

# GOES DCS Technical Working Group Meeting

April 23, 2019

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Chief of Hydrography

Colorado Division of Water Resources

# HYDROGRAPHIC AND SATELLITE MONITORING BRANCH

## Colorado Division of Water Resources

- Water administration/distribution
- Compact administration
- Water storage and release
- Flood warning/monitoring
- Dam safety
- Recreation/safety
- Environmental monitoring
- Minimum stream flow
- Final streamflow records
- Hydrologic modeling
- Water rights analysis, exchanges, transfers
- Litigation
- Wildlife and fisheries
- Water quality



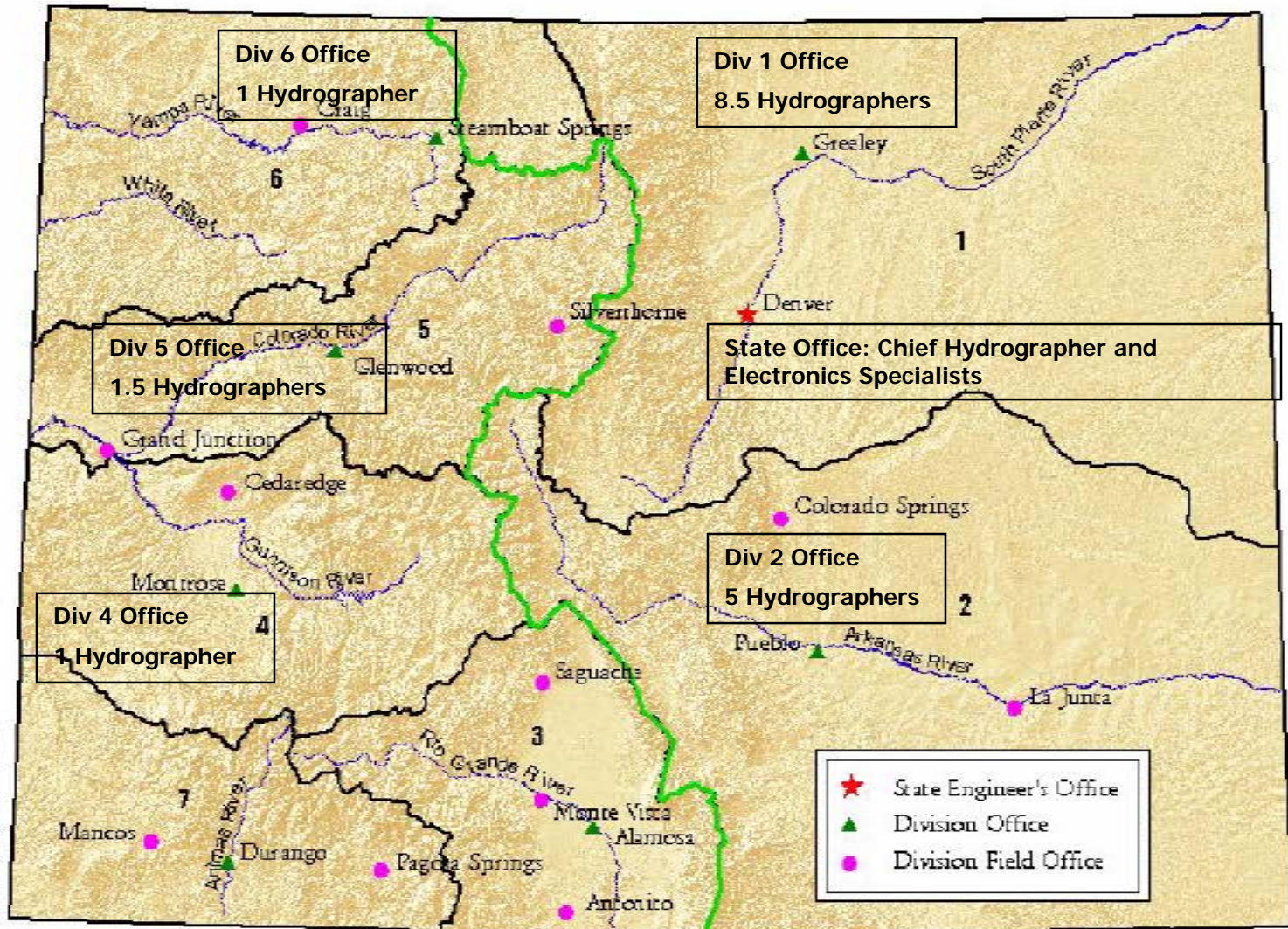
# 19 States Rely On Colorado's Water





# OFFICE OF THE STATE ENGINEER DIVISION and FIELD OFFICES

26 of 28 Hydro Branch Staff operate and maintain gaging stations



Div 7 Office  
2 Hydrographers

Div 3 Office  
5 Hydrographers

# DWR Station Counts

- 630 DWR GOES stations
  - 406 stream gages (240 published records)
  - 59 reservoirs
  - 165 diversion structures
- 264 DWR cellular stations (diversions)
  - 118 direct polling
  - 146 cooperator-polled via web services
- 350 USGS displayed via web services

# Data Processing and Products

- Colorado Real-Time Surface Water Conditions Web Site

[www.dwr.state.co.us](http://www.dwr.state.co.us)

- Colorado's Decision Support System (CDSS)

<http://cdss.state.co.us>

# Colorado Real-Time Surface Water Conditions

Detail Graph - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address [http://www.dwr.state.co.us/SurfaceWater/data/detail\\_graph.aspx?ID=ARKCANCO&MTYPE=DISCHRG](http://www.dwr.state.co.us/SurfaceWater/data/detail_graph.aspx?ID=ARKCANCO&MTYPE=DISCHRG)

