

“I’ve never seen it this bad.”

Flooding in Darien

If you ask engineers to solve a flooding problem, the first question they ask is:
Why is it flooding so much?

Common answers:

- Historic filling of wetlands and floodplains
- Sedimentation of ponds and watercourses
- Suburban and urban development of entire watersheds resulting in significant (25%+) impervious coverage
- Minimal stormwater quantity/quality control
- Undersized culverts in select locations

Those are the typical answers
an engineer or hydrologist will give –
and the answers are accurate.

But they don't explain the following...

Heavy Storms in the last 12 months

Date	Depth	Event
April 22-23, 2006	5.66 in.	25 year
May 11-12, 2006	2.95 in.	1 year
Aug. 26-28, 2006	5.68 in.	25 year
October 12, 2006	3.44 in.	2 year
March 1-2, 2007	3.20 in.	2 year

Data from Bridgeport ASOS; Event rating based on 24 hour time period

What is going on?

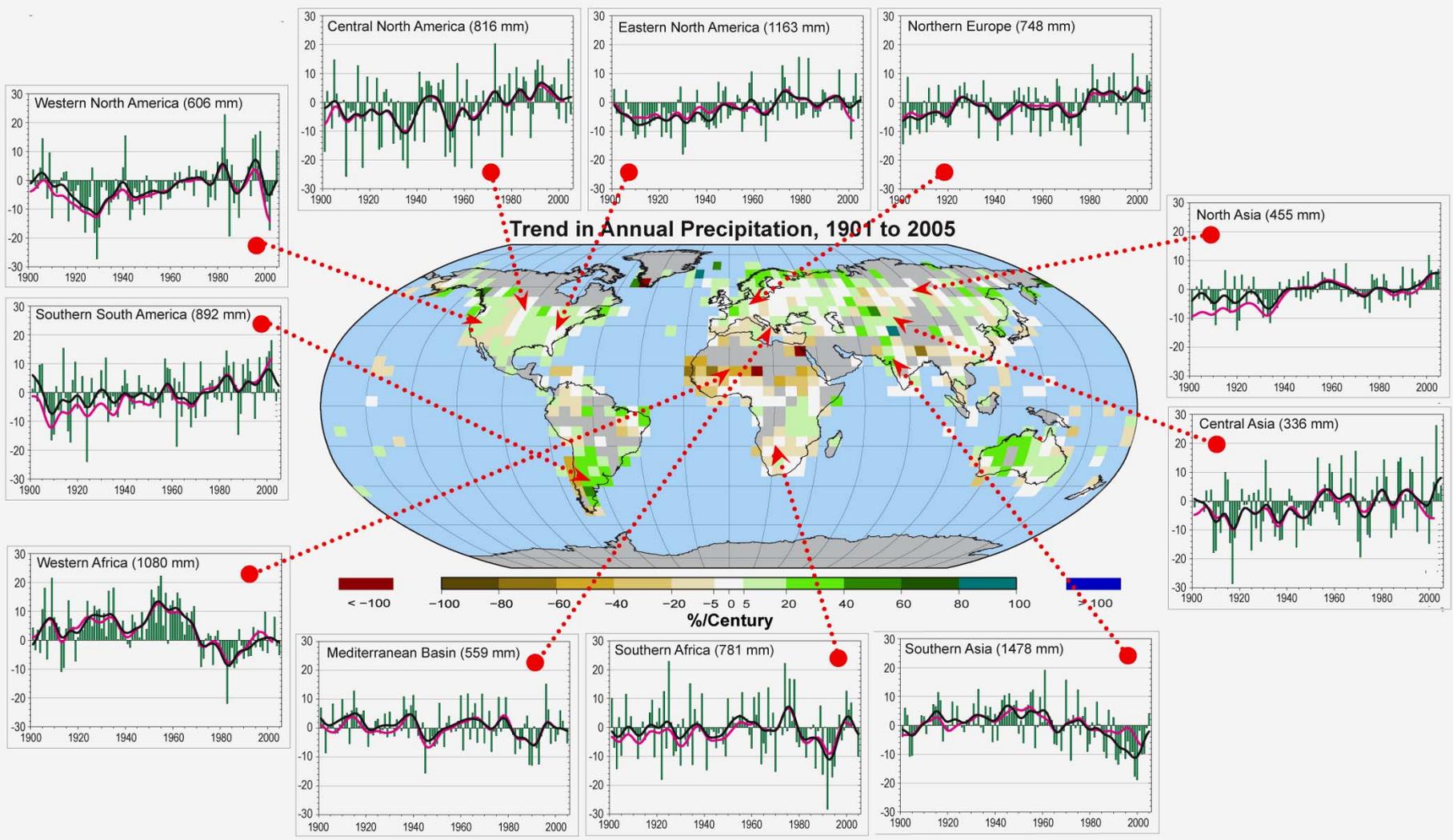
Is this an anomaly?

