

Enhancing ATM efficiency through data sharing over SWIM

Working Session on Business Requirements Brainstorming
6-7 NOV 2023



45 years ago.....



030226 VHHHPZA

(FPL-HKE850-IS

-A321/M-SDE3FGHIRWY/LB1

-VHHH0255

-N0457F370 OCEAN V3 ENVAR M750 MOLKA/N0455F370 M750 MADOG Y53 BECKY

-RJBB0312 RJGG

-PBN/A1B1C1D1L1O1S2 DOF/231103 REG/BLEH EET/RCAA0033 RJJJ0129

SEL/EHJQ CODE/789206 OPR/HKE PER/D RMK/TCAS II EQUIPPED))

030309 VHHHPZA

(DLA-HKE850-VHHH0330-RJBB-DOF/231103)

030407 VHHHPZA

(DEP-HKE850/A3503-VHHH0407-RJBB-DOF/231103)

030216 VHHHPZA

(CNL-HKE850-VHHH0155-RJBB-DOF/231103)

Modern ATM-related systems



Predictability

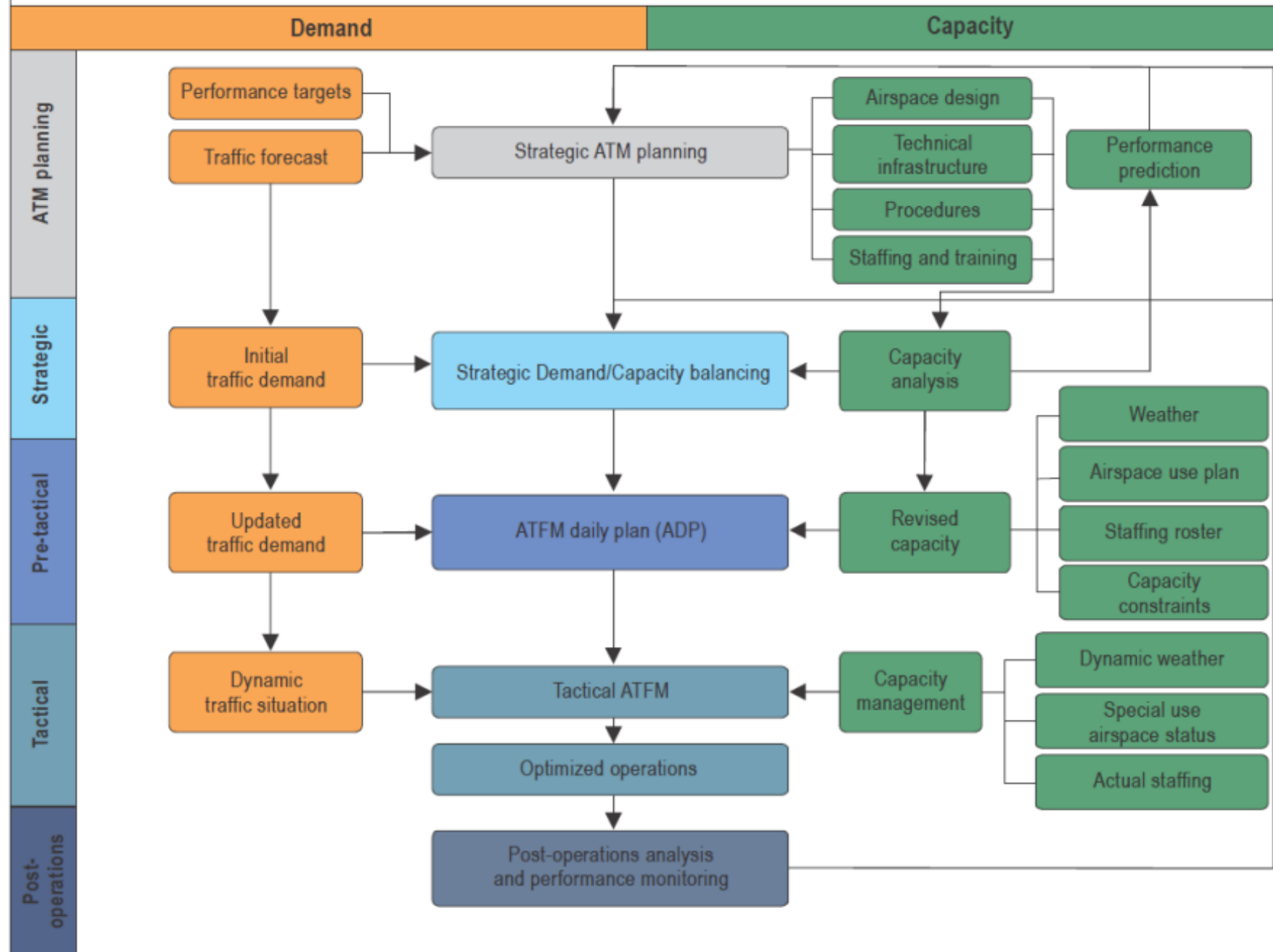


Confidence

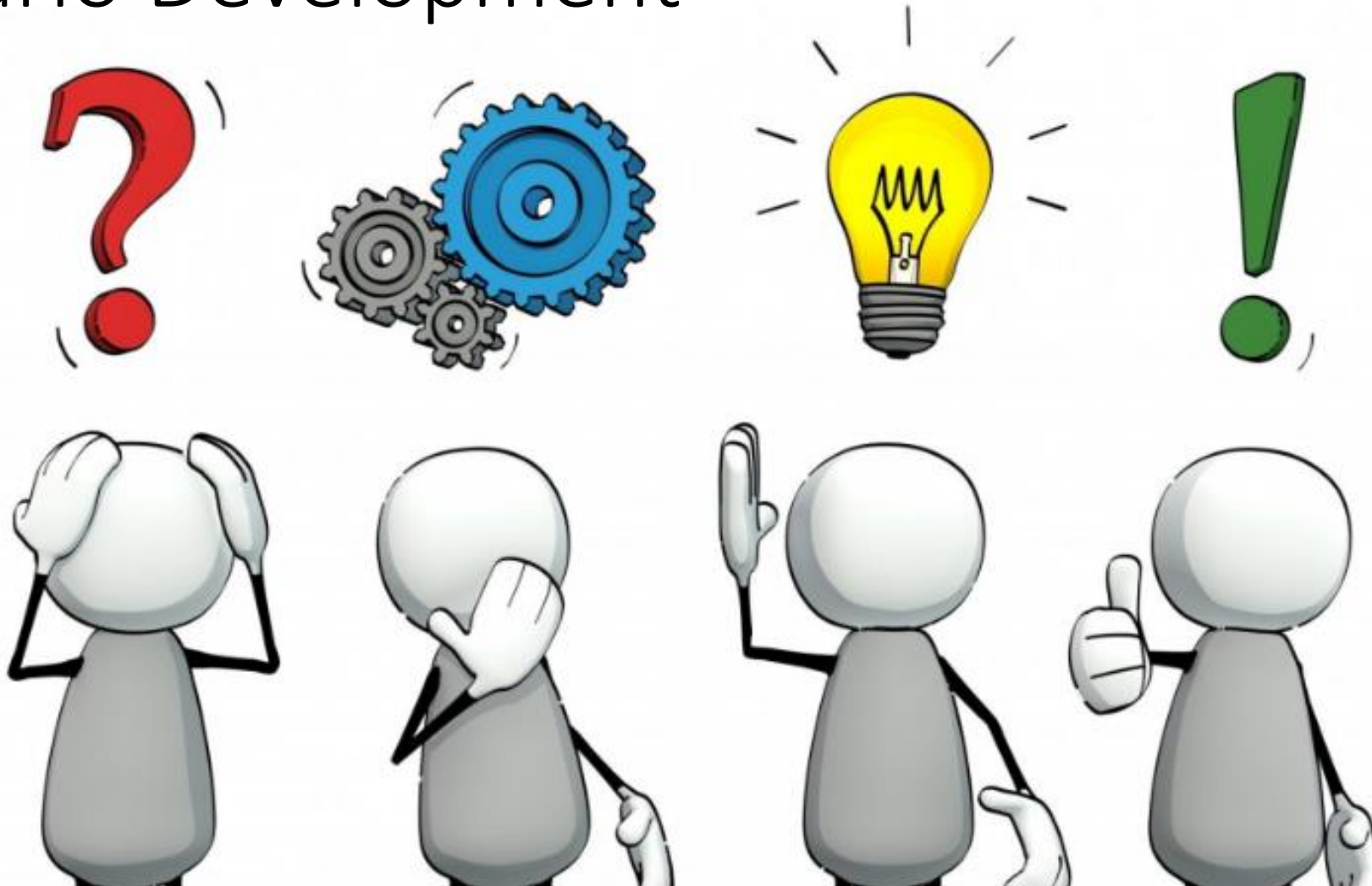


Efficiency

ATM planning and ATFM phases



Technical Interchange Meeting (TIM) Scenario Development



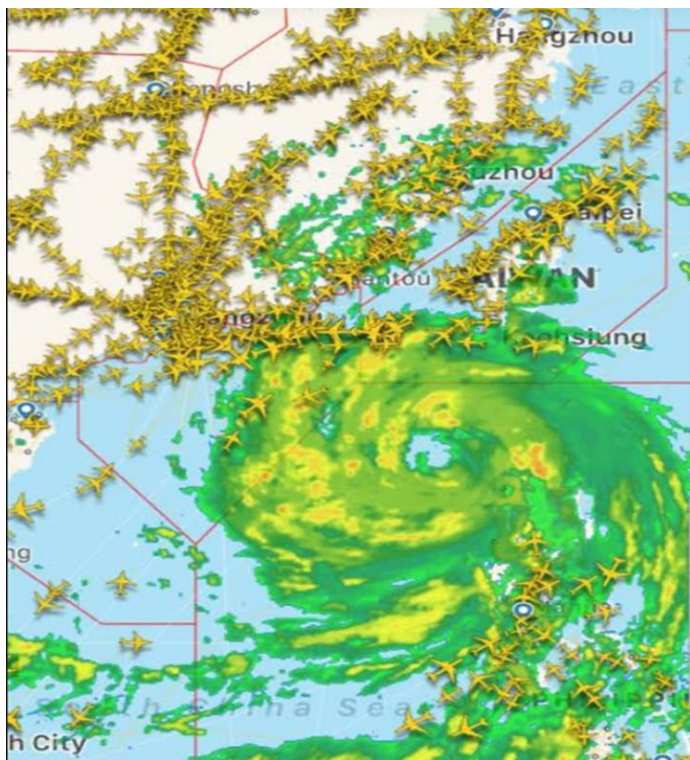


TIM/3 - Scenario 3.2



Objectives

- To demonstrate the operational benefits of SWIM supporting a Ground Delay Program (GDP) with Calculated Take-Off Time (CTOT) distribution at Hong Kong International Airport (HKIA) due to the impact of a tropical cyclone.
- The demonstration will focus on 2 flights which are affected in this scenario; CPA700 from Bangkok to Hong Kong and CPA658 from Singapore to Hong Kong.
- We will observe the visualization from Hong Kong ATC, Hong Kong Observatory (HKO), Thailand and Singapore perspectives.