## Colorado's Surface Water Conditions

Arkansas Colorado Gunnison Rio Grande San Juan/Dolores South Platte Yampa/White Login

Station Name: ARKANSAS RIVER AT CANYON CITY (ARKCANCO)  
Data Source: Division of Water Resources  
Rating Table: ARKCANCO23 [ [View Table](#) | [Points](#) ]  
Current Shift: [0.14](#)

Most Recent Value: 471 cfs 2/1/2009 12:15 Provisional Data Subject to Revision

DISCHRG (cfs)

— DISCHRG ♦ Historic Average (Based on 119 years of record) + Discharge Measurements

Points Zoom In View Logarithmic 3 day | 10 day | 1 month | WY Export Graph

**Graph Data**

- COND
- DISCHRG
- GAGE\_HT
- WATTEMP

■ Compare Data

**Tabular Data**

- Provisional (10/1/2007 to present)
- Published (10/1/1888 to 9/30/2007)

■ Discharge Measurements  
■ Station Description

■ Back to Results  
■ My Stations

■ Diagnostics  
■ Randoms  
■ Station Setup

Contact Us Help Home Privacy Policy Provisional Data Disclaimer



# CDSS Published Streamflow Data

Colorado's Decision Support Systems - Microsoft Internet Explorer

Address: http://cdss.state.co.us/DNN/ViewData/StationsStreamflow/tabid/74/Default.aspx

Colorado's Decision Support Systems  
Developed by DWR and CWCB

Home Overviews Basin > View Data > Map Viewer Products >

Stations (Streamflow)

Water Division/District: ...2 - South Platte: Denver Gage to Greeley  
 Flow Data Type: StreamFlow  
 Data Frequency: Daily

