Development and Implementation Status
Operations, Data and Parameters

HYDROLOGIC RESEARCH CENTER
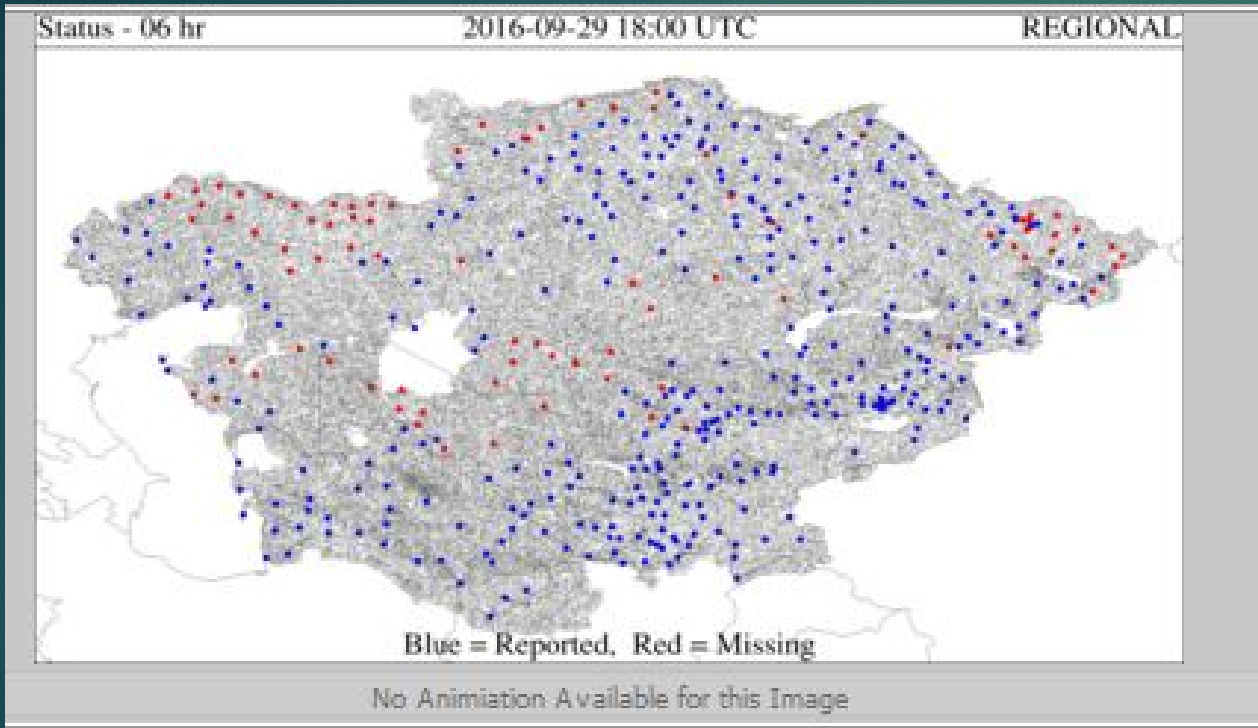
Development and Implementation Status - CARFFG

- Real-time data ingest is complete through Kazakhstan Regional Center in Astana

- HRC prototype complete and soon to be used for retrospective runs to provide history to the real time databases of the system in Astana

- Inauguration version of system ported in a server provided by Kazakhstan for demonstration in this meeting.

  - graphical interface only contains very recent dates

  - system has historical data since October 1, 2015

- Models calibrated with available data from global databases and from the countries

- Bias adjustment for remotely sensed data completed with the historical gauge databases provided by the countries, in collaboration with the country representatives.

- Currently system is watched for normal operation and timely products

- Training steps 1 – 3 completed.

Real-Time Data – Country Gauges

Status - 06 hr   2016-09-29 18:00 UTC   REGIONAL

Blue = Reported, Red = Missing

No Animation Available for this Image

Need to check this carefully at the Regional Center to make sure that all reporting gauges are included