TIM/3 - Scenario 7



民航處
CIVIL AVIATION
DEPARTMENT



香港天文台
HONG KONG OBSERVATORY

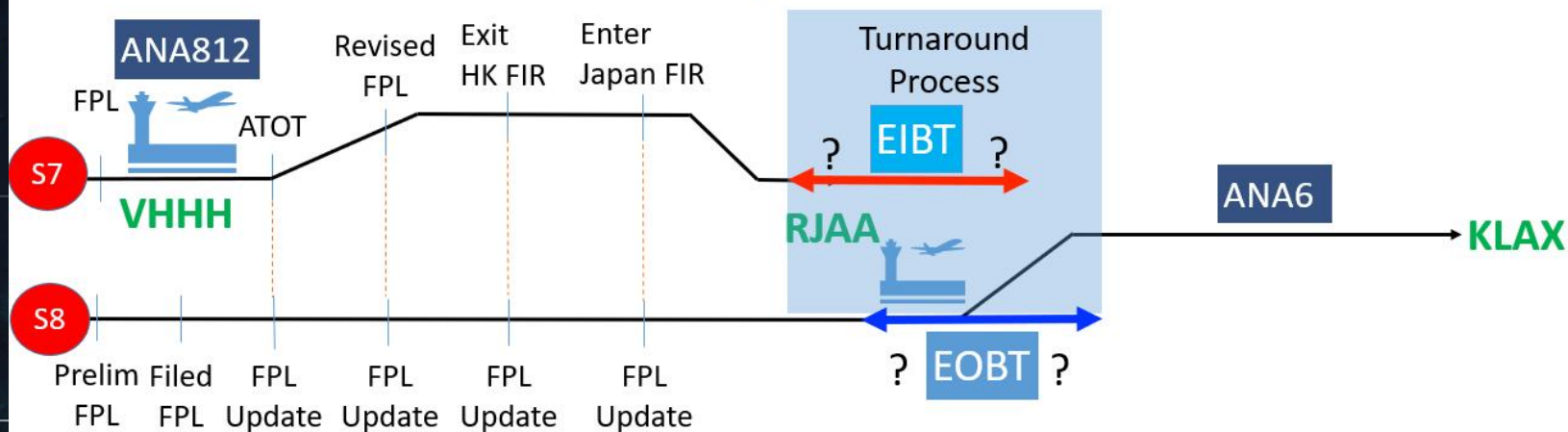


MLIT
Ministry of Land, Infrastructure, Transport and Tourism

3rd Technical Interchange Meeting (TIM/3), 27-29 August 2019, Bangkok

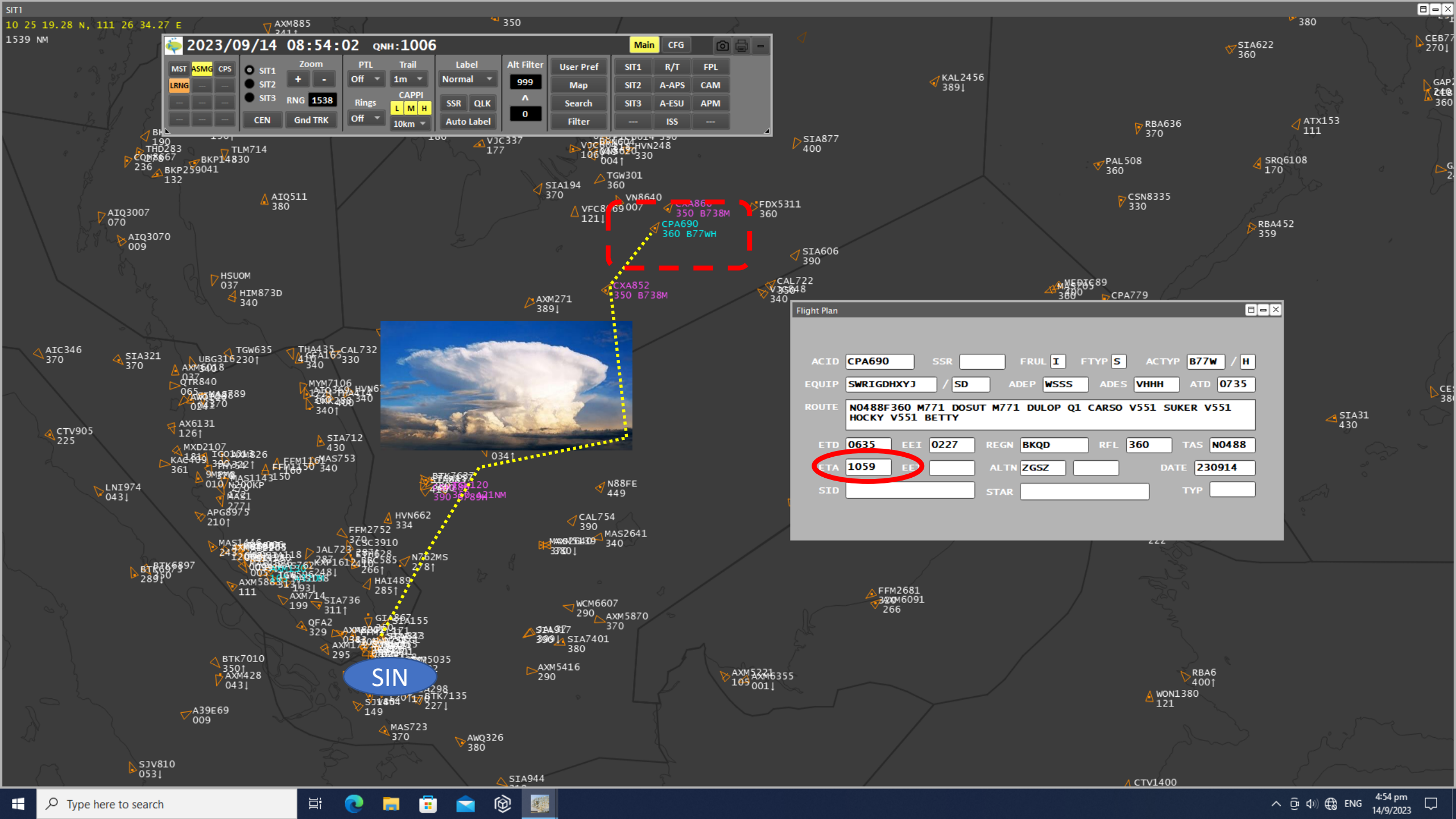
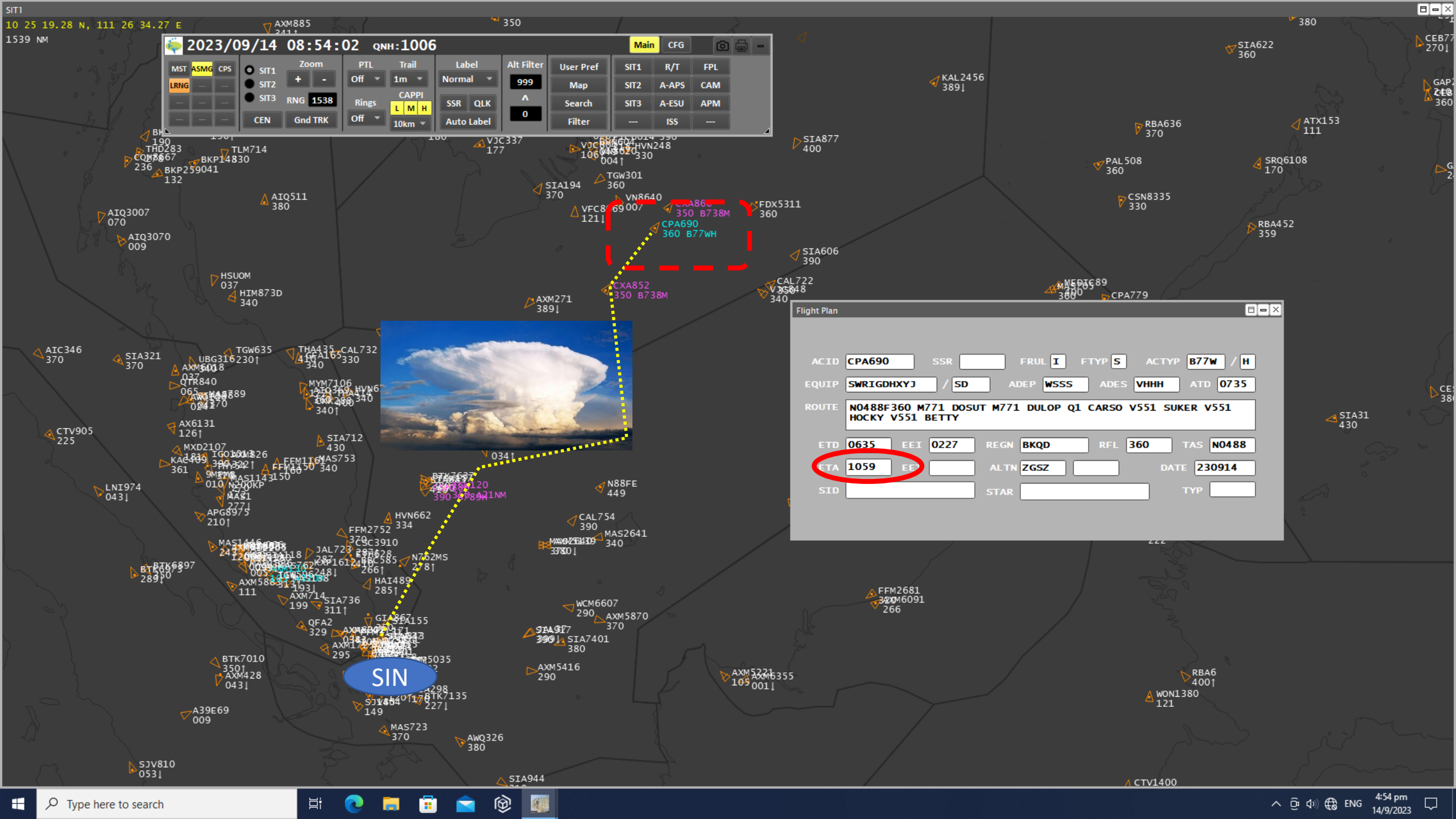
