

Science-Fiction Fanzine

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The Israeli Society for Science Fiction and Fantasy

כנס חנוכה של סטארבייס 972

כנס מדע בדיוני מיוחד המיועד לכל מי שאוהבים מדע בדיוני או שרוצים להכיר אותו במיטבו. הכנס, שיכלול הרצאות החוקרות את המדע הבדיוני על צדדיו השונים, ולצדן הקרנות של שני פרקי חובבי מיוחדים ושלו פרקים מסדרות מוכרות, יתקיים ביום ראשון, 17 בדצמבר בשעות 10:00-23:00. מחיר הכניסה ליום מלא: 50 ₪. לחברי האגודה (עם הצגת כרטיס חבר): 40 ₪. אתר המועדון: <http://www.starbase972.com>.

חנוכה 2006

ביום ג', 19 בדצמבר 2006, ערב נר חמישי בחנוכה, יתקיים בבית יד ראשונים ברחוב ברנר 14 בתל-אביב אירוע חנוכה 2006 המוקדש לספרי "הארי פוטר". האירוע, בהפקת חברי קהילת "הארי פוטר לבוגרים" יערך בסימן "דמבלדור: קוסם גדול היה פה" בין השעות 16:30 ו-23:00. כתובת: <http://www.hpottor.org.il>.

חוג מדע בדיוני ברחובות – SFIR - Rehovot Science Fiction Club

ימי א' בשעה 20:00 בפקולטה לחקלאות ברחובות, חדר 2, בבניין ליד הבריכה. הפעילויות ללא תשלום. פעילויות דצמבר: 24.12: הקרנת אוסף סרטים קצרים

31.12: הקרנת הסרט "ההיסטוריה המטרופת של העולם" (History of the World: Part I)

התא הרחובותי גאה להכריז על הרחבת פעילות התא: מדי יום שלישי בשבע יוקרנו מבחר סרטי וסדרות אנימה.

מידע נוסף ניתן לקבל באתר התא (<http://sfir.tk/>) או בדוא"ל sfir42@yahoo.com.

More Society information is available (in Hebrew) at the Society's site: <http://www.sf-f.org.il>

Letters to the Editor

Dear Aharon,

Thanks for another fine *CyberCozen* (October 2006).

The review of the Michael Crichton book *State of Fear* is great. Your neutral stance is also admirable. After seeing the Al Gore movie *An Inconvenient Truth*, in which the title itself proclaims that what he talks about is the truth, one is left with a sense that global warming is absolutely real and it will eventually do many of us in. The Crichton book is a counterbalance to that view. The argument that the truth varies depending on the source (and who funds the source) may have some validity.

I wonder if Crichton himself had a political agenda in writing this book. With the present U.S. government, one never knows what the truth is. Too much is sequestered behind closed doors. The present administration writes its own laws, especially about information they don't want the public to know about. So if global warming is real, or if it is a myth as Crichton says it may be, we cannot know for sure.

Your review makes us think about this -- maybe even act on it. This may not be strictly science fiction, but it deals with science and with fiction, and it is the kind of volume you are right to include in *CyberCozen*. Thanks for a thought-provoking choice and your good treatment of it.

Sid Berger

Predicting the Weather and Predicting Climate **By Amnon Stupp, Ph.D.**

I could give detailed rebuttals to every example you gave from Crichton's book, *State of Fear*, in the October 2006 *CyberCozen*, but there are excellent responses on the internet. See, for example:

<http://www.realclimate.org/index.php?p=74>

Instead I would like to make clear something that it seems to me most people not "in the business" do not understand, and this is the difference between predicting the weather and predicting climate.

The weather forecast tells you what the temperature will be in Tel-Aviv 2 days from now. It is impossible, and will remain impossible in the foreseeable future, to tell you what the temperature would be on a particular day in Tel-Aviv 30 years from now.

Climate is not the weather. Climate is the general pattern of atmospheric conditions. For example, I need no model in order to tell you that August in Israel will be hot and the probability of rain will be vanishingly small, not only in 2007 but also in 2037 .

Global climate models barely see Israel, as there are only a few grid points inside Israel. The global models give very general predictions about large areas. Current climate models were checked against past observations. You start from the conditions at, say, 1948, advance the model 10 years - check global conditions, such as average global temperature. Run the model for the next 10 years - check, another 10 year, etc. The results of the new models are surprisingly good. Surprisingly, just because every person in climate science will tell you that we still do not know and do not understand many many things. Usually, the results for 1 year are considered too variable, so averages of 5 or 10 years are compared with averages of the actual observations.

By the way, if the concentration of CO₂ in the atmosphere is kept as it was in the 1950's and not increased - an increase Crichton admits is a result of human action - the models do NOT fit the observed temperature.

We now take the same successful hind-casting model, start with initial conditions of, let's say, 2000, and advance it 30 years. We then take the results and present them as a very likely fore-cast of what global conditions will be in 2030. Actually, again, what is taken is the average of conditions for example 2030 to 2040 from the model.

