

ISSUE 2 · AUG 2021

THROUGH THE LOOKING GLASS

From The Editor's Desk

August is upon us and what do we commemorate this month?

Hiroshima and Nagasaki Day! 76 years have gone by and the world remembers in horror the dropping of two nuclear bombs on Hiroshima and Nagasaki.

"Through the Looking Glass", brings you another dimension of this horrific event. It commemorates the International Day against Nuclear Tests. The first nuclear weapon was tested on 16th July 1945 and since then nearly 2000 nuclear tests have taken place across the world. History has taught us about the terrifying and tragic effects of nuclear weapons testing and this edition of the newsletter delves into this topic to give its readers some insights into the goal of achieving a nuclear weapon free world.

This issue:

- The International Day of the World's Indigenous People, August 6th
- Perseid Meteor Showers (August 11-13)
- World Mosquito Day, August 20th
- International Day against Nuclear Tests, August 26th



From The Editor's Desk

The mosquito is considered one of the deadliest animals of the world. It kills an estimated 7,00,000 people every year. 20th August marks 124 years since Sir Ronald Ross discovered that female Anopheles mosquitoes transmit malaria. This breakthrough discovery marked the beginning of the fight against malaria. We hope to raise awareness of this deadly vector, through this edition of the newsletter.

Yet another, rarely discussed topic that this edition brings to you is that of indigenous people. 9th August marks the International Day of the World's Indigenous People- People who have been marginalized for centuries but are a wealth of knowledge! There is much to learn from them and we wish that as you read their story you develop an empathy for the indigenous people of India and the world.

We hope that this edition of, "Through The Looking Glass" initiates great conversations and enables you to get different perspectives of the problems that ail the world.

Editorial Team

K-12, Excelsoft Technologies Pvt. Ltd.

International Day of the World's Indigenous People

Observed on 9th August every year

This date marks the day of the first meeting, in 1982, when the UN Working Group on Indigenous Populations met to discuss the promotion and protection of rights of the world's indigenous people

The theme for 2021: "Leaving no one behind: Indigenous peoples and the call for a new social contract."

What does the theme mean?

A social contract is an unwritten agreement that societies make for political and economic reasons.

In many countries, indigenous people are marginalized, their lands taken away, their religion, culture and language denigrated. They are not included in the social contract made by the dominant populations.

The theme seeks to build awareness and address the injustices meted out to indigenous populations. In the recent years various societies and governments have tried to address this injustice meted out to indigenous people through apologies, truth and reconciliation efforts and constitutional reforms. A new social contract that fosters equal opportunities and respects the rights, dignity and freedoms of all including that of indigenous people is important to achieve reconciliation between governments and indigenous societies.

"Leaving no one behind: Indigenous peoples and the call for a new social contract."



A case in point: Schools of Horror



Photo by the Province of British Columbia.

The residential schooling system was a strategic plan of colonial settlement in Canada. The settlers wanted land and wanted to get rid of the Native Indian American problem. The indigenous people of Canada who had complete freedom and access to their land were deprived of their rights as their lands were forcibly taken away.

Recently many newspapers reported the finding of many (actual numbers are not known), unmarked graves of children in Canada. Until the 1990s approximately 150,000 Native American, Metis and Inuit children were forcibly recruited into 139 residential schools across Canada, where they were isolated from their families, language and culture and forced to adopt a new dominant culture and religion. The only crime that these children had committed was being born to indigenous families. These government-funded boarding schools were part of a policy to assimilate indigenous children and destroy indigenous cultures and languages



Evelyn Camille a survivor of the Kamloops Indian Residential School which she attended for 10 years tells her story:

" They were not schools."

"I didn't learn anything there. When I took the college entrance program, I had a Grade 4 level."

"The residential schools [were] built to beat our language, culture and traditions out of us. It was meant to break up our families. We know our families were strong. It was meant to break up our communities. We had very strong communities."