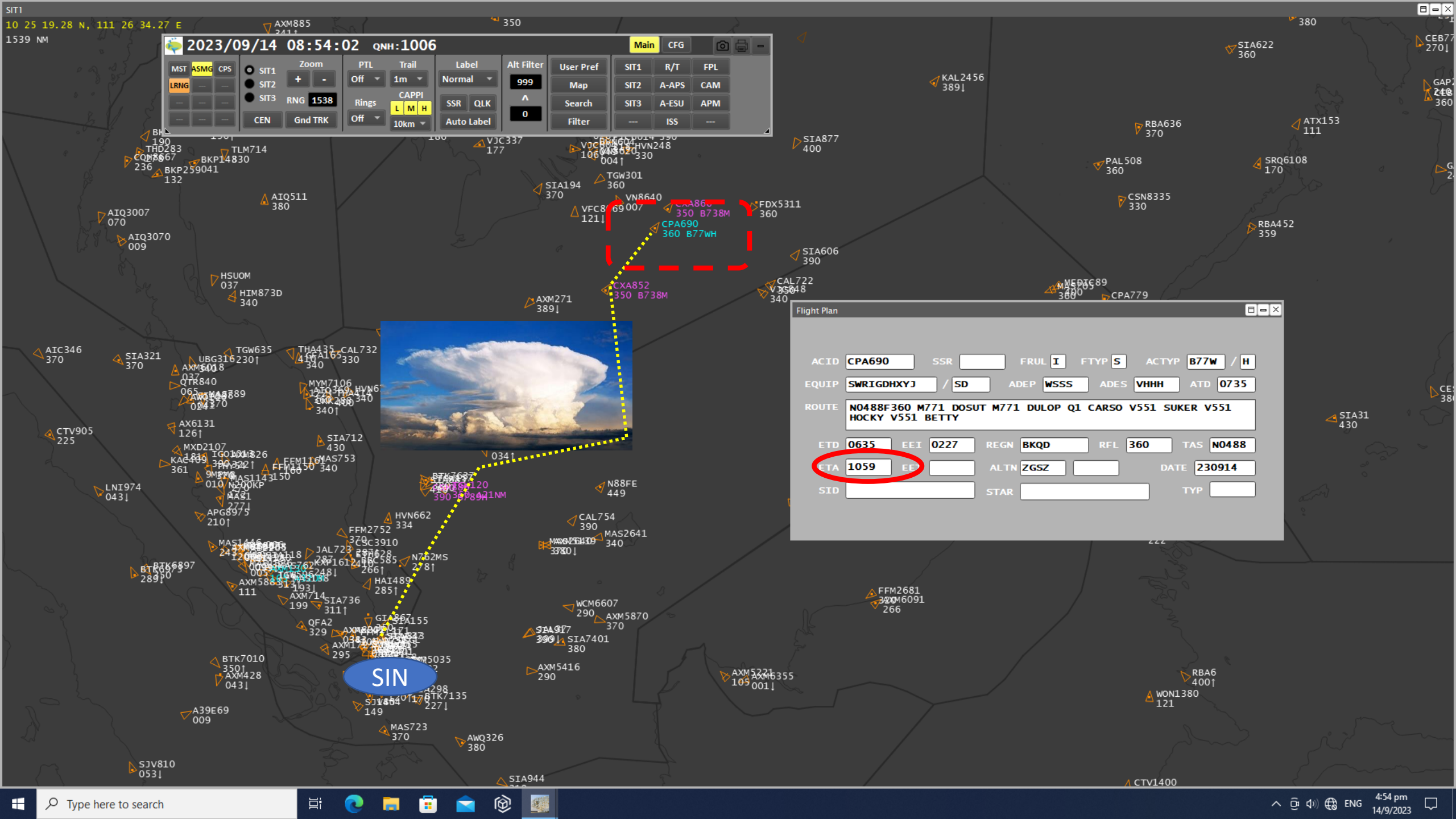
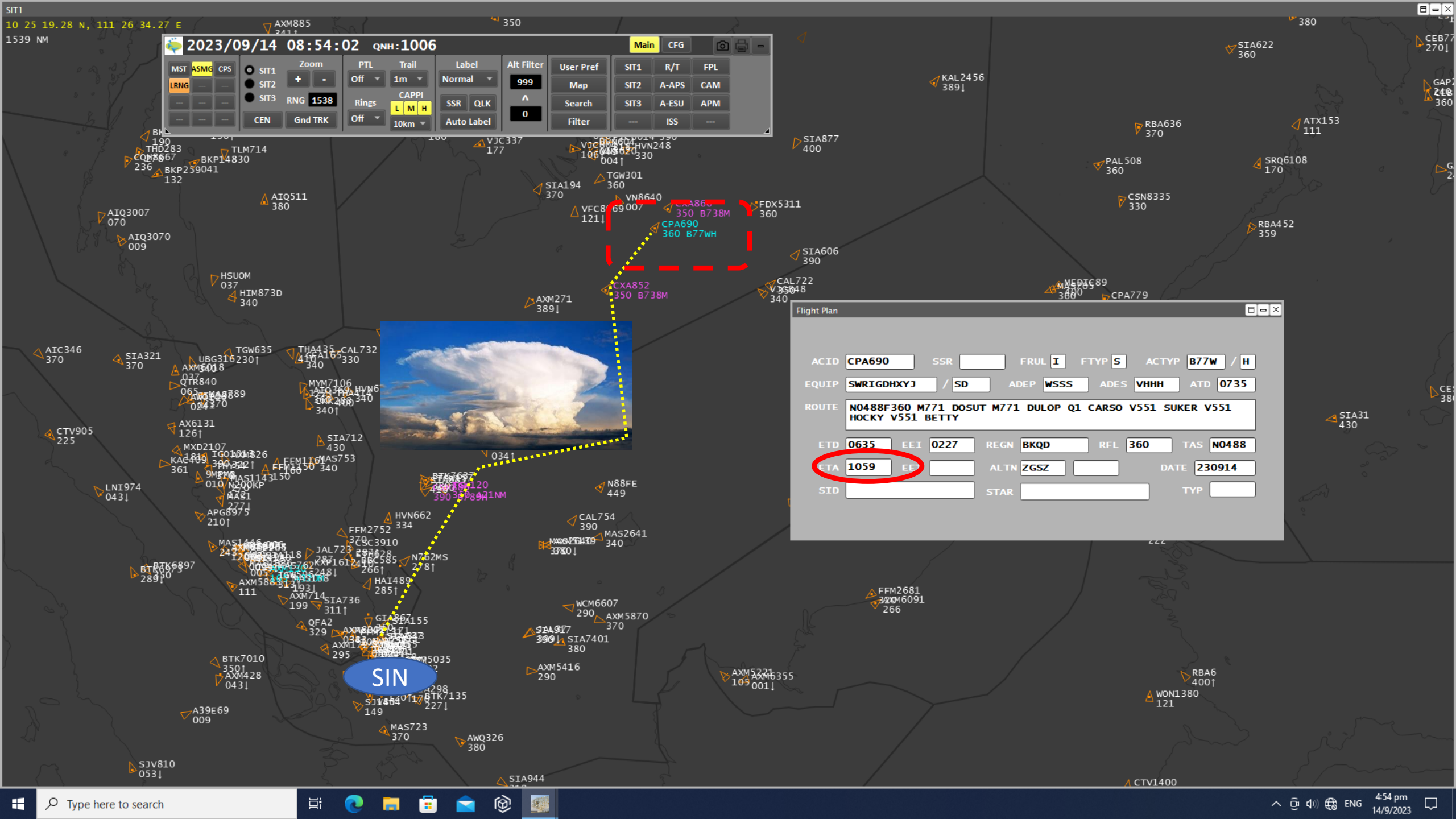
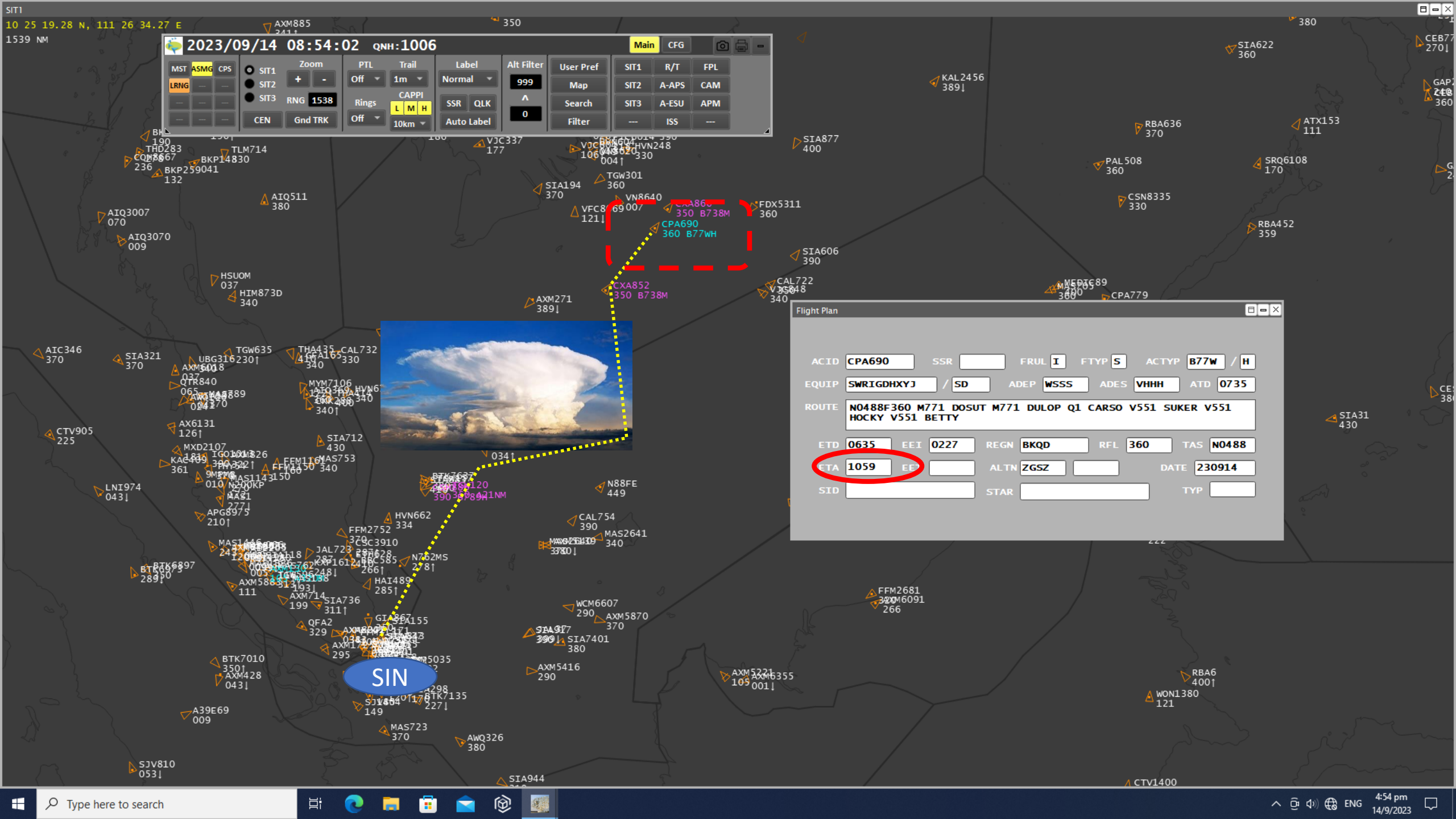
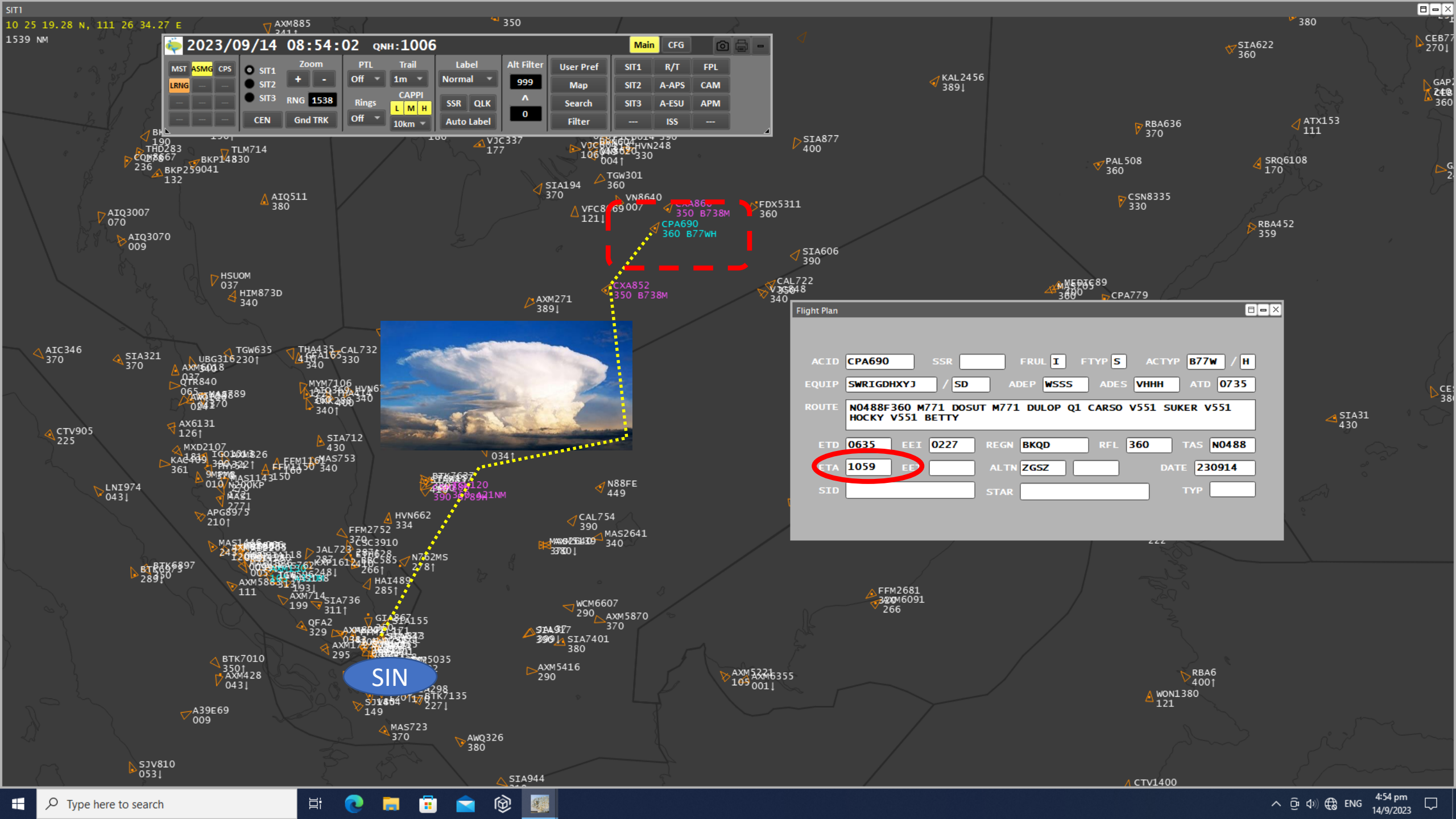
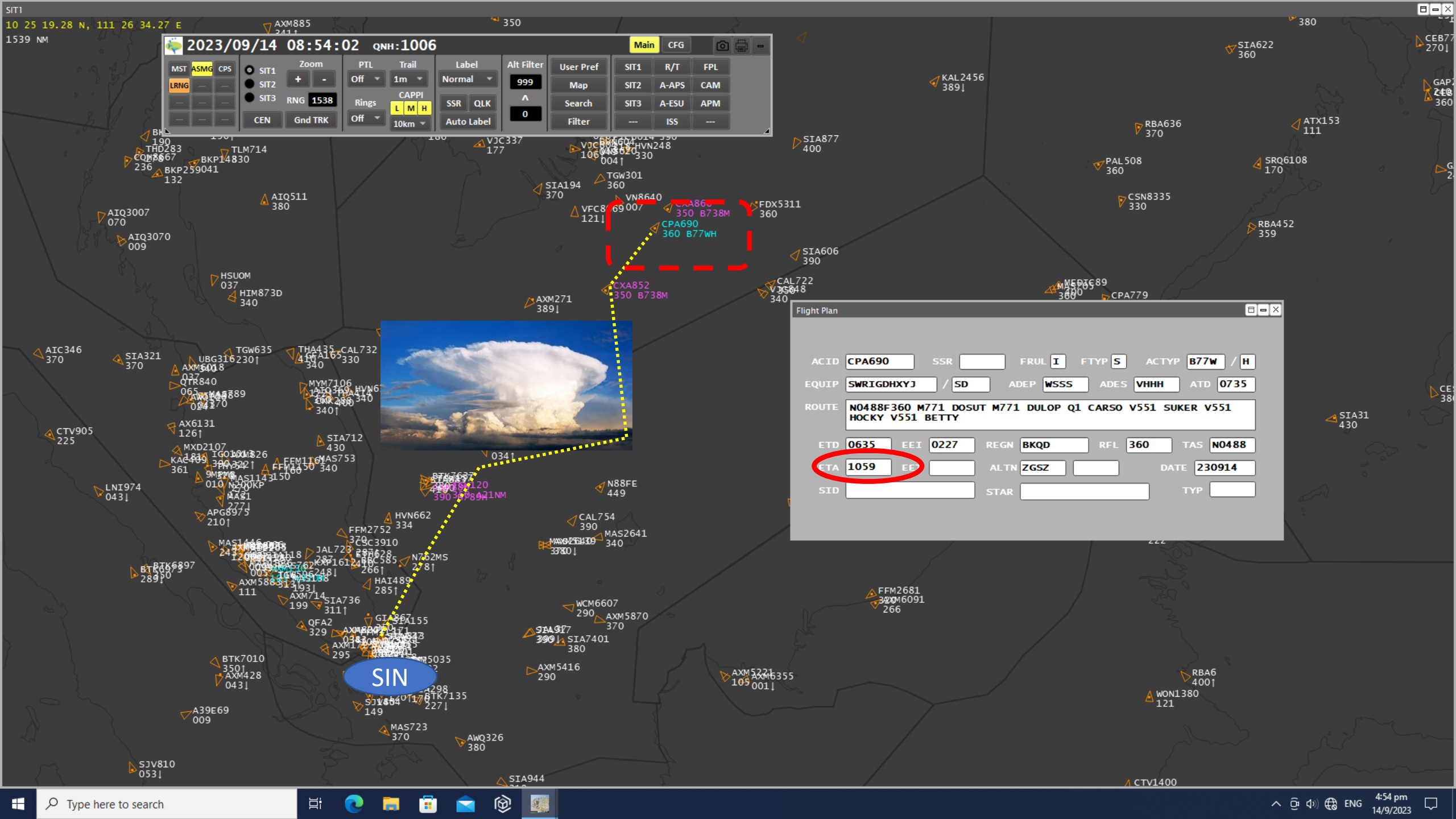
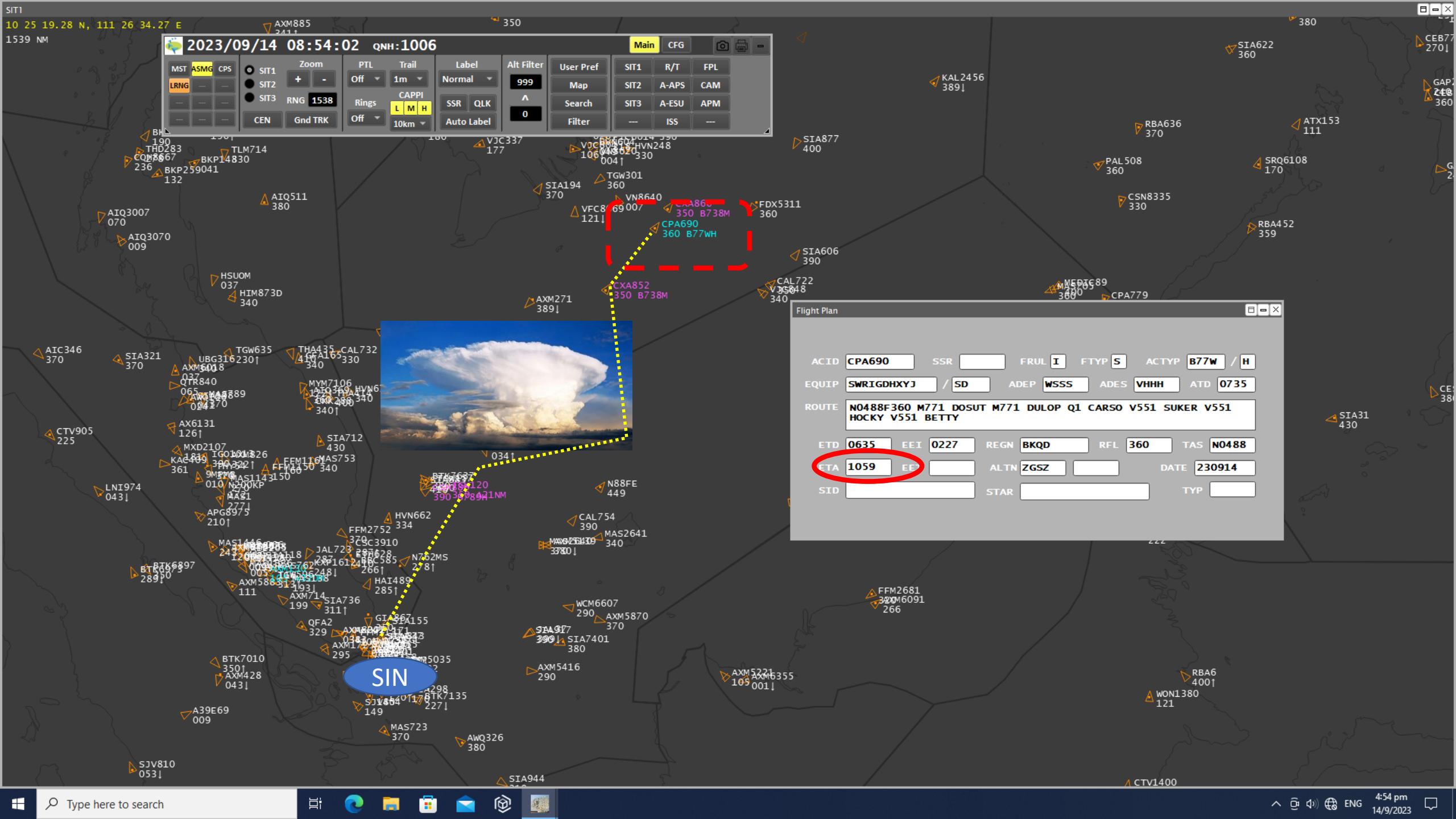
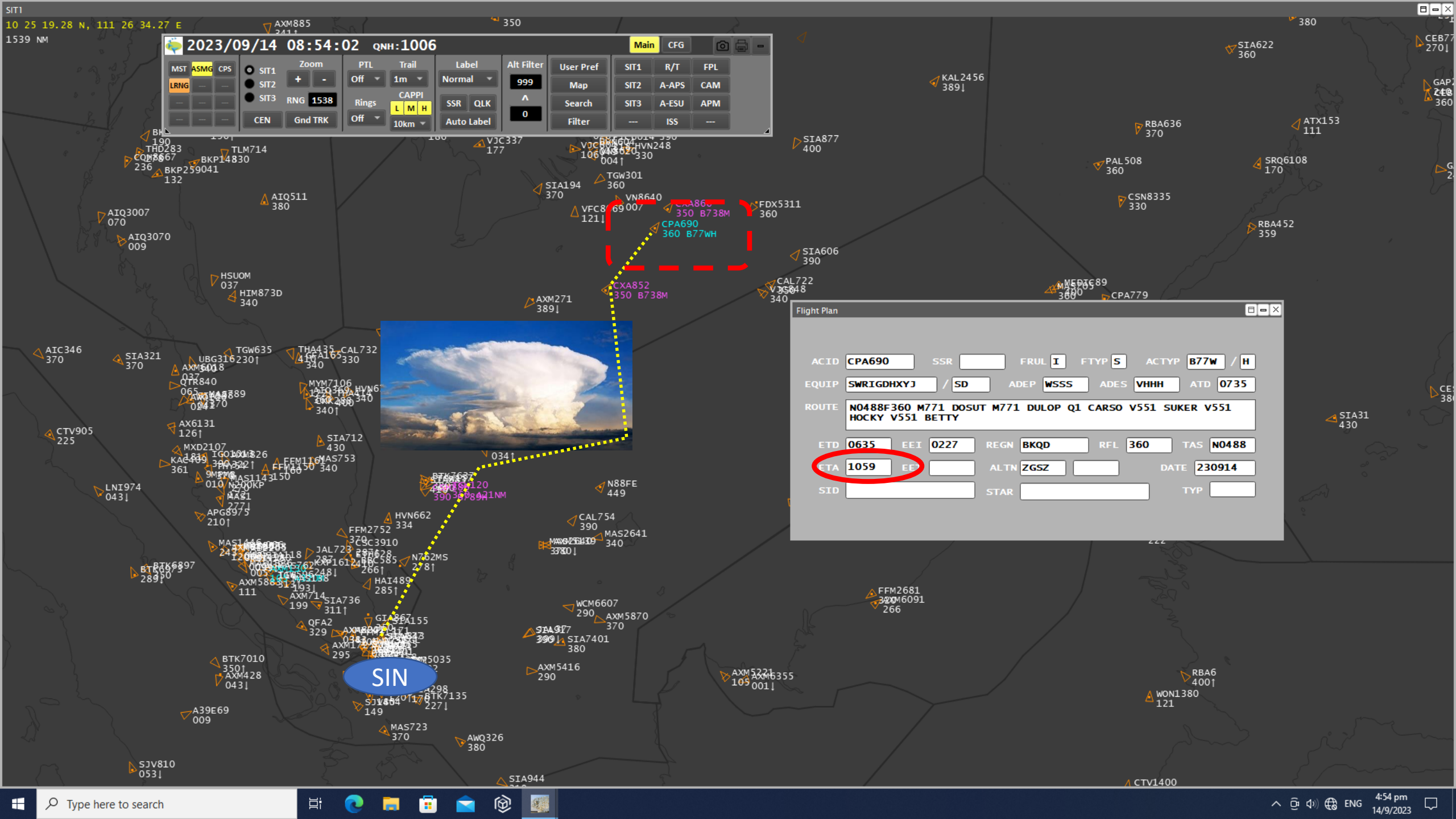
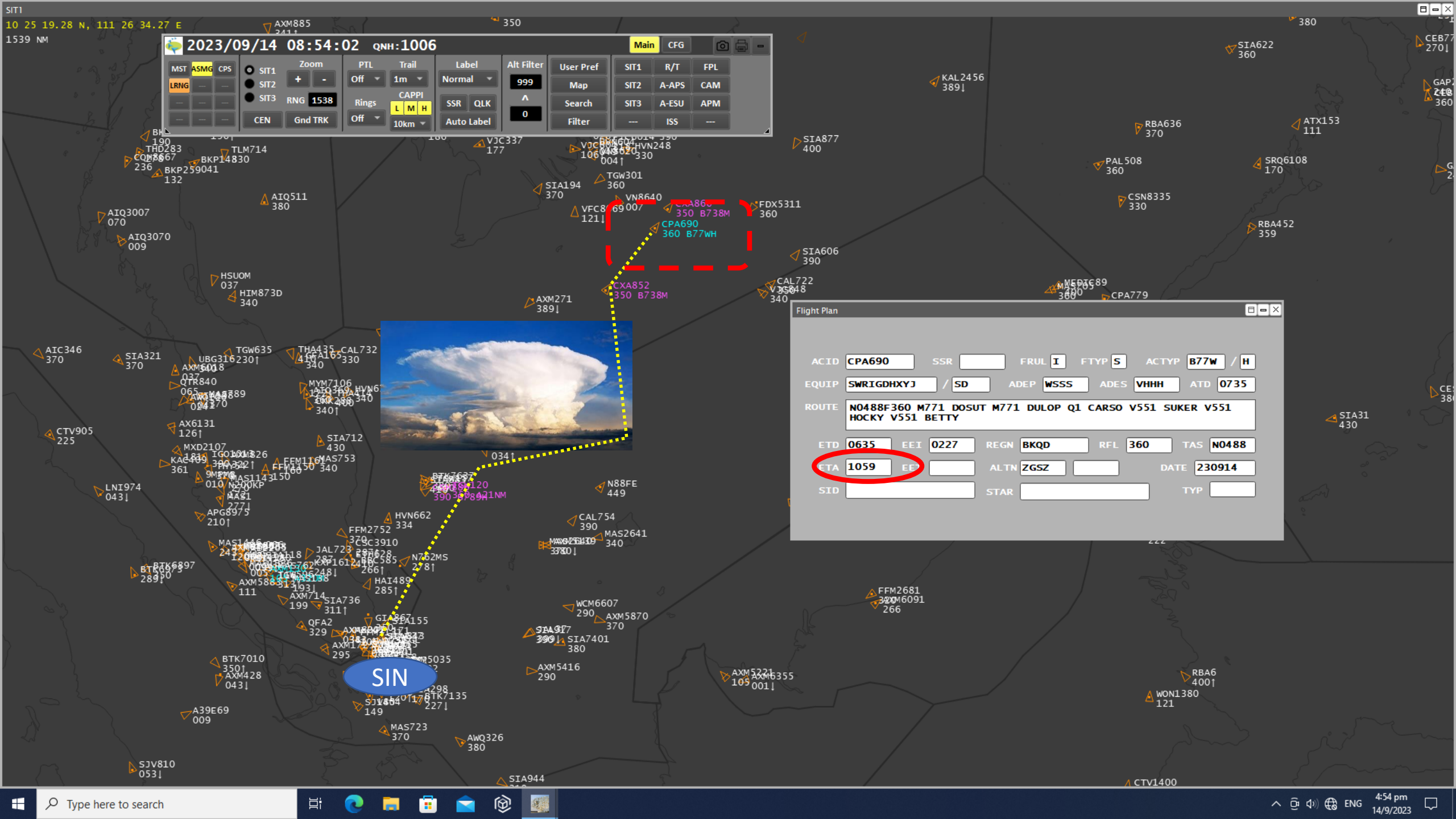
