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**WATER
PEOPLE
HEALTH**
Coping with the Floods

Global Framework on Transboundary Waters in the Context of Geography

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Transboundary Waters

- Transboundary waters are the aquifers, lakes and river basins shared by two or more countries
 - Transboundary waters account for 60 per cent of the world's freshwater flows
 - Actions in one country have consequences in others
- Coastal resources can be jeopardized by upstream activities





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On rivers shared by more than one country this sharing has been impacted by:

- The power of the countries sharing the river in relation to each other
- The agreements that bind them
- The original underlying factors
- How these have become outdated and less relevant for the realities of today





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Convention on the Protection and Use of Transboundary Watercourses and International Lakes

United Nations Economic Commission for Europe

UNECE
(1992)





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Core Objectives

- **Protect and manage** transboundary surface waters and groundwaters.
- **Prevent, control, and reduce** transboundary impacts, primarily pollution.
- **Ensure** the ecologically sound and rational use of shared waters.
- **Promote cooperation** between countries that border the same transboundary waters (riparian parties).



Key Obligations for Parties in the Pan-European Region

- **Cooperate:** Parties bordering the same water must enter into specific bilateral or multilateral agreements and establish joint bodies (like river basin commissions).





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- **Implement Principles:** Apply principles such as the precautionary approach, the polluter-pays principle, and equitable and reasonable utilization.
- **Take Measures:** License and monitor waste-water discharges, apply best available technologies, and ensure conservation/restoration of water-related ecosystems.



Global Legal Framework (2016)

- In March-2016 the Regional agreement transitioned from regional agreement to **global legal framework**.
- The Convention was opened for accession to **all United Nations Member States** around the world.
- The Convention has since gained new Parties from Africa, the Middle East, and Latin America (e.g., Ghana, Nigeria, Iraq, Panama), demonstrating its global relevance.



Related Protocol (1999)

- The Convention is supported by the Protocol on Water and Health (1999).
- This Protocol specifically targets the prevention and reduction of water-related diseases and the safety of water supply and sanitation





Progress on Transboundary Water Cooperation

Mid-term status of SDG Indicator 6.5.2,
with a special focus on Climate Change

2024

Current Activities

- The **Meeting of the Parties (MOP)** adopts multi-year work plans to address emerging issues.
- The most recent is the **Programme of Work**
- **for 2025–2027**, focusing on strengthening cooperation, addressing the water-food-energy-ecosystems nexus, and adapting to climate change.
- Transboundary arrangements in many rivers basins follow this legal framework





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Sustainable Development Goals 2015-2030

- The Global Legal framework remains a critical tool for advancing the Sustainable Development Goals (SDG), particularly Target 6.5,
- It calls for implementing integrated water resources management, including management through transboundary cooperation





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SDG Indicator 6.5.2 “Proportion of Transboundary basin area with an operational arrangement for water cooperation”

- Indicator 6.5.2 tracks the percentage of transboundary basin area within a country that has an operational arrangement for water cooperation





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- An arrangement for water cooperation in a bilateral or multilateral treaty, convention, agreement or other formal arrangement between riparian countries that provides a framework of cooperation
- Data are commonly compiled by relevant national line ministries and institutions (e.g. for water environment, natural Resources, Hydrology, Geology).



Transboundary Data

- Only 43 out of 153 counties sharing transboundary waters have operational arrangements covering 90% or more of their shared rivers, lakes and aquifers (UN-Water, 2024)
- Transboundary waters account for 60% of the world's freshwater flows and 153 countries have territory within at least one of the 286 transboundary river and lake basins and 592 transboundary aquifer systems. (UN-Water, 2021)





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- At least 20 countries lack any arrangements for sharing transboundary waters. UN-Water, (2024)
- Only eight countries have improved their cooperation with neighboring governments on transboundary water resources between (2020) and (2023). UN-Water, (2024)



CRITICAL CRITERIA

For an ‘arrangement for water cooperation’ to be operational, all four of the following criteria must be met:

- There must be a joint body or mechanism for transboundary cooperation in place
- There must be at least annual meetings between riparian countries





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- A joint or coordinated water management plan or joint objectives must have been established
- There must be at least annual exchanges of data and information



