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**ANEXO 3.
RECURSOS NATURALES**



**CLIMATOLOGÍA****Cuadro N° 3.78**
Temperatura Media Mensual Histórica – Estación Buena Vista (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1964										18.2	19.6	22.3	
1965					21.0	19.3	18.8			18.3	18.8	20.8	
1966	22.0	22.1				16.4	16.7	15.9	18.0	18.6	19.4	20.5	
1967	22.4	23.3	23.3	22.8	20.5	16.7	16.4	16.5	16.5	17.7	17.7	20.1	19.5
1968	22.8	22.8	22.7	21.0	18.2	16.7	16.8	17.5	18.3	19.0	20.1	22.3	19.8
1969	24.5	25.0	25.4	23.8	22.6	20.3	17.8	18.8	19.7	20.3	21.3	23.0	21.9
1970	24.2	25.0	25.0	23.5	19.9	18.0			18.6	19.3	19.9	21.1	
1971	22.7	23.6	23.2	21.4	18.2	17.6	16.5	16.1	16.2	17.0	18.2	19.8	19.2
1972	21.4	23.2	23.3	21.6	20.7	20.4	19.2	18.9	18.4	18.9	19.7	21.8	20.6
1973	23.5	23.9	23.0	21.2	18.6	16.3	15.4	15.2	16.1	16.4	17.9	19.1	18.9
1974	21.0	22.1	21.7	20.5	19.0	17.5	16.4	16.1	16.0	17.0	18.6	19.7	18.8
1975	21.6	22.4	22.6	21.1	18.2	16.8	15.8	15.7	16.3	17.4	17.6	19.9	18.8
1976	22.7	23.3	23.2	21.9	20.8	19.8	18.5	18.5	17.8	18.2	19.6	21.9	20.5
1977	23.5	23.7	23.4	22.1	20.3	18.4	17.6	16.7	17.7	18.4	19.8	21.4	20.2
1978	22.5	23.7	22.8	21.6	19.5	17.2	17.3	16.8	17.5	18.1	19.9	21.2	19.8
1979	22.5	23.3	23.5	22.0	19.0	17.6	17.4	17.9	17.8	18.1	19.0	20.9	19.9
1980	22.2	22.9	23.5	22.7	20.4	18.3	17.6	16.9	17.2	18.5	19.6	20.8	20.0
1981	22.0	24.0	24.4	22.5	19.4	17.2	16.0	16.6	17.0	18.2	19.2	20.9	19.8
1982	21.7	22.7	22.0	21.4	19.7	18.2	17.6	17.7	18.4	19.6	21.9	23.9	20.4
1983	25.4	25.8	25.8	25.6	24.6	23.2	20.4	19.2	18.4	19.5	20.1	21.8	22.5
1984	22.6	23.6	22.9	21.4	19.5	18.0	17.2	16.8	17.5	18.8	19.0	21.4	19.9
1985	22.1	23.0	23.6	21.1	18.2	17.5	16.2	16.1	17.2	18.1	18.9	20.9	19.4
1986	22.6	22.9	22.2	21.5	18.6	16.6	16.7	17.9	17.7	17.6	19.3	21.4	19.6
1987	23.6	24.2	24.2	22.7	20.3	18.8	18.6	17.7	18.4	19.1	20.7	21.7	20.8
1988	22.6	23.6	22.6	22.4	20.6	17.4	16.5	16.9	17.4	18.0	19.4	20.6	19.8
1989	22.6	23.7	22.9	20.4	17.9	17.7	16.6	17.3	17.3	18.9	19.3	20.7	19.6
1990	23.1	23.3	23.3	21.8	21.1	18.5	17.5	17.4	18.0	18.7	19.2	22.7	20.4
1991	22.5	23.1	23.8	21.8	20.7	18.8	17.3	17.3	18.2	19.2	19.9	21.4	20.3
1992	23.4	23.8	25.0	24.0	22.3	19.4	17.2	17.5	17.5	18.8	20.0	20.9	20.8
1993	22.6	24.2	23.8	23.0	21.1	20.1	18.3	18.0	18.2	19.0	19.3	21.0	20.7
1994	22.4	23.0	22.7	22.1	20.0	18.1	16.6	16.7	18.1	18.5	19.5	21.2	19.9
1995	23.4	23.6	22.8	21.2	19.6	18.2	17.1	16.8	17.9	18.2	19.7	20.7	19.9
1996	22.0	22.8	22.6	20.4	18.7	16.2	15.9	16.2	17.1	17.8	18.4	20.3	19.0
1997	22.6	23.8	24.2	23.3	23.0	22.9	21.9	21.3	21.7	20.9	22.3	24.5	22.7
1998	25.7	25.9	25.7	24.1	21.6	19.7	18.4	17.3	17.6	18.4	19.2	20.7	21.2
1999	21.7	23.4	22.7	21.4	19.3	17.0	16.2	16.5	17.1	18.4	19.0	20.9	19.5
2000	22.1	22.9	22.7	21.9	19.0	17.9	17.3	17.6	17.2	18.1	18.3	20.9	19.6
2001	22.4	23.7	23.4	21.6	18.8	17.0	16.8	16.3	16.9	17.7	18.9	20.6	19.5
2002	21.7	23.6	24.0	22.3	20.3	17.1	16.4	17.0	17.2	18.8	19.8	21.1	19.9
2003	22.6	23.9	24.3	23.1	20.2	18.8	17.0	16.5	17.1	18.2	19.4	21.2	20.2
2004	22.3	23.4	23.6	21.8	18.6	16.9	17.0	16.3	17.7	18.6	19.5	21.3	19.8
2005	22.6	23.0	23.0	22.1	18.6	17.4	16.7	16.9	16.6	17.4	18.7	20.5	19.5
2006	22.6	24.0	23.6	21.3	18.8	18.0	18.8	18.2	18.1	18.8	19.9	21.2	20.3
2007	23.6	23.7	23.1	21.5	18.6	16.2	16.2	15.9	16.4	17.0	18.7	19.9	19.2
2008	22.7	23.8	23.8	22.0	18.8	18.3	18.2	18.8	18.1	18.6	19.6	21.2	20.3
2009	22.7	24.2	23.8	22.6	19.9	18.9	18.2	17.9	18.0	18.5	19.6	21.2	20.5
2010	23.1	24.2	23.8	22.7	19.9	17.7	16.1	16.1	16.8	17.5	18.8	21.1	19.8
2011	22.4	23.4	22.3	21.8	19.8	19.3	17.4	16.9	17.2	17.9	19.7	21.3	19.9
2012	23.0	23.6	23.7	22.8	20.6	20.6		17.4	18.3	18.5	19.9	21.0	
2013	22.8	23.3	23.3	22.2	22.3	17.8	17.2	17.3	18.7	19.6	20.2	22.9	20.6
2014	24.8	24.4	24.8	22.4	22.1	21.2	18.4	18.4	19.0	21.2	21.9	23.5	21.8
2015	24.9	26.5	26.9	24.9	23.8	22.4	20.6	19.7	21.2	21.7	22.3		
MEDIA	22.8	23.6	23.5	22.2	20.1	18.4	17.4	17.2	17.7	18.5	19.5	21.2	20.2
D. EST.	1.0	0.9	1.0	1.1	1.5	1.7	1.3	1.1	1.1	1.0	1.0	1.0	





Cuadro N° 3.79
Temperatura Media Mensual Histórica – Estación Huacatambo (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1956		22.8	22.4	20.4	18.7	18.0	17.6	17.0	16.9	17.3	18.0	19.6	
1957	22.0	25.0	25.2	24.2	23.4	22.1	21.5	20.3	18.7	19.4	20.1	22.4	22.0
1958	24.9	25.3	25.2	22.5	20.1	19.5	19.5	17.5	18.0	19.1	19.8	21.0	21.0
1959	22.5	24.6	24.6	22.4	20.4	18.5	17.8	17.2	17.1	18.7	19.7	21.6	20.4
1960	23.3	23.9	22.9	21.2	19.5	18.0	17.1	17.4	17.9	18.1	19.4	22.0	20.1
1961	24.4	24.4	23.5	20.8	19.9	17.9	17.2	17.7	17.7	18.4	19.8	21.6	20.3
1962	22.7	22.6	22.0				19.5	20.3	19.6		19.7	21.7	
1963	22.8	23.3											
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1999	21.5	23.7	21.8	20.2	18.4	17.2	16.5	16.8	16.6	17.6	18.7	20.1	19.1
2000	22.1	22.9	22.0	21.0	18.8	18.7	18.0	18.1	17.1	17.9	17.9	20.4	19.6
2001	21.9	23.5	23.3	21.3	18.2	17.7	17.3	16.7	16.5	17.2	18.2	20.1	19.3
2002	21.1	23.3	24.8	22.5	20.2	17.3	16.8	17.6	17.0	18.6	19.7	21.3	20.0
2003	23.1	23.9	22.7	20.1	18.5	17.7	17.3	16.7	17.4	17.8	19.6	20.9	19.7
2004	22.3	23.6	22.8	21.1	17.8	17.0	17.2	16.6	17.7		19.4	21.0	
2005	22.5	22.6	22.5	21.1	19.1	17.7	17.2	17.2	16.6	17.0	18.2		
2006	22.4	23.5	22.4	19.8	17.9	18.5	19.8	18.6	18.1	18.8	20.0	21.3	20.1
2007	23.8	23.5	22.2	20.3	17.8	15.9	16.4	16.1	16.1	16.5	17.7	19.3	18.8
2008	22.4	23.7	24.1	20.2		19.3		19.4					
MEDIA	22.7	23.7	23.2	21.2	19.2	18.2	17.9	17.7	17.4	18.0	19.1	21.0	19.9
D. EST.	1.0	0.8	1.2	1.2	1.5	1.4	1.4	1.3	0.9	0.9	0.8	0.9	





Cuadro N° 3.80
Temperatura Media Mensual Histórica – Estación Pariacoto (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2004	21.4	21.0	21.8		19.5	18.7	18.0	18.3	18.3	18.7	18.6	18.7	
2005	18.9	19.9	20.0	19.6	18.0	18.0	17.7	18.2	17.8	17.8	18.5	18.0	18.5
2006	18.7	19.4	19.5	18.9	17.6	17.4	17.2	17.9	18.5	18.9	18.7	18.7	18.5
2007	19.5	18.9	19.4	19.2	18.7	17.9	17.6	18.1	18.0	17.8	18.8	18.7	18.6
2008	18.8	18.9	19.3	20.1	18.5	17.4	17.8	17.8	18.7	18.8	18.9	19.1	18.7
2009	18.8		19.6	20.2	19.2	18.1	19.0	18.8	19.3	19.7	20.1	20.4	
2010	19.9	19.9	20.9	20.9	20.7	19.7	19.7	19.8	20.4	20.7	20.2	20.1	20.2
2011	19.9	20.3	20.5	19.8	19.6			19.2	20.0	20.4	20.2	19.7	
2012	21.4	20.6	20.7	21.2	20.5	18.8	17.9	18.5	19.6	20.2	20.0	20.3	20.0
2013	19.1	19.7	21.2	21.6	20.3	19.6	19.4	20.3	20.4	20.6	21.2	21.0	20.3
2014	20.7	20.7	20.8	21.9	19.7	20.8	20.7	21.2	20.7	21.2	21.1	21.1	20.9
2015	21.1	21.2	21.1	21.8	21.3	21.5	21.4		21.6	21.7	21.5		
MEDIA	19.9	20.0	20.4	20.5	19.5	18.9	18.8	18.9	19.4	19.7	19.8	19.6	19.6
D. EST.	1.1	0.8	0.8	1.0	1.1	1.3	1.4	1.1	1.2	1.3	1.1	1.0	

Cuadro N° 3.81
Temperatura Media Mensual Histórica – Estación Cajamarquilla (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2004				15.2	14.0	14.6	13.7		14.0	13.3	12.9	11.9	
2005		13.7	12.4	13.0	14.8	14.6	13.9	13.7	13.8	13.4	13.1	12.6	
2006	13.2	12.4	11.4	14.0	13.6	12.6	13.1	12.7	12.3	15.7	14.5	13.8	13.3
2007	13.2	12.7	12.8	12.3	12.3	11.8	11.3	11.9	11.5	13.0	12.1	11.5	12.2
2008	11.9	12.4	12.0	12.5	12.8	12.2	12.8	12.7	12.4	12.5	12.6	13.6	12.5
2009	12.3	11.3	11.6	12.7	12.9	11.0	12.1	10.6	12.8	12.2	12.5	11.6	12.0
2010	12.6	12.9	12.4	12.8	12.9	13.0	13.0	13.0	12.9	13.0	12.6	12.5	12.8
2011	12.3	12.8	12.5	12.5		12.7	12.4	12.4	12.5	12.5	12.5	11.5	
2012	12.4	12.0	11.9	12.0	13.1	12.7	12.5	12.2	12.4	12.3		12.6	
2013	13.0	12.0	12.1	12.8	12.9	12.7	12.7	12.8	12.5	12.9	12.9	12.9	12.7
2014	12.9	12.3	12.6	12.5	12.4	12.7	13.1	12.6	12.3	12.7	13.1	12.0	12.6
2015	12.4	12.4	12.1	12.6	12.6	13.3	12.8		12.3	12.0	12.3		
MEDIA	12.6	12.5	12.2	12.9	13.1	12.8	12.8	12.5	12.6	13.0	12.8	12.4	12.7
D. EST.	0.4	0.6	0.4	0.9	0.7	1.0	0.7	0.8	0.7	1.0	0.6	0.8	



Cuadro N° 3.82
Temperatura Media Mensual Histórica – Estación Santiago A. M. (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1998	15.5	15.3	15.3	15.5	15.1	14.2	13.8	15.4	13.9	14.5	14.5	13.8	14.7
1999	13.7	14.8	14.9	14.2	14.9	13.4	13.0	13.6	13.4	14.2	14.4	14.0	14.0
2000	14.1	12.8	13.8	13.7	14.5	14.4	13.9	13.8			14.7	14.2	
2001										15.3	14.2	14.9	
2002		14.3	14.0	13.8	14.2	13.5	13.8	14.5	15.3	14.6	15.4	15.1	
2003	15.0	14.7	14.3	14.4	14.5	13.4	13.6	14.1	14.7	15.2	15.2	14.1	14.4
2004	14.7	14.0	14.9	14.0	14.4	13.6	13.4	14.0	14.2	14.6	14.3	14.3	14.2
2005	14.2	15.3	13.7	14.9	14.2	14.1	13.8	14.0	14.9	14.8	14.8	13.8	14.4
2006	14.6	14.3	13.6	13.8	13.6	13.7	14.1	14.9	14.8	14.6	14.4	14.2	14.2
2007	15.2	14.7	13.6	14.0	14.2	13.6	13.9	13.7	14.6	14.2	14.4	13.7	14.1
2008	13.3	13.3	13.0	13.6	13.4	13.0	12.6	13.9	14.4	13.9	14.0	14.1	13.5
2009	13.7	13.4	13.2	14.2	14.1	14.2	13.8	14.5	15.4	14.1	14.1	13.9	14.0
2010	14.8	15.5	15.0	15.4	14.8	14.0	13.8	14.0	14.5	14.4	13.4	12.8	14.4
2011	13.4	13.6	13.2		14.4	14.0	13.8	14.5	14.7	14.4	14.5	13.9	
2012	14.3	13.5	14.3	13.8	14.3	13.7	13.8	13.9	14.5	14.9		14.2	
2013	15.8	14.2	14.3	15.0	14.3	14.0	13.7	14.4	15.2	14.8	14.5	14.6	14.6
2014	14.5	14.2	13.8	15.0	14.6	14.5		14.2	14.9				
2015	14.8	14.7	14.7	14.4	14.3	14.5	14.1						
MEDIA	14.5	14.3	14.1	14.4	14.3	13.8	13.7	14.2	14.6	14.6	14.4	14.1	14.2
D. EST.	0.7	0.8	0.7	0.6	0.4	0.4	0.4	0.5	0.5	0.4	0.5	0.5	



Cuadro N° 3.83
Temperatura Media Mensual Histórica – Estación Yungay (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1995									17.4			16.7	
1996	16.2	15.6	16.2	17.2	16.2	13.7	14.6	15.2	15.9	15.8	15.4	15.3	15.6
1997	15.5	15.5	15.6	15.5	15.1	14.1	15.9	16.5	17.0	16.3	16.0	16.2	15.8
1998	16.2	16.4	16.1	16.3	16.0	15.5	14.7	15.1	15.8	16.2	15.6	15.3	15.8
1999	15.6	14.6	14.6	14.8	15.0	14.1	13.6	14.1	15.2	15.6	15.6	15.1	14.8
2000	15.5	15.4	15.2	15.3	14.5	13.6	14.8	14.6	14.5	14.3	13.3	13.3	14.5
2001	12.9	12.7	13.6	13.6	12.8	12.5	12.6	13.7	14.8	15.2	14.9	14.9	13.7
2002	15.4	15.2	14.9	14.8	15.3	13.9	13.8	13.5	13.5	13.0	11.8	14.7	14.2
2003	14.5	14.3	13.2	13.6	13.2	15.3	15.1	15.2	15.9	16.5	18.2	14.2	14.9
2004	14.1	13.6	15.2	15.0	14.4	14.2	15.4	15.0	14.7	14.6	13.6	15.2	14.6
2005	14.7	15.4	14.6	14.2	14.7	14.9	14.9	15.7	16.2	16.8	16.1	13.9	15.2
2006	15.5	14.5	14.4	13.7	15.4	14.1	14.9	15.4	17.4	18.5	16.6	16.5	15.6
2007	17.1	16.9	15.3	14.7	15.2	13.8	13.2	14.5	15.9	15.8	15.5	15.6	15.3
2008	14.7	15.3	14.3	15.0	14.8	13.5	13.4	13.3	17.4	16.4	16.2	16.9	15.1
2009	16.5	16.3	16.4	15.7	17.4	16.1	15.8	17.4	16.6	17.1	17.0	16.8	16.6
2010	16.8	16.9	17.2	17.1	16.4	15.5	16.0	15.7	16.0	16.1	15.6	15.1	16.2
2011	15.5	15.2	13.3	13.1	16.5	15.0	15.8	16.2	16.5	15.0	14.9	13.7	15.1
2012	15.9	15.6	15.8	15.2	15.5	15.6	15.5	16.3	17.1	16.9	15.0	16.0	15.9
2013	18.0	16.2	17.1	17.7	16.0	15.4	13.0	15.4	17.9	18.0	18.0	17.3	16.7
2014	16.8	16.1	14.3	15.8	15.9	14.5	14.4	14.4	15.2	17.3	15.9	16.8	15.6
2015		16.8	16.6	16.8	16.4	13.9	13.2		16.1	17.2	17.2		
MEDIA	15.7	15.4	15.2	15.3	15.3	14.5	14.5	15.1	16.1	16.1	15.6	15.5	15.4
D. EST.	1.2	1.1	1.2	1.3	1.1	0.9	1.1	1.1	1.1	1.3	1.5	1.2	





Cuadro N° 3.84
Temperatura Máx. Prom. Mensual Histórica – Estación Buena Vista (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1964								23.7		25.7	27.1	29.4	
1965					27.5	25.2	25.2		26.4	25.6	26.2	28.0	
1966	30.0	30.9			26.8	25.5	23.8	23.1	25.7	26.0	27.0	28.4	
1967	30.3	31.0	31.0	30.8	28.0	22.9	22.2	23.1	24.2	25.8	25.7	28.0	26.9
1968	30.9	31.4	31.2	29.2	25.2	23.6	24.1	24.8	25.9	26.4	27.1	29.5	27.4
1969	31.3	32.1	32.3	30.3	28.5	25.9	23.8	25.1	26.5	26.9	28.0	29.9	28.4
1970	30.6	31.8	31.5	30.2	26.4	23.6			25.4	26.1	26.3	28.7	
1971	29.8	30.9	30.4	28.7	24.8	23.8	23.6	23.9	24.7	25.6	27.0	28.9	26.8
1972	30.8	32.2	31.4	29.5	27.5	27.1	26.3	25.5	25.8	27.1	27.5	29.7	28.4
1973	31.1	32.4	31.9	30.1	27.2	24.1	22.9	23.1	25.0	24.9	26.7	27.6	27.3
1974	29.4	31.2	31.0	29.4	26.9	24.6	23.6	23.7	24.2	25.8	27.7	28.6	27.2
1975	30.9	31.8	31.6	29.7	25.6	24.1	23.3	23.5	24.8	26.3	26.2	28.5	27.2
1976	31.2	32.0	31.6	30.1	28.1	27.0	25.5	25.6	25.5	25.9	28.1	30.5	28.4
1977	32.2	32.7	32.3	30.4	28.5	26.2	24.9	24.5	25.9	27.1	28.2	30.2	28.6
1978	31.6	32.3	31.5	30.1	27.7	25.1	24.4	24.5	26.2	26.8	28.9	30.3	28.3
1979	31.8	32.6	32.0	31.0	26.6	25.1	25.1	26.0	26.3	26.6	27.5	29.8	28.4
1980	31.8	32.7	33.3	32.5	29.6	26.7	25.7	25.1	26.4	27.5	28.8	29.6	29.1
1981	30.9	32.3	32.1	29.9	26.3	24.6	23.4	24.7	25.5	27.4	28.5	30.4	28.0
1982	31.4	32.5	31.9	30.8	28.6	25.8	25.3	25.0	27.0	28.2	29.7	32.3	29.0
1983	33.7	33.9	33.5	33.2	31.6	29.8	27.2	27.4	26.3	28.0	28.8	30.5	30.3
1984	31.6	32.1	32.3	30.5	28.1	25.4	25.0	24.9	26.0	27.5	27.4	30.4	28.4
1985	31.6	32.3	32.6	30.0	26.3	25.7	23.8	23.7	25.5	26.8	27.6	30.2	28.0
1986	32.0	32.7	31.8	30.8	27.0	24.1	24.1	24.6	26.3	26.3	28.3	30.4	28.2
1987	32.7	33.3	33.0	31.7	29.0	26.5	26.4	26.3	27.5	27.9	29.1	31.4	29.6
1988	32.5	32.8	32.2	31.7	29.2	25.6	24.2	25.1	25.9	27.0	28.8	30.0	28.7
1989	32.5	33.3	32.1	29.4	26.0	24.8	23.4	25.0	24.8	27.4	27.8	29.7	28.0
1990	31.9	32.7	32.8	30.9	28.8	25.6	23.7	25.0	26.4	27.1	27.9	30.0	28.6
1991	31.8	32.8	32.9	30.9	29.5	26.2	24.4	24.6	26.6	27.4	28.9	30.0	28.8
1992	32.5	33.1	34.2	32.8	31.0	26.9	24.6	25.8	26.1	27.9	29.0	30.4	29.5
1993	31.9	33.0	32.7	30.9	28.2	26.8	25.0	25.7	26.6	27.7	27.8	29.3	28.8
1994	30.3	31.5	31.1	30.3	27.4	25.9	24.0	24.4	26.4	26.7	28.1	29.0	27.9
1995	31.9	32.3	32.0	30.2	28.1	26.6	24.7	25.0	26.2	26.9	28.3	30.0	28.5
1996	31.0	32.1	31.3	28.9	26.8	22.9	22.8	23.7	25.5	26.2	26.8	28.9	27.2
1997	31.3	32.5	32.6	31.1	30.6	29.4	29.3	28.6	29.7	29.7	29.8	31.6	30.5
1998	32.8	32.6	33.5	32.2	28.7	26.8	25.9	24.7	25.6	26.9	27.6	29.5	28.9
1999	30.5	31.2	31.7	30.0	27.3	23.8	22.9	23.8	24.8	26.8	27.7	29.4	27.5
2000	30.9	31.9	32.0	30.6	27.0	24.0	23.3	25.1	25.6	26.9	27.4	29.2	27.8
2001	31.1	32.5	32.2	29.6	26.1	22.5	23.4	23.2	25.1	26.0	27.5	29.3	27.4
2002	31.0	32.0	32.5	30.4	28.6	23.9	23.1	24.2	25.4	27.2	28.0	29.5	28.0
2003	30.8	32.3	32.5	29.9	27.1	25.6	24.8	24.4	25.0	27.0	27.9	29.5	28.1
2004	31.4	32.9	33.0	30.9	27.0	24.6	24.3	24.3	26.0	27.5	28.1	30.2	28.3
2005	31.4	32.1	31.8	31.5	26.0	25.1	23.7	24.8	24.4	25.6	26.7	29.9	27.7
2006	32.1	32.6	32.6	30.5	27.4	24.7	25.6	26.0	26.8	27.2	28.7	29.7	28.7
2007	32.0	32.3	32.0	30.7	27.3	23.8	23.4	23.2	24.9	25.5	27.4	28.7	27.6
2008	30.9	32.2	32.0	30.6	26.8	24.0	24.9	25.4	26.5	27.1	27.8	29.8	28.2
2009	31.1	32.7	32.5	31.4	28.5	25.3	24.4	25.0	26.0	27.3	28.1	29.0	28.4
2010	30.8	32.7	32.7	31.6	27.9	25.6	23.6	24.2	25.4	26.3	27.3	29.8	28.2
2011	31.3	32.4	31.5	30.9	27.7	26.4	24.0	24.3	25.9	26.6	28.4	29.8	28.3
2012	31.8	32.7	32.4	31.6	29.4	27.2	26.0	24.7	26.5	26.7	28.6	29.4	28.9
2013	31.7	32.6	32.1	29.9	27.4	24.4	23.7	24.1	25.8	27.0	27.1	30.0	28.0
2014	31.9	31.8	31.8	30.1	28.4	26.8	24.7	25.3	26.3	27.6	27.9	29.6	28.5
2015	31.1	32.4	32.9	31.4	29.3	27.5	26.4	25.6	27.5	28.0	28.4		
MEDIA	31.4	32.3	32.2	30.6	27.8	25.4	24.5	24.7	25.9	26.8	27.8	29.7	28.3
D. EST.	0.8	0.6	0.7	0.9	1.4	1.5	1.3	1.1	0.9	0.9	0.9	0.9	





Cuadro N° 3.85
Temperatura Máx. Prom. Mensual Histórica – Estación Huacatambo (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1956		27.7	26.9	24.3	22.1	21.3	20.2	19.8	20.1	21.3	22.8	24.0	
1957	26.4	29.1	29.6	28.4	27.6	26.1	25.2	23.8	22.2	22.9	24.0	26.3	26.0
1958	29.1	29.2	29.9	27.0	24.8	23.3	23.1	21.4	21.8	23.0	24.2	25.5	25.2
1959	27.2	29.1	29.3	26.8	24.1	22.0	21.7	20.6	20.7	22.4	23.6	25.8	24.4
1960	27.7	28.4	27.3	26.3	23.8	22.7	21.3	21.0	21.7	21.9	23.4	26.8	24.4
1961	29.3	29.8	28.7	25.3	24.3	21.2	20.6	21.5	21.3	22.0	24.1	26.7	24.6
1962	27.6	27.5	26.7				23.9				23.9		
1963													
1964													
1965													
1966													
1967													
1968													
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1998													
1999	26.2	28.0	26.6	24.8	22.8	21.1	20.1	20.9	20.8	21.7	23.4	24.9	23.5
2000	27.1	28.0	27.9	26.4	23.5	22.2	21.2						
2001										22.0	22.2	24.1	
2002	26.0	28.3	29.2	27.0	25.0	21.1	20.2	20.9	20.6	22.5	23.6	25.5	24.2
2003	27.1	28.8	27.9	25.0	23.1	22.0	21.5	20.7	21.4	22.0	24.0	25.3	24.1
2004	27.2	28.6	28.4	26.1	22.1	21.0	20.9	20.5	23.1		23.9	26.1	
2005	27.1	27.4	27.3	26.3	22.8	21.7	20.6	21.0	20.1	21.1	22.4		
2006	27.6	28.3	27.6	24.8	22.5	21.9	23.5	22.4	22.3	23.0	24.5	25.9	24.5
2007	28.6	28.1	26.9	25.4	22.3	19.5	19.9	19.8	20.3	20.6	22.0	24.2	23.1
2008	27.4	28.9	29.0	25.2		22.2		22.8					
MEDIA	27.5	28.4	28.1	25.9	23.6	21.9	21.6	21.2	21.3	22.0	23.5	25.5	24.2
D. EST.	1.0	0.7	1.1	1.1	1.5	1.4	1.6	1.1	0.9	0.7	0.8	0.9	