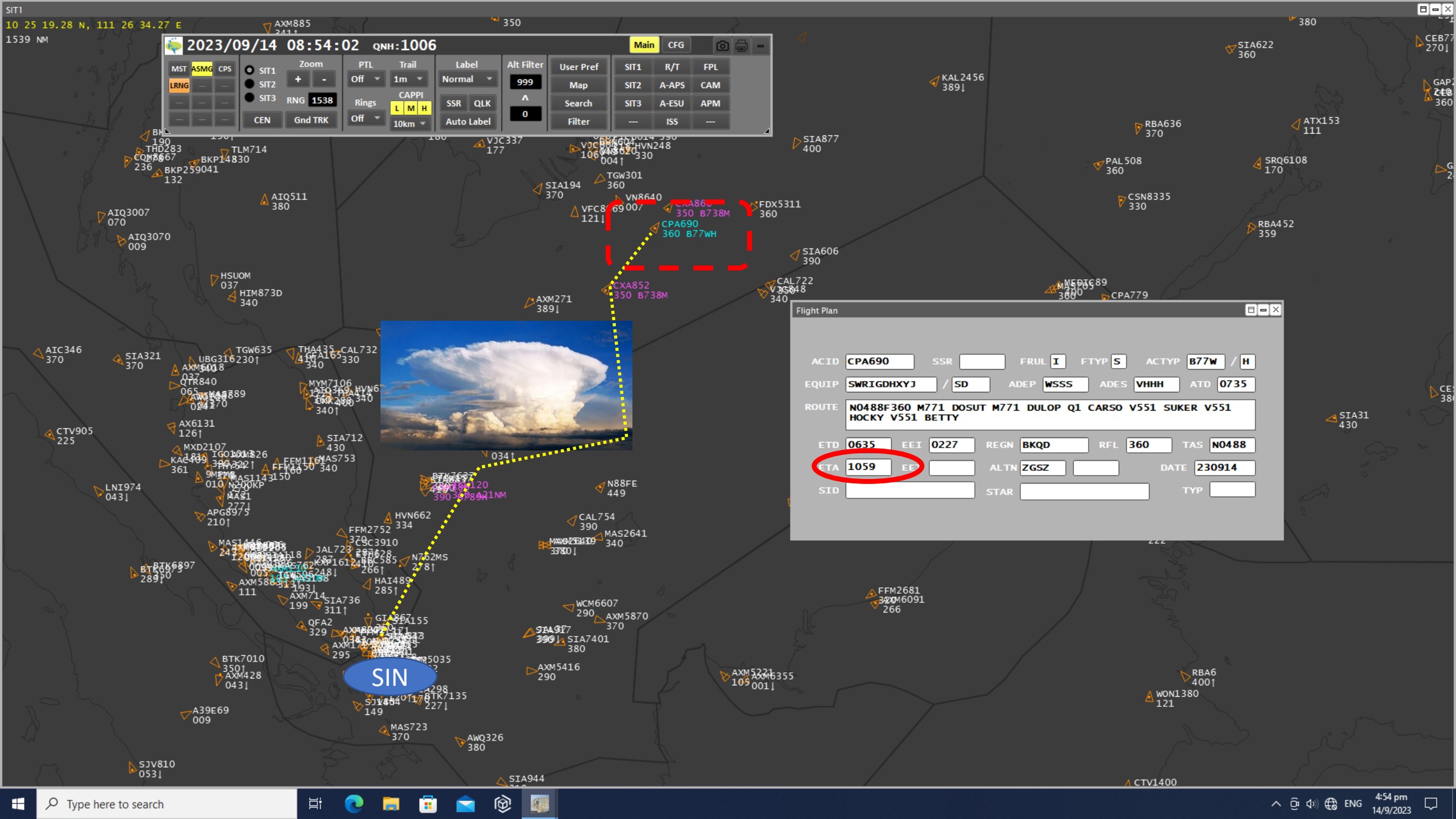
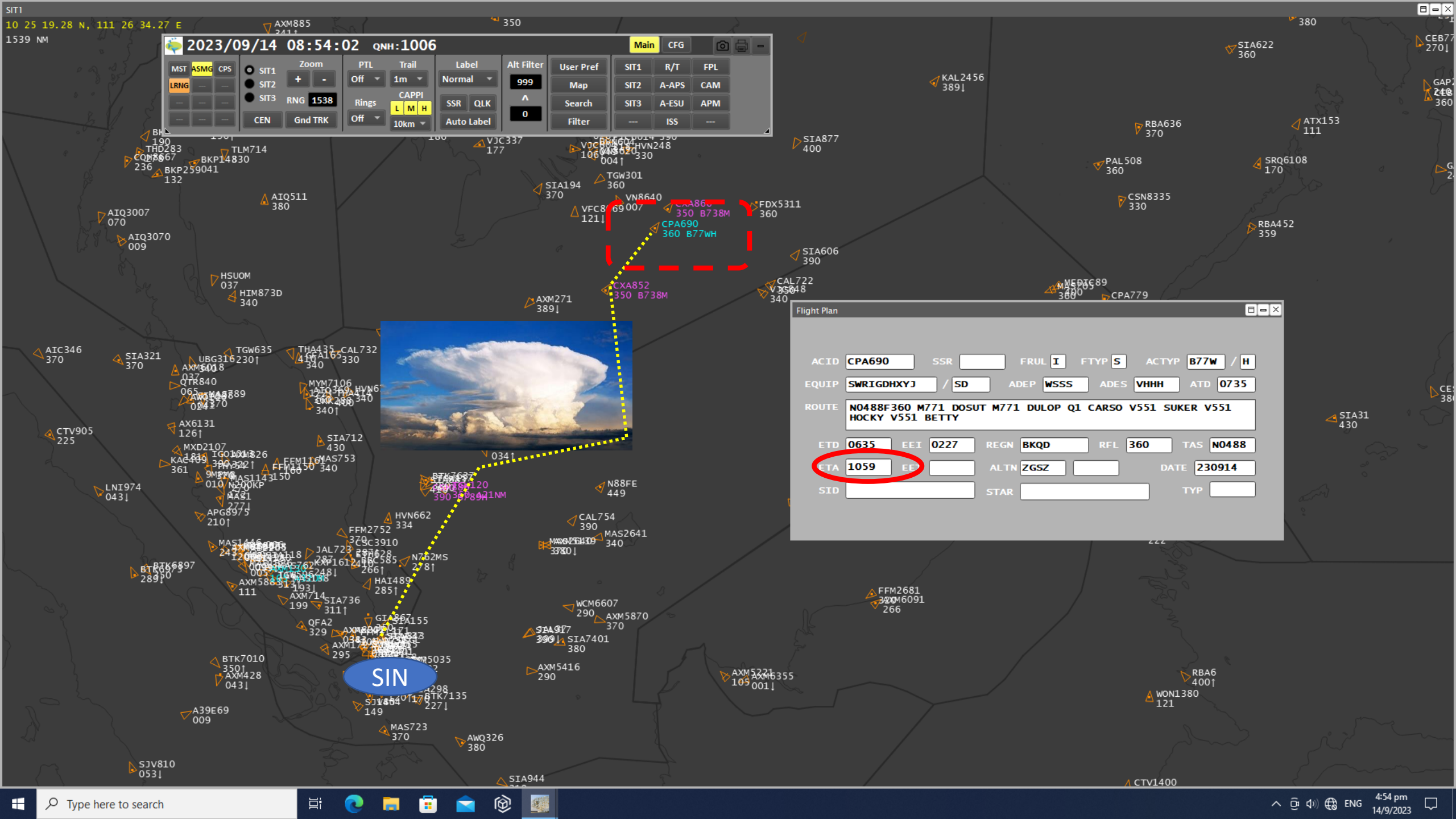
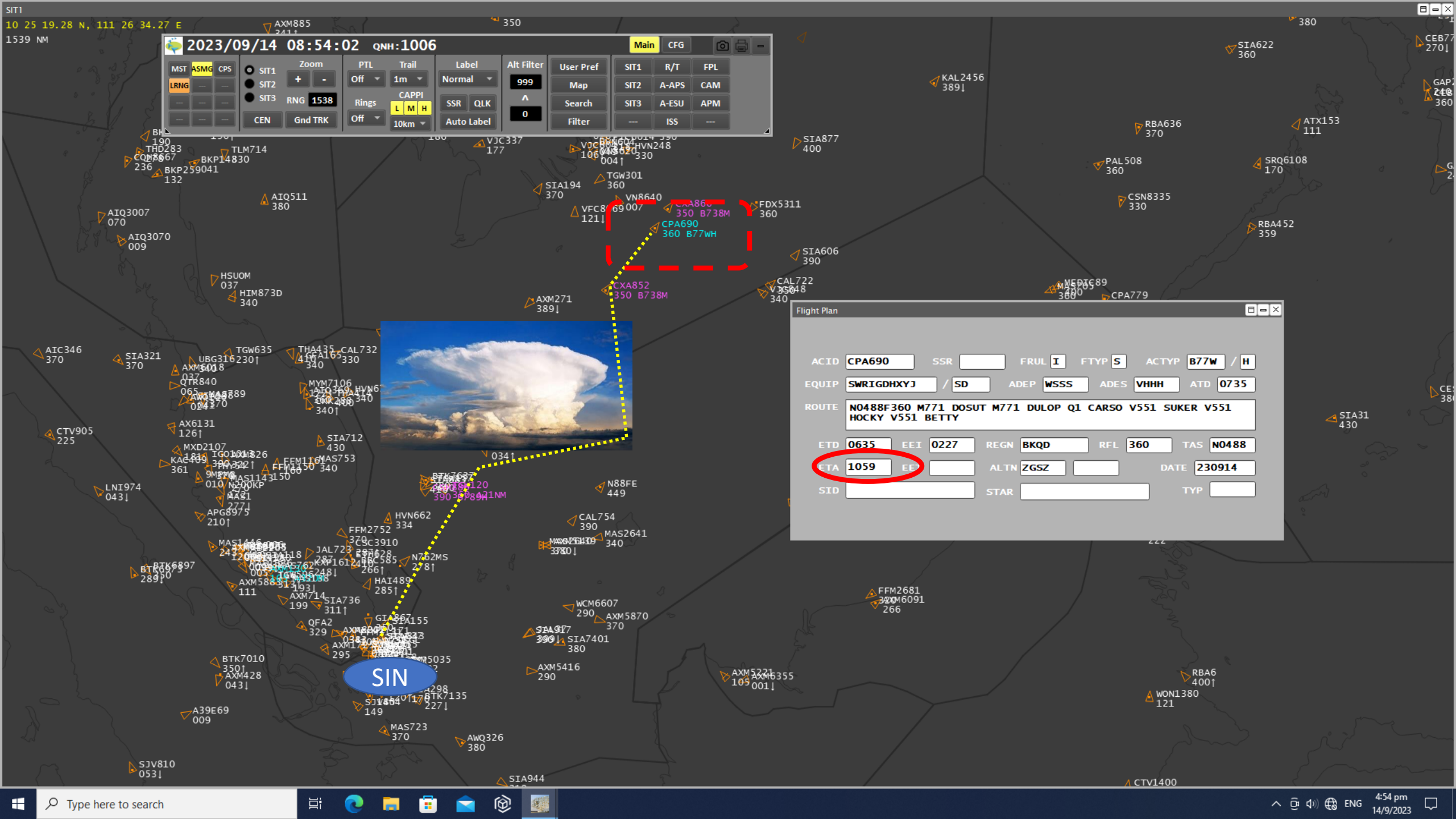
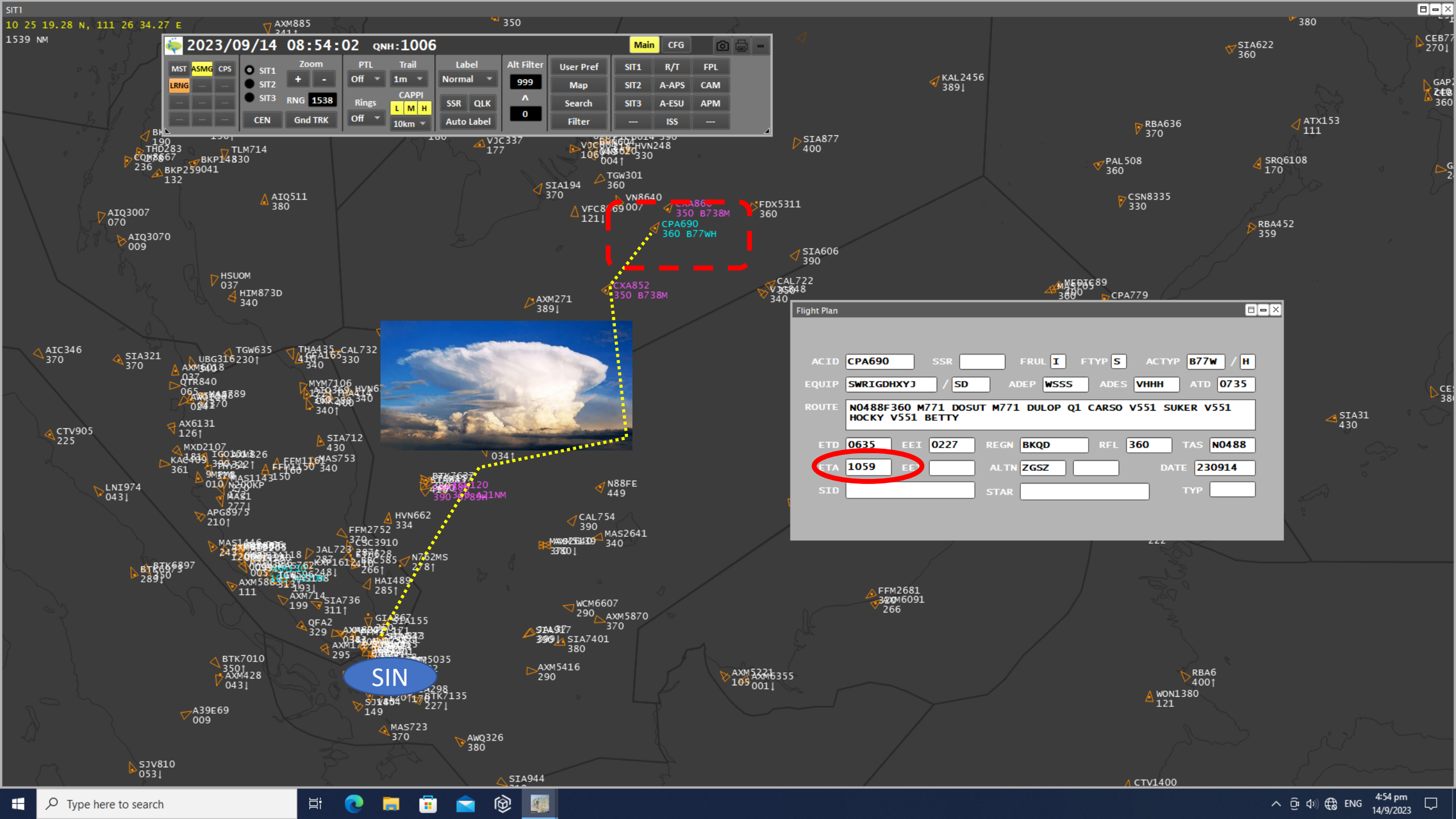
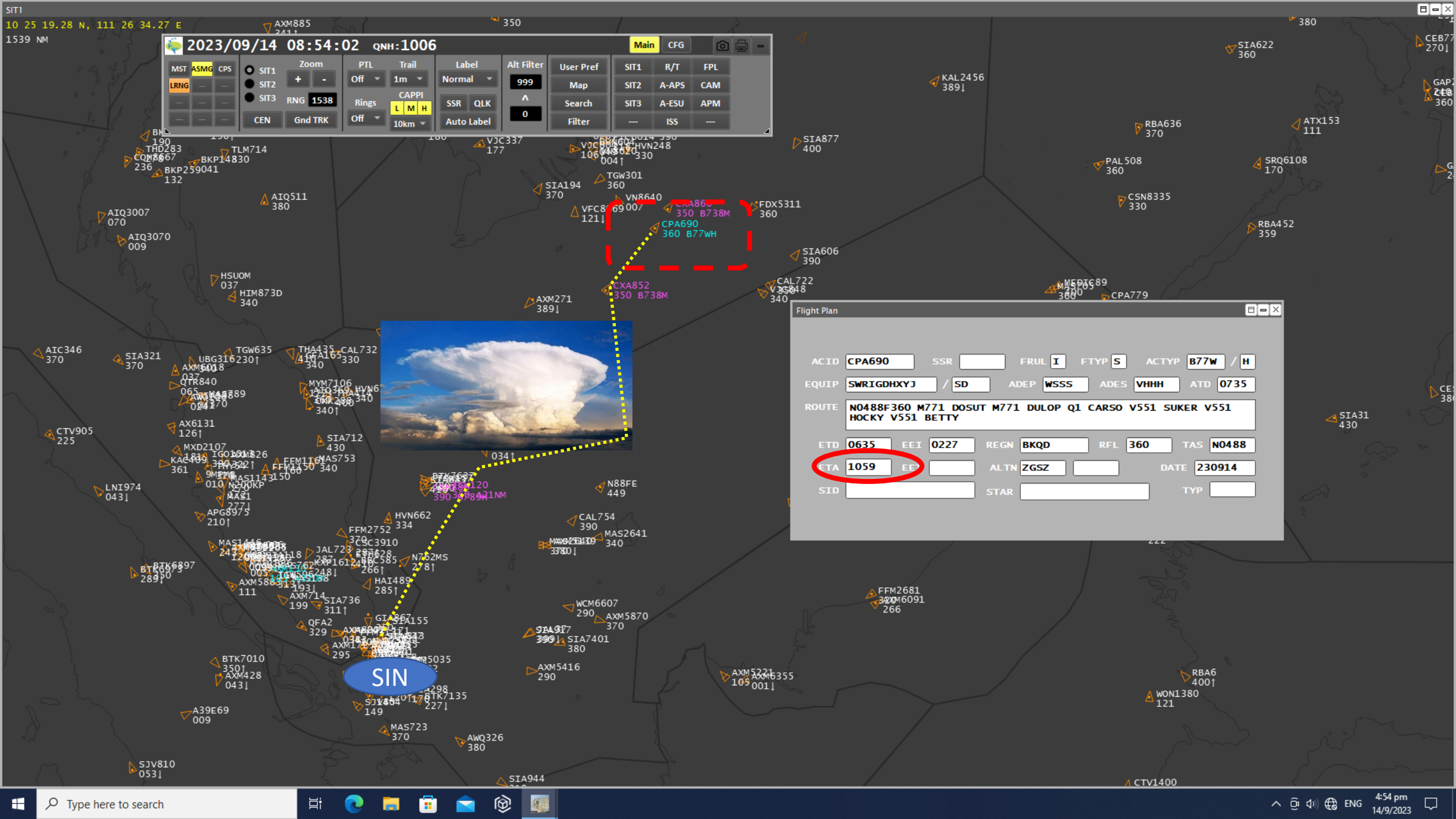
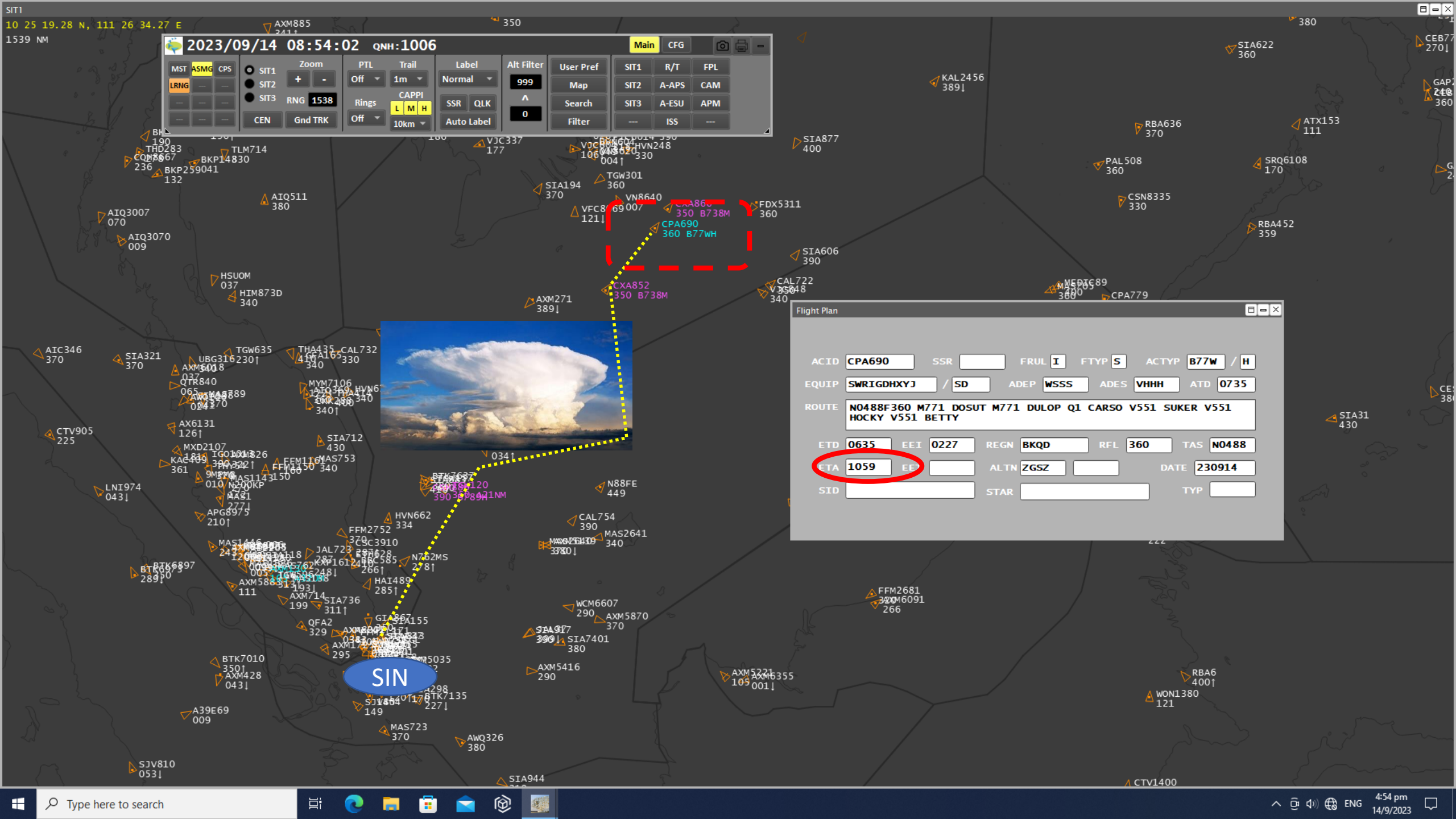
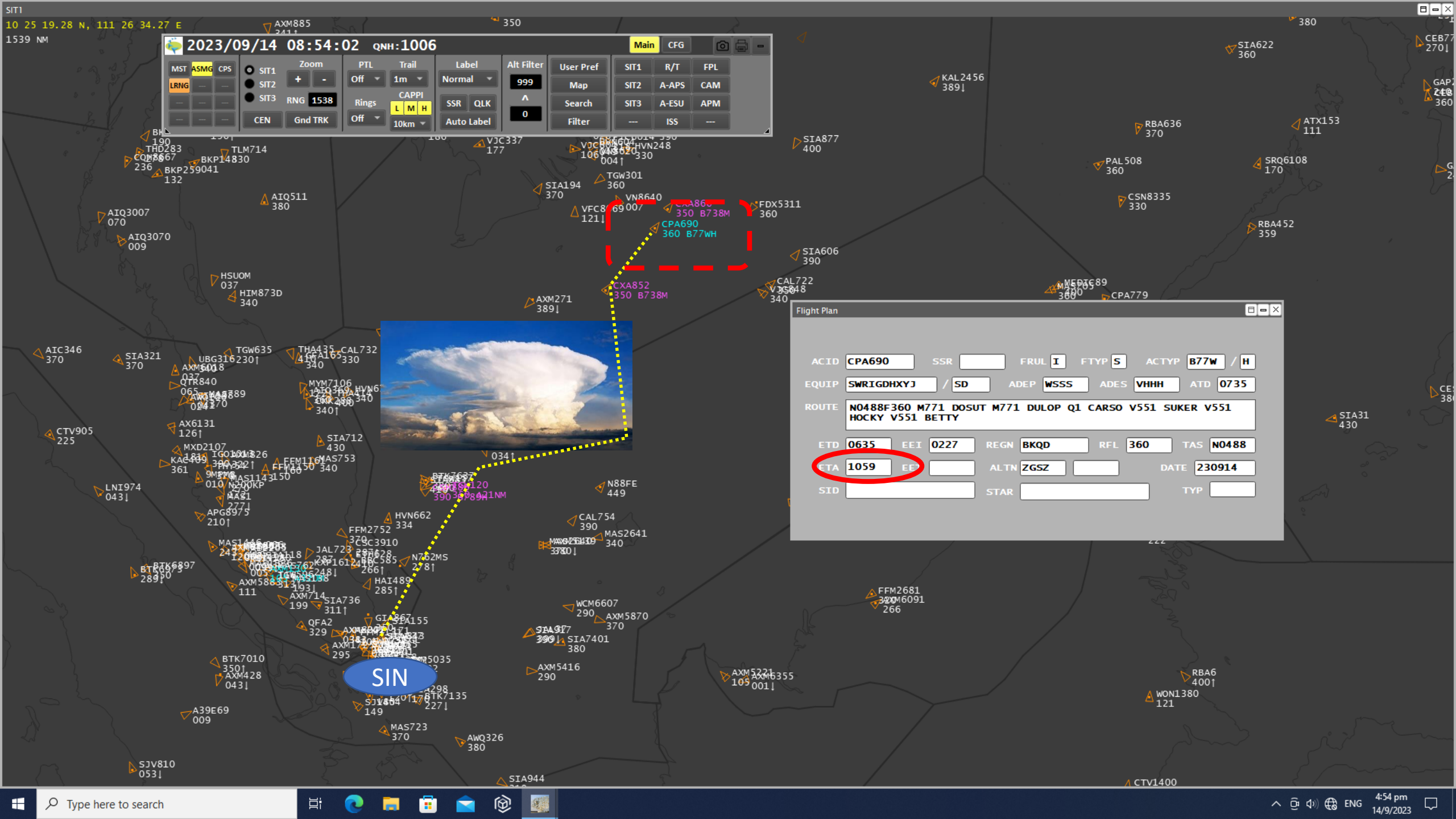
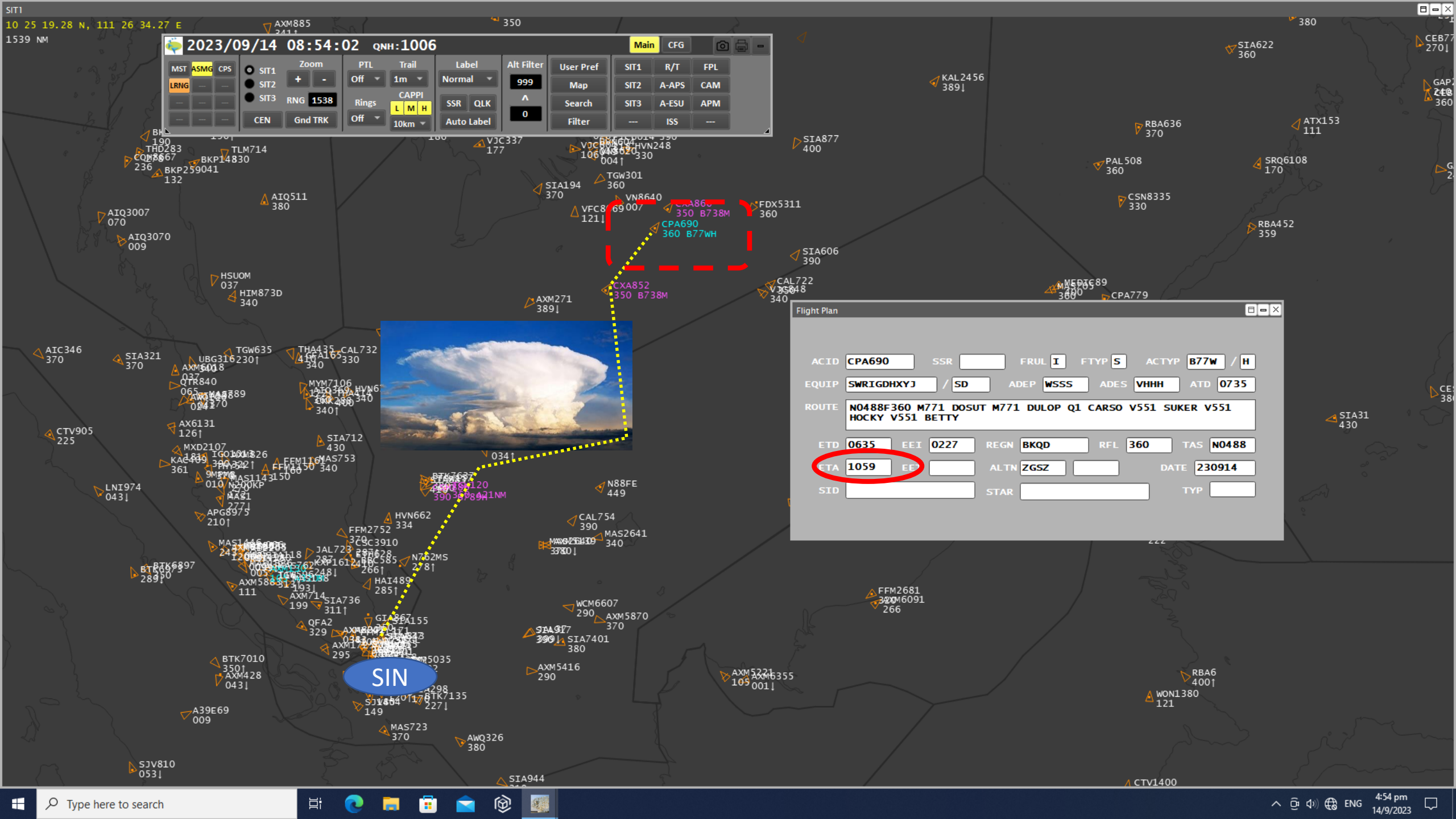
