

\$ % 6 7 5 \$ & 7

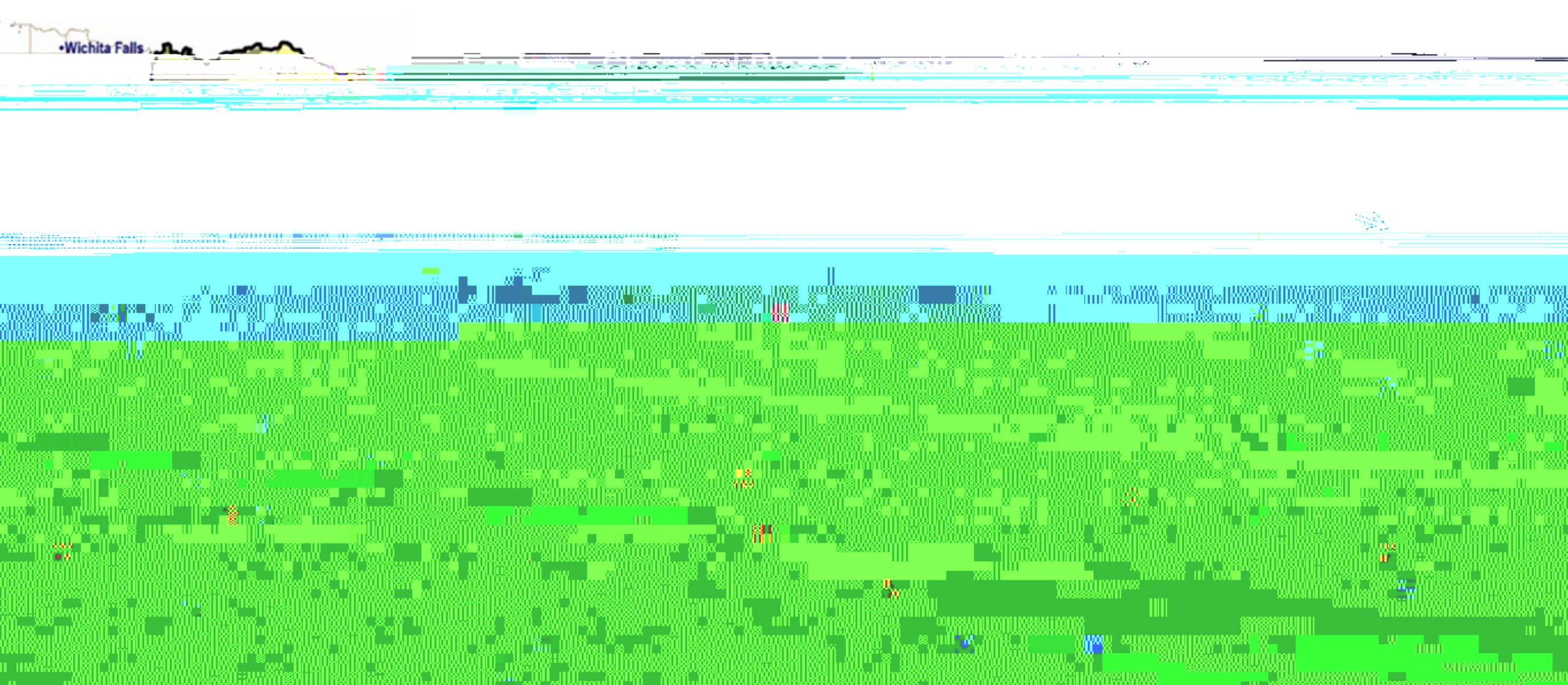
'LUHFW XVH RI JHRWKHUPDO HQHUV\ KDV KLVWRULFDOO\ EHHQ OLPLWHG WR VPDOO FDSDFLW\ DSSOLDOO fë !S~IL

FLHQF\ RI WKH QDWXUDO JDV WXUELQH %ODFNZHOO HW DO

x 3UHYLRXV VVXGLHV KDYH SURGXFHG JHQHUDO LQIRUPDWLRQ RQ WKDHWQHVRHON DUOSURQGDQFHQWLQJLWDQFH[SDQG WKURXJK H[DPLQ  
D JHRWKHUPDO SURMHFW

- ZLOO UHVHDUFK XVLQJ UHVRXUFHV OLNH 2SHQ(, )LJXUH 2SHQ(,  
\$QDO\VLV RI RWKHU IDFWRUV UHTXLUHG IRU XQGHUVWDQGLQJ RI UHVHUJRU PRGHOLQJ" >6XJJHVWLQJ

)LJXUHIX-BXUIDFH WHPHUDWXUH RI (DVW  
DQG 6&XQUDDO 7H[DV DW IHHW  
GHSWK %ODFNZHOO HW DO 7KH VWXG\  
DUHD KLJKOLJKWHG ZLWK WKH EOEX VTXDUH KDV  
UHJLRQDOO\ KLJK WHPHUDWXUHV EXW PRUH  
GDWD SRLQWV DUH EHLQJ DGGHG DV SDUW RI WKLV  
SURMHFW WR LQFUHDVH WKH UHVROXWLRQ RI WKH  
KHDW IORZ DQG WHPSHdDU e6\$ ,c8Y N±BO 8&Ar° • e6\$ ,f19 N±BO 8&q° p FEp° €p



3HUPWWLQJ DVVHVPHQW	3HUPWWLQJ DVVHVVP GHYHORSPHQW DWWXGIVHDFRULHQVFDVH	5HSRUW GRFXPHQWLQJ UHOHYDQW IHGHUDO VWDWH DQG ORFDO SHUPLWWLQJ UHTXLUHG IRU JHRWKHUPDO	

& 855 (17 5 (68/76

x KHDW IORZ SRLQWV IURP 608 DQG JHRWKHUPDO JUDGLHQW SRLQW & QDQF P LQKUHLWKLQ 8 \* HNRWKRHMRIDQDQWPDQ & KHPLFDO & RPSDQ\ SRZHU

x LGHQWLILH & KUHH & RUVWRRQ VDOOH\ RYHODNSVLDQIG VRIS HAWWKG\ DUHD ZKLFK LQFOXGH JHQH(9hyX RZHU

x \$OO 1\*'6 FRQWHQW PRGHOV KDYH EHHQ GRZQORDGHG DQG DUH EHLQJ H[DPLQHG IRU GDWD RYHUODS ZLWK WKH VWXG\ DUHD

68 \*\* (67,216 "

6RPH WKRXJKWV ZH FRXQHJN VFDQOZIVHHWHDURQE HWWHU SRURVLW\ DQG UHVRUHVDLUORV/G'HOKDQW "S:UKRIJUDP  
RXU VWXG\ DUHD DW ORZ WR QR FRVW" \$UH WKHUH RWKHU ODUJH VF, DQHR GROWDLEVKHWHZHSOKHDXVIGHIPDPLQ

ss

'ULOOLQJLQIR FRP 3URGXFWLRQ +LVWRU\ 6XPDU\ 'DWD \$FFHVVHG -DQXDU\ DSS GULOOQLQJ  
)RRWH 5 4 0DVVLQJLOO / 03H[DQH&VHGRJ\ DQG WKH GLVWULEXWLRQ RI FRQYHQWLRQDO FUXGH  
\_. :DVKLQJWQRQ \*H&RORJLFSS 6XUYH  
+DOERXW\ 0 7 DQG +DOERXW\ - - 5HODWLRQVKLS %HWSPIH\$QV(DRVW 73H[DWU RI OHG RSGJZKQDQG 6DELO  
2SHQ(, - 5\$3XODWRU\ DQG 3HUPWWLQJ ,QIRUPDWLRQ 'HVNWRS 75\$GNLWMR\$VFRHUVWDQH! -DQXDU\  
608 \*HRWKHUPDO DE 608 1RGH RI WKH 1DWLRQDO \*HRWKHUPDO 'DWD6\VWHP \$FFHVVHG 'HFHPEH  
86\*6 5HFHQW 86\*6 2LO DQG \*DV \$VVHVVPHQWV LQ WKH \*XOI %DVLQWDFK 6HMHVHÔO1&RDFRMEHUSHZ! KW

\$ & . 12 : / ('\*(0 (176

7KLV ZRUN KDV EHHQ SHUIRUPHG E\ -608 XQGHUW KXWIRQSOODBWFHRIRU; 6XVWODWQDQH2SIRUDWLAQJ&RQWUDHFRUWU IRU WKH 1DWLRQ  
315(/' LQ VXSSRUW RI 'HSUWPHQW-S & FQH&J\ 3ULPBM\ RFRQWDFWLRQ WKBR&WKSQVWQDQGIEQDRFIRQZD&RQDWLRQV WR WKH

)LJXUHIXUHHQW PDS RI WKH VWXG\ DUHD VKRZLQJ 608 KHDW IORZ %(\* %+7 DQG ZHOOV  
ZLWK ZHOO ORJ ORFDWLRQV ZLWKLP NP RI WKH (DVWPDU\ & KHPLFDO & RPSDQ\ SRZHU SODQW

\$ & . 12 J / ('\*(0 '\$\$& 7 KLV Z / (@FE P

Xp0P A Rô R X°WPW DOP % h" |