**GLOBAL
CHALLENGE**

SDG

**EXAMPLE OF OPERATIONAL ARRANGEMENTS FOR TRANSBOUNDARY WATER
COOPERATION CONTRIBUTING TO SDGS**

**Poverty
alleviation**



Cooperation between El Salvador, Guatemala and Honduras through the Trinational Commission of the Trifinio Plan demonstrates how basin-wide development programmes support actions to fight poverty and improve the living conditions of local communities.^[i]



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COOPERATION CONTRIBUTING TO SDGS

Food security



Cooperation between Portugal and Spain in the framework of the Albufeira Convention has facilitated sustainable agricultural and energy production through the existence of a well-defined flow regime and coordination of actions to control situations of drought and water scarcity.^[ii]





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EXAMPLE OF OPERATIONAL ARRANGEMENTS FOR TRANSBOUNDARY WATER
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Health and
well-being

3 GOOD HEALTH
AND WELL-BEING



Cooperation between Czechia and Germany in the International Commission for the Protection of the Elbe River enabled a marked improvement in the water quality of the Elbe, for example a decrease in the concentration of mercury in the sediments from more than 8 mg/kg in 1996 to less than 0.5 mg/kg in 2013.^[ii]



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**EXAMPLE OF OPERATIONAL ARRANGEMENTS FOR TRANSBOUNDARY WATER
COOPERATION CONTRIBUTING TO SDGS**

**Gender
equality**



The Volta Basin Water Charter commits Volta riparians (Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali and Togo) and the Volta Basin Authority to give special consideration to the interests and contributions of women, men and vulnerable people in decision-making about water and the environment, the right to water and sanitation, capacity-building, and investment operations in the water sector.^[iii]



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**EXAMPLE OF OPERATIONAL ARRANGEMENTS FOR TRANSBOUNDARY WATER
COOPERATION CONTRIBUTING TO SDGS**

Clean energy

**7 AFFORDABLE AND
CLEAN ENERGY**



Implementation of jointly-owned and managed projects, such as the Manantali and Diama dams, has been recognized among the major cooperation achievements within the framework of the Organization for the Development of the Senegal River.^[iv]





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Climate
change



Countries of the Amazon, with the help of the Amazon Cooperation Treaty Organization, have implemented climate change adaptation activities under the Amazon Basin Strategic Action Programme. The Amazon Regional Observatory was recently expanded to include a climate change module, and climate change scenarios have been integrated in the Regional Hydrological Platform.^[v]





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**Ecosystem
protection**



In the Dniester Commission, the Republic of Moldova and Ukraine cooperate in implementing ecosystem-based adaptation activities (reforestation, fish conservation, restoration of floodplains, etc.), as identified in the Strategic Framework for Adaptation to Climate Change in the Dniester River Basin.^[vi]





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Peace and
security

16 PEACE, JUSTICE
AND STRONG
INSTITUTIONS



The Lake Chad Basin Commission promotes regional integration, peace and security in the basin. A dedicated Multinational Joint Task Force was mandated to deal with cross-border security issues and facilitate humanitarian operations and the delivery of assistance to the affected populations in the Lake Chad region.^[vii]