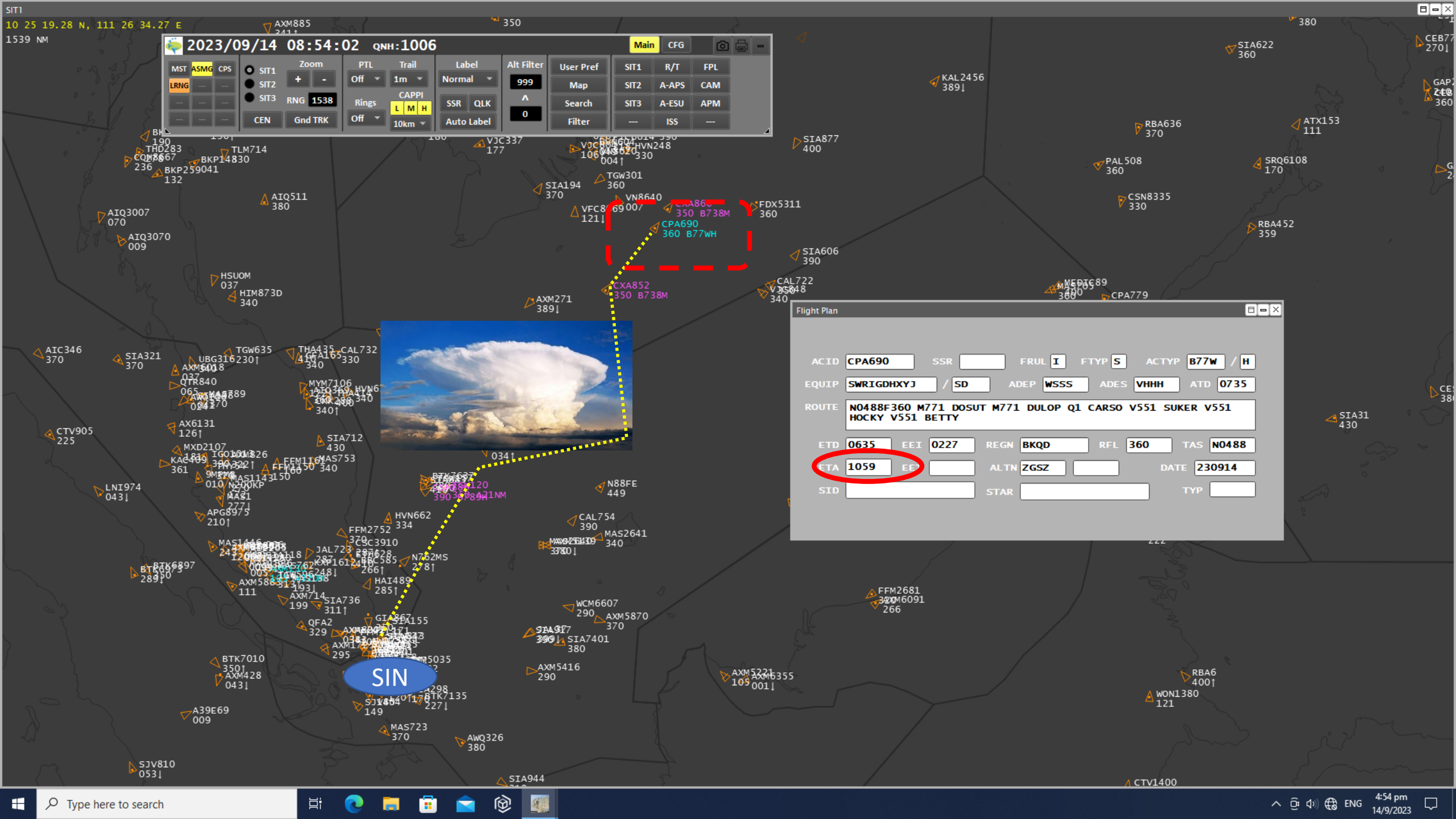
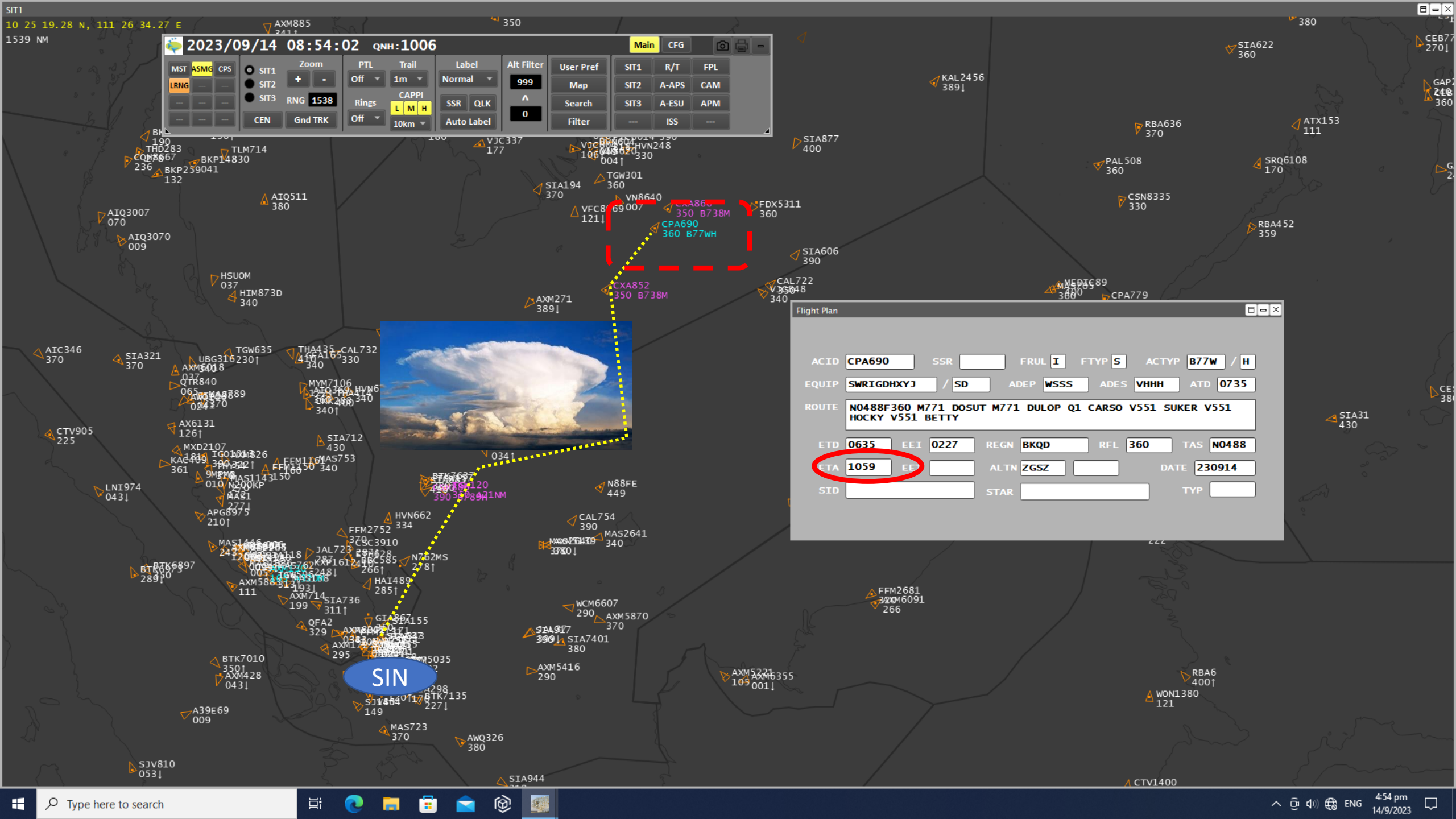
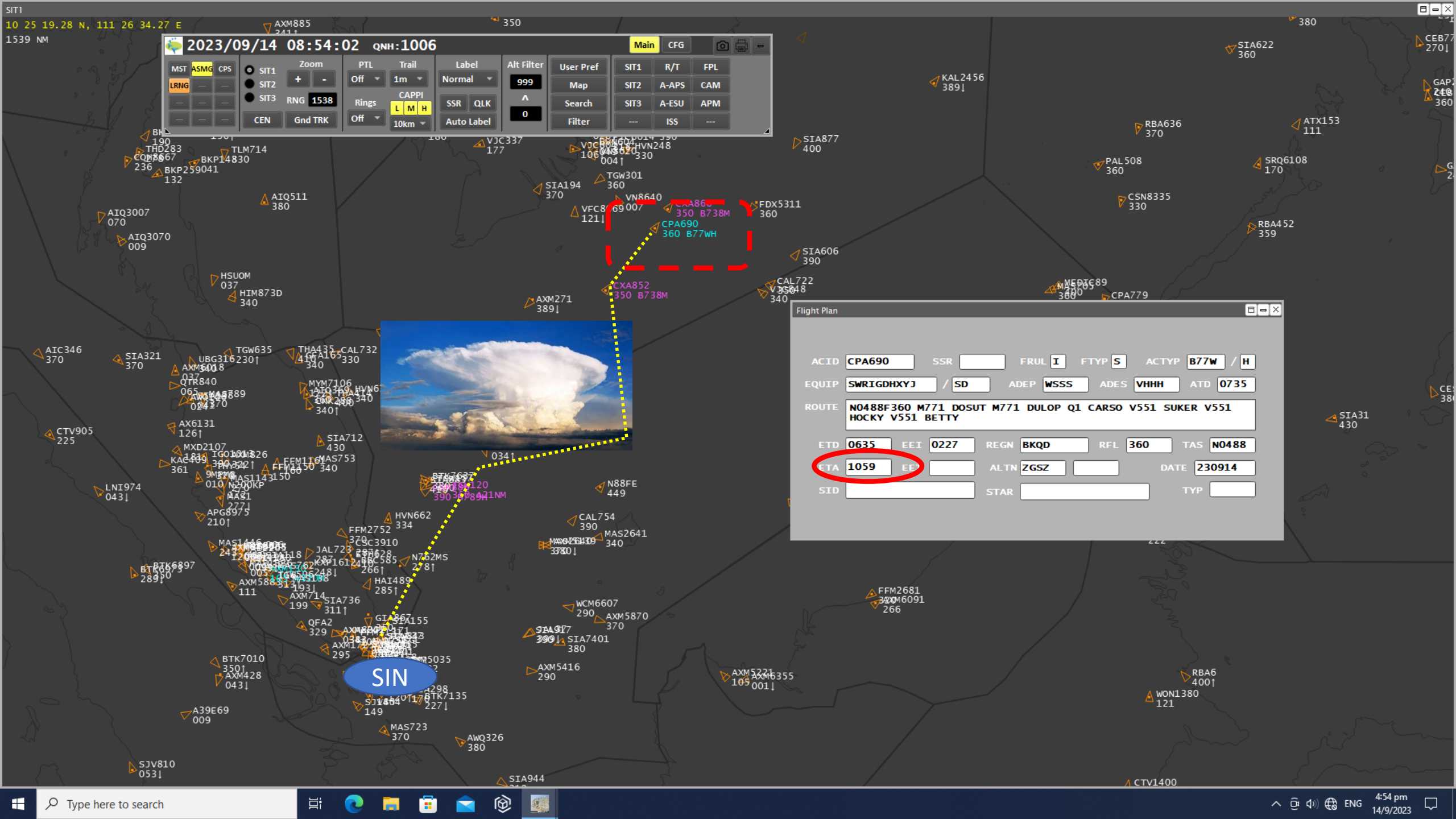
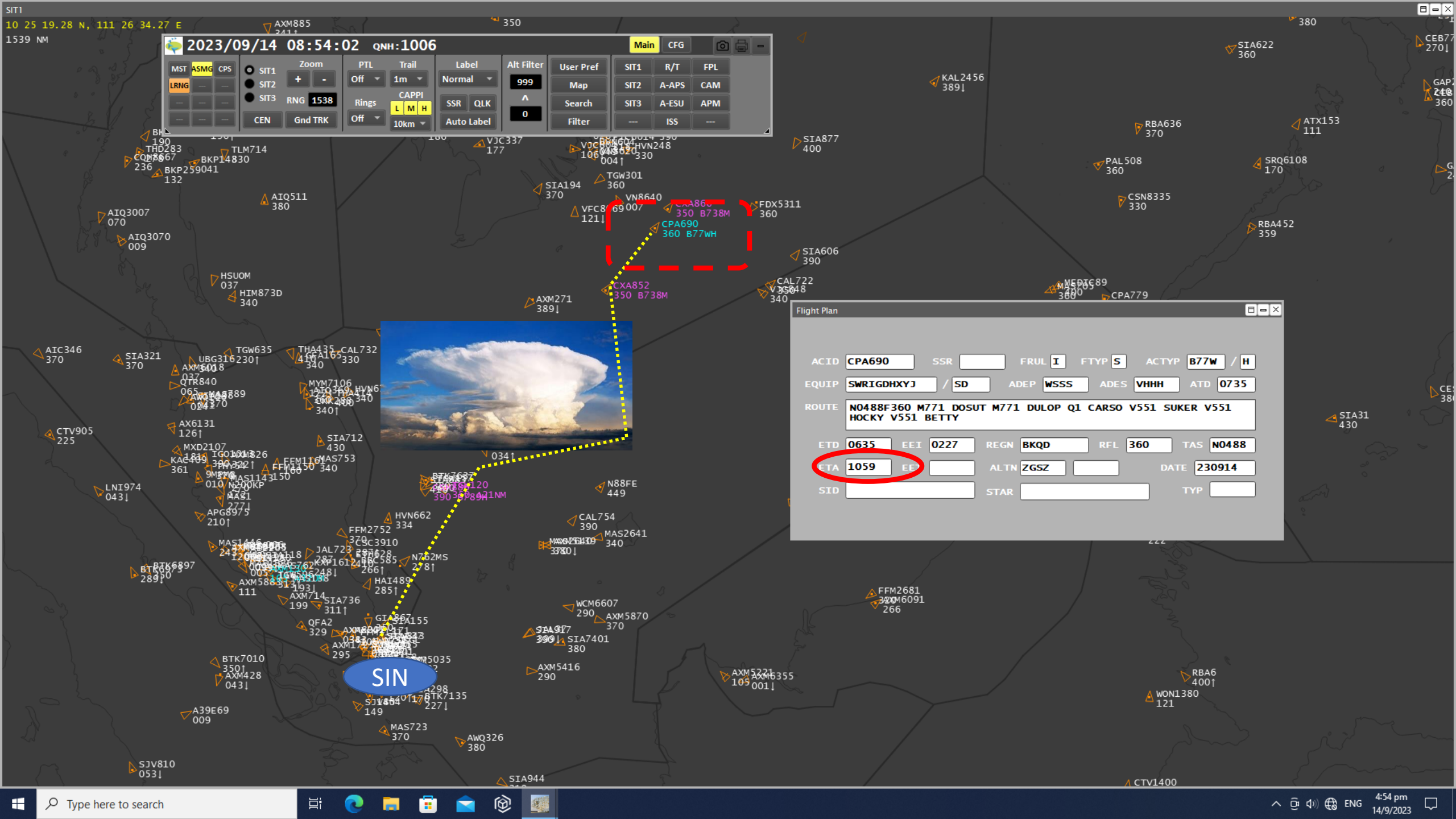
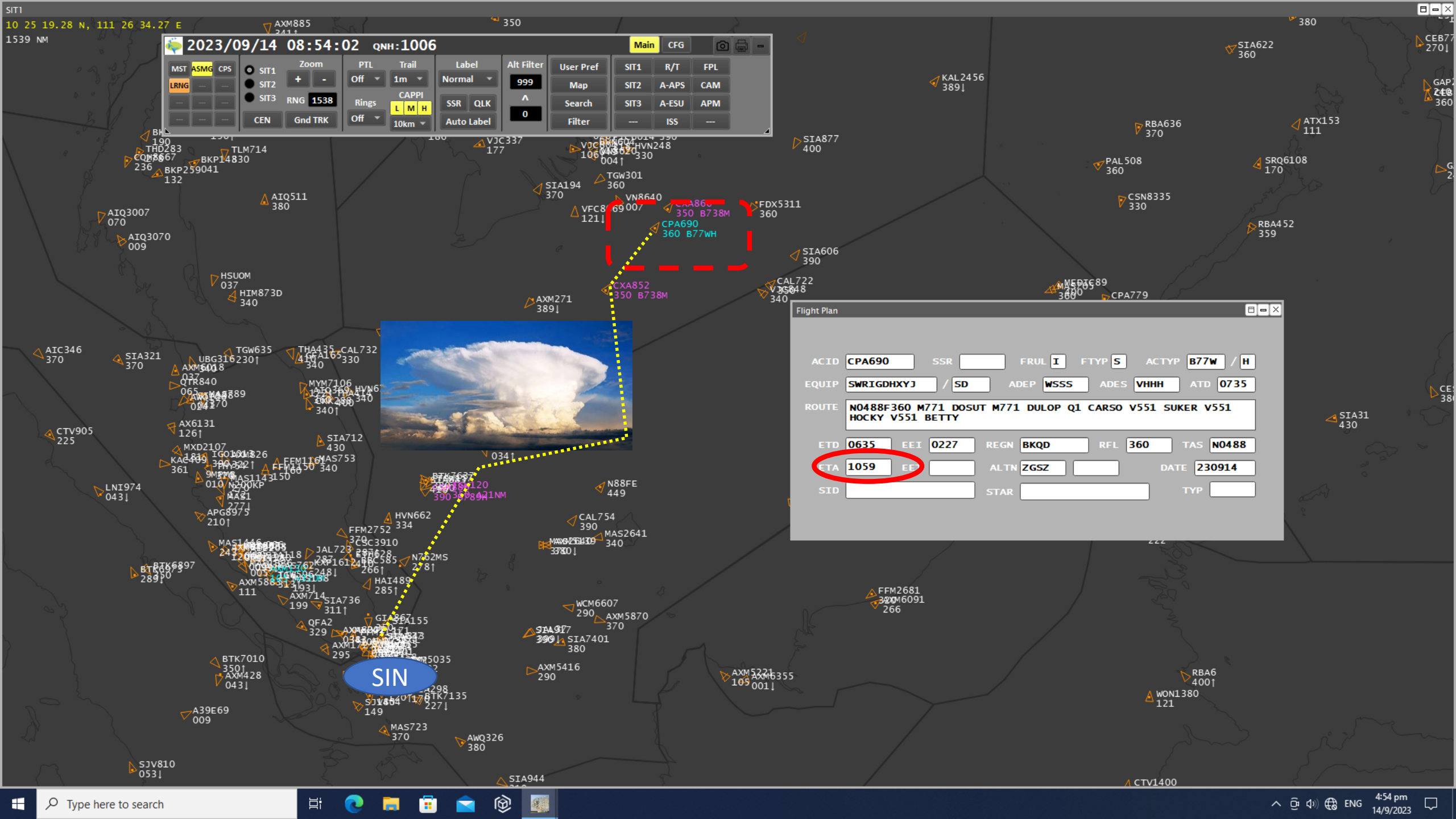
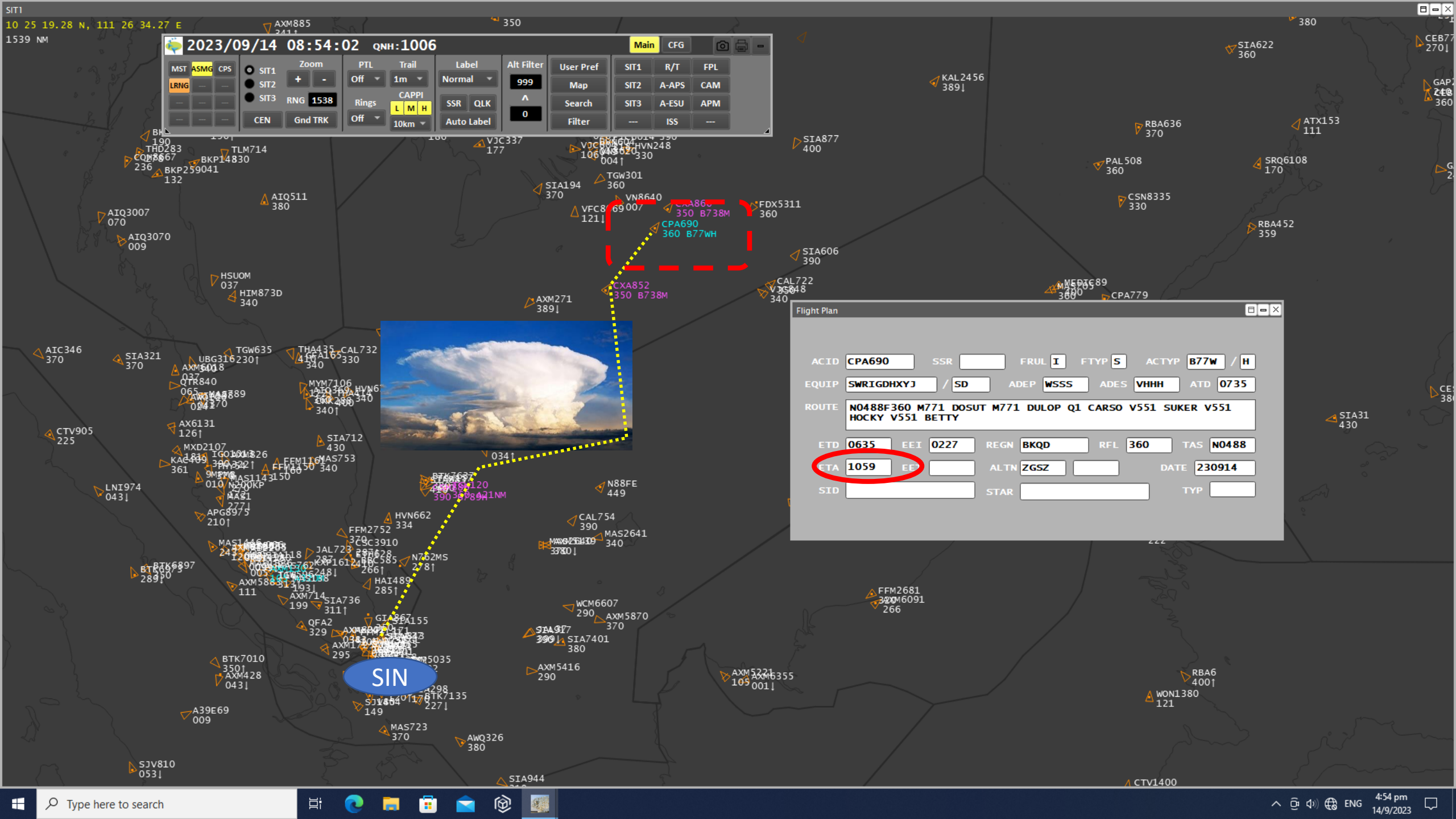
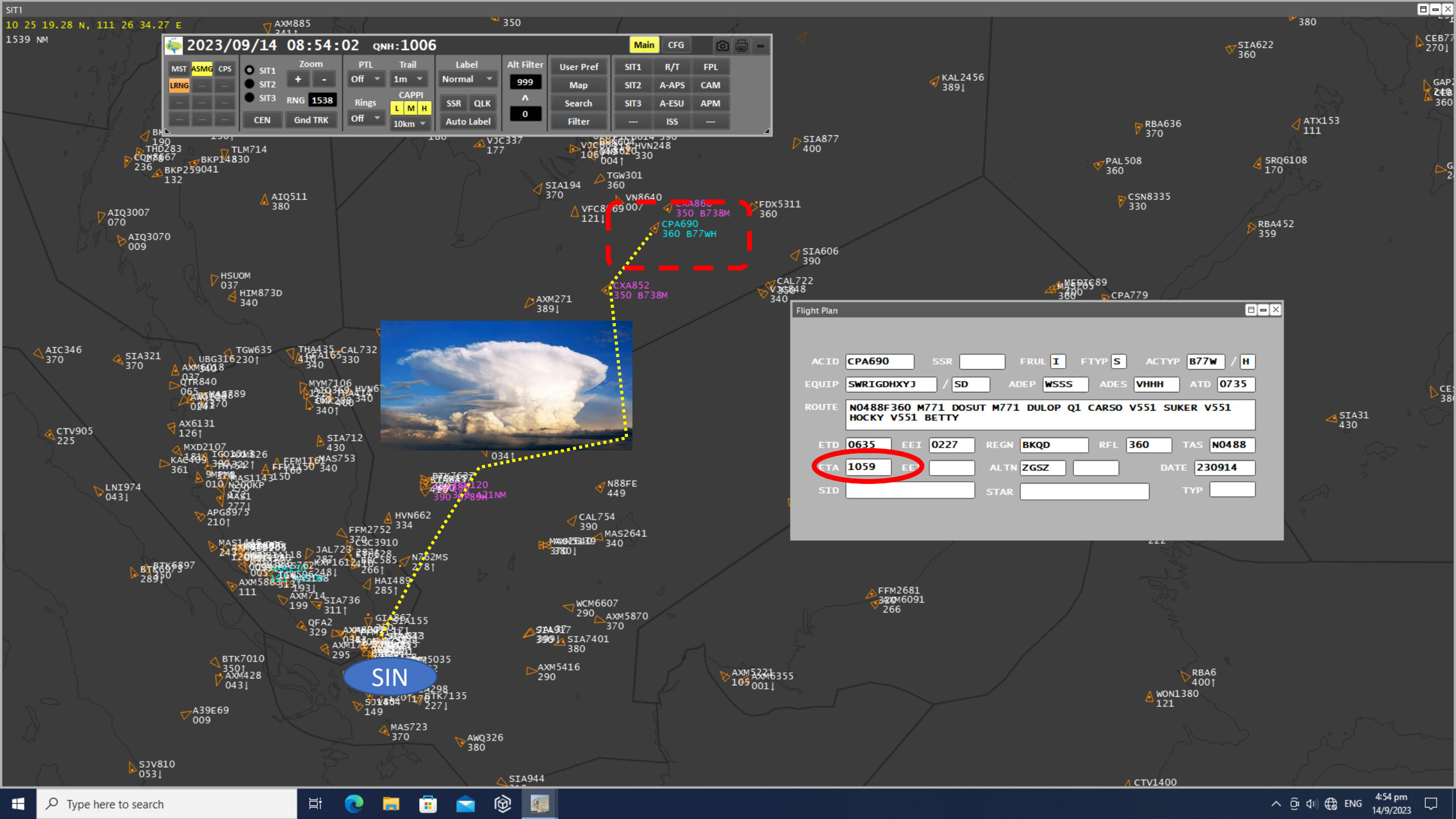
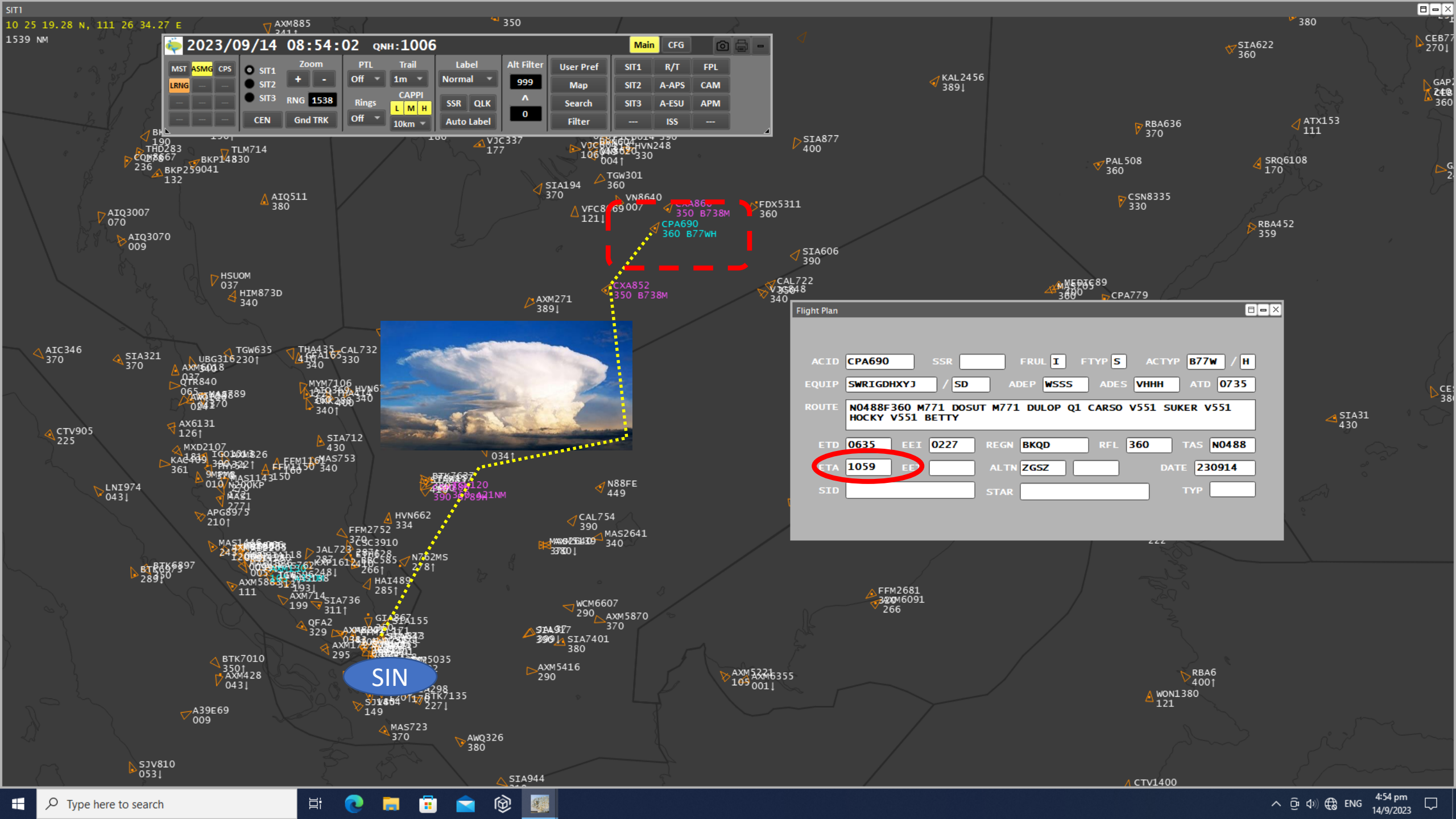