Is this a trend?

Quotes from the **International Panel on Climate Change** *February 2007 Report*

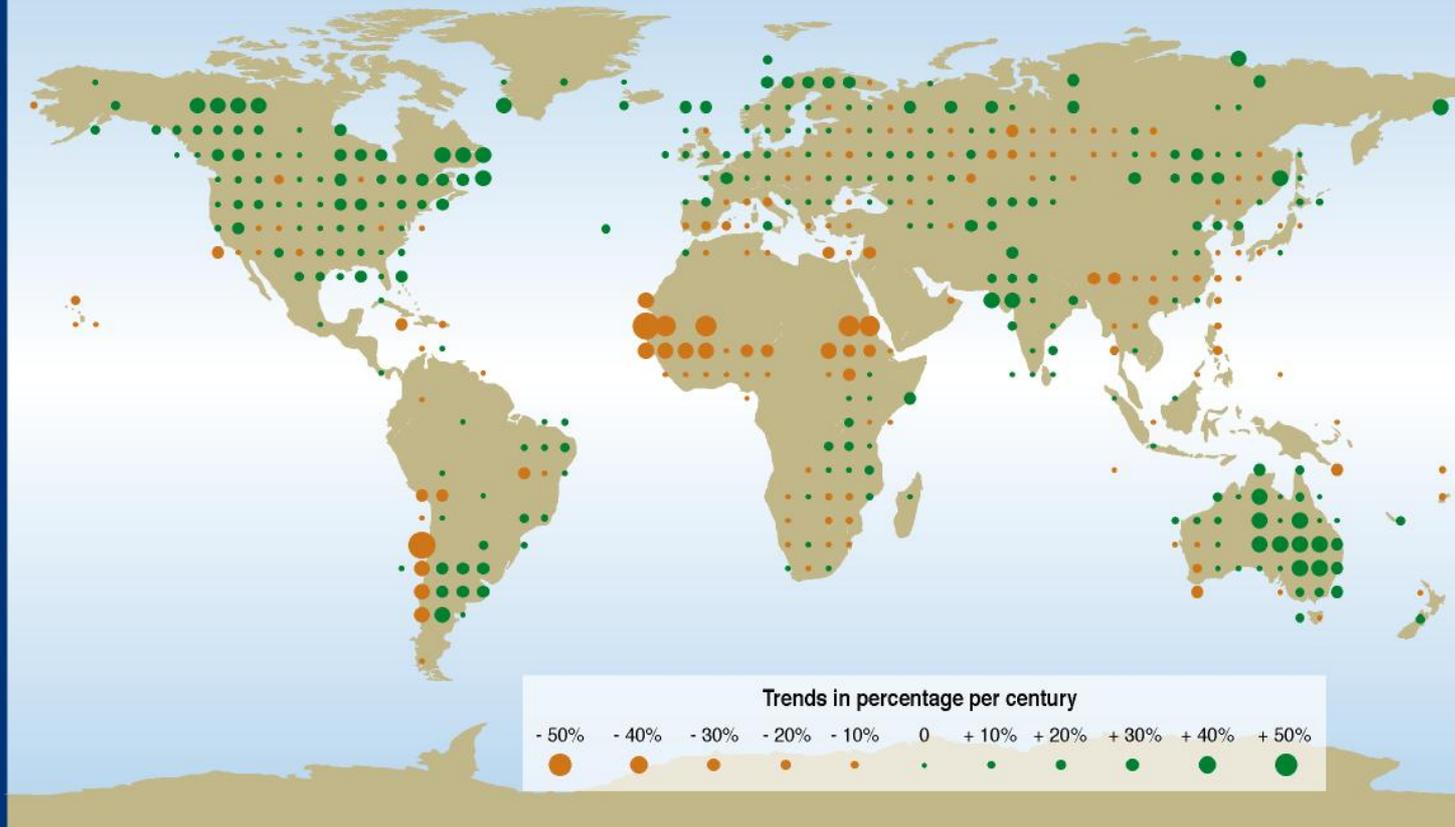
- Long-term trends from 1900 to 2005 have been observed in precipitation amount over many large regions.
- Significantly increased precipitation has been observed in eastern parts of North and South America.
- **The frequency of heavy precipitation events has increased** over most land areas, consistent with warming and observed increases of atmospheric water vapor.

