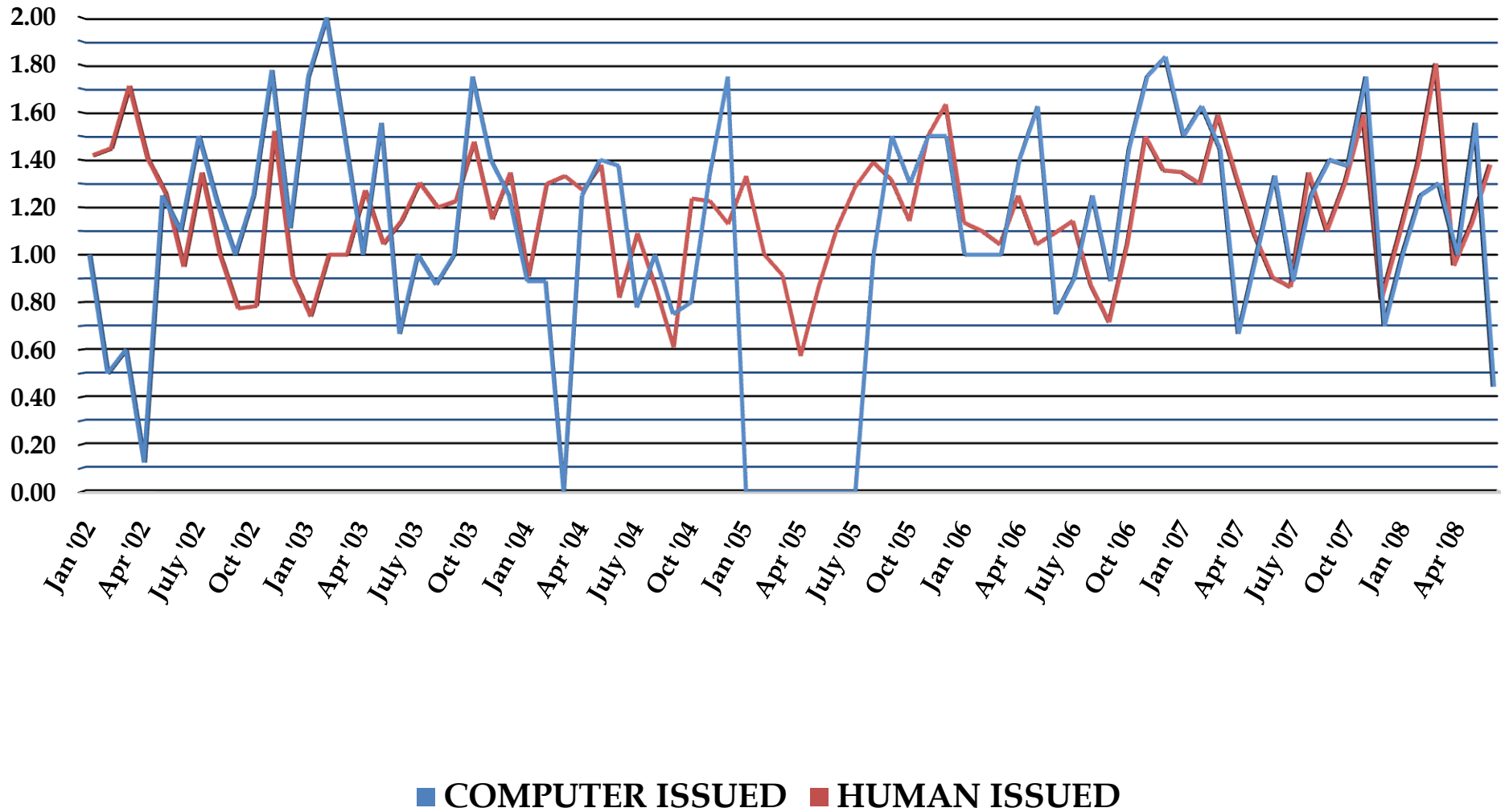
HILL CITY, KS (KHLC) COMPUTER VS. HUMAN TEMPERATURE VERIFICATION 1/2002-6/2008



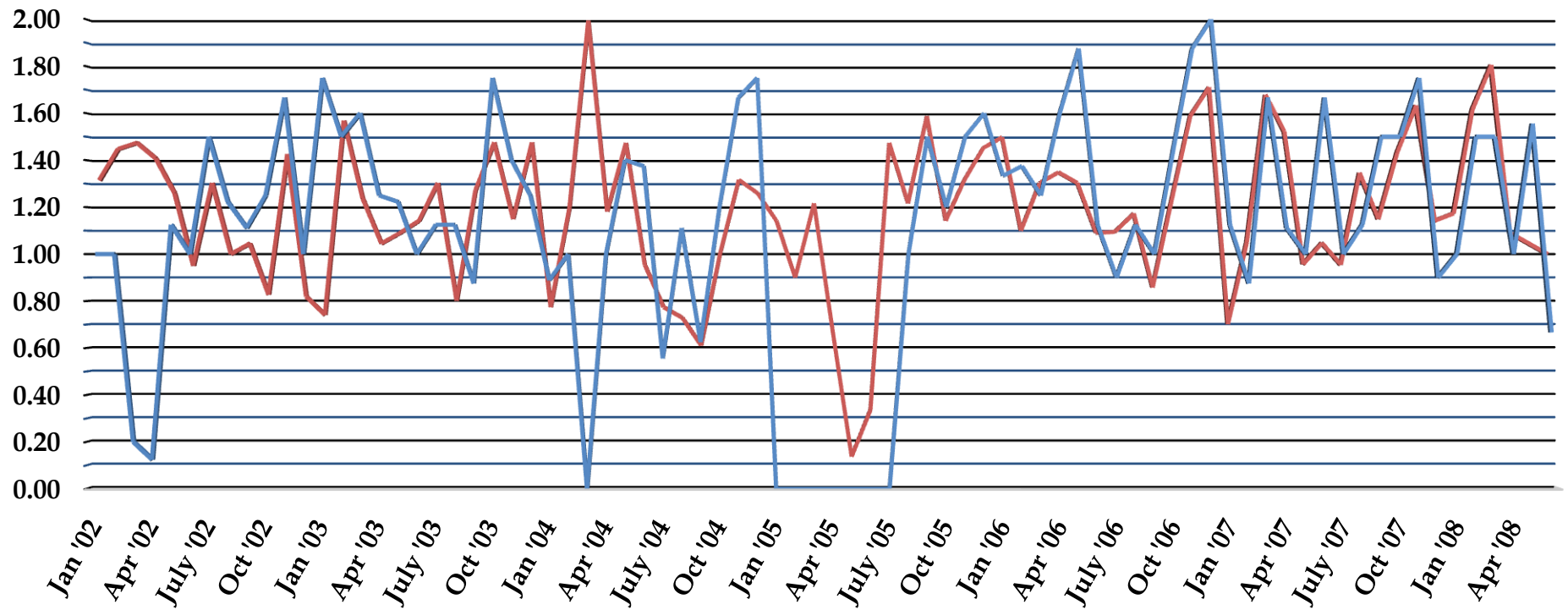
MCCOOK, NE (KMCK) COMPUTER VS. HUMAN TEMPERATURE VERIFICATION 1/2002-6/2008



**GOODLAND, KS (KGLD)
COMPUTER vs. HUMAN
PRECIPITATION VERIFICATION
1/2002-6/2008**

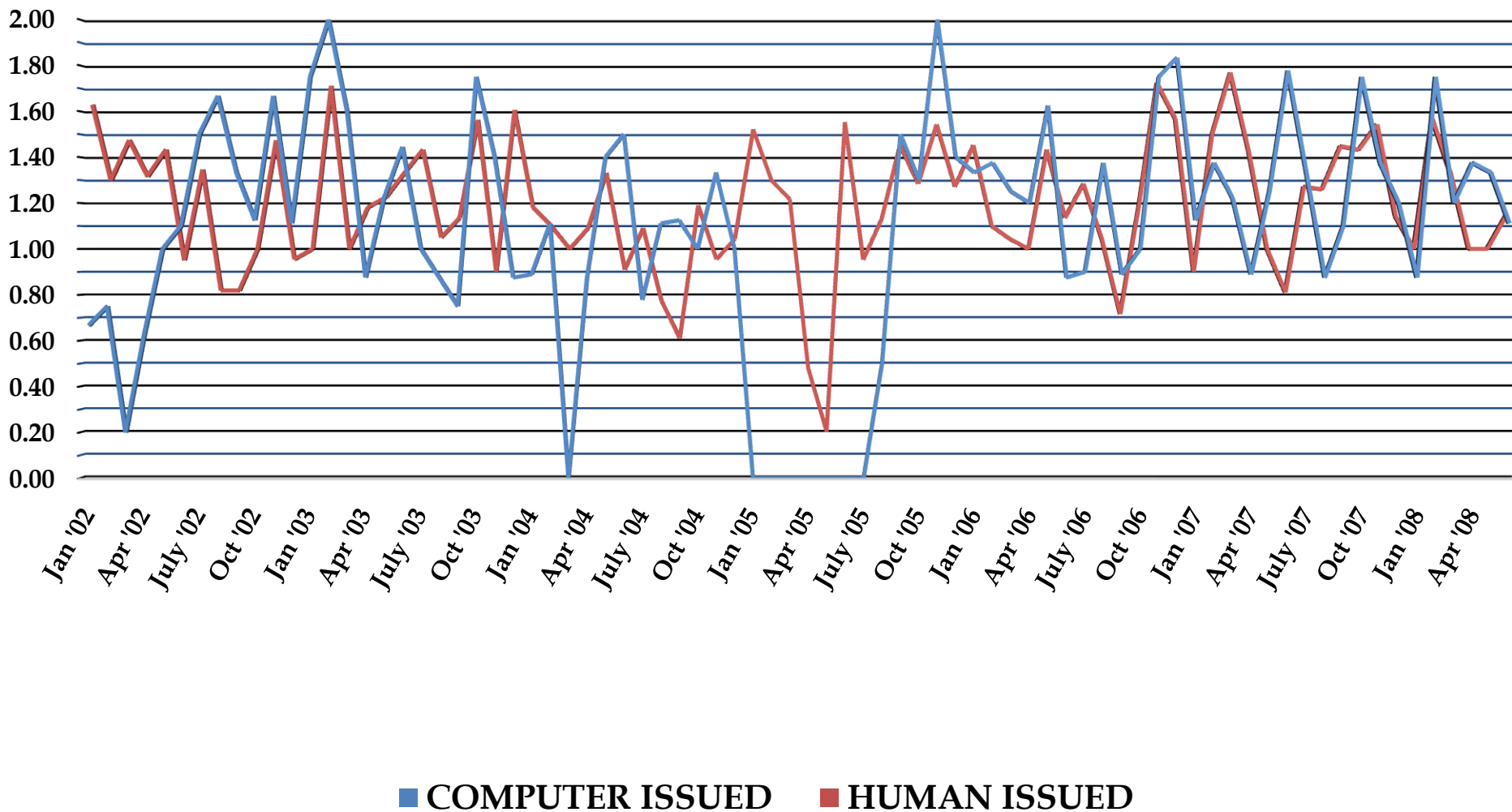


BURLINGTON, CO (KITR) COMPUTER VS. HUMAN PRECIPITATION VERIFICATION 1/2002-6/2008