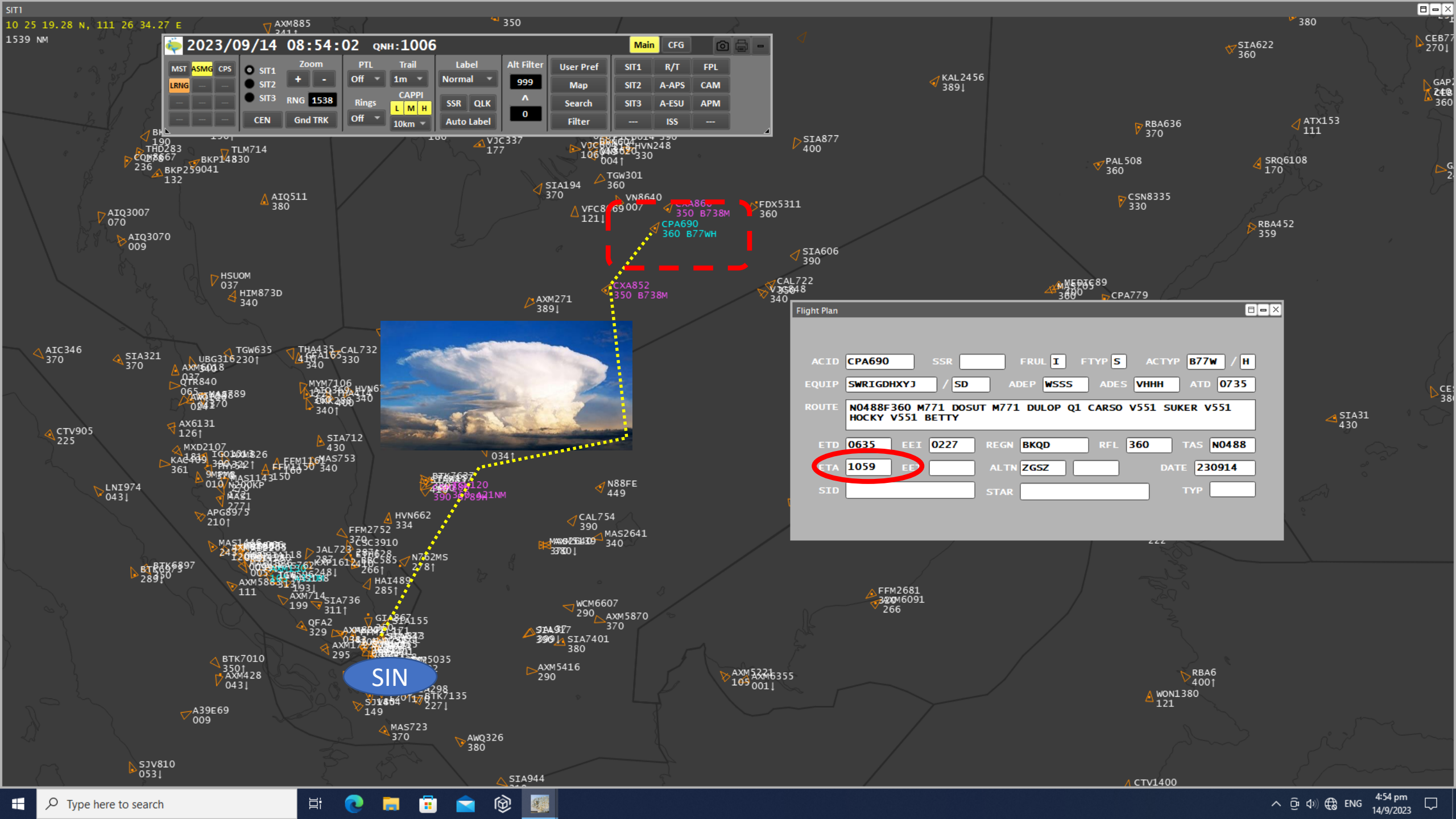
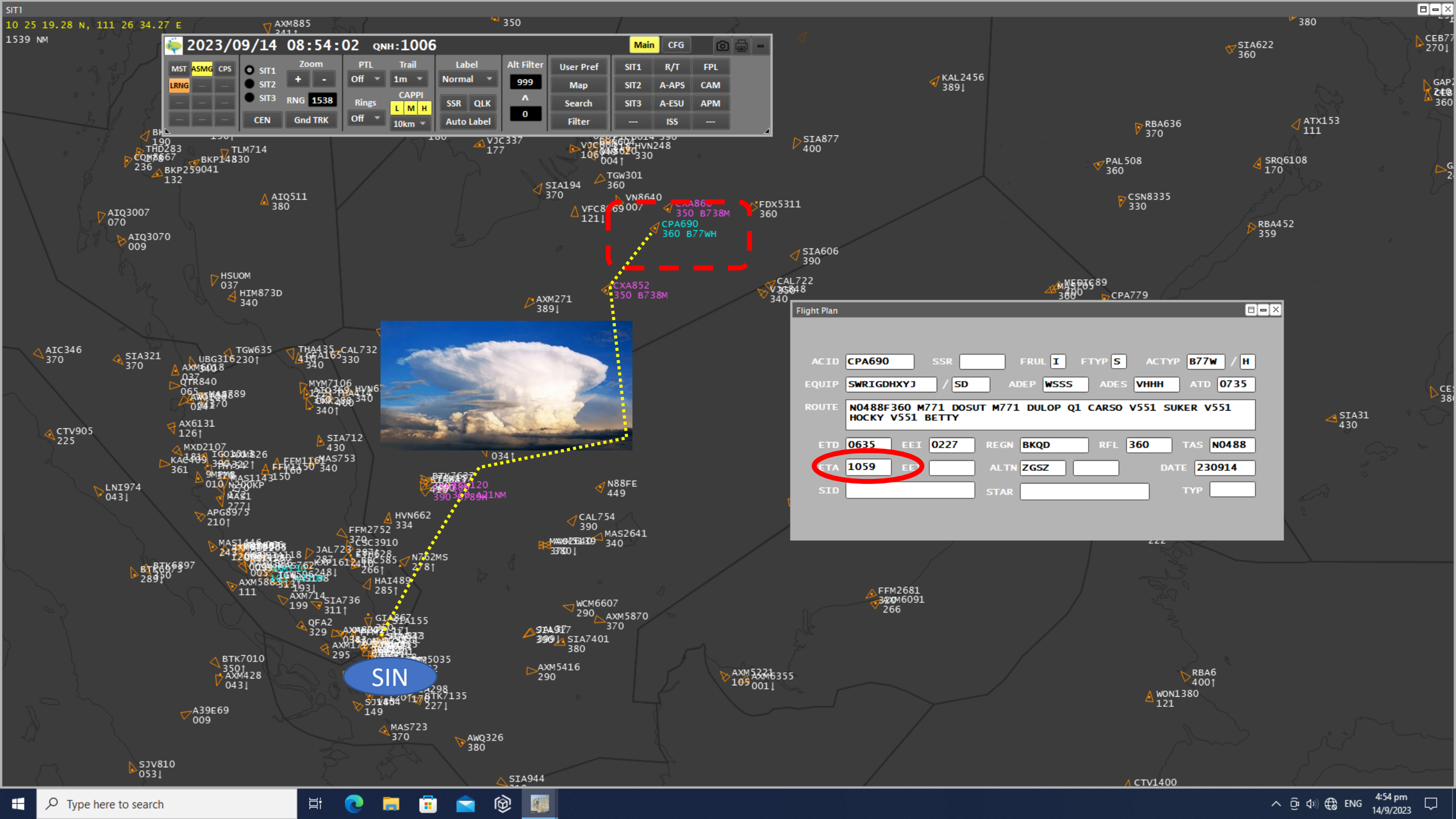
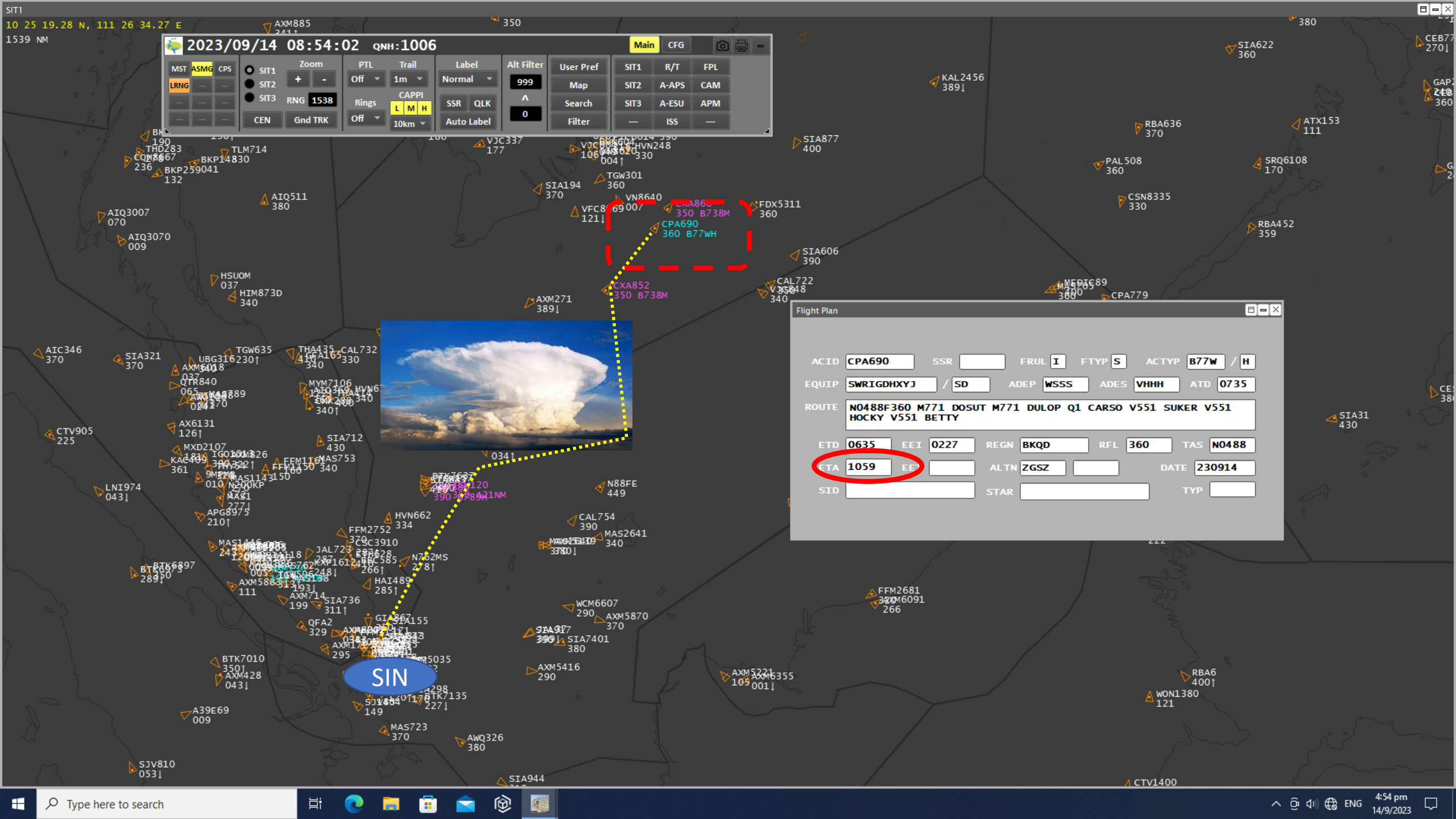
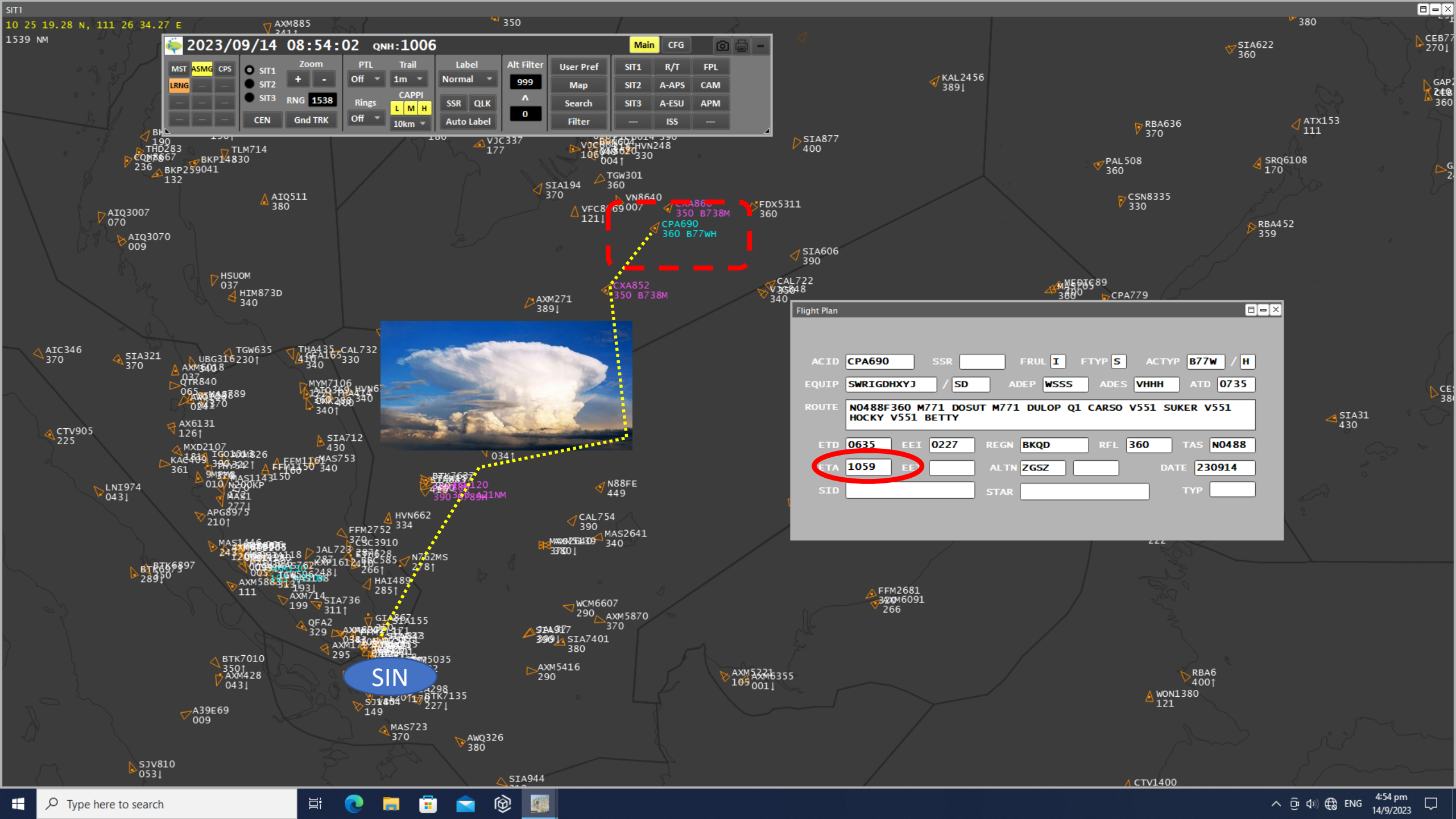
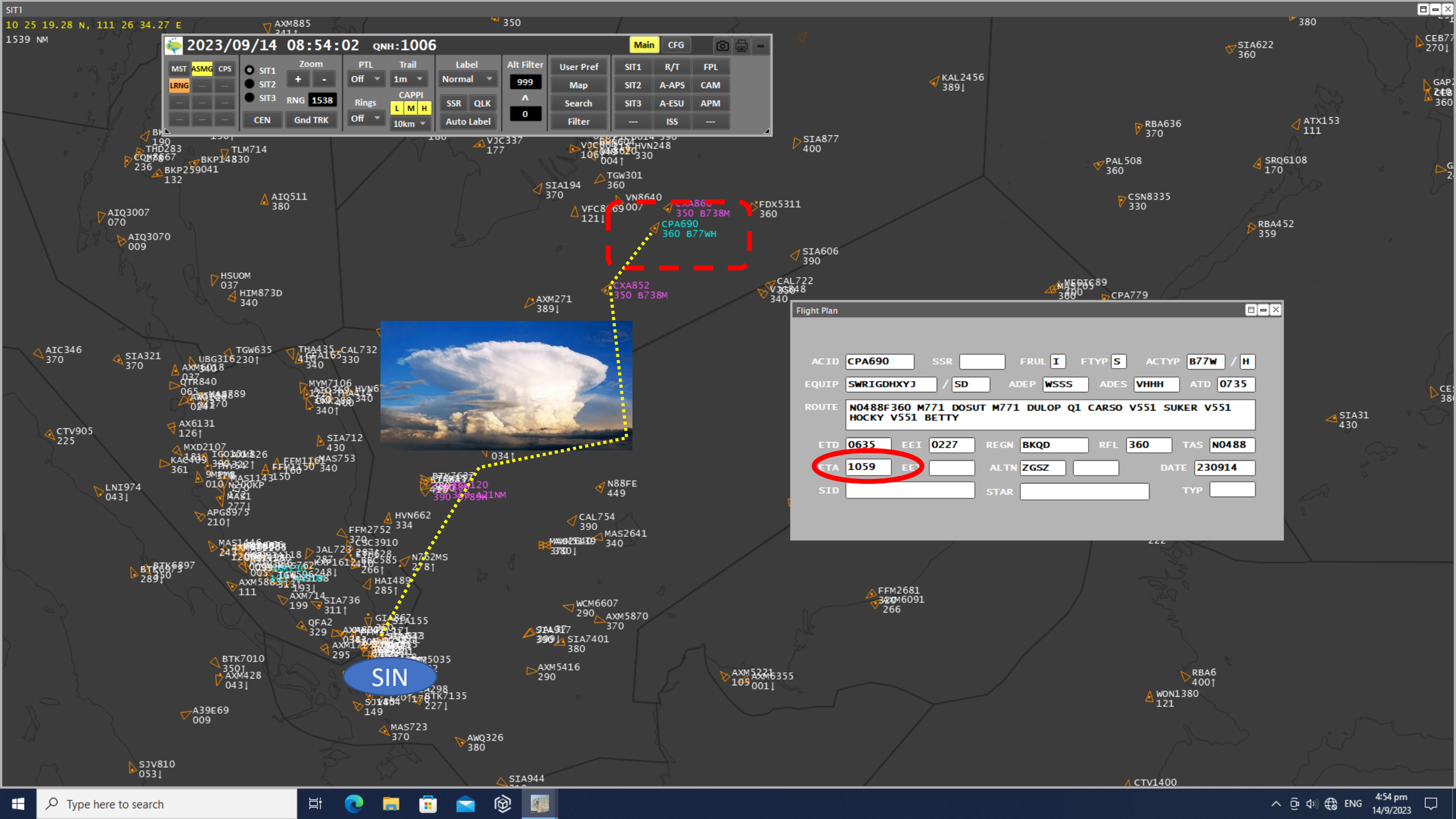
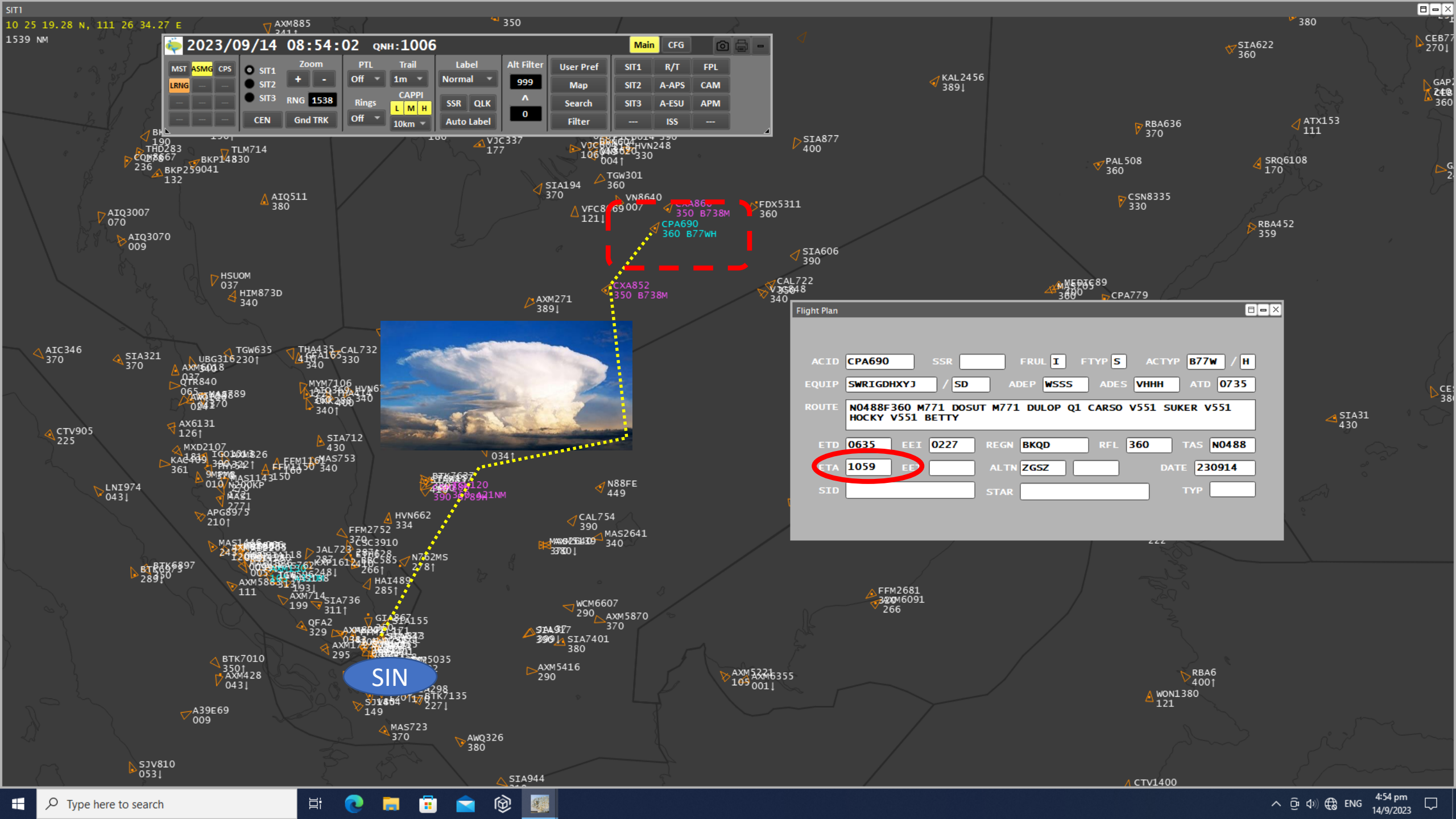
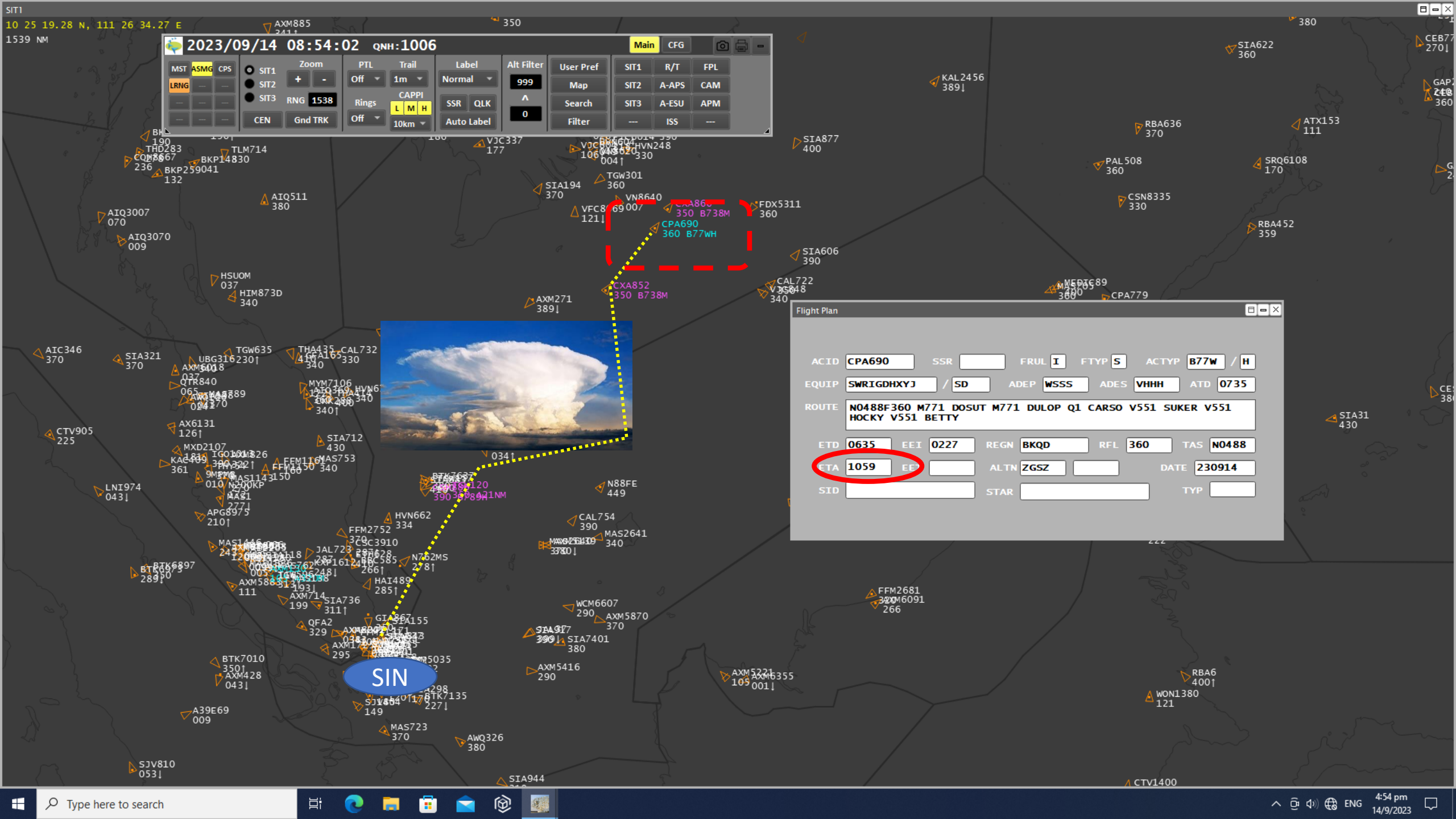
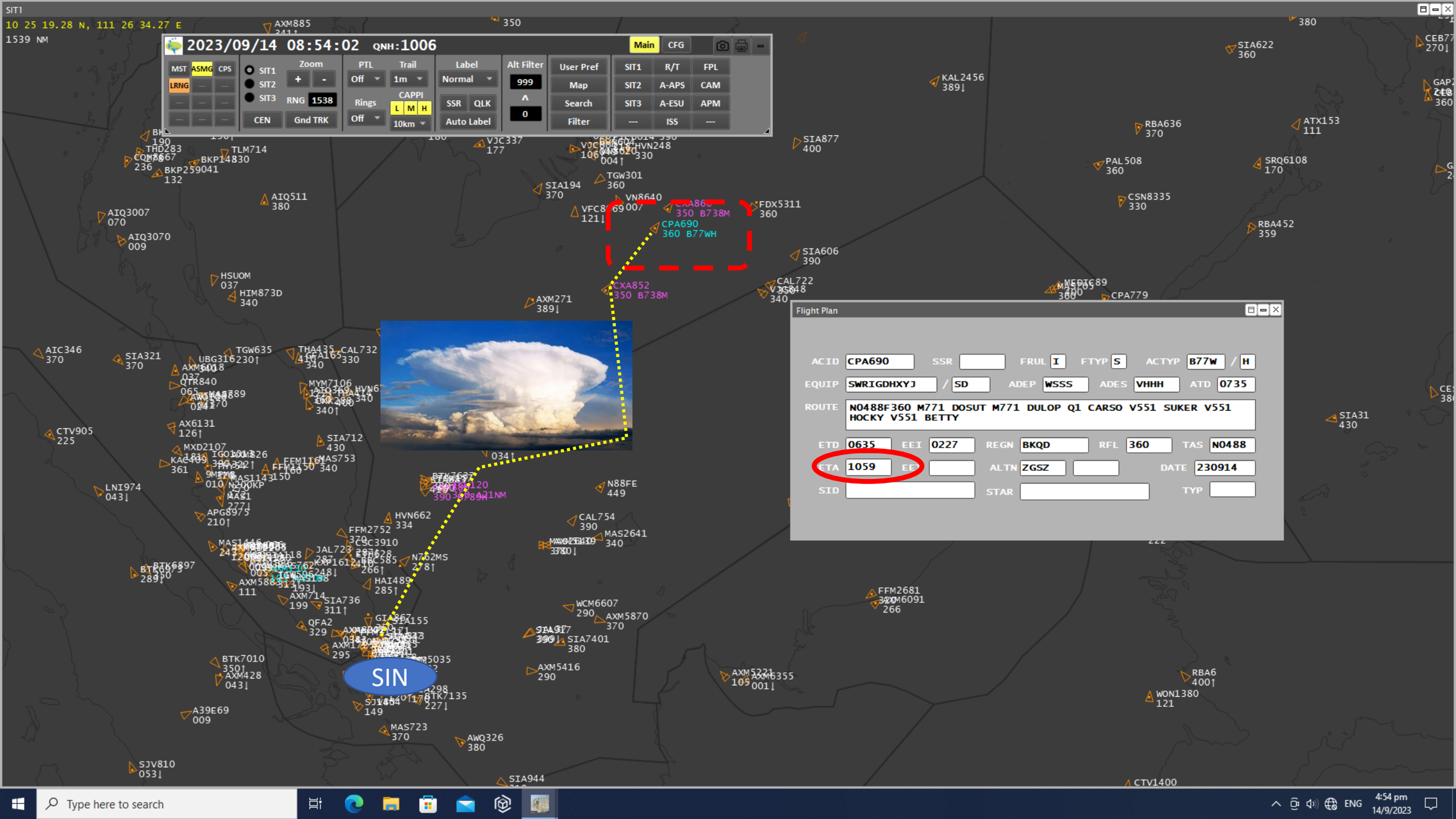
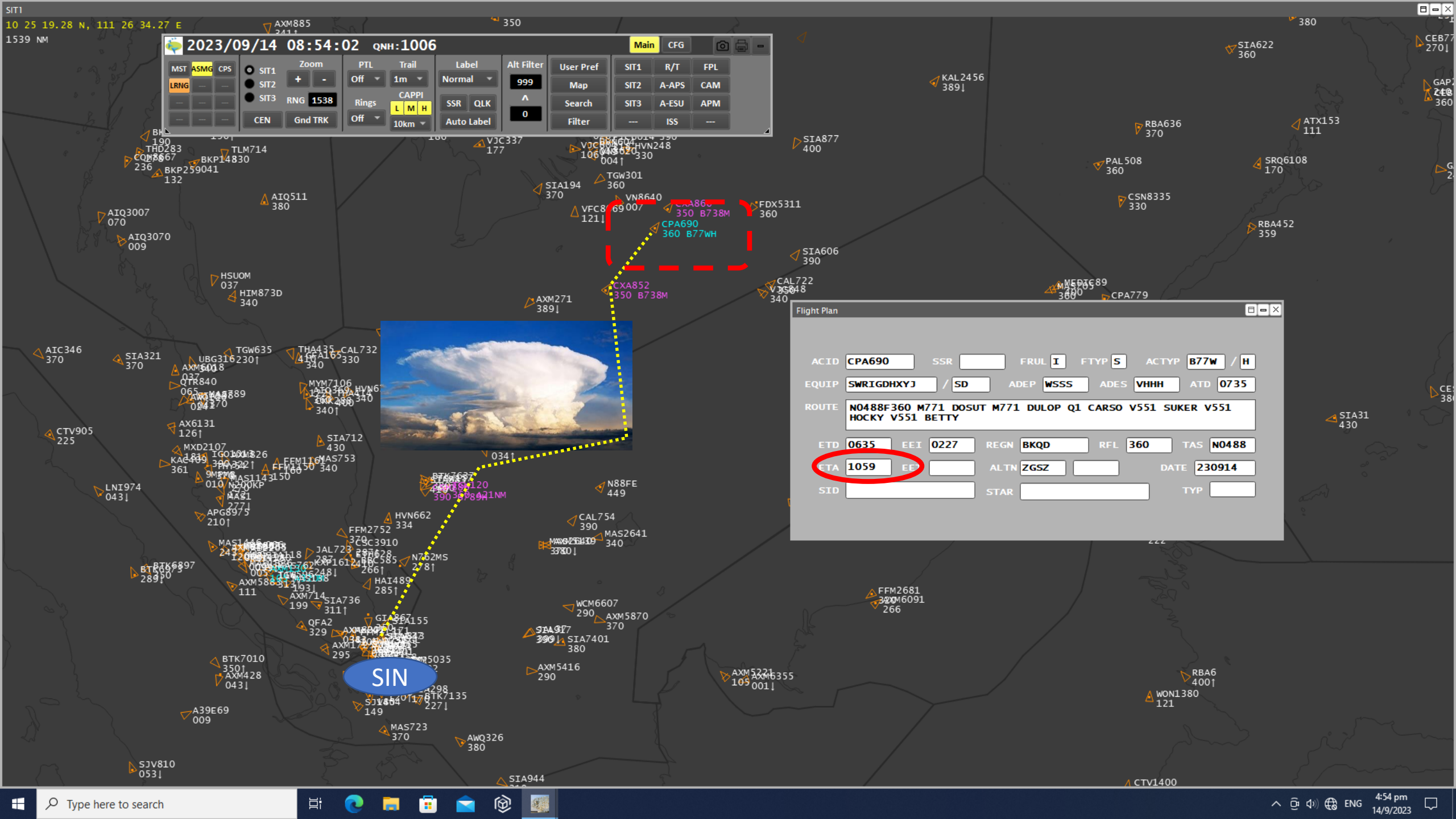
