

LD
5655
A962
no. 448-
016
2001
c. 2

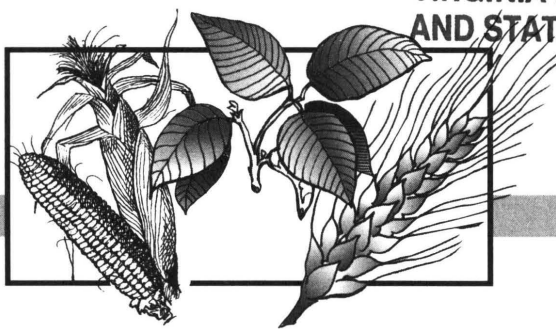
**Virginia
Cooperative
Extension**

REVISED 2001

**VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY LIBRARIES**

**Agricultural and
Applied Economics**

PUBLICATION 448-016



Virginia Basis Tables for Corn, Soybeans, and Wheat

David E. Kenyon*

VP I & SU LIBRARY
a100254835/b

Introduction

Futures prices determined at the major commodity exchanges represent prices of commodities delivered to Chicago; New York City; Decatur, Illinois; and other specified delivery points. None of these delivery points are located in Virginia. For hedgers in Virginia who are not going to make or accept delivery outside of Virginia, the futures prices must be adjusted to local cash market prices. The adjustment takes place by use of a factor called basis. Basis is the historical difference between local cash prices and futures prices at the time the hedger anticipates actually selling or purchasing the physical

commodity. The historical difference indicates the local discount or premium relative to the futures price that hedgers can expect when they sell or purchase the physical commodity.

This report contains basis estimates for corn, soybeans and wheat in major Virginia markets. The user is assumed to understand the basic principles of hedging and the role of basis in hedging.

Calculation of Grain Basis

The estimates of basis for grain are computed using opening cash price bids to producers. The cash prices are from *Commodity Newsletter* published by Virginia Department of Agriculture

	Southeast Virginia Cash Price	December Futures Price	September Basis (¢/bu.)
	(\$/bushel)		
Sept. 4, 2000	1.72	1.94	-22
Sept. 11, 2000	1.70	1.96	-26
Sept. 18, 2000	1.64	1.90	-26
Sept. 25, 2000	<u>1.71</u>	<u>1.93</u>	<u>-22</u>
Average	1.69	1.93	-24

*Professor and Extension Economist, Department of Agricultural and Applied Economics, Virginia Tech.



VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Virginia Cooperative Extension programs and employment are open to all, regardless of race, color, religion, sex, age, veteran status, national origin, disability, or political affiliation. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. J. David Barrett, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; Lorenza W. Lyons, Administrator, 1890 Extension Program, Virginia State, Petersburg.
VT/028/0701/500/220278/448016



VIRGINIA STATE UNIVERSITY

and Consumer Services, 1100 Bank Street, Suite 805, Richmond, Virginia 23219-3638. The futures prices are the closing price on the same day as the quoted cash price from the *Wall Street Journal*. For example, to compute the Southeast Virginia September 2000 basis for corn using the December corn futures, the following calculations would be required.

Basis is calculated as cash price minus futures price. A negative basis means cash prices are below futures prices. A positive basis means cash prices are above futures prices. In the example above, cash prices on average were 24 cents less than December futures in Southeast Virginia during September 2000.

The basis estimates are presented in table form. Each table indicates the location, commodity, and years included. The years represent marketing years, beginning at harvest of the first year and ending 12 months later. The numbers in the body of the tables are expressed in cents per bushel. Each basis estimate is an average of the weekly basis for marketing years beginning in 1996 through 2000.* The numbers in parentheses under each basis estimate are the smallest and largest weekly basis during the period of years used in computing the average. These are provided to give the user a feel for the reliability of the basis estimate.

Reading Grain Basis Tables

Each grain basis table is constructed with the futures contract months for that commodity across the top of the table. Down the left-hand column are listed the months of the marketing year. Finding the appropriate basis estimate involves two steps. First, go down the left-hand column to the month that corresponds to the anticipated cash commodity sale or purchase month. Second, determine the futures contract month that matures closest to **but not before** the cash sale or purchase month determined in step one.

