

Great American Desert

- Zebulon Pike 1810 – “these vast plains of the western hemisphere may become celebrated with the sandy deserts of Africa”
- Stephen Long 1820 - “this was a barren region unfit for the habitation of civilized man”
- **Mark Twain 1861** – “we came to the shallow, yellow, muddy South Platte, with its low banks and its scattering flat sandbars and pygmy islands – a melancholy stream straggling through the center of the enormous flat plain, and only saved from being impossible to find with the naked eye by its sentinel rank of scattering trees standing on either bank. The Platte was up they said – which made me wish I could see it when it was down, if it could look any sicker and sorrier’

Desert Myth to Manifest Destiny

- **1859 Gold Rush**
- **Beginning of Irrigation – 60's, 70's, and 80's**
- **By end of 19th Century, the South Platte River became a perennial stream flowing into Nebraska and the river was overappropriated in CO during much of the irrigation season**

GREELEY 1870



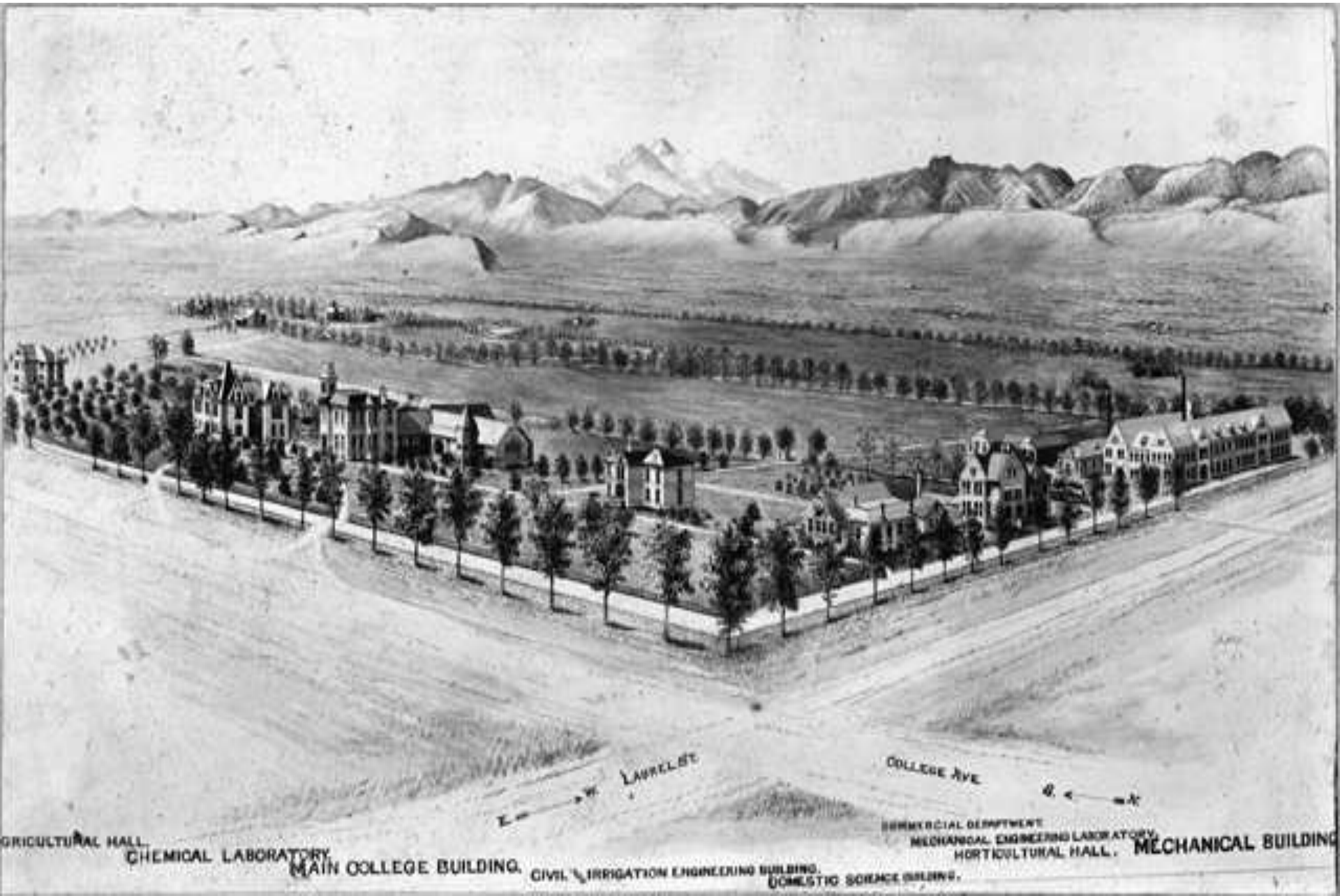
DENVER WATER WORKS 1880



DENVER WATER WORKS.

20

CSU 1900



Water Development Eras

- **Reservoir Development**
- **Transmountain Diversions**
- **Wells**
- **Water Rights Transfers**
- **Artificial Recharge**
- **Water Conservation**

South Platte River Compact Important Dates

- **1859-1897** **S. Platte in CO fully appropriated**
- **6-14-1897** **Western Canal -120 cfs**
- **1911** **Wyo. v. CO - Laramie River**