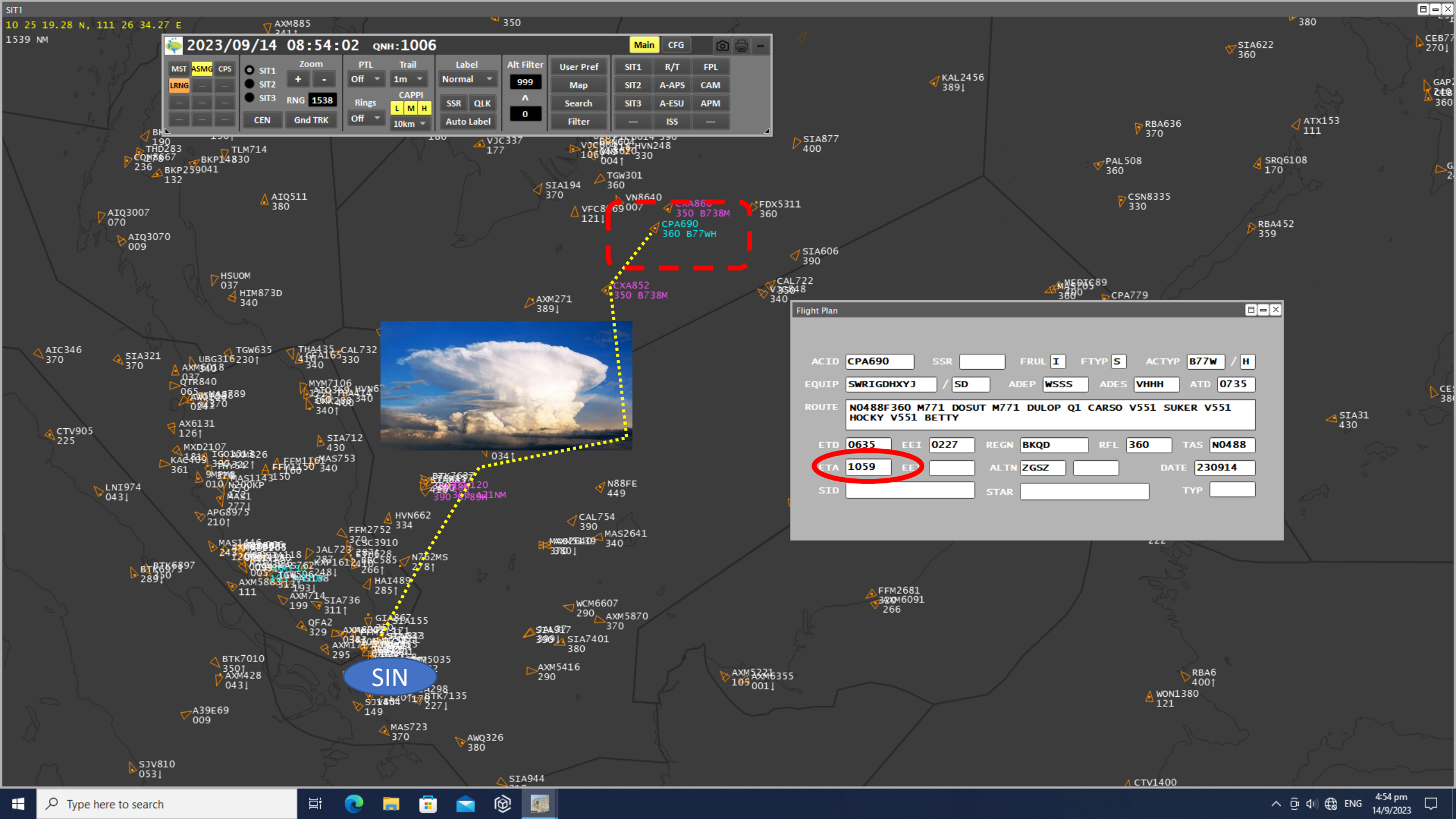
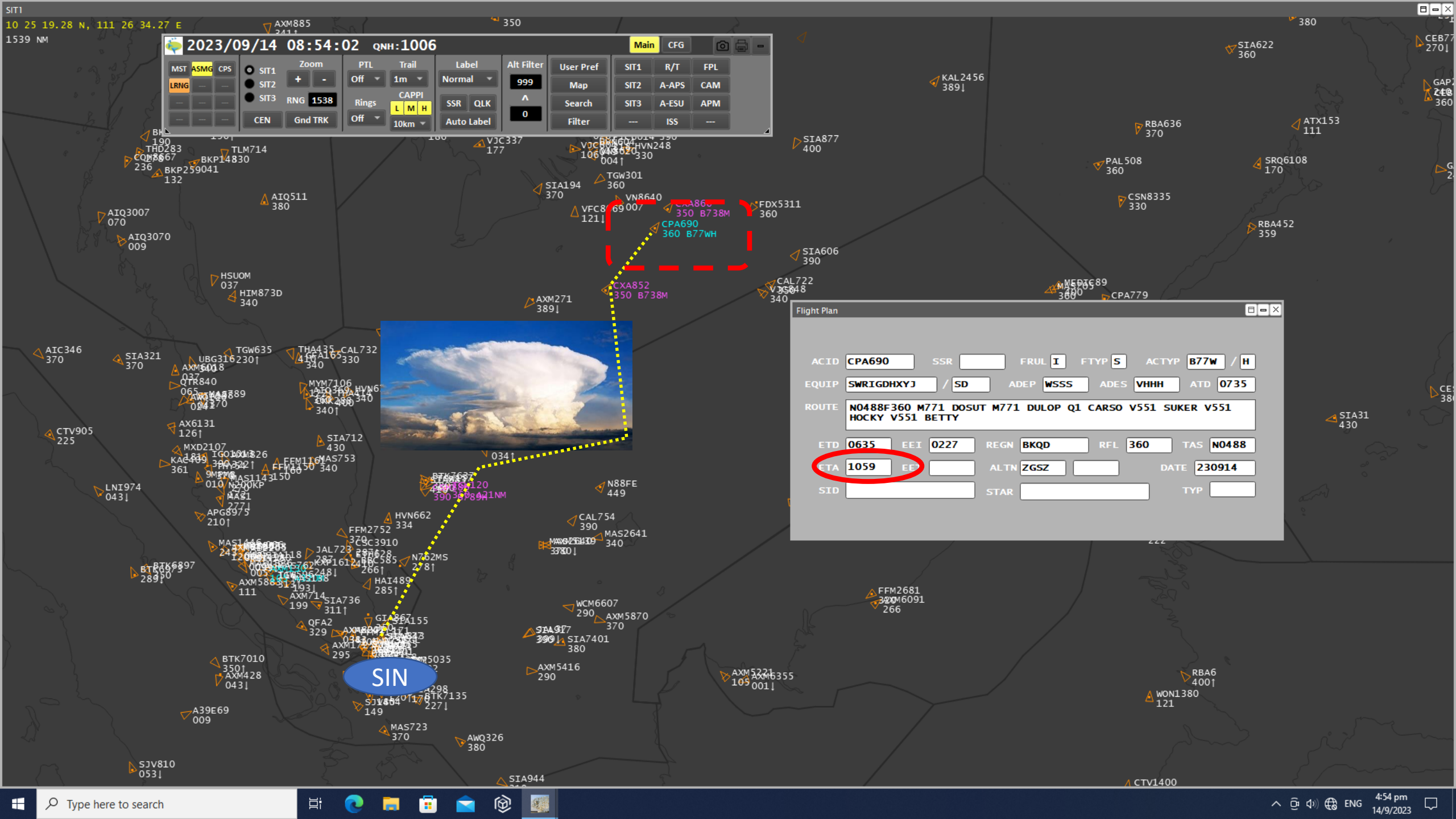
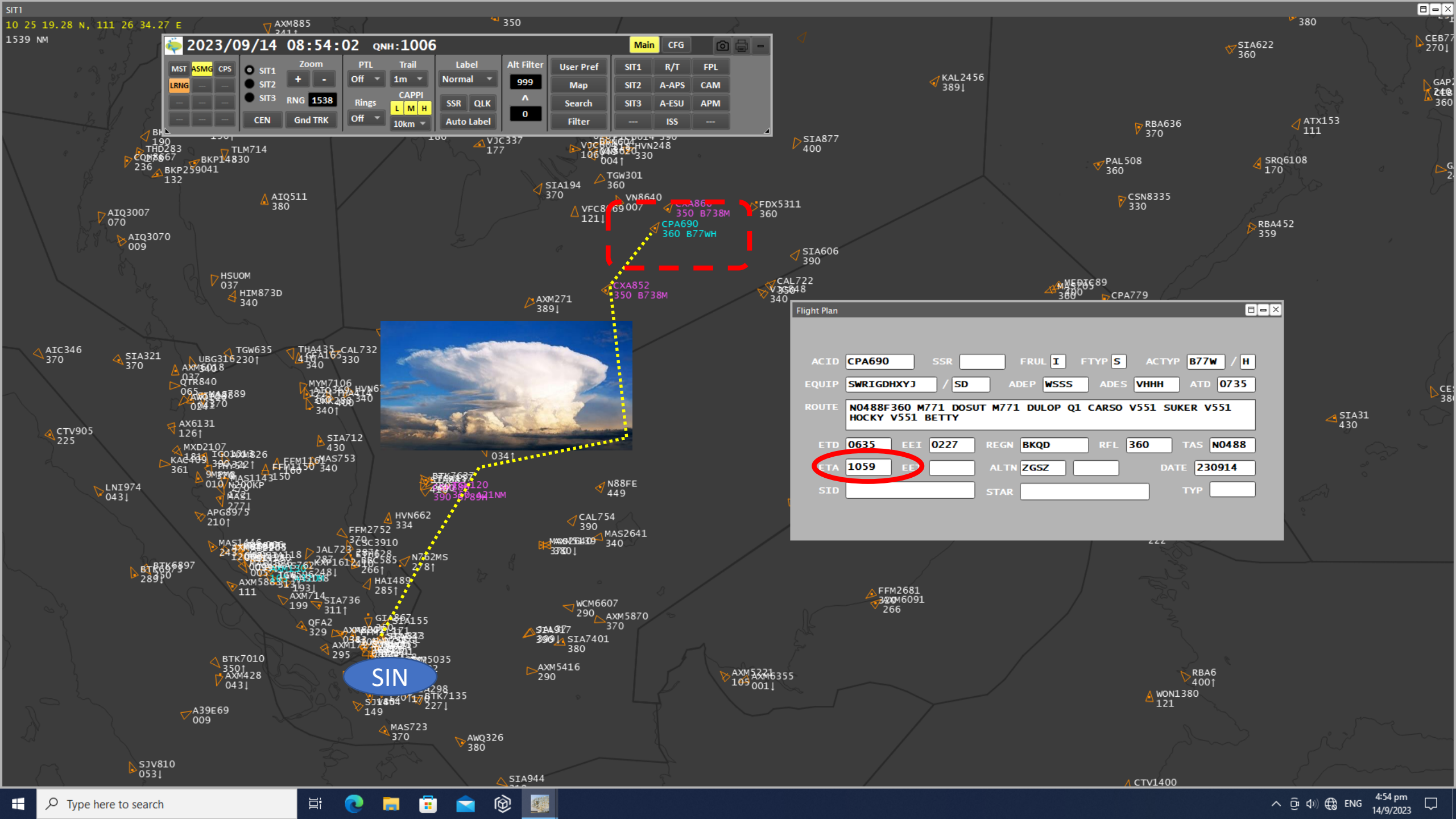
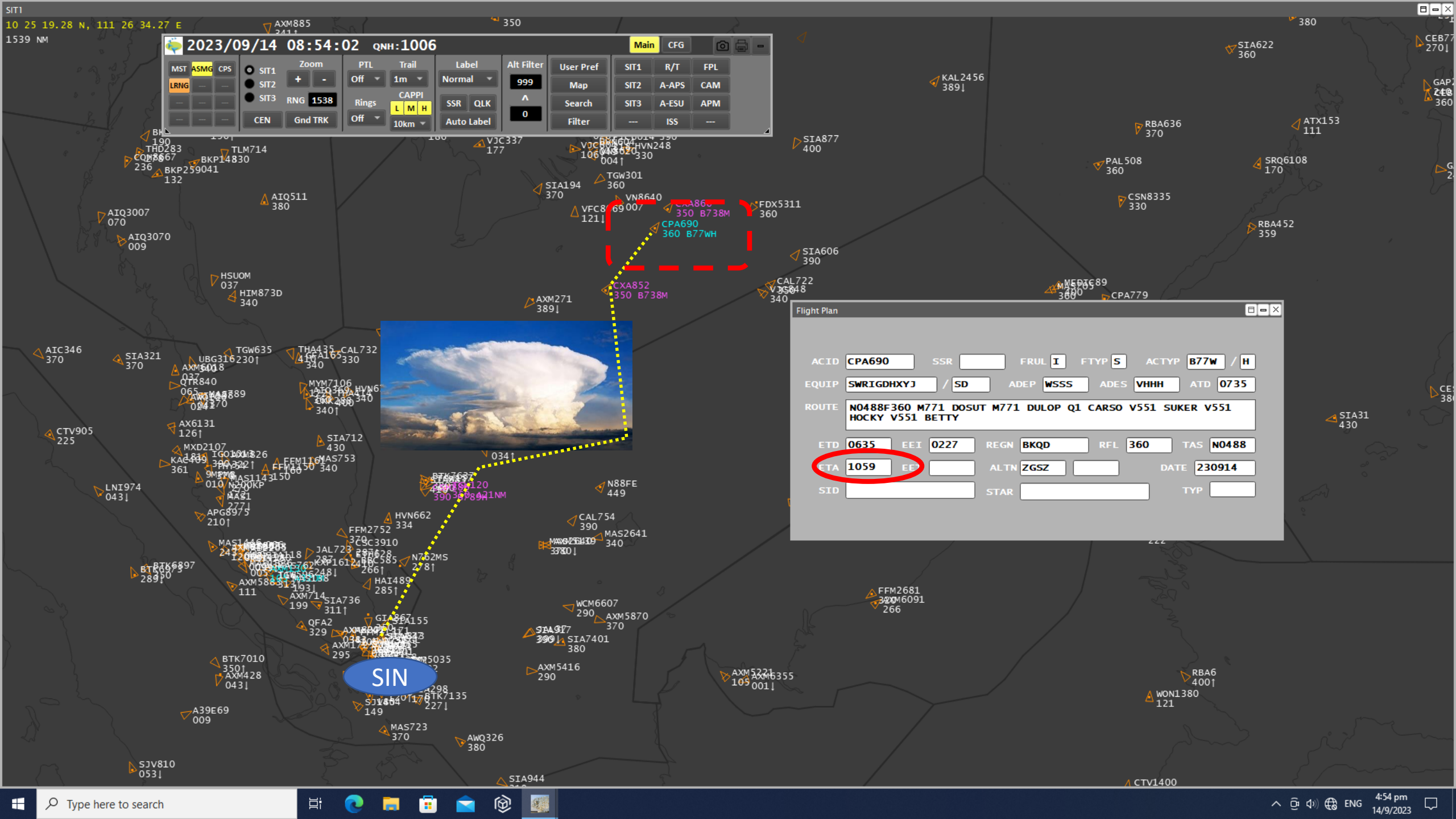
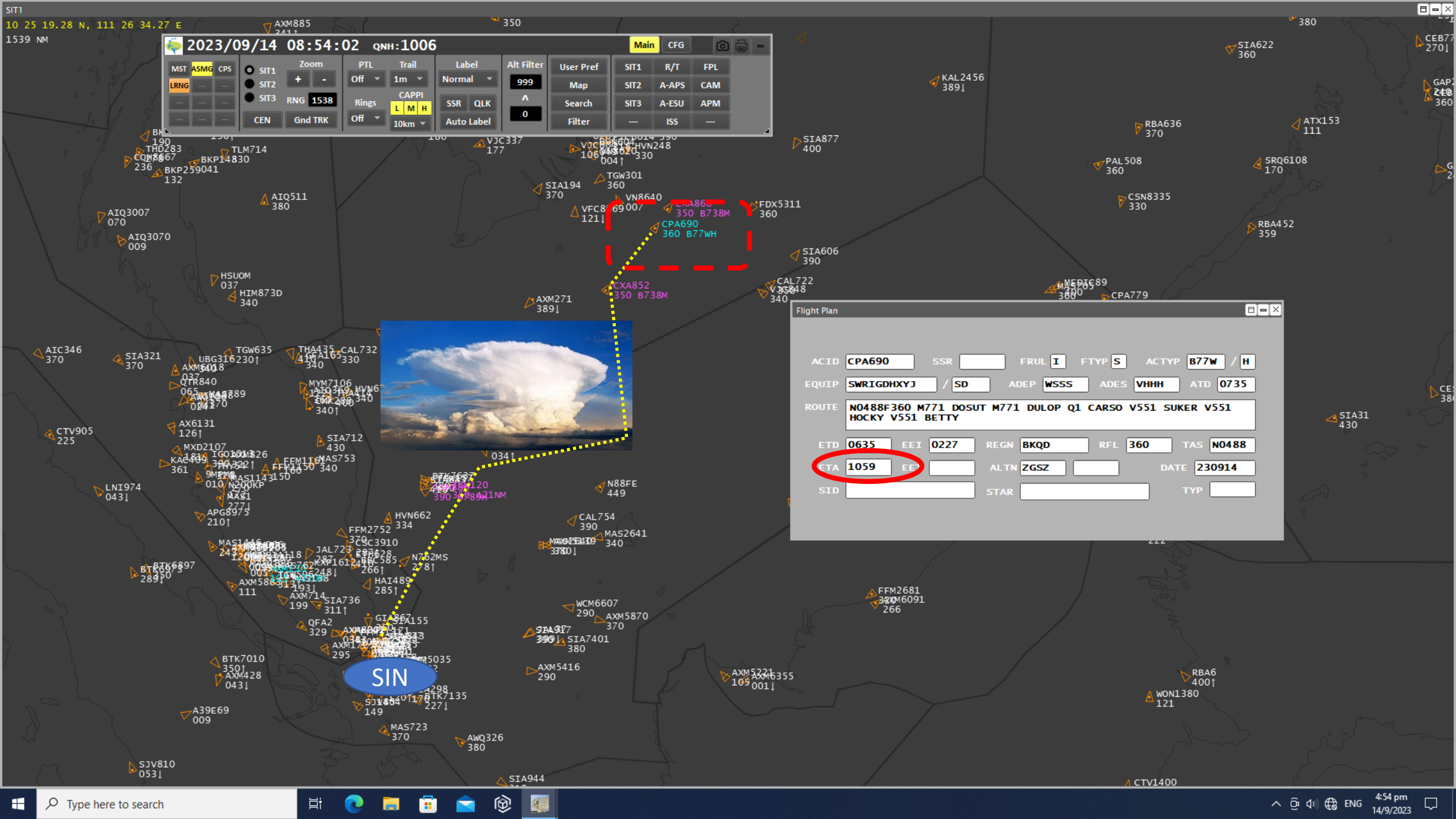
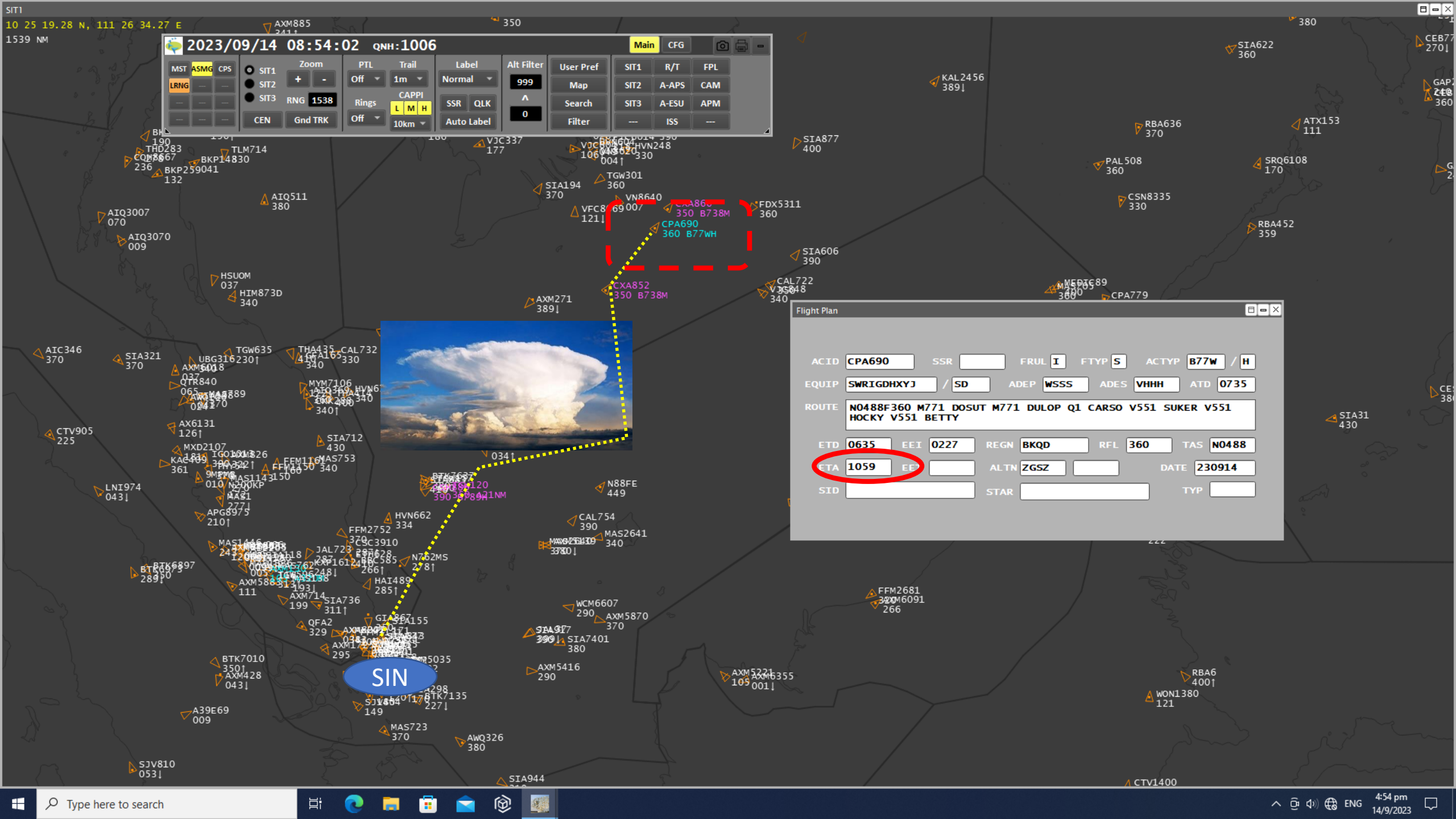
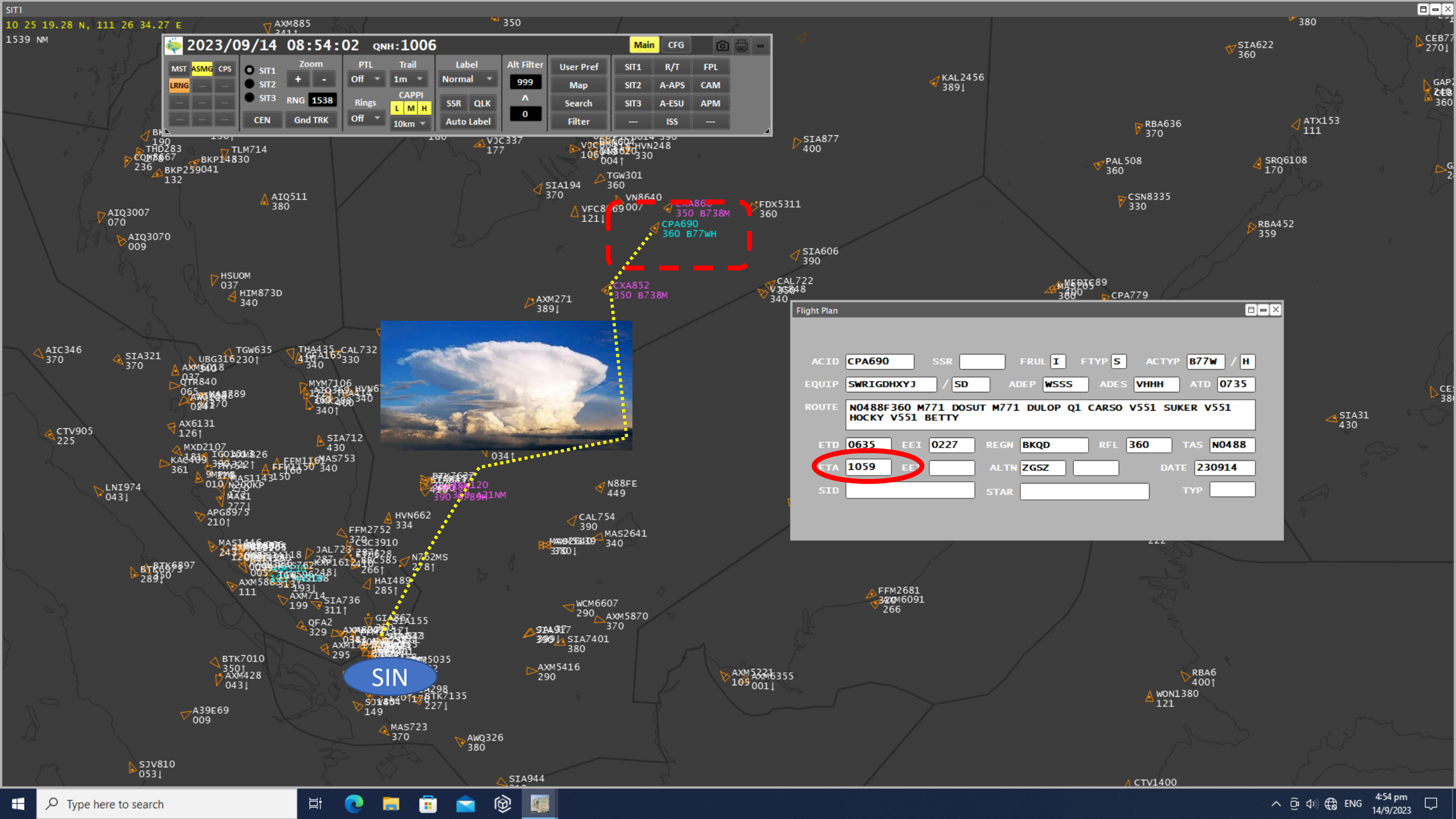
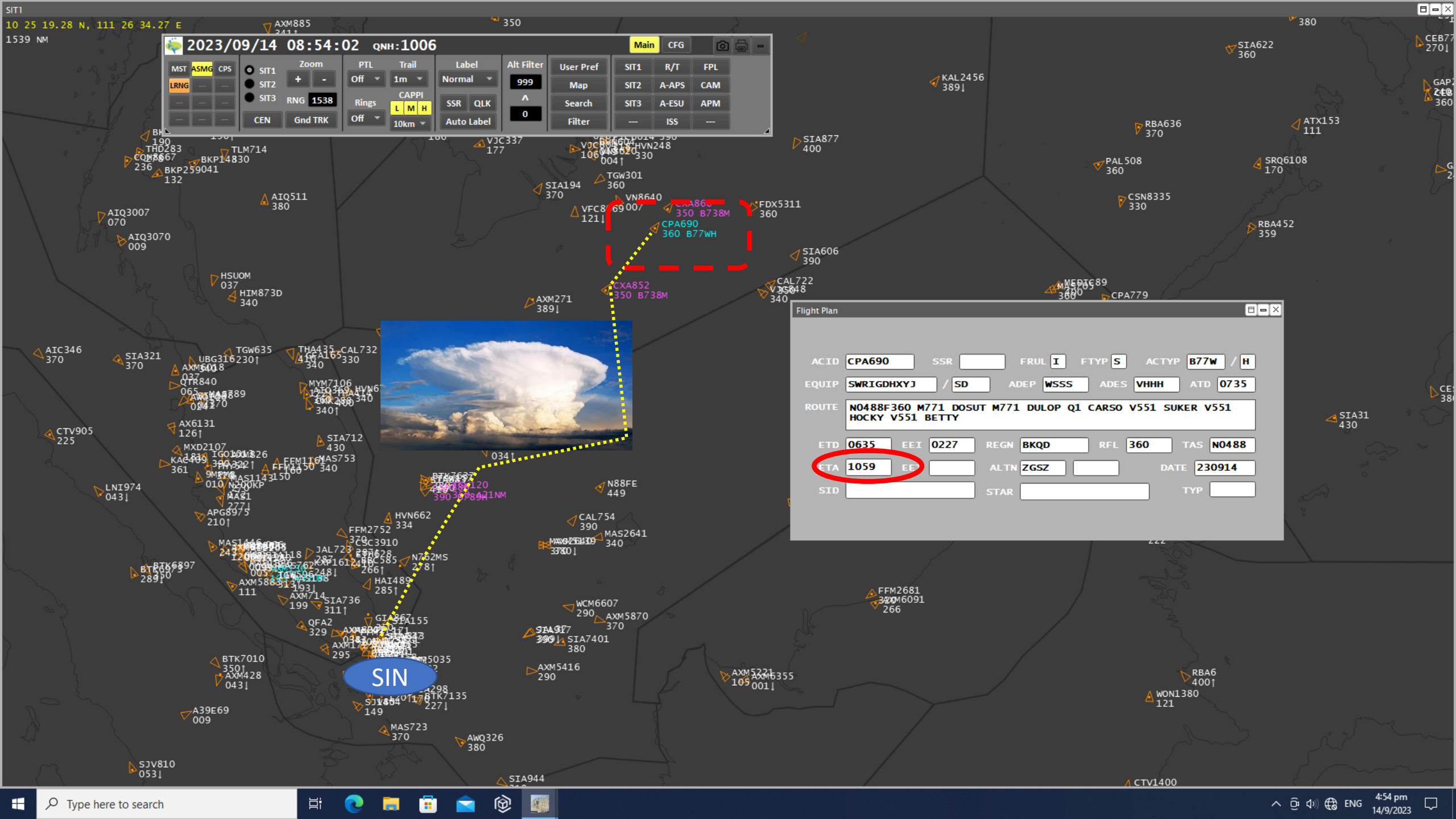
