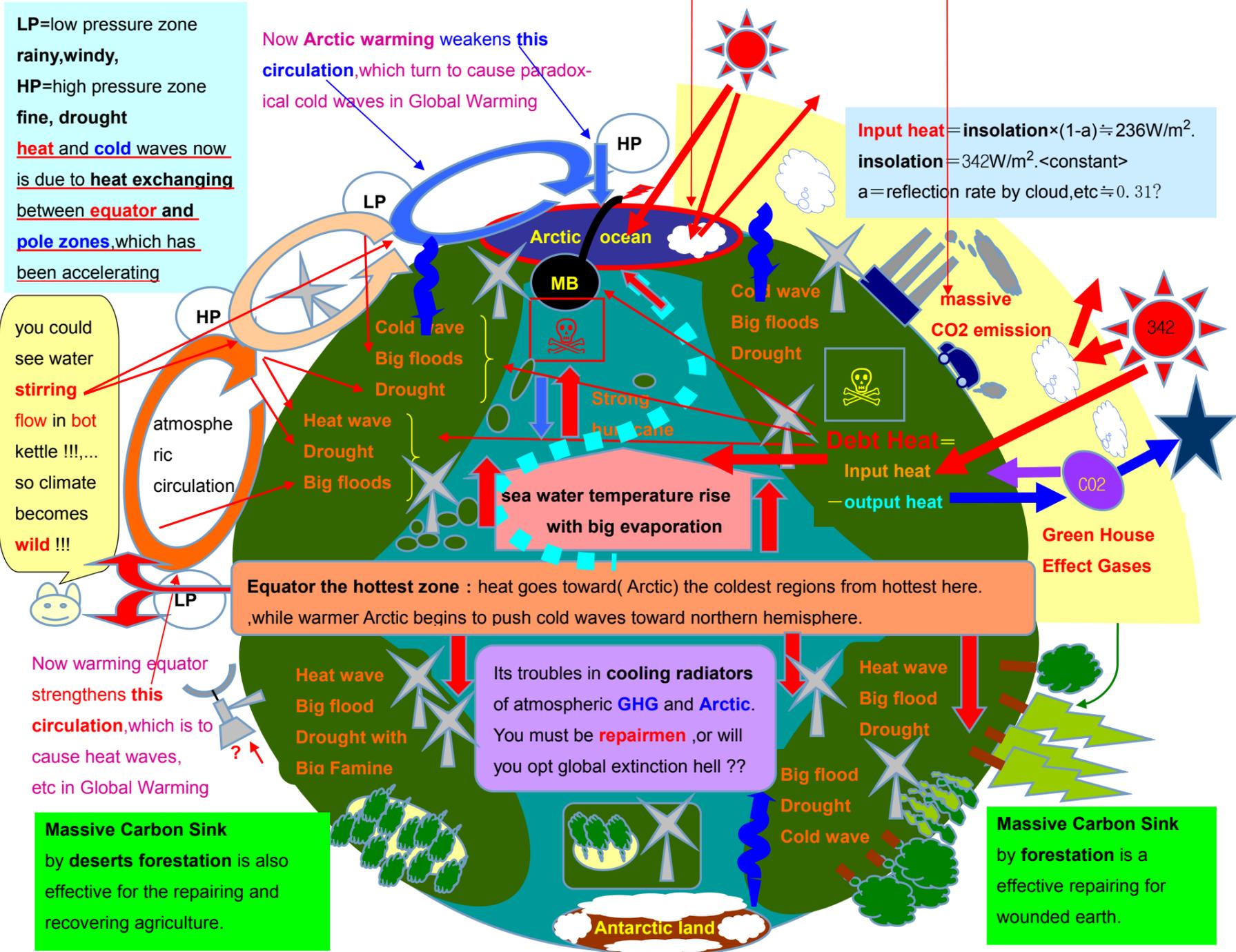


TOP Warning for Arctic Methane Catastrophe !!!. → your tasks are **recovering ice shield** and **air cleaning** by massive CO2 sink-down.
 More than 1500GtC **methane-clathrate(MB)** is stored in **Arctic ocean**. Those could extinct all life on earth by abrupt huge melting by **bit sea water temperature rise within few decades**. 50GtC methane is strong GHG causing abrupt heat up by $+3.8$ (now $1.8W/m^2 = (0.03^{\circ}C/y)$) **DEBT HEAT**.
 Temperature rise is to cause more sea water warm and more eruption(**positive feedback of runaway toward methane catastrophe**). In Arctic, stable large ice extent had been **intercepting insolation input** into stable cold ocean, however **recent Arctic warming** had caused ice lid decline toward to trigger fatal **positive albedo feedback**. Ice lid decline is to cause more insolation input to warm ocean which turn to decrease ice lid. This could be intercepted by nothing, but by **man-made geo engineering** to cool Arctic. **This is outrageous in the scale, however possible by now !!!!!.**



It is **the Debt Heat** that has been causing so called global **climate change** with **disasters**. 90% debt is stored in oceans to **rise sea temperature**, while the surplus(,but debt)heat has been searching **colder space**(cosmic space by CR, or **Arctic** by convection by ocean and **radical atmospheric stirring**) to dissipate own. The latter dynamics is nothing, but climate change of **increasing heat and cold wave, hurricane, typhoon, big flood and drought**.

Output heat = cooling radiation(CR) by T_G.
 $= \alpha \sigma T_G^4 \cong 239W/m^2 - 1.9W/m^2$ (**DEBT-HEAT**)
 T_G = earth surface temperature = 288K (15°C?)
 $\sigma = 5.67 \times 10^{-8} J/m^2K^4$. Stefan. Boltzmann
 α = **passing ratio** of CR ≅ 0.600?

α is ruled by GHG concentrations.
 The concentration increasing by GHG emission decreases α value. Thereby, decreasing T_G must need decreasing CO2 concentration **emergently**, and **drastically** (more than 80%!!!!).

