



U.S. National Ice Center



USN



USCG



NOAA

Mr. Kenneth Curry
Special Support Coordinator

Director: CDR Ruth Lane, USN
Deputy Director: Mr. Kevin Berberich, NOAA



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Outline

- Operations Overview
- Routine Products
- Annotated Imagery for Mission Support
- Snow Products
- Science Support
 - Partners
- Request for Special Support

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Operations Overview

Mission:

The U.S. National Ice Center (NIC) provides global to tactical scale ice and snow products, ice forecasting, and other environmental intelligence services for the United States government.

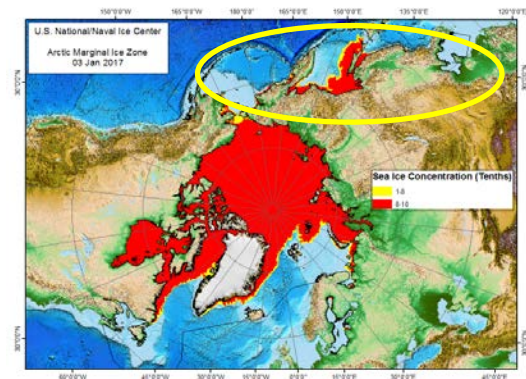
Vision

To be the U.S. government's premier source of global ice and snow products and services



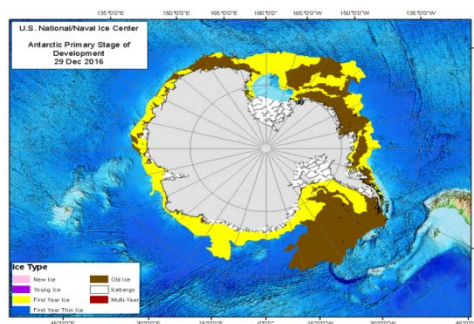
AOR – Northern Hemisphere

- **Arctic Ocean**
- **Sub-Arctic Seas**
 - Bering Sea
 - Sea of Okhotsk
 - Sea of Japan
 - Yellow Sea
 - Baltic Sea



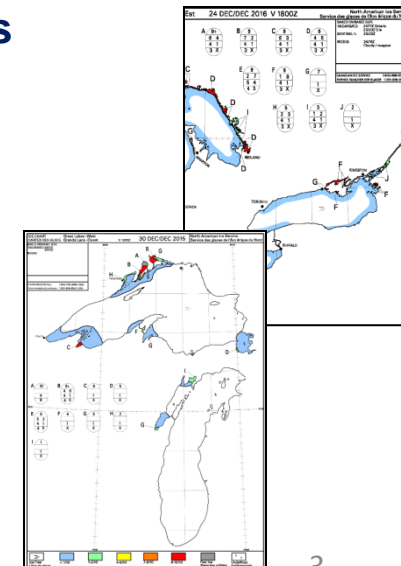
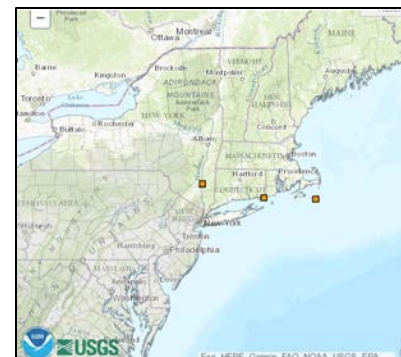
AOR – Southern Hemisphere

- **Antarctic Sea Ice**
- **Icebergs South of 60S**



AOR - US Internal Waters

- Great Lakes
- Chesapeake Bay
- Delaware Bay
- Major Rivers





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Routine Product Suite

www.natice.noaa.gov

Daily Ice Edge/MIZ – analyst interpretation (1) (1)

Global snow analysis (2)