The Indigenous People of India

As per the 2011 census, India is home to about 700 hundred tribal groups with a population of 104 million. They constitute 8.6% of the national population. India has the second largest tribal population after Africa. The accepted view now, is that the original inhabitants of India were not the Dravidians but the pre-Dravidian Munda aborigines. The Adivasis in various parts of India for example the Gonds, Santhals, Bhils, and Todas are the descendants of the pre-Dravidian Munda aborigines. The descendants of the pre-Dravidian Munda aborigines now live in parts of Jharkhand, Chhattisgarh, Orissa, West Bengal, the Nilgiris in Tamil Nadu and in the Andaman Islands.



Indigenous People and Their Rights

The United Nations Declaration on the Rights of Indigenous People.

Excerpts from the declaration:

- Affirms that indigenous people are equal to all other peoples, have the right to be different and respected as such
- Reaffirms that indigenous people can exercise their rights and should be free of discrimination
- Expresses concern because indigenous people have suffered from injustices for a very long period as a result of, their colonization and dispossession of their lands, territories and resources. Dispossession of their land has prevented them from exercising their right to development according to their own needs and interests
- Recognizes the urgent need to respect and promote the inherent rights of indigenous peoples which are derived from their political, economic and social structures and also from their cultures, spiritual traditions, histories and philosophies, especially their rights to their lands, territories and resources

Indigenous People and Their Rights

- Welcomes the fact that indigenous peoples are organizing themselves for political, economic, social and cultural enhancement in order to bring to an end to all forms of discrimination and oppression
- Recognizes that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment
- Recognizes the right of indigenous families and communities to retain shared responsibility for the upbringing, training, education and well-being of their children, consistent with the rights of the child. These rights have been adapted from the United Nations Declaration on the Rights of Indigenous People.

In all the UN Declaration of the Rights of Indigenous People has 46 Articles which elaborate on the Rights.

Excerpts :

- Article 6: Every indigenous individual has the right to a nationality.
- Article 8: Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture.
- Article 10: Indigenous peoples shall not be forcibly removed from their lands or territories. No relocation shall take place without the free, prior and informed consent of the indigenous peoples concerned and after agreement on just and fair compensation and, where possible, with the option of return.
- Article 12: Indigenous peoples have the right to manifest, practice, develop and teach their spiritual and religious traditions, customs and ceremonies; the right to maintain, protect, and have access in privacy to their religious and cultural sites; the right to the use and control of their ceremonial objects; and the right to the repatriation of their human remains.

Indigenous People and Their First Right to Their Lands

- According to IIED (International Institute for Environment and Development) protecting indigenous cultures is key to protecting biodiversity.
- Indigenous peoples have created and conserved much of the world's agricultural biodiversity. They have created and conserved new varieties of crops, livestock and unique landscapes.
- Several research studies show that traditional ecological knowledge is effective in conserving biodiversity and regulating sustainable resource use, such as hunting, harvesting forest produce, fishing, farming and pastoralism (a form of herding and grazing animals) . Living in harmony with nature is a fundamental part of the culture and core values of indigenous people.

Indigenous Communities, their Belief Systems and the Environment

According to the indigenous people of the Andes, the world is divided into three parts- the human and domesticated, the wild and the ancestral and sacred. According to them wellbeing is achieved only through the balance of these three worlds.

References:

United Nations Declaration on the Rights of Indigenous People :

1. https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf
2. (<https://humanrights.gov.au/our-work/un-declaration-rights-indigenous-peoples-1>)





Indigenous Communities, their Belief Systems and the Environment

Take the case of the Khasis and the Jaintias of Meghalaya. In the olden days, almost every village in the Khasi and Jaintia Hills of Meghalaya had its sacred groves, or Law Kyntangs/Khloo Blai. In these sacred groves no person was allowed to even touch a leaf, pluck a flower or twig or cut a tree. It was believed that a forest deity called 'Ryngkew', 'Basa' or 'Labasa' in the local language resides in these sacred groves and protects the well being of the village community. The village community believed that this deity would be offended if the forest was transgressed in any manner. Today these groves exist only in a few pockets. With the spread of Christianity in the Northeast and population pressure on the land, these old beliefs and ritualistic conservation traditions were swept aside leading to large scale deforestation.