References:
<http://www.cosis.net/abstracts/EGU2008/01526/EGU2008-A-01526.pdf>
<http://www.ameg.me/>
<http://arcticmethane.blogspot.jp/2012/05/potential-impact-of-large-abrupt.html>
<http://www.777true.net/non-ipcc-Climatology-toward-Coming-Climate-Crisis.pdf>

People has been neglecting fatal fact by nothing harmful **while 0.0..1% damage**, though it shall soon become **100%**, unless **drastic repairing !!!**
 (1) Even by **zero emission**, temperature rise would be **0.3~04°C**, which couldn't be told safe to assure **foods and water**. **More 1°C rise is disastrous !!!**
 (2) Not only **emergent CO2-80% reduction**, but also **emergent Arctic cooling** are decisively necessary. → **Then how to manage life of all ????!!!.**

All, but about ,Politico-Economics Hell World the Upside Down One !!! <<How to Escape from Hell ?!>>

The Bible, Ephesians.6:12 <http://www.bibleetnombres.online.fr/biblekjv/ephesian.htm>

For we wrestle not against flesh and blood, but against principalities, against powers, against the rulers of the darkness of this world, against spiritual wickedness in high places. Wherefore take unto you the whole armour of God, that ye may be able to withstand in the evil day, and having done all, to stand. Stand therefore, having your loins girt about with truth, and having on the breastplate of righteousness; And your feet shod with the preparation of the gospel of peace; Above all, taking the shield of faith, wherewith ye shall be able to quench all the fiery darts of the wicked.

<<Why the world people could not be changed even by facing fatal fact of own extinction ???!!>>

= "At now, saving today and tomorrow life is more serious than uncertain future !" = by more or less, a conservatism by citizens due to strong delusion of ensemble synchronous paralyzing, people sometime takes wrong decision without logical anticipation.

For all co-living, we should accept to be the lowest class in coming extra-ordinal climate war ,or. will you opt war?

The Ruling Class States Table at now



SOLIDARITY by Unique Facts

(1) Truth convergence on science-engineering-economics, po..
 A truth (realization) is always unique and only in past and future !!.
 A optimization is always unique and only in a condition.
 * no salvation without emergent 80% CO2 reduction
 * no salvation without emergent Arctic cooling engineering.
 * new energy technology facts
http://www.777true.net/Part_6_non-carbon-Energy-Engineering.pdf
 * 0 = total debts - total bonds (economy network dynamics)
<http://www.777true.net/Quick-Guide-to-Economy-Network-Dynamics.pdf>

(2) Peoples life assurance strategy the most fundamental !!!.
saving today and tomorrow life is more serious than uncertain future !
<http://www.777true.net/Life-Assurance-by-National-Strategy-in-coming-climate-WAR-TIME.pdf>

(3) ideology competition in order to become unique.
 * Note the Religion is scientific and traditional facts !!!.

(4) Research & Development on Solidarity technology and skills.
 Who wish own stability must care whole ones..... Nichiren.

(5) Research & Development on Couter terrorism by the rightists
To know enemy & own could assure victory in 100 times wars... Sun Zu

(6) The death of Christ on cross is the supreme devotion for mankind's political liberation from wicked suppression by high place.
 As Christianity is a teach on political liberation, so Islamism.

Strike people with justice and truth (the origin of terror)

(1) A kernel concept is **supremacism the hereditary regime.**
People and nation are those who should be exploited by them

(2) **Perpetual war strategy** by setting up enemy.
 Hoegel's philosophy in feudalism Preussen in 19^c Germany.

(3) **operation EndGame.**
<http://netattic.net/unbelievable/operation-endgame/>

(4) **false flag wars in the upside down world.**
<http://www.upsidedownworld.com/>
<http://www.777true.net/New-Regime-Design-to-Turn-the-Upside-Down-World-at-Now.pdf>
<http://www.777true.net/The-Upside-Down-World.pdf>

(5) **own playing terrorism** such as 9/11, and middle east wars.

(6) **conspiracy world the upside down one for massive deception**

(7) **divide and rule people in their ruling.**

(8) mind controlling technology developed by CIA.

(9) terror technology developed by CIA.

(10) **After all, their way may be a massive suicide without repent.**
A dying is mere becoming skull and bones, so one should do anything they want in their life (the society entrance ceremony song)
 **anti-theism.**

(11) a high place facing own status decline become **anti-God.**
<http://www.noblequran.com/translation/> **7.Ak-A'raf.10~18.**
3.Aal-'Imran:75. It is only Satan that suggests to you the fear of his supporters, so fear them not, but fear Me, if you are true believers.

ps: Certainly the problem is outrageously too big, though coming hell is more outrageously too big ! !, .A people could do best once they accepted fact.

More details on All about Politico-Economics Hell World the Upside Down One !!! <<How to Escape from Hell ?!>> 2014/4/16

Our world now has been going toward double catastrophe in politico-economy & climate. Then **diagnosis** and the **operation** are decisive.

After all, kernel key for victory entirely depend on people's **recognition on realities**, and **skill to repair disordered society by devotional will**.

[Recognition on Realities]

Q1 : How deep do people know realities on "SCIENCE" "the decisive foundation for recognition on truths" ??.

(1) **All mighty being is provable !!!** <scientific validity of prophecy in religion and being of the other world>.

<http://www.777true.net/Proof-on-God.pdf>

<http://www.777true.net/Scientific-Mechanism-of-Prophecy-by-Paranormalities.pdf>

Thus you know now world considering **religion is no science** has been **upside down** <logical negation on true=false world>

(2) This universe was created from nothing, then nothing is also **nothing physical low** = all mighty world. But there appeared **physical low** in material world of non-nothing world. Note **0 = +material energy - gravity field energy** in total account. This is a trace of creation from nothing.

* this is also foundation of so called **free energy technology** created from nothing.

Q2 : How about history and politics (the ideological struggle history) ? .

(1) People don't know **real aim of religion**, which has been trying mankind liberation from **ruling by barbarianism (violence=Satanism)**.

Note ruling by **king** was initiated by **robber-killer to monopolize territory** is evident. They were mere ascendant of champions of greedy

robber-killer. While **Moses the ten commandment** is told origin of religion, then what he preached ? . This is nothing, but **initiating of democracy with ethics**. This is a revolutional evolution in mankind history. Therefore massive people exploited by **tyranny** had become to believe God.

(2) However early Christianity trial in west was in vain, so it became **ethics without democracy** for long time (Goethe).

In this history, **hereditary rulers in WEST (the origin of right wing)** having known **Jews real mission** had been persecuting them as racial discrimination, but not as **revolutionists**. So massive those (rightists) who hate Jews has been being deceived by their rulers for long time.

Note German people seems tendency for socialism, so they may have been being operated to hate Jew.