- **1916** **NE sues CO**
- **1923** **NE signs South Platte Compact**
- **1923---** **Interstate comity**

South Platte River Compact Highlights

- **Creates upper and lower sections**
- **Flow of the river defined**
- **10-15 thru 4-1 CO has full use* of waters**
- **4-1 thru 10-15 No CO diversions in lower section junior to 6-14-1897 if stateline flow is under 120 cfs at interstate gaging station**
- **Lodgepole Creek**
- **Article VI**

South Platte River Compact Observations

- **Highlights**
 - **Upper Section firewall at Balzac**
 - **No volumetric delivery obligations**
 - **No compact administrative body**
- **Things to consider**
 - **Wells**
 - **Diversion of waters outside of the state**
 - **ESA vs compact**

Current Issues

- **Historic development methods are increasingly difficult**
- **Environmental Constraints/Permitting**
- **Water Related Recreation/Healthy Streams**
- **Population Growth Continues**
- **SPRWOG**

HYDROLOGY

1989 - 2000

2001 - 2008

State of Colorado HydroBase

Description: SOUTH PLATTE RIVER AT JULESBURG, CO

Time Series Identifier: 06764000.DWR.Streamflow.Monthly
 Located in Water Division, District: 64, 1
 Located in County, State: SEDGWICK, CO
 Located in HUC: 10190018
 Latitude, Longitude: 40.974995, -102.251854
 UTM X, UTM Y (zone 13 NAD 83): 731223.1, 4539818.9
 Elevation (feet): 3448.8

Time Series Creation History:
 Available Data: 1902 To 2008
 Selected Time Series From: 1989-01-01 To 2000-12-31