Cuadro N° 3.86
Temperatura Máx. Prom. Mensual Histórica – Estación Pariacoto (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2004	26.3	26.1	26.7		25.3	25.5	24.7	24.8	24.7	25.2	24.9	25.6	
2005	25.7	26.3	26.4	26.7	25.8	25.8	25.5	26.5	26.1	26.4	26.4	26.1	26.2
2006	26.4	26.4	26.3	26.3	26.1	24.9	25.9	25.5	25.9	26.2	25.9	26.7	26.0
2007	27.4	27.2	26.7	27.0	25.9	25.2	25.1	26.3	26.4	26.1	25.9	26.4	26.3
2008	26.4	26.4	26.4	26.5	25.4	24.4	25.1	24.8	25.2	25.5	25.9	26.0	25.7
2009	25.9		26.3	27.0	26.4	25.3	26.0	26.2	26.2	26.4	26.7	26.5	
2010	26.6	26.4	27.2	26.5	26.6	25.9	26.0	26.0	26.4	26.6	25.9	25.7	26.3
2011	25.3	25.9	26.2	26.3	26.3	25.2		25.1	25.8	26.1	26.1	25.3	
2012	27.2	26.4	26.3	26.8	26.2	24.6	24.2	25.2	26.1	27.0	26.5	26.9	26.1
2013	25.1	25.7	27.7	28.0	26.7	25.9	25.6	26.4	26.4	26.7	27.3	27.1	26.6
2014	26.8	26.6	26.8	28.0	25.6	26.6	27.0	27.7	27.2	26.9	26.6	26.7	26.9
2015	26.6	26.5	26.7	26.8	27.0	26.9	27.1		26.6	27.3	26.9		
MEDIA	26.3	26.4	26.6	26.9	26.1	25.5	25.7	25.9	26.1	26.4	26.3	26.3	26.2
D. EST.	0.7	0.4	0.4	0.6	0.5	0.8	0.9	0.9	0.6	0.6	0.6	0.6	

Cuadro N° 3.87
Temperatura Máx. Prom. Mensual Histórica – Estación Quisque Goteo (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2011	28.4	29.3	29.2	28.0	25.1	23.8	21.6	21.7	22.9	23.2	23.8	26.1	25.3
2012	29.2	29.3	29.4	29.2	26.2	24.9	23.8	22.8	24.4	23.6	25.6	26.2	26.2
2013	27.9	28.8	28.7	26.6	24.4	22.2	21.9	22.1	23.9	24.6	24.7	25.0	25.1
2014		28.2	28.6	27.3	27.0	25.2	23.4	23.1	24.6	25.2	25.3	26.9	25.9
2015	28.2	29.5	30.1	28.8	27.1	25.7	24.6	24.0					27.2
MEDIA	28.4	29.0	29.2	28.0	26.0	24.4	23.1	22.7	23.9	24.1	24.9	26.1	25.8
D. EST.	0.5	0.5	0.6	1.1	1.2	1.4	1.3	0.9	0.8	0.9	0.8	0.8	



Cuadro N° 3.88
Temperatura Máx. Prom. Mensual Histórica – Est. San Jacinto de N. (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1956		31.7	29.5	26.8	24.1	23.3	22.1	22.5	24.1	24.0	25.0	26.4	
1957										23.6			
1958	29.5	30.5	31.0		27.1	24.5	24.4	23.3	24.4	26.0	26.3	28.0	
1959	29.3	30.4	30.2	28.7	25.7	23.6	22.1	21.0	23.9	25.0			
1960	29.0	29.7	29.5	28.4	25.4	24.2	24.3	24.3	25.7	26.1	27.0	29.6	27.0
1961	31.6	31.7	29.4	27.1	25.9	22.3	21.9	23.3					
1962			29.0	28.3	26.3	22.9	22.6	23.7	24.7	25.0	26.4	27.9	
1963	29.8	30.4											
1964				27.9	24.3	23.4	22.9	22.8	23.9	24.7	26.1		
1965	29.1	30.6	30.1	29.0	27.2	26.5	24.2	24.2	24.1	25.3	25.6	27.6	27.0
1966	30.4	30.8	28.9	29.2	23.3	24.5	22.2	22.3	23.2	26.1	30.2	33.0	27.0
1967	35.4	36.1	36.0	36.4	23.8	22.8	21.6	23.3	21.7		31.1	31.8	
1968	35.8	36.2	37.7	34.1	32.5	25.3	27.0	27.1					
MEDIA	31.1	31.8	31.1	29.6	26.0	23.9	23.2	23.4	24.0	25.1	27.2	29.2	27.1
D. EST.	2.7	2.4	3.1	3.1	2.5	1.2	1.6	1.5	1.1	0.9	2.2	2.4	



Cuadro N° 3.89

Temperatura Máx. Prom. Mensual Histórica – Estación Cajamarquilla (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2004	24.0	21.6	20.5	20.8	20.1	18.8	19.0	23.9	16.7	17.0	15.6	15.2	19.4
2005			17.0	18.0	19.0	20.0	19.5	19.1	18.1	16.8	17.5	16.0	
2006	17.1	16.7	16.1	17.2	18.2	17.7	18.6	18.4	20.6	19.7	19.2	18.9	18.2
2007	18.9	17.8	17.3	17.4	19.1	19.8	20.3	20.6	19.1	19.8	19.3	18.8	19.0
2008	18.4	17.6	17.3	18.4	20.0	20.1	20.9	19.8	19.8	19.0	18.7	20.1	19.2
2009	17.7	16.8	17.8	18.8	20.3	19.4	20.1	21.8	22.5	18.4	19.1	18.7	19.3
2010	20.7	20.9	19.3	19.8	23.0	20.9	21.8	20.8	20.0	21.8	19.9	18.8	20.6
2011	18.3	20.1	18.7	18.4		22.5	21.7	21.8	19.2	20.6	19.3	18.4	
2012	19.1	18.3	18.3	18.3	21.0	22.7	22.3	22.8	20.0	21.0		20.1	
2013	23.6	20.4	20.5	22.3	24.1	23.6	25.2	26.0	24.4	23.4	22.6	23.4	23.3
2014	23.7	19.6	20.5	23.0	21.3	24.1	23.4	23.5	23.3	23.3	21.8	20.7	22.4
2015	21.7	21.1	17.8	21.7	21.7	23.6	23.9		23.4	20.7	23.3		
MEDIA	20.3	19.2	18.4	19.5	20.7	21.1	21.4	21.7	20.6	20.1	19.7	19.0	20.1
D. EST.	2.6	1.8	1.5	2.0	1.8	2.1	2.0	2.3	2.3	2.1	2.2	2.2	

Cuadro N° 3.90

Temperatura Máx. Prom. Mensual Histórica – Estación Caraz (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1964		25.1	23.5	24.0	25.4	24.4	24.3	24.1	24.9	24.8	25.0	25.1	
1965	24.4	24.5	24.6	23.9				28.6	27.2	27.6			
1966								25.8	26.1	24.7	24.2	23.4	
1967	23.8	22.7	23.1	24.5	25.9	25.4	26.7	26.8	26.3	26.4	27.1	26.0	25.4
1968	24.2	23.8	22.8	25.7	25.6	25.3	25.2	25.1	25.4	25.8	25.6	25.6	25.0
1969	26.0	25.1	25.4	25.9	26.2	25.0	25.5	25.7	25.6	25.6	25.1	24.7	25.5
1970	24.5	25.0	25.4	25.4	24.9				25.6	25.3	25.0	25.6	
1971	26.0	25.3	24.9	25.7	25.3	25.4				25.6	25.0	24.4	
1972	25.0	25.2	25.4	25.6	25.7	25.8	25.9	25.4	26.1	25.7	27.2	26.5	25.8
1973	25.3	25.4	25.3										
MEDIA	24.9	24.7	24.5	25.1	25.6	25.2	25.5	25.9	25.9	25.7	25.5	25.2	25.3
D. EST.	0.8	0.9	1.1	0.8	0.4	0.5	0.9	1.4	0.7	0.9	1.1	1.0	



Cuadro N° 3.91

Temperatura Máx. Prom. Mensual Histórica – Estación Colcap (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2011	17.4	17.8	18.4	18.8	21.0	21.4	21.4	21.7	20.8	19.9	19.2	17.7	19.6
2012	17.4	17.8	18.8	19.1	20.5	21.5	22.5	22.8	21.9	20.4	20.4	19.4	20.2
2013	19.9	18.7	19.2	19.8		22.3	22.1	22.2	22.1	21.2	20.5	19.8	20.7
2014	19.3	19.5	18.9	21.6		23.4							20.5
2015	17.8	17.9	18.0	19.5	21.7	22.8	22.5	22.9					20.4
MEDIA	18.4	18.3	18.7	19.7	21.1	22.3	22.1	22.4	21.6	20.5	20.0	19.0	20.3
D. EST.	1.2	0.8	0.5	1.1	0.6	0.9	0.5	0.5	0.7	0.7	0.7	1.1	



Cuadro N° 3.92

Temperatura Máx. Prom. Mensual Histórica – Estación Santiago A. M. (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1998	22.4	21.8	21.9	22.5	23.6	22.8	22.7	23.5	23.0	22.1	22.5	21.2	22.5
1999	20.6	22.2	23.5	20.8	21.3	20.9	21.8	23.1	21.3	22.3	21.9	21.1	21.7
2000	20.7	19.7	20.4	20.4	21.7	21.7	21.8	22.4			23.7	22.2	
2001										23.9	21.2	22.6	
2002		20.9	20.8	20.7	22.4	22.4	22.8	23.3	23.3	22.5	22.0	22.3	
2003	22.0	22.4	21.7	22.2	22.8	22.9	23.2	24.1	24.0	24.1	24.2	20.9	22.9
2004	23.1	21.3	22.6	22.2	23.2	22.3	22.1	23.3	22.8	22.7	21.7	21.6	22.4
2005	22.0	23.3	20.6	22.7	23.3	23.8	24.2	24.5	24.8	23.7	24.1	22.0	23.2
2006	22.3	21.6	21.0	21.3	22.7	22.4	23.9	24.2	24.4	23.3	22.3	21.4	22.6
2007	22.6	22.3	21.2	21.5	22.0	22.8	22.8	23.7	23.9	23.2	23.1	22.0	22.6
2008	21.0	20.8	20.4	21.4	22.0	22.5	22.6	24.2	24.5	22.6	22.3	22.3	22.2
2009	21.5	20.3	20.4	21.9	22.4	23.4	23.3	24.7	25.7	23.6	22.1	21.4	22.6
2010	22.4	23.2	22.9	23.4	23.1	22.8	23.4	24.3	24.3	24.1	22.5	20.3	23.1
2011	20.7	20.7	20.3		23.2	23.1	23.1	24.6	23.4	23.4	22.9	21.5	
2012	21.8	21.0	22.5	21.4	22.9	23.5	24.1	24.9	24.8	23.8		21.9	
2013	24.0	21.7	21.7	23.4	23.2	23.7	23.6	24.5	25.6	23.6	23.0	23.0	23.4
2014	22.5	22.1	21.4	24.2	23.0	24.5		24.0	24.5				
2015	23.0	22.4	22.3	22.5	23.0	24.1	24.6						
MEDIA	22.0	21.6	21.5	22.0	22.7	22.9	23.1	24.0	24.0	23.3	22.6	21.7	22.6
D. EST.	1.0	1.0	1.0	1.1	0.6	0.9	0.8	0.7	1.1	0.7	0.9	0.7	

Cuadro N° 3.93

Temperatura Máx. Prom. Mensual Histórica – Estación Yungay (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1995									26.0			24.0	
1996	22.0	21.3	23.7	25.8	25.5	21.7	24.3	25.2	25.1	25.1	25.8	25.7	24.3
1997	26.0	25.5	26.4	26.4	26.5	26.3	27.0	26.9	26.9	27.0	26.4	26.9	26.5
1998	26.9	26.7	26.6	26.8	26.9	26.3	26.6	26.7	26.8	26.5	26.0	26.0	26.6
1999	26.1	24.8	25.1	25.5	25.8	25.9	25.9	25.4	25.5	25.9	25.5	25.5	25.6
2000	25.6	25.5	25.5	25.8	25.2	25.6	25.1	25.4	24.6	25.1	25.1	24.7	25.3
2001	24.6	24.2	24.7	25.2	24.2	24.4	24.8	25.5	25.0	25.1	24.3	24.1	24.7
2002	24.2	24.7	24.1	23.9	24.8	24.1	24.7	24.8	24.6	23.0	19.7	23.4	23.8
2003	24.2	24.0	21.6	20.8	20.6	23.3	24.7	25.6	26.0	24.8	24.9	22.3	23.6
2004	23.2	20.8	23.8	24.2	23.8	23.9	24.8	24.5	23.7	22.7	21.4	24.2	23.4
2005	23.8	24.6	22.6	21.4	24.2	24.6	24.6	24.9	25.3	25.0	23.7	21.4	23.8
2006	23.1	22.1	20.6	20.1	24.5	23.3	25.6	24.8	26.5	27.8	24.7	23.9	23.9
2007	25.4	25.1	24.0	22.8	25.1	24.7	25.3	26.0	24.9	23.9	24.6	24.6	24.7
2008	23.6	23.3	22.6	23.7	24.4	23.7	24.2	23.7	25.8	24.6	24.1	24.2	24.0
2009	24.0	22.1	22.4	22.0	24.7	25.4	24.8	25.1	25.5	24.7	24.4	23.7	24.1
2010	24.1	23.7	23.9	24.1	23.5	23.4	24.3	24.4	24.2	24.6	24.0	23.0	23.9
2011	23.3	22.7	21.0	20.7	25.3	25.1	25.6	25.8	25.3	22.5	23.0	21.2	23.5
2012	22.5	21.2	21.6	20.2	22.7	25.6	25.3	25.4	24.9	22.7	20.3	20.6	22.8
2013	25.2	22.5	23.2	24.6	24.1	24.1	24.7	24.1	25.7	24.8	24.7	24.2	24.3
2014	23.1	23.1	20.7	24.8	25.3	26.7	26.3	25.5	24.4	25.5	23.4	23.5	24.4
2015		23.4	23.1	24.1	24.2	24.0	23.8		24.8	24.2	24.2		
MAX.	24.3	23.6	23.4	23.6	24.6	24.6	25.1	25.2	25.3	24.8	24.0	23.9	24.4
D. EST.	1.3	1.6	1.8	2.1	1.4	1.3	0.8	0.8	0.8	1.4	1.8	1.6	





Cuadro N° 3.94
Temperatura Mín. Prom. Mensual Histórica – Estación Buena Vista (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1964								11.8		13.3	14.7	17.3	
1965					14.9	13.8	13.8		14.8	14.0	14.5	17.3	
1966	18.5	19.1			13.0	11.9	11.3	12.2	13.9	15.2	15.7	16.8	
1967	18.9	20.5	19.8	18.9	16.7	13.9	14.1	13.5	13.5	13.9	13.9	16.0	16.1
1968	19.3	19.6	19.1	16.5	14.1	12.6	12.4	13.7	14.8	14.9	15.2	17.4	15.8
1969	19.1	20.5	21.4	19.9	18.3	16.8	14.3	14.5	15.0	15.3	16.7	18.5	17.5
1970	19.7	19.7	20.0	18.7	16.1	14.4			13.6	14.4	15.2	16.4	
1971	18.1	19.4	19.1	17.6	14.4	14.3	13.5	13.7	13.0	14.0	15.1	16.9	15.8
1972	19.0	20.8	21.4	19.2	18.2	18.6	16.8	16.7	16.2	16.2	17.4	19.6	18.3
1973	21.7	22.0	20.5	18.6	15.7	13.5	12.6	12.5	13.1	13.3	14.7	16.0	16.2
1974	18.7	19.7	18.5	17.1	16.0	15.2	13.8	13.4	13.0	13.6	15.4	16.6	15.9
1975	19.0	19.9	19.8	18.2	15.5	13.7	12.5	12.7	12.7	13.7	13.8	16.1	15.6
1976	19.7	20.3	19.8	18.2	18.1	17.4	16.1	16.4	15.2	15.3	16.5	18.7	17.6
1977	21.4	21.2	20.7	18.8	17.3	15.0	14.6	13.4	14.5	14.7	16.8	17.9	17.2
1978	18.7	20.7	19.7	18.3	16.3	13.7	14.7	13.6	14.2	14.6	16.7	17.7	16.6
1979	19.5	20.8	21.4	19.0	16.4	14.7	14.3	15.1	14.9	15.0	15.6	18.2	17.1
1980	20.0	21.3	21.4	20.2	17.0	15.1	14.9	14.4	13.8	15.2	16.4	17.9	17.3
1981	19.5	21.4	21.0	18.3	15.7	14.2	13.4	13.7	13.9	15.1	16.2	17.8	16.7
1982	18.9	19.8	18.9	18.4	16.6	15.3	14.7	15.4	15.3	17.0	19.3	22.0	17.6
1983	23.5	23.4	23.9	24.0	23.0	21.5	18.1	16.2	15.5	16.6	16.8	19.1	20.1
1984	19.9	21.2	20.5	18.7	16.4	15.2	14.2	13.8	14.4	15.8	15.8	18.0	17.0
1985	19.6	20.6	20.7	17.9	14.8	14.1	13.2	13.3	14.0	14.6	15.1	18.0	16.3
1986	19.9	20.2	19.4	18.4	15.7	13.6	13.8	15.4	14.2	14.3	16.3	18.8	16.7
1987	21.7	22.0	21.6	20.2	17.4	16.3	16.0	14.6	15.0	15.8	17.0	18.7	18.0
1988	19.8	20.8	19.2	19.2	17.3	13.6	12.8	13.3	14.0	14.4	15.9	17.9	16.5
1989	20.2	21.7	20.6	17.4	14.7	15.0	13.2	14.0	14.0	15.5	15.4	16.9	16.5
1990	19.7	20.1	20.3	18.5	18.1	15.4	14.8	13.6	14.3	15.3	16.1	17.8	17.0
1991	19.5	20.0	21.4	18.7	17.5	15.6	14.1	14.4	14.9	16.0	16.8	19.0	17.3
1992	21.2	21.8	23.3	21.7	19.7	16.8	14.6	14.6	14.1	15.5	16.8	17.6	18.1
1993	19.8	21.6	20.9	19.9	18.6	17.5	15.7	14.8	14.9	15.4	16.2	18.5	17.8
1994	20.2	20.5	20.3	19.0	17.0	15.1	13.6	13.6	14.8	15.1	16.6	18.4	17.0
1995	21.1	21.2	20.2	17.9	16.4	14.7	14.1	13.4	14.5	14.8	16.6	17.3	16.9
1996	18.9	20.0	19.8	17.1	15.5	13.5	13.0	13.2	13.7	14.6	14.7	17.0	15.9
1997	19.6	20.4	20.7	20.1	19.6	19.9	19.2	19.4	18.9	17.6	19.7	21.6	19.7
1998	23.4	23.4	22.8	20.4	18.5	16.8	15.3	14.2	14.5	15.2	15.8	17.0	18.1
1999	18.3	20.4	19.0	17.9	15.9	14.1	13.4	13.4	14.1	14.9	15.5	17.6	16.2
2000	19.0	19.5	18.8	18.0	16.0	15.6	15.3	15.0	14.0	14.8	14.6	17.7	16.5
2001	19.2	20.8	19.9	18.5	15.8	14.8	14.6	14.0	13.9	14.4	15.7	17.1	16.5
2002	18.3	20.0	20.7	19.3	17.0	14.1	13.8	14.5	14.1	15.7	16.8	18.0	16.8
2003	19.6	20.2	20.1	18.2	16.1	14.7	14.0	13.8	14.3	14.8	16.0	18.0	16.6
2004	18.9	19.7	19.4	18.1	15.3	14.0	14.3	13.2	14.7	15.3	16.3	17.9	16.4
2005	19.3	19.2	19.4	18.1	15.8	14.3	13.8	13.5	13.9	14.1	14.9	17.4	16.1
2006	19.0	20.5	19.7	17.5	15.4	15.4	16.7	15.5	14.9	15.6	16.6	18.1	17.1
2007	20.2	20.3	19.7	18.0	15.4	13.5	13.5	13.3	13.2	13.6	14.9	16.5	16.0
2008	19.6	20.1	20.6	18.4	15.7	16.2	15.6	16.5	14.9	15.4	16.4	17.7	17.3
2009	19.9	20.6	20.4	19.1	16.8	16.5	16.0	15.1	15.4	15.3	16.4	18.3	17.5
2010	20.2	21.0	20.4	19.1	16.9	14.5	13.2	13.0	13.3	13.8	14.9	17.4	16.5
2011	18.7	19.6	18.5	18.0	16.8	16.7	15.0	14.3	13.9	14.3	16.2	18.0	16.7
2012	19.5	20.2	20.6	19.5	17.5	17.6	16.5	14.5	15.0	15.2	16.5	17.8	17.5
2013	19.4	19.8	20.0	17.2	15.9	14.3	13.6	13.4	14.2	14.7	15.6	18.3	16.4
2014	20.8	20.2	20.6	18.1	19.1	18.2	15.3	14.5	14.8	15.5	16.6	18.3	17.7
2015	19.7	21.8	22.0	19.7	19.9	18.9	16.7	15.6	16.4	16.9	17.6		
MEDIA	19.7	20.6	20.4	18.7	16.7	15.3	14.5	14.2	14.4	15.0	16.0	17.9	17.0
D. EST.	1.1	0.9	1.1	1.3	1.7	1.9	1.5	1.3	1.0	0.9	1.1	1.1	





Cuadro N° 3.95
Temperatura Mín. Prom. Mensual Histórica – Estación Huacatambo (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1956		18.4	18.3	16.7	15.1	13.9	14.8	13.9	13.5	12.5	11.3	14.1	
1957	17.0	21.0	20.8	20.3	18.3	17.6	17.4	16.1	15.0	15.1	15.4	17.5	17.6
1958	20.3	20.7	21.3	18.4	15.7	14.6	14.4	13.2	14.3	14.9	13.5	15.0	16.4
1959	16.5	20.4	19.9	18.3	16.2	14.6	13.2	13.1	13.5	15.3	14.3	17.1	16.0
1960	18.5	19.2	17.9	16.7	15.0	11.9	11.3	13.3	14.6	13.9	14.3	15.6	15.2
1961	19.7	19.0	19.1	17.3	15.7	14.4		13.2	13.6	14.7	14.6	15.0	16.5
1962	18.0	18.3	18.0				15.7	16.5	14.5		14.3	15.5	
1963	18.0	18.4											
1964													
1965													
1966													
1967													
1968													
1969													
1970													
1971													
1972													
1973													
1974													
1975													
1976													
1977													
1978													
1979													
1980													
1981													
1982													
1983													
1984													
1985													
1986													
1987													
1988													
1989													
1990													
1991													
1992													
1993													
1994													
1995													
1996													
1997													
1998													
1999	17.4	20.3	18.2	16.7	15.0	13.4	12.8	13.0	13.9	14.1	14.1	16.0	15.4
2000	17.7	18.7	17.6	17.2	15.0	16.0	15.5	15.0	13.4	13.8	12.3	15.6	15.6
2001	17.3	18.9	18.7	17.4	14.7	14.6	14.4	13.7	13.0	13.3	14.0	15.4	15.5
2002	16.3	18.3	20.3	17.9	15.2	12.4	12.0	13.9	12.8	14.5	15.4	16.5	15.4
2003	18.5	18.7	17.4	15.1	14.2	12.5	11.9	11.6	12.8	12.6	13.1	15.6	14.5
2004	16.0	17.7	16.7	15.4	12.9	11.4	12.4	11.2	12.3		13.7	14.9	
2005	16.7	16.7	17.0	15.2	13.3	11.3	11.3	11.1	11.6	11.4	11.5		
2006	15.7	17.2	16.2	13.7	11.2	12.8	14.6	12.6	11.8	12.3	13.0	14.4	13.8
2007	16.8	16.9	16.2	14.2	11.7	10.6	10.5	10.5	10.0	10.5	11.2	12.2	12.6
2008	15.6	16.7	17.5	13.9		13.9		14.1					
MEDIA	17.4	18.6	18.3	16.5	14.6	13.5	13.5	13.3	13.2	13.5	13.5	15.5	15.1
D. EST.	1.3	1.3	1.5	1.8	1.8	1.8	1.9	1.6	1.3	1.5	1.4	1.3	





Cuadro N° 3.96
Temperatura Mín. Prom. Mensual Histórica – Estación Pariacoto (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2004	15.7	16.2	16.7		14.2	13.2	13.0	13.2	13.6	14.2	14.0	14.3	
2005	14.9	15.3	15.5	15.2	12.7	12.6	12.2	12.5	12.8	13.1	13.4	13.1	13.6
2006	13.4	14.8	15.0	13.7	12.4	12.0	11.1	12.2	13.2	12.6	13.0	12.9	13.0
2007	12.8	13.1	13.2	12.8	12.2	12.7	11.5	11.1	10.7	11.4	13.2	13.6	12.4
2008	13.7	13.4	13.7	13.9	11.4	8.7	9.2	9.8	10.7	10.4	11.5	10.9	11.4
2009	12.3		13.2	13.3	13.2	11.9	12.1	12.0	12.1	12.7	13.5	13.4	
2010	13.1	13.6	14.4	14.4	13.7	12.1	12.1	12.3	12.6	13.0	12.9	12.8	13.1
2011	12.8	13.1	13.6	13.5	13.5	12.8		11.8	12.6	13.0	13.5	12.7	
2012	15.3	14.5	14.3	14.5	13.5	11.8	11.4	11.5	13.9	14.4	14.7	14.7	13.7
2013	13.8	13.8	14.8	14.4	13.1	12.5	13.1	13.4	13.3	14.4	14.5	13.8	13.7
2014	13.6	13.8	13.7	15.2	14.0	14.6	13.7	13.8	13.7	14.1	14.0	14.5	14.1
2015	14.8	14.2	14.9	15.4	14.4	12.9	12.5		13.4	13.9	13.7		
MIN.	13.8	14.2	14.4	14.2	13.2	12.3	12.0	12.1	12.7	13.1	13.5	13.3	13.2
D. EST.	1.1	1.0	1.0	0.8	0.9	1.4	1.2	1.1	1.1	1.2	0.8	1.1	

Cuadro N° 3.97
Temperatura Mín. Prom. Mensual Histórica – Estación Quisque Goteo (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2011	18.4	18.9	17.8	17.4	15.3	14.9	13.5	13.1	12.8	11.9	14.6	16.9	15.5
2012	19.2	19.3	19.5	18.8	15.9	16.2	14.1	12.5	13.5	13.6	15.5	16.3	16.2
2013	18.0	19.3	19.3	16.4	14.9	13.1	12.1	12.0	12.8	13.4	13.3	16.2	15.1
2014		19.3	19.1	16.7	17.7	16.6	13.6	13.2	13.4	14.2	14.1	16.7	15.9
2015	18.1	20.6	20.4	18.5	18.8	17.6	15.2	14.1					17.9
MEDIA	18.4	19.5	19.2	17.5	16.5	15.7	13.7	13.0	13.1	13.3	14.4	16.5	15.9
D. EST.	0.5	0.6	0.9	1.1	1.7	1.7	1.1	0.8	0.4	1.0	0.9	0.3	



Cuadro N° 3.98
Temperatura Mín. Prom. Mensual Histórica – Est. San Jacinto de N. (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1956		19.3	18.5	16.3	14.8	14.0	14.4	13.5	13.1	12.8	12.6	13.0	
1957	16.2	19.1	19.7	19.0	17.6	15.4	14.5	13.8	12.8	13.4	13.1		
1958	19.5	21.1	20.9		16.2	15.1	14.9	13.1	13.7	14.4	14.1	15.8	
1959	17.4	20.0	19.7	18.5	16.8	16.1	16.3	16.9	13.7	15.4	15.9	16.8	16.9
1960	18.9	19.8	19.2	17.5	14.8	12.7	13.3	14.1	14.6	14.5	15.4	17.6	16.0
1961	20.6	20.3	18.7	16.6	15.4	13.8	12.7	12.6	12.3		13.9	16.3	
1962			18.2	17.1	15.0	13.6	13.2	12.8	13.9	13.6	14.3	16.0	
1963	18.7	19.3											
1964				15.9	11.9	11.0	10.2	10.7	10.8	12.3	13.6		
1965	18.1	17.8	19.5	18.2	16.9	15.0	13.8	13.5	13.6	12.7	14.3	16.2	15.8
1966	17.0	16.6	11.7	18.3	12.6	12.2	11.5	12.1	13.4	11.1	16.2	15.4	14.0
1967	18.7	22.2	21.0	21.1	13.4	12.4	13.8	12.7	12.1	12.2	13.4	15.0	15.7
1968	19.1	19.6	20.0	18.4	17.9	12.4	13.0	13.9					
MEDIA	18.4	19.6	18.8	17.9	15.2	13.7	13.5	13.3	13.1	13.2	14.3	15.8	15.6
D. EST.	1.3	1.5	2.5	1.5	1.9	1.5	1.6	1.5	1.1	1.3	1.1	1.3	



