

Western Snow Survey
Presented by the NOAA National Weather Service

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13:25-13:45 dur :20
Elizabeth Morse
Meteorologist in Charge
NOAA National Weather Service,
Sacramento, Calif.

Video: Indoors, in front of computer showing satellite imagery

Soundbite: Snow Survey is part of a complicated system to determine how much water is in the mountains every winter. Water in the snow is crucial for determining water allocations in the Summer and fall in our dry CA springs and falls

13:50-14:30 dur :40
Lt. Cmdr. Rob Poston
NOAA Corps Pilot

Video:

outdoors in front of parked aircraft, cutaways to aircraft, cockpit views during soundbite

Soundbite: Poston introduces self, describes use and advantages of Rockwell Turbo Commander aircraft.

14:30-15:00 dur :30

Video: ROCKWELL TURBO COMMANDER aircraft taxiing, cockpit view during takeoff, view from ground of plane taking off

15:00-16:18 dur 1:18
Poston soundbite continues

Video: views of in-flight operations, back to Poston, cutaways to views out window of snow-covered mountains

Soundbite: describes general procedures, requirements of Corps officers, instruments, measurement procedures.

16:18-17:30 dur 1:12

Video: cockpit, in flight, views out window of mountains and evergreens

Audio: radio communication by pilots, description of descent procedures by pilots,

17:30-17:39 dur :09

Poston bites concludes

Video: Poston in front of ROCKWELL TURBO COMMANDER aircraft

Soundbite: Describes that this is one source of information for hydrologists. Describes others: snow courses.

17:45-18:14 dur :29

Robert Hartman

Hydrologist in Charge

NOAA National Weather Service Forecast office

Sacramento, Calif.

Video: Hartman in front of computer screens displaying satellite imagery, cutaways to trees, surveyors walking to site, taking snow samples.

Soundbite: Snow data are collected by manual snow surveys. This is oldest technology we have; has been going on since the 30s. This is good baseline to assess what will happen in spring in the mountain.

18:14-19:05 dur :51

Video: Surveyors taking snow sample, measuring depth, weight

Audio: Nat. sound, comments by surveyors

19:10-21:23 dur 2:13

Randall Osterhuber

Staff Research Associate

Manager, central Sierra Snow Lab

University of California, Berkeley

Video: On location at snow lab, outdoors, cutaways to towers, precipitation gauges, anemometer, air temperature sensors, precipitation collector, scintillation detector, CS of Osterhuber as he explains other gear

Soundbite: snow labs, locations and when built, description of above gauges and sensors, snow pillows, melt pans.

21:27-22:46 dur 1:19

Frank Gehrke

Chief of Snow Surveys

California Department of Water Resources, Sacramento

Video: CU of wall with pressure lines from snow pillow and precipitation gauge coming out. Gehrke's hand indicating instruments, CU Gehrke,

Soundbite: technical description of how instruments work, taking readings, "It's critical to know whether it's raining or snowing during a storm..."

22:51-23:13 dur :22

Pierre Stephens
Associate Water Resource Engineer
California Dept of Water Resources
Sacramento

Video: Stephens in front of lighted map of California

Soundbite: Frequency of Snow course measurements, snow pillow transmissions received via satellite on hourly basis.

23:13-23:44 dur :31
Gehrke indoors

Video: in front of computer showing cosmic radiation detector output

Soundbite: describing how instruments gathers cosmic radiation information, how this information allows them to determine water content on the ground.

23:44-24:08 dur :24
Outdoors

Video: view of GOES telemetry installation: satellite antenna, solar panel, temperature detector.

Soundbite: description of above installation, identification of components by Osterhuber who is off camera.

24:08-26:29 dur 2:21
Indoors, same location as 23:13.

Video: Data-logging instrument, Frank Gehrke, CU of monitor display Gehrke's hand indicating as he explains.

Soundbite: Gehrke describing data-logging instruments, verification procedures, measurement obstacles, advantages of measurement techniques. Further measurement reading explanation.

26:29-26:40 dur :11
Video: Rob Poston in front of aircraft

Soundbite: Data are disseminated to river forecast centers and other end users who assimilate the data.