For example, assume a corn producer in the Southeast wants to hedge corn that will be harvested in early September (before September 15). After locating the Southeast corn basis table, the producer selects the September cash month in the left-hand column since the corn is going to be sold in September. Following the second step, the September future contract is chosen because it matures during September. The intersection of September cash and September futures produces a basis estimate of -12 cents. The -12 cents means that during the five marketing years 1996/97 to 2000/2001, the September cash price on average was 12 cents less than the September futures price in September. The -58 cents and +6 cents in parentheses under the average indicate that one week in September during the five years the basis was -58 cents and in another week +5 cents, the weakest and strongest basis during the five years used in computing the average. Remember, these range numbers are the extremes. In most years, the actual basis will be within 5-10 cents of the historical average basis.

Caution

In many Virginia markets, wheat is only actively traded during June through September. For this reason, some of the wheat basis estimates for October through May are based on less than five years of data. All estimates shown are based on 8 or more weeks of data. In some markets, no cash prices were reported in the winter or spring, so these months have been eliminated from the tables. Be more careful when using wheat basis estimates for the months of October through May.

In the spring of 1996, corn and wheat cash and futures prices reached historically high levels. Some local cash prices did not move in the same magnitude as futures prices. The result is some large negative and positive basis estimates. These estimates show up in the ranges under the average basis estimate. Under normal circumstances, these large negative and positive basis estimates should be given little consideration when making hedging decisions.

*For 2000 marketing year, the data ends in April 2001.

AVERAGE CORN BASIS 1996-2000 (¢/BU)

MARKET	CASH	FUTURES CONTRACT MONTH				
	DELIVERY MONTH	SEP	DEC	MAR	MAY	JUL
EASTERN SHORE	AUG	4 (-25 20)	-5 (-23 8)	-15 (-27 1)	-22 (-34 -4)	-26 (-41 -6)
	SEP	-9 (-54 15)	-9 (-31 2)	-19 (-43 -6)	-26 (-51 -12)	-31 (-58 -11)
	OCT		-16 (-45 4)	-26 (-56 -8)	-33 (-64 -14)	-38 (-72 -19)
	NOV		-6 (-45 14)	-15 (-56 2)	-22 (-64 -5)	-27 (-71 -7)
	DEC		-1 (-30 16)	-5 (-40 28)	-10 (-48 25)	-15 (-55 23)
	JAN			13 (-4 36)	8 (-21 34)	5 (-18 32)
	FEB			17 (3 42)	11 (-5 42)	9 (-12 44)
	MAR			10 (-26 27)	9 (-10 30)	4 (-16 37)
	APR				16 (0 29)	10 (-9 23)
	MAY				1 (-25 16)	3 (-30 18)
	JUN					9 (-8 19)
	JUL					-8 (-48 16)
	NORTH CENTRAL (Culpeper & Winchester)	AUG	28 (8 89)	24 (-4 119)	15 (-15 111)	9 (-22 106)
SEP		18 (-40 110)	19 (-13 97)	9 (-25 85)	2 (-33 77)	-2 (-40 71)
OCT			6 (-19 33)	-4 (-31 21)	-10 (-38 15)	-15 (-46 10)
NOV			13 3 (-37 49)	-4 (-49 36)	-9 (-57 29)	-9 (-64 22)
DEC			14 (-21 53)	7 (-35 43)	2 (-43 36)	-4 (-51 29)
JAN				18 (-10 40)	13 (-14 33)	10 (-9 26)
FEB				20 (-5 39)	14 (-9 30)	11 (-5 26)
MAR				13 (-5 31)	12 (-4 27)	10 (-4 25)
APR					15 (-17 46)	14 (-3 37)
MAY					9 (-27 30)	16 (-11 30)
JUN						29 (13 48)
JUL						10 (-31 50)

AVERAGE CORN BASIS: 1996-2000 (¢/BU)