Last Refresh Date: 2009-01-05

Station Name | Station ID | SEO Abbreviation | County | Hydrologic Unit Code

Station Name: Starts With | South

Submit Request

Select a row from the search results below to activate the reporting features

WD	Station ID	Abbrev.	Station Name	Data Source	Data Type	Time Step	Start
2	06714215	PLASIXCO	SOUTH PLATTE R. AT 64TH AVE. COMMERCE CITY, CO.	USGS	Streamflow	Daily	1982
2	06720500	PLAHENCO	SOUTH PLATTE RIVER AT HENDERSON, CO	DWR	Streamflow	Daily	1926
2	06721000	PLALUPCO	SOUTH PLATTE RIVER AT FORT LUPTON, CO.	USGS	Streamflow	Daily	1929
2	06720790	SWALROCO	SOUTH WALNUT CREEK AT ROCKY FLATS PLANT, CO.	USGS	Streamflow	Daily	1972
2	SPSCFLCO	SPSCFLCO	SOUTH PLATTE SUPPLY CANAL BELOW SAND LAKE NEAR F	DWR	Streamflow	Daily	1954

5 records returned

Results List Report: | Time Series Report:

Done

DCP\_1422.JPG - Windows Picture and Fax Viewer

Start | C:\Documents and ... | DCP\_1422.JPG - W... | Check Point SSL N... | https://165.127.23... | Colorado's Deci... | Inbox - Microsoft Ou... | CO\_DWR\_Hydro\_S... | 12:33 PM

# Future Website Re-Design



**COLORADO'S**  
Decision Support Systems  
CWCB / DWR

Welcome Guest, [Click here to Login](#)

Groundwater - Water Levels

Export Help

Search Fields Hide

Geographic Location Water Division

1 - South Platte

Publication All

Aquifer All

Having water level measurement dates (optional)

From To

More Options Select

Search

Additional Resources

[Groundwater Geophysical Logs](#)

[Colorado Information Marketplace](#)

[DWR Map Viewers](#)

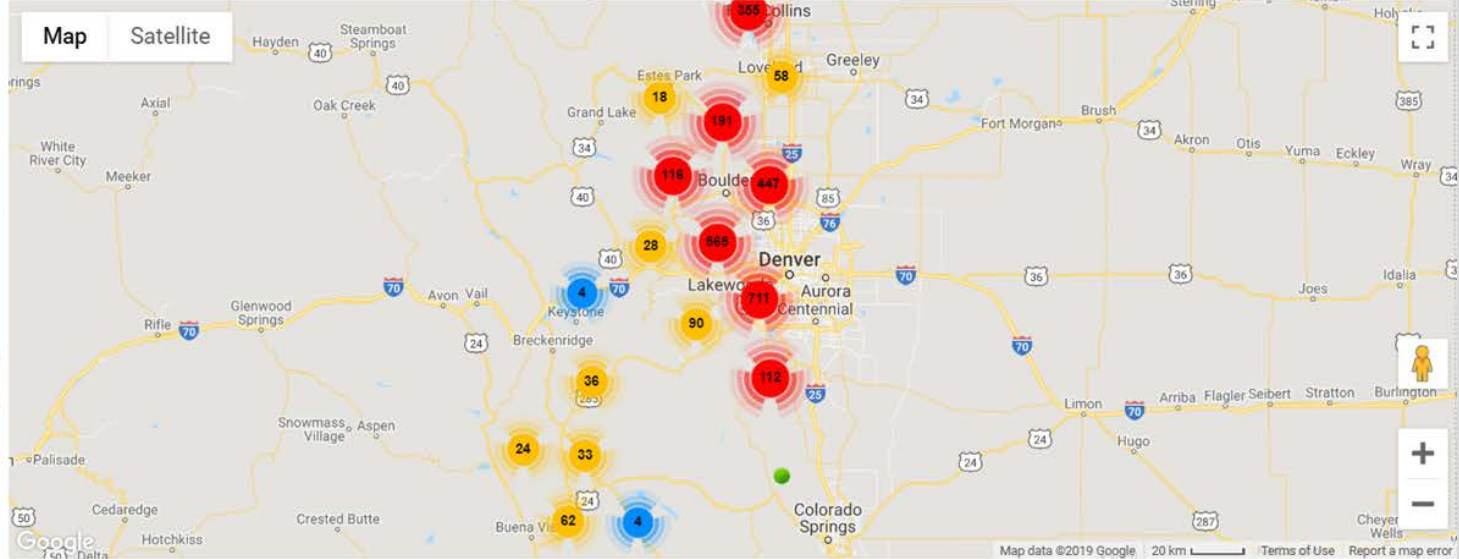
[DWR Web Services](#)