Cuadro N° 3.99
Temperatura Mín. Prom. Mensual Histórica – Estación Cajamarquilla (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2004	19.7	19.9	19.5	19.3	18.0	16.2	17.6	19.5	15.0	15.7	14.5	14.0	17.4
2005			9.6	9.0	11.8	12.2	10.7	10.6	10.5	10.5	9.6	9.5	
2006	9.1	8.6	8.1	9.7	9.8	8.8	9.1	6.4	5.2	5.2	6.7	10.0	8.1
2007	9.7	8.3	8.8	9.9	8.1	8.7	7.7	8.8	6.5	10.2	9.8	6.8	8.6
2008	8.1	8.3	7.9	8.3	7.1	6.4	4.9	6.4	6.5	8.0	8.0	9.4	7.4
2009	8.1	5.4	6.6	8.5	8.4	6.2	6.9	5.2	8.0	7.6	7.2	5.6	7.0
2010	6.1	7.3	6.9	7.5	8.1	7.6	7.6	7.2	7.6	7.6	7.7	7.6	7.4
2011	7.3	8.0	7.9	7.8		7.0	7.5	7.0	7.5	7.4	7.7	7.1	
2012	7.4	7.2	6.4	7.5	7.9	8.0	8.1	6.4	7.2	7.9		7.8	
2013	8.2	7.7	7.2	7.5	6.4	5.1	4.5	5.5	5.7	5.4	5.1	5.2	6.1
2014	5.0	5.6	6.4	7.6	6.1	5.1	5.2	5.1	4.2	4.9	4.5	6.0	5.5
2015	4.7	5.0	7.1	5.0	4.9	5.0	4.8		3.9	4.9	4.7		
MEDIA	8.5	8.3	8.5	9.0	8.8	8.0	7.9	8.0	7.3	7.9	7.8	8.1	8.2
D. EST.	4.0	4.1	3.6	3.5	3.6	3.3	3.6	4.1	3.0	3.1	2.9	2.5	

Cuadro N° 3.100
Temperatura Mín. Prom. Mensual Histórica – Estación Caraz (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1964		12.8	12.5	11.3	8.3	7.2	6.5	8.0	7.9	8.9	9.1	7.0	
1965	7.8	11.3	10.7	9.8	8.5	6.7	7.2	8.9	10.5				
1966								7.1	9.0	10.4	9.8	9.1	
1967	11.8	11.8	10.9	10.2	10.1	8.5	7.5	6.9	7.5	8.3	7.9	8.7	9.2
1968	11.4	11.0	11.7	7.7	6.3	6.2	6.7	7.4	8.6	10.9	11.3	11.4	9.2
1969	11.3	11.5	12.2	12.0	12.1	7.5	6.5	6.7	7.8	7.6	8.3	9.2	9.4
1970	11.8	13.2	10.7	10.1	9.4				9.0	7.9	8.1	7.9	
1971	7.5	7.6	8.8	8.1	7.4	7.1				7.3	8.4	10.0	
1972	10.0	10.2	10.1	10.2	8.9	8.5	6.7	6.8	7.7	6.9	7.8	9.3	8.6
1973	9.8	9.9	9.9										
MEDIA	10.2	11.0	10.8	9.9	8.9	7.4	6.9	7.4	8.5	8.5	8.8	9.1	9.0
D. EST.	1.7	1.7	1.2	1.5	1.8	0.9	0.4	0.8	1.0	1.4	1.2	1.3	



Cuadro N° 3.101
Temperatura Mín. Prom. Mensual Histórica – Estación Colcap (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2011	12.5	12.5	12.6	13.2	13.6	14.0	13.5	14.4	14.0	12.2	12.6	12.6	13.1
2012	12.2	12.6	13.4	13.3	13.9	13.6	14.1	14.3	14.1	13.3	13.1	13.0	13.4
2013	13.0	13.0	13.7	14.3		14.0	13.3	13.3	13.2	13.2	12.4	12.8	13.3
2014	12.7	13.0	13.2	14.0		13.6							13.3
2015	12.8	12.9	13.2	13.7	14.7	14.5	14.0	13.9					13.7
MEDIA	12.6	12.8	13.2	13.7	14.1	13.9	13.7	14.0	13.8	12.9	12.7	12.8	13.4
D. EST.	0.3	0.3	0.4	0.5	0.5	0.4	0.4	0.5	0.5	0.6	0.4	0.2	



Cuadro N° 3.102
Temperatura Mín. Prom. Mensual Histórica – Estación Santiago A. M. (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1998	10.2	10.2	10.6	10.2	7.0	5.5	4.1	6.3	4.8	7.9	6.8	6.8	7.5
1999	5.3	4.4	6.3	7.5	7.6	5.2	2.6	2.8	6.1	6.2	6.6	8.2	5.7
2000	8.0	7.1	8.0	8.0	7.8	6.2	5.4	3.4			3.9	5.5	
2001										7.3	8.0	8.5	
2002		8.9	8.7	8.1	6.7	4.7	4.7	5.1	6.4	7.6	7.9	8.7	
2003	8.5	7.4	8.3	8.0	6.6	4.9	3.9	4.4	5.8	6.8	6.3	8.2	6.6
2004	6.1	7.3	7.7	5.5	4.9	3.0	3.4	2.1	4.1	5.5	4.9	5.1	5.0
2005	5.4	9.3	8.9	8.1	4.9	4.1	3.4	4.5	6.3	7.7	6.3	7.6	6.4
2006	7.3	9.0	8.6	8.0	5.1	5.4	4.3	5.9	5.9	6.6	8.0	8.0	6.8
2007	8.7	7.8	8.6	8.4	7.1	4.3	4.7	4.9	6.4	7.1	7.9	7.0	6.9
2008	8.5	7.9	7.7	7.8	6.2	3.9	2.9	3.1	5.7	8.0	8.4	7.4	6.5
2009	8.5	8.5	7.9	8.1	6.7	5.2	4.5	5.2	6.2	7.8	8.0	8.7	7.1
2010	8.6	9.4	9.2	9.3	7.2	5.2	4.6	4.4	6.0	5.3	6.8	8.0	7.0
2011	8.2	7.7	7.8		5.6	4.6	4.4	4.6	5.2	5.2	7.5	8.1	
2012	9.0	8.2	8.4	8.6	7.0	4.9	3.8	3.9	5.6	8.0		8.5	
2013	9.2	8.9	9.4	8.3	7.1	5.2	4.5	5.5	6.6	8.4	7.3	8.7	7.4
2014	8.8	8.9	9.2	8.4	8.2	5.8		5.4	7.2				
2015	8.8	9.0	9.5	8.5	7.8	5.7	5.0						
MEDIA	8.1	8.2	8.5	8.2	6.7	4.9	4.1	4.5	5.9	7.0	7.0	7.7	6.7
D. EST.	1.4	1.3	1.0	0.9	1.0	0.8	0.8	1.2	0.8	1.1	1.3	1.1	

Cuadro N° 3.103
Temperatura Mín. Prom. Mensual Histórica – Estación Yungay (°C)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1995									9.4			10.0	
1996	11.2	11.0	10.7	10.5	9.6	7.9	8.5	8.7	9.3	10.6	9.4	8.1	9.6
1997	8.0	8.6	9.0	8.7	8.7	6.6	8.3	7.4	7.7	8.0	9.0	9.0	8.3
1998	9.9	10.6	10.5	10.6	10.0	10.0	8.6	9.3	10.2	10.9	10.1	9.9	10.1
1999	10.2	9.4	9.3	9.4	9.6	8.2	7.3	8.4	10.0	10.3	10.6	9.8	9.4
2000	10.3	10.2	9.9	10.0	9.1	7.5	8.7	8.3	9.4	8.6	7.0	7.1	8.8
2001	7.0	6.7	7.6	7.9	7.1	6.4	6.5	7.5	9.6	10.2	10.2	10.2	8.1
2002	10.3	10.3	10.2	9.9	10.6	8.2	7.5	7.3	8.0	8.0	7.9	10.5	9.1
2003	9.7	9.4	9.0	10.0	9.5	5.9	3.5	4.7	5.5	7.3	5.9	5.9	7.2
2004	5.8	6.1	7.1	6.0	6.0	4.9	6.0	5.1	5.6	6.7	5.4	6.4	5.9
2005	5.6	7.5	7.1	6.2	6.3	4.4	4.6	5.2	5.9	6.8	6.4	6.5	6.0
2006	6.9	6.5	7.8	6.2	5.5	5.0	4.8	5.9	6.4	5.5	6.7	7.0	6.2
2007	7.4	7.8	5.0	5.9	5.8	4.4	4.9	5.8	5.7	8.8	10.0	9.4	6.8
2008	10.6	11.2	9.6	10.5	9.6	8.1	7.2	8.2	9.7	9.9	10.0	9.4	9.5
2009	9.7	11.2	10.6	10.5	10.5	8.3	8.5	8.1	8.0	11.3	10.6	12.0	9.9
2010	11.5	12.2	12.9	11.6	9.5	7.7	9.0	7.5	9.4	9.2	9.0	8.6	9.8
2011	10.1	9.4	7.2	6.2	9.2	5.7	6.4	7.1	7.7	6.8	7.1	7.6	7.5
2012	10.5	9.6	8.2	7.9	7.0	3.9	2.9	2.8	3.4	6.0	6.9	7.3	6.4
2013	9.2	7.7	8.4	7.6	6.2	5.3	2.2	3.6	4.5	5.7	6.5	6.1	6.1
2014	7.8	6.5	5.0	5.6	4.9	2.9	2.9	3.1	4.6	4.9	3.9	5.3	4.8
2015		5.1	4.8	4.7	4.0	2.8	2.4		3.9	4.7	5.1		
MEDIA	9.0	8.8	8.5	8.3	7.9	6.2	6.0	6.5	7.3	8.0	7.9	8.3	7.7
D. EST.	1.8	2.0	2.1	2.1	2.1	2.0	2.3	2.0	2.2	2.1	2.1	1.8	





Cuadro N° 3.104
Humedad R. Media Mensual Histórica – Estación Buena Vista (%)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1966	68.9	69.8				77.1	88.8	82.9	87.5	87.5	84.5	84.7	
1967	83.4	85.2	84.8	84.4	88.5	90.5	92.0	90.2	86.6	84.1	84.3	81.3	86.3
1968	74.5	76.3	76.9	82.6	88.4	91.6	91.1	89.2	88.8	87.3	92.4	89.6	85.7
1969	95.0												
1970		94.5	95.9		97.1	97.7			97.8	97.9	98.2	93.9	
1971	91.0	85.1	85.4	87.2	92.3	93.0	85.0	79.1	76.8	72.8	70.2	66.6	82.0
1972	66.7	65.5	69.9	74.3	78.2	75.5	75.9	77.6	74.8	75.4	74.1	72.8	73.4
1973	73.7	67.1	70.3	72.2									
1974													
1975	68.2			73.2	78.6	82.0	82.7	84.2	79.6	77.8	78.7	75.1	
1976	72.9												
1977													
1978													
1979													
1980													
1981													
1982													
1983													
1984													
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1986													
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1990													
1991													
1992													
1993													
1994												71.5	
1995	66.0	66.5	62.9	66.8		72.1	75.9	74.5	73.5	70.2	68.8	66.2	
1996	64.7	62.3	67.3	72.7	75.1	81.0	79.5	77.6	73.4	70.8	69.5	68.0	71.8
1997	68.9	72.7	74.6	78.4	78.5	79.5	74.6	75.9	73.9	71.1	73.4	74.2	74.7
1998	75.4	75.7	73.4	66.8	73.0	75.6	74.6	74.4	72.1	67.8	70.4	65.2	72.0
1999	65.1	66.8	62.0	67.8	71.2	78.3	78.3	76.1	74.6	70.4	67.5	69.7	70.7
2000	65.7	63.2	59.5	64.9	74.3	77.4	77.8						
MEDIA	73.3	73.1	73.6	74.3	81.4	82.4	81.4	80.2	80.0	77.8	77.7	75.3	77.5
D. EST.	9.5	9.9	10.8	7.4	8.7	8.1	6.4	5.7	8.2	9.4	10.1	9.3	



Cuadro N° 3.105
Humedad R. Media Mensual Histórica – Est. Huacatambo (%)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1956		80.1	82.2	83.7	85.8	85.7	86.9	87.1	84.1			80.8	
1957	77.3	77.5	78.6	80.3	78.3	80.8	79.7	81.7	83.9	80.9	78.2	78.1	79.6
1958	75.7	77.3	72.4	77.3	79.6	81.0	78.6	81.9	80.7	78.4	76.9	73.5	77.8
1959	72.2	74.4	74.3	78.1	82.4	81.7	79.4	78.6	80.1	76.6	73.6	71.6	76.9
1960	74.0	73.2	76.4	76.5	76.5	76.0	77.3	75.6	76.7	77.1	75.2	72.6	75.6
1961	72.6	71.6	76.2	82.2	80.9	82.1	78.2	79.2	81.9	79.7	74.9	73.3	77.7
1962	73.7	73.2	79.6				78.3	73.0	78.0		78.4	75.8	
1963	75.7	72.0											
MEDIA	74.5	74.9	77.1	79.7	80.6	81.2	79.8	79.6	80.8	78.5	76.2	75.1	78.2
D. EST.	1.8	3.0	3.3	2.9	3.3	3.1	3.2	4.6	2.8	1.8	1.9	3.3	



Cuadro N° 3.106
Humedad R. Media Mensual Histórica – Est. Quisque Goteo (%)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2011	77.6	74.3	74.3	82.1	86.2	89.0	91.4	91.1	89.0	86.8	85.5	83.3	84.2
2012	71.8	81.0	82.5	79.2	86.6	90.3	89.4	90.3	88.5	88.9	83.5	85.4	84.8
2013	81.9	79.2	83.4	85.7	89.6	91.9	91.4	90.6	89.1	86.8	86.6	84.1	86.7
2014		82.0	82.5	84.8	87.0	84.8	82.6	80.3	76.1	77.5	77.0	81.0	81.4
2015	81.5	79.7	78.9	80.7	87.2	88.8	83.5	80.4					82.6
MEDIA	78.2	79.2	80.3	82.5	87.3	89.0	87.6	86.6	85.6	85.0	83.1	83.5	84.0
D. EST.	5.7	1.3	2.0	3.1	1.4	3.0	4.3	5.8	7.3	6.1	4.9	2.3	

Cuadro N° 3.107
Humedad R. Media Mensual Histórica – Est. San Jacinto de N. (%)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1956		67.8	72.1	76.1	80.3	78.8	81.8	79.7	78.4	76.7	73.3	69.4	
1957	63.9	69.9	71.2	72.5	74.1	76.6	76.5	79.1	78.7	76.8	73.8	74.7	74.0
1958	71.1	72.3	71.7	74.3	76.1	78.3	76.9	77.4	75.0	72.3	68.4	66.2	73.3
1959	62.3	66.2	67.5	70.7	76.8	77.9	76.8	75.8	73.4	71.6	69.0	67.9	71.3
1960	65.0	62.6	63.2	63.0	67.8	68.4	70.2	65.7	58.9	60.8	58.5	62.0	63.8
1961	73.8	75.2	80.6	81.8	81.3	86.0	85.1	83.2			77.0		
1962			66.2	66.3	69.4	73.1	73.9	71.6	69.3	68.4	64.6	61.8	
1963	59.2	59.8											
1964				64.6	69.1	68.1		70.0	67.0	66.4	64.4		
1965		58.0	64.9	62.9				68.8		65.0	64.7	63.3	
1966	62.0	61.7	62.4	62.7	68.2	70.2	68.9	69.7	62.8	67.1	63.4	60.4	65.0
1967	59.8	62.8	58.8	59.5	74.0	72.2	72.9	68.9	68.7	75.5	64.4	63.5	66.7
1968	56.0	55.9	59.6	60.1	61.6	60.4	61.2	61.1					
MEDIA	63.7	64.7	67.1	67.9	72.6	73.6	74.4	72.6	70.2	70.1	67.4	65.5	69.1
D. EST.	5.7	6.1	6.4	7.1	6.0	6.9	6.7	6.5	6.8	5.4	5.5	4.6	



Cuadro N° 3.108
Humedad R. Media Mensual Histórica – Estación Caraz (%)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1966					68.7			54.1	51.8	67.3	59.2	59.8	
1967	66.2	72.9	67.7	70.2	66.8	64.1	62.7	54.4	55.3	55.6	58.3	58.3	62.7
1968	64.7	65.8	70.0	63.2	62.5	57.5	55.8	55.9	60.1	61.3	63.1	67.6	62.3
1969	66.0	68.1	70.1	58.5	52.5	52.5	51.0	58.8	58.9	56.6	60.7		
1970	64.3	67.9	65.7	67.3	66.5				70.0	68.9	68.2	68.7	
1971		68.8	72.3	71.7	70.7	71.3				70.7	71.5	70.9	
1972	70.5	71.6	71.6	71.8	70.6	69.4	66.6	69.4	68.3	69.2	69.3	69.3	69.8
1973	69.5	72.1	72.3										
MEDIA	66.9	69.6	70.0	67.1	65.5	63.0	59.0	58.5	60.8	64.2	64.3	65.8	64.6
D. EST.	2.6	2.6	2.5	5.3	6.4	7.9	7.0	6.4	7.2	6.3	5.3	5.3	

Cuadro N° 3.109
Humedad R. Media Mensual Histórica – Estación Yungay (%)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1995												64.8	
1996								61.3	56.8	54.8	69.7		
1997	58.2	65.6	70.7		74.5	71.4	66.6	53.6	53.5	67.1	68.4	68.8	
1998	71.3	72.7	73.5	72.1	74.1	75.3	74.9	74.7	75.2	76.3	76.7	77.4	74.5
1999	76.1	76.1	76.1	75.4	75.3	75.1	75.7	75.5	75.3	75.6	75.6	75.2	75.6
2000	74.9	74.8	74.7	74.6	68.4	74.6							
MEDIA	70.1	72.3	73.7	74.0	73.1	74.1	72.4	66.3	65.2	68.5	72.6	71.6	71.2
D. EST.	8.2	4.7	2.3	1.7	3.2	1.8	5.0	10.7	11.7	10.0	4.2	5.8	



Cuadro N° 3.110
Velocidad del Viento Media Mensual Histórica – Buena Vista (m/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1968									2.8	3.1	3.2	3.1	
1969	3.2	2.4	2.5	2.1	1.8	1.7	1.8	1.9	2.5	2.8	2.7	2.7	2.3
1970	1.8	1.7	2.1	1.8	1.7	1.2			1.7	1.7	1.6	1.6	
1971	2.0						1.8	2.3	2.5	2.6	2.3	2.5	
1972	2.2	2.2	2.1	2.0	1.9	2.2	2.3	2.5	2.2		2.1	2.2	
1973	1.6	1.7	1.8	1.6	1.8	1.7	1.4	1.7	2.0	1.9	1.7	1.6	1.7
1974	1.6	1.6											
1975													
1976													
1977													
1978													
1979													
1980													
1981													
1982													
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1998				1.5	1.0	0.9	1.1	1.1	1.3	1.4	1.4	1.7	
1999	1.3	1.1	1.3	1.0	0.7	0.6	0.7	0.7	0.7	1.1	1.4	1.4	1.0
2000	1.5	1.5	1.3	1.1	0.8	0.6	0.5	0.8	0.8	1.0	1.0	1.1	1.0
2001	1.2	1.3	1.1	0.8	0.7	0.4	0.5	0.5	0.7	0.8	1.0	1.2	0.8
2002	1.2	1.2	1.2	1.0	0.9	0.4	0.4	0.6	0.7	1.1	1.2	1.1	0.9
2003	1.3	1.3	1.2	1.0	0.6	0.5	0.5	0.6	1.0	1.0	1.2	1.0	0.9
2004	1.3	1.1	1.1	0.9	0.7	0.5	0.7	0.8	0.9	1.3	1.2	1.2	1.0
2005	1.2	0.9	0.9	0.9	0.6	0.4	0.6	0.5	1.0	1.1	1.3	1.5	0.9
2006	1.8	1.4	1.3	1.1	0.8	0.8	0.7	1.0	0.8	1.1	1.2	1.1	1.1
2007	1.7	1.1	1.1	1.1	1.0	0.9	0.8	0.9	1.1	1.4	1.4	1.9	1.2
2008	1.9	2.2	1.8	1.7	1.0	0.8	0.8	1.3	1.8	1.9	1.8	2.2	1.6
2009	2.1	2.0	1.8	1.5	1.0	0.6	0.5	1.4	1.3	1.4	1.5	2.0	1.4
2010	2.3	2.0	1.8	1.7	0.8	0.9	0.9	0.7	1.6	1.2	1.1	1.6	1.4
2011	1.7	1.7	1.2	1.2	0.8	0.8	0.8	1.2	0.8	1.6	1.1	1.8	1.2
2012	1.1	1.3	1.4	1.3	1.2	0.9	1.2	1.5	1.5	1.4	1.6	1.7	1.3
2013	2.0	1.4	1.1	1.1	0.8	0.8	0.6	0.8	0.6	1.5	1.3	1.7	1.1
2014			1.0	1.0	1.5	1.1	0.5						
2015													
MEDIA	1.7	1.6	1.5	1.3	1.1	0.9	0.9	1.1	1.4	1.5	1.5	1.7	1.4
D. EST.	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.6	0.6	0.6	





Cuadro N° 3.111

Velocidad del Viento Media Mensual Histórica – Estación Caraz (m/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1965								3.4	3.8	3.1	0.8	2.8	
1966					2.9			2.9	3.3	2.9	2.6	2.8	
1967	2.9	2.5	3.3	3.6	3.7	3.9	4.0	3.5	3.7	3.7	3.8	4.0	4.0
1968	3.1	3.5	3.1	3.8	3.9	3.9	2.6	2.6	2.4	2.3	2.6	2.5	3.9
1969	3.3	2.9	2.7	3.2	3.2	3.0	3.0	2.9	3.0	3.0	2.6	2.3	3.3
1970	2.3		2.7	2.5	2.9				2.8	2.7	2.8	2.8	
1971	2.9	2.5	2.7	3.2	3.3	3.0				2.9	2.8	2.9	
1972	2.7	2.5	2.8	2.9	3.1	3.6	3.4	3.2	3.5	3.0	2.9	2.9	3.6
1973	2.8	3.0	2.6										
MEDIA	2.9	2.8	2.8	3.2	3.3	3.5	3.3	3.1	3.2	3.0	2.6	2.9	3.0
D. EST.	0.3	0.4	0.2	0.5	0.4	0.4	0.6	0.3	0.5	0.4	0.9	0.5	

Cuadro N° 3.112

Velocidad del Viento Media Mensual Histórica – Est. Huacatambo (m/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1956		1.5	1.0	1.1	1.0	0.9	0.7	1.0	1.2	1.1	1.2	1.3	
1957	1.4	1.3	1.2	1.2	1.2	1.1	0.9	0.9	1.0	1.1	1.1		
1958	1.0	1.0	1.0		0.8	0.8	0.8	0.9	0.8	0.9	0.8	0.8	
1959	1.0	1.0	1.1	1.1	0.9	0.6	0.7	0.6	0.7	0.9	0.9	0.9	1.1
1960	0.7	0.7	0.7	0.8	0.6	0.6	0.6	0.7	0.8	0.8	0.8	0.8	0.8
1961	0.7	0.8	0.8	0.7	0.7	0.4	0.5	0.6	0.7	0.7	0.9	0.9	0.9
1962	0.8	0.7	0.7				0.6	0.6	0.7		1.1	1.1	
1963	1.1	1.1											
MEDIA	1.0	1.0	0.9	1.0	0.9	0.7	0.7	0.8	0.8	0.9	1.0	1.0	0.9
D. EST.	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	

Cuadro N° 3.113

Velocidad del Viento Media Mensual Histórica – Est. Quisque G. (m/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2011	5.1	4.6	4.6	4.8	4.4	3.8	3.8	3.8	4.1	4.0	3.6	3.3	4.2
2012	3.8	2.7	4.2	4.0	3.7	2.9	2.8	3.0	3.3	3.2	4.3	4.3	3.5
2013	4.4	3.7	3.6	3.8	3.3	2.9	3.1	3.2	3.2	3.2	3.4	3.9	3.5
2014		3.3	3.1	3.3	3.2	2.4	2.7	3.1	3.6	3.8	3.4	4.7	3.3
2015	3.3	2.8	2.7	2.8	2.4	2.1	1.3	0.7					2.3
MEDIA	4.4	3.7	4.1	4.2	3.8	3.2	3.2	3.3	3.6	3.5	3.8	3.8	3.7
D. EST.	0.8	0.8	0.8	0.8	0.7	0.6	0.9	1.2	0.4	0.4	0.4	0.6	

Cuadro N° 3.114

Velocidad del Viento Media Mensual Histórica – Est. San Jacinto de N. (m/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1956		2.7	2.2	2.4	2.0	1.7	1.6	2.1	2.2	2.4	2.6	2.6	
1957	2.3	2.3	2.2	1.9	1.8	2.0	2.0	2.0	2.2	2.1	2.3	2.2	2.3
1958	2.2	2.3	2.2	2.2	2.5	2.2	2.2	2.4	2.7	2.5	2.4	2.4	2.7
1959	2.6	2.3	2.4	2.5	2.4	2.2	2.4	2.5	2.5	2.7	2.6	2.6	2.7
1960	2.4	2.3	2.4	2.4	2.4	2.3	2.3	2.4	2.4	2.3	2.1	2.3	2.4
1961	2.3	2.2	2.3	2.4	2.4	2.1	2.1	2.0	2.1	1.8	1.9	2.0	2.4
1962	2.0	2.1	2.1	2.1	2.1	1.9	2.0	2.1	2.1	2.1	2.8	2.9	2.9
1963	1.1	1.0											
1964				2.0	1.9	2.2	2.7	2.7	2.7	2.4	2.1		
1965	1.2	1.2	1.9	1.5	1.6	1.8	1.8	1.9	1.7	2.7	2.6	2.0	2.7
1966	3.3	3.3	2.3	1.5	2.5	2.8	2.1	3.1	1.9	2.0	1.8	2.2	3.3
1967	1.8	2.3	2.0	2.6	2.3	2.4	2.2	1.9	2.4	2.9	2.1	2.0	2.9
1968	1.9	2.4	2.4	2.2	2.0	2.1	1.9						
MEDIA	2.1	2.2	2.2	2.1	2.2	2.1	2.1	2.3	2.3	2.4	2.3	2.3	2.2
D. EST.	0.6	0.6	0.2	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	





Cuadro N° 3.115
Horas de Sol Promedio Mensual Histórica – Estación Huacatambo (hora/día)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1956		7.6	6.6	8.0	5.5	5.0	3.2	4.4	5.8	6.4	8.7	8.3	
1957	8.4	7.2	7.1	7.6	7.8	5.9	4.7	5.2	5.9	7.1	8.5	6.4	6.8
1958	7.3	5.8	7.0	8.3	7.6	4.5	5.0	5.0	6.0	7.3	8.1	8.6	6.7
1959	7.9	6.7	7.4	7.6	5.7	4.2	4.8	4.1	5.5	6.9	7.0	7.8	6.3
1960	7.5	7.7	8.4	8.5	6.1	6.3	5.5	4.8	5.9	5.7	7.0	7.8	6.8
1961	6.5	7.9	7.5	6.9	8.1	4.6	4.8	6.0	5.0	6.7	7.7	7.2	6.6
1962	6.0	6.0	7.5				4.0	4.5	4.1		8.1	8.1	
1963	7.2	5.5											
1964													
1965													
1966													
1967													
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1999	6.0	5.7	7.4	7.9	7.4	5.7	4.1	5.5	5.2	7.4	7.6	7.7	6.5
2000	6.4	6.9	6.5	7.0	6.3	3.0	3.1	5.0	5.7	7.3	7.7	6.5	6.0
2001	6.7	7.5	6.7	7.0	5.4	2.5	3.4	4.1	5.4	6.3	6.5	7.9	5.8
2002	9.5	6.8	6.9	6.5	8.4	4.8	4.3	4.8	5.6	6.8	6.9	6.9	6.5
2003	6.4	6.9	8.0	8.0	6.6	6.5	6.1	5.7	5.3	6.5	7.8	6.5	6.7
2004	8.8	6.4	8.4	7.7	5.8	4.9	4.7	5.3	5.2		6.5	7.5	
2005	6.8	7.6	6.2	7.9	5.6	5.9	4.4	6.1	4.8	5.2	5.6		
2006	6.9	6.6	5.9	7.3	7.1						7.1	6.5	
2007	6.8		6.2	6.7	7.7	4.8	4.3		4.9	5.5	6.3	6.6	
2008	5.0	5.1		6.8		2.2		3.1					
MEDIA	7.1	6.7	7.1	7.5	6.7	4.7	4.4	4.9	5.4	6.6	7.3	7.3	6.3
D. EST.	1.1	0.8	0.8	0.6	1.0	1.3	0.8	0.8	0.5	0.7	0.9	0.7	