To summarise indigenous communities revere the oneness of life. They consider nature in all its manifestations as sacred and believe that humanity is a part of it. They encompass practical ways to ensure the balance of the environment in which they live, so that it may continue to provide water, fertile soil, food, shelter and medicines.

The Questions We Need to Ask

1. At the start of the UN Decade for Ecosystem Restoration what role can indigenous people play in developing, managing and conserving ecosystems?
2. How can we ensure that indigenous people have a voice and are included in developing policies to manage ecosystems?
3. Indigenous communities have lost their livelihood, their forests and even their gods. Their languages, art and music are fast disappearing. How can we revive and reacquaint tribal youth with their rich culture? Can we have an education system that empowers and celebrates indigenous people and their culture?

Share your thoughts with us. We look forward to hearing from you
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World Mosquito Day



We have dedicated a day for mosquitoes inspite of these insects being responsible for the transmission of malaria and other diseases. Well, this day is all about raising awareness to keep people safe and protected.

World Mosquito Day is observed on 20th August every year. This day honours the discovery made by Dr. Ross in 1897. He was the first to discover the link between humans, malaria, and mosquitoes. For his discovery Dr. Ronald Ross was awarded the Nobel Prize for Medicine in 1902. An improved understanding of the disease has led to more innovative preventive measures and medical treatments. However there is no vaccine for malaria

Dr. Ronald Ross: Jack of All Trades and the Master of Many

Sir Ronald Ross, was a British army surgeon working in India. He proved that mosquitoes transmitted malaria by identifying pigmented malaria parasites in mosquitoes that fed on an infected patient.

During this career, Dr. Ross initiated several measures for the prevention of malaria in different countries of the world. He carried out surveys and initiated schemes in West Africa, the Suez Canal zone, Greece, Mauritius, Cyprus, and in the areas affected by World War I.



He made many contributions to the epidemiology of malaria and to methods of its survey and assessment. One of his greatest contributions was the development of mathematical models for the study of malarial epidemiology. His papers on malarial epidemiology show his profound mathematical interest. Dr Ross not only contributed to the field of medicine but also to both pure and applied mathematics.

Besides being a doctor, Sir Ross was a poet, playwright, writer and painter. His poetic works gained him wide acclamation.



History

Mosquitoes are responsible for transmitting serious diseases such as malaria. Malaria is an ancient disease. It has afflicted humans from the beginning of agriculture and remains a menace even today.

The prevalence of malaria shows up in historical texts that date back to the first millennium BCE. The first traces of malarial parasites were found in remains of mosquitoes that were over 30 million years old.

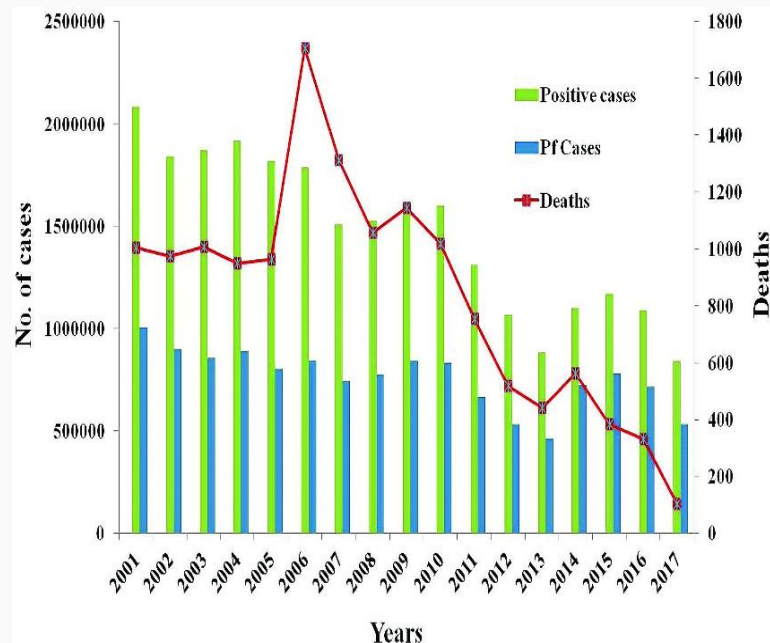
Malaria has affected every continent except Antarctica, and remains a widespread problem in all parts of the world including Sub-Saharan Africa, South Asia, and the Caribbean.