Is this what will actually happen in 2030? Most probably not. Is this a good representation of what will be the general behaviour of climate in the 2030's? There is a very good chance it is, unless unforeseen changes occur.

What unforeseen changes? For example, if CO₂ emissions drop to zero because of a miracle energy producing technology. Or, a more likely example, if massive ice-cap melting reduces the Earth's albedo dramatically so that much more heat is absorbed. Or, in a really bad scenario, if large deposits of methane are released into the atmosphere, for example from undersea hydrates, or from melting perma-frost (methane is a greenhouse gas 100 times more effective than CO₂).

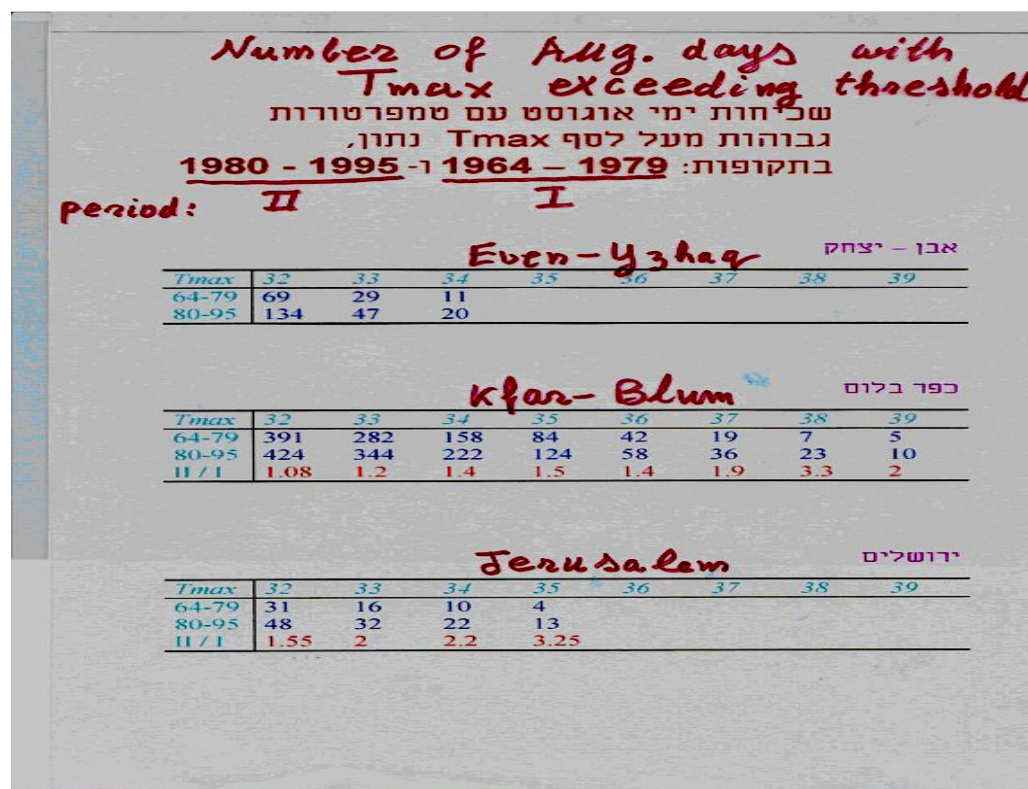
In short, there are many more, and more likely, scenario in which the forecast warming will only be a lower value, and the actual warming will be much much larger.

There is also one more issue I have to comment on, and that is the significance of global warming by one degree. Indeed 1 degree warming sounds like very little. But this is the global annual average. Temperature varies spatially and temporally. For example,

in Tel-Aviv the temperature this Friday (October 27) during the day was about 25 C. At night it was only about 15 C. During winter the average temperature at Tel-Aviv is about 12 C, during summer about 28. And this in the mild Mediterranean climate. In Washington D.C. the temperature can vary from -10 C at night in winter to +40 at day in summer .

The 1 degree average change does not come about through a 1 degree change in the daily temps, instead of 15-25 a change to 16-26. It comes about through much larger changes which average out over time and space. For example, a 1 degree change in average summer temperature can come about through an increase in the number of days with maximum temperature above 35. Such a change has been observed in Israel, and it was felt very strongly in Europe during 2003.

Below are two already old figures, but that's what I had under my hand:



This figure, by Alpert et al., shows the number of hot days has increased significantly over 30 years. Take Jerusalem - the probability of having above 35 C days now is 3 times higher than in the 60's. This also means, of course, that the probability of having consecutive hot days is also much higher, as the French learned in 2003.