(3) What **Marx** did was peoples liberation from exploiters. This is equivalent to Christianity the original mission. In this essential meaning, the historical discord between Marxism and Christianity in modern age should be told entirely absurd.

(4) **Solidarity and Devotion** by religion (ideology) is decisive armor to accomplish revolution, so **divide and rule to be betrayer by inducing egoism** is rightist's fundamental strategy. Note massive people in now competitive and greedy world has been being operated by this strategy.

This fatal fact should be called **upside down world (the Satanism)**. All genuine religion is **liberation theology**, if not so, none believe God.

Q3 : How about economy ? (people and nation are those who should be exploited by the elites..Skull & bonds)

Do you know **0 = total bonds - total debts**. None economy text books never refer this fatal fact !!! . For whom, **economics** was studied ? .

A free economy is someday, surely to turn down at Marx point, then recession causes mass jobless. Now debt has been increasing in **nation and peoples budget**, while few rich (1%) has been ruling this world toward **operation EndGame <the class structure>**. **Facing possibility of**

becoming massive poverty due to Global Economy & Climate Collapse, now people's most care is that saving today and tomorrow life is more serious than uncertain future !!!. This is a kind of distorted **conservatism**, by which the world could not be changed. Thereby,

something **an decisive extra-ordinal policy** must be necessary **at once at the world**. It's nothing, but facing climate reality that save this world. Without which, none could be saved by 100% possibility.. There is no time, but now when **scientific truth declaration** is decisive.

<http://www.777true.net/Life-Assurance-by-National-Strategy-in-coming-climate-WAR-TIME.pdf>

Q4 : How deep do they know realities on climate ? <<Climate science had already derived the conclusions !!!!!>>

This is the most decisive problem for planet future. Can you really understand what are told in the top page ?

Q5 : How about people's mind in the deadly world ???

After all, a **result** is consequence of their **decision** which is due to their **mind**. What has been effecting their mind ? . Note human decision could not always be right, but some abnormal situation, they conclude wrong decision to live. It is nothing but just now era that is **paralyzing**.

(1) It is told that in **overwhelming disastrous situation**, some people becomes not able to move their body. Then their mind becomes **empty**.

It is strong **fear** that could freeze human's mind to **paralyze**. Even memory of strong fear could cause mind confusion (PSD) in some people.

(2) It is **overwhelming desperate feeling** that cause silent for who has been in massive oil consuming civilization now ruling over this world.

Climate decisive fact is **emergent more than 80% reduction**, which is too inconvenient for all who has been life with full oil.

(3) Thus most of scientists and entrepreneur became nothing action, which was amplified by **massive synchronous ensemble paralyzing**.

Anyone have already known something abnormality, however too inconvenient fact is to cause massive silent at anywhere (**upside down world**).

And also, there is nothing emergent trouble for the time being, while climate disasters are no harm, but less than 0.0..1% of others.

* Silent in science society may be due to no skill for the concrete countermeasure and to operation by the rich climate denayer **Rockefeller**.

(4) Though, there are 2 decisive key to solve paralyzing. One is that **coming hell world's reality is far overwhelming than anything !!!**. 2nd is, the **deadly of now world** could not be solved by nothing, but **facing climate reality to wake up abnormal ability of people at once at the world..**

How to escape from the deadly conservatism.

Now we have been on gorgeous,but broken ship with invisible,but deadly holes in ship bottom,however the highest pride capitalian will not admit the failure.We never be saved ,unless we make emergent decision to **escape from ship and dive into sea.Then where are rescue boats??!**

(a)Appearance is best papas in families ,but invisible & substantial role is death penalty executors.Don't become bads in later history!

Being president is being papa for his loved family,so they have been busy entirely for facing imminent tasks or troubles in order to save their today and tomorrow life.However it is also a bad conservatism that allows wicked being of military industry and oil company,it is which that cause this world hell. After all,how much they work hard to make income,they are to be mere death penalty executors at last,unless no change. Especially it is no time,but now when we could make the decision to escape from deadly ship to survive. Once we lost this precious time (2014,2015,...),we would never get chance by anyhow.It is decisive fact that the big ship has rapidly been **being** drowned.

(b)A crisis is simultaneously a chance to transit from bad to good. It is not Ukraine,but East Siberian Arctic Shelf(ESAS).

Because a conservatism without emergent crisis will not allow necessary transition toward global better way.Thereby,it is nothing,but crisis that enable transition.Of course,once we failed in crisis,the transition would be worse.Now the world is looking Ukraine crisis and reaction of USA and Russia.But fatal problem is not Ukraine,but East Siberian Arctic Shelf where would destine our future by **Methane Catastrophe !!!**.

Once both presidents agreed this fatal facts,there would be no local disputes in the world.Since the settlement on ESAS dose need **maximum global ability and monetary fund by global cooperation**.It is called **Arctic Cooling** geo-engineering to stop the catastrophe.

<http://www.777true.net/non-ipcc-Climatology-toward-Coming-Climate-Crisis.pdf><see p37/41>

(c)Sudden and Simultaneous Declaration on "all at once Conversion" on their policy !!!.

(1)The scientists has been silent on the most important and emergent problem in the mankind history.

(2)The established journalism in west has been silent on the most important and emergent problem in the mankind history.

(3)Even also such president as the highest power have been paralyzing by the wicked mind control ?!!.

The necessary settlement is extremely hard,so that anyone in the world will not work on.Once any leaders have considered the problem so,none would take the problem at all.This is the decisive situation fact of **climate change crisis(CCC)** at now.However did they not really imagine **the coming outrageous hell world** ?? .This fact never fail to be revealed for everyone before long.**Then it is impossible to hide facts.** **This is evidently a decisive contradiction for rational person.** Thereby,author came to a conclusion.They have been in **strong delusion** by **synchronous ensemble paralyzing**.The necessary conditions are (c)(1)(2).Then the **convert** is not shame,but eternal honor!!!.

(4)Once we would have started by facing deadly realities,anything would go better than denying the facts for all long.

This is the final hope. A people could do their best once they accepted the inconvenient facts.

(5)The world has substantially nothing political troubles ,but unique exception is American NAZIS(supremacists the ultra right).

Now the world has been what once Hitler predicted coming world where a strong power is ruling by NAZIS weapon and technology.

