

ULTRAVIOLET (UV) RADIATION WARNING
ATMOSPHERIC OZONE DEPLETION, HUMAN HEALTH, CROP PRODUCTION

<http://newswithviews.com/Peterson/rosalindA.htm>

<http://newswithviews.com/Peterson/rosalind10.htm>

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The Environmental Protection Agency (EPA), gives the following ultraviolet radiation (UV), information on their website:

“...The ozone layer forms a thin shield in the upper atmosphere, protecting life on Earth from the sun's ultraviolet (UV) rays. In the 1980s, scientists began accumulating evidence that the ozone layer was being depleted. Depletion of the ozone layer results in increased UV radiation reaching the Earth's surface. Overexposure to UV radiation can lead to serious health effects, such as skin cancer, cataracts, and immune suppression...” (12) The EPA has been measuring these readings for almost three decades. (15) NASA notes that: “...increased exposure to UV-B radiation has specific effects on human health, crops, terrestrial ecosystems, aquatic ecosystems...and all marine life...” (6)

According to NASA, “...aerosols in the troposphere, such as dust and smoke, not only scatter but absorb UV-B radiation...in some circumstances, aerosols can contribute to an increase in UV exposure at the surface...” If ice particles form (from persistent jet contrails as one example), “...The ice particles...allow complete chemical reactions to take place in a manner than can deplete stratospheric ozone...” (23), thus, allowing high UV radiation readings at the Earth's surface.

In 2003, the EPA began to note that their old UV Rating System was inadequate due to ever-increasing UV readings. It should be noted that the old system went from 1 (Low) to 11+ (Extreme). Thus, a new rating system was devised, and without any real public notification, was changed from 10+ to 15. This is a staggering increase in UV radiation being found in the United States and around the world. The EPA records these daily readings on their website and issues “High” and “Extreme” alerts which are, for the most part, ignored by meteorologists and weather news forecasters.

The following is the EPA Index Scale (16), with definitions:

UV Index Scale

- 1) **Extreme 11-15+:** A UV Index reading of 11 or higher means extreme risk of harm from unprotected sun exposure. (10 minutes or less for skin damage to occur at 11. If the UV reading is higher than 11, skin damage will occur faster.)
- 2) **Very High 8-10:** A UV Index reading of 8 to 10 means very high risk of harm from unprotected sun exposure. (15 minutes for skin damage to occur.)
- 3) **High 6-7:** A UV Index reading of 6 to 7 means high risk of harm from unprotected sun exposure. (30 minutes for skin damage to occur.)
- 4) **Moderate 3-5:** A UV Index reading of 3 to 5 means moderate risk of harm from unprotected sun exposure. (45 minutes for skin damage to occur.)
- 5) **Low 2 or Less:** A UV Index reading of 2 or less means low danger from the sun's UV rays for the average person. (60 minutes for skin damage to occur.)

Prior to 2004, "Extreme" was listed as 8-10+, and now "Extreme" has been shifted from 11 to 15+. With many readings across the United States, according to the EPA, being listed in the "Extreme" range means that something has happened which has increased UV radiation readings.

We do know that the ozone layer forms a thin shield in the upper atmosphere which protects the Earth from the sun's ultraviolet rays. It is now believed that a variety of problems due to man-made atmospheric experiments, unchecked pollution, jet fuel emissions (including nitric oxide which is known to deplete beneficial atmospheric ozone (25)), persistent jet contrails, jet produced water vapor (a greenhouse gas), and ice crystals, are all contributing to the depletion of beneficial atmospheric ozone which has been protecting Earth for centuries.

Our unchecked and unregulated atmospheric experiments are beginning to take a toll on the fragile atmosphere which protects all life on earth...including plant life. (See archive of articles on this subject: <http://newswithviews.com/Peterson/rosalinda.htm> Are these atmospheric programs contributing to ice melt around the world?) Human and animal health, tree health, agriculture crop health, marine life...and more...all depend upon atmospheric ozone for protection. When technological experiments and man-made pollution upset this atmospheric balance, we create an environment which is beginning to disrupt the very plant life that we depend upon for food. It is critical that we all address these issues and begin to eliminate or reconsider the effects of these programs on human and plant health.