[DNR Portal](#)

Table Map

Map Options

Your results have been limited to 3000 of 13251 available locations. Please refine your search for better map results



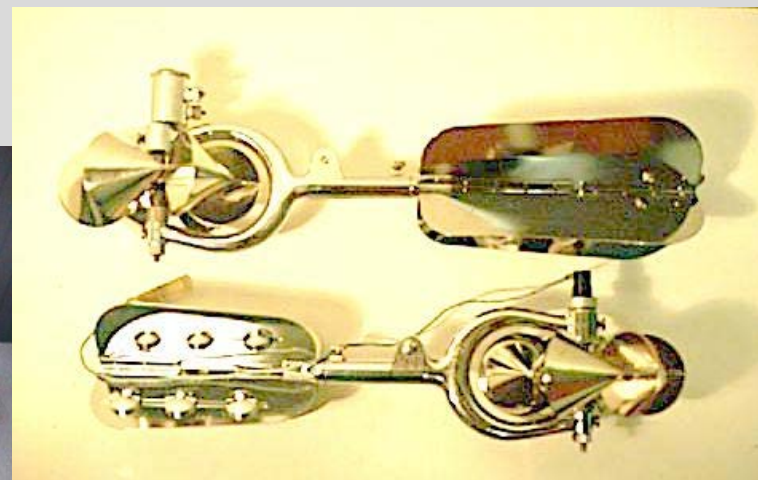
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Division of Water Resources  
Department of Natural Resources

# Changing Equipment and Techniques





# Discharge Measurement Equipment (c. 2006)







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Division of Water Resources  
Department of Natural Resources