Cuadro N° 3.116
Horas de Sol Promedio Mensual Histórica – Est. San Jacinto de N. (hora/día)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1956		6.0	5.5	7.5	6.6	5.5	3.1	5.4	7.0	7.6	9.7	9.0	
1957	8.2	5.7	5.5	6.3	7.3	5.3	4.7	5.5	5.8	7.2	8.8		
1958	5.9	4.5	6.0		8.2	4.7	5.1	6.0	7.0	7.6	9.0	9.1	
1959	8.7	5.6	5.7	6.8	5.8	4.9	5.7	6.4	7.5	7.4	8.3	7.0	6.7
1960	6.8	7.4	7.8	7.6	7.3	6.3	6.1	6.3	7.0	7.3	7.7	8.5	7.2
1961	6.8	7.6	6.2	6.7	8.6	4.8	5.7	7.2	6.4	7.5	6.8	7.0	6.8
1962	6.4	6.2	5.9	7.2	8.0	5.0	5.9	7.2	6.3	7.4	6.5	7.6	6.6
1963	6.8	4.4											
1964				6.4	6.9	5.7	5.9	6.1	6.6	7.2	8.5		
1965	6.9	7.0	5.7	6.8	5.7	5.8	5.7	5.9	5.8	7.2	6.3	6.8	6.3
1966	5.4	6.6	6.0	6.9	7.4	6.6	6.2	5.9	6.3	7.3	6.5	7.0	6.5
1967	4.7	5.6	6.2	6.8	6.2	4.4	5.0	4.7	6.7	6.6	8.1	8.5	6.1
1968	9.2	7.8	5.7	6.2	5.0	5.8	6.0	5.6					
MEDIA	6.9	6.2	6.0	6.8	6.9	5.4	5.4	6.0	6.6	7.3	7.8	7.8	6.6
D. EST.	1.4	1.1	0.6	0.4	1.1	0.7	0.9	0.7	0.5	0.3	1.2	0.9	

Cuadro N° 3.117
Horas de Sol Promedio Mensual Histórica – Estación Santiago A. M. (hora/día)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1998	5.8	4.8	5.4	7.4	9.0		8.3		7.2	4.8	7.9		
1999							8.0	9.4	7.0		7.3	6.5	
2000	6.4	5.5	5.3										
2001													
2002		5.2	5.2		8.0	8.3	9.7	9.8	8.6		5.1	4.9	
2003	5.8				8.5	8.5	9.4	9.1	8.0	7.7	7.8	5.3	
2004	8.8	6.0	6.8	7.6	8.3	8.3	8.1	9.0	6.6	7.0	6.9	5.7	7.4
2005	6.8	6.9	4.6	6.9	8.8	9.4	9.7	9.3	9.0	7.1	8.6	4.1	7.6
2006	6.7	5.6	5.2	6.9	9.5	8.0	9.5	8.1	8.2	6.9	6.3	3.2	7.0
2007	6.4	6.6	5.0	6.9	7.8	9.1	9.4	9.4	8.0	7.0	7.5	5.5	7.4
2008	5.4	5.1	4.9	6.1	8.0	8.3	8.8	8.8	7.8	5.6	6.5	7.1	6.9
2009	5.9	3.9	5.8		7.6	8.9	8.8	9.1	8.4	5.4	5.5	3.8	
2010	5.8	5.9	5.5	6.9	7.7	8.2	8.2	8.5	7.2	6.4	5.4	3.2	6.6
2011	4.7	3.8	4.2		8.2	8.6	8.2	8.9	6.7	6.1	5.8	4.6	
2012	5.1	4.7	6.1	5.5	7.4	8.7	9.1	8.8	7.4	5.8		2.7	
2013	6.9	4.8	4.4	7.2	5.7	8.1	9.0	8.0	8.2	5.7	5.9	6.1	6.7
2014	5.1	4.7	4.6	6.7	7.2	8.7		8.0	6.9				
MEDIA	6.1	5.2	5.2	6.8	8.0	8.5	8.9	8.9	7.7	6.3	6.7	4.8	6.9
D. EST.	1.0	0.9	0.7	0.6	0.9	0.4	0.6	0.6	0.7	0.9	1.1	1.4	





Cuadro N° 3.118
Horas de Sol Promedio Mensual Histórica – Estación Yungay (hora/día)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1995									8.5			6.5	
1996	3.0								6.1	6.3	8.4	6.9	
1997	6.5	5.1	8.2	9.1	7.6	7.6	9.8		7.3	7.7	7.5	5.7	
1998		4.7	4.2	7.5	7.6	7.5	8.4	8.1	8.2	9.9	8.6		
1999	5.6		5.2	4.0	3.8	6.0	7.3	7.5			1.9	2.4	
2000	1.2	2.0	3.9		4.6	6.0	4.5	3.9	7.0	7.0	3.9	4.2	
2001	1.4	1.2	0.7	2.3	2.1	6.7	6.5	5.0	3.1	3.4		1.9	
2002	5.3	4.2	2.4	4.3	7.8	8.9	7.9	8.3	3.6			5.2	
2003			2.9	6.3	4.7	6.0	8.9	7.3	6.7	5.8	4.3	1.6	
2004			1.7	1.8	2.3	5.1	4.3	6.1	2.2	4.2	2.5	4.2	
2005	3.6	4.0	1.4	2.7	7.6	7.4	7.4	4.0	3.2	2.3	6.0	2.0	4.3
2006	2.5	0.9	1.5	1.0	3.9	4.0		3.9	5.0	4.8	0.5	0.7	
2007	2.2	2.0	0.7	1.6	5.6	7.8	5.7	5.7	3.2	0.9	2.5	2.0	3.3
2008	0.6	2.6	1.7	3.2	5.4	4.6	4.4	4.0	5.7	3.1	3.2	3.2	3.5
2009	2.0	2.6	2.0	3.5	3.8	4.1	5.0	5.4	5.3	2.4	2.1	0.4	3.2
2010	1.7	2.8	0.8	1.7	3.8	2.6		4.4		3.9	1.1	0.5	
2011	0.9	0.9	0.6	0.7	6.1	7.3	7.0	7.6	3.0	5.2	1.9	2.2	3.6
2012	2.0	1.2	2.4	1.8	4.7	7.6	9.1	6.8	4.8	3.3	1.4	1.4	3.9
2013	3.3	0.8	0.7	6.0	4.6	7.5	8.0	6.2	7.4	4.8	5.5	3.4	4.8
2014	2.8	1.2	1.0	4.0	4.6	7.7		6.2	4.0				
MEDIA	2.8	2.4	2.3	3.6	5.0	6.4	6.9	5.9	5.2	4.7	3.8	3.0	4.3
D. EST.	1.7	1.5	2.0	2.4	1.7	1.7	1.8	1.5	2.0	2.3	2.6	2.0	





Cuadro N° 3.119
Evaporación Total Mensual Histórica – Estación Buena Vista (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	TOTAL
1964									97.6	97.2	123.1	120.2	
1965					101.5	86.8	84.8			113.4	82.6	92.6	
1966	101.3	92.9				69.6	76.2			113.4	151.9	136.7	
1967	148.1	106.3	164.5	144.5	121.0	68.7	80.6	95.3	85.9	98.4	96.0	128.8	1338.2
1968		160.0	186.3	144.1	98.4	85.3	88.4	94.9	97.8	116.1	121.1	156.0	
1969	193.4	166.7	183.1	139.5	121.9	97.1	78.2	97.7	109.3	122.0	132.4	159.0	1600.3
1970	150.1	156.3	165.0	138.2	95.5	63.8			99.2	106.7	105.5	134.4	
1971	163.3	175.4	167.2	129.9	82.0	69.5	74.8	76.1	83.4	106.4	126.7	152.4	1407.1
1972	175.6	172.7	128.5	122.7	105.1	95.5	94.5	87.5	99.0	108.6	113.3	130.1	1433.1
1973	121.5	152.4	136.9	119.8	93.1	68.4	68.6	68.3	85.8	98.0	107.1	116.4	1236.3
1974	135.3	148.5	170.0	120.5	100.3	69.9	69.1	74.9	86.9	99.5	118.3	137.9	1331.1
1975	161.4	159.1	140.4	124.4	84.0	75.4	70.5	73.0	93.0	108.7	96.6	124.2	1310.7
1976	155.5	167.4	154.6	115.7	101.0	85.6	79.9	85.7	78.0	97.2	119.1	139.1	1378.8
1977	166.2	143.2	135.2	117.7	104.0	77.6	74.0	72.5	83.7	111.1	115.9	145.7	1346.8
1978	166.8	146.2	154.1	137.8	102.2	76.3	74.3	79.3	96.3	106.1	125.6	162.3	1427.3
1979	174.7	161.3	134.0	136.5	81.7	72.2	76.6	86.6	101.2	101.8	113.3	137.3	1377.2
1980	167.9	182.2	186.6	164.8	119.1	84.3	85.3	78.8	94.8	108.3	127.6	116.2	1515.9
1981	155.8	139.9	146.4	102.7	86.1	64.8	57.8	71.9	78.5	104.4	109.5	132.1	1249.9
1982	142.2	134.2	147.6	116.4	85.4	72.6	72.6	66.6	84.0	105.4	115.4	147.2	1289.6
1983	139.1	110.6	122.4	110.5	102.4	96.9	82.3	90.0	80.9	85.1	106.2	133.5	1259.9
1984	159.5	139.8	156.0	120.9	98.0	63.6	66.9	71.2	80.9	94.8	87.8	141.2	1280.6
1985	148.3	152.7	158.1	115.5	81.1	58.6	52.8	59.7	67.8	74.4	91.9	118.6	1179.5
1986	148.5	105.5			77.8	61.1		60.0	79.9	91.6	99.2	103.2	
1987	143.6	134.5	143.1	116.4		69.9	71.3	80.9	88.6	100.4	104.4	122.9	
1988	140.3	127.5	124.9	126.3	102.8	70.0	73.1	76.6	81.4	97.3	113.1	136.7	1270.0
1989	177.8	136.7	152.0	93.4	67.7	60.5	61.8	74.3	79.5	105.5			
1990	155.6	154.4	156.8	137.9	95.5	67.5	70.3	79.8	91.0	96.7	100.8	122.3	1328.6
1991	143.4	133.7	130.2	114.9	89.7		39.7	71.0			105.4	106.4	
1992	147.9	151.0	163.0	123.1	114.0	81.8	67.5	75.6	74.3	105.0	115.6	147.6	1366.4
1993	163.2	146.5	139.0	126.3	88.5	84.6	73.2	85.9	95.7	117.4	112.5	123.1	1355.9
1994	122.9	120.5	132.9	114.6	90.5	72.1	68.2	70.5	65.8	92.1	116.9	87.5	1154.5
1995	155.4	150.3	174.0	134.5	101.2	88.3	76.6	83.5	88.9	107.6	120.5	149.5	1430.3
1996	161.2	163.0	136.9	102.1	91.4	50.6	62.7	58.5	77.3	98.5	102.0	126.1	1230.3
1997	168.3	169.8	162.8	123.4	121.3	104.1	95.1	86.9	94.7	125.4	115.8	101.5	1469.1
1998	104.2	101.2	125.1	129.4	83.6	59.1	73.5	67.1	77.4	108.5	96.8	121.4	1147.3
1999	128.7	102.3	146.5	108.0	94.5	57.4	56.1	69.4	76.7	100.8	104.4	128.7	1173.5
2000	154.1	157.6	170.0	123.1	82.7	67.7	61.0	72.0	77.3	106.1	108.7	127.8	1308.1
2001	147.8	154.1	165.1	107.8	75.1	49.8	52.0	61.1	81.3	99.9	111.3	135.3	1240.6
2002	161.4	148.8	146.2	122.7	108.6	63.9	65.9	71.1	86.1	105.7	85.5	89.3	1255.2
2003	111.2	139.8	141.3	122.4	85.1	64.0	34.6	67.9	47.2	89.6	72.8	62.4	1038.3
2004	69.2	95.5	109.3	82.6	67.3	48.7	43.9	58.5	55.1	67.1	87.3	105.4	889.9
2005	89.2	122.0	95.4	87.0	38.1	46.9	64.7	51.1	55.6	92.0	35.1	128.9	906.0
2006	122.3	100.4	77.7	101.9	54.6	61.6	64.2	73.2	58.2	66.4	54.6	64.3	899.4
2007	155.6	77.1	144.6	129.9	99.1	60.4	61.3	75.2	76.9	95.3	109.4	125.0	1209.8
2008	130.2	155.4	135.0	120.7	66.5	47.9	64.7	54.7	71.2	80.2	94.6	102.0	1123.1
2009	107.2	89.4	147.2	116.3	89.9	60.5	52.5	62.3	71.9	82.6	95.8	97.4	1073.0
2010	120.8	130.9	121.0	122.7	73.9								
2011													
2012							66.9	65.1	82.1	89.4	99.8	111.2	
2013	130.1	138.4	123.2	105.2	78.5	50.6	54.5	62.8	72.3	90.7	92.8	118.8	1117.9
2014	121.9	103.8	121.7	106.3	88.4	67.8	56.0	62.7	76.7				
MEDIA	143.7	137.8	144.9	120.5	91.1	70.0	68.3	73.5	81.9	99.8	105.1	123.5	105.0
D. EST.	25.0	25.9	22.5	15.5	17.0	13.9	12.9	11.1	12.9	12.5	19.4	22.1	





Cuadro N° 3.120
Evaporación Total Mensual Histórica – Estación Caraz (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	TOTAL
1964	193.1	122.4	96.7	93.6		175.3	171.6	66.2	91.0	108.9	119.9	156.2	
1965	140.3	108.9						193.7	165.2	161.3	166.7	144.5	
1966	92.8	100.1	118.1	100.4	155.8			148.3	127.3	89.8	114.0	137.0	
1967	79.6	57.6	64.0	97.5	126.3	136.5	145.2	168.6	162.7	159.8	166.2	138.1	1502.1
1968	117.8	96.3	81.4	109.0	117.1	156.2	145.7	161.8	147.8	130.1	125.1	120.1	1508.4
1969	125.3	108.7	100.0	107.9	140.3	123.7	140.3	145.8	140.2	150.9	130.3	101.7	1515.1
1970	91.4	99.5	128.1	116.3	111.1				116.1	105.7	109.6	110.2	
1971	119.8	77.0	84.4	114.8		95.0				130.2	122.6	110.1	
1972	102.5	92.1	92.7	87.2	91.9	97.8	134.9	117.2	122.8	128.9	125.8	136.6	1330.4
1973	137.3	117.3	129.1										
MEDIA	120.0	98.0	99.4	103.3	123.8	130.8	147.5	143.1	134.1	129.5	131.1	128.3	124.1
D. EST.	32.6	19.2	22.1	10.4	22.5	31.9	14.1	41.2	25.0	24.9	21.0	18.4	

Cuadro N° 3.121
Evaporación Total Mensual Histórica – Estación Yungay (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	TOTAL
1997											122.9	137.6	
1998	146.0	124.1	140.1	132.2	133.3	126.9	129.1	135.1	126.3	115.1	101.1	101.6	1510.9
1999	111.8	102.3	115.5	108.5	122.0	118.0	127.0	120.3	120.2	123.4	120.6	126.3	1415.9
2000	124.8	117.5	125.9	121.4	113.9	103.9	119.4	119.3	114.2	129.5	119.8	127.5	1437.1
2001	124.3	112.7	124.9	119.7	121.0	121.0	118.1	121.8	160.6	184.9	188.4	192.2	1689.6
2002	182.9	171.1	191.7	181.6	191.1	180.1	193.2	193.2	192.7	212.0	228.4	261.6	2379.6
2003	269.5	231.0	262.2	261.8	241.1	237.5	241.2	278.7	275.5	267.8	142.9	112.2	2821.4
2004	118.1	69.2	87.4	85.6	112.6	115.5	163.3	142.5	90.8	99.9	89.5	82.4	1256.8
2005	70.6	52.3	58.3	72.0	258.0	269.4	267.4	333.5	236.2	233.6	225.2	128.1	2204.6
2006	126.8	102.7	29.8	30.7	158.2	115.7	118.4	157.6	183.5	203.7	89.8	94.6	1411.5
2007	75.5	91.9	75.6	95.6	189.3	135.2	161.3	177.6	237.8	218.1	153.7	144.8	1756.4
2008	75.2	101.0	52.9	64.4	133.3	172.5	179.8	176.3	229.6	152.9	136.1	132.4	1606.4
2009	106.0	59.1	77.9	86.1	117.9	112.9	165.3	186.9	127.5	101.5	93.9	72.7	1307.7
2010	63.5	76.5	80.8	110.1	99.2	129.2	131.1	161.7	200.0	150.4	94.1	46.4	1343.0
2011	62.4	72.1	58.7	64.1	176.1	152.0	162.7	153.4	151.6	164.1	108.6	71.5	1397.3
2012	107.2		46.5	38.5	80.2	74.8	71.3	98.0	97.4	72.4	42.8	48.6	
2013	86.1	26.2	35.2	89.6	81.1	72.4	90.4	74.5	71.6	78.7		54.8	
2014	47.8	38.9	24.8	65.8	50.5	61.6	77.0	66.0	65.6				
MEDIA	111.7	96.8	93.4	101.6	139.9	135.2	148.0	158.6	157.7	156.8	128.6	113.8	128.5
D. EST.	53.4	50.7	62.3	55.0	56.0	54.8	52.9	67.2	63.5	58.4	50.3	54.6	



**PRECIPITACION**

Cuadro N° 3.122

Precipitación Total Mensual Histórica – Estación Buena Vista (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	TOTAL A.
1964								0.0	0.0	0.0	0.0	0.0	
1965										0.0	1.3	0.0	
1966	1.6	0.0				0.0	0.0			0.1	0.1	0.0	
1967	3.2	10.7	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	14.9
1968	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1969	0.0	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.1	2.2
1970	0.0	0.8	0.4	0.0	0.4	0.0			0.0	1.2	5.3	0.0	
1971	0.4	4.6	3.6	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.2	0.0	10.0
1972	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
1973	5.1	3.6	0.5	0.0						0.0	0.0	0.0	
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1979	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	3.6
1981	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
1982	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983	0.0	0.0	7.5	7.7	0.0	0.0	0.0	27.2	0.0	0.0	0.0	0.0	42.4
1984	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1985	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1988	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1990	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
1991	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1992	0.0	0.0	0.0	0.0									
1993	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	
1994	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	
1995	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998	0.0	6.4	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.1
1999	0.0	15.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4
2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2002	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	2.3	0.0	10.4
2003	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
2004	0.5	0.6	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	4.3
2005	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2006	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	2.5
2007	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2008	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	3.5
2009	15.5	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	18.2
2010	0.0	4.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8
2011	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
2012	2.0	41.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.1
2013	0.7	13.2	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	30.0
2014	0.0	1.2	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9
2015	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
MEDIA	0.7	2.2	0.8	0.2	0.0	0.0	0.0	0.6	0.0	0.3	0.2	0.1	5.1
D. EST.	2.3	6.6	2.6	1.1	0.1	0.0	0.2	4.0	0.0	1.0	0.9	0.2	





Cuadro N° 3.123
Precipitación Total Mensual Histórica – Estación Cajamarquilla (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	TOTAL A.
1963											98.3	66.6	
1964	22.0	67.8	107.4	70.6	0.4	0.0	0.0	0.0	1.3	56.1	21.7	11.0	358.3
1965	59.9	93.1	171.3	35.1	5.2	0.0	0.0	0.0	0.0	30.1	10.8	56.5	462.0
1966	83.7	82.0	59.1	27.1	5.0	0.0	0.0	0.0	11.6	83.1	26.1	12.8	390.5
1967					14.6	0.0	14.3	0.0	8.4	46.7	14.9	2.4	
1968	23.2	19.8	141.4	16.9	5.4	0.0	0.0	0.0	1.4	28.6	25.6	16.5	278.8
1969	6.4	42.1	145.6	88.7	3.4	0.0	0.0	0.0	3.9	56.3	72.0	91.5	509.9
1970	149.0	26.3	157.2	67.0	19.8	0.0	0.0	0.0		0.0			
1971	46.5	72.5	164.2	30.0	0.0	0.0	0.0	0.0	3.5	6.7	10.6	104.9	438.9
1972	99.1	119.3	250.8	4.3	0.0	0.0	5.6	6.9	0.1	10.3	40.6	60.1	597.1
1973	118.9	74.8	131.0	99.2	12.5	0.0	12.4	8.3	12.7	40.6	37.9	69.6	617.9
1974	65.0	140.7	78.6	49.9	0.3	8.9	0.0	0.0	0.0	0.0	8.5	33.1	385.0
1975	89.4	138.9	188.0	0.0	3.2	0.0	0.0	23.1	12.1	31.8	27.5	34.4	548.4
1976	145.6	107.6	74.6	44.8	0.0	0.0	0.0	2.3	0.0	0.0	0.0	15.6	390.5
1977	79.6	171.1	139.5	25.2	15.3	0.0	0.0	0.0	10.5	27.0	44.2	55.6	568.0
1978	34.7	36.8	56.5	3.1	0.1	0.0	4.7	2.3	24.6	25.5	18.7	16.5	223.5
1979	17.5	33.3	171.7	21.2	0.0	0.0	0.0	4.1	9.4	0.0	8.9	27.3	293.4
1980	60.6	26.1	78.0	14.2	2.8	0.0	0.0	4.2	0.0	90.2	52.6	37.4	366.1
1981	119.9	160.9	108.1	18.4	0.0	0.0	0.0	0.0	0.0	20.7	28.1	58.1	514.2
1982	47.3	59.9				0.0	0.0						
1983	120.9	79.1	180.5	62.8	0.0	0.0	0.0	0.0	10.6	14.0	27.0	120.2	615.1
1984	93.8	223.2	195.0	39.8	36.8	0.0	0.0	0.0	0.0	56.2	0.0	44.8	689.6
1985	28.1	148.0	35.6	44.3	0.0			3.5	43.7	0.0	13.6	70.2	
1986	79.7	89.8		12.4	0.0	0.0	6.7	15.3	17.5	17.8	0.0	91.1	
1987	77.6	63.5	51.2	40.4	5.2	0.0	0.0	0.0	0.0	0.0	36.6	76.0	350.5
1988	69.0	50.8	67.7	53.6	14.9	0.0	0.0	0.0	8.6	40.9	41.4	42.2	389.1
1989	75.5	161.0	83.9	0.0	0.0	0.0	5.2	0.0	26.4	59.2	6.3	0.0	417.5
1990	36.7		67.3	0.0	12.0	1.1	0.0	0.0	6.5	60.1	63.7	34.6	
1991	32.3	27.8	67.9	37.0	6.0	0.0	0.0	0.0	1.0	61.2	31.1	21.8	286.1
1992	31.5	1.0	5.7	46.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.5
1993	0.0	229.9	243.2	51.2	25.3	0.0	0.0	0.0	7.5	33.7	90.4	134.2	815.4
1994	102.3	140.0	112.2	74.4	22.6	0.0	0.0	0.0	25.7	8.1	29.0	28.7	543.0
1995	61.5	48.6	40.6	51.4	3.1	0.0	0.0	0.0	0.0	31.0	40.2	59.0	335.4
1996	111.8	113.8	109.7	60.8	3.9	0.0	0.0	0.0	6.3	35.9	7.9	22.1	472.2
1997	72.1	108.3	21.9	54.9	3.4	0.0	0.0	0.0	9.5	32.6	70.2	110.1	483.0
1998	117.6	161.5	183.5	75.6	17.6	0.0	0.0	0.0	5.1	14.3	13.8	39.1	628.1
1999	102.2	356.4	96.7	108.0	39.6	0.0	0.0	0.0	21.7	60.6	62.5	134.5	982.2
2000	108.8	206.1	134.6	52.3	38.9	0.0	0.0	0.0	19.7	23.0	14.7	120.2	718.3
2001	187.1	92.8	216.6	50.5	5.3	2.6	0.0	0.0	17.9	28.2	86.6	23.4	711.0
2002	23.7	99.0	123.4	92.2	3.4	0.0	0.0	0.0	7.8	71.4	98.3	46.6	565.8
2003	101.5	61.7		30.5	8.0	0.0	0.0	0.0	0.0	15.3	6.0	208.5	
2004	12.6	53.6	128.0	33.3	0.0	0.0	0.0	0.0	0.0	32.2	56.7	74.7	391.1
2005		25.9	172.4	81.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.8	
2006	149.2	270.3	318.2	95.3	0.0	0.0	0.0	0.0	0.0	0.0	33.1	199.8	1065.9
2007	161.9	0.6	281.4	119.9	33.3	0.0	0.0	0.0	0.0	53.8	44.3	0.0	695.2
2008	324.7	332.6	554.8	325.9	0.0	0.0	0.0	5.4	0.0	373.7	378.0	0.0	2295.1
2009	398.5	509.2	545.5	141.2	0.0	0.0	0.0	0.0	0.0	178.6	348.0	166.9	2287.9
2010	70.2	87.0	336.6	51.4	0.0	0.0	0.0	0.0	12.4	0.0	102.3	208.4	868.3
2011	356.7	106.4	239.6	480.3		0.0	0.0	6.4	18.8	0.0	208.6	512.3	
2012	360.2	436.8	671.0	476.3	0.0	0.0	0.0	0.0	82.3	127.6		241.6	
2013	48.6	412.5	322.0	108.1	0.0	0.0	0.0	0.0	24.0	143.6	91.6	101.2	1251.6
2014	67.0	225.0	403.4	81.0	0.0	0.0	0.0	0.0	27.6	34.2	105.4	389.8	1333.4
2015	253.0	105.2	558.6	166.8	162.8	0.0	0.0		36.4	94.8	108.2		
MEDIA	102.1	130.0	183.2	76.3	10.6	0.2	1.0	1.6	10.7	44.2	55.3	83.6	698.8
D. EST.	91.5	114.3	150.2	98.4	24.6	1.3	3.0	4.2	14.8	60.6	75.0	96.8	





