# CAMP River Atlas Task Group Meeting 28/08

# Agenda:

- Update on River Atlas work
- Methodology for stream network preparation
- Methodology for River Codification

## Meeting summary:

- All centres are requested to share their progress of river atlas work in a PPT file.
- Please also provide the names of the in-charge and staff members involved in the River Atlas work from each institute.
- The basin boundary should align with the one provided by the CWC. However, if there is a significant discrepancy observed in the field, please share the relevant data.
- The stream network data for six river basins delineated by NRSC can be downloaded from the link provided below.
   https://drive.google.com/drive/folders/1y0SvFnKaxkUREcHejh-f7adUyZmsgB1f?usp=drive link
- The status of geo-referenced SoI toposheets will be discussed with NMCG and updated in the next meeting.

Methodology for stream network preparation

Vetting of the stream maps with 30 m resolution DEM ← generated streams using SWAT.

Validation of streams using state websites and local department data.

Preparation of stream network map on GIS platform using ArcMAP 10.8.

02

01

04

03

06

Tracing of river streams using Google Earth timeline (.kmz file)

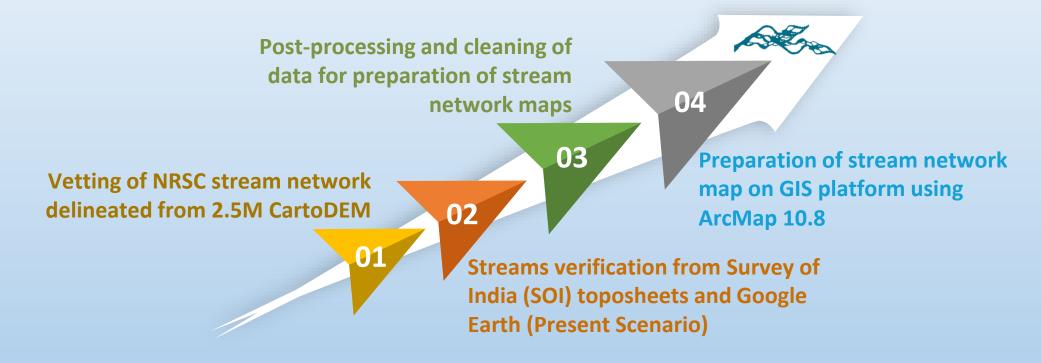
Streams verification from Survey of India (Sol) toposheets.

Post-processing and cleaning of data for preparation of stream network maps.

- Streams less than 1 km and coming from local agriculture land is not covered.
- All streams covered which are coming from populated area (Urban or Rural) even if they are less than 1 km. (if it is visible).

## **Updated Methodology for River Network Preparation**

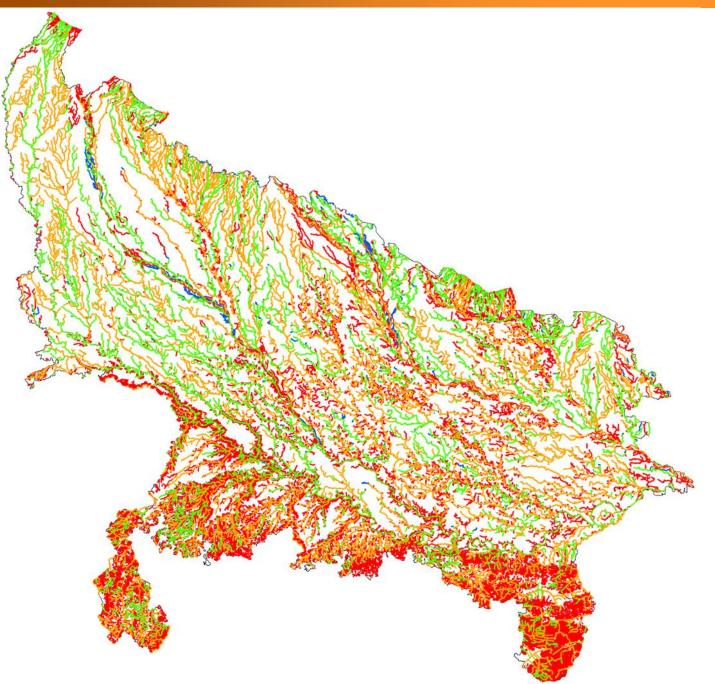
The method adopted, in brief, to obtain the river network are stepwise as follows:



- 1. Streams less than 1 km and coming from local agriculture land is not covered.
- 2. All streams covered which are coming from populated area (Urban or Rural) even if they are less than 1 km. (if it is visible).