Most meteorologists and weathermen across the United States are not noting the high UV radiation readings in local areas. There is a weathermen "banter" sometimes about wearing sunscreen to protect ourselves against too much sun exposure and warning us to put on sunscreens or stay out of the sun. (Television advertisements are everywhere selling various sunscreen products which may or may not work.) However, most local weathermen don't notify the public about how high the EPA radiation readings are nor do they let people know how fast skin and eye damage occurs when the readings increase to the "Very High" or "Extreme" ranges. Why isn't the public being warned when the EPA sends out these alerts?

The Washington Post reported on July 11, 2008, that the most dangerous form of skin cancer, Melanoma, is on the rise in the United States. (18) The National Cancer Institute study did not examine the reasons for this increase. Could increasing UV radiation levels be a significant contributing factor for these increases?

We depend upon pollinators and honey bees for the pollination process which provides the great majority of our food supplies. Nature (2007), (10): "...The bee is capable of navigating, even on a cloudy day, by cloud-penetrating ultraviolet light. Honey bees also use the sun as a reference point to communicate to other bees the angle of flight to be followed to arrive at newly discovered nectar-bearing flowers." Could the increasingly high UV radiation and Infrared readings be disrupting their ability to navigate, causing their decline? Why aren't we investigating this possibility?

Rickets in children is on the rise in the United States. This bone disease was not in evidence in the United States since laws were enacted to not allow children to work as slave labor in coal mines. Now, a resurgence in this disease is on the increase. Persistent jet contrails may produce, according to NASA, man-made clouds that cover the Earth by adding water vapor (a greenhouse gas), to the atmosphere. Could man-made clouds and white haze be a major cause of the decrease in direct sunlight hitting the earth, preventing humans and animals from receiving enough Vitamin D to prevent rickets? (19-21)

In addition, crop damage which is thought, in some cases, to be caused by frost damage, is now known to be caused by "Very High" and "Extreme" UV or Infrared radiation readings. Many times yellowing or crisping of leaves, wilting agriculture crops, grapes turning to raisins too soon, and the burning of fruits and vegetables on the vine, are not associated with these high UV radiation readings

due to lack of information and warnings. UV crop and tree health warnings are not given out by weathermen or the news media when they occur in many states and localities across the United States, upon reaching dangerous levels. And no one is making a determination whether crop damage is produced by frost or high UV and Infrared readings.

NASA studies reveal "...UV-B impairs photosynthesis in many (plant) species. Overexposure...reduces size, productivity, and quality in many of the crop plant species that have been studied (among them, many varieties of rice, soybeans, winter wheat, cotton, and corn.)...an increase in UV-B radiation has the potential to cause a shift in species composition and diversity in various ecosystems..." Most importantly, "...Overexposure to ultraviolet radiation can change the flowering times of some kinds of plants and therefore will affect the animals that depend upon them..." These changes also have negative affects on pollinators that are needed for crop and flower pollination. (6)

In California some Redwood and other types of trees are showing increasing symptoms (dying or abnormally yellowing or browning leaves, abnormal crisping of plant and crop leaves), on the tops of trees, which are not being investigated in many areas of the United States. No one seems to know why the Redwood trees are dying from the top down in many Northern California areas...and no one wants to investigate the issue of "High" UV and Infrared readings as a possible major cause of this decline or the decline of many varieties of trees across the United States. (How are these increases related to ice melting around the world?)

Why do we need direct sunlight reaching the earth? 1) Direct sunlight is needed for crop production, 2) Direct sunlight is needed to allow for photosynthesis, a process needed for all living things to grow, 3) Direct sunlight works as a form of "disinfectant", killing viruses, molds, and mildew, and 4) Direct sunlight provides Vitamin D that aids in the prevention of diseases like rickets. If we artificially geoengineer our skies with technological fixes, putting chemicals, particulates, or man-made clouds into our atmosphere to fight climate change / global warming, we could be disrupting direct sunlight from reaching the earth. This would degrade human and plant health while reducing the amount of sunlight needed to power solar panels.

There is a paradox discovered by a team of solar physicists at the New Jersey Institute of Technology (NJIT 2006). They have discovered that there is less sunlight reaching the earth's surface which has not translated into cooler earth temperatures. This study raises questions about how global temperatures can rise when the amount of sunlight reaching the earth's surface has decreased. And it also raises questions about why UV and Infrared radiation readings are increasing while less sunlight is reaching the earth. This leads to questions about man-made clouds being different than normal clouds and how the production of man-made clouds may increase temperatures and UV radiation reaching the earth during the past five years. (23)

The Earth's fragile ozone shield is damaged, allowing UV and Infrared radiation to reach the earth degrading human and plant health, along with crop production. Technology cannot replace our ozone atmospheric shield with increased man-made cloud cover because this process exacerbates global warming and changes our climate, once again negatively impacting human health and agriculture. We must begin to stop atmospheric programs and emissions that are threatening to increase the size of the ozone hole. Only through a reduction of our man-made actions can we restore the balance needed to protect all life on earth.