Land precipitation is changing significantly over broad areas



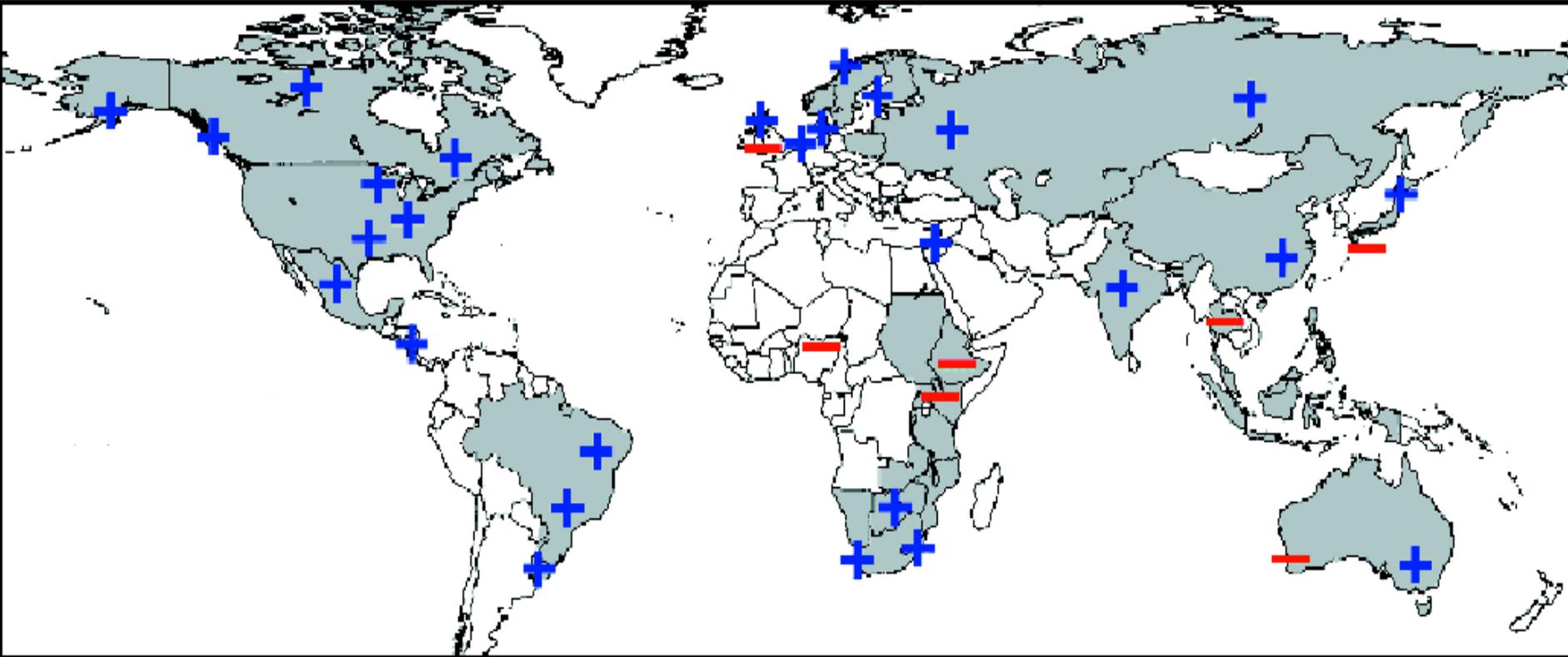
Smoothed annual anomalies for precipitation (%) over land from 1900 to 2005; other regions are dominated by variability.