They(war business) have entirely conspiring to make hatred and disputes at anywhere in the world in order to establish mad supremacism. Then how to establish their internal cleaning ?.A key may be **federal tax**,because they are tax eaters. **American NAZIS Regime now must once have died in order to reincarnate for cleaning cumulative their violence and sin.** It's American themselves who know it well than anyone.else

* **Hitler's marvelous Predictions**<This site is Japanese, translation to other language is necessary>

http://inri.client.jp/hexagon/floorB1F_hss/b1fha400.html#04

*What feature will **future society** reveal !,Comrade gentlemen.Let's tell you.At first **elite aristocracy** would appear by survival struggles.Then also appear "**eternal non adult group** ",that is,new middle class,ignorant public,and new slaves who serve.And top on all of them, **new Aristocracy** would have been established .Some special leading person would be.Thus,by hegemony struggling,**new regime** would be established in inner and outer side of nation.Also east region become giant experimental one,.....and then new European social order would be implemented(Words told to Rauschnig by Hitler) .<translated by author from Japanese version>.*

The Ghost of NAZIS.

http://inri.client.jp/hexagon/floorA6F_hc/ floorA6F_hc.html

NAZIS's madness

http://inri.client.jp/hexagon/floorB1F_hss/ floorB1F_nazis_X.html

NAZIS and Secret Societies.

http://inri.client.jp/hexagon/floorA5F/ floorA5F_hSS.html

(6)The now world has been ruling by **a few hereditary families(the capitalian)** ,while massive people could not overcome this evil ruling.

This is the most mystery in mankind history!!!!. If people could not solve this mystery,it would be nothing,but their total extinction !!!.

More details on Climate Change Mechanism:

2014/4/15,5/9



Details become **rather advanced course**. As for **math & physics calculation**, you should ask friends reliable and debate !!!

Q: Why is it necessary emergent more than 80% CO2 reduction ??.

A1: IPCC's international agreement(2005 Copenhagen) on allowing 2°C rise is disastrous !!.

(a) *Allowing 2°C rise is disastrous by Dr Jame Hansen(top climate science and top activists in USA)*

<http://www.rtcc.org/2013/12/03/james-hansen-2-c-temperature-rise-would-be-disastrous/>

<http://www.777true.net/1C-TEMPERATURE-RISE.pdf>

You must recognize that **UN and your government** had abandoned **your salvation** ?!?!.

<http://www.777true.net/IPCC-the-injustice.pdf>

Note even by such few as 0.1°C rise could cause climate wild !!!.

<http://www.777true.net/0.1C-Temperature-Rise-could-cause-Climate-Wild.pdf>

☠ : Worsening Factors by Temperature Rise.

- (1) **Arctic(...etc)methane + CO2** eruption increasing
- (2) Now mass CO2 sink **ocean** becomes weak
- (3) Mass CO2 sink **forest** become weak
- (4) **Becoming positive feedback** of those is fatal !!!

If you are careful enough, this could be sensed by your skin and by collected global news on recent frequent climate disasters, Especially **recent 3 years**, author himself had sensed abnormal climate change due to frequent heat wave and cold one, unprecedented big floods, unusual tornade in the district. Hot summer and cold winter become longer, while comfortable spring and autumn become shorter. By anyhow, **climate had become unstable**, which never be before in my long life. Then note **3,4 years temperature rise is about 0.1°C**.

(b) CO2 observed data:

<http://www.globalcarbonproject.org/carbonbudget/12/files/CarbonBudget2012.pdf>

emission	absorbent(sink)	accumulation in atmosphere
man-made= 8.3±0.4 PgC/yr 90%	land= 2.6±0.8 PgC/yr 28%	atmosphere= 4.3±0.1 PgC/yr 46%
natural= 1.0±0.5 PgC/yr 10%	marine= 2.5±0.5 PgC/yr 26%	2.1 ppm per year during the last 10 years

Total accumulation amount

= (8.3 ± 0.4) + (1.0 ± 0.5) = 9.3 GtC/yr

Emission amount = 4.3 ± 0.1 GtC/yr

Absorbent amount

= (2.6 ± 0.8) + (2.5 ± 0.5) = 5.1 GtC/yr

(c) It is possible trying to **STOP TEMPERATURE RISE** by stopping CO2 concentration by possible man made emission rate

= (land sink + marine sink - natural emission) / man made emission ~ **26%(worst)** → **74% reduction**, ~ **78%(best)** → **22% reduction**.

Maybe it takes **about 50% reduction** to stop CO2 concentration rise. However this could not be full salvation.

As you know, even by 50% reduction could not sustain **global capitalism regime consuming huge oil and coal** by anymore !!!.

(d) **Even by above mentioned 50% reduction, it causes about 0.6°C rise (about in 50 years) to be stopped, which would be dangerous !!.**

$C_G(dT(t)/dt) = (1-a) I_0 - \sigma T(t)^4 \equiv \Delta F(t) < 1.9 W/m^2 (t=2014) >$ <this is a heat budge equation>

Input heat - output heat = debt heat increase/year = earth heat capacity × T rise/year : This has been warming this earth to be dangerous.

* **Insolation heat input** = (1-a) I_0 ≡ (1 - 0.31) 342 = 236 W/m². * T(0) ≡ 288K (15°C). <temperature at now>.

* **Cooling Radiation heat output** ≡ σ T(0)⁴ ≡ passing rate × SB constant × (global surface temperature)⁴.

σ T(0)⁴ = (1-a) I_0 - ΔF(0) / T(0)⁴ = (236 - 1.8) / 288⁴. → 0 ≡ (1-a) I_0 - σ T(f)⁴ → T(f)⁴ = (1-a) I_0 / σ = 236 × 288⁴ / (236 - 1.8),

→ T(f) = **288.55K** <stopping temperature in about 5 decades>.

(e) **Even by "emergent almost zero emission simulation", max temperature rise would be 0.3~0.4°C in about 30 years. the complete recovering to now temperature would take more than twice of 30 years.**, which could not told safe to assure **foods and water supplying**

<http://www.777true.net/Definition-on-Radiative-Forcing.pdf>

<New version 2014/5/6, this is rather corrected >

<http://www.777true.net/EGT5.pdf>

<Old version 2009/11/17, this is rather not corrected>

This is the kernel simulation for validity <but must be **verified by 3rd parties**> of emergent more than 80 reduction. This simulation is based on

(d) heat budget equation solution. **This is almost full CO2 sink (and 80% reduction) operation by global**, but, which never be simulated by IPCC.