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1, Wikipedia Ultraviolet Radiation <http://en.wikipedia.org/wiki/Ultraviolet>

2, Wikipedia Osteomalacia <http://en.wikipedia.org/wiki/Osteomalacia>

3, NASA Ultraviolet Radiation Spectrum <http://science.hq.nasa.gov/kids/imagers/ems/uv.html> Honey & Bumble Bees could be negatively impacted by higher UV Radiation readings.

4, NASA Infrared Electromagnetic Spectrum – This creates the heat we feel from the sun. Infrared heat has never felt as intense at times, even during cooler temperatures, as in the last few years. More and more people are noticing the more “intense hot burning sensation” since 2003. (The change in the color of the sun from yellow to a whiter look also occurred about 2002.)

<http://science.hq.nasa.gov/kids/imagers/ems/infrared.html>

5, NASA Ultraviolet Radiation Affects Life on Earth September 2001
<http://earthobservatory.nasa.gov/Library/UVB/>

6, NASA Ultraviolet Radiation UV-B Affects Life on Earth Plants & Animals - Pollinators
http://earthobservatory.nasa.gov/Library/UVB/uvb_radiation2.html

7, NASA Ultraviolet Radiation Affects Life on Earth – Surface
http://earthobservatory.nasa.gov/Library/UVB/uvb_radiation3.html

8, NASA Ultraviolet Radiation “How Much UV-B reaches earth?”
http://earthobservatory.nasa.gov/Library/UVB/uvb_radiation4.html

9, NASA Ultraviolet Radiation Predictions & Monitoring “...**Greenhouse gas emissions may delay the recovery of ozone by 15 to 20 years beyond 2050. Although greenhouse gases warm the lower atmosphere, they cool the stratosphere. Cooling increases cloud formation in the stratosphere, and ozone-depleting chemical reactions take place on ice crystal surfaces in those clouds...**” Note: Jet Contrails are made up of water vapor, ice crystals and toxic jet fuel emissions (including ozone depleting Nitric Oxide), and particulates. What are the synergistic impacts of mixing greenhouse gases with jet fuel emissions and persistent jet contrails, which NASA states exacerbate global warming, creates man-made clouds, and changes our climate, negatively affecting natural resources?
http://earthobservatory.nasa.gov/Library/UVB/uvb_radiation5.html

10, Honey Bees (Nature 2007) <http://www.nature.ca/notebooks/english/bees.htm>

Apiidae “Bees belong to the third largest insect order which also includes wasps and ants. Together, these creatures pollinate crops, turn over the soil more effectively than earthworms, and, in the case of the bee, furnish food in the form of honey. Even more importantly, some members of this order prey on other insects -- the single most important factor in keeping the Earth's insect population in check.

The bee's eyes, like those of other insects, differ greatly from human eyes. They consist of a pair of compound eyes made up of numerous six-sided facets (28,000 in some dragonflies, 4,000 in house flies) plus three simple eyes. Despite this, their vision is believed to be sharp only for a distance of about 1 m. **Bees, however, are capable of seeing ultraviolet light, which is invisible to humans. The bee is capable of navigating, even on a cloudy day, by cloud-penetrating ultraviolet light. Honey bees also use the sun as a reference point to communicate to other bees the angle of flight to be followed to arrive at newly discovered nectar-bearing flowers.** Could Honey & Bumble Bee decline be traced to Ultraviolet Radiation increases and changes?

11, Environmental Protection Agency (EPA) Ultraviolet Radiation Information
<http://www.epa.gov/sunwise/uvradiation.html>

12, EPA General Information <http://www.epa.gov/sunwise/about.html>

13, EPA 1999 Information on Ozone Depletion <http://www.epa.gov/sunwise/doc/health.pdf>