World Mosquito Day 2021 – Significance

Mosquito-borne diseases are those spread by the bite of an infected mosquito. Diseases that are spread to people by mosquitoes include Zika virus, West Nile virus, Chikungunya virus, Dengue, and Malaria.

The general public needs to be educated about healthy living habits and simple ways to avoid mosquito breeding around their homes. Mosquito menace is a big problem worldwide. Each year over 200 million people contract malaria. In 2010, 90% of malaria deaths occurred in Africa.

Annual malaria cases in India



Source: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1677601>



A small puddle of stagnant water is sufficient for mosquitoes to breed, leading to an infestation in that area. A simple mosquito bite can cause deadly diseases in humans. India acts as a favorable breeding ground to many common mosquito species like the Anopheles and the Aedes varieties. India is also a hotspot for yellow fever, malaria and dengue. To combat this mosquito menace, it becomes crucial to take up measures to increase awareness and reduce breeding grounds of mosquitoes.

Climate Change and Mosquitoes

It is believed that by 2050 half of the world's population will be exposed to diseases spread by mosquitoes. Climate change and accelerating urbanization will create new mosquito habitats.

Two key disease-spreading mosquitoes — *Aedes aegypti* and *Aedes albopictus* — will significantly expand their range.

Dr. Kraemer, an infectious disease scientist at The Boston Children's Hospital and his colleagues found that in the last five years, *Aedes aegypti* has spread northward in the U.S. at a rate of 150 miles per year. In Europe, *Aedes albopictus* has spread at a rate of 93 miles per year.

A World Without Mosquitoes...A great idea??

A world without mosquitoes sounds nice doesn't it?

Consider this...

Mosquitoes suck nectar and in the process pollinate flowers.

Mosquitoes transfer pollen from flower to flower as they feed on nectar, fertilizing plants and allowing them to form seeds and reproduce. Male mosquitoes feed only on nectar and never bite.

Mosquitoes are part of the food web and serve as food for many amphibians, bats, birds and spiders.

The next time you swat a pesky mosquito remember that like all other species mosquitoes have a purpose and an ecological role to play.

International Day Against Nuclear Tests : What are its aims?

On 2nd December 2009, the United Nations General Assembly declared 29th August the International Day against Nuclear Tests

- To prevent more of the “devastating and harmful effects on the lives and health of people and the environment” caused by nuclear testing
- Increase public awareness about the effects of nuclear weapon tests and the need for their cessation
- The Day is meant to inform, educate and advocate the necessity of banning nuclear weapon tests for a safer world

Poisoned groundwater, cancer, leukaemia, radioactive fallout — these are among the poisonous legacies of nuclear testing. The best way to honour the victims of past tests is to prevent any in the future.

Message by former United Nations Secretary
-General Ban Ki-moon

The legacy of nuclear testing is nothing but destruction. The CTBT is vital to ensuring there are no more victims; it is also essential to advancing nuclear disarmament. In a world of rising tensions and divisions, our collective security depends on it.