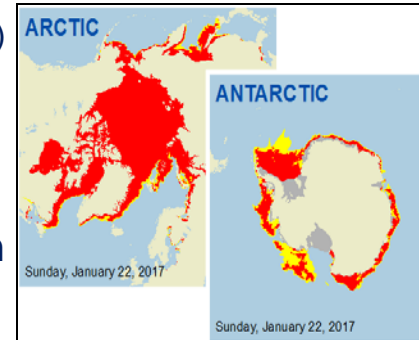
Short term forecast – ice edge, ice concentration
ice thickness proxy (3)

Ice Outlooks (4)

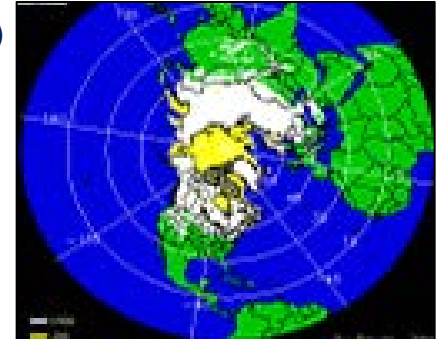
Weekly Hemispheric Ice (5)

Ice Concentration Change(6)

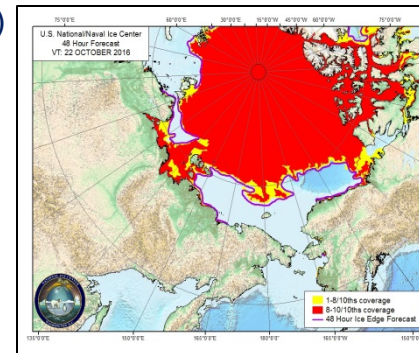
Domain Awareness/Mission Planning (7/8)



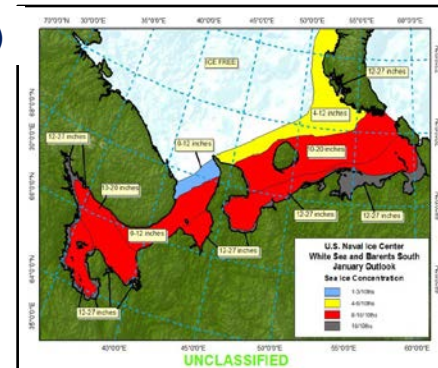
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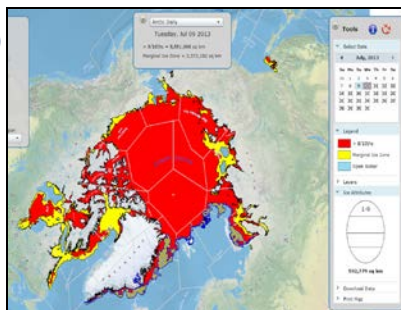
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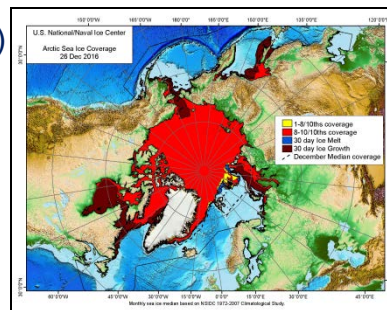
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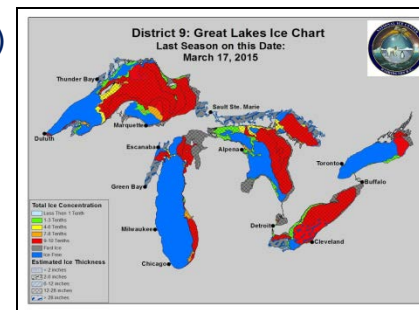
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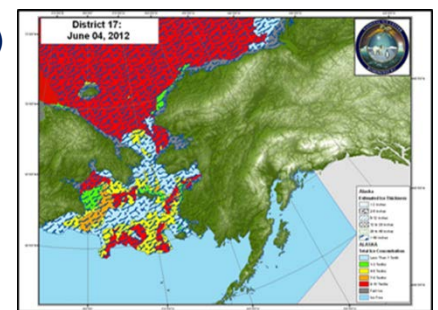
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(7)