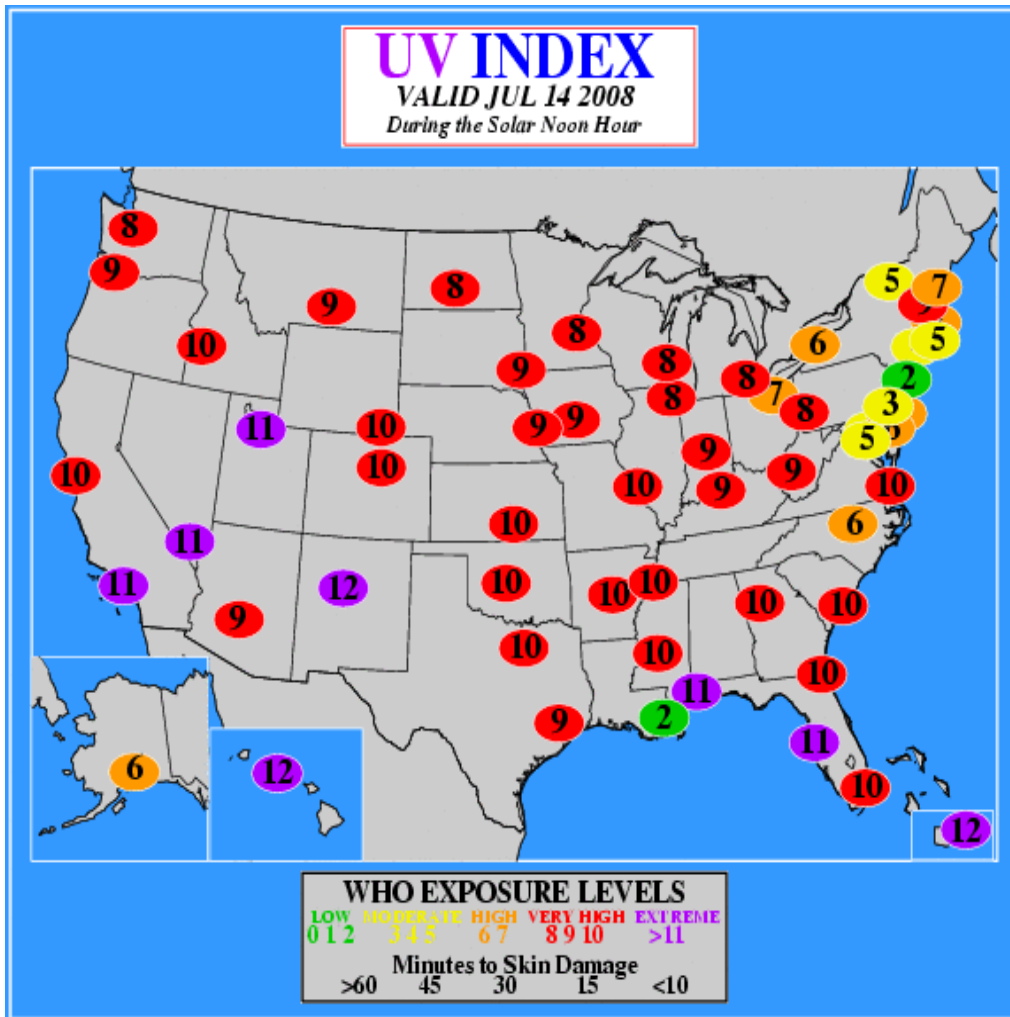
14, EPA Sunwise Website <http://www.epa.gov/sunwise/http://www.epa.gov/sunwise/>

15, EPA Ultraviolet Radiation History & Daily UV Color & Cities Maps
<http://www.epa.gov/sunwise/uvindex.html>

- 16, EPA Index Scale & Definitions <http://www.epa.gov/sunwise/uvindex2.html>
- 17, UV Index Cities Map – July 14, 2008 Environmental Protection Agency

<http://www.epa.gov/sunwise/uvindexmap.html>

This map shows predicted UV Index values during the [solar noon](#) hour for about 50 U.S. cities. It is created daily by the National Weather Service. **Note how many minutes to skin damage for each UV category.**