Cuadro N° 3.124
Precipitación Total Mensual Histórica – Estación Chacchan (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	TOTAL A.
1963									0.0	0.0	0.0	0.0	
1964	6.8	3.1	3.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.6
1965	3.0	12.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
1966	0.0								8.1	34.4	4.0	7.6	
1967	81.5	121.3	38.0	0.9	3.7	0.0	1.2	0.0	1.8	11.7	2.5	0.0	262.6
1968	3.8	1.4	20.0	1.8	0.0	0.0	0.0		0.1	3.4	5.7	1.7	
1969	11.6	23.7	44.0	16.4	0.0	0.0	0.0	0.0	0.0	19.3	21.5	35.6	172.1
1970	108.4	9.1	41.2	24.9	0.0	0.0	0.0	1.2	18.7	30.2	31.4	19.8	284.9
1971	21.1	81.2	88.6	4.4	0.0	0.0	0.0	0.0	0.0	1.4	8.6	42.8	248.1
1972	55.4	69.9	155.3	5.4	0.0	0.0	0.0	0.0	0.0	0.0	11.7	35.0	332.7
1973	76.1	44.8	47.7	14.9	0.0	0.0	0.0	10.7	54.6	12.6	0.9	42.8	305.1
1974	17.1	85.4	13.7	0.0	0.0	0.0	0.0	0.7	3.0	7.0	3.7	6.2	136.8
1975	42.8	96.5	111.4	20.2	6.1	0.0	0.0	0.0	7.2	2.2	5.6	19.2	311.2
1976	67.6	20.9	27.7	0.0	1.0	2.5	0.0	0.0	0.0	0.0	0.9	4.4	125.0
1977	8.1	108.5	13.2	9.9	0.0	0.0	0.0	0.0	4.2	3.2	8.0	0.0	155.1
1978	10.0	9.6	28.0	3.5	0.0	0.0	0.0	0.0	2.1	0.0	0.0	2.7	55.9
1979	5.3	13.3	116.6	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.4	161.5
1980	19.8	14.8	16.0	10.2	0.0	0.0	0.0	0.0	0.0	38.9	11.1	5.9	116.7
1981	66.7	91.1	55.3	0.0	0.0	0.0	0.0	4.8	0.0	15.5	18.1	11.9	263.4
1982	45.1	9.7	51.2	17.5	0.0	0.0	0.0	0.0	0.0	8.3	10.5	9.2	151.5
1983	62.4	42.3	227.6	63.4	0.0	0.0	0.0	0.0	0.0	12.6	0.0	60.1	468.4
1984	24.4		4.0	5.2	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0	
1985	0.0	6.7	26.9	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	38.3
1986	11.5	16.0	21.7	10.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	62.5
1987	14.9	26.4	11.6	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.7
1988	12.7	54.3	17.4	0.0	0.0	0.0	0.0	0.0	3.3	1.9	2.6	15.8	108.0
1989	60.9	151.3	41.9	0.0	0.0	0.0	0.0	0.0	3.5	18.1	0.0	0.0	275.7
1990	1.7	6.5	24.4	0.0	0.0	0.0	0.0	0.0	0.0	30.8		12.4	
1991	10.0	12.5	33.8	0.0	0.0	0.0	0.0	0.0	0.0	1.4	13.0	35.5	106.2
1992	14.1	21.3	59.7	0.0	0.0	0.0	2.1	0.0	7.1	61.0	0.0	4.9	170.2
1993	34.2	51.2	72.2	19.8	6.7	0.0	0.0	0.0	7.3	9.9	33.7	15.6	250.6
1994	35.9	58.1	57.6	29.9	4.1	0.0	0.0	0.0	6.5	0.0	7.5	44.0	243.6
1995	13.7	35.8	18.0	16.0	0.0	0.0	0.0	0.0	0.0	17.9	23.5	31.1	156.0
1996	71.0	61.8	98.5	23.1	4.7	0.0	0.0	0.0	0.0	3.8	0.0	2.5	265.4
1997	37.0	43.2	16.6	8.2	0.0	0.0	0.0	0.0	1.2	4.1	29.7	104.3	244.3
1998	126.2	149.2	177.4		0.0	0.0	0.0	0.0	13.8	52.8	4.8	41.2	
1999	61.8	240.4	37.6	44.0	11.4	0.0	0.0	0.0	2.5	4.5	15.0	14.2	431.4
2000	37.9	118.6	85.8	32.4	11.8	0.0	0.0	2.2	2.5	3.5	9.9	58.4	363.0
2001	87.6	51.9	98.5	24.2	0.0	0.0	0.0	0.0	17.5	0.0	47.8	6.7	334.2
2002	2.9	114.4	70.2	27.4	0.0	0.0	0.0		3.0	14.9	25.4	6.1	
2003	9.3	35.5	43.3	10.7	0.0	0.0	0.0	0.0	0.0	9.1	1.5	68.2	177.6
2004	5.1	14.6	30.0	21.9	0.0	0.0	0.0	0.0	1.0	18.8	17.6	24.3	133.3
2005	0.0	15.1	47.8	4.5	0.0	0.0	0.0	0.0		0.0	0.0	44.5	
2006	34.7	42.6	130.7	57.0	0.0	0.0	0.0	0.0	0.0	3.5	20.6	36.0	325.1
2007	39.7	25.6	89.3	55.2	6.2	0.0	0.0	0.0	0.0	4.6	12.6	15.8	249.0
2008	103.3	81.9	133.4	28.5	0.0	0.0	0.0	0.0	0.0	72.6	9.1	0.0	428.8
2009	109.0	136.4	102.1	83.6	18.5	0.0	0.0	0.0	0.0	24.1	40.7	124.9	639.3
2010	87.7	17.4	21.5	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.0	207.5
2011	106.0	15.7	71.0	19.3	0.0	0.0	0.0	0.0	0.0	3.9	26.5	91.1	333.5
2012	27.7	84.9	79.2	47.7	0.0	0.0	0.0	0.0	0.0	0.0	15.4	13.1	268.0
2013	0.0	130.2	92.1	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	51.5	283.3
2014	11.8	68.3	98.1	4.4	0.0	0.0	0.0	0.0	0.0	0.0	49.2	36.8	268.6
2015	23.8	50.4	109.9	0.0	0.0	0.0	0.0	0.0	0.0	7.3	22.2	43.9	257.5
MEDIA	37.1	55.9	61.2	15.9	1.5	0.0	0.1	0.4	3.2	11.3	11.0	25.3	223.0
D. EST.	35.1	50.3	48.4	19.0	3.7	0.3	0.3	1.7	8.4	16.1	13.0	28.5	





Cuadro N° 3.125
Precipitación Total Mensual Histórica – Estación Pariacoto (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	TOTALA.
1980									0.0	0.0	0.0	2.7	
1981		63.9	22.6	3.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	
1982	10.4	0.0	6.8	8.2	0.0	0.0	0.0	0.0	0.0	1.5	2.2	6.2	35.3
1983	62.8	100.5	236.7	146.7	0.0	0.0	0.0	0.0	0.0	10.3	8.8	1.7	567.5
1984	2.8	56.8	22.7	0.5	0.5	0.0	0.0	0.0	1.5	4.6	0.0	0.0	89.4
1985	4.0	48.6	9.1	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.1	5.3	75.4
1986	8.0	2.6	22.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	35.2
1987	15.7	16.9	26.0	15.4	0.5	0.0	0.0	0.0	2.0	0.0	8.8	0.5	85.8
1988	10.7	9.1	0.0	24.1	0.0	0.0	0.0	0.0	0.0	0.0	15.6	0.5	60.0
1989	11.6	88.2	50.9	9.7	0.0	0.0	0.0	0.0	3.4	10.6	0.0	0.0	174.4
1990	5.9	38.2	16.5	0.0	0.0	0.0	0.0	0.0	0.0	11.0	7.7	8.4	87.7
1991	9.5	20.1	17.5	3.0	0.0	0.0	0.0	0.0	0.0	7.0	1.2	2.6	60.9
1992	6.1	15.2	13.8	14.6	0.0	0.0	0.0	1.1	1.3	5.3	0.0	2.9	60.3
1993	12.4	24.7	85.5	14.2	3.2	0.0	0.0	0.0	0.0	9.9	4.1	13.1	167.1
1994	32.9	27.8	32.2	15.3	0.0	0.0	0.0	0.0	1.7	0.0	4.0	59.0	172.9
1995	15.4	39.2	25.4	9.9	0.9	0.0	0.0	0.0	0.0	8.4	3.2	8.5	110.9
1996	34.0	54.7	49.1	17.9	1.0	0.0	0.0	0.5	0.0	2.1	1.2	1.0	161.5
1997	11.3	24.2	11.5	19.5	4.2	0.5	0.5	0.0	1.6	6.9	39.9	64.7	184.8
1998	148.2	261.8	187.5	40.6	0.7	0.8	0.0	0.0	0.8	3.1	1.6		
1999			14.7	13.5	2.4	0.0	0.0	0.3	1.4	6.7	10.2	12.8	
2000	39.5	78.2	36.7	12.3	5.3	0.0	0.0	0.5	1.8	2.7	3.8	28.6	209.4
2001	46.2	26.8	47.7	11.2	2.9	0.0	0.0	0.0	3.9	2.3	2.6	4.1	147.7
2002	1.3	104.0	25.6	13.3	2.5	0.0	0.0	0.0	1.7	6.4	18.7	2.4	175.9
2003	15.1	16.2	20.4	3.3	0.0	0.0	0.0	0.0	0.2	10.7	0.8	23.6	90.3
2004		19.2	22.3		0.0	0.0	0.0	0.0	2.8	11.6	9.6	11.6	
2005	14.8	10.4	24.2	5.5	0.0	0.0	0.0	0.0	0.3	4.2	0.7	7.0	67.1
2006	22.0	36.3	46.6	5.5	0.0	0.0	0.0	0.0	0.0	0.0	7.3	11.3	129.0
2007	7.3	8.3	47.6	15.3	0.0	0.0	0.0	0.0	0.0	8.4	0.8	7.3	95.0
2008	42.6	54.5	47.8	58.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	203.6
2009	100.4		23.8	20.1	0.0	0.0	0.0	0.0	0.0	3.3	7.6	2.5	
2010	11.5	37.7	13.6	3.3	1.0	0.0	0.0	0.0	1.3	4.0	5.7	20.5	98.6
2011	19.7	0.0	5.0	9.3	0.0	0.0		0.0	0.0	0.0	3.5	21.9	
2012	0.5	34.4	6.6	2.0	0.0	0.0	0.0	0.0	3.4	3.2	4.6	15.2	69.9
2013	0.0	34.1	30.3	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	66.6
2014	9.6	14.9	3.8	0.0	0.0	0.0	0.0	0.0	1.0	0.0	5.3	10.7	45.3
2015	2.0	19.5	57.7	0.0	0.0	0.0	0.0		0.0	0.0	0.0		
MEDIA	22.9	42.0	37.4	15.2	1.0	0.0	0.0	0.1	0.9	4.1	5.0	10.5	139.2
D. EST.	31.0	48.0	47.6	26.2	1.9	0.2	0.1	0.2	1.2	4.0	7.5	15.1	





Cuadro N° 3.126
Precipitación Total Mensual Histórica – Estación Pira (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	TOTAL A.
1963											67.7	59.2	
1964	24.8	47.2	154.7	65.6	0.0	0.0	7.0					1.5	
1965	49.0	415.6	198.1	63.8	42.0	0.0	0.0	0.0	3.5	43.5	19.4	80.2	915.1
1966	104.1	89.3	131.4	80.1	9.4	0.0	0.0	0.0	6.3	164.6	82.9	76.6	744.7
1967	441.1	277.2	224.6	50.6	21.0	0.0	17.3	23.8	40.8	119.1	34.7	67.5	1317.7
1968	50.9	73.4	158.9	25.3	35.1	0.0	0.0	0.0	0.0	18.1	48.0	16.9	426.6
1969	32.9	97.9	148.6	120.5	19.6	0.0	0.0	5.5	1.3	91.0	108.2	160.6	786.1
1970	215.9	37.1	151.6	121.5	25.9	9.0	5.0	0.0	63.1	146.2	61.2	71.2	907.7
1971	101.3	147.5	237.0	127.2	2.3	0.0	0.0	36.3	21.0	52.3	67.6	137.2	929.7
1972	166.0	269.7	272.1	99.2	34.2	6.8	6.9	22.5	32.5	20.6	22.0	100.6	1053.1
1973	196.3	104.9	183.5	144.7	87.6	0.0	11.8	12.7	50.7	80.5	107.9	61.7	1042.3
1974	131.7	113.0	102.9	54.3	20.5	14.0	8.2	2.8	4.8	11.9	21.7	68.2	554.0
1975	185.2	182.3	286.1	130.0	27.6	2.9	0.0	11.1	11.4	72.3	246.2	62.1	1217.2
1976	211.1	254.8	174.2	37.3	23.5	17.3	0.0	0.0	0.0	6.3	11.3	58.1	793.9
1977	115.4	183.5	184.4	78.7	27.5	0.0	3.0	0.0	0.0	0.0	55.0	69.0	716.5
1978	35.7	15.0	51.5	24.8	7.0	0.0	8.6	0.0	13.4	37.4	32.7	44.0	270.1
1979	23.1	30.6	90.7	180.9	87.5	5.3	0.0	0.0	9.0	6.0	26.6	1.9	461.6
1980	88.6	66.3	145.7	52.3	12.4	22.0	2.7	15.5	15.3	152.5	166.7	2.5	742.5
1981	55.1	208.8	176.1	90.9	0.0	0.0							
1982													
1983													
1984	83.7	54.6	68.4	8.9	3.6	0.0	0.0	0.3	0.0	14.9	76.7	44.0	355.1
1985	46.4	135.7	138.7	62.1	24.4								
1986	132.3	136.5	66.7	94.5	0.0	0.0	0.0	13.5	4.2	2.5		41.1	
1987	215.8	147.2	208.5	82.1	16.5	0.0	0.0	0.0	27.6	48.4	27.1	179.2	952.4
1988	29.3	39.4	43.4	34.2	11.5	0.0	0.0	0.0	3.9	23.0	10.6	46.0	241.3
1989	49.8	117.8	154.9	117.9	18.1	0.0	0.0	0.0	62.8	163.5	40.6	36.6	762.0
1990	0.0	23.3	7.0	20.9	1.7	14.6	0.0	0.0	0.0	67.9	178.2	18.5	332.1
1991	14.5	44.4	55.0	15.6	0.0	2.9	8.0	10.4	0.0	3.5	89.0	66.2	309.5
1992	41.9	66.3	131.8	46.3	64.2	5.0	0.0	0.0	7.9	36.9	34.6	40.4	475.3
1993	172.9	282.4	353.7	64.2	38.0	0.0	0.0	0.0	9.5	55.7	160.2	99.4	1236.0
1994	186.7	235.4	235.4		40.9	10.0	0.0	0.0	1.7	7.7	19.7	81.7	
1995	91.2	110.7	71.7	89.4	15.9	0.0	0.0	0.0	20.0	65.5	67.8	79.0	611.2
1996	123.2	223.8	264.0	107.3	17.0	0.0	0.0	4.5	3.7	66.2	6.6	6.9	823.2
1997	99.6	129.0	46.7	18.8	2.8	0.0	0.0	0.0	15.4	26.2	73.1	208.0	619.6
1998	179.8	231.3	232.4	69.3	9.9	19.8	0.0	0.0	17.3	67.0	6.3	73.1	906.2
1999	125.9	353.3	113.0	111.0	20.1	1.1	2.1	0.0	15.0	25.9	33.3	62.2	862.9
2000	125.6	280.4	167.7	105.5	13.2	0.0	2.3	5.0	14.6	20.1	23.8	113.6	871.8
2001	202.7	91.5	250.5	76.2	15.2	0.0	0.7	0.0	25.4	50.1	98.9	60.2	871.4
2002	45.6	153.9	195.7	99.5	4.1	0.0	1.0	0.0	16.4	73.7	103.0	68.5	761.4
2003	83.9	85.6	116.4	22.8	3.9	1.7	0.0	0.0	0.0	23.4	15.7	124.6	478.0
2004	20.5	68.0	76.3	59.4	1.4	2.2	0.0	0.0	16.1	59.6	62.8	82.2	448.5
2005	50.8	68.5	131.9	39.6	3.2	0.0	0.0	0.4	0.5	13.3	6.2	93.6	408.0
2006	81.3	95.7	248.4	104.5	1.5	0.0	1.0	0.6	5.0	29.7	37.6	95.3	700.6
2007	78.4	48.3	201.1	106.1	12.7	2.4	0.7	0.3	0.5	38.6	30.0	23.4	542.5
2008	136.5	178.6	186.4	78.8	0.2	2.5	0.0	0.0	1.4	77.3	35.6	31.9	729.2
2009	204.0	179.4	182.2	89.4	3.8	0.2	0.2	7.9	2.2	86.9	77.3	46.1	879.6
2010	53.7		125.5	41.6	6.1	1.5	0.0	0.5	6.1	21.7	31.3	139.6	
2011	117.9	56.0	98.4	103.4	2.3	0.2	1.5	2.6	6.3	5.4	62.2	121.7	577.9
2012	67.2	161.6	125.5	100.8	7.8	1.8	0.0	0.0	27.3	39.9	93.3	49.8	675.0
2013	30.7	138.1	245.7	25.3	11.0	0.0	0.0	0.2	6.7	79.6	32.1	82.6	652.0
2014	59.1	92.7	184.9	52.7	27.7	0.0	1.4	0.2	9.7	23.3	46.8	113.3	611.8
2015	53.7	90.9	185.8	63.1	20.2	0.2		0.0	4.7	36.3	27.3		
MEDIA	104.7	137.4	159.7	74.7	18.0	2.9	1.9	3.8	12.9	50.6	59.3	72.2	698.1
D. EST.	78.9	90.6	72.6	38.2	19.8	5.6	3.7	7.7	15.5	43.0	49.9	44.9	





Cuadro N° 3.127
Precipitación Total Mensual Completada y Extendida – Est. Cajamarquilla (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SET.	OCT.	NOV.	DIC.	TOTAL
1965	59.9	93.1	171.3	35.1	5.2	0	0	0	0	30.1	10.8	56.5	462
1966	83.7	82	59.1	27.1	5	0	0	0	11.6	83.1	26.1	12.8	390.5
1967	173.8	144	93.1	27.4	14.6	0	14.3	0	8.4	46.7	14.9	2.4	539.6
1968	23.2	19.8	141.4	16.9	5.4	0	0	0	1.4	28.6	25.6	16.5	278.8
1969	6.4	42.1	145.6	88.7	3.4	0	0	0	3.9	56.3	72	91.5	509.9
1970	149	26.3	157.2	67	19.8	0	0	0	0	0	15.6	33.6	468.5
1971	46.5	72.5	164.2	30	0	0	0	0	3.5	6.7	10.6	104.9	438.9
1972	99.1	119.3	250.8	4.3	0	0	5.6	6.9	0.1	10.3	40.6	60.1	597.1
1973	118.9	74.8	131	99.2	12.5	0	12.4	8.3	12.7	40.6	37.9	69.6	617.9
1974	65	140.7	78.6	49.9	0.3	8.9	0	0	0	0	8.5	33.1	385
1975	89.4	138.9	188	0	3.2	0	0	23.1	12.1	31.8	27.5	34.4	548.4
1976	145.6	107.6	74.6	44.8	0	0	0	2.3	0	0	0	15.6	390.5
1977	79.6	171.1	139.5	25.2	15.3	0	0	0	10.5	27	44.2	55.6	568
1978	34.7	36.8	56.5	3.1	0.1	0	4.7	2.3	24.6	25.5	18.7	16.5	223.5
1979	17.5	33.3	171.7	21.2	0	0	0	4.1	9.4	0	8.9	27.3	293.4
1980	60.6	26.1	78	14.2	2.8	0	0	4.2	0	90.2	52.6	37.4	366.1
1981	119.9	160.9	108.1	18.4	0	0	0	0	0	20.7	28.1	58.1	514.2
1982	47.3	59.9	40.3	15.1	0	0	0	0	0	9.8	11.3	8.7	192.4
1983	47.8	36.9	170.7	51.9	0	0	0	0	0	9.3	0	47.1	363.7
1984	93.8	223.2	195	39.8	36.8	0	0	0	0	56.2	0	44.8	689.6
1985	28.1	156	35.6	44.3	0	0	0	3.5	43.7	0	13.6	70.2	395
1986	79.7	89.8	35.3	12.4	0	0	6.7	15.3	17.5	17.8	0	91.1	365.6
1987	77.6	63.5	51.2	40.4	5.2	0	0	0	0	0	36.6	76	350.5
1988	69	54.9	67.7	53.6	14.9	0	0	0	8.6	40.9	41.4	42.2	393.2
1989	75.5	161	83.9	0	0	0	5.2	0	26.4	59.2	6.3	0	417.5
1990	36.7	14	67.3	0	12	1.1	0	0	6.5	60.1	63.7	34.6	296
1991	32.3	27.8	67.9	37	6	0	0	0	1	61.2	31.1	21.8	286.1
1992	31.5	1	5.7	46.3	0	0	0	0	0	0	0	0	84.5
1993	0	229.9	243.2	51.2	25.3	0	0	0	7.5	33.7	90.4	134.2	815.4
1994	102.3	140	112.2	74.4	22.6	0	0	0	25.7	8.1	29	28.7	543
1995	61.5	48.6	40.6	51.4	3.1	0	0	0	0	31	40.2	59	335.4
1996	111.8	126.7	109.7	60.8	3.9	0	0	0	6.3	35.9	7.9	22.1	485.1
1997	72.1	108.3	21.9	54.9	3.4	0	0	0	9.5	32.6	70.2	110.1	483
1998	117.6	161.5	183.5	75.6	17.6	0	0	0	5.1	14.3	13.8	39.1	628.1
1999	102.2	356.4	96.7	108	39.6	0	0	0	21.7	60.6	62.5	134.5	982.2
2000	108.8	206.1	134.6	52.3	38.9	0	0	0	19.7	23	14.7	120.2	718.3
2001	187.1	92.8	216.6	50.5	5.3	2.6	0	0	17.9	28.2	86.6	23.4	711
2002	23.7	99	123.4	92.2	3.4	0	0	0	7.8	71.4	98.3	46.6	565.8
2003	101.5	64.6	65.8	30.5	8	0	0	0	0	15.3	6	214.9	506.6
2004	12.6	53.6	128	33.3	0	0	0	0	0	32.2	56.7	75.8	392.2
2005	21.9	25.9	172.4	81	0	0	0	0	0	0	0	85.8	387
2006	47.1	56.1	142.5	64.8	0.9	0	1.3	1.2	7.1	17.6	24.6	51.5	414.7
2007	50	30.3	111	64.5	8.3	1.7	1.2	0.6	1.2	20	21.1	18.6	328.5
2008	97	101.2	125.1	43.7	0.6	1.2	0	0	1.4	64.6	24.8	15.6	475.2
2009	116.7	122.4	111.3	73.8	13.8	0.6	0.6	3.8	2.2	45.1	52.2	80.8	623.3
2010	65.1	20.1	58.8	23.1	3.8	1.5	0	0.7	3.3	8.1	13.4	80.2	278.1
2011	93	28.1	68.2	48.6	2.2	0.6	0.9	1.2	3.3	5.8	37.2	87.1	376.2
2012	42.7	94.4	84	60.3	3.7	1.5	0	0	12.8	18.4	39.9	28.4	386.1
2013	16.8	108.7	123.1	13.3	6.2	0	0	0.6	3.4	35.6	13.1	56.3	377.1
2014	32.5	73.4	108.7	25.9	12.4	0	0.9	0.6	4.8	11.7	45.4	63.7	380
2015	34.7	60.6	115.5	29	11.8	0.6	0	0	2.9	23.1	27	37.9	343.1
MEDIA	70.8	93.8	112.3	42.7	7.8	0.4	1.1	1.5	7.2	28.4	29.8	54.4	450.2
D. EST.	43.2	67.8	56.4	26.5	10.1	1.3	2.9	4.1	9.1	23.3	24.9	40.9	





Cuadro N° 3.128
Precipitación Total Mensual Completada y Extendida – Estación Chacchan (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SET.	OCT.	NOV.	DIC.	TOTAL
1965	3	12.3	0.4	0	0	0	0	0	0.5	12.4	0	0	28.6
1966	0	29.6	31.4	17.3	2.4	0	0	0	8.1	34.4	4	7.6	134.8
1967	81.5	121.3	38	0.9	3.7	0	1.2	0	1.8	11.7	2.5	0	262.6
1968	3.8	1.4	20	1.8	0	0	0	0	0.1	3.4	5.7	1.7	37.9
1969	11.6	23.7	44	16.4	0	0	0	0	0	19.3	21.5	35.6	172.1
1970	108.4	9.1	41.2	24.9	0	0	0	1.2	18.7	30.2	31.4	19.8	284.9
1971	21.1	81.2	88.6	4.4	0	0	0	0	0	1.4	8.6	42.8	248.1
1972	55.4	81.8	155.3	5.4	0	0	0	0	0	0	11.7	35	344.6
1973	76.1	44.8	47.7	14.9	0	0	0	10.7	54.6	12.6	0.9	42.8	305.1
1974	17.1	85.4	13.7	0	0	0	0	0.7	3	7	3.7	6.2	136.8
1975	42.8	96.5	111.4	20.2	6.1	0	0	0	7.2	2.2	5.6	19.2	311.2
1976	67.6	26	27.7	0	1	2.5	0	0	0	0	0.9	4.4	130.1
1977	8.1	108.5	13.2	9.9	0	0	0	0	4.2	3.2	8	0	155.1
1978	10	9.6	28	3.5	0	0	0	0	2.1	0	0	2.7	55.9
1979	5.3	13.3	116.6	7.9	0	0	0	0	0	0	0	18.4	161.5
1980	19.8	14.8	16	10.2	0	0	0	0	0	38.9	11.1	5.9	116.7
1981	66.7	91.1	55.3	0	0	0	0	4.8	0	15.5	18.1	11.9	263.4
1982	45.1	9.7	51.2	17.5	0	0	0	0	0	8.3	10.5	9.2	151.5
1983	62.4	42.3	227.6	63.4	0	0	0	0	0	12.6	0	60.1	468.4
1984	24.4	52	4	5.2	0	0	0	0	0	10.8	0	0	96.4
1985	0	6.7	26.9	3	0	0	0	0	0	0	0	1.7	38.3
1986	11.5	16	21.7	10.6	0	0	0	0	0	0	0	2.7	62.5
1987	14.9	26.4	11.6	6.8	0	0	0	0	0	0	0	0	59.7
1988	12.7	54.3	17.4	0	0	0	0	0	3.3	1.9	2.6	15.8	108
1989	60.9	151.3	41.9	0	0	0	0	0	3.5	18.1	0	0	275.7
1990	1.7	6.5	24.4	0	0	0	0	0	0	30.8	33.8	12.4	109.6
1991	10	12.5	33.8	0	0	0	0	0	0	1.4	13	35.5	106.2
1992	14.1	21.3	59.7	0	0	0	2.1	0	7.1	61	0	4.9	170.2
1993	34.2	51.2	72.2	19.8	6.7	0	0	0	7.3	9.9	33.7	15.6	250.6
1994	35.9	58.1	57.6	29.9	4.1	0	0	0	6.5	0	7.5	44	243.6
1995	13.7	35.8	18	16	0	0	0	0	0	17.9	23.5	31.1	156
1996	71	81.2	98.5	23.1	4.7	0	0	0	0	3.8	0	2.5	284.8
1997	37	43.2	16.6	8.2	0	0	0	0	1.2	4.1	29.7	104.3	244.3
1998	126.2	149.2	178.2	34.1	0	0	0	0	13.8	52.8	4.8	41.2	600.3
1999	61.8	240.4	37.6	44	11.4	0	0	0	2.5	4.5	15	14.2	431.4
2000	37.9	142.1	85.8	32.4	11.8	0	0	2.2	2.5	3.5	9.9	58.4	386.5
2001	87.6	51.9	98.5	24.2	0	0	0	0	17.5	0	47.8	6.7	334.2
2002	2.9	114.4	70.2	27.4	0	0	0	0	3	14.9	25.4	6.1	264.3
2003	9.3	35.5	43.3	10.7	0	0	0	0	0	9.1	1.5	68.2	177.6
2004	5.1	18.7	30	21.9	0	0	0	0	1	18.8	17.6	24.3	137.4
2005	0	15.1	47.8	4.5	0	0	0	0	0.3	0	0	44.5	112.2
2006	34.7	42.6	131.4	57	0	0	0	0	0	3.5	20.6	36	325.8
2007	39.7	25.6	89.3	55.2	6.2	0	0	0	0	4.6	12.6	15.8	249
2008	103.3	84.9	133.4	28.5	0	0	0	0	0	72.6	9.1	0	431.8
2009	109	136.4	102.1	83.6	18.5	0	0	0	0	24.1	40.7	124.9	639.3
2010	87.7	17.4	21.5	10.9	0	0	0	0	0	0	0	71	208.5
2011	106	15.7	71	19.3	0	0	0	0	0	3.9	26.5	91.1	333.5
2012	27.7	84.9	79.2	47.7	0	0	0	0	0	0	15.4	13.1	268
2013	0	130.2	92.1	0	0	0	0	0	0	9.5	0	51.5	283.3
2014	11.8	73.5	98.1	4.4	0	0	0	0	0	0	49.2	36.8	273.8
2015	23.8	53.6	109.9	0	0	0	0	0	0	7.3	22.2	43.9	260.7
MEDIA	37.7	57.9	61.8	16.6	1.5	0.0	0.1	0.4	3.3	11.8	11.9	26.3	229.3
D. EST.	35.2	50.1	47.9	18.8	3.7	0.4	0.3	1.7	8.5	16.1	13.3	28.6	