The Caucasus and Central Asia

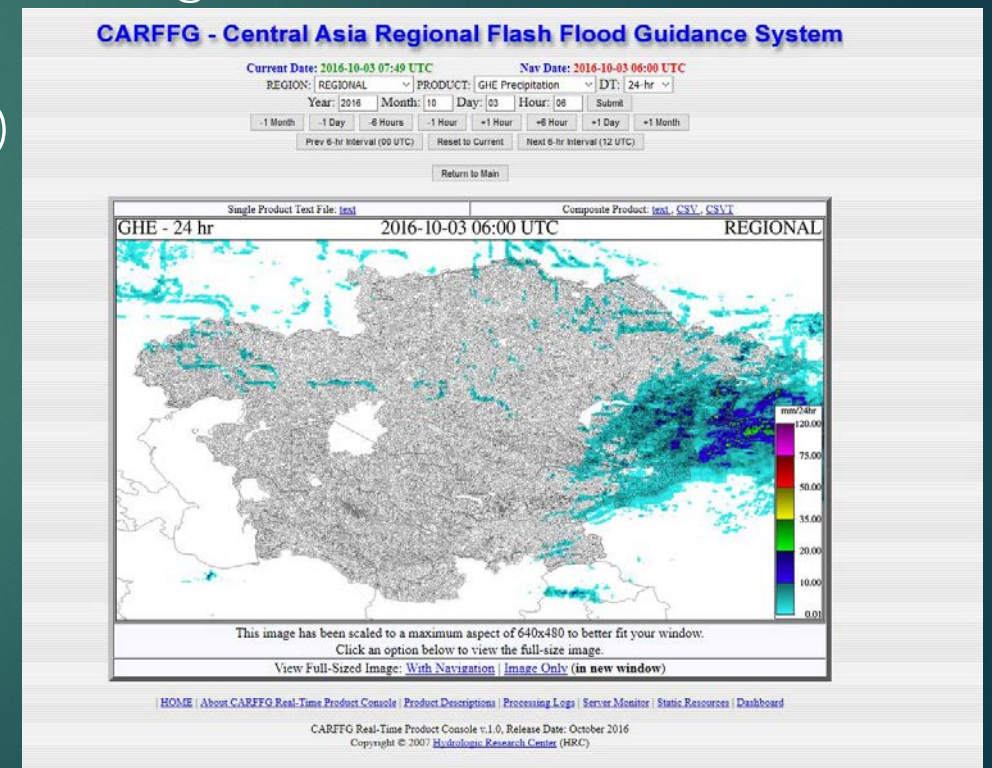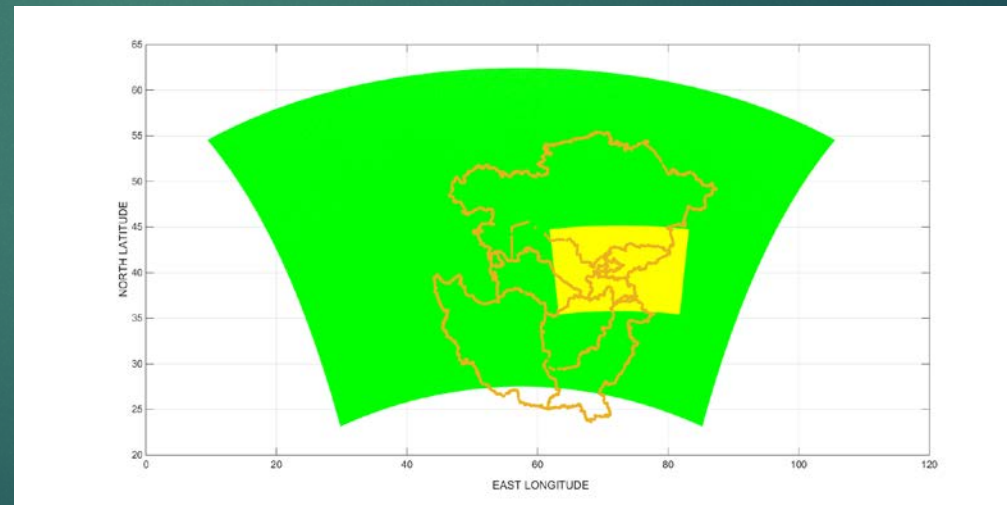# Real Time Data – Satellite Products

- GHE hourly (with a few minutes latency – from NOAA/NESDIS using IR + Models)

- MWGHE hourly (significant latency from HRC using MW from NOAA/CPC CMORPH)

- IMS (Snow/Ice/Glaciers – 24 hour updates)

