

**“VISUALIZATIONS OF WEATHER AND CLIMATE”
B-ROLL SHOT LIST
10/3/05**

TRT: 15:06 minutes

00:07-14 Titles and Credits

00:15 **CCSM 2**
CO 2 RUN — ARCTIC SEA CAPS
Sea Ice Depiction, Years 220 (present-day) to 369, CO2 increasing at 1%
per year

00:22-00:43 CCSM2 animation
CO2 Run Jul-Aug-Sept Average Year 227 - 360

00:46 **CCSM YEARS 1870-2099**
Depiction of average summer global temperature (Jul-Aug-Sept)

00:53-01:25 A CCSM Simulation of Summer Surface Temperature Years
1870-2099

01:34-2:30 **CCM (T85 VERSION)**
CCM (T85 Version 1) Depiction of CO 2 uptake by vegetation - Seasonal
Evolution

02:35-03:48 CCM (T85 Version 2) Depiction of CO 2 uptake by vegetation - Hourly
Evolution

03:49-3:57 Titles and Credits

03:58-04:35 **VISUALIZATION**
Spread of Low-Level Ozone Courtesy of NCAR
This atmospheric chemistry model helps scientists track the global spread
of low-level ozone (green) and nitrogen oxides (blue).

04:36-05:30 Animation — The Greenhouse Effect. Earth’s atmosphere acts like a
greenhouse, letting in the sun’s energy but trapping heat radiated by the
Earth.

04:46 Top of Earth close up

04:50 Arrows from atmosphere hitting Earth and then bouncing off

04:57 Top of Earth close up

05:02 Earth rotation with black space as background

05:05 The Greenhouse Effect

05:06 Greenhouse Gases/Surface Temperature

05:08 Incoming solar radiation

05:10 Reemitted radiation

05:12 Radiation emitted into space-absorbed radiation

05:18 Arrows

- 05:30-6:30 **VISUALIZATION**
PRECIPITABLE WATER VAPOR
 Courtesy of NCAR
 Water vapor in the atmosphere is predicted to increase as the climate warms. Scientists are studying changes in water vapor using visualizations like this one from the NCAR Climate System Model. CCM3/T170 NCAR/CRIEPI July 5-31
- 06:31 **VISUALIZATION**
 Air Flow through Hurricanes courtesy of COMET
 This graphic depicts the typical circulation of a mature hurricane. Air enters at low levels rises through the eye, and emerges from the top of the storm as outflow.
- 06:35 Animation – inflow
 06:41 Outflow
 06:46 Eye/eyewall
 06:58 Inflow
 07:07 Outflow
 07:16 Eye/eyewall
- 07:28 **ANIMATION**
 El Nino & La Nina Evolution (top view) changes in ocean and air circulation across the tropical Pacific help create both El Nino and La Nina
- 07:30 Normal ocean circulation showing equator
 07:31 Trade Winds
 07:50 El Nino trade winds
 08:00 El Nino – weakening trade winds
 08:03 Trade winds
 08:08 Normal w/Equator
 08:09 Trade winds
 08:15 La Nina strengthening Trade winds showing equator
 08:22 La Nina trade winds showing equator
- 08:26 **ANIMATION**
 El Nino and La Nina Evolution Cross-Section
 In El Nino, warm waters spread eastward across the tropical Pacific. In La Nina, the warm waters retreated westward and cold upwelling increases to the east.
- 08:35 Normal Trade Winds Thermocline and Upwelling depicted
 08:41 El Nino Trade Winds Thermocline and Upwelling depicted
 08:42 El Nino Weakening Trade Winds Thermocline and Upwelling
 08:48 El Nino Trade Winds Thermocline and Upwelling depicted
 08:50 Normal Trade Winds Thermocline and Upwelling depicted
 08:57 La Nina strengthening Trade Winds Thermocline and Upwelling depicted
 09:03 La Nina Trade Winds

09:06	ANIMATION How a Global Climate Model Works Modelers use a 3-D grid to depict the ever-changing state of the atmosphere.
09:11	Earth animation
09:17	Grid over Earth
09:18	Smaller grid over Earth
09:29	Close-up of grid
09:36	Close-up of grid over top of Earth model
09:37	Ten-line grid emerges from globe (vertically & horizontally)
09:45	Two layer rectangular grid
09:52	Four instrument models emerge
10:04	Numbers appear in background
10:18	Two layer rectangular grid – clean image
10:20	Earth model emerges
10:30	Earth model w/grid enveloping it
10:40	Earth model with grid rotating Day 1 – 6
10:48	Year 2005
10:50	Year 2010
10:51	Year 2015
10:53	Year 2020
10:54	Year 2025
10:56	Year 2030
10:58	Year 2035
10:59	Year 2040
11:00	Year 2045
11:02	Year 2050
11:05	CCSM 3 - Global Surface Temperature Warming
11:21	Simulation of the historical climate (1870 to2000) and future climate change (2000-2099) for a medium green house gas emission scenario.
12:53	CCSM 3 - Global Climate Change as simulated by CCSM 3
13:15	Simulation of the historical climate (1870 to2000) and future climate change (2000-2099) for a medium green house gas emission scenario. (dual global display)
14:50	UCAR credits