MARKET	CASH DELIVERY	FUTURES CONTRACT MONTH				
	MONTH	SEP	DEC	MAR	MAY	JUL
NORTHERN NECK (Tappahannock)	AUG	18 (-11 110)	12 (-23 140)	3 (-35 132)	-3 (-43 127)	-7 (-50 126)
	SEP	-8 (-59 23)	-5 (-28 23)	-15 (-35 14)	-21 (-41 9)	-26 (-46 5)
	OCT		-9 (-29 10)	-19 (-40 2)	-26 (-48 -4)	-31 (-56 -8)
	NOV		-5 (-33 11)	-14 (-45 2)	-21 (-53 -3)	-26 (-60 -6)
	DEC		0 (-29 14)	-4 (-39 22)	-9 (-47 19)	-14 (-54 17)
	JAN			18 (4 35)	12 (-10 29)	9 (-9 27)
	FEB			20 (8 46)	15 (3 46)	12 (-3 48)
	MAR			11 (-15 27)	10 (-10 24)	8 (-15 25)
	APR				13 (-4 31)	12 (-2 35)
	MAY				0 (-28 13)	9 (-11 30)
	JUN					12 (3 19)
	JUL					4 (-33 40)
	PETERSBURG	AUG	11 (-26 46)	7 (-28 75)	-2 (-40 67)	-9 (-47 62)
SEP		-8 (-54 14)	-3 (-25 16)	-13 (-37 8)	-20 (-44 2)	-24 (-50 -1)
OCT			-3 (-30 24)	-13 (-41 16)	-20 (-49 10)	-25 (-57 7)
NOV			8 (-36 37)	-1 (-47 31)	-8 (-55 26)	-13 (-62 23)
DEC			17 (4 35)	15 (-9 45)	9 (-14 42)	4 (-21 40)
JAN				23 (6 51)	18 (-11 49)	15 (-8 47)
FEB				25 (12 51)	20 (3 52)	17 (-5 54)
MAR				15 (-18 29)	15 (2 29)	13 (-4 36)
APR					22 (12 59)	21 (3 63)
MAY					12 (-18 27)	17 (-25 43)
JUN						20 (0 40)
JUL						8 (-23 48)

AVERAGE CORN BASIS: 1996-2000 (¢/BU)

MARKET	CASH DELIVERY	FUTURES CONTRACT MONTH				
	MONTH	SEP	DEC	MAR	MAY	JUL
SHENANDOAH VALLEY (Harrisonburg)	AUG	56 (16 143)	50 (4 176)	41 (-7 169)	35 (-11 164)	31 (-15 162)
	SEP	44 (-19 108)	45 (7 133)	35 (-5 126)	29 (-13 120)	24 (-20 121)
	OCT		27 (1 55)	17 (-11 49)	10 (-18 44)	5 (-26 41)
	NOV		31 (-13 53)	21 (-24 45)	14 (-32 41)	9 (-39 38)
	DEC		34 (-3 55)	28 (-16 51)	23 (-24 48)	18 (-32 45)
	JAN			41 (23 57)	36 (15 55)	32 (9 53)
	FEB			37 (23 52)	32 (20 53)	29 (14 55)
	MAR			31 (-5 52)	32 (22 47)	29 (14 51)
	APR				29 (-2 53)	36 (6 57)
	MAY				29 (-2 53)	36 (6 57)
	JUN					45 (25 65)
	JUL					39 (5 63)
	SOUTHEAST (Wakefield)	AUG	5 (-21 44)	1 (-27 74)	-8 (-39 66)	-14 (-47 61)
SEP		-12 (-58 6)	-6 (-26 14)	-16 (-38 7)	-23 (-45 1)	-27 (-52 -1)
OCT			-5 (-38 28)	-15 (-49 20)	-22 (-57 14)	-27 (-65 10)
NOV			3 (-40 28)	-6 (-51 22)	-13 (-59 16)	-18 (-66 13)
DEC			15 (2 25)	11 (-11 33)	6 (-19 30)	1 (-27 28)
JAN				20 (-4 44)	15 (-14 42)	12 (-18 40)
FEB				22 (6 49)	17 (-2 49)	14 (-9 51)
MAR				12 (-21 23)	12 (-6 25)	10 (-12 32)
APR					18 (6 47)	17 (-3 51)
MAY					5 (-27 26)	11 (-33 40)
JUN						13 (0 29)
JUL						2 (-34 41)

AVERAGE SOYBEAN BASIS: 1996-2000 (¢/BU)