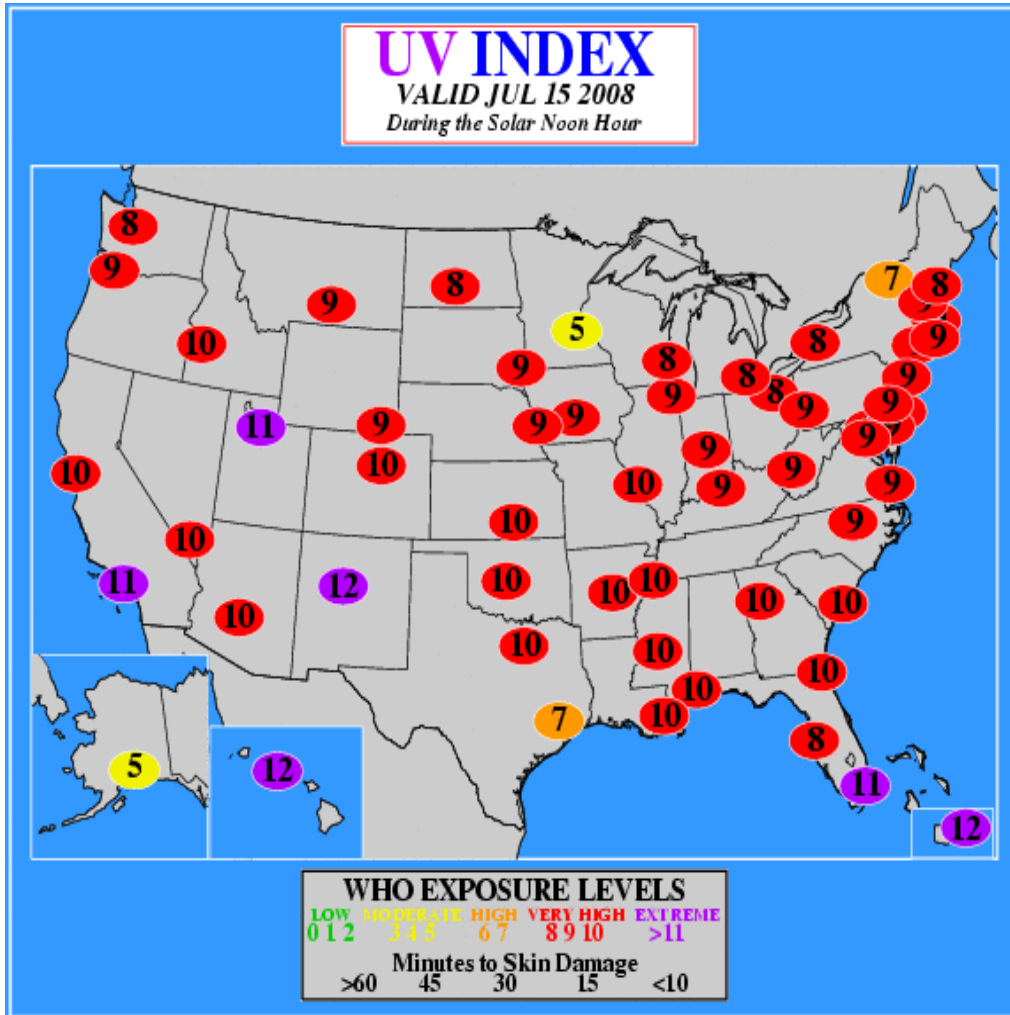


- 18, Melanoma Cases Rise in the United States – Most dangerous form of Skin Cancer – The Washington Post July 11, 2008 <http://www.washingtonpost.com/wp-dyn/content/article/2008/07/10/AR2008071001231.html?hpid=sec-health>
- 19, Rickets Increasing 2007 http://www.cdc.gov/breastfeeding/recommendations/vitamin_D.htm
- 20, Rickets Increasing 2007 <http://www.emedicine.com/radio/topic610.htm>
- 21, Rickets Increasing = Lack of Vitamin D 2007 <http://www.aafp.org/afp/20060815/619.html>
- 22, **HAARP HF(High Frequency) ACTIVE AURORAL RESEARCH PROGRAM**
JOINT SERVICES PROGRAM PLANS AND ACTIVITIES - AIR FORCE GEOPHYSICS LABORATORY
– NAVY OFFICE OF NAVAL RESEARCH <http://www.viewzone.com/haarp.exec.html>

This program could be one cause of the increase in UV and Infrared radiation reaching the earth. Their atmospheric heating and other experiments could be harming the Earth's protective shield. There is no public or U.S. Congress oversight of this program or the unknown consequences of these atmospheric experiments. Isn't it time to investigate the consequences of their experiments on our atmosphere?

- 23, [New Jersey Institute of Technology Study 2006 Less Sunlight, Temperatures Rise](http://www.eurekaalert.org/pub_releases/2006-01/njio-nsp012306.php)
http://www.eurekaalert.org/pub_releases/2006-01/njio-nsp012306.php Man-Made Clouds?