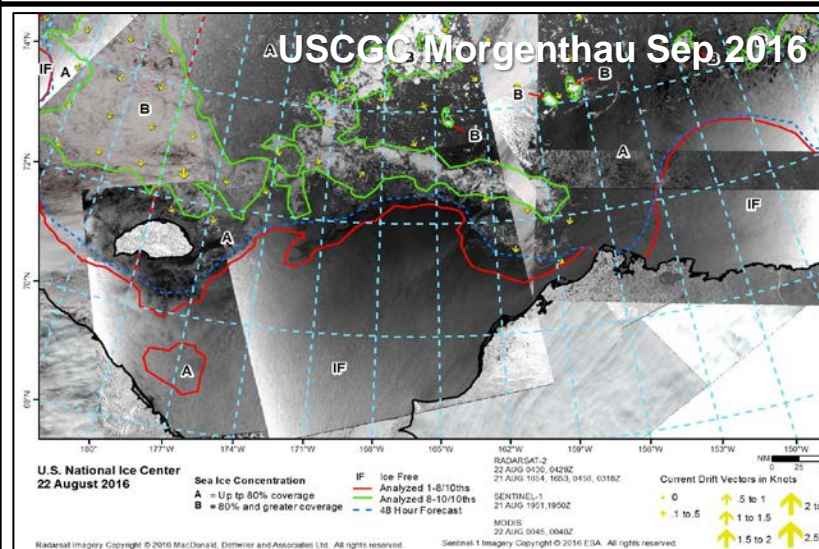
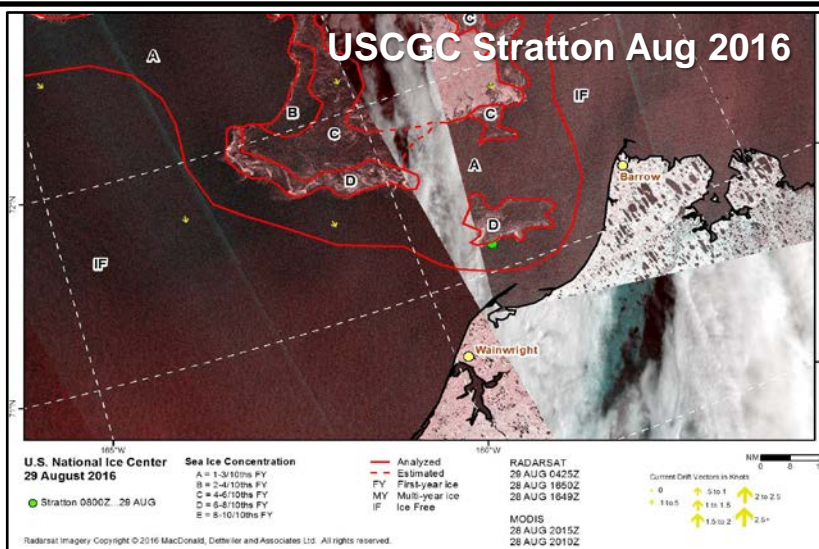
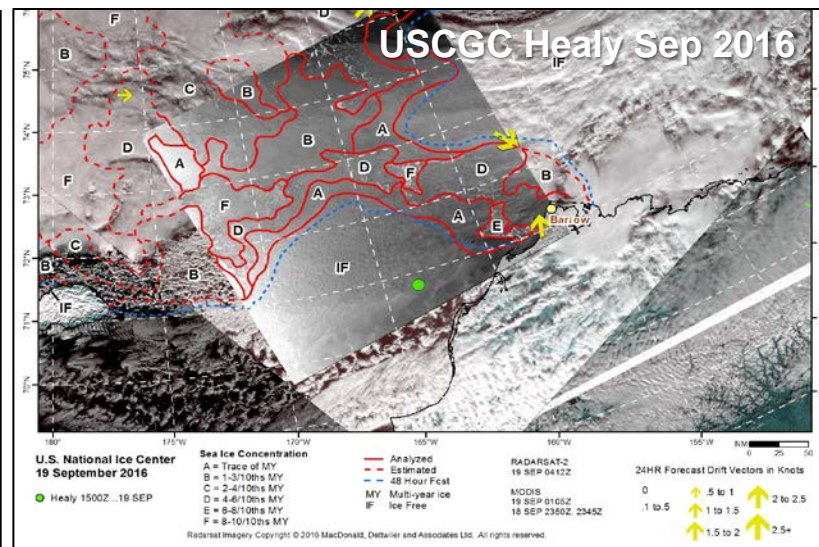
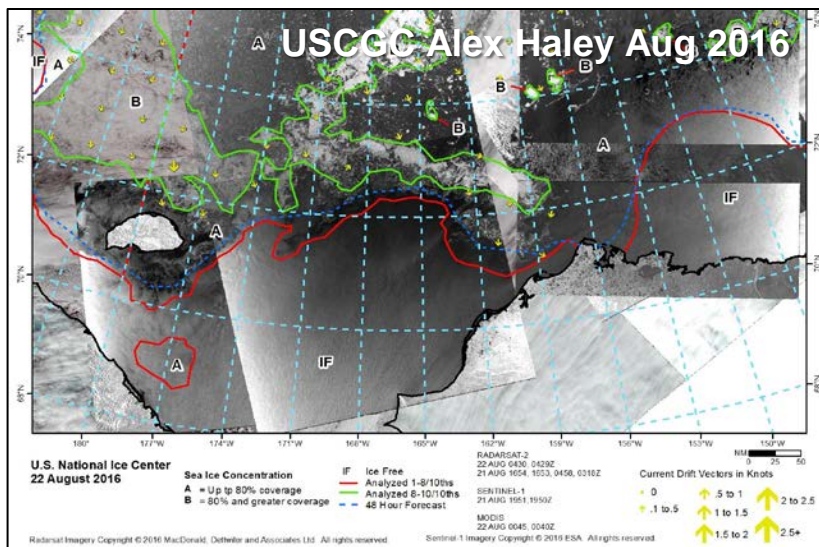
(8)