Cuadro N° 3.129
Precipitación Total Mensual Completada y Extendida – Estación Pariacoto (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SET.	OCT.	NOV.	DIC.	TOTAL
1980	8.5	6.2	6.8	4.2	0	0	0	0	0	0	0	2.7	28.5
1981	27.4	63.9	22.6	3	0	0	0	0	0	1.6	0	0	118.5
1982	10.4	0	6.8	8.2	0	0	0	0	0	1.5	2.2	6.2	35.3
1983	62.8	100.5	236.7	146.7	0	0	0	0	0	10.3	8.8	1.7	567.5
1984	2.8	56.8	22.7	0.5	0.5	0	0	0	1.5	4.6	0	0	89.4
1985	4	48.6	9.1	0	8.3	0	0	0	0	0	0.1	5.3	75.4
1986	8	2.6	22.4	0.6	0	0	0	0	0	0	0	1.6	35.2
1987	15.7	16.9	26	15.4	0.5	0	0	0	2	0	8.8	0.5	85.8
1988	10.7	9.1	0	24.1	0	0	0	0	0	0	15.6	0.5	60
1989	11.6	88.2	50.9	9.7	0	0	0	0	3.4	10.6	0	0	174.4
1990	5.9	38.2	16.5	0	0	0	0	0	0	11	7.7	8.4	87.7
1991	9.5	20.1	17.5	3	0	0	0	0	0	7	1.2	2.6	60.9
1992	6.1	17.6	13.8	14.9	0	0	0	1.1	1.3	5.3	0	2.9	63
1993	12.4	24.7	85.5	14.2	3.2	0	0	0	0	9.9	4.1	13.1	167.1
1994	32.9	27.8	32.2	15.3	0	0	0	0	1.7	0	4	59	172.9
1995	15.4	39.2	25.4	9.9	0.9	0	0	0	0	8.4	3.2	8.5	110.9
1996	34	54.7	49.1	17.9	1	0	0	0.5	0	2.1	1.2	1	161.5
1997	11.3	24.2	11.5	19.5	4.2	0.5	0.5	0	1.6	6.9	39.9	64.7	184.8
1998	148.2	261.8	187.5	40.6	0.7	0.8	0	0	0.8	3.3	1.6	17.1	662.4
1999	25.4	96.2	14.7	13.5	2.4	0	0	0.3	1.4	6.7	10.2	12.8	183.6
2000	39.5	78.2	36.7	12.3	5.3	0	0	0.5	1.8	2.7	3.8	28.6	209.4
2001	46.2	26.8	54	11.2	2.9	0	0	0	3.9	2.3	2.6	4.1	154
2002	1.3	104	25.6	13.3	2.5	0	0	0	1.7	6.4	18.7	2.4	175.9
2003	15.1	16.2	20.4	3.3	0	0	0	0	0.2	10.7	0.8	23.6	90.3
2004	6.3	19.2	22.3	9.1	0	0	0	0	2.8	11.6	9.6	11.6	92.5
2005	14.8	10.4	24.2	5.5	0	0	0	0	0.3	4.2	0.7	7	67.1
2006	22	36.3	46.6	5.5	0	0	0	0	0	0	7.3	11.3	129
2007	7.3	8.3	47.6	15.3	0	0	0	0	0	8.4	0.8	7.3	95
2008	42.6	54.5	47.8	58.7	0	0	0	0	0	0	0	0	203.6
2009	100.4	55.3	23.8	20.1	0	0	0	0	0	3.3	7.6	2.5	213
2010	11.5	37.7	13.6	3.3	1	0	0	0	1.3	4	5.7	20.5	98.6
2011	19.7	0	5	9.3	0	0	0	0	0	0	3.5	21.9	59.4
2012	0.5	34.4	6.6	2	0	0	0	0	3.4	3.2	4.6	15.2	69.9
2013	0	34.1	30.3	0	0	0	0	0	2.2	0	0	0	66.6
2014	9.6	14.9	3.8	0	0	0	0	0	1	0	5.3	11.5	46.1
2015	3.8	19.5	57.7	0	0	0	0	0	0	0	0	18.2	99.2
MEDIA	22.3	43	36.8	14.7	0.9	0	0	0.1	0.9	4.1	5	11	138.7
D. EST.	29.4	47.2	47.3	25.5	1.8	0.2	0.1	0.2	1.2	4	7.5	14.7	





Cuadro N° 3.130
Precipitación Total Mensual Completada y Extendida – Est. Pira (mm)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SET.	OCT.	NOV.	DIC.	TOTAL
1965	49	415.6	198.1	63.8	42	0	0	0	3.5	43.5	19.4	80.2	915.1
1966	104.1	89.3	131.4	80.1	9.4	0	0	0	6.3	164.6	82.9	76.6	744.7
1967	441.1	277.2	224.6	50.6	21	0	17.3	23.8	40.8	119.1	34.7	67.5	1317.7
1968	50.9	73.4	158.9	25.3	35.1	0	0	0	0	18.1	48	16.9	426.6
1969	32.9	97.9	148.6	120.5	19.6	0	0	5.5	1.3	91	108.2	160.6	786.1
1970	215.9	37.1	151.6	121.5	25.9	9	5	0	63.1	146.2	61.2	71.2	907.7
1971	101.3	147.5	237	127.2	2.3	0	0	36.3	21	52.3	67.6	137.2	929.7
1972	166	269.7	272.1	99.2	34.2	6.8	6.9	22.5	32.5	20.6	22	100.6	1053.1
1973	196.3	104.9	183.5	144.7	87.6	0	11.8	12.7	50.7	80.5	107.9	61.7	1042.3
1974	131.7	113	102.9	54.3	20.5	14	10.5	2.8	4.8	11.9	21.7	68.2	556.3
1975	185.2	182.3	286.1	130	27.6	2.9	0	11.1	11.4	72.3	246.2	62.1	1217.2
1976	211.1	254.8	174.2	37.3	23.5	17.3	0	0	0	6.3	11.3	58.1	793.9
1977	115.4	183.5	184.4	78.7	27.5	0	3	0	0	0	55	69	716.5
1978	35.7	15.6	51.5	24.8	7	0	8.6	0	13.4	37.4	32.7	44	270.7
1979	23.1	30.6	90.7	180.9	87.5	5.3	0	0	9	6	26.6	1.9	461.6
1980	88.6	66.3	145.7	52.3	12.4	22	2.7	15.5	15.3	152.5	166.7	2.5	742.5
1981	55.1	208.8	176.1	90.9	0	0	0	4.8	0	28	33.4	49.2	646.3
1982	56.9	49.4	51.6	19.9	0	0	0	0	0	13.9	15.7	11.8	219.2
1983	60.7	48.7	214.8	67.2	0	0	0	0	0	11.7	0	60.2	463.3
1984	83.7	54.6	68.4	8.9	3.6	0	0	0.3	0	14.9	76.7	44	355.1
1985	46.4	135.7	138.7	62.1	24.4	0	0	3	35.9	0	10.8	56.7	513.7
1986	132.3	136.5	66.7	94.5	0	0	0	13.5	4.2	2.5	0	41.1	491.3
1987	215.8	147.2	208.5	82.1	16.5	0	0	0	27.6	48.4	27.1	179.2	952.4
1988	29.3	41.8	43.4	34.2	11.5	0	0	0	3.9	23	10.6	46	243.7
1989	49.8	117.8	154.9	117.9	18.1	0	0	0	62.8	163.5	40.6	36.6	762
1990	0	23.3	7	20.9	1.7	14.6	0	0	0	67.9	178.2	18.5	332.1
1991	14.5	44.4	55	15.6	0	2.9	8	10.4	0	3.5	89	66.2	309.5
1992	41.9	68.2	131.8	46.3	64.2	5	0	0	7.9	36.9	34.6	40.4	477.2
1993	172.9	282.4	353.7	64.2	38	0	0	0	9.5	55.7	160.2	99.4	1236
1994	186.7	235.4	235.4	72	40.9	10	0	0	1.7	7.7	19.7	81.7	891.2
1995	91.2	110.7	71.7	89.4	15.9	0	0	0	20	65.5	67.8	79	611.2
1996	123.2	223.8	264	109.5	17	0	0	4.5	3.7	66.2	6.6	6.9	825.4
1997	99.6	129	46.7	18.8	2.8	0	0	0	15.4	26.2	73.1	208	619.6
1998	179.8	231.3	232.4	73.2	9.9	19.8	0	0	17.3	67	6.3	73.1	910.1
1999	125.9	353.3	113	111	20.1	1.1	2.1	0	15	25.9	33.3	62.2	862.9
2000	125.6	280.4	167.7	105.5	13.2	0	2.3	5	14.6	20.1	23.8	113.6	871.8
2001	202.7	91.5	250.5	76.2	15.2	0	0.7	0	25.4	50.1	98.9	60.2	871.4
2002	45.6	153.9	195.7	99.5	4.1	0	1	0	16.4	75.7	103	68.5	763.4
2003	83.9	85.6	116.4	22.8	3.9	1.7	0	0	0	23.4	15.7	124.6	478
2004	20.5	68	76.3	59.4	1.4	2.2	0	0	16.1	59.6	62.8	82.2	448.5
2005	50.8	68.5	131.9	39.6	3.2	0	0	0.4	0.5	13.3	6.2	93.6	408
2006	81.3	95.7	248.4	104.5	1.5	0	1	0.6	5	29.7	37.6	95.3	700.6
2007	78.4	48.3	201.1	106.1	12.7	2.4	0.7	0.3	0.5	38.6	30	23.4	542.5
2008	136.5	178.6	186.4	78.8	0.2	2.5	0	0	1.4	77.3	35.6	31.9	729.2
2009	204	179.4	182.2	89.4	3.8	0.2	0.2	7.9	2.2	86.9	77.3	46.1	879.6
2010	53.7	28.5	125.5	41.6	6.1	1.5	0	0.5	6.1	21.7	31.3	139.6	456.1
2011	117.9	56	98.4	103.4	2.3	0.2	1.5	2.6	6.3	5.4	62.2	123.2	579.4
2012	67.2	162.6	125.5	100.8	7.8	1.8	0	0	27.3	39.9	94.2	53.8	680.9
2013	30.7	138.1	245.7	25.3	11	0	0	0.2	6.7	84.4	33.3	83.7	659.1
2014	62.3	97.3	184.9	57.7	27.7	0	1.4	0.3	9.7	23.7	46.8	133.8	645.6
2015	53.7	90.9	197.9	63.1	21.7	0.4	0	0	4.7	40.5	34.5	50	557.4
MEDIA	104.5	133.8	159.0	73.8	17.7	2.8	1.7	3.6	12.6	47.9	54.7	71.8	683.8
D. EST.	77.8	90.8	74.0	38.2	19.7	5.5	3.6	7.4	15.6	42.6	50.0	44.0	



**HIDROMETRIA**

Cuadro N° 3.131

Caudal Promedio Mensual Histórica – Estación Puente Moro (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1974									0.1	0.0	0.0	0.0	
1975	0.6	1.8	27.9	2.6	0.9	0.4	0.3	0.2	0.2	0.2	0.1	0.1	2.9
1976	1.3	2.5	4.0	1.6	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9
1977	0.4	10.3	5.7	2.4	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.1	1.7
1978	0.1	0.5	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
1979	0.0	1.1	17.0	3.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.8
1980	0.0		2.7	0.2	0.0	0.0	0.0	0.0	0.0	0.9	0.7	2.2	
1981	0.8	16.3	6.5	1.0	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	2.2
1982	1.7	8.3	0.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.8	1.3
1983	15.4	9.6	71.6	72.8	21.3	8.7	2.8	0.6	0.3	0.2	0.1	2.4	17.2
1984	2.6	42.8	33.5	10.0	6.5	1.2	0.3	0.1	0.1	2.0	0.2	2.2	8.5
1985	0.1	2.4	3.5	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.6
1986	0.5	4.7	7.6	5.9	1.9	0.9	0.6	0.3	0.2	0.1	0.1	0.1	1.9
1987	8.8	11.1	11.9	0.7	0.4	0.2	0.1	0.1	0.1	0.1			
1988	1.2	9.0	1.8	3.0	0.3								
1989								1.2	0.7	2.5	1.1	0.9	1.3
1990	2.8	3.0	1.0	0.4	0.0		0.0						
MEDIA	2.4	8.8	13.1	7.0	2.2	0.9	0.3	0.2	0.1	0.4	0.3	0.8	3.1
D. EST.	4.2	10.8	19.0	18.4	5.5	2.4	0.7	0.3	0.2	0.8	0.4	1.1	

Fuente: SENAMHI





Cuadro N° 3.132
Caudal Promedio Mensual Histórica – Estación San Jacinto (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1950	0.15	4.67	3.62	4.34	1.24	0.33	0.30	0.26	0.23	0.15	0.15	0.91	1.36
1951	0.85	3.05	2.77	1.31	0.26	0.33	0.28	0.20	0.18	0.19	1.52	1.93	1.07
1952	3.84	3.62	4.31	4.10	0.92	0.57	0.40	0.35	0.24	0.19	0.16	0.18	1.57
1953	1.16	6.25	5.79	5.18	1.22	0.53	0.54	0.43	0.38	0.32	0.42	0.69	1.91
1954	4.05	2.16	4.09	0.60	0.29	0.32	0.33	0.30	0.26	0.22	0.31	0.22	1.10
1955	1.39	8.55	11.10	4.81	0.40	0.55	0.42	0.37	0.22	0.21	0.18	0.18	2.36
1956	3.44	8.94	16.42	13.17	1.52	0.74	0.71	0.65	0.37	0.75	0.28	0.25	3.94
1957	1.49	13.34	21.19	11.80	3.43	1.57	1.10	0.76	0.53	0.43	0.68	1.03	4.78
1958	1.67	7.59	15.80	3.11	0.59	0.59	0.45	0.42	0.28	0.22	0.17	0.13	2.59
1959	0.11	4.14	12.85	4.79	2.56	0.52	0.46	0.31	0.25	0.22	0.26	1.23	2.31
1960	1.50	4.26	7.57	2.33	0.58	0.47	0.41	0.35	0.24	0.20	0.16	0.13	1.52
1961	7.34	5.28	8.30	8.70	0.71	0.62	0.54	0.43	0.32	0.24	0.19	1.89	2.88
1962	6.08	10.82	17.87	5.67	1.09	0.75	0.64	0.52	0.43	0.34	0.25	0.22	3.72
1963	0.32	2.44	9.41	7.38	0.80	0.39	0.35	0.34	0.21	0.20	0.18	1.61	1.97
1964	0.30	3.25	6.42	4.32	0.90	0.50	0.43	0.35	0.27	0.19	0.27	0.19	1.45
1965	0.29	1.02	8.86	3.07	0.67	0.23	0.24	0.20	0.18	0.15	0.14	0.16	1.27
1966	3.61	2.24	2.72	0.33	0.32	0.26	0.26	0.25	0.14	0.37	0.10	0.07	0.89
1967	2.59	18.73	12.85	2.62	0.64	0.24	0.37	0.24	0.14	0.63	0.19	0.16	3.28
1968	0.18	0.13	0.63	0.34	0.10	0.07	0.06	0.06	0.04	0.04	0.04	0.04	0.14
1969	0.04	0.10	2.06	1.58	0.08	0.05	0.05	0.05	0.05	0.04	0.04	2.23	0.53
1970	13.77	0.15	1.44	1.74	2.10	0.60	0.59	0.39	0.27	0.32	0.79	0.67	1.90
1971	0.52	2.41	12.84	7.98	3.82	1.98	1.40	1.35	0.81	0.19	0.26	2.65	3.02
1972	3.85	5.22	31.68	9.37	2.53	1.14	0.75	0.60	0.36	0.30	0.37	3.84	5.00
1973	10.27	2.25	11.81	9.90	1.84	0.61	0.65	0.61	0.45	0.88	0.61	0.84	3.39
1974	6.84	11.79	10.00	1.79	0.71	0.53	0.50	0.44	0.07	0.04	0.04	0.03	2.73
1975	0.59	1.82	27.87	2.55	0.93	0.42	0.30	0.21	0.20	0.15	0.10	0.10	2.94
1976	1.26	2.54	3.97	1.57	0.36	0.12	0.10	0.10	0.10	0.10	0.10	0.05	0.86
1977	0.44	10.28	5.68	2.40	0.53	0.21	0.15	0.12	0.08	0.08	0.08	0.08	1.68
1978	0.08	0.55	0.68	0.23	0.03	0.03	0.03	0.04	0.04	0.03	0.02	0.03	0.15
1979	0.03	1.12	17.03	3.33	0.10	0.08	0.05	0.05	0.05	0.05	0.05	0.05	1.83
1980	0.03	0.03	2.65	0.19	0.02	0.01	0.02	0.03	0.03	0.89	0.68	2.19	0.56
1981	0.79	16.33	6.54	1.05	0.21	0.19	0.16	0.15	0.11	0.06	0.13	0.17	2.16
1982	1.90	8.27	0.72	0.56	0.05	0.03	0.03	0.03	0.03	0.03	0.99	2.79	1.29
1983	15.41	9.57	71.65	72.77	21.30	8.73	2.77	0.64	0.28	0.24	0.14	2.42	17.16
1984	2.63	42.81	33.48	9.97	6.55	1.18	0.28	0.12	0.05	2.00	0.22	2.23	8.46
1985	0.05	2.60	3.61	0.58	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.60
1986	0.54	4.71	7.89	5.87	1.90	0.93	0.59	0.29	0.17	0.10	0.10	0.13	1.94
1987	8.77	11.07	11.93	0.66	0.37	0.18	0.14	0.10	0.09	0.08	0.07	0.06	2.79
1988	1.20	9.01	1.81	3.00	0.34	0.14	0.07	0.05	0.04	0.04	0.03	0.03	1.31
1989	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.75	2.55	1.14	0.85	0.54
1990	2.82	3.01	1.04	0.40	0.04	0.02	0.01	0.01	0.00	3.15	2.92	1.54	1.25
1991	0.78	0.78	2.10	7.79	6.08	1.60	0.07	0.06	0.06	0.06	0.06	0.06	1.62
1992	0.94	0.08	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
1993	0.87	4.57	3.89	0.98	0.00	0.00	0.00	0.00	0.00	0.00	1.50	2.19	1.17
1994	4.52	11.71	22.48	19.10	9.58	0.32	0.22	0.04	0.03	0.01	1.10	1.10	5.85
1995	1.09	3.93	1.58	2.05	0.43	0.01	0.00	0.00	0.00	0.00	0.26	0.74	0.84
1996	3.94	10.47	13.81	14.67	1.63	0.47	0.23	0.14	0.02	0.00	0.00	0.00	3.78
1997	0.26	1.93	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.10	8.73	1.00
1998	23.45	57.48	81.02	29.13	6.53	3.97	3.24	0.89	0.47	0.25	0.31	0.35	17.26
1999	4.77	39.82	14.73	6.50	4.02	2.26	1.47	0.95	0.12	0.00	0.00	1.90	6.38
2000	2.24	18.22	33.00	11.85	10.66	2.22	0.50	0.20	0.31	0.28	0.32	0.40	6.68
MEDIA	3.34	8.36	12.54	6.46	2.16	0.77	0.43	0.28	0.17	0.35	0.34	1.05	3.02
D. EST.	4.92	12.22	17.33	12.14	4.02	1.51	0.68	0.33	0.19	0.68	0.54	1.60	

Fuente: SENAMHI - ALA Santa-Lacramarca-Nepeña





Cuadro N° 3.131
Caudal Promedio Mensual Completada y Extendida – Estación San Jacinto (m³/s)

AÑO	ENE.	FEB.	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC	MEDIA A.
1950	0.15	4.67	3.62	4.34	1.24	0.33	0.30	0.26	0.23	0.15	0.15	0.91	1.36
1951	0.85	3.05	2.77	1.31	0.26	0.33	0.28	0.20	0.18	0.19	1.52	1.93	1.07
1952	3.84	3.62	4.31	4.10	0.92	0.57	0.40	0.35	0.24	0.19	0.16	0.18	1.57
1953	1.16	6.25	5.79	5.18	1.22	0.53	0.54	0.43	0.38	0.32	0.42	0.69	1.91
1954	4.05	2.16	4.09	0.60	0.29	0.32	0.33	0.30	0.26	0.22	0.31	0.22	1.10
1955	1.39	8.55	11.10	4.81	0.40	0.55	0.42	0.37	0.22	0.21	0.18	0.18	2.36
1956	3.44	8.94	16.42	13.17	1.52	0.74	0.71	0.65	0.37	0.75	0.28	0.25	3.94
1957	1.49	13.34	21.19	11.80	3.43	1.57	1.10	0.76	0.53	0.43	0.68	1.03	4.78
1958	1.67	7.59	15.80	3.11	0.59	0.59	0.45	0.42	0.28	0.22	0.17	0.13	2.59
1959	0.11	4.14	12.85	4.79	2.56	0.52	0.46	0.31	0.25	0.22	0.26	1.23	2.31
1960	1.50	4.26	7.57	2.33	0.58	0.47	0.41	0.35	0.24	0.20	0.16	0.13	1.52
1961	7.34	5.28	8.30	8.70	0.71	0.62	0.54	0.43	0.32	0.24	0.19	1.89	2.88
1962	6.08	10.82	17.87	5.67	1.09	0.75	0.64	0.52	0.43	0.34	0.25	0.22	3.72
1963	0.32	2.44	9.41	7.38	0.80	0.39	0.35	0.34	0.21	0.20	0.18	1.61	1.97
1964	0.30	3.25	6.42	4.32	0.90	0.50	0.43	0.35	0.27	0.19	0.27	0.19	1.45
1965	0.29	1.02	8.86	3.07	0.67	0.23	0.24	0.20	0.18	0.15	0.14	0.16	1.27
1966	3.61	2.24	2.72	0.33	0.32	0.26	0.26	0.25	0.14	0.37	0.10	0.07	0.89
1967	2.59	18.73	12.85	2.62	0.64	0.24	0.37	0.24	0.14	0.63	0.19	0.16	3.28
1968	0.18	0.13	0.63	0.34	0.10	0.07	0.06	0.06	0.04	0.04	0.04	0.04	0.14
1969	0.04	0.10	2.06	1.58	0.08	0.05	0.05	0.05	0.05	0.04	0.04	2.23	0.53
1970	13.77	0.15	1.44	1.74	2.10	0.60	0.59	0.39	0.27	0.32	0.79	0.67	1.90
1971	0.52	2.41	12.84	7.98	3.82	1.98	1.40	1.35	0.81	0.19	0.26	2.65	3.02
1972	3.85	5.22	31.68	9.37	2.53	1.14	0.75	0.60	0.36	0.30	0.37	3.84	5.00
1973	10.27	2.25	11.81	9.90	1.84	0.61	0.65	0.61	0.45	0.88	0.61	0.84	3.39
1974	6.84	11.79	10.00	1.79	0.71	0.53	0.50	0.44	0.07	0.04	0.04	0.03	2.73
1975	0.59	1.82	27.87	2.55	0.93	0.42	0.30	0.21	0.20	0.15	0.10	0.10	2.94
1976	1.26	2.54	3.97	1.57	0.36	0.12	0.10	0.10	0.10	0.10	0.10	0.05	0.86
1977	0.44	10.28	5.68	2.40	0.53	0.21	0.15	0.12	0.08	0.08	0.08	0.08	1.68
1978	0.08	0.55	0.68	0.23	0.03	0.03	0.03	0.04	0.04	0.03	0.02	0.03	0.15
1979	0.03	1.12	17.03	3.33	0.10	0.08	0.05	0.05	0.05	0.05	0.05	0.05	1.83
1980	0.03	0.03	2.65	0.19	0.02	0.01	0.02	0.03	0.03	0.89	0.68	2.19	0.56
1981	0.79	16.33	6.54	1.05	0.21	0.19	0.16	0.15	0.11	0.06	0.13	0.17	2.16
1982	1.90	8.27	0.72	0.56	0.05	0.03	0.03	0.03	0.03	0.03	0.99	2.79	1.29
1983	15.41	9.57	71.65	72.77	21.30	8.73	2.77	0.64	0.28	0.24	0.14	2.42	17.16
1984	2.63	42.81	33.48	9.97	6.55	1.18	0.28	0.12	0.05	2.00	0.22	2.23	8.46
1985	0.05	2.60	3.61	0.58	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.60
1986	0.54	4.71	7.89	5.87	1.90	0.93	0.59	0.29	0.17	0.10	0.10	0.13	1.94
1987	8.77	11.07	11.93	0.66	0.37	0.18	0.14	0.10	0.09	0.08	0.07	0.06	2.79
1988	1.20	9.01	1.81	3.00	0.34	0.14	0.07	0.05	0.04	0.04	0.03	0.03	1.31
1989	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.75	2.55	1.14	0.85	0.54
1990	2.82	3.01	1.04	0.40	0.04	0.02	0.01	0.01	0.00	3.15	2.92	1.54	1.25
1991	0.78	0.78	2.10	7.79	6.08	1.60	0.07	0.06	0.06	0.06	0.06	0.06	1.62
1992	0.94	0.08	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
1993	0.87	4.57	3.89	0.98	0.00	0.00	0.00	0.00	0.00	0.00	1.50	2.19	1.17
1994	4.52	11.71	22.48	19.10	9.58	0.32	0.22	0.04	0.03	0.01	1.10	1.10	5.85
1995	1.09	3.93	1.58	2.05	0.43	0.01	0.00	0.00	0.00	0.00	0.26	0.74	0.84
1996	3.94	10.47	13.81	14.67	1.63	0.47	0.23	0.14	0.02	0.00	0.00	0.00	3.78
1997	0.26	1.93	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.10	8.73	1.00
1998	23.45	57.48	81.02	29.13	6.53	3.97	3.24	0.89	0.47	0.25	0.31	0.35	17.26
1999	4.77	39.82	14.73	6.50	4.02	2.26	1.47	0.95	0.12	0.00	0.00	1.90	6.38
2000	2.24	18.22	33.00	11.85	10.66	2.22	0.50	0.20	0.31	0.28	0.32	0.40	6.68
2001	8.40	6.93	14.65	8.55	1.16	0.49	0.21	0.10	0.09	0.20	0.48	1.99	3.60
2002	3.44	10.75	24.97	14.14	2.22	0.53	0.23	0.11	0.07	5.77	10.76	8.56	6.80
2003	8.84	10.11	11.48	5.06	0.86	0.39	0.18	0.10	0.08	0.15	0.22	5.91	3.61
2004	5.58	8.46	9.43	6.76	1.17	0.47	0.22	0.12	0.11	0.73	1.16	3.52	3.14
2005	3.63	4.51	14.09	8.25	1.09	0.43	0.19	0.10	0.10	0.22	0.24	1.60	2.87
2006	4.70	12.39	26.92	18.94	4.00	0.66	0.28	0.15	0.12	0.27	0.51	10.97	6.66
2007	10.93	3.95	27.05	22.67	5.82	0.81	0.30	0.18	0.14	0.42	0.67	1.92	6.24
2008	8.74	11.49	20.71	13.55	2.82	0.67	0.29	0.15	0.12	0.69	2.08	1.11	5.20
2009	27.87	24.79	23.81	15.94	3.95	0.70	0.29	0.17	0.13	2.38	3.44	5.53	9.08
2010	5.87	10.11	16.29	10.31	2.65	0.70	0.28	0.13	0.09	0.24	0.71	11.43	4.90
2011	15.96	7.21	10.01	13.97	3.66	0.59	0.25	0.13	0.13	0.18	0.29	10.53	5.24
2012	12.25	11.95	17.69	13.65	3.62	0.69	0.27	0.12	0.12	0.48	0.69	5.43	5.58
2013	3.60	18.35	46.41	15.62	2.24	0.71	0.29	0.22	0.20	0.71	0.68	2.23	7.61
2014	5.29	10.13	17.81	9.31	2.09	0.71	0.29	0.14	0.17	0.40	0.55	4.85	4.31
2015	15.03	13.06	20.36	11.11	3.10	0.79	0.31	0.14	0.09	0.35	0.67	2.98	5.67
MEDIA	4.95	9.05	14.57	8.08	2.30	0.73	0.39	0.24	0.16	0.49	0.67	2.17	3.65
D. EST.	5.97	10.81	15.87	10.96	3.51	1.29	0.59	0.29	0.17	0.97	1.53	2.94	