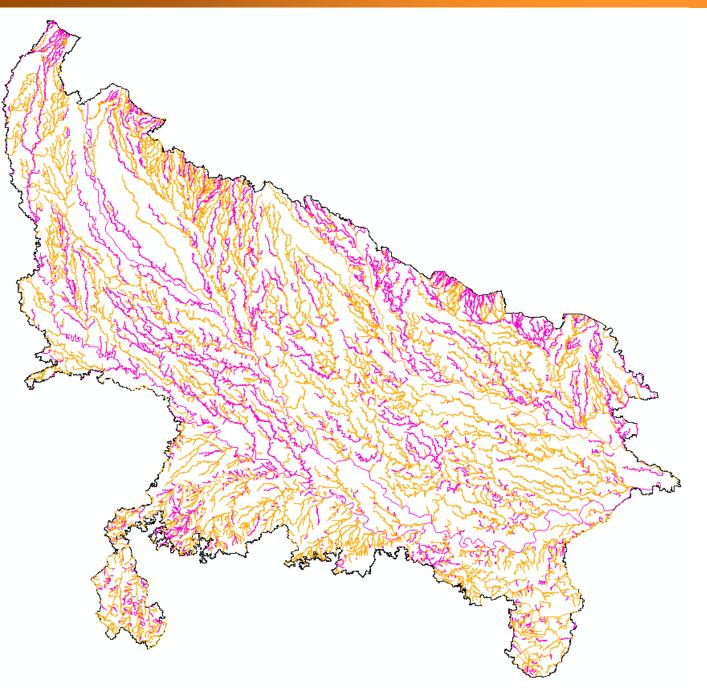
**Disclaimer:** The accuracies of the maps generated by the above method are subject to the limitations of the data processing tools and software used for the particular geographical regions as represented in Google Earth images, and are subject to future refinement

#### Uttar Pradesh (Traced, Common & NRSC) Streams Network



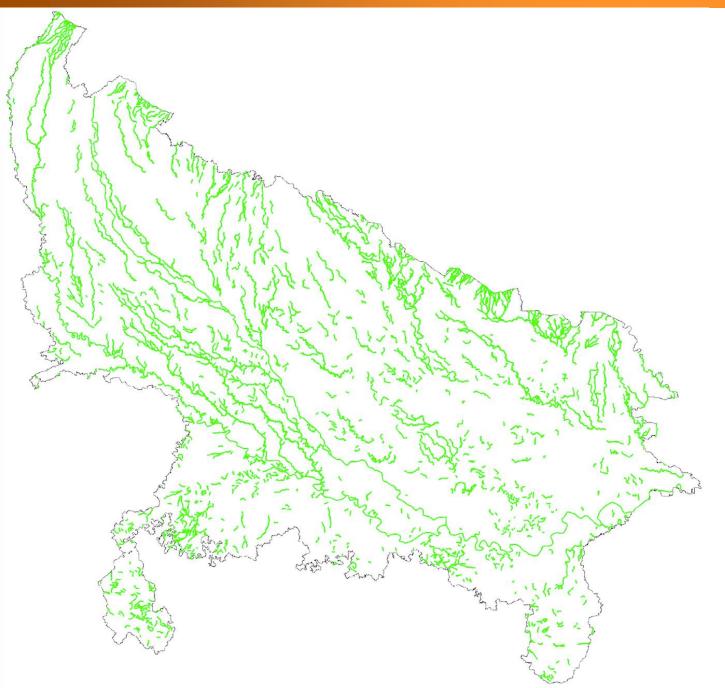
S.No.	Streams Network	Numbers	Kilometer
1	Stream Network traced from Google Earth	3,437	68,600
2	Stream Network delineated by NRSC	Fragmented lines	1,15,945
3	Stream Network Common between NRSC delineated and traced from Google Earth	1,483	26,313
4	Stream Network traced from Google Earth but not given in NRSC delineated Network	1,954	42,286
5	Stream Network delineated by NRSC but not traced from Google Earth	Fragmented lines	89,632