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Annotated Imagery for Mission Support



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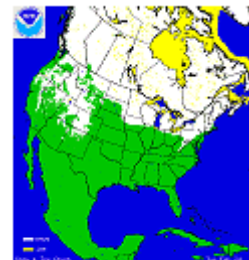
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Snow Products

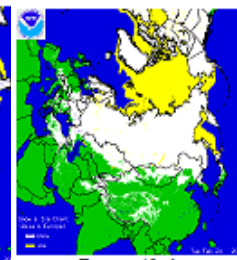
<http://www.natice.noaa.gov/ims/index.html>

Interactive Multisensor Snow and Ice Mapping System (IMS)

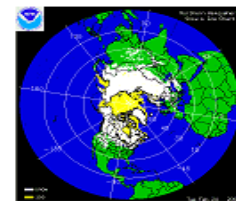
- Began in 1997
- Daily northern hemisphere snow map
- Initializes NCEP and USN models
- Gridded product – depict 40% ice edge for use in modelling efforts
- Therefore, lower than Daily NIC Edge/MIZ



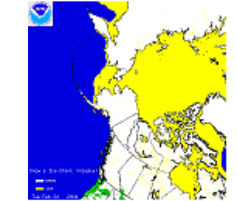
United States



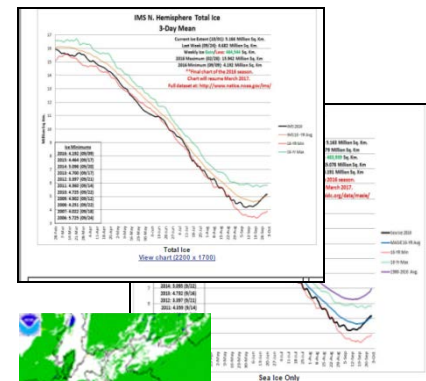
Europe/Asia



Northern Hemisphere



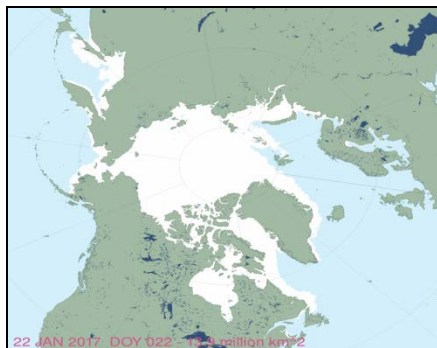
Alaska



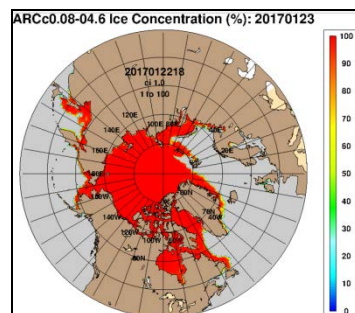
Special Sector: Afghanistan Latest

IMS at NSIDC

MASIE – Multisensor Analyzed Sea Ice Extent



IMS in Arctic Cap



New to IMS Version 3

- NIC IMS GRIB 2 Data from 2014
- NIC IMS GEOTIFF Data from 2014
- Interactive Snow Map (Web based GIS Server)