Fuente: SENAMHI-ATDR Nepeña-Casma-Huarmey

Completado-extendido



**DISPONIBILIDAD HIDRICA SUPERFICIAL**Cuadro N° 3.185
Caudal Promedio Mensual – Alto Río Loco (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1981	0.38	2.55	2.53	1.52	0.59	0.24	0.12	0.08	0.06	0.12	0.16	0.44	0.73
1982	0.88	1.33	1.35	1.16	0.55	0.24	0.12	0.07	0.06	0.24	0.35	0.49	0.57
1983	2.16	3.03	7.10	5.53	1.77	0.55	0.26	0.15	0.10	0.20	0.22	0.59	1.80
1984	1.03	2.45	1.90	0.94	0.40	0.21	0.12	0.07	0.05	0.13	0.17	0.14	0.64
1985	0.20	1.10	1.48	0.94	0.47	0.25	0.13	0.07	0.06	0.06	0.06	0.18	0.42
1986	0.69	1.27	1.21	0.82	0.38	0.19	0.10	0.07	0.05	0.05	0.06	0.18	0.42
1987	0.83	1.80	1.78	1.25	0.55	0.25	0.14	0.08	0.07	0.08	0.09	0.15	0.59
1988	0.36	0.95	0.86	0.67	0.40	0.20	0.10	0.06	0.05	0.06	0.08	0.23	0.34
1989	0.72	3.17	2.89	1.51	0.58	0.27	0.14	0.08	0.08	0.33	0.35	0.18	0.86
1990	0.24	0.74	0.85	0.68	0.37	0.21	0.12	0.07	0.05	0.13	0.25	0.39	0.34
1991	0.50	0.74	1.56	1.13	0.43	0.21	0.12	0.07	0.05	0.06	0.09	0.31	0.44
1992	0.50	0.82	1.39	1.24	0.54	0.25	0.13	0.08	0.08	0.10	0.11	0.16	0.45
1993	0.49	2.60	4.53	2.84	1.00	0.40	0.19	0.11	0.09	0.17	0.26	0.79	1.12
1994	1.82	3.26	3.35	2.12	0.83	0.36	0.17	0.10	0.08	0.07	0.08	0.72	1.08
1995	1.27	1.97	1.95	1.38	0.63	0.28	0.14	0.08	0.06	0.16	0.25	0.67	0.74
1996	1.45	2.92	3.49	2.41	0.90	0.36	0.18	0.10	0.07	0.17	0.21	0.23	1.04
1997	0.62	2.38	1.53	0.86	0.46	0.23	0.12	0.07	0.06	0.12	0.37	2.70	0.79
1998	2.86	5.92	7.93	4.02	1.16	0.42	0.21	0.12	0.09	0.21	0.25	0.54	1.98
1999	1.11	3.61	2.34	1.35	0.65	0.29	0.15	0.08	0.06	0.09	0.12	0.40	0.85
2000	1.11	2.06	1.83	1.55	0.78	0.34	0.16	0.09	0.07	0.13	0.14	0.72	0.75
2001	1.75	1.83	3.19	2.28	0.77	0.32	0.16	0.09	0.07	0.10	0.18	0.47	0.93
2002	0.83	2.60	5.21	3.35	1.05	0.37	0.18	0.11	0.07	1.26	1.88	1.66	1.55
2003	2.10	2.49	2.56	1.51	0.54	0.25	0.13	0.08	0.06	0.07	0.08	1.14	0.92
2004	1.41	2.12	2.21	1.90	0.81	0.31	0.15	0.09	0.06	0.45	0.61	0.89	0.92
2005	0.89	1.24	2.76	2.03	0.70	0.29	0.15	0.09	0.07	0.11	0.11	0.66	0.76
2006	1.20	2.69	4.97	3.91	1.33	0.43	0.20	0.12	0.08	0.10	0.15	1.66	1.40
2007	1.91	1.20	4.49	4.42	1.60	0.52	0.23	0.13	0.09	0.24	0.33	0.51	1.31
2008	1.54	2.55	4.48	3.44	1.20	0.44	0.22	0.12	0.08	0.42	0.60	0.41	1.29
2009	4.24	4.81	4.51	3.37	1.26	0.44	0.21	0.12	0.08	0.74	0.95	1.18	1.83
2010	1.36	2.22	3.17	2.32	0.93	0.38	0.19	0.10	0.07	0.10	0.20	1.99	1.09
2011	3.25	1.82	2.28	2.94	1.21	0.40	0.19	0.11	0.08	0.08	0.12	1.84	1.19
2012	2.07	2.25	2.69	2.36	1.01	0.38	0.18	0.10	0.08	0.19	0.27	0.88	1.04
2013	0.76	3.38	6.83	2.96	0.79	0.34	0.17	0.10	0.07	0.22	0.26	0.62	1.38
2014	1.13	2.06	3.01	1.91	0.72	0.34	0.17	0.10	0.08	0.11	0.16	0.99	0.90
2015	2.09	2.29	3.35	2.16	0.81	0.35	0.17	0.10	0.07	0.14	0.22	0.53	1.02
MEDIA	1.31	2.29	3.07	2.14	0.80	0.32	0.16	0.09	0.07	0.20	0.28	0.73	0.96
D. EST.	0.89	1.10	1.76	1.18	0.35	0.09	0.04	0.02	0.01	0.23	0.33	0.60	





Cuadro N° 3.186
Caudal Promedio Mensual – Río Chunya (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1981	0.75	1.24	1.11	0.67	0.25	0.10	0.04	0.03	0.02	0.04	0.06	0.16	0.37
1982	0.36	0.53	0.54	0.48	0.23	0.09	0.04	0.02	0.02	0.10	0.18	0.23	0.24
1983	0.94	1.21	2.66	2.29	0.74	0.20	0.08	0.04	0.02	0.06	0.08	0.23	0.71
1984	0.39	1.08	0.84	0.39	0.16	0.08	0.04	0.02	0.01	0.04	0.06	0.06	0.26
1985	0.09	0.44	0.61	0.40	0.20	0.10	0.05	0.03	0.02	0.02	0.02	0.07	0.17
1986	0.27	0.52	0.49	0.35	0.16	0.07	0.04	0.02	0.02	0.01	0.02	0.08	0.17
1987	0.41	0.80	0.76	0.52	0.23	0.10	0.05	0.03	0.02	0.02	0.03	0.06	0.25
1988	0.18	0.42	0.38	0.30	0.17	0.08	0.04	0.02	0.01	0.02	0.03	0.10	0.15
1989	0.30	1.22	1.14	0.62	0.24	0.10	0.05	0.03	0.02	0.09	0.11	0.06	0.33
1990	0.11	0.30	0.33	0.26	0.14	0.08	0.04	0.02	0.01	0.03	0.09	0.16	0.13
1991	0.20	0.28	0.57	0.45	0.18	0.08	0.04	0.02	0.01	0.01	0.04	0.13	0.17
1992	0.21	0.32	0.54	0.53	0.24	0.10	0.05	0.03	0.03	0.03	0.03	0.05	0.18
1993	0.19	1.13	1.90	1.24	0.44	0.16	0.07	0.04	0.03	0.05	0.09	0.34	0.47
1994	0.72	1.26	1.34	0.91	0.36	0.14	0.06	0.03	0.02	0.01	0.03	0.29	0.43
1995	0.57	0.85	0.79	0.54	0.25	0.11	0.05	0.03	0.02	0.05	0.10	0.27	0.30
1996	0.66	1.19	1.32	0.96	0.37	0.13	0.06	0.03	0.02	0.05	0.08	0.10	0.41
1997	0.31	1.02	0.66	0.38	0.20	0.09	0.04	0.02	0.02	0.04	0.23	1.24	0.36
1998	1.23	2.29	3.33	1.67	0.44	0.13	0.05	0.03	0.01	0.06	0.08	0.21	0.79
1999	0.44	1.44	0.97	0.55	0.25	0.10	0.05	0.02	0.01	0.02	0.05	0.17	0.34
2000	0.41	0.74	0.67	0.60	0.31	0.13	0.05	0.03	0.02	0.03	0.04	0.27	0.28
2001	0.65	0.69	1.14	0.87	0.30	0.11	0.05	0.02	0.01	0.02	0.07	0.22	0.35
2002	0.39	1.00	1.94	1.31	0.41	0.13	0.05	0.03	0.01	0.45	0.87	0.75	0.61
2003	0.83	0.95	0.98	0.59	0.20	0.08	0.04	0.02	0.01	0.02	0.03	0.44	0.35
2004	0.57	0.83	0.88	0.75	0.31	0.11	0.05	0.02	0.01	0.11	0.19	0.35	0.35
2005	0.39	0.51	1.07	0.82	0.28	0.10	0.05	0.02	0.02	0.03	0.04	0.23	0.30
2006	0.45	1.02	1.92	1.56	0.52	0.15	0.06	0.03	0.02	0.03	0.07	0.69	0.54
2007	0.80	0.48	1.72	1.75	0.63	0.19	0.07	0.04	0.02	0.07	0.13	0.23	0.51
2008	0.61	0.96	1.68	1.31	0.45	0.15	0.07	0.03	0.02	0.13	0.25	0.20	0.49
2009	1.82	1.98	1.80	1.35	0.49	0.16	0.06	0.03	0.02	0.24	0.36	0.48	0.73
2010	0.56	0.92	1.33	0.99	0.39	0.15	0.06	0.03	0.02	0.03	0.11	0.81	0.45
2011	1.30	0.77	0.88	1.16	0.48	0.14	0.06	0.03	0.02	0.02	0.05	0.73	0.47
2012	0.90	0.93	1.16	1.07	0.45	0.15	0.06	0.03	0.02	0.06	0.10	0.37	0.44
2013	0.35	1.35	3.03	1.34	0.34	0.13	0.05	0.03	0.02	0.08	0.11	0.25	0.59
2014	0.47	0.83	1.27	0.84	0.32	0.14	0.06	0.03	0.02	0.04	0.08	0.39	0.37
2015	0.94	1.01	1.39	0.93	0.36	0.14	0.06	0.03	0.02	0.05	0.10	0.25	0.44
MEDIA	0.56	0.93	1.23	0.88	0.33	0.12	0.05	0.03	0.02	0.06	0.11	0.30	0.39
D. EST.	0.37	0.44	0.72	0.48	0.14	0.03	0.01	0.01	0.00	0.08	0.15	0.26	





Cuadro N° 3.187
Caudal Promedio Mensual – Río Colcap (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1981	1.22	2.10	2.08	1.29	0.51	0.23	0.12	0.09	0.08	0.14	0.22	0.49	0.71
1982	0.83	0.95	0.93	0.93	0.47	0.21	0.10	0.06	0.06	0.28	0.52	0.83	0.51
1983	2.40	2.27	4.23	4.07	1.43	0.43	0.20	0.11	0.09	0.20	0.27	0.59	1.36
1984	0.88	2.40	1.72	0.83	0.39	0.21	0.12	0.07	0.06	0.12	0.20	0.21	0.60
1985	0.31	0.84	1.20	0.80	0.42	0.22	0.11	0.07	0.06	0.07	0.10	0.30	0.38
1986	0.92	1.36	1.23	0.89	0.44	0.20	0.10	0.07	0.06	0.05	0.08	0.37	0.48
1987	1.18	1.99	1.72	1.17	0.52	0.23	0.12	0.08	0.07	0.07	0.09	0.30	0.63
1988	0.77	1.22	0.85	0.69	0.44	0.21	0.10	0.06	0.05	0.08	0.12	0.31	0.41
1989	0.70	2.29	2.21	1.29	0.51	0.22	0.11	0.07	0.07	0.24	0.26	0.14	0.68
1990	0.27	0.63	0.58	0.46	0.29	0.17	0.09	0.05	0.04	0.05	0.09	0.28	0.25
1991	0.36	0.37	0.72	0.69	0.33	0.17	0.09	0.05	0.04	0.05	0.12	0.38	0.28
1992	0.46	0.55	0.93	1.20	0.63	0.26	0.13	0.08	0.08	0.07	0.07	0.14	0.38
1993	0.49	2.76	4.82	3.43	1.17	0.37	0.18	0.13	0.14	0.24	0.39	1.13	1.27
1994	2.03	2.85	2.97	2.11	0.85	0.32	0.15	0.08	0.07	0.06	0.08	0.65	1.02
1995	1.25	1.67	1.52	0.98	0.46	0.23	0.11	0.07	0.06	0.13	0.26	0.68	0.62
1996	1.36	2.14	2.38	1.82	0.74	0.29	0.14	0.09	0.08	0.30	0.38	0.43	0.85
1997	0.83	2.26	1.59	1.01	0.55	0.27	0.13	0.08	0.09	0.22	0.71	3.15	0.91
1998	3.31	4.73	6.74	3.31	0.91	0.33	0.17	0.10	0.09	0.30	0.38	0.55	1.74
1999	1.33	3.60	2.27	1.42	0.71	0.32	0.15	0.09	0.09	0.13	0.18	0.46	0.90
2000	0.82	1.27	1.17	1.14	0.66	0.29	0.13	0.10	0.10	0.08	0.09	0.57	0.53
2001	1.81	1.71	2.54	1.77	0.60	0.26	0.13	0.07	0.07	0.13	0.27	0.71	0.84
2002	1.08	1.80	3.64	2.50	0.78	0.27	0.14	0.08	0.06	1.05	1.77	1.68	1.24
2003	1.71	1.94	2.13	1.35	0.50	0.23	0.12	0.07	0.06	0.10	0.15	1.25	0.80
2004	1.38	1.80	1.84	1.50	0.62	0.25	0.13	0.08	0.08	0.39	0.50	0.91	0.79
2005	1.15	1.35	2.55	1.85	0.61	0.24	0.12	0.07	0.07	0.14	0.15	0.55	0.74
2006	1.18	2.16	4.34	3.62	1.19	0.37	0.18	0.11	0.09	0.18	0.31	2.21	1.33
2007	2.52	1.39	4.51	4.23	1.52	0.46	0.20	0.13	0.11	0.25	0.37	0.69	1.36
2008	1.88	2.32	3.24	2.42	0.90	0.35	0.17	0.10	0.09	0.36	0.67	0.53	1.09
2009	3.90	4.11	3.92	3.03	1.20	0.42	0.19	0.13	0.10	0.62	0.87	1.20	1.64
2010	1.36	1.93	2.67	2.09	0.97	0.41	0.18	0.10	0.08	0.15	0.35	2.02	1.02
2011	2.70	1.66	1.80	2.68	1.12	0.32	0.16	0.09	0.10	0.13	0.16	1.86	1.07
2012	2.51	2.52	3.46	2.88	1.17	0.41	0.18	0.10	0.09	0.28	0.40	1.27	1.27
2013	1.16	2.82	6.77	3.10	0.97	0.44	0.20	0.16	0.15	0.41	0.43	0.68	1.44
2014	1.28	2.05	3.08	2.05	0.90	0.42	0.19	0.10	0.12	0.24	0.32	1.03	0.98
2015	2.88	2.71	3.70	2.46	1.15	0.50	0.21	0.12	0.08	0.19	0.37	0.88	1.27
MEDIA	1.44	2.01	2.63	1.92	0.76	0.30	0.14	0.09	0.08	0.21	0.34	0.84	0.90
D. EST.	0.88	0.93	1.56	1.04	0.33	0.09	0.04	0.02	0.02	0.19	0.31	0.66	





Cuadro N° 3.188
Caudal Promedio Mensual – Río Cosma (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1981	0.27	0.44	0.49	0.20	0.05	0.02	0.01	0.01	0.01	0.02	0.02	0.12	0.14
1982	0.12	0.16	0.17	0.13	0.06	0.02	0.01	0.01	0.01	0.08	0.11	0.14	0.08
1983	0.57	0.46	1.41	1.15	0.30	0.07	0.03	0.02	0.01	0.05	0.05	0.11	0.35
1984	0.08	0.57	0.35	0.10	0.04	0.02	0.02	0.01	0.01	0.02	0.03	0.03	0.11
1985	0.01	0.13	0.23	0.09	0.06	0.03	0.01	0.01	0.01	0.01	0.01	0.05	0.05
1986	0.17	0.26	0.22	0.12	0.06	0.02	0.01	0.02	0.02	0.01	0.01	0.09	0.08
1987	0.30	0.42	0.33	0.14	0.05	0.02	0.01	0.02	0.02	0.01	0.01	0.04	0.11
1988	0.10	0.18	0.10	0.06	0.06	0.03	0.01	0.01	0.01	0.00	0.01	0.05	0.05
1989	0.09	0.66	0.49	0.21	0.07	0.03	0.01	0.01	0.01	0.05	0.04	0.01	0.14
1990	0.01	0.06	0.05	0.03	0.03	0.03	0.02	0.01	0.01	0.01	0.02	0.07	0.03
1991	0.02	0.02	0.16	0.10	0.04	0.02	0.01	0.01	0.01	0.00	0.02	0.07	0.04
1992	0.02	0.05	0.16	0.16	0.07	0.03	0.02	0.02	0.02	0.01	0.01	0.02	0.05
1993	0.01	0.73	1.02	0.56	0.16	0.04	0.02	0.04	0.03	0.03	0.05	0.21	0.24
1994	0.33	0.52	0.67	0.39	0.13	0.04	0.01	0.01	0.00	0.00	0.01	0.17	0.19
1995	0.21	0.31	0.27	0.13	0.06	0.03	0.01	0.01	0.01	0.04	0.06	0.15	0.11
1996	0.22	0.41	0.51	0.29	0.09	0.03	0.01	0.02	0.02	0.03	0.04	0.06	0.14
1997	0.12	0.44	0.22	0.10	0.07	0.03	0.02	0.01	0.02	0.03	0.10	1.02	0.18
1998	0.74	1.08	1.82	0.62	0.10	0.03	0.01	0.01	0.01	0.03	0.04	0.11	0.38
1999	0.18	1.04	0.44	0.17	0.08	0.03	0.01	0.01	0.01	0.01	0.03	0.11	0.18
2000	0.13	0.23	0.20	0.19	0.10	0.04	0.01	0.02	0.02	0.01	0.01	0.17	0.09
2001	0.34	0.26	0.58	0.31	0.07	0.03	0.01	0.01	0.00	0.01	0.04	0.13	0.15
2002	0.11	0.41	0.88	0.49	0.12	0.03	0.01	0.01	0.00	0.27	0.36	0.32	0.25
2003	0.29	0.36	0.41	0.17	0.05	0.02	0.01	0.01	0.01	0.01	0.02	0.31	0.14
2004	0.18	0.27	0.34	0.23	0.07	0.02	0.01	0.01	0.01	0.06	0.06	0.17	0.12
2005	0.14	0.17	0.54	0.28	0.06	0.02	0.01	0.01	0.01	0.02	0.02	0.10	0.11
2006	0.15	0.50	1.00	0.65	0.17	0.04	0.02	0.02	0.01	0.03	0.05	0.51	0.26
2007	0.39	0.15	1.06	0.81	0.24	0.05	0.02	0.02	0.02	0.02	0.04	0.13	0.25
2008	0.38	0.41	0.75	0.43	0.12	0.04	0.02	0.01	0.01	0.06	0.12	0.08	0.20
2009	1.37	0.96	0.90	0.56	0.17	0.04	0.02	0.02	0.02	0.12	0.15	0.26	0.38
2010	0.22	0.37	0.62	0.35	0.13	0.05	0.02	0.01	0.01	0.03	0.08	0.53	0.20
2011	0.63	0.31	0.37	0.44	0.14	0.03	0.01	0.01	0.01	0.01	0.02	0.53	0.21
2012	0.50	0.50	0.79	0.56	0.18	0.05	0.01	0.01	0.01	0.05	0.07	0.35	0.26
2013	0.19	0.81	2.20	0.65	0.15	0.06	0.02	0.04	0.04	0.11	0.09	0.18	0.38
2014	0.25	0.45	0.80	0.40	0.15	0.06	0.02	0.01	0.02	0.05	0.07	0.30	0.22
2015	0.73	0.58	0.91	0.47	0.20	0.07	0.03	0.01	0.01	0.05	0.09	0.23	0.28
MEDIA	0.27	0.42	0.61	0.34	0.11	0.03	0.01	0.01	0.01	0.04	0.05	0.20	0.18
D. EST.	0.27	0.27	0.48	0.25	0.06	0.01	0.01	0.01	0.01	0.05	0.06	0.20	





Cuadro N° 3.189
Caudal Promedio Mensual – Río Huarapampa (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1981	1.47	3.00	2.47	1.41	0.51	0.19	0.08	0.05	0.04	0.14	0.29	0.58	0.85
1982	1.02	1.39	1.40	1.16	0.49	0.18	0.08	0.04	0.03	0.38	0.68	0.74	0.63
1983	2.13	2.55	5.24	4.11	1.25	0.32	0.13	0.06	0.04	0.18	0.26	0.64	1.41
1984	0.93	2.62	1.89	0.85	0.33	0.15	0.07	0.04	0.03	0.11	0.23	0.23	0.62
1985	0.32	1.33	1.59	0.96	0.43	0.19	0.08	0.04	0.03	0.05	0.11	0.30	0.46
1986	0.77	1.36	1.23	0.80	0.34	0.14	0.06	0.04	0.03	0.03	0.10	0.33	0.44
1987	1.11	2.13	1.83	1.19	0.47	0.19	0.08	0.05	0.04	0.06	0.15	0.31	0.63
1988	0.57	1.25	1.05	0.77	0.40	0.17	0.07	0.04	0.03	0.06	0.15	0.39	0.41
1989	0.78	2.94	2.58	1.35	0.48	0.18	0.08	0.04	0.05	0.38	0.41	0.18	0.79
1990	0.29	0.87	0.85	0.63	0.32	0.17	0.08	0.04	0.03	0.09	0.38	0.55	0.36
1991	0.55	0.70	1.43	1.03	0.37	0.16	0.07	0.04	0.02	0.05	0.21	0.54	0.43
1992	0.62	0.90	1.47	1.33	0.55	0.21	0.09	0.05	0.05	0.08	0.12	0.21	0.48
1993	0.56	3.09	4.85	3.00	0.96	0.29	0.12	0.06	0.06	0.18	0.47	1.16	1.23
1994	1.74	3.05	3.12	1.99	0.73	0.25	0.10	0.05	0.04	0.05	0.12	0.98	1.02
1995	1.47	2.23	2.09	1.26	0.50	0.20	0.08	0.04	0.02	0.14	0.42	1.02	0.79
1996	1.83	3.18	3.20	2.22	0.78	0.25	0.10	0.05	0.03	0.21	0.34	0.39	1.05
1997	0.87	2.70	1.55	0.86	0.42	0.18	0.08	0.04	0.04	0.14	0.94	3.07	0.91
1998	2.73	5.50	6.90	3.31	0.84	0.23	0.09	0.04	0.03	0.26	0.36	0.60	1.74
1999	1.18	3.28	2.07	1.21	0.53	0.20	0.08	0.04	0.03	0.07	0.23	0.58	0.79
2000	1.06	1.98	1.66	1.35	0.66	0.25	0.10	0.05	0.05	0.10	0.15	0.81	0.69
2001	1.74	1.77	2.97	2.02	0.62	0.21	0.09	0.04	0.04	0.10	0.41	0.89	0.91
2002	1.24	2.64	5.14	3.08	0.85	0.24	0.09	0.05	0.03	1.70	3.29	2.38	1.73
2003	2.27	2.63	2.60	1.40	0.43	0.16	0.07	0.03	0.02	0.04	0.10	1.38	0.93
2004	1.48	2.51	2.22	1.72	0.66	0.21	0.09	0.04	0.03	0.53	0.86	1.13	0.96
2005	1.03	1.46	2.92	1.95	0.59	0.20	0.08	0.04	0.04	0.13	0.14	0.76	0.78
2006	1.26	2.75	4.98	3.83	1.15	0.29	0.11	0.06	0.04	0.10	0.33	2.31	1.43
2007	2.12	1.19	4.96	4.31	1.39	0.37	0.13	0.06	0.04	0.30	0.61	0.79	1.35
2008	1.67	2.61	4.43	3.04	0.94	0.30	0.13	0.06	0.03	0.59	0.99	0.63	1.28
2009	3.96	4.48	4.42	3.14	1.05	0.30	0.11	0.05	0.03	0.83	1.30	1.45	1.76
2010	1.45	2.33	3.20	2.24	0.84	0.30	0.12	0.05	0.03	0.11	0.57	2.58	1.15
2011	3.14	1.70	2.39	3.18	1.14	0.28	0.11	0.05	0.04	0.07	0.22	2.33	1.22
2012	2.33	2.51	3.09	2.59	0.98	0.30	0.11	0.05	0.05	0.25	0.54	1.30	1.18
2013	0.95	3.34	6.35	2.63	0.68	0.25	0.09	0.04	0.03	0.32	0.41	0.80	1.32
2014	1.38	2.40	3.27	1.93	0.69	0.29	0.12	0.06	0.06	0.15	0.34	1.35	1.00
2015	2.60	2.66	3.78	2.23	0.83	0.32	0.12	0.06	0.03	0.18	0.45	0.86	1.18
MEDIA	1.45	2.37	3.01	2.00	0.69	0.23	0.09	0.05	0.04	0.23	0.48	0.99	0.97
D. EST.	0.82	1.00	1.56	1.03	0.28	0.06	0.02	0.01	0.01	0.31	0.56	0.73	





Cuadro N° 3.190
Caudal Promedio Mensual – Río Lampanin (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1981	0.16	1.09	1.23	0.59	0.17	0.06	0.03	0.04	0.04	0.05	0.05	0.15	0.30
1982	0.39	0.48	0.46	0.40	0.17	0.06	0.03	0.02	0.01	0.12	0.15	0.29	0.21
1983	1.49	1.28	2.82	2.40	0.68	0.17	0.07	0.04	0.03	0.11	0.11	0.24	0.79
1984	0.47	1.48	0.97	0.41	0.15	0.07	0.05	0.04	0.03	0.05	0.05	0.04	0.32
1985	0.11	0.45	0.70	0.38	0.15	0.08	0.03	0.03	0.03	0.02	0.02	0.09	0.17
1986	0.72	0.90	0.74	0.46	0.17	0.06	0.03	0.05	0.04	0.02	0.02	0.17	0.28
1987	0.78	1.13	0.90	0.47	0.16	0.06	0.04	0.05	0.04	0.02	0.01	0.06	0.31
1988	0.50	0.75	0.44	0.29	0.16	0.07	0.03	0.02	0.02	0.02	0.02	0.09	0.20
1989	0.49	1.65	1.26	0.56	0.17	0.06	0.04	0.02	0.02	0.09	0.09	0.03	0.37
1990	0.16	0.39	0.34	0.20	0.10	0.07	0.04	0.02	0.02	0.02	0.02	0.08	0.12
1991	0.17	0.21	0.45	0.34	0.12	0.06	0.03	0.02	0.02	0.02	0.02	0.09	0.13
1992	0.17	0.26	0.52	0.54	0.22	0.08	0.05	0.05	0.05	0.03	0.02	0.04	0.17
1993	0.39	1.99	2.57	1.34	0.37	0.10	0.05	0.09	0.08	0.09	0.09	0.34	0.62
1994	0.83	1.29	1.55	0.91	0.29	0.09	0.03	0.02	0.01	0.01	0.01	0.23	0.44
1995	0.66	0.85	0.70	0.37	0.14	0.06	0.03	0.03	0.03	0.05	0.06	0.18	0.26
1996	0.62	1.08	1.25	0.75	0.24	0.08	0.03	0.05	0.05	0.14	0.12	0.11	0.38
1997	0.40	1.08	0.79	0.46	0.20	0.09	0.05	0.03	0.04	0.13	0.19	1.66	0.43
1998	1.81	2.67	4.23	1.54	0.30	0.08	0.03	0.03	0.02	0.09	0.10	0.20	0.92
1999	0.77	2.61	1.26	0.65	0.27	0.10	0.04	0.03	0.03	0.04	0.04	0.16	0.50
2000	0.43	0.72	0.65	0.52	0.23	0.08	0.03	0.05	0.04	0.03	0.02	0.23	0.25
2001	0.81	0.79	1.31	0.75	0.20	0.07	0.03	0.02	0.01	0.03	0.04	0.16	0.35
2002	0.38	1.00	1.86	1.06	0.28	0.07	0.03	0.02	0.01	0.39	0.40	0.36	0.49
2003	0.63	0.90	1.01	0.52	0.15	0.06	0.03	0.02	0.02	0.04	0.05	0.39	0.32
2004	0.51	0.71	0.87	0.61	0.21	0.07	0.04	0.04	0.03	0.12	0.12	0.25	0.30
2005	0.47	0.62	1.26	0.74	0.19	0.06	0.02	0.02	0.02	0.04	0.05	0.14	0.30
2006	0.54	1.21	2.23	1.33	0.35	0.10	0.04	0.04	0.03	0.06	0.07	0.65	0.55
2007	1.00	0.62	2.35	1.61	0.47	0.12	0.04	0.04	0.04	0.07	0.07	0.19	0.55
2008	0.99	1.16	1.47	0.92	0.29	0.10	0.04	0.04	0.03	0.09	0.14	0.11	0.45
2009	2.81	2.18	1.98	1.23	0.38	0.10	0.04	0.05	0.04	0.30	0.27	0.37	0.81
2010	0.60	1.06	1.52	0.91	0.32	0.12	0.05	0.02	0.02	0.06	0.08	0.61	0.45
2011	1.19	0.84	0.92	0.98	0.34	0.08	0.04	0.03	0.03	0.04	0.03	0.67	0.43
2012	1.18	1.27	1.70	1.20	0.39	0.11	0.04	0.02	0.02	0.11	0.11	0.43	0.55
2013	0.55	1.77	4.61	1.48	0.31	0.13	0.06	0.08	0.08	0.20	0.16	0.22	0.80
2014	0.57	0.98	1.69	0.93	0.31	0.12	0.05	0.03	0.05	0.12	0.11	0.35	0.44
2015	1.44	1.33	1.77	0.99	0.35	0.13	0.06	0.03	0.01	0.08	0.11	0.30	0.55
MEDIA	0.72	1.11	1.44	0.82	0.26	0.09	0.04	0.03	0.03	0.08	0.09	0.28	0.42
D. EST.	0.54	0.59	0.98	0.47	0.12	0.03	0.01	0.02	0.02	0.08	0.08	0.29	