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Total
1989	NC	NC	NC	48734.59	41016.80	33435.86	9963.12	2802.69	8576.65	1864.49	3221.20	18474.32	NC
1990	7646.39	4427.17	8733.35	55151.22	40344.39	59068.63	61960.57	8263.26	5797.77	1820.85	4853.62	8727.40	266794.64
1991	10615.69	9483.11	27745.20	49240.39	43746.09	23740.51	15387.99	6277.78	53364.09	3064.51	3677.41	17990.35	264333.11
1992	9594.19	6267.86	15483.20	49113.45	57834.89	77719.48	42397.31	3191.45	28247.02	16814.13	26741.55	37557.57	370966.15
1993	24678.71	11849.43	48345.83	52810.69	52831.68	64247.55	37724.19	9136.00	10250.73	2878.06	2907.81	41895.49	359656.15
1994	32666.26	16038.58	36012.43	48236.74	42379.46	32947.92	13900.37	5270.16	3425.50	1561.01	1231.75	1243.65	234913.84
1995	9280.80	5028.17	14626.33	14796.91	14303.02	10226.93	14636.25	81144.98	654237.63	287686.84	18476.30	36093.75	1160537.9
1996	45775.21	24571.60	31856.99	41346.06	52183.90	44872.72	15903.70	14283.18	48478.72	5722.40	9923.45	91020.83	425938.77
1997	48139.55	14162.19	28996.79	48885.34	42274.34	37143.02	19507.72	9824.28	333511.66	30184.90	115745.16	33166.11	761541.04
1998	64174.16	71941.55	73191.15	96596.45	67078.00	57307.28	80760.19	81765.82	65278.97	20344.76	24410.93	16586.03	719435.29
1999	56985.96	32939.98	27669.82	53213.34	39947.69	32184.27	16080.23	268546.06	260215.36	29193.15	111718.66	75250.02	1003944.5
2000	59257.06	44097.17	74157.12	75115.15	68700.51	57575.05	31454.34	10314.20	3385.83	1465.81	1674.07	4173.28	431369.61
2001	5333.63	4980.57	13192.26	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Min: 5333.63 4427.17 8733.35 14796.91 14303.02 10226.93 9963.12 2802.69 3385.83 1465.81 1231.75 1243.65 234913.84
 Max: 64174.16 71941.55 74157.12 96596.45 68700.51 77719.48 80760.19 268546.06 654237.63 287686.84 115745.16 91020.83 1160537.9
 Mean: 31178.97 20482.28 33343.21 52770.03 46895.06 44205.77 29973.00 41734.99 122897.49 33350.08 27048.49 31848.23 545402.46

517,609

Notes:

Years shown are water years.
 A water year spans October of the previous calendar year to September of the current year (all within the indicated water year).
 Annual values and statistics are computed only on non-missing data.
 NC indicates that a value is not computed because of missing data or the data value itself is missing.

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2001	NC	NC	NC	26638.40	30169.04	11972.41	24978.21	37071.61	12275.88	5619.26	3786.50	8348.55	NC
2002	7705.90	10270.56	17427.03	19222.10	17367.53	12450.43	5664.88	1955.73	2556.73	1628.45	1202.00	1073.07	98524.41
2003	1380.52	916.38	1436.05	3050.62	2745.16	2759.05	6144.88	5262.23	3298.56	1309.11	1172.25	3756.75	33231.56
2004	2808.64	1362.50	2556.73	4002.70	2624.50	2459.54	1574.90	2029.12	2324.66	2245.32	2007.30	2358.38	28574.30
2005	4589.82	1864.16	5319.75	7909.79	2871.77	1672.09	7459.94	6182.57	67266.44	5595.45	4494.61	4250.64	119127.03
2006	8295.00	3943.20	9752.87	6047.69	6495.96	6148.85	8396.16	3748.81	2060.86	1987.47	1838.37	2523.01	81038.24
2007	3120.05	2292.93	4139.56	7380.60	9187.57	3899.56	10619.66	39299.09	32515.52	3550.47	2737.23	3645.67	122387.90
2008	5516.11	4109.81	9483.11	18286.05	17885.22	6077.44	9076.50	6763.73	4607.67	2185.82	4482.71	5403.05	93857.23

Min: 1380.52 916.38 1436.05 3050.62 2671.77 1672.09 1574.90 1955.73 2060.86 1309.11 1172.25 1073.07 28574.30
 Max: 8295.00 10270.56 17427.03 26638.40 30169.04 12450.43 24978.21 39299.09 67266.44 5619.26 4494.61 8348.55 122387.90
 Mean: 4773.72 3511.36 7159.30 11570.99 11168.34 5929.92 9239.39 12789.11 15863.29 3015.17 2690.12 3919.89 79534.38