# Stream Gaging Stations









# Radar Stations





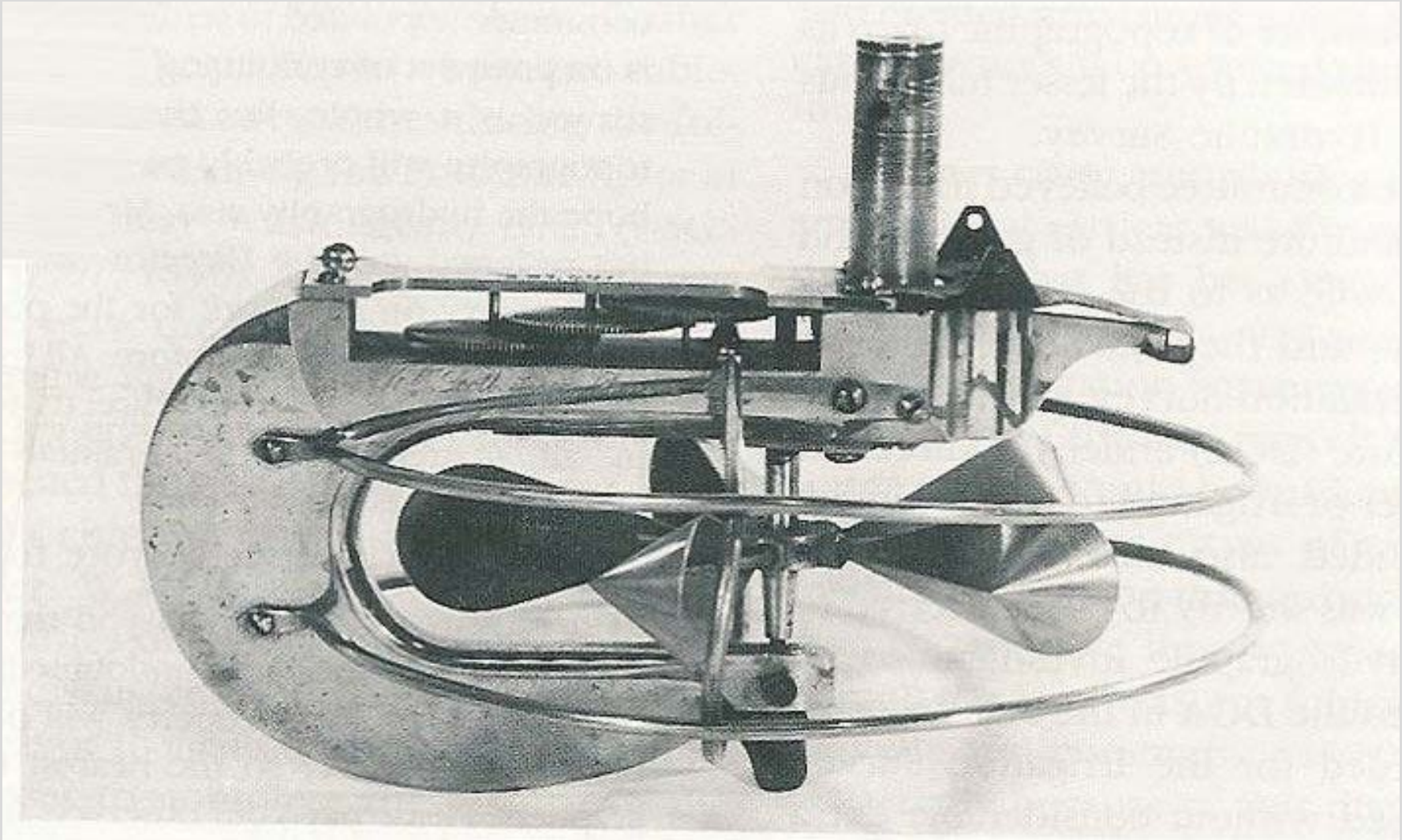
# Colorado State Engineer

- The office of State Hydraulic Engineer was created by the Legislature of 1881.
- Purpose: Assist in carrying out the provisions of certain portions of the irrigation laws passed at the same session, and to obtain important information by means of surveys and observations.

# State Engineer E.S. Nettleton

- Became State Engineer in 1883
- Designed his current meter for measuring stream discharge in 1883
- Designed a water stage recorder and installed it in spring 1884
- During 1880's: gaging stations established at key locations on mainstem of major rivers
  - Cache la Poudre at the Canyon Mouth near Ft Collins (1881)
  - Arkansas River at Canon City (1888)
  - Rio Grande near Del Norte (1889)

# Nettleton's Colorado Current Meter

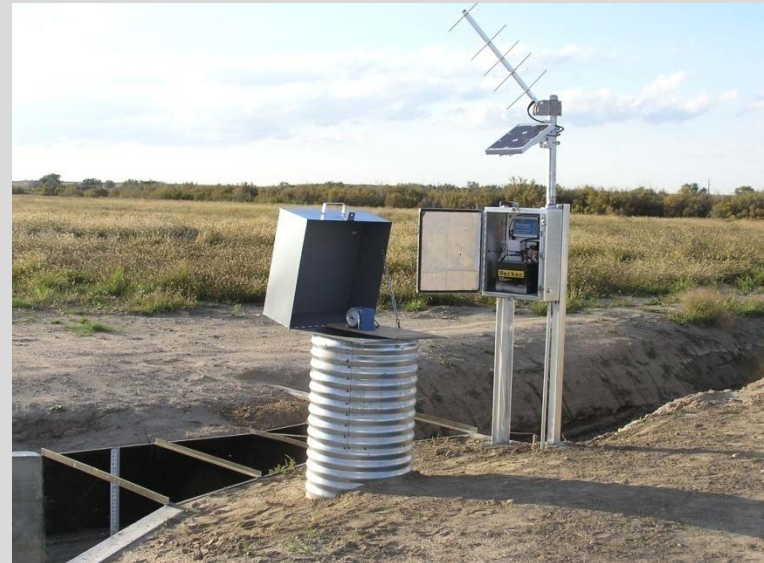


# 138 years of Streamgaging in Colorado (1881-2009)

- One station in 1881



- 600+ in 2019





Questions?



2-17-2002