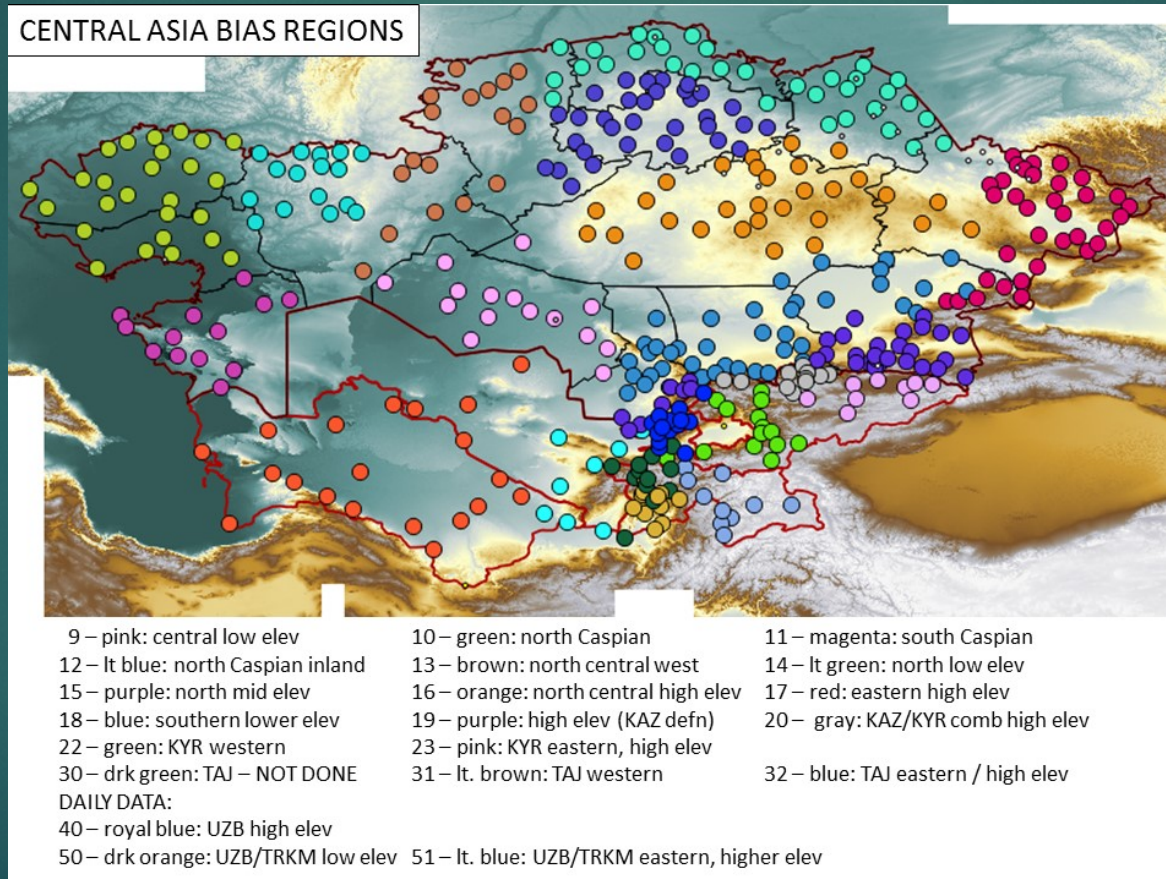CARFFG - Central Asia Regional Flash Flood Guidance System

Real Time External Model Data

- Kazakhstan mesoscale WRF (2 domains and 2 resolutions)

- GFS for temperature computations feeding the snow and frozen ground models

Historical Data for Precipitation Bias Adjustment

CENTRAL ASIA BIAS REGIONS

 9 – pink: central low elev
12 – lt blue: north Caspian inland
15 – purple: north mid elev
18 – blue: southern lower elev
22 – green: KYR western
30 – drk green: TAJ – NOT DONE
DAILY DATA:
40 – royal blue: UZB high elev
50 – drk orange: UZB/TRKM low elev

10 – green: north Caspian
13 – brown: north central west
16 – orange: north central high elev
19 – purple: high elev (KAZ defn)
23 – pink: KYR eastern, high elev

31 – lt. brown: TAJ western

51 – lt. blue: UZB/TRKM eastern, higher elev

11 – magenta: south Caspian
14 – lt green: north low elev
17 – red: eastern high elev
20 – gray: KAZ/KYR comb high elev

32 – blue: TAJ eastern / high elev

Parameters

- Soil model parameters based on soil texture and land-use and land cover (FAO databases) with initial adjustments from limited retrospective runs of the system