Annual precipitation trends: 1900 to 2000



SYR - FIGURE 2-6a

Proportion of heavy rainfalls: increasing in most land areas

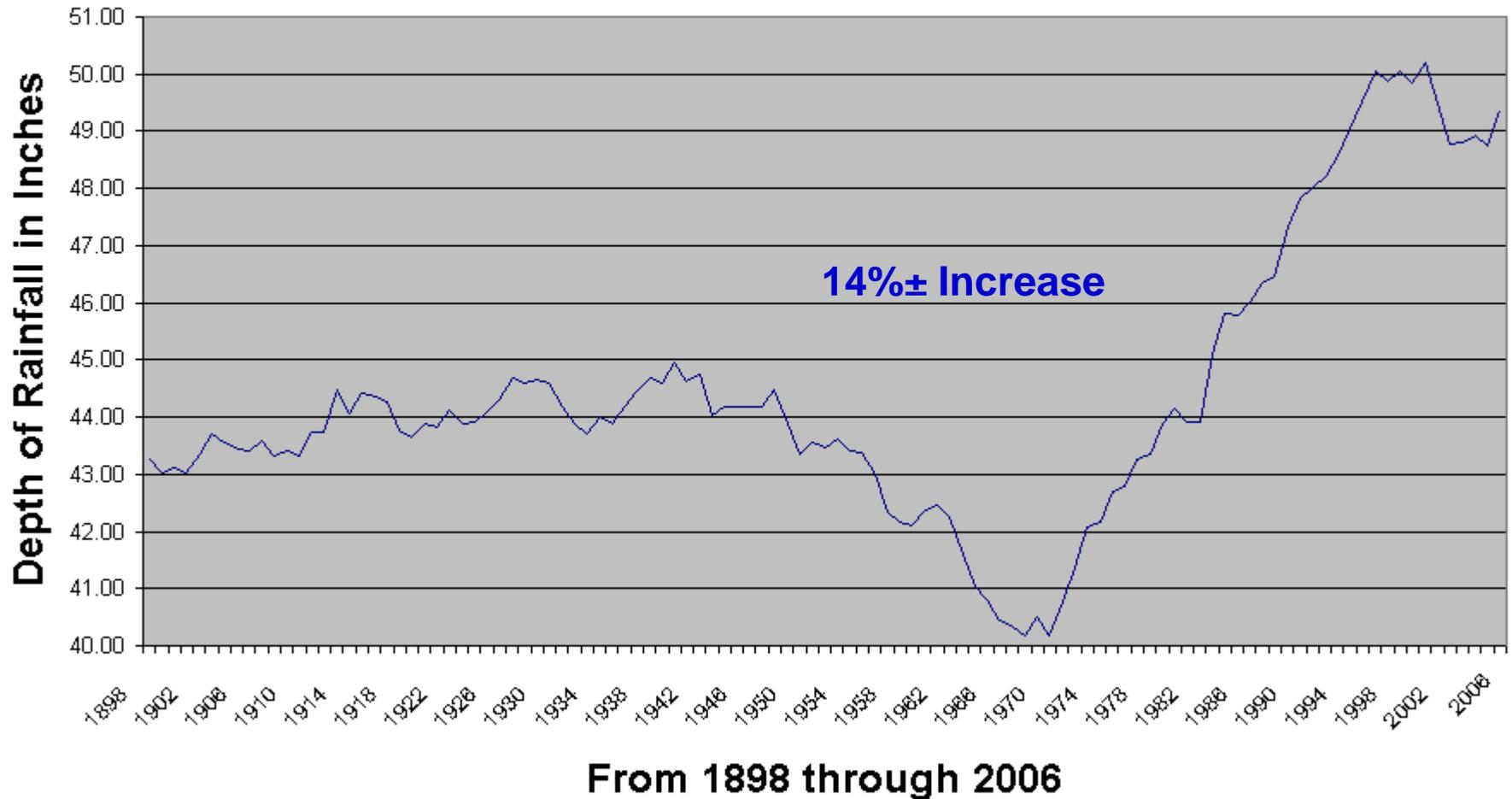


Regions of disproportionate changes in heavy (95th) and very heavy (99th) precipitation

That was world-based regional data.

How does it translate to my
neighborhood?

'Normal' Annual Rainfall - Central Park, NY (30-year moving average)



Central Park, NY

Annual Precipitation Extremes from 1869 to Present

- **Driest Years**

- **26.09 1965**
- **32.99 1964**
- **33.72 1910**
- **33.85 1935**
- **34.28 1963**
- **35.29 1970**
- **35.37 1895**
- **35.37 1885**
- **35.58 1954**
- **35.60 1892**