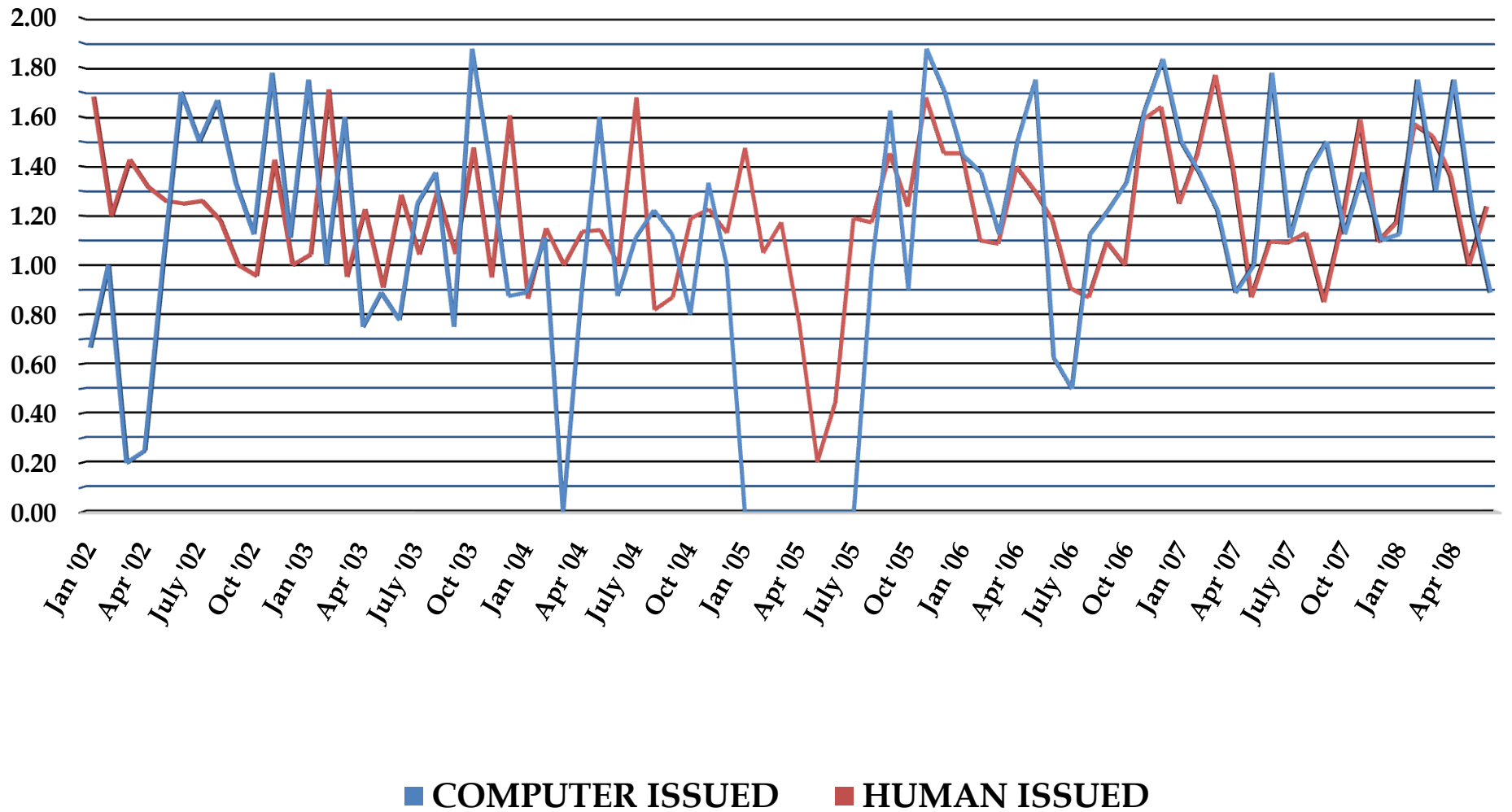


■ COMPUTER ISSUED
 ■ HUMAN ISSUED

HILL CITY, KS (KHLC) COMPUTER VS. HUMAN PRECIPITATION VERIFICATION 1/2002-6/2008



MCCOOK, NE (KMCK) COMPUTER VS. HUMAN PRECIPITATION VERIFICATION 1/2002-6/2008



COMPUTER vs. HUMAN Summary

	COMPUTER TEMPS	HUMAN TEMPS	COMPUTER PRECIP	HUMAN PRECIP
KGLD	1.15	1.24	1.09	1.29
KITR	1.10	1.26	1.20	1.29
KHLC	1.27	1.28	1.27	1.17
KMCK	1.21	1.27	1.34	1.31

COMPUTER vs. HUMAN Summary

	COMPUTER TEMPS MONTH	HUMAN TEMPS MONTH	COMPUTER PRECIP MONTH	HUMAN PRECIP MONTH
KGLD	29/70	41/70	36/70	34/70
KITR	24/70	46/70	39/70	31/70
KHLC	23/70	47/70	39/70	31/70
KMCK	25/70	45/70	41/70	29/70

Comments/Further Research

- ▣ Generally speaking, climatology performed better than CPC forecasts for temperatures while CPC forecasts displayed a slight improvement over climatology in terms of precipitation forecasts
- ▣ Human temperature forecasts were more successful than computer-only temperature forecasts while computer-only precipitation forecasts were slightly more accurate as compared to human forecasts
- ▣ Intend on continuing the research and attempt to determine how useful this product is to our stakeholders and partners

ANY QUESTIONS?

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