Message by United Nations Secretary
-General António Guterres

Nuclear Era – The Beginning



Trinity: first test of a nuclear device. Conducted by the United States Army on July 16, 1945



Servicemen often played the role of guinea pigs in the first decade of nuclear testing

Peace Initiatives

- India's Prime Minister, Nehru was the first Head of State to call for a "standstill agreement" to halt nuclear testing in 1954.
- By the mid-1950s many governments and public organizations considered nuclear testing a "burning public issue".
- The international Peace Movement played an essential role throughout the Cold War in keeping the public informed on issues of disarmament and pressuring governments to negotiate arms control treaties.
- Partial Test Ban Treaty was signed by the United Kingdom, the United States and the Soviet Union in 1963
- In 1990, the Soviet Union proposed a moratorium on nuclear testing that was agreed to by the United Kingdom and the United States

Non Proliferation Treaty (NPT)

- Landmark international treaty
- Opened for signature in 1968
- Came into force in 1970 for all States
- On 11 May 1995, the Treaty was extended indefinitely
- Including the five nuclear-weapon States, 191 States have joined the Treaty
- More countries have ratified the NPT than any other arms limitation and disarmament agreement
- The Treaty promotes cooperation in the field of peaceful nuclear technology and equal access to this technology for all States

Objectives:

- to prevent the spread of nuclear weapons and weapons technology
- to promote cooperation in the peaceful uses of nuclear energy
- to further the goal of achieving nuclear disarmament and general and complete disarmament

International Atomic Energy Agency (IAEA).

- The International Center for Nuclear Cooperation promotes safe, secure and peaceful nuclear technologies through cooperation with its 170 Member States.
- A confidence-building measure between State parties
- Work to further the goal of non-proliferation
- Verify compliance with the Treaty through inspections
- Safeguards to prevent the diversion of fissile material for weapons use

Comprehensive Nuclear-Test-Ban Treaty (CTBT)

- The CTBT is a multilateral treaty. According to this treaty states agree to ban all nuclear explosions in all environments, for military or civilian purposes. This treaty adopted by the United Nations General Assembly on 10 September 1996, and opened for signature in New York on 24 September 1996. Even after 25 years the CTBT has not yet come into force.
- The Comprehensive Nuclear-Test-Ban Treaty has an essential role within the nuclear disarmament and non-proliferation regime.
- It fosters international peace and security by constraining the development of nuclear weapons
- Although 184 countries have signed the CTBT and 168 have also ratified it, 44 specific nuclear technology holder countries must sign and ratify it before it can come into force. Countries such as China, Egypt, India, Iran, Israel, North Korea, Pakistan and the USA have not ratified the treaty.

Falling Out

- Between 1998 and 2013: seven nuclear tests were conducted
- India conducted two underground nuclear tests, code-named “Shakti (Power) ‘98”, on 11 and 13 May 1998 at its Pokhran underground testing site
- Pakistan reacted by conducting two underground nuclear tests at its Ras Koh range
- Both India and Pakistan announced unilateral moratoriums on nuclear testing and have conducted no nuclear tests since 1998
- The Democratic People's Republic of Korea (DPRK) is the only country to have conducted nuclear tests in this century

India and the NPT

- The Non Proliferation Treaty recognizes only the five permanent members of the UN Security Council (US, Russia, UK, France and China) as nuclear weapon powers
- It mandates that other countries can be a party to the NPT only as a non-nuclear weapon states. India responded to the NPT stating that it will not join the NPT as a non-nuclear weapon state since nuclear weapons constitute an integral part of India's security.
- India's stated position on the NPT is that it "cannot accept externally prescribed norms or standards on matters within the jurisdiction of its Parliament or which are not consistent with India's constitutional provisions and procedures, or are contrary to India's national interests or infringe on its sovereignty."
- During the course of the negotiations, India put forward a number of proposals. These proposals were aimed at ensuring that the CTBT would be truly comprehensive and would be part of the step-by-step process of eliminating all nuclear weapons. However, these proposals were regrettably ignored
- India has declared that it would be unable to sign and ratify the CTBT in its present discriminatory form
- However, India has pledged to continue with its voluntary and unilateral moratorium on further nuclear testing
- India is the only nuclear weapon state to declare that it believes its security would be enhanced, not diminished, in a world free of nuclear weapons.