- Snow model parameters based on literature with adjustment on the basis of limited data provided by countries and on the basis of IMS coverage estimates
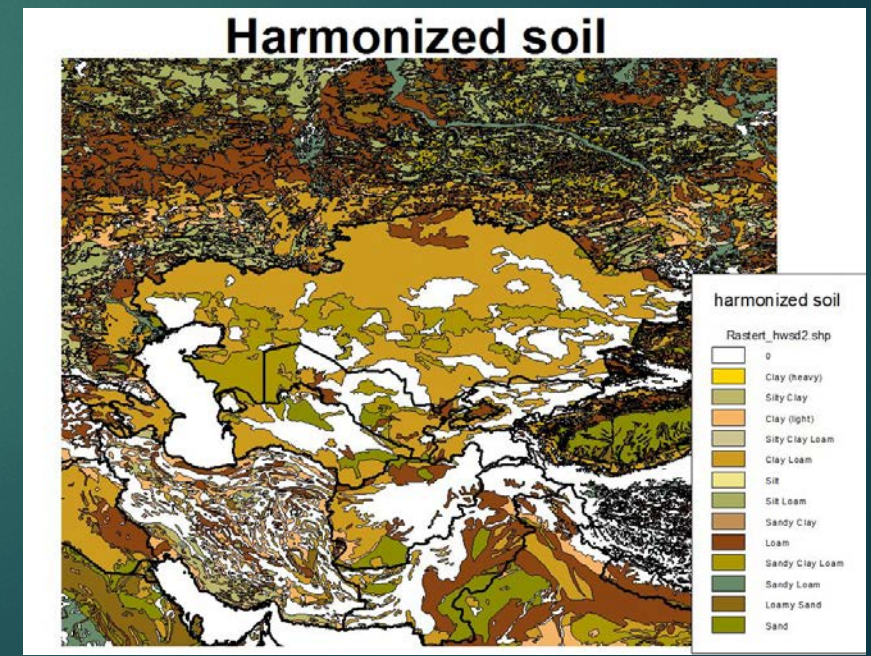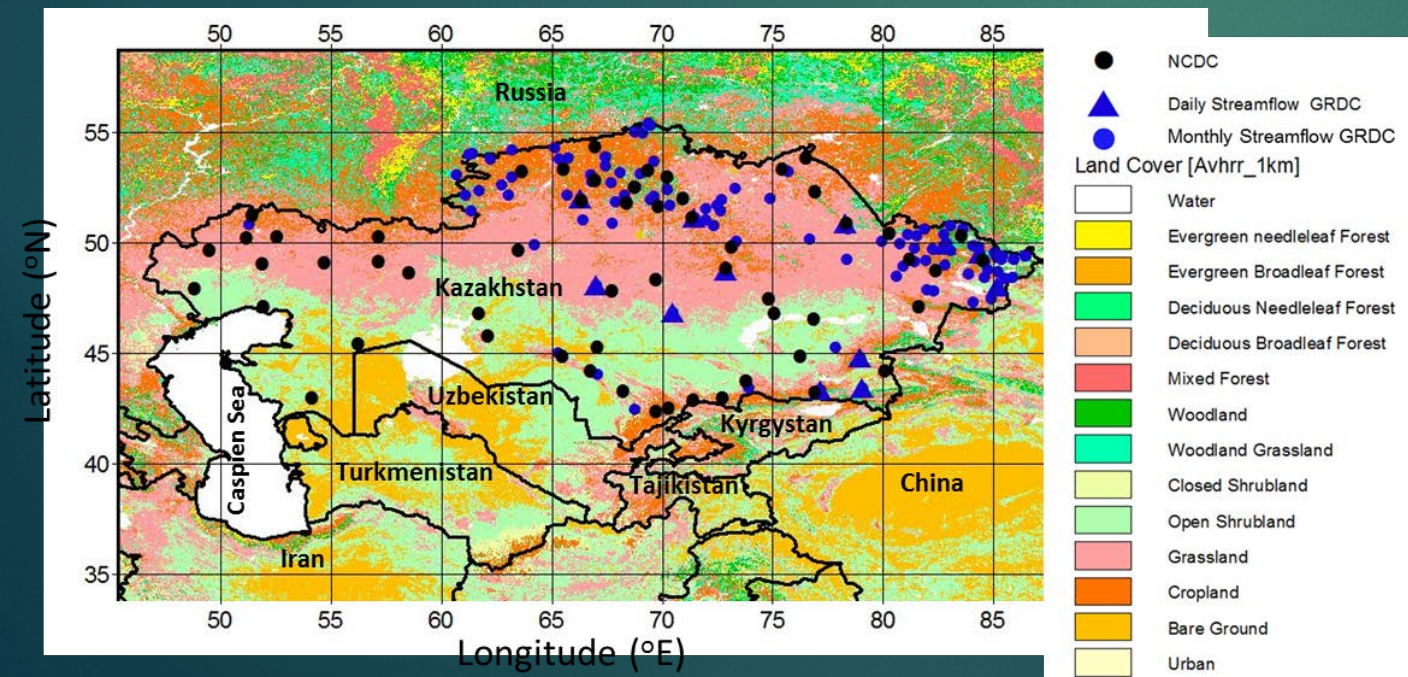
HRC Contributing Staff

- Dr. Konstantine Georgakakos (Technical Direction)
- Mr. Robert Jubach (Program Management and Links to Disaster Management)
- Dr. Rochelle Graham (Training)
- Dr. Theresa Modrick (GIS/Hydrometeorology)
- Dr. Eylon Shamir (Surface Hydrology/Soil-Snow-Frozen Ground)
- Mr. Cristopher Spencer (Programming of backbone)
- Mr. Jason Sperfslage(Lead Programmer and Programming of Graphical interfaces)

With many thanks to the Regional Center Staff and the country contacts and trainees