26:46-27:09 dur :23
Lt. Andrea Hrusovsky
NOAA Corps Pilot
(Onboard the turbo commander)

Video: onboard computer, cu of components, indicated by Andrea

Soundbite: description of computer components, data collection, Internet transmission

27:09-27:14 dur :05

Video: Rob Poston in front of aircraft

Soundbite: Hydrologists like to combine all the information they can to make accurate forecasts.

27:15-27:32 dur :17

Elizabeth Morse

Video: Indoors, in front of computer showing satellite imagery

Soundbite: We need this information to accurately predict snow melt activity, flooding, water retention.

27:32-27:41 dur :09

Pierre Stephens

Video: Stephens in front of lighted map of CA

Soundbite: Snow Pack information goes into statistical models to determine runoff

27:41-30:47 dur 3:07

Robert Hartman

Video: Hartman, cutaways to aerial of Central Valley, CA river

Soundbite: data from snow survey supplement other data, used to accurate spring snow melt prediction, describes snow estimation and updating system, used to integrate data. Explains model output.

30:47-31:25 dur :38

Elizabeth Morse

Video: Morse on camera

Soundbite: describes her department's involvement: initial rain, snowfall forecasts, snow melt forecasting, flood warnings

31:25-31:35 dur :10

Pierre Stephens

Video: Stephens on camera

Soundbite: describes agency use of runoff forecasting

31:42-32:04 dur :22

Jim Spence

Chief, State Water Projects Operations Planning Branch
California Department of Water Resources, Sacramento

Video: Spence on Camera, forecasting office

Soundbite: attesting to importance of these forecasts for reservoir management

32:09-33:24 dur 1:15

Gary Hester

Associate Hydrologist

California Department of Water Resources, Sacramento

Video: Hester on cam in front of backlit map of CA, cutaway to aerial of Central Valley, Calif., river (different shot from previous)

soundbite: explains importance of snow pack as resource, use of survey information in forecasting, attesting to its importance, explains high level of coordination between operators, forecasters

33:24-33:43 dur :19

Jim Spence

Video: Spence on camera, Central Valley, Calif., dam

Soundbite: we depend on snow survey and water supply forecast data to develop plan for operation.

33:47-34:33 dur :46

John Burke

Hydrolic Engineer

U.S. Dept. of Interior,

U.S. Bureau of Reclamation

Sacramento, CA

Video: Burke on camera in forecasting office, cutaway to aerial of river

Soundbite: attesting to importance of runoff data as cornerstone of entire plan of operation

**** duplicate, should be cut ****

34:33-34:56 dur :23

Jim Spence

Video: Spence on Camera, cutaway to river

Soundbite: same as first Spence bite. (Was placed in twice by mistake. Difference is this has a river cutaway during the bite.)

34:56 - 36:24 dur 1:28

John Burke

Video: Burke on camera

Soundbite: lists down contractors / users of reservoir water

**** duplicate, should be cut ****

36:24-36:49 dur :25

Gary Hester

Video: Gary on camera

Soundbite: same as second half of previous bite. (Was placed in twice by mistake.)

36:54-37:22 dur :28

Tom Patton

Hydrolic Engineer

U.S. Army Corps of Engineers

Sacramento, CA

Video: Patton in front of map, cutaway to reservoir, CA

Soundbite: Corps of Engineers use of NWS data to manage reservoirs.

37:28-38:06 dur :38

Cindy Matthews

Service Hydrologist

National Weather Service

Sacramento, CA

Video: Matthews in front of computer, bookshelf, aerial of river, snow covered hills

Soundbite: San Joaquin River system is most impacted by snow melt flooding.
Describes flood preparedness warning procedures

38:06-38:17 dur :11

Jim Spence

Video: Spence on camera

Soundbite: "It's a very wide range of competing interests in trying to balance for the optimum solution."

38:17-38:24 dur :07

Tom Patton

Video: Patton on Camera

Soundbite: Attesting to the benefit of increased quantity of data.

38:24-38:40 dur :16

Pierre Stephens

Video: Stephens on Camera

Soundbite: Snow Survey is the best data stream we have in producing forecasts. I wouldn't have a job without it.

38:40-39:08 dur :28

ROCKWELL TURBO COMMANDER aircraft in flight, music up, fadeout