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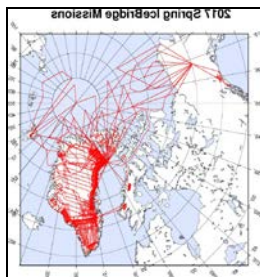
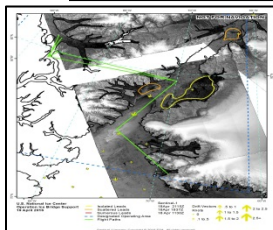
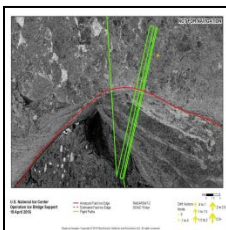
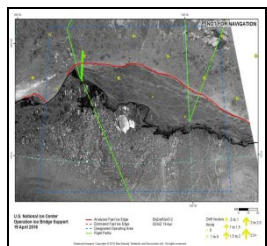


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Science Support

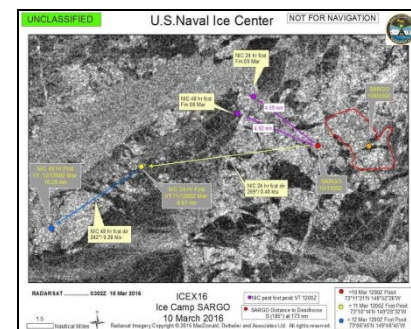
NASA Operation Ice Bridge

Airborne survey of Earth's polar ice.



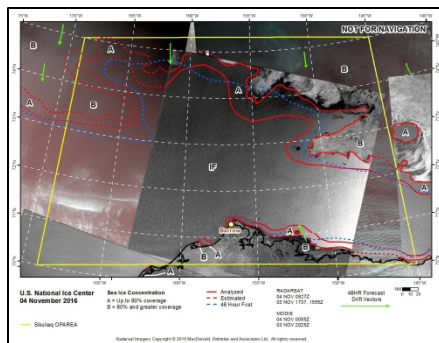
ICEX 16 – ONR MIZ Study

Demonstrating presence, gaining additional Arctic operational experience, furthering partnerships and expanding scientific research.



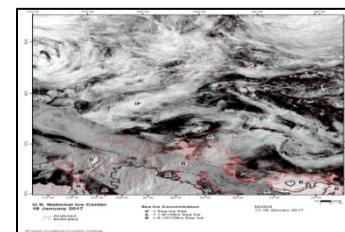
R/V Sikuliaq-NSF-UAF Fairbanks

Multi-disciplinary studies in high latitude open seas, near-shore regions and single-year sea ice.



NOAA R/V Ronald H. Brown

Decadal reoccupation of repeat hydrography jointly funded by NOAA-COD/CPO (Climate Observation Division of the Climate Program Office) and NSF-OCE (National Science Foundation Division of Ocean Sciences) as part of the Global Ocean Ship-Based Hydrographic Investigation Program.