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Partnerships

17 PARTNERSHIPS
FOR THE GOALS

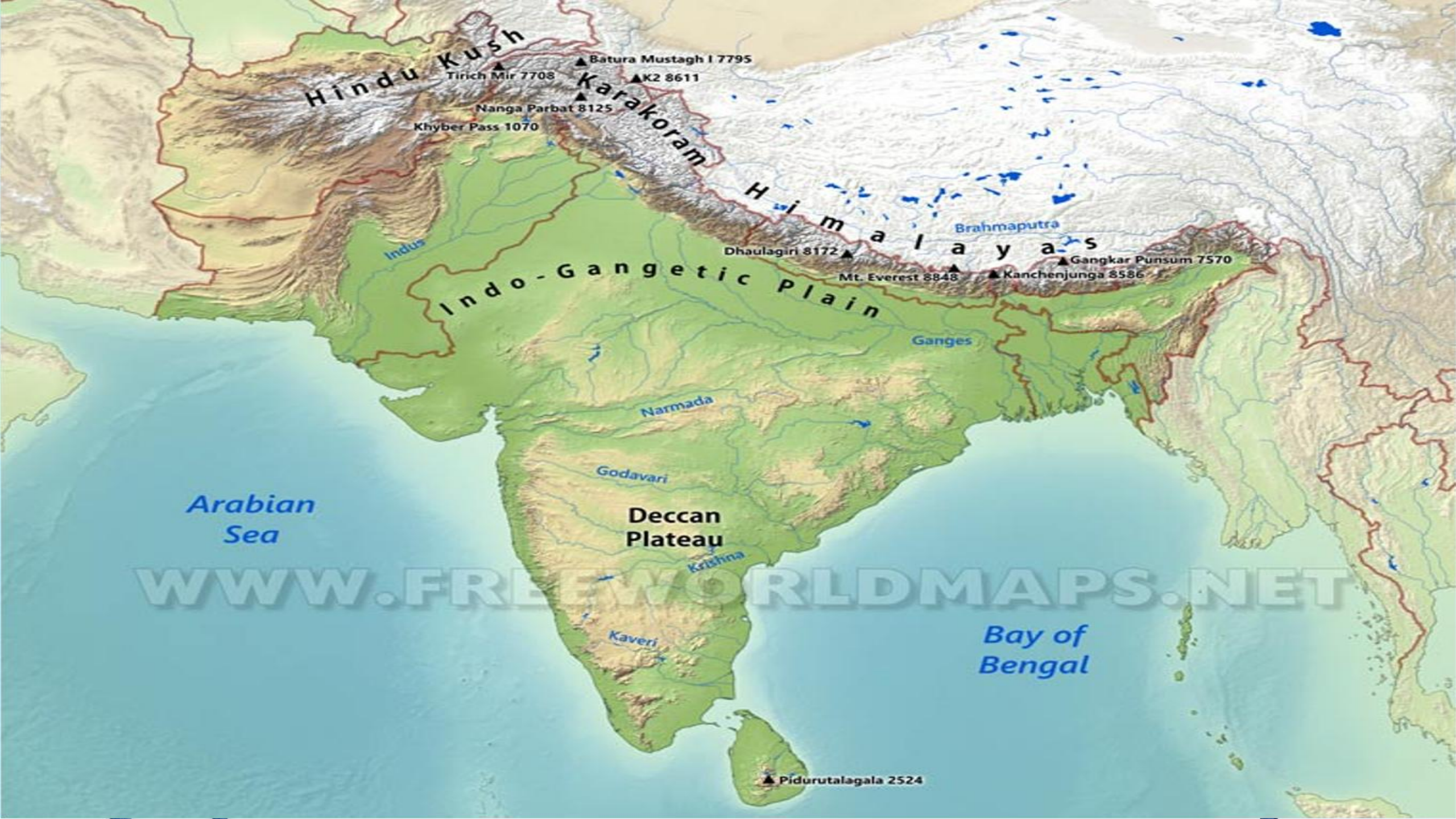


In the Organization for the Development of the Gambia River, the national and local coordination and monitoring committees have ensured that the voices of national and local stakeholders, civil society, rural communities, and youth and women's associations are taken into account in the development of measures in the basin.^[viii]



How Hydrology and Geography Affects Transboundary Arrangements (examples of South Asia)





Hindu Kush

Batura Mustagh I 7795
Tirich Mir 7708

Nanga Parbat 8125
Khyber Pass 1070

Karakoram

Himalayas

Dhaulagiri 8172
Mt. Everest 8848
Kanchenjunga 8586
Gangkar Punsum 7570

Indo-Gangetic Plain

Indus

Brahmaputra

Ganges

Narmada

Godavari

Deccan Plateau

Krishna

Kaveri

Arabian Sea

Bay of Bengal

Pidurutalagala 2524

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The 'Third Pole' & the roof of the world

- The presence, depth, spread of ice, snow, glaciers makes this area the third largest ice-covered region after the two poles
- 'Third Pole' affects the global climate patterns
- The Tibetan Plateau was formed due to the collision between the Indian and Eurasian tectonic plates, resulting in the Himalayan mountain range





