NavIC (IRNSS) Messaging Service

Presentation at ICG-13 WG-B

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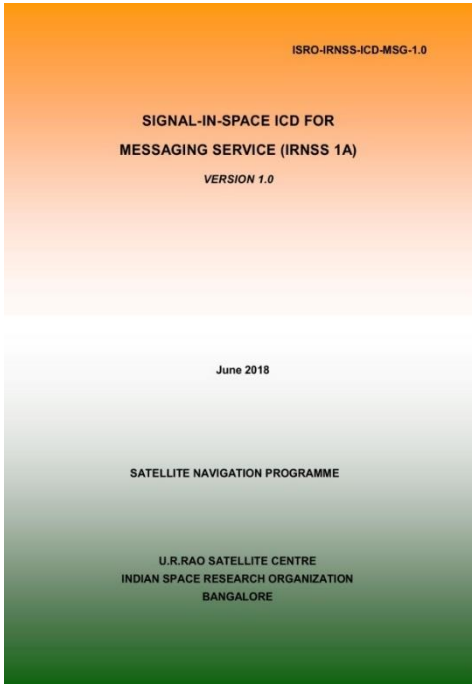
Messaging service through NavIC (IRNSS)

- IRNSS-1A spacecraft is configured with modified on-board scheduler for short messaging service
- Web based interface for messaging service (WIMS) portal for message submission through internet
- 53 different service providers (messages ids) available for dynamic allocation
- SIS ICD for Message service published
- Co-exists with Navigation service

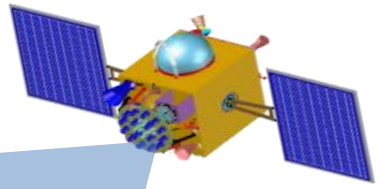


Messaging service flow

Registered service provider submits Messages to WIMS Server

Navigation software allots message ID , message formatting

IRNSS 1A



Broadcast of message to the user receiver on L5 band

Identified UserS decodes messages

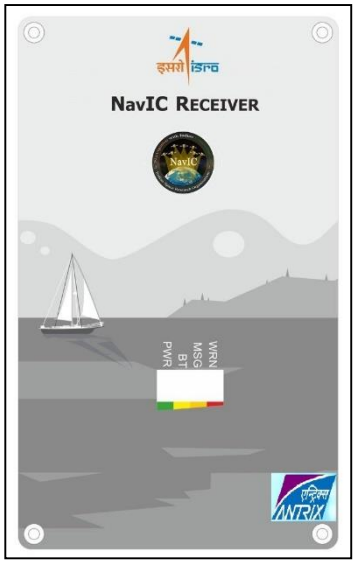
Message transmission to the satellite

Message Frame Structure

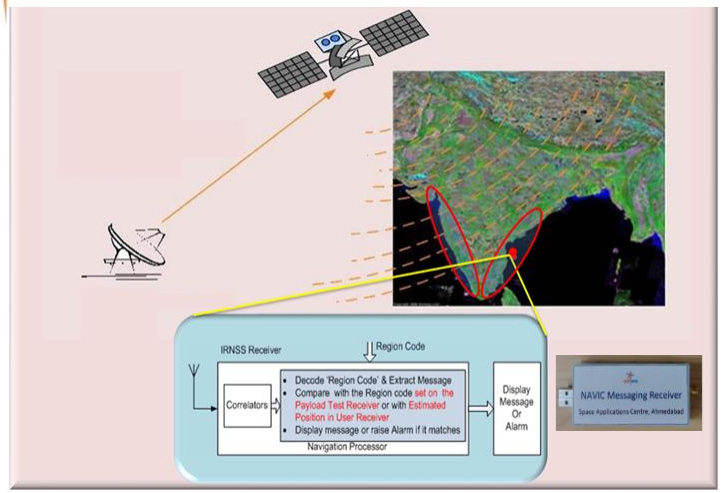
1	9	26	27	28	29	30	31	37	257	263	287
TLM	TOWC	RESERVED				MESSAGING ENABLE	MESSAGE ID	DATA	RESERVED	CRC	Tail
8 BITS	17 BITS	4 BITS				1 BIT	6 BITS	220 BITS	6 BITS	24 BITS	6 BITS

- Messaging services provided in L5 with 25 bps rate
- Single frame with embedded message
- Message data length can be ranging from 220 bits to 2220 bits
- For messages exceeding the 220 bits, the longer message is fragmented and sent in the subsequent frames
- Message Schedule based on priority
- Details available in published ICD

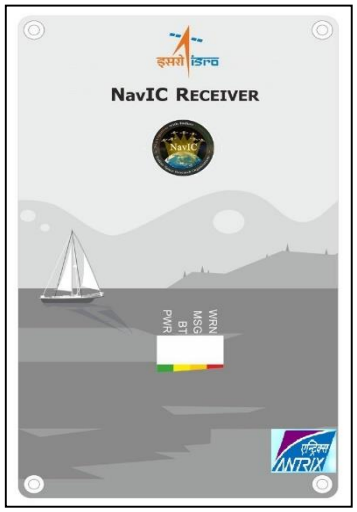
Receivers for Message Reception

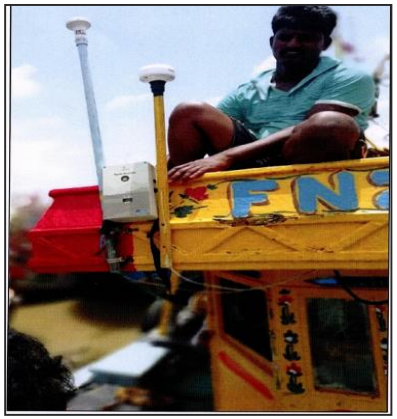


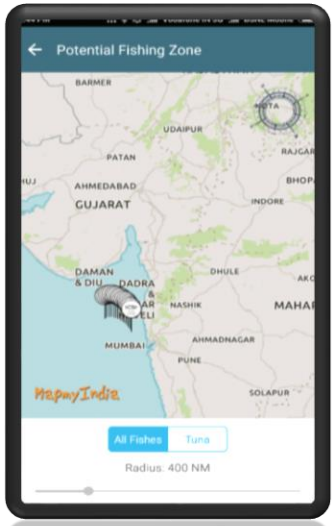
Messaging Service (Typical Example)

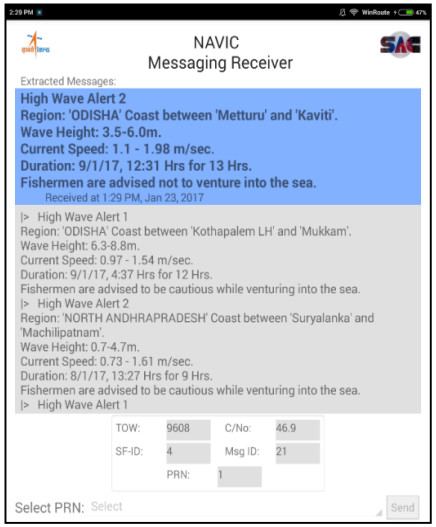


Potential Fishing Zones (PFZ)
High Wave Alert
Cyclone
Tsunami Alert









Thank you
for
your attention