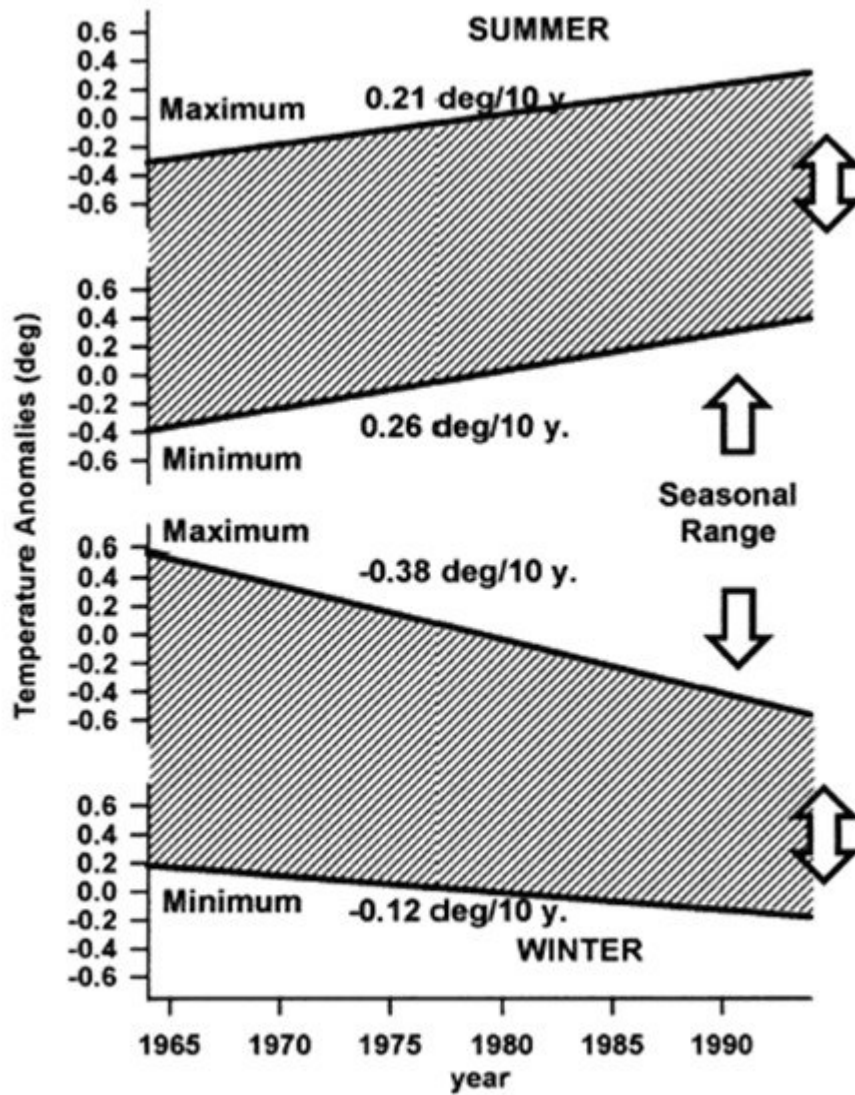


Fig. 6. Fitted serial regression for the median of Tmax and Tmin, for the cool and warm seasons 1964–1994

This figure, by Alpert and Ben-Gai, shows the maximum and minimum temperature in Israel, averaged by season and year, and based on 30 stations if I remember correctly. The maximum temperature of each day is taken, and for each year the average of June-July-August is done, defined as the Summer average of maximum T. The same for December-January-February as Winter average of maximum T. And of course the same for minimum T.

The figure shows that from the 60's to the 90's the maximum temperature has increased in summer, and decreased in winter. The annual maximum would therefore appear not to have increased at all. This is an example of the difference between day-to-day changes, which can be several degrees, and long-term trends, which are much lower. It also shows that climate changes can be subtle.

The latest figures show that the winter cooling has stopped, and now show warming also in winter. I don't have this figure, I saw it in a seminar.

References:

I think it is especially important to publish links because the internet has made it so easy to study up on subjects. Please see below.

The Ben-Gai article (1999) about temperature change in Israel during winter and summer:

T. Ben-Gai, A. Bitan, A. Manes, P. Alpert, S. Rubin, "Temporal and Spatial Trends of Temperature Patterns in Israel", Theoretical and Applied Climatology no. 64, 1999

A more recent article by Saaroni et al. (2003):

Saaroni, Ziv, Edelson, Alpert, "Long-term variations in summer temperatures over the Eastern Mediterranean", Geophysical Research Letters, Vol. 30, No. 18, 1946, doi:10.1029/2003GL017742, 2003

HOWEVER, continuing my point above, I think far more important for lay-persons is a site like www.Realclimate.org

For example, check out

<http://www.realclimate.org/index.php/archives/2006/12/inhofes-last-stand/#more-379>

Or perhaps even better WIKIPEDIA on Global Warming:

http://en.wikipedia.org/wiki/Global_warming

The scientific articles assume a lot of background knowledge, and usually focus on a very specific and limited area / parameter / effect. It can be quite hard to follow the figures, for example, maps of pressure at 850mbar height, etc.

Almost forgot, the IPCC report itself, at least the summary for decision makers, holds a lot of information:

<http://www.ipcc.ch/pub/un/syren/spm.pdf>

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