☞ : Certainly you would be desperate as for the 80%, however **non-carbon technology** could overcome the difficulty with **stong will of all**.

http://www.777true.net/Part_6_non-carbon-Energy-Engineering.pdf

(f) **The propaganda_s "sustainable" is entirely wicked lie !!!.**

Real effective salvation never be consistent with huge carbon energy consumption regime. Note even 0.6°C rise stopping would take **more than**

50% reduction, which could be nothing, but global revolution. Even as though, it's mere an incomplete solution, but dangerous. Thereby, there is

nothing, but **more than 80% reduction** global policy (consumable 10% or more may be supplied for cooking food energy, etc **the minimum**

necessity for life saving). Thereby, **emergent developing non carbon energy technology** is decisive.

<http://www.777true.net/Life-Assurance-by-National-Strategy-in-coming-climate-WAR-TIME.pdf>

☞ : Very **minimum life** with eating and heating (in cold winter) could be accomplished within 20% carbon energy by **stong will of all**..

Once people accepted fact of deadly realities of climate at now, they would be changed to be able to do best !!! Of course this decisive simulation

must be **be verified by 3rd parties**. It's too evident that **trustable policy simulation** will not be accomplished by any individual effort.

Q2: Why is it so emergent situation as for Arctic ice lid vanishing and possibility of Methane Catastrophe ?

Global warming by CO2 rise could not be sudden total extinction, but **Arctic Methane Catastrophe** could do it !!! Methane is stronger GHG more than 70 times than CO2. Arctic ocean is a little pond, to where many rivers has been transferring massive organic, which became more than **1500GtC Methane Clathrate(MC)** reservoir by ice lid freezing. It is only **ice lid freezing** that has been intercepting MC's massive melting toward **sudden killer global temperature rise**. Now **East Siberian Arctic Shelf (ESAS)** has begun the melting by few ten megaton/year.

A2: the kernel is so called **rapid ice albedo feedback** causing rapid insolation heat into sea, which could **trigger methane bomb**.

(1) This is the logo mark of **real climate org** the climate scientists org in USA. <http://www.realclimate.org>



The initial stage is **insolation input increasing** by ice lid vanishing, which cause more insolation input into black sea and sea floor. Note **max insolation in Arctic summer** is stronger than that of equator !!! Methane ice is so unstable that **sea floor water 1°C rise** would trigger the bomb. The final stage is huge methane eruption (more than 1500GtC) into atmosphere, which would cause **fireball earth at last !!!**

<http://ameg.me/ameg.pdf>
 DOWNLOAD E-BOOKLET

Arctic Methane Emergency Group is big site on the problem on Arctic by experts in UK.

<http://ameg.me/>
<http://arctic-news.blogspot.jp/p/how-to-cool-arctic.html>

Not only climate science on Arctic, but also **the countermeasure as Arctic cooling technology** are presented

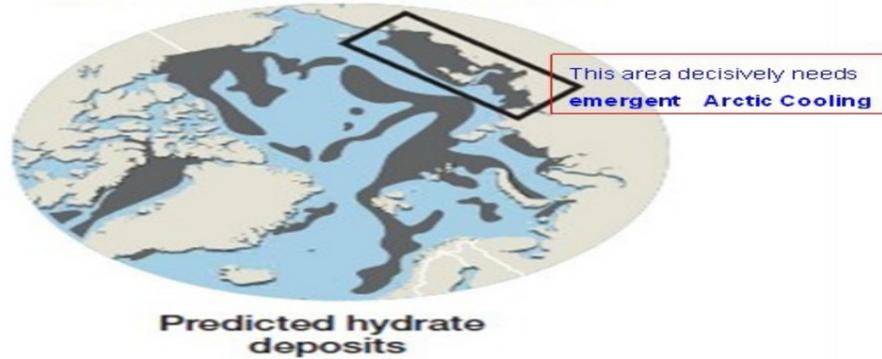
(2) Q2-2: Why don't the IPCC attack Methane Catastrophe ???!

To tell from beginning, shameless IPCC had allowed fatal 2°C rise. They are too much scientists group to take decisive and clear responsibility. And also interfering by the oil company Exxon-Mobil (**Rockefeller**) has always been against them in **publication censorship**. In 2000, a Japanese congress member asked to take researching on **Methane problem in IPCC computer model**, but in vain still even now.

(3) Arctic Methane Clathrate (MC) Distribution Map is here ! ! !

http://climatecommunication.org/wp-content/uploads/2011/08/arctic_climate.pdf

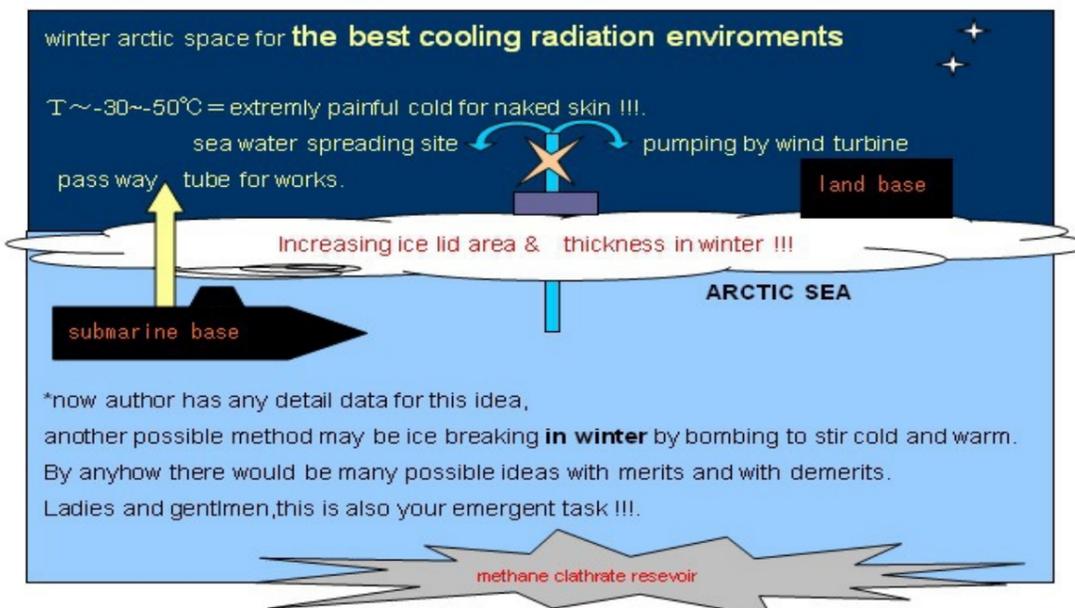
East Siberian Arctic Shelf contains the shallowest hydrate deposits, most vulnerable to release



Not Ukraine, but **East Siberian Arctic Shelf, ESAS** has catastrophic Bomb toward mass extinction. A bit of sea water temperature \equiv T rise (300m depth) \approx **0.5°C** could release **10Gt**. which cause global T rise double.