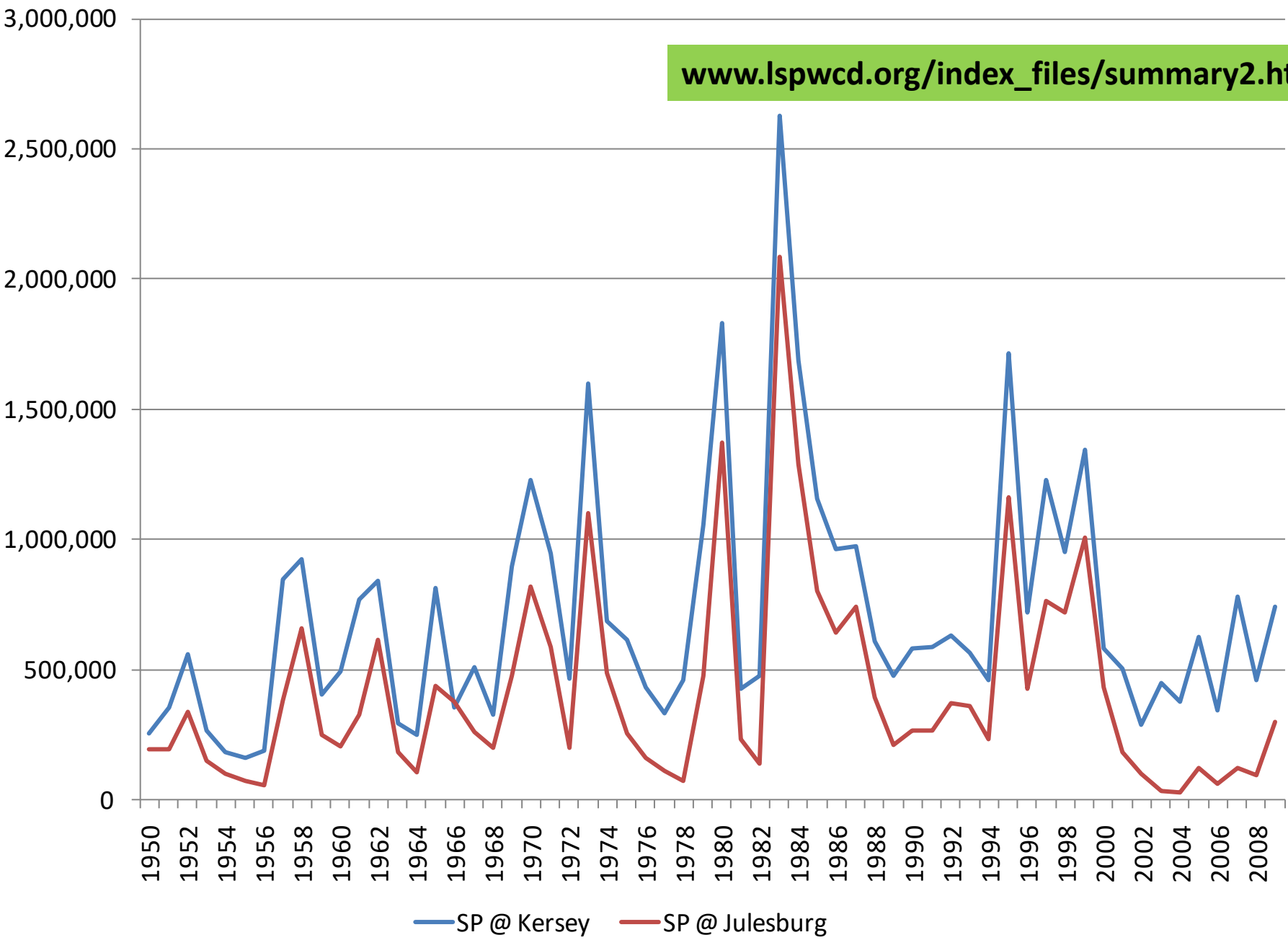
92,638

Notes:

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Annual Flow at South Platte Gages (1950-2009)

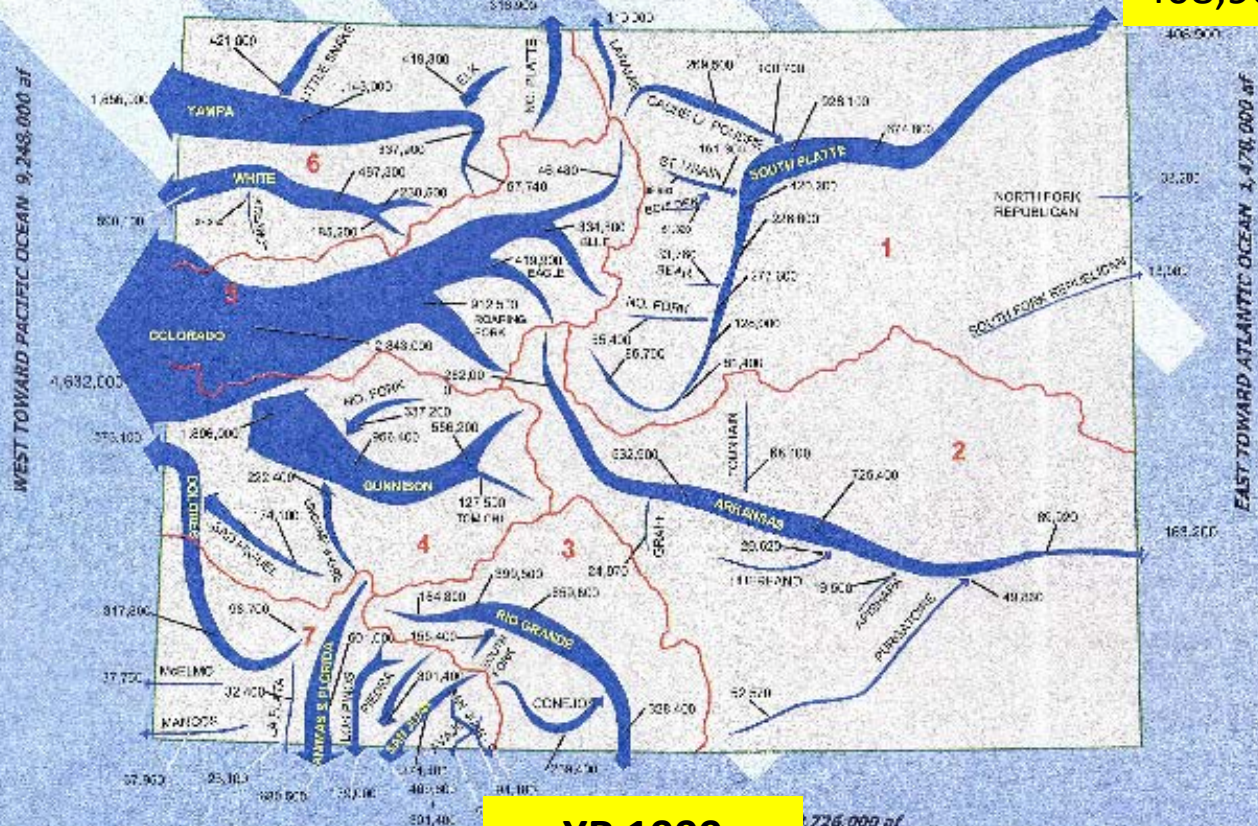
www.lspwcd.org/index_files/summary2.html



HYDROLOGY

COLORADO HISTORIC AVERAGE ANNUAL STREAM FLOWS (acre feet)

408,900



Prepared by the Hydrologic Branch (2000 Revision).
Historic averages obtained from USGS Water Data Report CO-99

OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES