

## **Prelim Bits 08-04-2018**

### **Rock nitrogen**

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- The prevailing idea is that all the nitrogen used by plants comes from the air.

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- However, nearly a quarter of nitrogen (26%) comes from the earth's bedrock, with the remaining fraction from the atmosphere.

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- Nitrogen from rocks can enter ecosystems when rocks weather naturally

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- Rock nitrogen availability is determined by weathering, which can be physical or chemical.

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- Nitrogen-weathering is a globally significant source of nutrition to soils and ecosystems worldwide.

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- Ecosystems need nitrogen and other nutrients to absorb carbon dioxide pollution.

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- If a large amount of nitrogen comes from rocks, it helps explain how natural ecosystems like boreal forests are capable of taking up high levels of carbon dioxide.

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- Areas with higher levels of rock nitrogen weathering may be able to sequester more carbon.

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### **Latent tuberculosis infection (LTBI)**

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- Mumbai is preparing a pilot project to target latent tuberculosis.

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- Persons with LTBI are those who harbor the TB-causing bacteria within, where it can lie dormant.

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- In other words, it is a state of persistent immune response to stimulation by Mycobacterium tuberculosis antigens without evidence of clinically manifested active TB.  
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- TB is caused by Mycobacterium tuberculosis, a species of pathogenic bacteria that is spread through air.  
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- The WHO lays emphasis on a specific strategy to tackle latent TB but only in high- and upper middle-income countries with a low incidence of the disease.  
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- According to a WHO report, approximately 10% of people with LTBI will develop TB, with the majority of them getting it within the first five years of infection.  
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- LTBI can often be tackled by maintaining good health and observing coughing and sneezing etiquette.  
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## **National Environment and Engineering Research Institute (NEERI)**

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- NEERI is a pioneer laboratory in the field of environmental science and engineering.  
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- The Institute was established at Nagpur in the year 1958, as Central Public Health Engineering Research Institute (CPHERI).  
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- The Institute was renamed in 1974 as National Environmental Engineering Research Institute (NEERI).  
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- NEERI is a constituent of Council of Scientific & Industrial Research (CSIR), New Delhi.  
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- CSIR-NEERI has initiated vital outcome-driven R&D activities under CSIR-800 program to benefit rural people of India in terms of water pollution control, air pollution control and waste to wealth.  
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- The mandate of NEERI is:  
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1. To conduct research and developmental studies in environmental science and engineering  
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2. To render assistance to the industries of the region, local bodies, etc. in solving the problems of environmental pollution through S&T intervention  
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3. To interact and collaborate with academic and research institutions on environmental science and engineering for mutual benefit  
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4. To participate in CSIR thrust area and National mission projects  
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### **e-Office**

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- The e-Office is a Mission Mode Project (MMP) under the National e-Governance Program of the Government of India.  
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- The e-Office product has been developed by National Informatics Centre (NIC), Ministry of Electronics & Information Technology (MeitY).  
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- It is to be implemented in all central Ministries/Departments of the Government of India.  
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- e-Office suit comprises of various applications including routine daily works like Leave Management System, File Management System to **ensure economy in use of paper**  
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### **Comprehensive and Progressive Trans-Pacific Partnership (CPTPP)**

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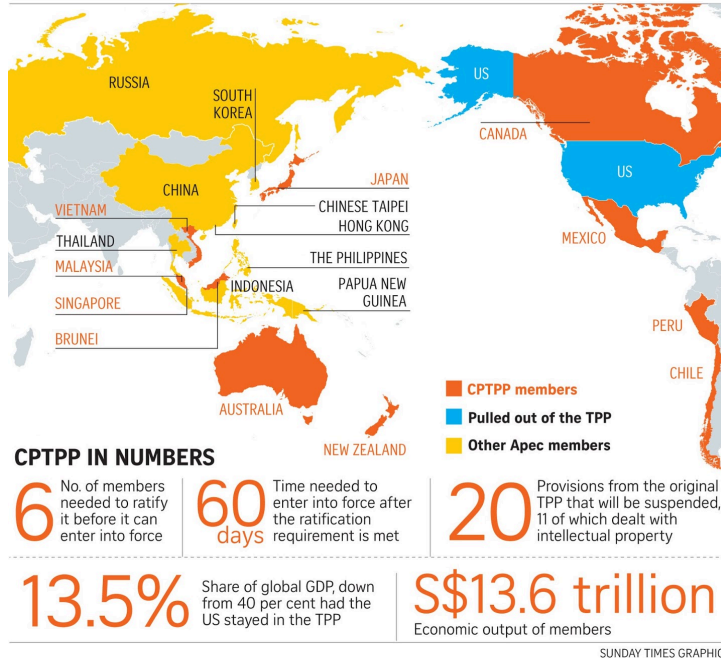
- The CPTPP is a new free trade agreement between 11 Asia-Pacific countries.  
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- Its members—Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam—constitute 13.5% of the world economy.  
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- The economies of the CPTPP members will be made 1.7% larger than they would have been, on average, by 2030.

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## TPP-11 to move forward on trade deal

The 11 remaining members of the Trans-Pacific Partnership (TPP), all of them in Apec, will push ahead on their free trade deal without the United States. They have renamed it the Comprehensive and Progressive Agreement for the TPP (CPTPP).



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- It provides freer trade and investment access among its members.
- After USA withdrawing itself from Trans Pacific Partnership agreement, the other members of TPP planned to go ahead by signing the CPTPP agreement.
- All 11 TPP countries are members of the Asia-Pacific Economic Cooperation (APEC)

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## Butterfly fish

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- In order to survive, melon Butterfly fish changed their behavior to adapt to coral death caused by climate change.
- The bleaching event of 2010 killed patches of corals in several reefs off the Lakshadweep Islands.

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- Despite these large differences in coral cover across the reefs in Lakshadweep, melon butterfly fish numbers were similar in the region.  
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- Butterfly fish relies on live coral for food and has been shown to decline substantially (67%) following climate-induced coral depletion.  
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- This species is widely distributed in the Indian Ocean, ranging from coastal East Africa to Raja Ampat (Indonesia), and Christmas Island (Australia).  
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- It is found in coral rich, protected areas in lagoons and on seaward reefs.  
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- It is found at depths of up to 20 m.  
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- The species has declined significantly in Seychelles where there has been coral loss and bleaching.  
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**Source: PIB, The Hindu**

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