

Prelims Bits 27-02-2017

Solar Probe Plus mission

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- NASA plans to send its first robotic spacecraft to the Sun which is about 149 million kilometres from the Earth.
- The mission is to study why the surface of the Sun, called the photosphere, is not as hot as its atmosphere, called the corona.
- The surface temperature of the Sun is only about 5,500°C but the atmosphere above it is over two million degrees Celsius.
- The mission may also ascertain why the Sun occasionally emits high-energy particles that are a danger to unprotected astronauts and spacecraft.
- NASA has designed a 11.4 centimetres carbon-composite shield designed to withstand temperatures of 1,370°C outside the spacecraft.

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MAMMOTH-1

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- A nebula is an interstellar cloud of dust, hydrogen, helium and other ionized gases.
- Astronomers have spotted an enormous, glowing blob of gas i.e. Enormous Lyman-Alpha Nebula (ELAN) named Mammoth-1.
- It is in the middle of a region with an extraordinary concentration of galaxies called a "protocluster".
- It has no obvious source of power for the light it is emitting.
- It is the brightest and among the largest of these rare objects.

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West Nile Virus (WNV) Forecast

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- West Nile fever is a mosquito-borne infection by the West Nile virus.

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- Most of those infected have no symptoms, but about one in five will develop a fever with other symptoms. Less than one per cent develops a serious, sometimes fatal, neurologic illness.

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- Scientists have for the first time developed a forecasting model to accurately predict the timing and intensity of West Nile Virus (WNV) outbreaks like weather forecasting.

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- These WNV forecasts use a computer model to generate multiple simulations that mimic the behaviour of an outbreak to generate an overall prediction.

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- This model system accurately forecast mosquito infection rates prior to the week of mosquito peak infection, and accurately predicted the seasonal total number of human WNV cases up to nine weeks prior to the last reported case.

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- With weeks of advance notice, officials could better plan for spraying mosquito breeding grounds, alert the public, and determine if parks and camping grounds should be closed.

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