MARKET	CASH	FUTURES CONTRACT MONTH						
	DELIVERY	NOV	JAN	MAR	MAY	JULY	AUG	SEP
MONTH	MONTH							
EASTERN SHORE	OCT	-26 (-44 8)	-34 (-49 -15)	-41 (-56 -21)	-47 (-63 -23)	-52 (-69 -24)	-52 (-70 -17)	-29 (-59 0)
	NOV	-26 (-44 -8)	-33 (-51 -7)	-38 (-57 -9)	-43 (-61 -13)	-47 (-66 -17)	-45 (-65 -11)	-25 (-58 10)
	DEC		-21 (-35 -6)	-25 (-45 -9)	-29 (-53 -13)	-32 (-60 -15)	-31 (-62 -12)	-17 (-59 7)
	JAN		-20 (-36 5)	-22 (-38 -2)	-27 (-44 -6)	-30 (-51 -8)	-29 (-52 -8)	-17 (-53 16)
	FEB			-14 (-32 17)	-19 (-39 6)	-24 (-47 -3)	-27 (-87 -2)	-17 (-70 36)
	MAR			-20 (-59 7)	-23 (-47 3)	-29 (-55 1)	-27 (-57 10)	-10 (-59 75)
	APR				-23 (-59 11)	-30 (-63 5)	-27 (-50 7)	-6 (-52 90)
	MAY				-23 (-61 2)	-25 (-74 7)	-19 (-76 28)	4 (-79 118)
	JUN					-23 (-51 13)	-11 (-44 53)	-10 (-46 129)
	JUL					-37 (-89 13)	-30 (-67 4)	-3 (-56 73)
	AUG						-33 (-76 6)	-25 (-72 3)
	SEP							-39 (-121 -4)
NORFOLK (Producer)	OCT	-17 (-30 -2)	-25 (-40 -8)	-32 (-49 -16)	-38 (-59 -18)	-43 (-67 -20)	-43 (-68 -17)	-18 (-46 1)
	NOV	-17 (-30 -2)	-23 (-43 1)	-27 (-49 -1)	-32 (-53 -5)	-37 (-58 -9)	-35 (-54 -3)	-16 (-43 18)
	DEC		-12 (-20 0)	-15 (-30 -6)	-19 (-38 -5)	-23 (-45 -5)	-22 (-47 -3)	-8 (-44 13)
	JAN		-8 (-23 8)	-11 (-25 1)	-16 (-31 -5)	-19 (-36 -6)	-19 (-39 -2)	-7 (-40 26)
	FEB			-7 (-19 3)	-13 (-28 0)	-18 (-37 -2)	-21 (-72 3)	-10 (-55 41)
	MAR			-10 (-46 20)	-12 (-39 16)	-18 (-42 14)	-15 (-44 23)	2 (-45 93)
	APR				-11 (-34 26)	-18 (-38 16)	-15 (-38 20)	6 (-41 103)
	MAY				-12 (-48 8)	-13 (-61 14)	-7 (-63 39)	16 (-66 129)
	JUN					-8 (-34 49)	0 (-29 89)	18 (-31 151)
	JUL					-17 (-44 10)	-12 (-41 23)	5 (-38 60)
	AUG						-37 (-151 16)	-9 (-55 18)
	SEP							-32 (-128 -6)

AVERAGE SOYBEAN BASIS: 1996-2000 (¢/BU)

MARKET	CASH	FUTURES CONTRACT MONTH						
	DELIVERY MONTH	NOV	JAN	MAR	MAY	JULY	AUG	SEP
NORTHERN NECK (Tappahannock)	OCT	-14 (-34 5)	-22 (-39 -5)	-29 (-46 -14)	-36 (-53 -24)	-41 (-58 -30)	-41 (-58 -29)	-21 (-41 -9)
	NOV	-14 (-34 5)	-20 (-36 8)	-25 (-42 6)	-29 (-47 2)	-34 (-52 -2)	-32 (-51 4)	-11 (-40 25)
	DEC		-6 (-23 11)	-10 (-30 11)	-14 (-37 7)	-17 (-42 3)	-16 (-42 8)	-1 (-34 26)
	JAN		-2 (-16 27)	-5 (-21 20)	-9 (-29 13)	-13 (-35 10)	-12 (-35 11)	-1 (-36 29)
	FEB			-1 (-15 14)	-6 (-20 12)	-11 (-28 7)	-14 (-77 10)	-3 (-60 48)
	MAR			-5 (-37 24)	-8 (-36 20)	-14 (-45 18)	-12 (-48 27)	5 (-49 90)
	APR				-9 (-41 28)	-16 (-45 21)	-13 (-35 22)	8 (-38 93)
	MAY				-10 (-37 10)	-11 (-50 15)	-5 (-52 34)	18 (-55 119)
	JUN					-11 (-27 24)	4 (-29 64)	28 (-31 132)
	JUL					-26 (-74 -1)	-19 (-42 29)	17 (-36 98)
	AUG						-31 (-124 21)	-4 (-58 78)
	SEP							-15 (-32 -1)
	PETERSBURG	OCT	-22 (-44 -2)	-30 (-50 -4)	-38 (-58 -11)	-44 (-64 -18)	-49 (-68 -20)	-48 (-68 -19)
NOV		-22 (-44 -2)	-30 (-56 -5)	-35 (-62 -7)	-39 (-66 -11)	-44 (-71 -15)	-42 (-64 -9)	-22 (-50 12)
DEC			-16 (-33 -7)	-20 (-40 -6)	-24 (-47 -4)	-27 (-52 -3)	-26 (-54 -3)	-11 (-51 13)
JAN			-13 (-20 5)	-16 (-25 -2)	-20 (-34 -9)	-23 (-41 -11)	-23 (-42 -7)	-11 (-43 25)
FEB				-9 (-20 5)	-14 (-29 3)	-20 (-38 3)	-22 (-75 8)	-11 (-58 46)
MAR				-12 (-51 19)	-15 (-35 15)	-21 (-44 13)	-19 (-47 22)	-2 (-48 91)
APR					-14 (-41 25)	-21 (-53 15)	-18 (-56 18)	3 (-58 95)
MAY					-18 (-46 5)	-19 (-59 11)	-14 (-61 36)	9 (-64 126)
JUN						-14 (-42 21)	-3 (-39 44)	24 (-36 142)
JUL						-14 (-40 26)	-3 (-42 54)	19 (-44 134)
AUG							-26 (-139 37)	-3 (-66 125)
SEP								-29 (-131 5)

AVERAGE SOYBEAN BASIS: 1996-2000 (¢/BU)

MARKET	CASH	FUTURES CONTRACT MONTH						
	DELIVERY							
	MONTH	NOV	JAN	MAR	MAY	JULY	AUG	SEP
SOUTHEAST VIRGINIA (Wakefield)	OCT	-20 (-54 38)	-27 (-61 32)	-35 (69 24)	-41 (-73 22)	-46 (-79 20)	-44 (-77 21)	-17 (-62 41)
	NOV	-20 (-54 38)	-28 (-61 -3)	-32 (-67 -5)	-37 (-71 -9)	-42 (-76 -13)	-40 (-69 -7)	-20 (-53 14)
	DEC		-15 (-24 -11)	-19 (-31 -6)	-23 (-38 -4)	-26 (-45 -3)	-25 (-47 -3)	-11 (-44 10)
	JAN		-13 (-33 2)	-16 (-37 -4)	-21 (-37 -10)	-24 (-39 -11)	-23 (-41 -7)	-11 (-42 23)
	FEB			-7 (-20 10)	-12 (-29 8)	-18 (-38 8)	-20 (-81 13)	-10 (-64 51)
	MAR			-15 (-53 14)	-17 (-39 10)	-22 (-44 8)	-20 (-46 24)	-3 (-47 87)
	APR				-15 (-36 27)	-22 (-44 17)	-19 (-47 20)	3 (-49 98)
	MAY				-15 (-45 7)	-17 (-57 10)	-11 (-59 35)	12 (-62 125)
	JUN					-15 (-39 24)	-4 (-38 47)	18 (-40 131)
	JUL					-17 (-44 25)	-6 (-41 31)	21 (-38 129)
	AUG						-15 (-85 66)	6 (-57 147)
	SEP							-32 (-126 5)

AVERAGE WHEAT BASIS: 1996-2000 (¢/BU)

MARKET	CASH	FUTURES CONTRACT MONTH				
	DELIVERY MONTH	JULY	AUG	DEC	MAR	MAY
EASTERN SHORE	JUN	-56 (-71 -42)	-67 (-83 -54)	-81 (-97 -67)	-92 (-109 -68)	-95 (-116 -44)
	JUL	-59 (-67 -54)	-66 (-72 -60)	-80 (-89 -66)	-90 (-103 -64)	-89 (-114 -34)
	AUG		-62 (-85 -46)	-77 (-101 -51)	-89 (-115 -49)	-92 (-123 -24)
	SEP		-59 (-75 -44)	-68 (-90 -38)	-77 (-106 -32)	-78 (-115 -16)
	OCT			-63 (-92 -37)	-72 (-108 -30)	-74 (-118 -12)
	NOV			-63 (-93 -33)	-72 (-109 -16)	-74 (-119 3)
	DEC			49 (-81 -25)	-58 (-95 -9)	-61 (-105 13)
	JAN				-51 (-82 -20)	-46 (-93 6)
	FEB				-50 (-79 -15)	-51 (-90 20)
	MAR				-57 (-123 -34)	-56 (-85 -24)
	APR					-62 (-80 -41)
	MAY					-67 (-129 -42)