Note **Arctic ocean heat capacity** (600m depth) per 1m² is about **79W/m²K**. While **heat input** into there would gradually be **5, ..., 20 ~ 50 ~ W/m²** (year average) by **ice lid vanishing**. Following table is **heat budget** at now and that of at **possible worst future**.
http://www.colorado.edu/geography/class_homepages/g_eog_4271_f12/lectures/notes_2.pdf

cooling radiation = $-\sigma T^4$.	air & ocean heat input	insolation change = $I(1-a)$	total debt heat
-115W/m² (at now) . //	+90W/m ² (now).	+30W/m ² (a=0.75 now)	+5W/m² (now)
-160 ~ -115x[T(future)/T(now)]⁴ = -115x[273/253]⁴	+90 or more	+120 (a=0=ice full vanish)	+50!!W/m² (possible future)



(4) How to stop ice lid retreat ???!

Therefore, by all anyhow, we must intercept ice lid vanishing by **Arctic cooling engineering !!!**.

This is a primitive, but possible Arctic Cooling technology. Certainly the scale and cost is outrageous, however the principle is simple. In order to save deadly earth, the ultra cost may be allowable. More details could be seen here. (p36 ~ 38/46).

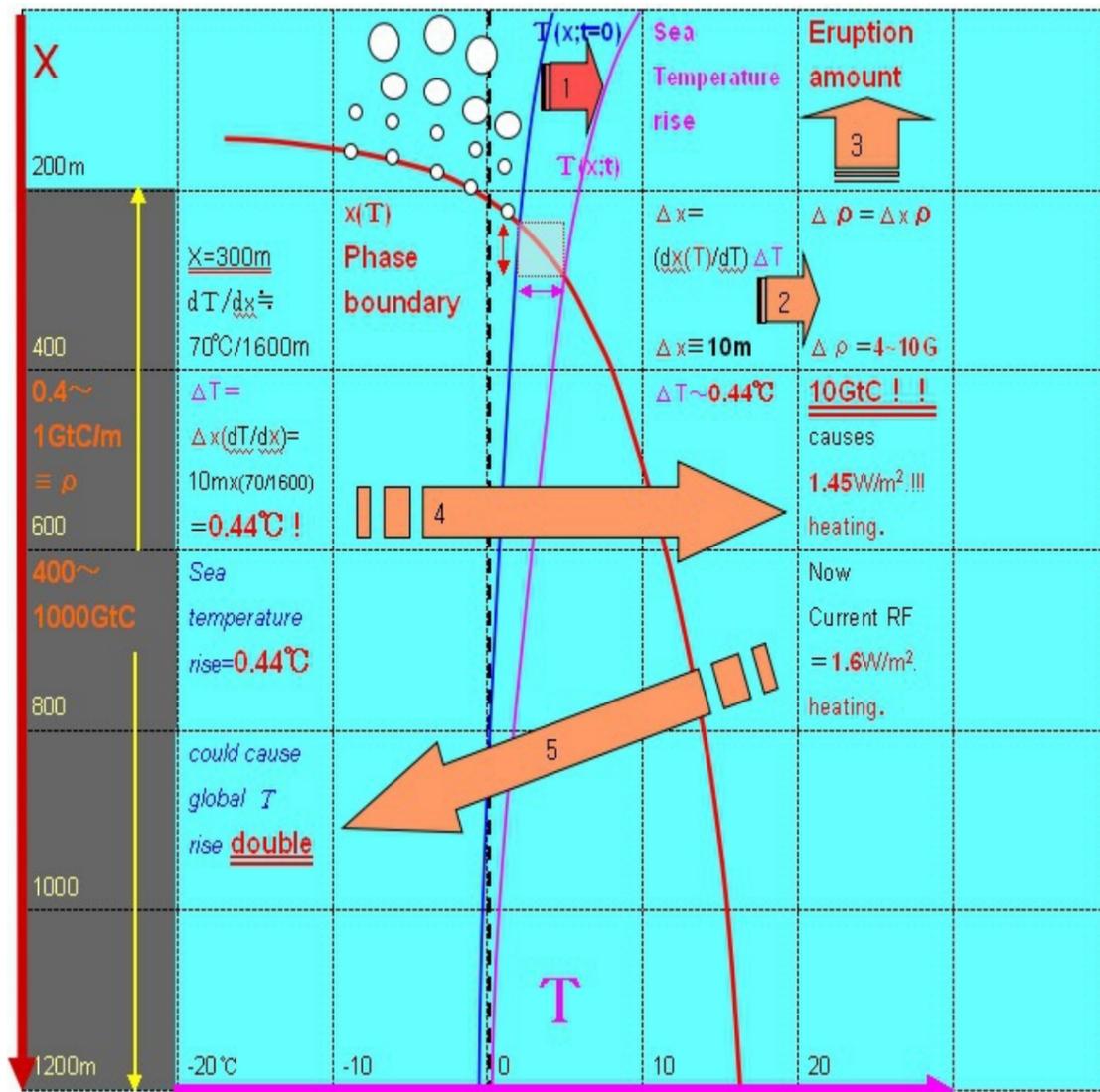
<http://www.777true.net/non-ipcc-Climatology-to-ward-Coming-Climate-Crisis.pdf>

APPENDIX:

What is most problem to tell you at here(5) is **a bit sea temperature rise (~1°C) could melt dangerous huge methane to heat up this earth.** Certainly ocean heat capacity(79W/m²K) is so huge that year averaged 1°C rise in few years is impossible in ordinal ocean, however **Arctic condition (a small pond with ice lid) is extremely singular** at this point.Cause of this fact is to be mentioned in next (6).