India's Stand

- India remains committed to the policy of No First Use (NFU) against nuclear weapon states and non-use against non-nuclear-weapon states.
- India is a key partner in the global efforts towards disarmament and strengthening the non-proliferation order.
- India believes that nuclear disarmament can be achieved through a step-by-step process underwritten by a universal commitment and an agreed multilateral framework after meaningful dialogues among all States possessing nuclear weapons
- The Conference on Disarmament (CD) remains the “world’s single multilateral disarmament negotiating forum” and India supports holding of negotiations on a Comprehensive Nuclear Weapons Convention at the CD.

2020 ESTIMATED GLOBAL NUCLEAR WARHEAD INVENTORIES

The world's nuclear-armed states possess a combined total of nearly 13,500 nuclear warheads; more than 90% belong to Russia and the United States. Approximately 9,500 warheads are in military service, with the rest awaiting dismantlement.



Arms Control
Association

- Since the International Day against Nuclear Tests was first declared, there have been a number of significant developments, discussions and initiatives relevant to its goals and objectives
- Over the decades, and especially in recent years, civil society efforts in support of a comprehensive ban on nuclear testing was crucial
- A lot more effort needs to be made and a long way to go to ensure nuclear disarmament and the total elimination of nuclear weapons

Perseid Meteor Showers (August 11-13)

Meteors are also known as shooting stars. They occur when an object (such as dust or rocks) enters the Earth's atmosphere. The friction between the object and the atmosphere leads to it burning up and appearing as a bright streak across the sky.

When the Earth passes through the tail of a comet, we can see many meteors. This is called a meteor shower. This month, Earth passes through the tail of the Swift-Tuttle comet. The meteors will appear to originate from the Perseus Constellation (North-Northeast direction), which is why they are called the Perseids.

This year, we can see the Perseid meteor showers around August 11th (You can see them during the days before and after, but the peak will be on the night of August 11th/early morning August 12th.)

To observe the Perseids, it is better to go to places without light pollution if possible. Meteors will be seen across the sky, and no additional observing equipment is required.

Opposition of Jupiter – August 19th

An opposition in Astronomy is when a planet or other celestial body, the Sun, and the Earth are in a straight line. At opposition, the Sun and the planet will be on opposite sides of the Earth.

This means that the planet will be fully lit by the Sun's light, and will be very bright. (Similar to the Full Moon)