Global Dimming – Paradoxes



- 24, <http://yosemite.epa.gov/oar/globalwarming.nsf/content/Glossary.html> EPA Glossary of Terms
- 25, <http://www.epa.gov/oms/regs/nonroad/aviation/r99013.pdf> EPA Jet Fuel Emissions 1999
- 26, http://en.wikipedia.org/wiki/Nitric_oxide Nitric Oxide Wikipedia
- 27, <http://www.npi.gov.au/database/substance-info/profiles/pubs/oxides-nitrogen.pdf> Nitric Oxide Facts
- 28, http://science.nasa.gov/headlines/y2008/18jul_airs.htm?list168735 NASA Measuring Infrared Radiation July 18, 2008 Improves Weather Reporting – Cloud Information
- 29, http://nadp.nrel.colostate.edu/UVB/uvb_site_map.html UV-B USDA Colorado State Monitoring & Research Program - Site-Map

- 30, <http://nadp.nrel.colostate.edu/UVB/publications/3dmodel07-12-00.pdf> UV-B USDA Study 2000
Agricultural Vegetation Canopies
- 31, http://nadp.nrel.colostate.edu/UVB/uvb_whats_new.html UV-B USDA Monitoring Research Program
History March 21, 2008
- 32, http://nadp.nrel.colostate.edu/UVB/publications/uvb_primer.pdf UV-B USDA Definition
- 33, http://nadp.nrel.colostate.edu/UVB/ag_effects/index.htm The Center of Remote Sensing and
Modeling for Agricultural Sustainability (CRSMAS) in the USDA UV-B Monitoring and Research
Program has been conducting two major research projects: 1. Evaluate response of plants, forests,
ecosystems, and animals to UV-B and other climate stress factors; 2. Develop an Integrated Agricultural
Impact Assessment System.
- 34, http://nadp.nrel.colostate.edu/UVB/ag_effects/team/team.html UV-B USDA Agriculture Sustainability
Key Players
- 35, http://nadp.nrel.colostate.edu/UVB/uvb_ecoregion_map_legend.html UV-B USDA Colorado State
University United States Program Sites
- 36, http://nadp.nrel.colostate.edu/UVB/jsp/uvb_climate_network.jsp UV-B USDA Colorado State University
United States Climate Network
- 37, http://nadp.nrel.colostate.edu/UVB/uvb_publications.html#top UV-B Radiation USDA Colorado State
University Publications
- 38, http://nadp.nrel.colostate.edu/UVB/uvb_resources.html#environmental UV-B USDA Monitoring
Research Programs Items of Interest – Human Health - Agriculture
- 39, <http://www.ciesin.org/TG/HH/ozover.html> UV-B Radiation Overview of Health Effects from
Increased UV-B Exposure & Ozone Depletion 2008
- 40, <http://www.ciesin.org/TG/HH/ozhlthhm.html> UV-B Radiation Information
- 41, <http://www.ciesin.org/docs/001-503/001-503.html> Ultraviolet Radiation Effects on Biological
Systems Diffey 1991
- 42, UV EPA Site Map http://www.cpc.ncep.noaa.gov/products/site_index.shtml
- 43, UV EPA “Blocking” <http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/block.shtml>

Can Atmospheric Blocking be Artificially Induced by H.A.A.R.P. or other Atmospheric Programs?

Atmospheric blocking is commonly referred to as the situation when the normal zonal flow is interrupted by strong and persistent meridional flow. The normal eastward progression of synoptic disturbances is obstructed leading to episodes of prolonged extreme weather conditions. On intraseasonal time scales the persistent weather extremes can last from several days up to a few weeks, often accompanied by significant temperature and precipitation anomalies. Examples of the 500 hPa height and anomaly fields associated with mature blocking episodes over the [northeastern Atlantic](#) and the [North Pacific](#). These two regions are preferred areas for atmospheric blocking during the [northern hemisphere cold season](#).

A common finding among scientific studies is that these long-lived weather extremes are associated with recurrent atmospheric flow anomalies. Numerous studies have found that the poor forecast skill beyond a few days results principally from the inability of numerical weather prediction models to simulate the onset and evolution of blocking flows.

- 44, EPA Climate Glossary <http://www.cpc.ncep.noaa.gov/products/outreach/glossary.shtml>
- 45, NOAA Precipitation & Temperature Changes <http://www.cpc.ncep.noaa.gov/charts.shtml>
- 46, KTVU Channel 2 – Oakland / San Francisco, CA July 28, 2008 Program on Experimental
Weather Modification <http://www.ktvu.com/video/17022143/index.html>