Cuadro N° 3.191
Caudal Promedio Mensual – Río Ticlla (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1981	0.41	1.92	1.83	0.96	0.31	0.11	0.05	0.06	0.06	0.17	0.23	0.58	0.56
1982	0.91	0.94	0.91	0.87	0.37	0.13	0.06	0.04	0.04	0.50	0.54	0.85	0.51
1983	2.52	1.84	3.90	3.40	0.99	0.28	0.13	0.09	0.07	0.35	0.33	0.75	1.22
1984	1.09	2.46	1.54	0.76	0.32	0.16	0.09	0.07	0.06	0.18	0.23	0.20	0.60
1985	0.37	0.95	1.26	0.73	0.34	0.16	0.07	0.05	0.06	0.09	0.11	0.38	0.38
1986	1.41	1.46	1.29	0.87	0.36	0.14	0.06	0.07	0.07	0.06	0.08	0.59	0.54
1987	1.45	1.95	1.53	0.95	0.38	0.14	0.08	0.07	0.07	0.07	0.10	0.42	0.60
1988	1.23	1.41	0.82	0.67	0.36	0.15	0.06	0.04	0.04	0.10	0.14	0.41	0.45
1989	1.00	2.57	2.03	1.08	0.38	0.15	0.08	0.06	0.07	0.41	0.31	0.10	0.69
1990	0.47	0.84	0.63	0.44	0.24	0.14	0.07	0.04	0.03	0.07	0.13	0.37	0.29
1991	0.47	0.42	0.90	0.69	0.26	0.11	0.06	0.04	0.03	0.07	0.15	0.46	0.31
1992	0.49	0.56	1.07	1.21	0.52	0.17	0.08	0.08	0.08	0.08	0.08	0.18	0.38
1993	0.90	3.25	4.74	2.92	0.84	0.23	0.12	0.15	0.16	0.39	0.45	1.33	1.29
1994	2.13	2.54	2.72	1.76	0.63	0.21	0.09	0.06	0.05	0.05	0.07	0.76	0.92
1995	1.28	1.46	1.32	0.77	0.35	0.16	0.07	0.06	0.05	0.20	0.30	0.64	0.55
1996	1.37	1.89	2.17	1.41	0.51	0.18	0.08	0.08	0.09	0.54	0.42	0.44	0.76
1997	1.00	2.17	1.41	0.91	0.44	0.19	0.09	0.07	0.10	0.42	0.82	3.26	0.91
1998	3.13	4.37	6.60	2.49	0.62	0.22	0.11	0.08	0.08	0.52	0.43	0.66	1.61
1999	1.71	3.86	1.96	1.33	0.62	0.24	0.10	0.08	0.10	0.21	0.22	0.59	0.92
2000	0.92	1.30	1.17	1.15	0.58	0.21	0.08	0.11	0.11	0.08	0.09	0.75	0.54
2001	1.99	1.53	2.54	1.36	0.42	0.16	0.08	0.05	0.07	0.21	0.31	0.70	0.79
2002	1.03	1.73	3.53	1.93	0.53	0.16	0.08	0.05	0.04	1.22	1.17	1.19	1.05
2003	1.46	1.71	2.05	1.11	0.36	0.15	0.07	0.06	0.06	0.16	0.20	1.56	0.75
2004	1.28	1.50	1.60	1.24	0.46	0.15	0.09	0.07	0.09	0.65	0.51	0.91	0.71
2005	1.15	1.23	2.70	1.50	0.42	0.14	0.07	0.05	0.06	0.18	0.17	0.72	0.70
2006	1.46	2.31	4.33	2.78	0.76	0.23	0.11	0.09	0.08	0.28	0.36	2.36	1.26
2007	2.31	1.14	4.96	3.50	1.04	0.29	0.12	0.11	0.10	0.39	0.41	0.77	1.26
2008	2.16	2.12	2.83	1.84	0.64	0.24	0.11	0.08	0.08	0.47	0.59	0.43	0.97
2009	4.19	3.45	3.55	2.57	0.88	0.27	0.12	0.11	0.09	0.98	0.77	1.17	1.51
2010	1.39	1.89	2.50	1.77	0.76	0.28	0.11	0.07	0.06	0.23	0.41	2.02	0.96
2011	2.29	1.41	1.84	2.39	0.76	0.18	0.10	0.07	0.10	0.17	0.18	1.97	0.96
2012	2.30	2.30	3.37	2.46	0.86	0.27	0.11	0.07	0.08	0.48	0.46	1.39	1.18
2013	1.15	3.04	6.73	2.25	0.73	0.34	0.15	0.19	0.19	0.70	0.47	0.76	1.39
2014	1.40	2.04	3.04	1.71	0.78	0.33	0.13	0.08	0.15	0.41	0.37	1.11	0.96
2015	2.97	2.37	3.39	1.95	0.95	0.38	0.14	0.08	0.06	0.32	0.46	1.00	1.17
MEDIA	1.51	1.94	2.54	1.59	0.57	0.20	0.09	0.08	0.08	0.33	0.34	0.91	0.85
D. EST.	0.84	0.89	1.54	0.82	0.23	0.07	0.03	0.03	0.03	0.27	0.24	0.67	





Cuadro N° 3.181
Caudal Promedio Mensual – Río Uchupacancha (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
1981	0.98	1.72	1.63	0.93	0.32	0.12	0.05	0.04	0.02	0.05	0.10	0.26	0.52
1982	0.57	0.70	0.76	0.68	0.30	0.12	0.05	0.03	0.02	0.16	0.32	0.45	0.35
1983	1.57	1.69	3.52	3.17	1.01	0.25	0.10	0.05	0.03	0.09	0.13	0.30	0.99
1984	0.50	1.65	1.26	0.55	0.21	0.10	0.05	0.03	0.02	0.04	0.08	0.09	0.38
1985	0.16	0.60	0.89	0.57	0.25	0.12	0.05	0.03	0.02	0.02	0.04	0.12	0.24
1986	0.43	0.83	0.79	0.51	0.22	0.10	0.04	0.03	0.02	0.02	0.03	0.17	0.27
1987	0.80	1.45	1.29	0.79	0.29	0.12	0.06	0.04	0.02	0.02	0.04	0.12	0.42
1988	0.34	0.72	0.62	0.48	0.26	0.12	0.05	0.03	0.02	0.02	0.04	0.15	0.24
1989	0.38	1.75	1.70	0.91	0.31	0.13	0.05	0.03	0.02	0.12	0.15	0.08	0.47
1990	0.13	0.38	0.43	0.33	0.18	0.10	0.05	0.03	0.02	0.03	0.08	0.18	0.16
1991	0.24	0.28	0.65	0.55	0.22	0.10	0.05	0.03	0.02	0.02	0.06	0.22	0.20
1992	0.32	0.44	0.77	0.82	0.36	0.14	0.06	0.04	0.03	0.03	0.03	0.07	0.26
1993	0.24	1.98	3.26	2.17	0.70	0.21	0.08	0.05	0.04	0.07	0.17	0.58	0.80
1994	1.05	1.86	2.19	1.47	0.52	0.18	0.07	0.03	0.02	0.02	0.03	0.45	0.66
1995	0.92	1.33	1.25	0.77	0.31	0.13	0.05	0.03	0.02	0.07	0.17	0.45	0.46
1996	1.02	1.74	1.90	1.32	0.46	0.16	0.06	0.03	0.02	0.11	0.17	0.21	0.60
1997	0.57	1.66	1.05	0.59	0.29	0.13	0.06	0.03	0.02	0.06	0.35	2.15	0.58
1998	2.17	3.49	4.83	2.32	0.55	0.16	0.06	0.03	0.02	0.10	0.16	0.31	1.18
1999	0.81	2.40	1.50	0.84	0.36	0.15	0.06	0.03	0.02	0.03	0.08	0.26	0.54
2000	0.55	0.96	0.90	0.80	0.40	0.16	0.06	0.04	0.03	0.03	0.04	0.34	0.36
2001	1.02	1.08	1.76	1.27	0.39	0.14	0.06	0.03	0.02	0.04	0.12	0.41	0.53
2002	0.73	1.48	2.88	1.91	0.54	0.16	0.06	0.03	0.02	0.79	1.45	1.27	0.94
2003	1.27	1.48	1.57	0.91	0.28	0.11	0.05	0.02	0.01	0.02	0.04	0.72	0.54
2004	0.88	1.38	1.40	1.07	0.40	0.14	0.06	0.03	0.02	0.16	0.28	0.56	0.53
2005	0.66	0.88	1.79	1.27	0.37	0.13	0.05	0.03	0.02	0.05	0.07	0.32	0.47
2006	0.69	1.56	3.12	2.47	0.76	0.20	0.08	0.04	0.03	0.06	0.13	1.35	0.87
2007	1.53	0.85	3.14	2.89	0.95	0.25	0.09	0.05	0.03	0.10	0.20	0.39	0.87
2008	1.11	1.59	2.53	1.82	0.58	0.20	0.08	0.04	0.02	0.22	0.44	0.31	0.75
2009	2.75	3.09	2.87	2.05	0.70	0.20	0.08	0.04	0.02	0.34	0.57	0.80	1.13
2010	0.92	1.44	2.10	1.51	0.57	0.21	0.08	0.04	0.02	0.05	0.20	1.35	0.71
2011	2.00	1.19	1.35	1.87	0.73	0.19	0.07	0.04	0.03	0.04	0.08	1.28	0.74
2012	1.69	1.75	2.36	1.95	0.72	0.22	0.08	0.04	0.03	0.12	0.21	0.73	0.82
2013	0.67	2.06	4.92	2.17	0.54	0.20	0.07	0.04	0.03	0.16	0.21	0.39	0.96
2014	0.81	1.45	2.26	1.41	0.50	0.20	0.08	0.04	0.03	0.08	0.15	0.64	0.64
2015	1.88	1.90	2.65	1.68	0.62	0.24	0.09	0.04	0.02	0.09	0.19	0.47	0.82
MEDIA	0.92	1.45	1.94	1.34	0.46	0.16	0.06	0.04	0.02	0.10	0.19	0.51	0.60
D. EST.	0.61	0.69	1.12	0.74	0.21	0.04	0.01	0.01	0.01	0.14	0.25	0.46	





ANEXO 9.
ESCENARIOS DE APROVECHAMIENTO HIDRICO SUPERFICIAL





Cuadro N° 9.6
Caudal Promedio Mensual – Escenario RCP45 (CANESM2) Río Nepeña (Est. San Jacinto) (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2041	10.3	17.5	13.4	8.1	3.5	1.6	0.9	0.8	0.7	1.3	2.0	5.9	5.5
2042	9.8	9.5	7.0	6.4	3.4	1.6	0.8	0.6	0.5	3.3	5.0	7.6	4.6
2043	24.2	19.3	28.2	27.4	10.0	3.6	1.8	1.1	0.7	2.2	2.5	7.1	10.7
2044	10.3	18.2	11.1	5.5	2.6	1.6	1.1	0.8	0.5	1.2	1.9	1.9	4.7
2045	3.3	8.0	8.2	5.4	3.1	1.9	1.0	0.7	0.6	0.6	0.9	3.2	3.1
2046	10.6	11.4	7.7	5.5	2.8	1.4	0.8	0.8	0.6	0.5	0.8	4.5	3.9
2047	13.1	15.4	10.4	7.0	3.4	1.7	1.1	0.9	0.7	0.6	1.0	3.0	4.9
2048	8.2	9.8	5.9	4.7	3.0	1.6	0.8	0.6	0.4	0.6	1.1	3.7	3.4
2049	9.2	20.3	14.2	8.0	3.5	1.7	1.0	0.7	0.7	2.9	2.9	1.3	5.5
2050	3.4	6.3	4.8	3.6	2.2	1.7	1.1	0.6	0.4	0.8	2.1	4.4	2.6
2051	5.3	4.9	6.6	5.3	2.5	1.4	0.9	0.6	0.4	0.5	1.4	4.7	2.9
2052	5.9	6.0	6.9	7.4	4.0	1.9	1.1	0.9	0.8	0.8	0.8	1.8	3.2
2053	6.8	21.1	24.5	17.2	6.9	2.7	1.4	1.3	1.1	2.0	3.5	11.0	8.3
2054	18.3	20.6	17.0	11.9	5.5	2.4	1.1	0.7	0.5	0.5	0.8	9.1	7.4
2055	13.9	14.0	10.0	6.7	3.5	1.8	1.0	0.7	0.5	1.5	3.1	8.0	5.4
2056	15.1	18.2	15.3	11.4	5.2	2.3	1.2	0.9	0.7	2.6	2.9	3.8	6.6
2057	9.2	16.9	9.5	6.0	3.6	2.0	1.1	0.7	0.7	2.0	6.6	33.8	7.7
2058	29.1	34.9	38.2	19.2	6.0	2.3	1.2	0.8	0.6	2.6	3.0	6.5	12.0
2059	13.6	26.8	13.6	8.3	4.6	2.2	1.1	0.7	0.6	1.0	1.9	5.9	6.7
2060	10.6	12.5	8.6	7.9	4.9	2.3	1.1	0.9	0.8	0.8	1.1	8.4	5.0
MEDIA	11.5	15.6	13.1	9.1	4.2	2.0	1.1	0.8	0.6	1.4	2.3	6.8	5.7
D. EST.	6.5	7.5	8.4	5.9	1.8	0.5	0.2	0.2	0.2	0.9	1.5	6.9	

Cuadro N° 9.7
Caudal Promedio Mensual – Escenario RCP85 (CANESM2) Río Nepeña (Est. San Jacinto) (m³/s)



AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2041	10.8	18.3	13.9	8.3	3.5	1.6	0.9	0.8	0.7	1.2	2.0	5.6	5.6
2042	10.0	9.9	7.3	6.5	3.4	1.6	0.9	0.6	0.5	3.1	4.9	7.3	4.7
2043	25.3	20.1	29.4	27.6	9.9	3.7	1.9	1.1	0.8	2.1	2.4	6.6	10.9
2044	10.3	19.0	11.5	5.6	2.6	1.7	1.2	0.8	0.6	1.2	1.9	1.9	4.9
2045	3.3	8.4	8.5	5.5	3.1	1.9	1.0	0.7	0.6	0.6	0.9	3.1	3.1
2046	10.9	11.8	8.0	5.6	2.8	1.4	0.8	0.8	0.7	0.5	0.8	4.2	4.0
2047	13.5	16.0	10.8	7.1	3.4	1.7	1.1	1.0	0.8	0.7	1.0	2.9	5.0
2048	8.4	10.2	6.1	4.8	3.0	1.6	0.8	0.6	0.4	0.6	1.1	3.5	3.4
2049	9.4	21.1	14.7	8.1	3.5	1.8	1.1	0.7	0.7	2.8	2.7	1.3	5.7
2050	3.6	6.6	5.0	3.7	2.2	1.8	1.2	0.7	0.5	0.8	2.1	4.2	2.7
2051	5.3	5.1	6.8	5.5	2.5	1.4	0.9	0.6	0.5	0.5	1.4	4.5	2.9
2052	5.8	6.2	7.2	7.5	4.0	2.0	1.2	1.0	0.9	0.8	0.9	1.7	3.3
2053	7.1	22.0	25.5	17.4	6.8	2.7	1.5	1.4	1.2	2.0	3.5	10.4	8.5
2054	18.7	21.4	17.6	12.1	5.5	2.4	1.2	0.7	0.5	0.5	0.8	8.5	7.5
2055	14.0	14.5	10.4	6.8	3.5	1.8	1.0	0.7	0.5	1.4	3.1	7.6	5.5
2056	15.5	19.0	15.9	11.5	5.1	2.3	1.2	0.9	0.8	2.5	2.9	3.6	6.8
2057	9.5	17.7	9.8	6.0	3.5	2.0	1.1	0.8	0.8	1.9	6.7	31.9	7.6
2058	29.5	36.3	39.7	19.5	6.0	2.4	1.2	0.8	0.6	2.4	2.9	6.1	12.3
2059	13.9	27.9	14.0	8.3	4.5	2.2	1.1	0.7	0.6	1.0	1.9	5.6	6.8
2060	10.8	13.0	9.0	8.0	4.8	2.2	1.1	0.9	0.8	0.8	1.1	7.8	5.0
MEDIA	11.8	16.2	13.6	9.3	4.2	2.0	1.1	0.8	0.7	1.4	2.2	6.4	5.8
D. EST.	6.6	7.8	8.8	5.9	1.8	0.5	0.2	0.2	0.2	0.8	1.5	6.5	



Cuadro N° 9.8
Caudal Promedio Mensual – Escenario RCP45 (CNRM-CM5) Río Nepeña (Est. San Jacinto) (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2041	9.0	17.3	17.6	10.7	4.2	1.8	0.9	0.8	0.7	1.2	1.8	4.6	5.9
2042	7.9	8.9	8.9	8.5	4.1	1.7	0.9	0.6	0.5	2.9	4.4	6.1	4.6
2043	19.8	18.2	42.5	36.4	11.6	3.6	1.7	1.1	0.7	2.0	2.3	5.4	12.1
2044	8.3	18.2	13.4	7.1	3.1	1.7	1.0	0.8	0.5	1.1	1.7	1.6	4.9
2045	2.6	7.9	10.7	7.2	3.6	1.9	1.0	0.7	0.6	0.6	0.8	2.5	3.3
2046	8.4	10.7	9.8	7.2	3.4	1.6	0.8	0.8	0.7	0.5	0.7	3.4	4.0
2047	10.5	14.7	13.3	9.2	4.1	1.8	1.1	0.9	0.7	0.6	0.9	2.4	5.0
2048	6.6	9.2	7.0	6.0	3.5	1.7	0.9	0.6	0.4	0.6	1.0	2.9	3.4
2049	7.3	20.2	18.1	10.4	4.2	1.8	1.0	0.7	0.7	2.6	2.6	1.2	5.9
2050	2.8	5.9	5.9	4.7	2.6	1.6	1.0	0.6	0.4	0.7	1.8	3.5	2.6
2051	4.3	4.5	9.3	7.4	3.0	1.5	0.9	0.6	0.4	0.5	1.3	3.7	3.1
2052	4.7	5.6	9.5	10.1	4.8	2.1	1.1	0.9	0.8	0.7	0.8	1.4	3.5
2053	5.4	21.2	34.8	22.8	8.0	2.9	1.5	1.3	1.1	1.9	3.1	8.5	9.4
2054	14.9	20.1	23.1	15.9	6.4	2.6	1.2	0.7	0.5	0.5	0.7	6.8	7.8
2055	11.2	13.4	12.8	8.9	4.2	2.0	1.0	0.7	0.5	1.4	2.7	6.2	5.4
2056	12.3	17.7	20.8	15.2	6.1	2.4	1.2	0.9	0.8	2.3	2.6	3.1	7.1
2057	7.5	16.6	11.1	7.6	4.1	2.0	1.1	0.7	0.7	1.8	5.7	26.1	7.1
2058	24.2	35.1	55.0	25.3	7.0	2.5	1.2	0.8	0.6	2.3	2.7	5.1	13.5
2059	11.0	26.9	16.2	10.6	5.3	2.3	1.1	0.7	0.6	1.0	1.6	4.6	6.8
2060	8.5	11.9	10.9	10.5	5.7	2.4	1.1	0.9	0.8	0.8	1.0	6.2	5.1
MEDIA	9.4	15.2	17.5	12.1	4.9	2.1	1.1	0.8	0.6	1.3	2.0	5.3	6.0
D. EST.	5.4	7.6	12.7	7.8	2.1	0.5	0.2	0.2	0.2	0.8	1.3	5.3	

Cuadro N° 9.9
Caudal Promedio Mensual – Escenario RCP85 (CNRM-CM5) Río Nepeña (Est. San Jacinto) (m³/s)



AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2041	9.3	19.7	20.2	11.6	4.3	1.8	1.0	0.8	0.6	1.1	1.9	4.3	6.4
2042	8.0	9.8	10.3	9.2	4.3	1.8	0.9	0.6	0.5	3.0	4.6	5.9	4.9
2043	20.4	20.0	49.3	38.4	11.8	3.8	1.8	1.1	0.7	2.0	2.3	5.1	13.1
2044	8.3	20.8	15.3	7.7	3.2	1.7	1.1	0.8	0.5	1.1	1.7	1.6	5.3
2045	2.7	9.1	12.4	7.9	3.8	2.0	1.0	0.7	0.5	0.6	0.8	2.4	3.7
2046	8.6	11.8	11.2	7.9	3.5	1.6	0.9	0.7	0.6	0.4	0.7	3.2	4.3
2047	10.7	16.5	15.3	10.0	4.2	1.9	1.1	0.9	0.7	0.6	0.9	2.2	5.4
2048	6.7	10.3	8.0	6.5	3.7	1.8	0.9	0.6	0.4	0.6	1.0	2.7	3.6
2049	7.4	23.3	20.8	11.3	4.3	1.9	1.1	0.7	0.6	2.7	2.6	1.2	6.5
2050	3.0	6.7	6.8	5.1	2.8	1.8	1.1	0.6	0.4	0.8	1.9	3.4	2.9
2051	4.3	4.9	10.9	8.2	3.2	1.6	0.9	0.6	0.4	0.5	1.3	3.5	3.4
2052	4.6	6.1	11.0	10.9	5.0	2.1	1.2	0.9	0.8	0.7	0.8	1.4	3.8
2053	5.6	24.6	40.3	24.4	8.2	3.0	1.5	1.2	1.0	1.9	3.2	8.1	10.2
2054	15.1	22.6	26.6	17.1	6.6	2.6	1.2	0.7	0.5	0.5	0.8	6.3	8.4
2055	11.2	15.0	14.7	9.6	4.3	2.0	1.0	0.7	0.5	1.4	2.8	5.9	5.8
2056	12.4	19.9	24.0	16.3	6.3	2.5	1.2	0.9	0.7	2.3	2.7	3.0	7.7
2057	7.6	19.0	12.6	8.1	4.3	2.1	1.1	0.7	0.7	1.8	5.9	24.6	7.4
2058	24.3	40.1	63.5	27.1	7.2	2.6	1.3	0.8	0.6	2.3	2.8	4.8	14.8
2059	11.1	30.9	18.3	11.3	5.5	2.4	1.2	0.7	0.6	1.0	1.7	4.4	7.4
2060	8.6	13.3	12.5	11.2	5.9	2.5	1.1	0.9	0.7	0.8	1.0	5.8	5.4
MEDIA	9.5	17.2	20.2	13.0	5.1	2.2	1.1	0.8	0.6	1.3	2.1	5.0	6.5
D. EST.	5.4	8.8	14.7	8.2	2.1	0.5	0.2	0.2	0.1	0.8	1.4	5.0	



Cuadro N° 9.10
Caudal Promedio Mensual – Escenario RCP45 (MPI-ESM-MR) Río Nepeña (Est. San Jacinto) (m³/s)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2041	9.3	18.6	17.4	9.8	3.8	1.6	0.8	0.8	0.7	1.4	2.2	4.7	5.9
2042	8.2	9.5	8.9	7.5	3.6	1.6	0.8	0.6	0.5	3.5	5.2	6.4	4.7
2043	20.6	19.3	40.6	31.3	10.2	3.3	1.5	1.0	0.7	2.3	2.6	5.6	11.6
2044	8.5	19.6	13.6	6.6	2.8	1.5	0.9	0.7	0.5	1.3	2.0	1.8	5.0
2045	2.8	8.6	10.7	6.7	3.3	1.8	0.9	0.7	0.6	0.7	0.9	2.6	3.3
2046	8.8	11.3	9.8	6.6	3.0	1.4	0.8	0.8	0.7	0.5	0.8	3.5	4.0
2047	10.9	15.7	13.2	8.4	3.6	1.7	0.9	0.8	0.7	0.7	1.0	2.5	5.0
2048	6.8	9.8	7.1	5.4	3.1	1.6	0.8	0.6	0.5	0.7	1.2	3.0	3.4
2049	7.6	21.8	18.1	9.6	3.7	1.7	0.9	0.6	0.7	3.1	3.0	1.3	6.0
2050	3.0	6.4	5.9	4.3	2.4	1.4	0.8	0.5	0.4	0.8	2.1	3.7	2.7
2051	4.4	4.8	9.0	6.8	2.8	1.4	0.8	0.6	0.4	0.5	1.5	3.8	3.1
2052	4.8	5.9	9.3	8.9	4.3	1.9	1.0	0.9	0.9	0.8	0.9	1.5	3.4
2053	5.7	23.0	33.8	20.3	7.1	2.7	1.3	1.3	1.2	2.2	3.6	8.8	9.2
2054	15.4	21.5	22.6	14.2	5.7	2.4	1.1	0.7	0.5	0.5	0.8	6.8	7.7
2055	11.5	14.3	12.7	8.1	3.7	1.8	0.9	0.7	0.5	1.6	3.2	6.5	5.5
2056	12.7	18.9	20.4	13.5	5.4	2.2	1.1	0.9	0.8	2.8	3.1	3.3	7.1
2057	7.8	17.9	11.3	6.8	3.7	1.8	0.9	0.7	0.8	2.1	6.8	26.4	7.3
2058	24.7	37.7	53.2	23.1	6.3	2.3	1.2	0.8	0.6	2.8	3.2	5.3	13.4
2059	11.3	29.0	16.4	9.4	4.7	2.1	1.0	0.7	0.7	1.1	1.9	4.7	6.9
2060	8.8	12.7	10.9	9.2	5.0	2.2	1.0	1.0	0.9	0.9	1.2	6.3	5.0
MEDIA	9.7	16.3	17.3	10.8	4.4	1.9	1.0	0.8	0.7	1.5	2.4	5.4	6.0
D. EST.	5.5	8.2	12.2	6.8	1.8	0.5	0.2	0.2	0.2	1.0	1.6	5.3	

Cuadro N° 9.11

Caudal Promedio Mensual – Escenario RCP85 (MPI-ESM-MR) Río Nepeña (Est. San Jacinto) (m³/s)



AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SEP.	OCT.	NOV.	DIC.	MEDIA A.
2041	10.3	22.1	19.7	10.4	3.9	1.7	0.9	0.9	0.7	1.2	2.1	4.2	6.5
2042	8.5	10.8	10.0	8.0	3.8	1.6	0.8	0.6	0.5	3.1	5.1	5.9	4.9
2043	22.8	22.1	45.5	32.7	10.3	3.4	1.6	1.0	0.7	2.0	2.4	4.8	12.5
2044	8.6	23.2	15.4	7.1	2.9	1.6	0.9	0.7	0.5	1.1	1.9	1.7	5.5
2045	3.0	10.2	12.2	7.2	3.4	1.9	0.9	0.7	0.6	0.6	0.9	2.3	3.7
2046	9.5	13.1	11.0	7.1	3.1	1.5	0.8	0.8	0.7	0.5	0.8	3.1	4.3
2047	11.8	18.3	15.0	9.0	3.8	1.8	0.9	0.8	0.7	0.6	1.0	2.2	5.5
2048	7.3	11.4	8.1	5.8	3.2	1.6	0.8	0.6	0.4	0.6	1.2	2.7	3.6
2049	8.1	26.0	20.5	10.2	3.9	1.8	0.9	0.7	0.6	2.7	2.7	1.2	6.6
2050	3.4	7.6	6.8	4.6	2.5	1.5	0.9	0.6	0.4	0.8	2.2	3.5	2.9
2051	4.5	5.4	10.2	7.4	2.9	1.4	0.8	0.6	0.4	0.5	1.5	3.5	3.3
2052	4.8	6.8	10.5	9.4	4.4	1.9	1.0	0.9	0.8	0.7	0.9	1.4	3.6
2053	6.2	27.6	38.1	21.3	7.3	2.7	1.3	1.3	1.2	2.0	3.6	7.9	10.0
2054	16.3	25.1	25.5	15.0	5.9	2.4	1.2	0.7	0.5	0.5	0.9	5.9	8.3
2055	11.7	16.6	14.4	8.6	3.9	1.9	1.0	0.7	0.5	1.4	3.2	5.9	5.8
2056	13.5	22.1	23.0	14.3	5.5	2.3	1.1	0.9	0.8	2.4	2.9	3.0	7.7
2057	8.4	21.2	12.8	7.2	3.8	1.9	1.0	0.7	0.7	1.9	7.2	23.4	7.5
2058	25.5	44.4	59.4	24.3	6.4	2.4	1.2	0.8	0.6	2.4	2.9	4.6	14.6
2059	12.0	34.4	18.5	10.0	4.9	2.2	1.1	0.7	0.6	1.0	1.9	4.3	7.6
2060	9.2	14.8	12.3	9.7	5.1	2.3	1.1	1.0	0.8	0.9	1.2	5.4	5.3
MEDIA	10.3	19.2	19.4	11.5	4.5	2.0	1.0	0.8	0.7	1.3	2.3	4.8	6.5
D. EST.	5.8	9.8	13.6	7.0	1.9	0.5	0.2	0.2	0.2	0.8	1.6	4.7	