- **Wettest Years**

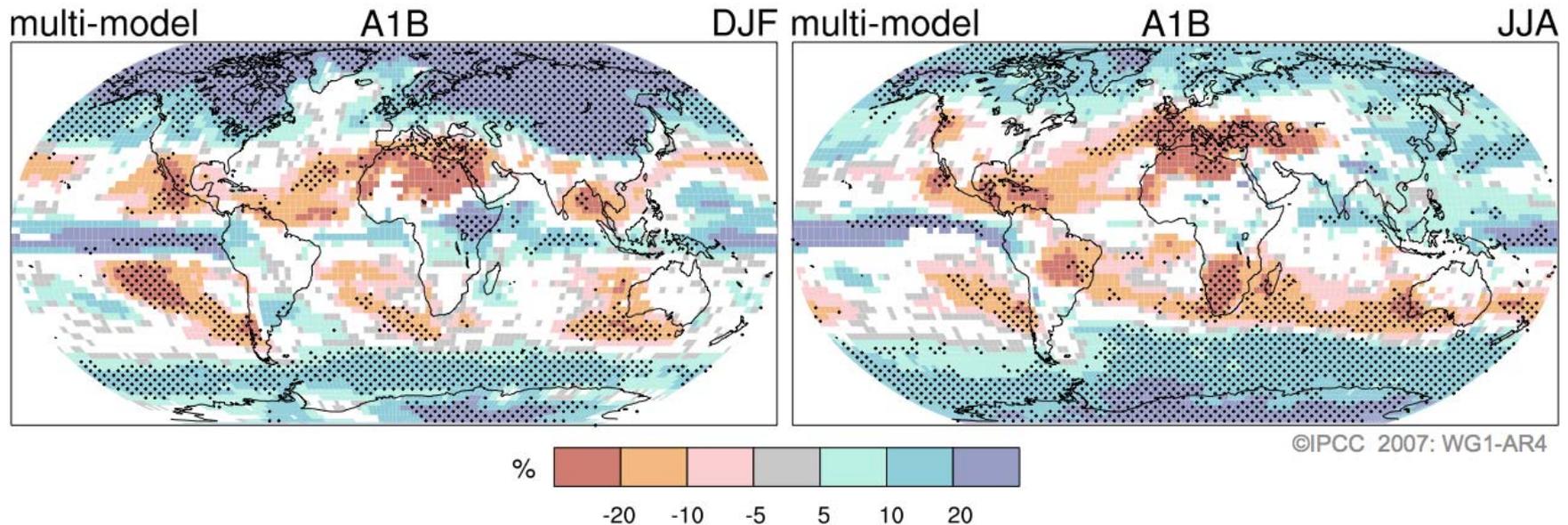
- **57.23 1973**
- 58.00 1913
- 58.32 1903
- **58.56 2003**
- **59.90 2006**
- **60.92 1990**
- **61.21 1975**
- **65.11 1989**
- **67.03 1972**
- **80.56 1983**

All of the driest years occurred before 1971.

8 of the 10 wettest years occurred after 1971.

That was the past, but what about the future?

Projected Patterns of Precipitation Changes



Relative changes in precipitation (in percent) for the period 2090–2099, relative to 1980–1999. Values are for December to February (left) and June to August (right). White areas are where less than 66% of the models agree in the sign of the change and stippled areas are where more than 90% of the models agree in the sign of the change.

More Quotes from the **International Panel on Climate Change** *February 2007 Report*

- It is **very likely** that hot extremes, heat waves, and heavy precipitation events will continue to become more frequent.
- Increases in the amount of precipitation are **very likely** in high-latitudes.

We have entered the Era of CONSEQUENCES

It is time again to think globally and act locally.

What can Darien do to slow climate change?

There are many ideas, and we need them all,
here's one:

The **Connecticut Clean Energy Communities Program**

is a partnership involving the

- Connecticut Clean Energy Fund
- SmartPower
- Community Energy
- Sterling Planet
- Dept. of Public Utility Control
- Office of Consumer Counsel

This program provides Connecticut communities an opportunity to support clean energy alongside its local residents, businesses, and institutions.

The Connecticut Light and Power Company and The United Illuminating Company provide assistance to the partnership through the administration of the [CTCleanEnergyOption](#) Program.