AVERAGE WHEAT BASIS: 1996-2000 (¢/BU)

MARKET	CASH	FUTURES CONTRACT MONTH				
	DELIVERY MONTH	JULY	AUG	DEC	MAR	MAY
NORFOLK (Producer)	JUN	-41 (-56 -23)	-51 (-67 -37)	-65 (-84 -50)	-74 (-96 -49)	-73 (-106 -25)
	JUL	-41 (-50 -27)	-48 (-60 -29)	-61 (-78 -35)	-71 (-92 -33)	-70 (-101 -3)
	AUG		-44 (-69 -20)	-59 (-85 -25)	-71 (-99 -23)	-74 (-107 2)
	SEP		-40 (-57 -24)	-48 (-72 -18)	-57 (-88 -12)	-58 (-97 9)
	OCT			-44 (-74 -17)	-53 (-90 -10)	-55 (-100 8)
	NOV			ID	ID	ID
	DEC			ID	ID	ID
	JAN				-41 (-60 -15)	-47 (-71 11)
	FEB				-34 (-57 -19)	-34 (-68 29)
	MAR				-43 (-103 -24)	-43 (-64 -18)
	APR					-44 (-60 -24)
	MAY					-40 (-69 -23)
	NORTHERN NECK (Tappahannock)	JUN	-45 (-64 -35)	-55 (-67 -43)	-69 (-81 -56)	-77 (-93 -63)
JUL		-47 (-60 -38)	-53 (-68 -42)	-66 (-84 -48)	-75 (-98 -46)	-72 (-107 -16)
AUG			-49 (-69 -35)	-63 (-85 -40)	-75 (-99 -38)	-76 (-107 -13)

AVERAGE WHEAT BASIS: 1996-2000 (¢/BU)

MARKET	CASH DELIVERY	FUTURES CONTRACT MONTH				
	MONTH	JULY	AUG	DEC	MAR	MAY
PETERSBURG	JUN	-48 (-66 -31)	-58 (-77 -42)	-72 (-94 -51)	-80 (-106 -48)	-78 (-116 -4)
	JUL	-45 (-62 -30)	-52 (-72 -34)	-66 (-90 -43)	-76 (-104 -41)	-75 (-113 -11)
	AUG		-51 (-72 -34)	-66 (-88 -40)	-78 (-102 -37)	-80 (-110 -11)
	SEP		-48 (-63 -29)	-56 (-77 -23)	-65 (-93 -15)	-66 (-102 6)
	OCT			-50 (-78 -17)	-58 (-94 -10)	-60 (-104 8)
	NOV			-42 (-70 -22)	-51 (-86 -13)	-53 (-96 7)
	DEC			-28 (-46 -16)	-34 (-58 -4)	-36 (-71 19)
	JAN				-19 (-39 4)	-14 (-47 20)
	FEB				-21 (-34 -14)	-22 (-37 24)
	MAR				-37 (-88 -20)	-37 (-59 -27)
	APR					-39 (-98 -19)
	MAY					-52 (-120 -28)
SOUTHEAST VIRGINIA (Wakefield)	JUN	-45 (-62 -28)	-56 (-73 -37)	-70 (-90 -46)	-80 (-102 -45)	-80 (-112 -21)
	JUL	-44 (-57 -31)	-51 (-67 -33)	-65 (-85 -39)	-74 (-99 -37)	-73 (-109 -7)
	AUG		-53 (-76 -31)	-68 (-93 -36)	-79 (-108 -33)	-82 (-118 -6)
	SEP		-46 (-62 -18)	-54 (-76 -12)	-63 (-92 -6)	-64 (-101 8)
	OCT			-45 (-72 -9)	-54 (-88 -2)	-56 (-98 17)
	NOV			-42 (-69 -17)	-51 (-85 -7)	-53 (-95 16)
	DEC			-28 (-36 -16)	-36 (-51 -5)	-38 (-61 17)
	JAN				-22 (-51 20)	-17 (-62 36)
	FEB				-25 (-45 19)	-25 (-57 30)
	MAR				-36 (-88 -19)	-36 (-55 -17)
	APR					-45 (-94 -24)
	MAY					-54 (-115 -27)