(5)Methane Hydrate Stability Curve(red line).

<http://www.killerinourmidst.com/methane%20and%20MHs2.html>



— Explanation on definitions —

(a)x is sea depth,and methane reservoir lies between **200m and 1200m** with uniform distribution(an assumption here due to no information). **T (x;t)**is **sea temperature** profile as function of depth=x and time=t,
 (b)**x(T)** is **phase boundary of solid-gas in methane clathrate(MC)**where gas is to erupt depending depth x and T.Shallow MC is to erupt CH4 by lower temperature,while deep MC by higher one.
 (c)Let's assume initial sea temperature profile as T(x;t=0),then the cross point with x(T)is to go downward by T(x;t>0){Δx,ΔT}. See the box in above figure.
 (d) $\Delta x = (dx(T)/dT) \Delta T$, or $\Delta T = \Delta x / (dx(T)/dT)$. Where $dx(T)/dT$ =gradient of x(T)curve.
 (e)Due to above relations,we could estimate temperature rise by eruption amount.

— Explanation on CH4 gas releasing process(an example calculation) —

- (a)Initial sea temperature profile T(x;t=0) at depth 300m above where Methane ice had already been melted to gas CH4.
- (b)**Heat input into ocean** is to cause shift of sea temperature profile from T(x;t=0) to T(x;t) with **temperature rise = ΔT**.
- (c)The heat invasion causes methane releasing with the depth = Δx. Which is determined relation by $\Delta x = (dx(T)/dT) \Delta T$, where (dx(T)/dT) is gradient of phase boundary curve x(T).
 * At x=300m, dx/dT ≅ 1600m/70°C.....<not exact,but coarse value from the graph> .
- (d)Then CH4 amount could be estimated as $\Delta \rho = \Delta x \rho$.
 ρ (x; y, z) is mass density of methane(MC) at **sea floor location** = (x, y, z).
 However precise information on ρ (x; y, z) have not yet derived.Thereby we simply assume 400~1000GtC uniform distribution between depth x=200~1200m.
 * ρ = 0.4~1.0GtC/m.
- (e)Now we research temperature rise for **Δx=10m** invasion at about depth x=300m
 for **Δρ = 4~10GtC** releasing.
 $\Delta T = \Delta x / (dx/dT) = 10m \times (70/1600) = 0.44^\circ\text{C} !$
- (f)Note 4~10GtC could be release by 10m depth of heat invasion.
 Which is to cause radiative forcing roughly as **1~1.45W/m²**. Also note radiative forcing **1.6W/m²** at now has been causing global temperature rise (0.02~0.03°C/y). If 10GtC releasing,which could cause temperature rise trend **double**. Now CO2 concentration is 400ppm(**1.6W/m² = 0.02~0.03°C/y**),so 10GtC CH4 releasing is more than 400ppm rise by CO2. You could see its risk degree.
 * Note 0,4°C invasion is 10m depth(at 300m depth) with 4~10GtC. So **0.01°C/y** of 0.25m invasion is with 100~250MtC.**Recent observation** is 17 MtC may indicate less than 0.01°C/y rise.,which should be told very lucky. Since Arctic sea temperature rise seems more than **0.01°C/y**.

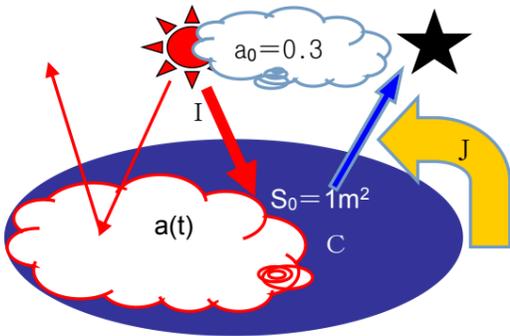
<http://www.sciencedaily.com/releases/2013/11/131125172113.htm>

The East Siberian Arctic Shelf is venting at least **17 teragrams of the methane** into the atmosphere each year.

(6) **ice albedo feedback, a simple model** = "a budget calculation could predict **Arctic Bankruptcy !!!**" 2014/5/14
 *More details could be seen here : <http://www.777true.net/Rapid-Temperature-Rise-in-Arctic-a-simple-verification.pdf>

(a) **insolation rise by albedo decline** is far stronger than **CR rise**(cooling radiation) by temperature-itself rise <a Model Building>.

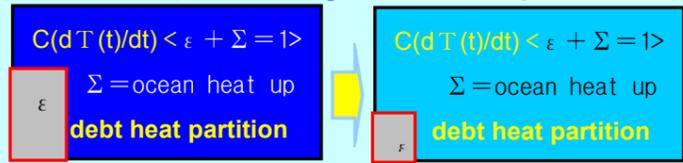
So long as ice lid were sufficient to reflect insolation input into Arctic, methane clathrate in sea floor were stable cold. However recent global warming had broken above stability condition. Then what would happen ? Rapid insolation heat input rise into ocean is far stronger than outgoing cooling radiation one form surface temperature rise. That is, **debt is rapid increasing, while repayment is entirely weak**. This is heat budget equation in Arctic ocean with ice lid. $C = 159W/m^2K$ (heat capacity of the ocean/YS). $T(t)$ is year average sea temperature at year = t.



* **YS** \equiv (Y \equiv 1 years time in seconds) X (global area = $5.11 \times 10^{14} m^2$). <normalization factor>
 In climate science, **global & annual heat budget** is translated in $1m^2$ and $1second$ scale by **YS**.
 * $I = I_0(1 - a_0) = 173(1 - 0.3) = 120W/m^2$. <year average insolation under clouds>
 * $a(t)$ = albedo of ice surface which is proportional to ice area at time = t.
 * J = **atmospheric heat input** which is assumed constant at this time.
 * $@ \sigma T^4$ = **cooling radiation output** from Arctic ocean surface. <Arctic warming increase this term, however it could not over come insolation>.

I : $C(dT(t)/dt) = (I(1-a(t)) + J - @ \sigma T(t)^4)$. <* $dT(t)/dt = \text{year } T \text{ increase}/1\text{year} = \text{1second } T \text{ increase}/1s = \dots = \Delta T / \Delta t$ >
 "debt heat rise/year for ocean warming and ice melt" = **insolation input + atmospheric heat input - cooling radiation to space**.