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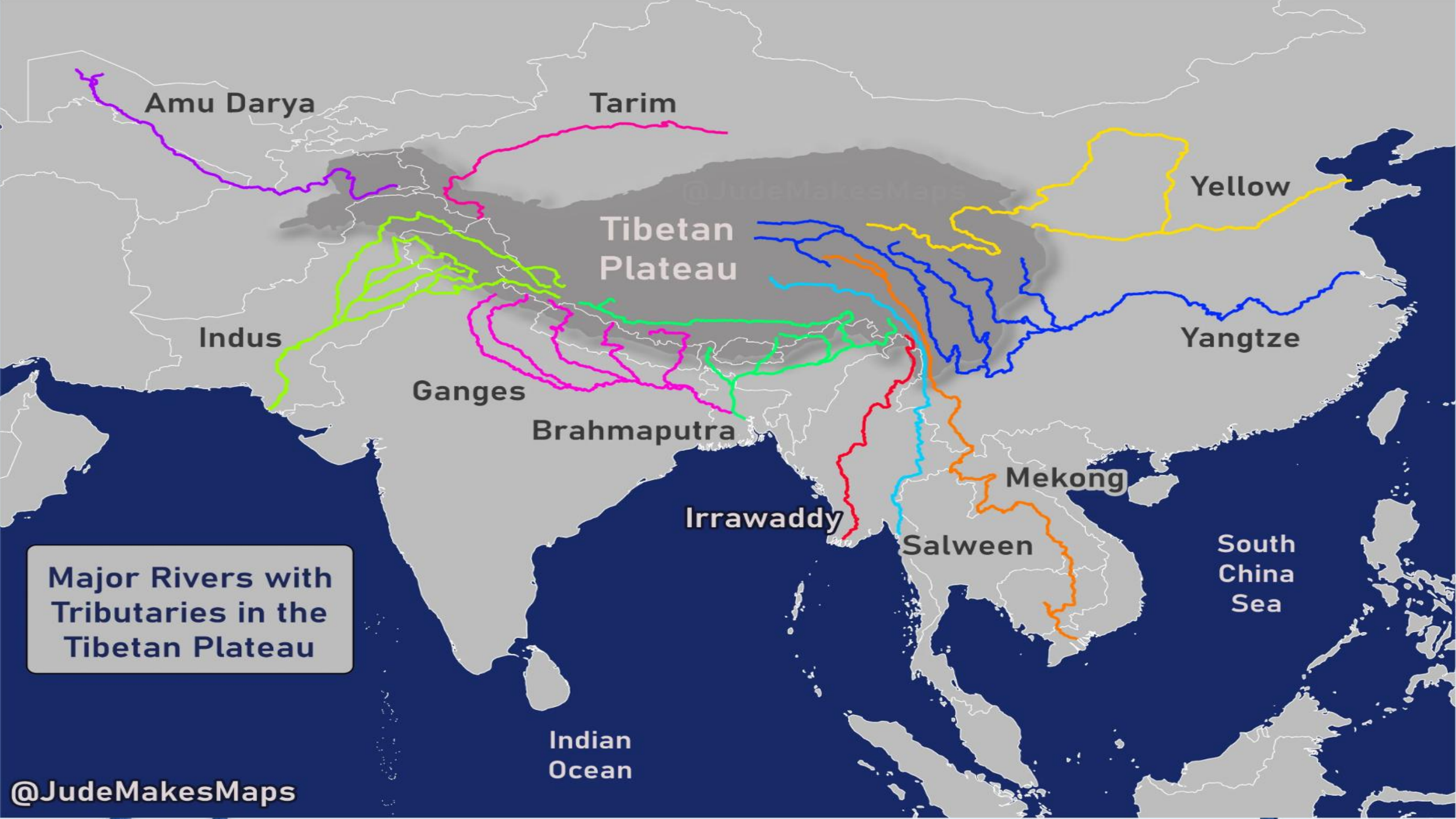
- The collision of tectonic plates has shaped the region's geology, creating a complex landscape of mountains and valleys
- Mount Everest started rising 50 million years ago – and is still rising



Water Towers

- The Tibetan Plateau and the Himalayas are often referred to as "water towers" due to their significant role in supplying freshwater to downstream regions
- Source of ten major river systems and supply 1.5 billion people.
- Snowmelt and glaciers contribute significantly to the river flow, making them vulnerable to climate change
- The region's runoff patterns vary significantly, with some rivers experiencing high seasonal variability





Amu Darya

Tarim

Yellow

Tibetan Plateau

Indus

Yangtze

Ganges

Brahmaputra

Mekong

Irrawaddy

Salween

South China Sea

Indian Ocean

Major Rivers with Tributaries in the Tibetan Plateau

@JudeMakesMaps

What is Geopolitics

- The study of how geography influences international relations, politics, and global power dynamics. It examines how a country's location, natural resources, climate, and other geographic factors shape its interactions with other nations and impact global politics
- Geopolitics helps us understand global conflicts, alliances, and power shifts, as well as the complex relationships between nations and regions