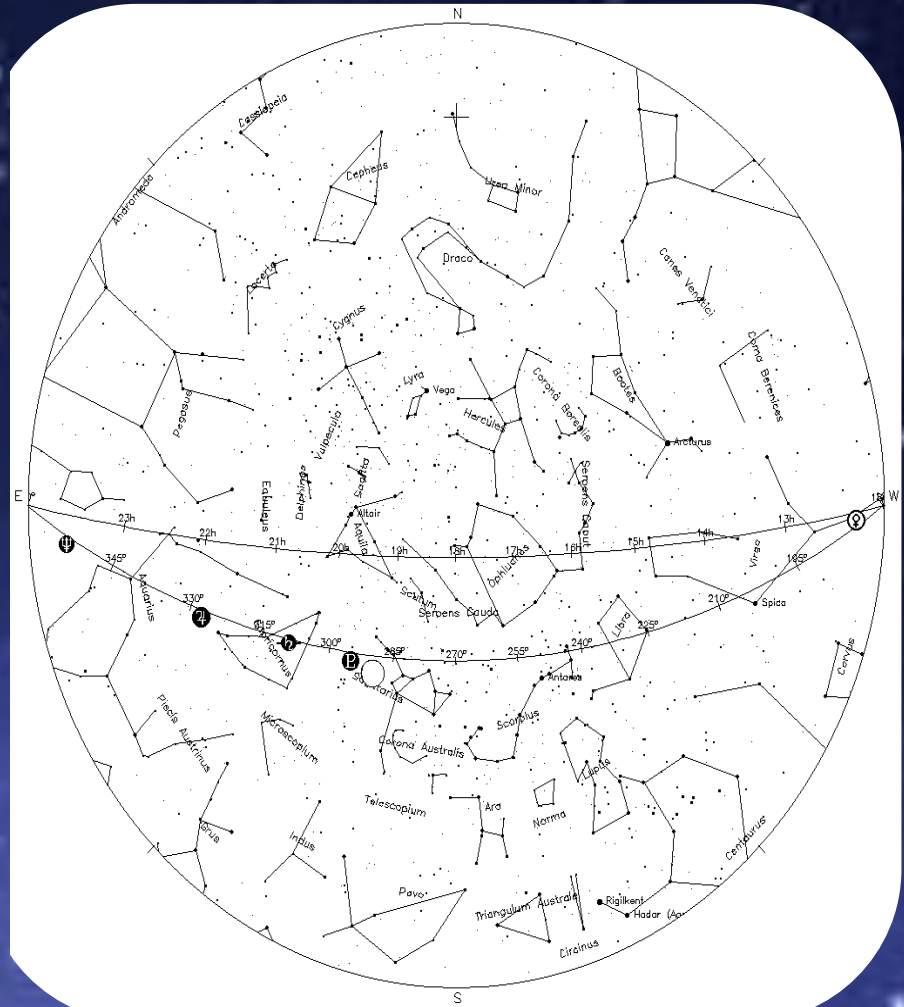
The position of Jupiter on August 19th is shown in the Sky Map. It is represented by the symbol ♃.

How to observe

Jupiter will be visible in the Southeast direction, from 7:30 onwards

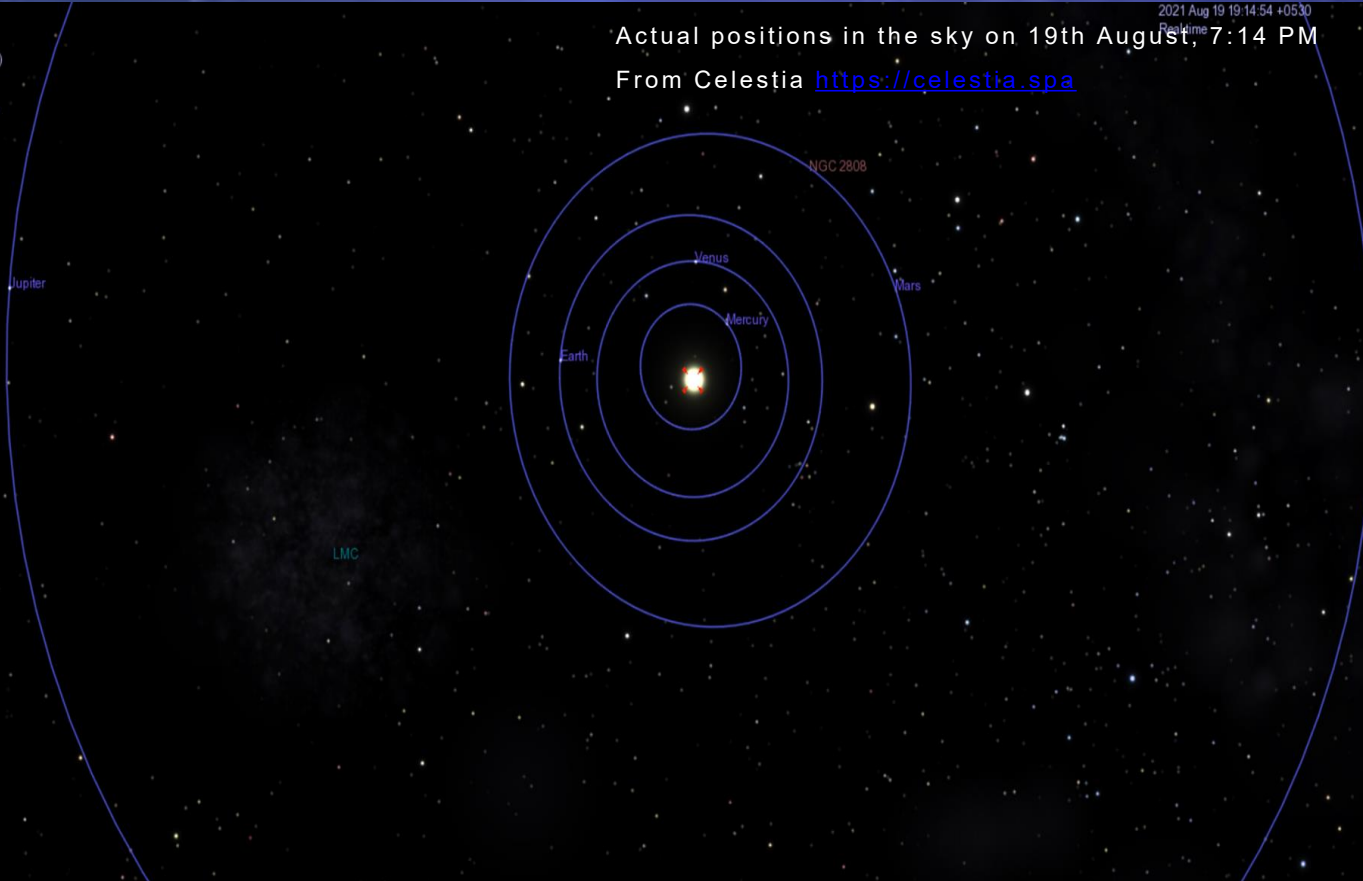
It will be very bright when observed with the naked eyes. You can also use binoculars.