II : $-M(da(t)/dt) = \epsilon C(dT(t)/dt)$
 "ice extent decreasing/year $(da(t)/dt)$ = **heat partitioning** from ocean with ratio = ϵ ".
 * M = **melting heat** for $1m^2$ ice surface (thickness $\sim 2m$) $\sim 20W/m^3$.
 * $\epsilon \sim 0.04 \sim 0.08$? at now : **Arctic ice vanishing heat** = $0.2 \sim 0.4W/m^2$ in total heat input $\sim 5W/m^2$. <see the sites in below table>



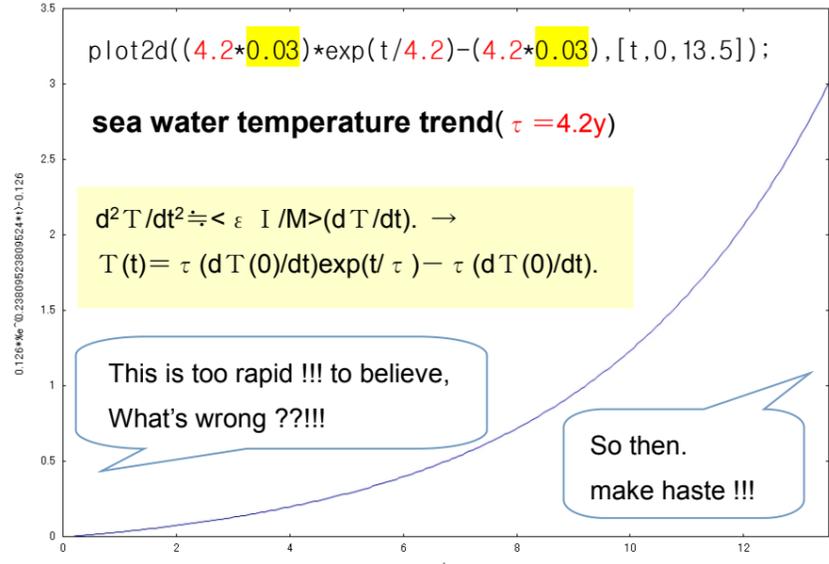
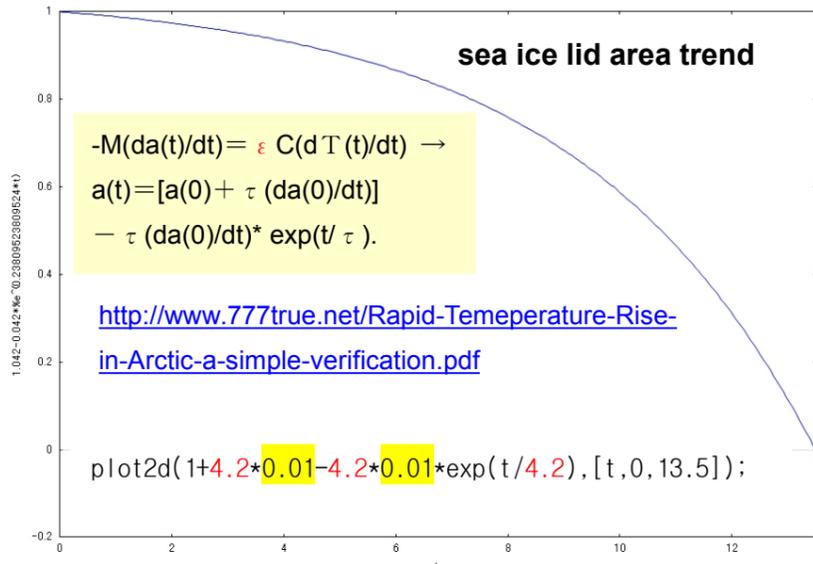
$C(d^2T/dt^2) = -I da/dt - 4 @ \sigma T^3(dT/dt) = \epsilon C I / M(dT/dt) - 4 @ \sigma T^3(dT/dt)$. $\leftarrow * da(t)/dt = -\epsilon C/M >(dT(t)/dt)$

$d^2T/dt^2 = < \epsilon I / M - (4 @ \sigma / C) T^3 >(dT/dt) \equiv (1/\tau)(dT/dt) \equiv M/\epsilon I (dT/dt)$. $\rightarrow \tau = 2 \sim 6 \text{ years} ?!!$. <time constant >

* **albedo** : $\epsilon I / M \sim (0.03, \dots, 0.08) \times 120/20 = 0.2 \sim 0.5?$. \leftarrow this is dominant !!. This is small enough to be negligible.
 * **CR** : $(4 @ \sigma / C) T^3 \approx 4 \times 0.5 \times 5.67 \times 10^{-8} \times (273)^3 / C_A = 2.3 / C_A = 0.015$. Thus **albedo change** is far stronger than **CR**(cooling radiation) !!!

<p>Data for the graph: $I = 120, C_A = 159W/m^2K$. $\tau = (< da/dt / (dT/dt) > (I / C_A) - 0.015)^{-1} = 4.2y$. $da/dt = -0.01/y$. $dT/dt = \Delta F / C_A = 5/159 = 0.03^\circ C/y$.</p>	<p>data for ice vanishing rate/year : $\epsilon \sim 0.02 \sim 0.08$? http://psc.apl.washington.edu/wordpress/research/projects/arctic-sea-ice-volume-anomaly/# The large-scale heat budget of the Arctic(2007) : total heat input $\sim 5W/m^2$ http://www.colorado.edu/geography/class_homepages/geog_4271_f12/lectures/notes_2.pdf</p>
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(b) The equations (I, II) are solved as follows, which **coarsely** predict future Arctic sea water temperature = $T(t)$ with ice lid area = $a(t)$.



(c) **CONCLUSION** :

Thus **ice vanishing** shall cause **catastrophic temperature rise by RAPID exponential increasing with RAPID ice lid vanishing** ..
By anyhow, there are some "uncertain factors" in local, however global conclusion is decisive as planetary emergency !!!

Let's listen revelation music.
 Save the children in album What's going on by Marvin Gaye USA(1971).
<http://www.youtube.com/watch?v=IB9-QrLOWag>
 Poem "Vers la Flamme (Toward the Flame, 1914)" by Alexander Nikolayevich Scriabin
http://jp.youtube.com/watch?v=5_FKKIC1oSw