The Revenge of Geography

"The Revenge of Geography" by Robert D. Kaplan explores how geography shapes global politics, history, and cultural identity

- Geography is a primary factor in determining a nation's or empire's success, influencing conflicts, power struggles, and cultural developments
- The importance of physical landscapes, natural resources, climate, and topography in shaping nations and empires.
- How these factors have impacted historical events and global power dynamics





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Geopolitics of India, China & Pakistan

- Tibetan Plateau – A vast, elevated region that affects climate patterns and water resources in the surrounding areas
- Himalayan Mountain Range – Acts as a natural barrier between India and China, and has played a significant role in shaping the region's climate, culture, and politics





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- Indus River – Flows through India and Pakistan, and is a vital source of water for agriculture and industry in both countries
- Kashmir Region – A disputed territory between India and Pakistan, with a strategic location that controls access to the Indus River and other important waterways





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- Natural Resources – The region is rich in natural resources, including oil, natural gas, and minerals, which are crucial for economic development and energy security
- Climate and Weather Patterns – The region's diverse climate and weather patterns, including monsoons and droughts, have significant impacts on agriculture, industry, and human settlements





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- Borderlands and Territorial Disputes – The region's complex borderlands and territorial disputes, such as the India-Pakistan border and the Sino-Indian border dispute, have significant geopolitical implications
- Usually Treaties on rivers share the waters, not divide rivers physically





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Indus and its Tributaries

- In Addition to the five main tributaries that give Punjab its name
- The river Indus has River Kabul flowing into it from the west,
- Numerous small and big tributaries from Chitral, Hunza and many other valleys and from glaciers
- Of the 3180 kms of the Indus, 280 kms are outside Pakistan – in Indian held Kashmir and China





AFGHANISTAN

CHINA

Hotan

Kabul

Kunar
Kabul

Swat

Peshawar

Kunhar

Gilgit

Neelum

Shyok

Nubra

Kandahar

Tochi

Gumal

Islamabad

Sohan

Srinagar

Jhelum

Quetta

Kundar

Zhob

Indus

Jhelam

Chenab

Jammu

Zaskar

Lahore

Amritsar

Beas

Indus

Chenab

Ravi

Sutlej

Jullundur

Ludhiana

Sutlej

Indus

Panjnad

Larkana

Chandigarh

Saharanpur

Karachi

Hyderabad

Delhi

Meerut

Ghaziabad

Moradabad

Jodhpur

Jaipur

Aligarh

Agra

INDIA

NEPAL

The Indus river basin





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The Indus Waters Treaty (1960)

- The Indus Waters Treaty 1960 between the government of India, the government of Pakistan and the international bank for reconstruction and development (World Bank). Signed at Karachi, on 19 September 1960
- Unlike other transboundary agreements , the IWT physically divided the rivers of the Indus basin.





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Water APPORTIONMENT accord (1991)

- 21st March 1991, marked a pivotal moment in Pakistan's national consolidation
- Resolved a long-standing water dispute
- Worked out a formula for sharing surface water among the provinces





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Apportionment of the Waters of the Indus River System Water Apportionment Accord (1991)

Province	Kharif	Rabi	Total
Punjab	37.07	18.87	55.94
Sindh	33.94	14.82	48.76
Khyber Pakhtunkhwa (b) CIVIL CANALS**	3.48 1.80	2.30 1.20	5.78 3.00
Balochistan	2.85	1.02	3.87
Total	77.34 +1.80	37.01 +1.20	114.35 +3.00





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Indus River System Authority (1992)

- The main task of IRSA is to distribute water among the provinces for each “Rabi” and “Kharif” crops
- Its job is not related to designing, approving or commissioning new water infrastructures
- Less than 95 million acre feet of water annually in the system today⁷
- IRSA does not control ground water





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Current Water Debate - The six canals

1-Chashma Right Bank Irrigation Canal (CRBIC)

2-Greater Thal Canal (GTC)

3-Cholistan Canal

4-Raine Canal

5-Thar Canal

6-Kachhi Canal