#### Uttar Pradesh (Traced) Streams Network



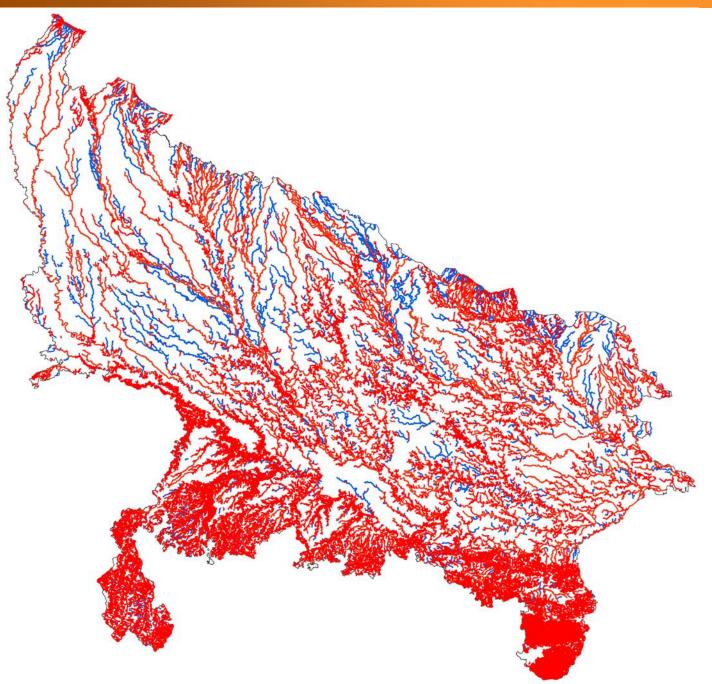
S.No.	Streams Network	Numbers	Kilometer
1	Stream Network traced from Google Earth	3,437	68,600
2	Stream Network traced from Google Earth but not given in NRSC delineated Network	1,954	42,286

#### Uttar Pradesh (Common) Streams Network



S.No.	Streams Network	Numbers	Kilometer
1	Stream Network Common between NRSC delineated and traced from Google Earth	1,483	26,313

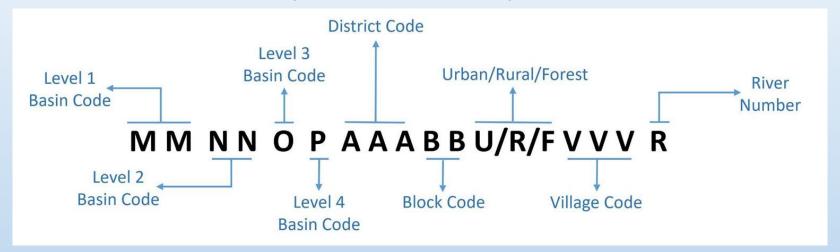
#### Uttar Pradesh (NRSC) Streams Network



S.No.	Streams Network	Numbers	Kilometer
1	Stream Network delineated by NRSC	   Fragmented   lines	1,15,945
2	Stream Network delineated by NRSC but not traced from Google Earth	Fragmented lines	89,632

## **River Codification System**

In the present Atlas alphanumeric characters are used for coding the river systems. A combination of natural and administrative boundaries is used to assign a code to each river. Each sub-step in the codification system is assigned a digit that indicates the length of the code up to that point, and the total length of the code is 16 digits.



The first two digits represent the code for the level 1 basin, according to the numbering proposed by the Central Water Commission (CWC), Government of India. The following two digits indicate the level 2 basin code. The fifth and sixth digits denoted by "O" and "P" represent level 3 and level 4 basin codes respectively. The next three digits correspond to the district in which the river originates and is based on the 2011 census data. The next character, 'U', 'R' or 'F', indicates whether the river originates in an urban, rural or forest area. The next two digits represent the city/town code if the river originates in an urban area and block code if the river originates in rural area. The block codes are picked up from the district website and uses the same serial numbering system as given on the district website. The next three digits represent the code for the village, based on census data from 2011, and uses the same serial numbering system as provided on the census data but the number will be given based on block in which the village belongs. If the origin of the river is not in rural area, then these three digits will be "000". The district, block, village and city/town code correspond to the origin of the river. The final digit indicates the number of the river that originates within the specific location falling within an administrative boundary.

### **CWC: Basins and Basin Codes**



Object	Level 1		
Id	Basin code	Basin Name	Area (sq.km)
1	1	Indus (Up to border)	319322.89
2	2A	Ganga	841424.76
3	2B	Brahamaputra	200489.71
4	2C	Barak and Others	49002.80
5	3	Godavari	312695.83
6	4	Krishna	261881.81
7	5	Cauvery	85439.52
8	6	Subernarekha	26982.21
9	7	Brahmani and Baitarni	54134.55
10	8	Mahanadi	145033.08
11	9	Pennar	54980.73
12	10	Mahi	40041.63
13	11	Sabarmati	32456.99
14	12	Narmada	97560.79
15	13	Тарі	66285.92
16	14	West flowing rivers from Tapi to Tadri	59204.02
17	15	West flowing rivers from Tadri to Kanyakumari	54578.36
18	16	East flowing rivers between Mahanadi and Pennar	82116.11
19	17	East flowing rivers between Pennar and Kanyakumari	101745.96
20	18	West flowing rivers of Kutch and Saurashtra including Luni	196580.81
21	19	Area of Inland drainage in Rajasthan	146960.49
22	20	Minor rivers draining into Myanmar and Bangladesh	32663.42