The screenshot shows how Jupiter will appear in the night sky.



Sol / Sun
 Distance: 11.247 au
 Abs (app) mag: 4.83 (-21.49)
 Luminosity: 1.00x Sun
 Class: G2V
 Apparent diameter: 02' 50.6"

Actual positions in the sky on 19th August, 7:14 PM
 From Celestia <https://celestia.spa>



To generate your own sky map, go to the website: <https://www.fourmilab.ch/cgi-bin/Yoursky> and complete the control panel with the values given here.

You can change the date, and the time (Subtract 05:30 hours from local time – Here 15:00:00 is the time, when the observing time is 8:30 PM)

Date and Time	<input type="radio"/> Now <input checked="" type="radio"/> Universal time: <input type="text" value="2021-07-06 15:00:00"/> <input type="radio"/> Julian day: <input type="text" value="2459402.12500"/>
Observing Site	Latitude: <input type="text" value="12°21'28"/> <input checked="" type="radio"/> North <input type="radio"/> South Longitude: <input type="text" value="76°34'12"/> <input checked="" type="radio"/> East <input type="radio"/> West Set for nearby city.
Display Options	<input checked="" type="checkbox"/> Ecliptic and equator <input checked="" type="checkbox"/> Moon and planets <input checked="" type="checkbox"/> Deep sky objects of magnitude <input type="text" value="1.0"/> and brighter Constellations: <input checked="" type="checkbox"/> Outlines <input checked="" type="checkbox"/> Names <input checked="" type="checkbox"/> aligned with horizon? <input type="checkbox"/> abbreviate? <input type="checkbox"/> Boundaries Stars: <input checked="" type="checkbox"/> Show stars brighter than magnitude <input type="text" value="5.5"/> <input checked="" type="checkbox"/> Names for magnitude <input type="text" value="1.0"/> and brighter <input type="checkbox"/> Bayer/Flamsteed codes for mag. <input type="text" value="2.5"/> and brighter <input type="checkbox"/> Invert North and South Image size: <input type="text" value="1024"/> pixels Font scale: <input type="text" value="0.5"/> Colour scheme: <input type="text" value="Black on white background"/>



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