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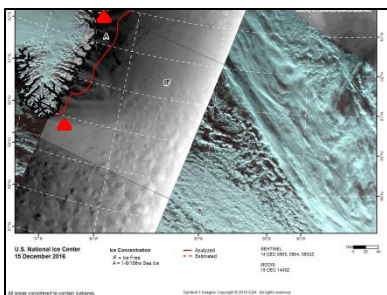
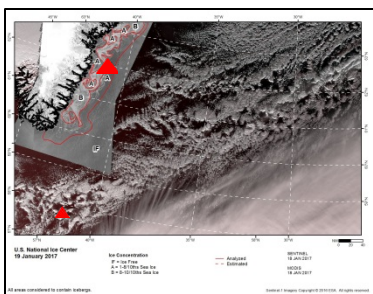


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Science Support

Ocean Observatories

Monitor condition ice buoys in area.

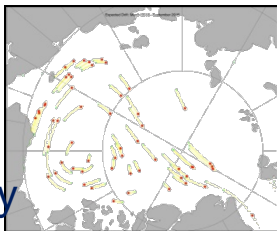


USNIC Science Department

- Transition technology to Operations.
- Not research and development organization.
- Program Manager for U.S. Interagency Arctic Buoy Program (IABP).
- International Ice Service science collaboration.

U.S. Interagency Arctic Buoy Program (IABP)

USNIC and the Polar Science Center (PSC) at the Applied Physics Laboratory, University of Washington co-manage the U.S. Interagency Arctic buoy Program – which provides and coordinates national contribution to the International Arctic Buoy Program.



USNIC Interest in Science/Research Community

- Science that will transition into operational center
- Semi-Automated sea ice analysis
- Accurate, tactical ice forecast (3-5 days) modelling
- Data collection shared near real time
- Exploitation GIS for risk management
- Ingest USN analysis data into models

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Core Partners

Domestic

- DHS Arctic Domain Awareness Center
- National Snow & Ice Data Center
- National Aeronautics and Space Administration
- National Science Foundation
- National Weather Service – Alaska Sea Ice Program
- Naval Research Labs
- Office of Naval Research
- Rutgers University Global Snow Lab
- University of Washington – Applied Physics Lab
- International Ice Patrol

International

- North American Ice Service (NAIS)
- Canadian Ice Service
- International Arctic/Antarctic Buoy Programs (IABP/IBAP)
- International Ice Charting Working Group (IICWG)
- WMO Expert Team on Sea Ice (ETSI)
- WMO Global Cryosphere Watch – SnowWatch
- Council of Managers of National Antarctic Programs (COMNAP)





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Request For Support

http://www.natice.noaa.gov/Services_Request.htm

- USNIC supports USG agencies and their research teams
- Data priorities vs costs will affect collection
- Request via website

Contacts

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nic.cdo@noaa.gov 301-943-6977

Special Support Coordinator

nic_analyst@noaa.gov 301-817-3975

The screenshot shows the official website of the U.S. National Ice Center (USNIC). The header features the USNIC logo and the text 'U. S. NATIONAL ICE CENTER' and 'NAVAL ICE CENTER'. Below the header is a navigation bar with links: HOME, ORGANIZATION, SERVICES, PRODUCTS, OUTSIDE LINKS, and CONTACT US. The main content area is titled 'Official Ship and Exercise Support Request Form'. On the left side, under the 'SERVICES:' heading, there are links for 'Access Support', 'Products', and 'Request Special Support'. The right side of the page contains the text 'PLEASE SUBMIT THE FORM OR EMAIL (if you have any question) nic.cdo@noaa.gov' and a link to the 'Form'. The footer includes links to 'United States Navy', 'NOAA', 'United States Coast Guard', 'Contact NIC Command Duty Officer (CDO)', 'weather.gov', 'NOAA Privacy Policy', 'USA.gov', and 'Ready.gov', along with a small USNIC logo.

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Questions & Comments



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