Free Clean Energy for your community is as easy as 1-2-3:

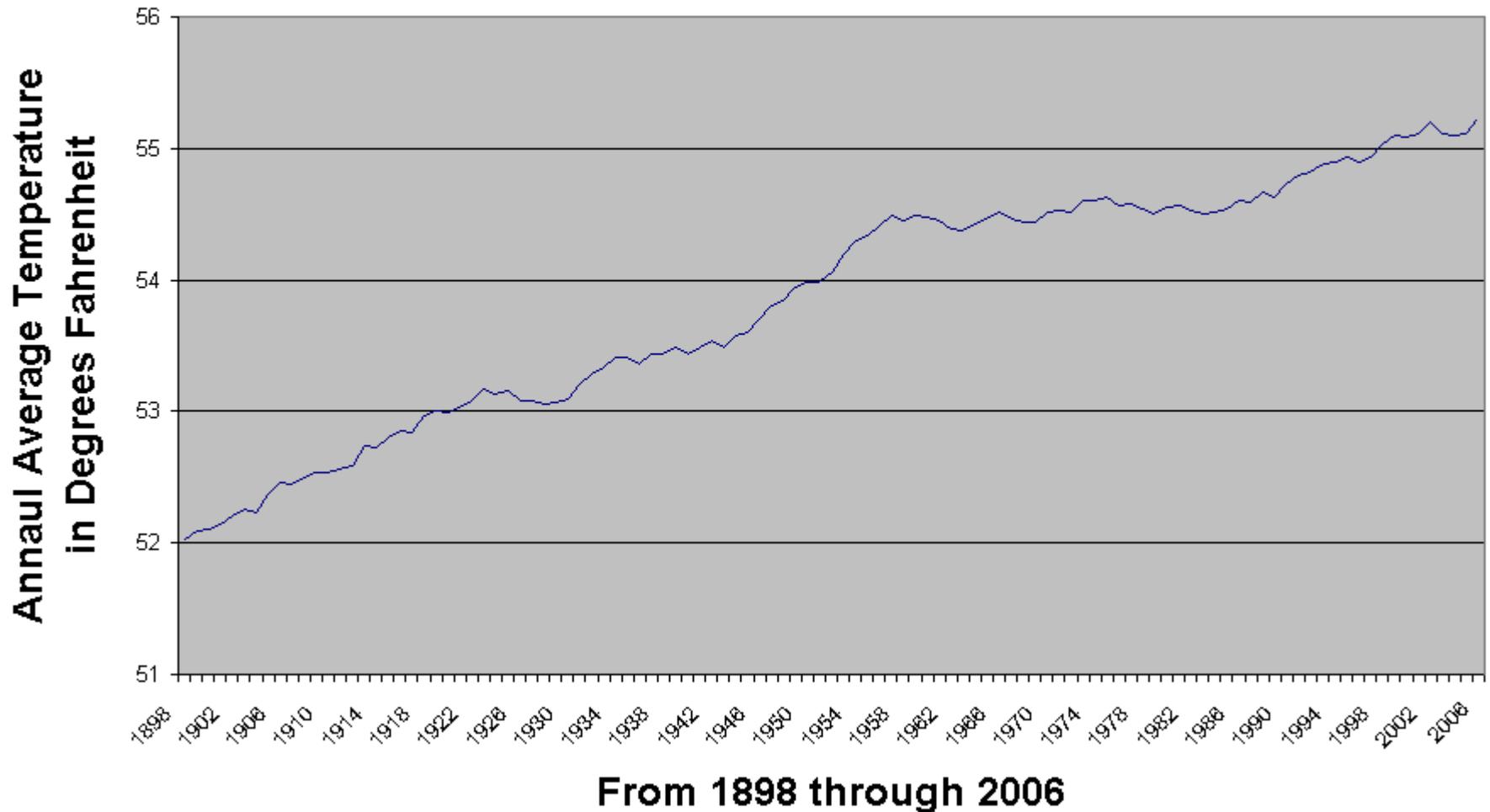
1. Commit to the [SmartPower 20% by 2010](#) Clean Energy Campaign.
2. Sign-up local business and residences in your town or city to the [CTCleanEnergyOption](#) program that is now offered by CL&P.
3. Commit to allocating 100% of the electricity savings resulting from the installation of the free clean energy system to additional town or city purchases of clean energy.

By meeting the above criteria, your town or city can qualify for one or more free solar clean energy systems from the Connecticut Clean Energy Fund.

Along with that system, your town will have real-time access to the performance and operations of that system. The 1st installation of such a system has been commissioned at [Middletown high school](#). In the future, a school-based solar education program will be developed for Connecticut students.

More facts to consider...

'Normal' Temperature - Central Park, NY (30 Year Moving Average)



'Normal' Snowfall - Central Park, NY

(30 Year Moving Average)