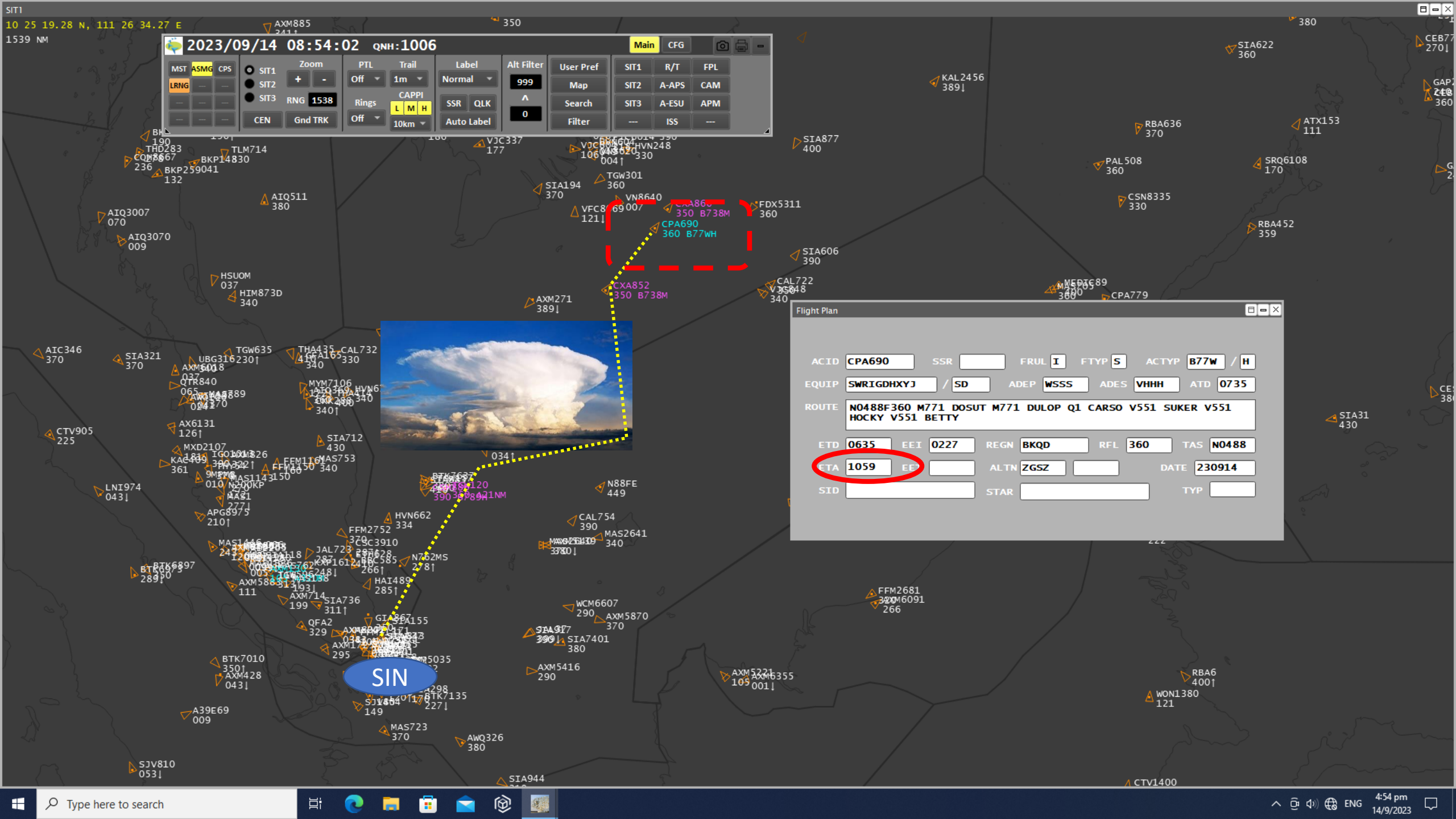
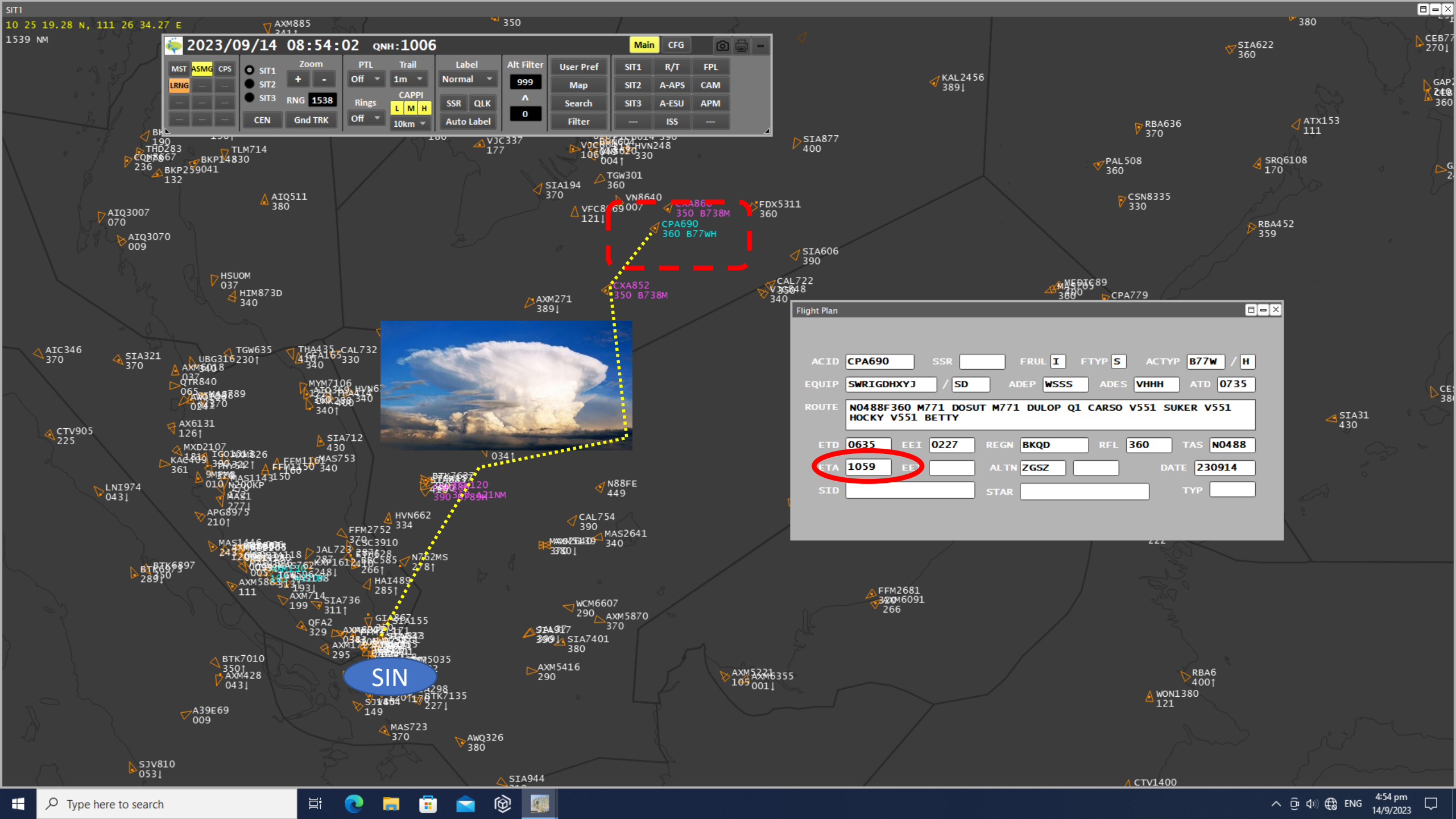
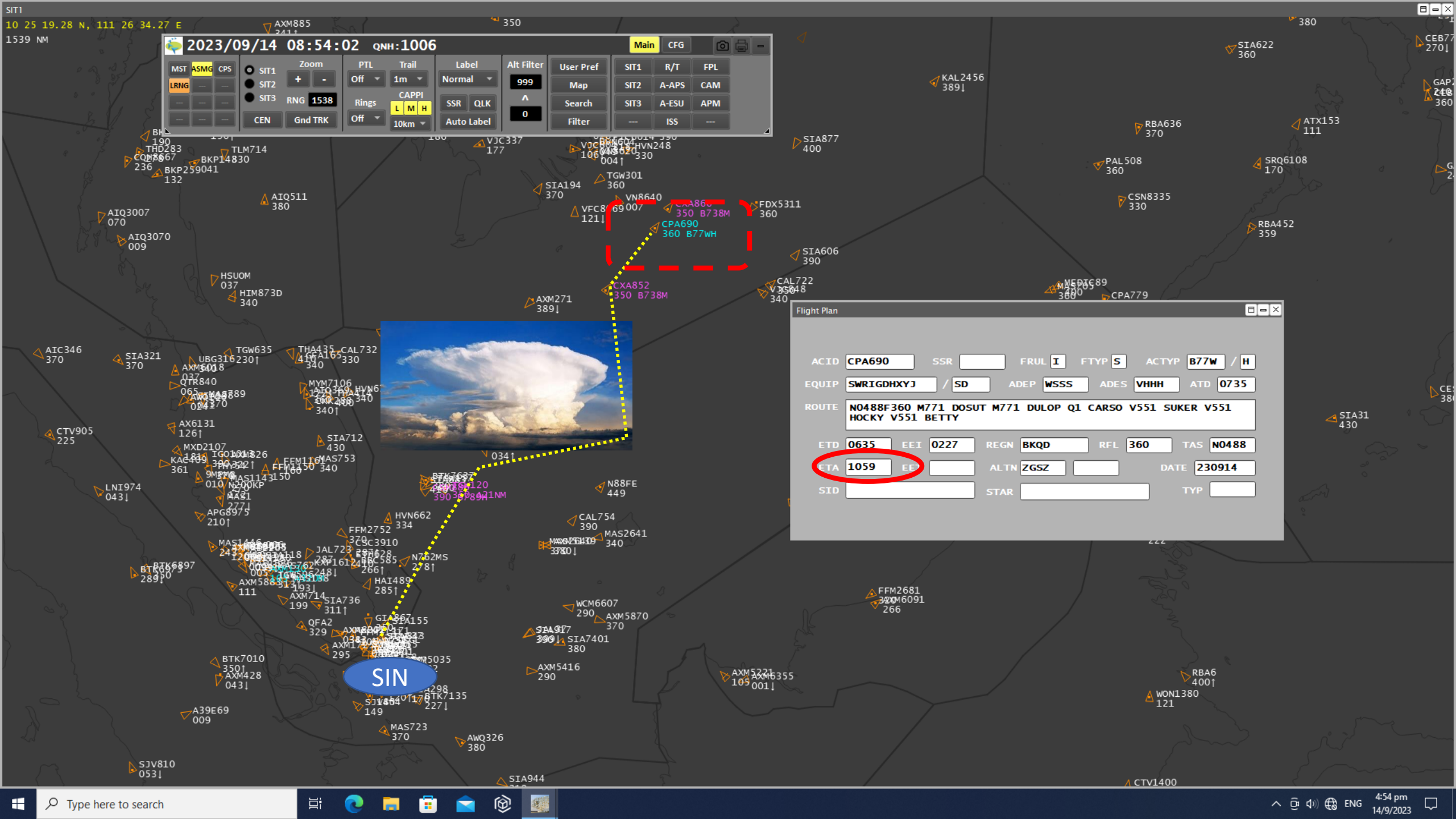
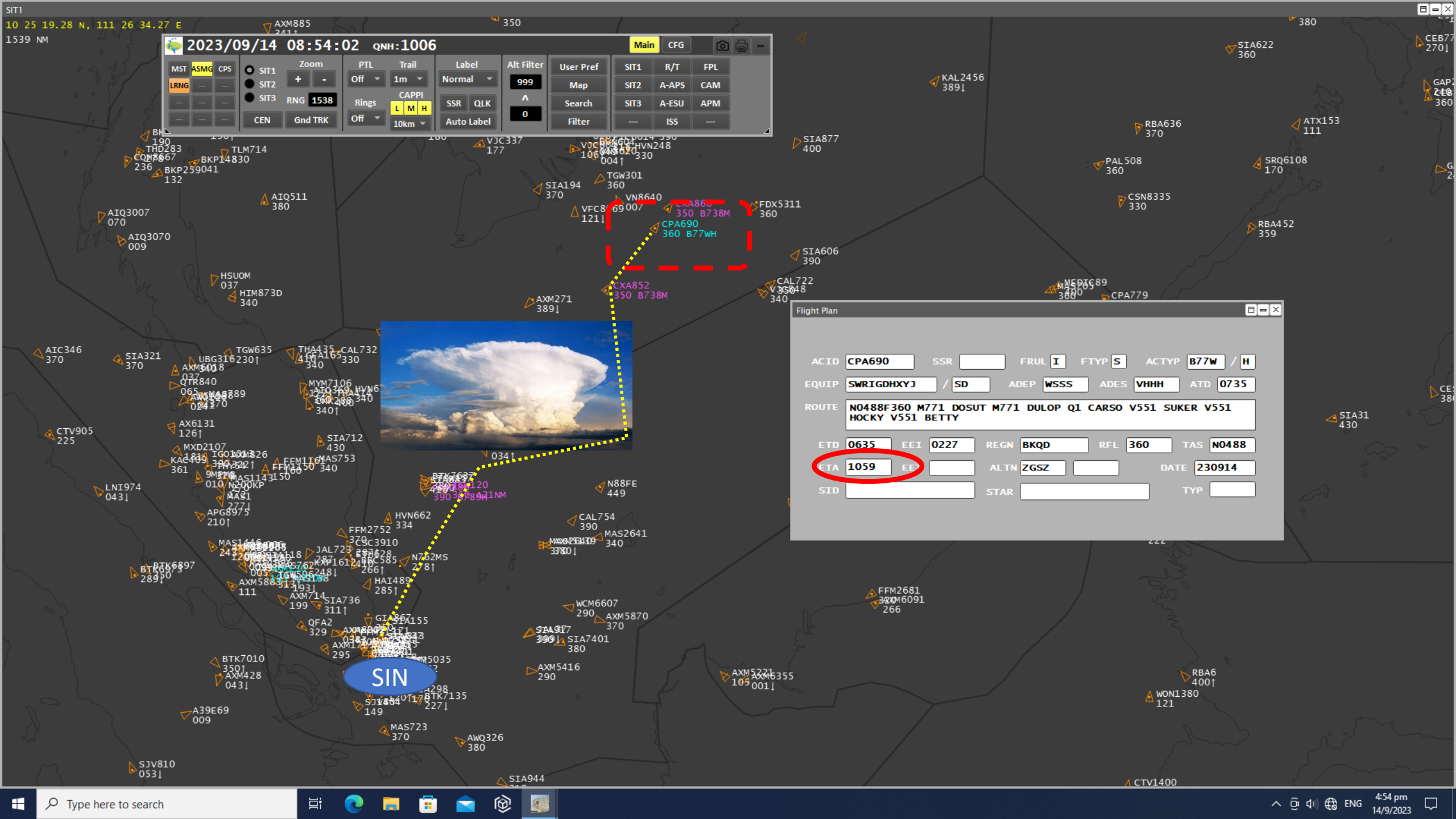
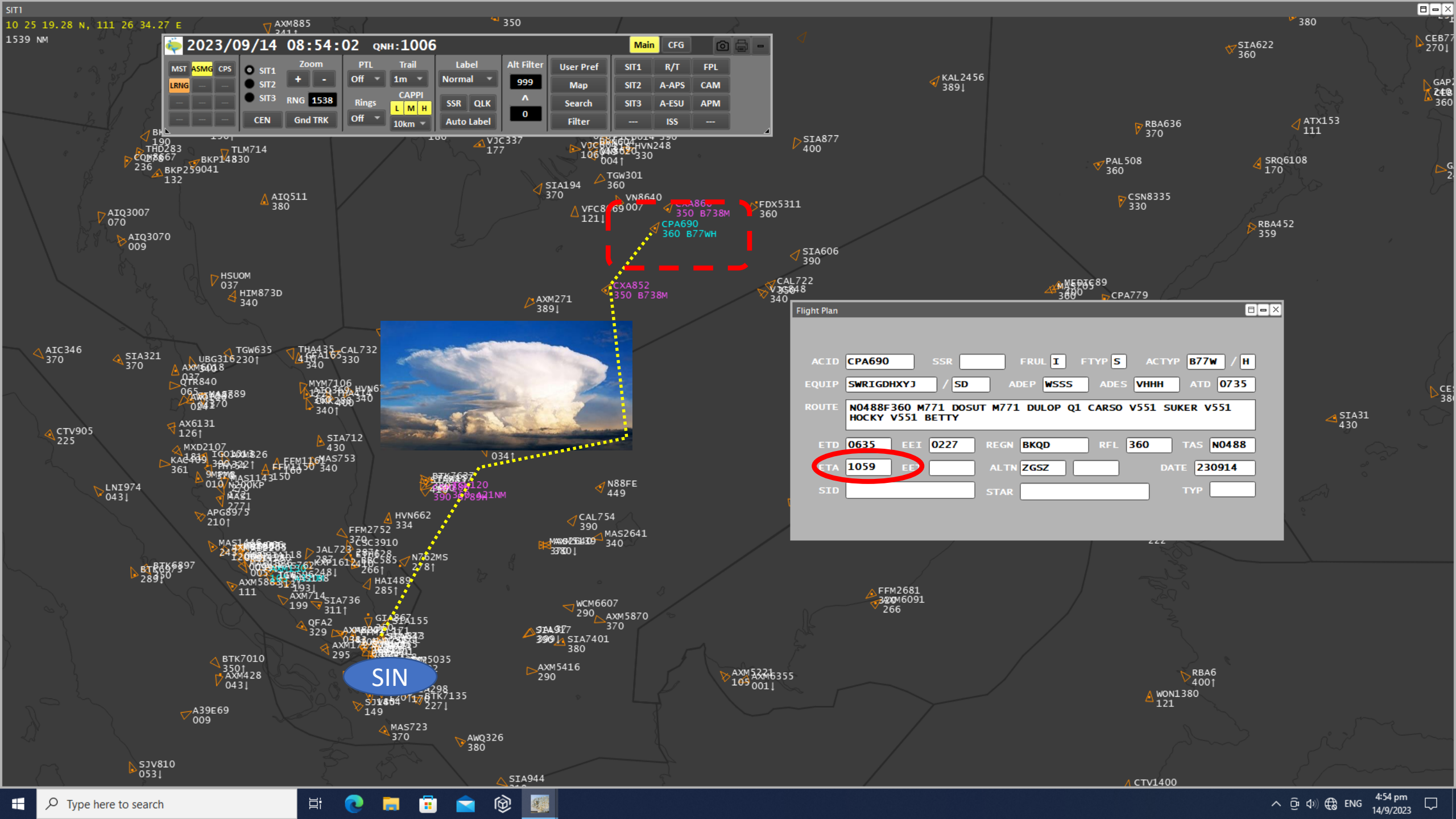
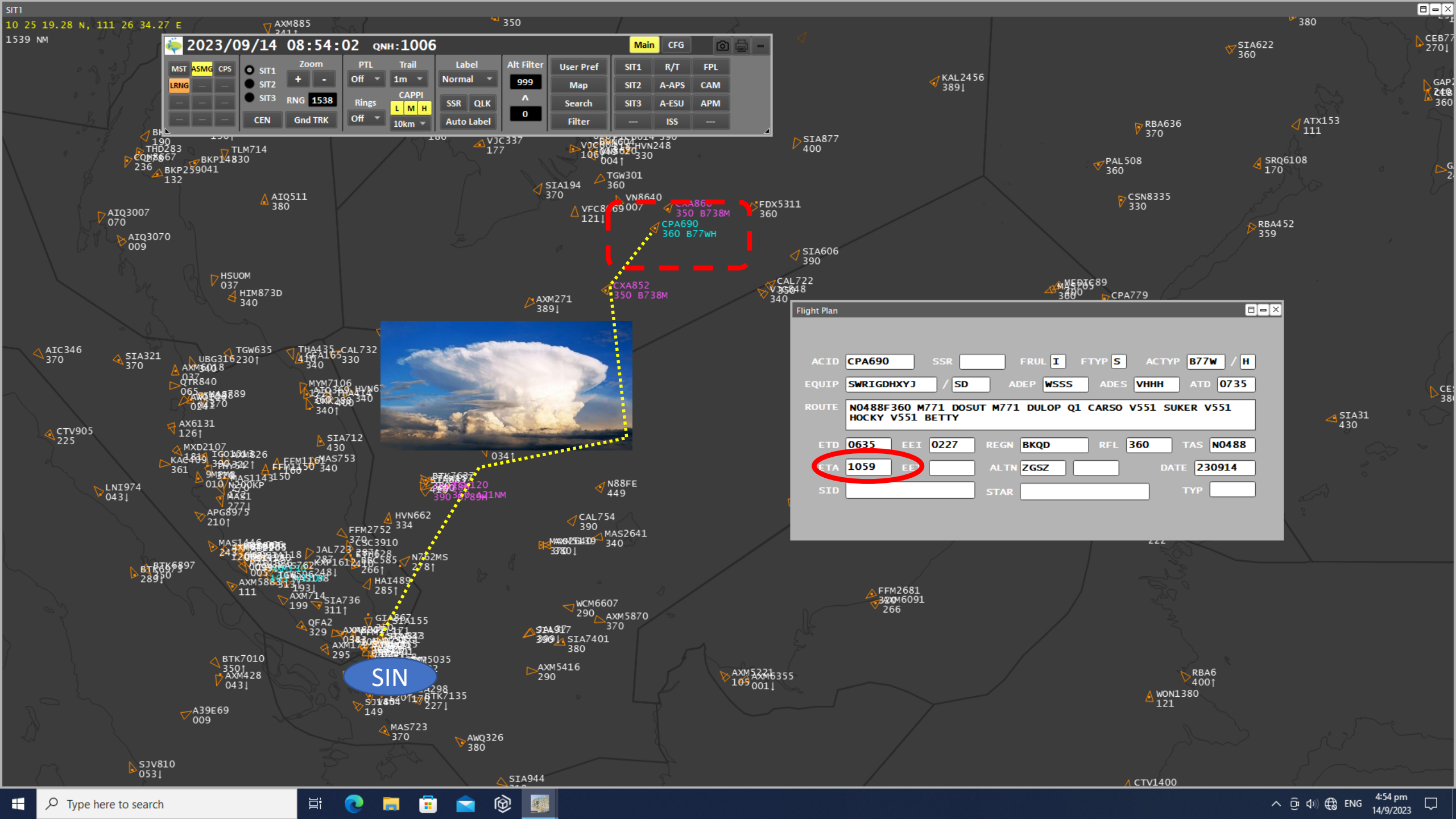
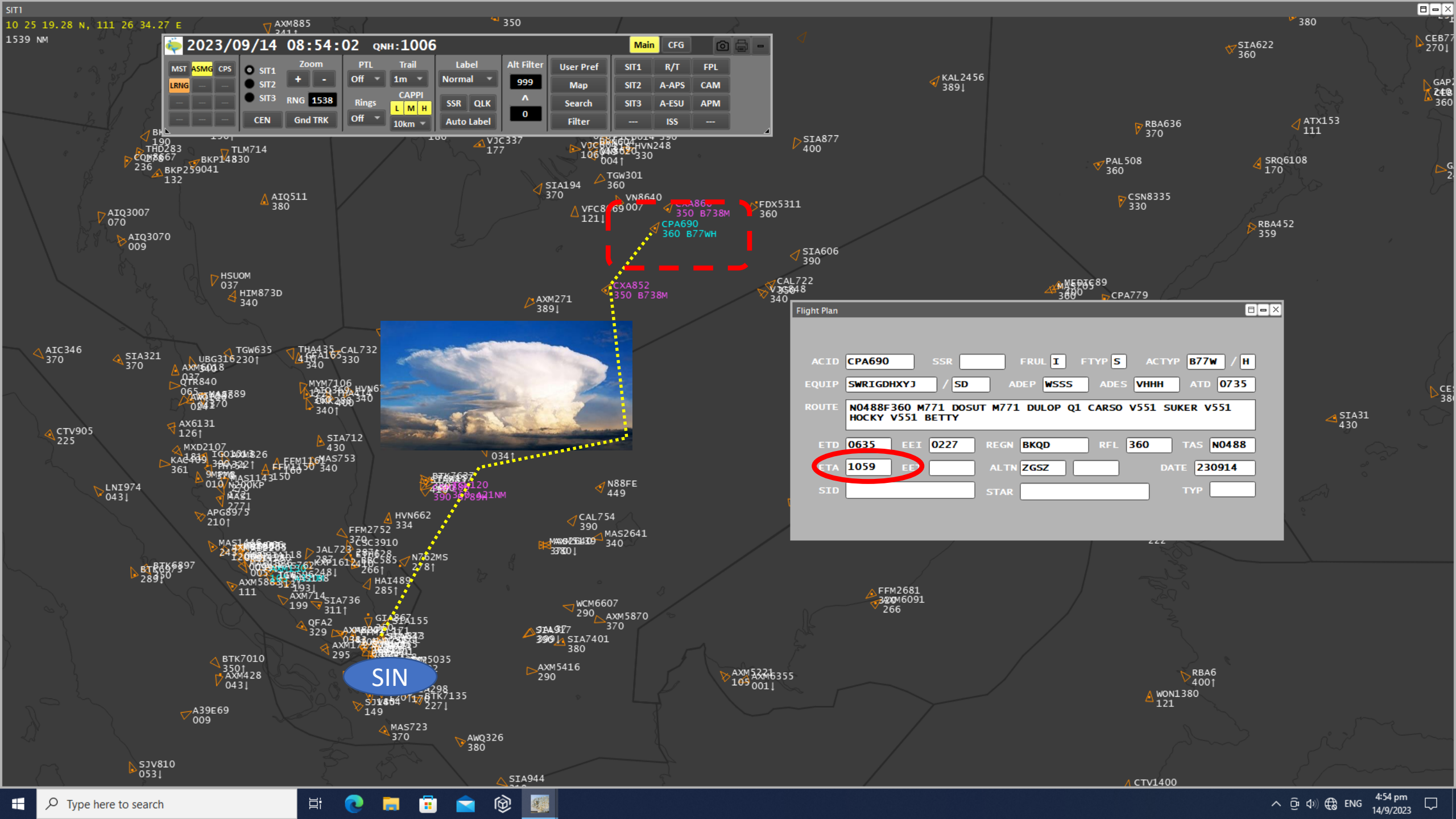
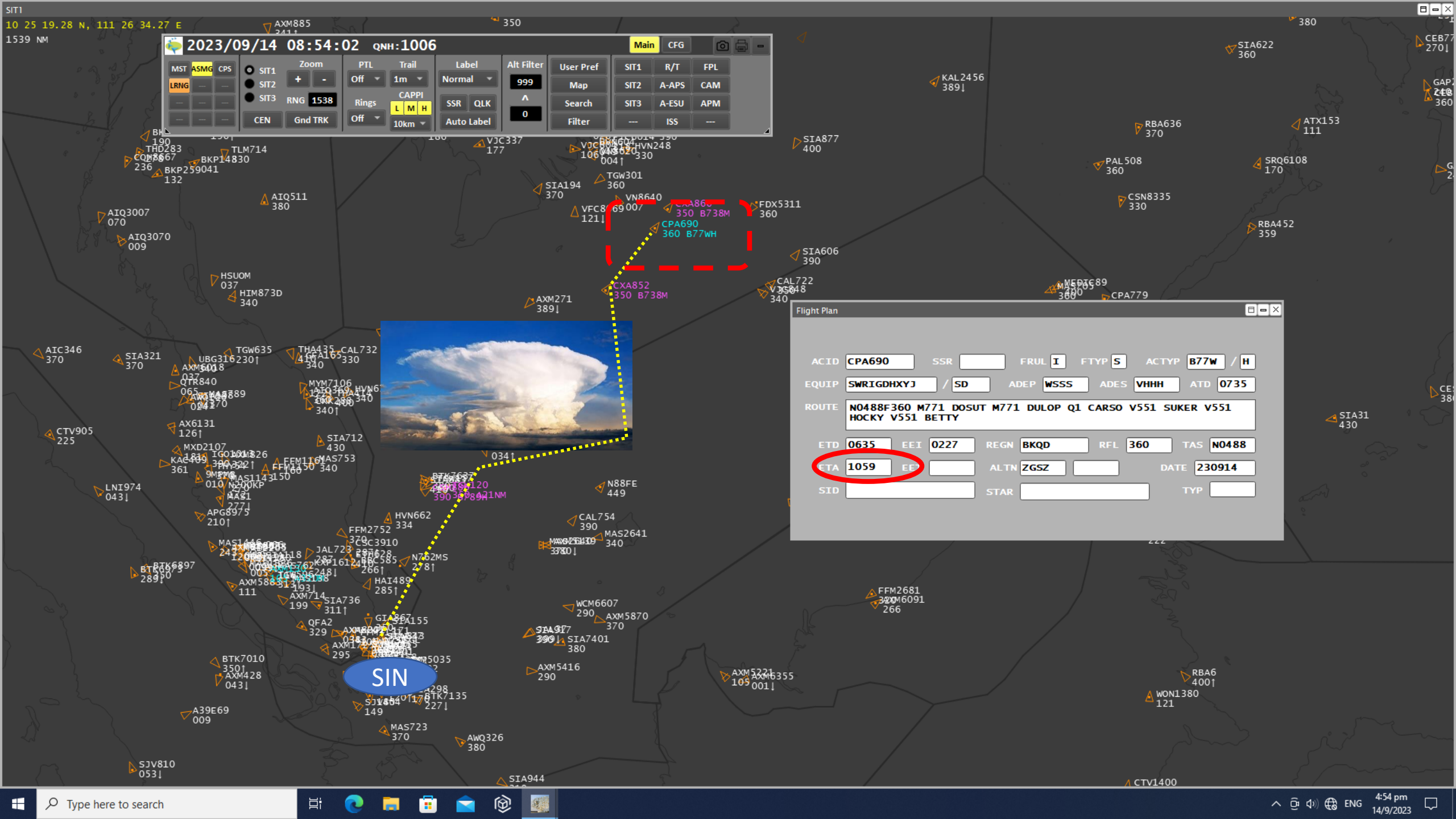
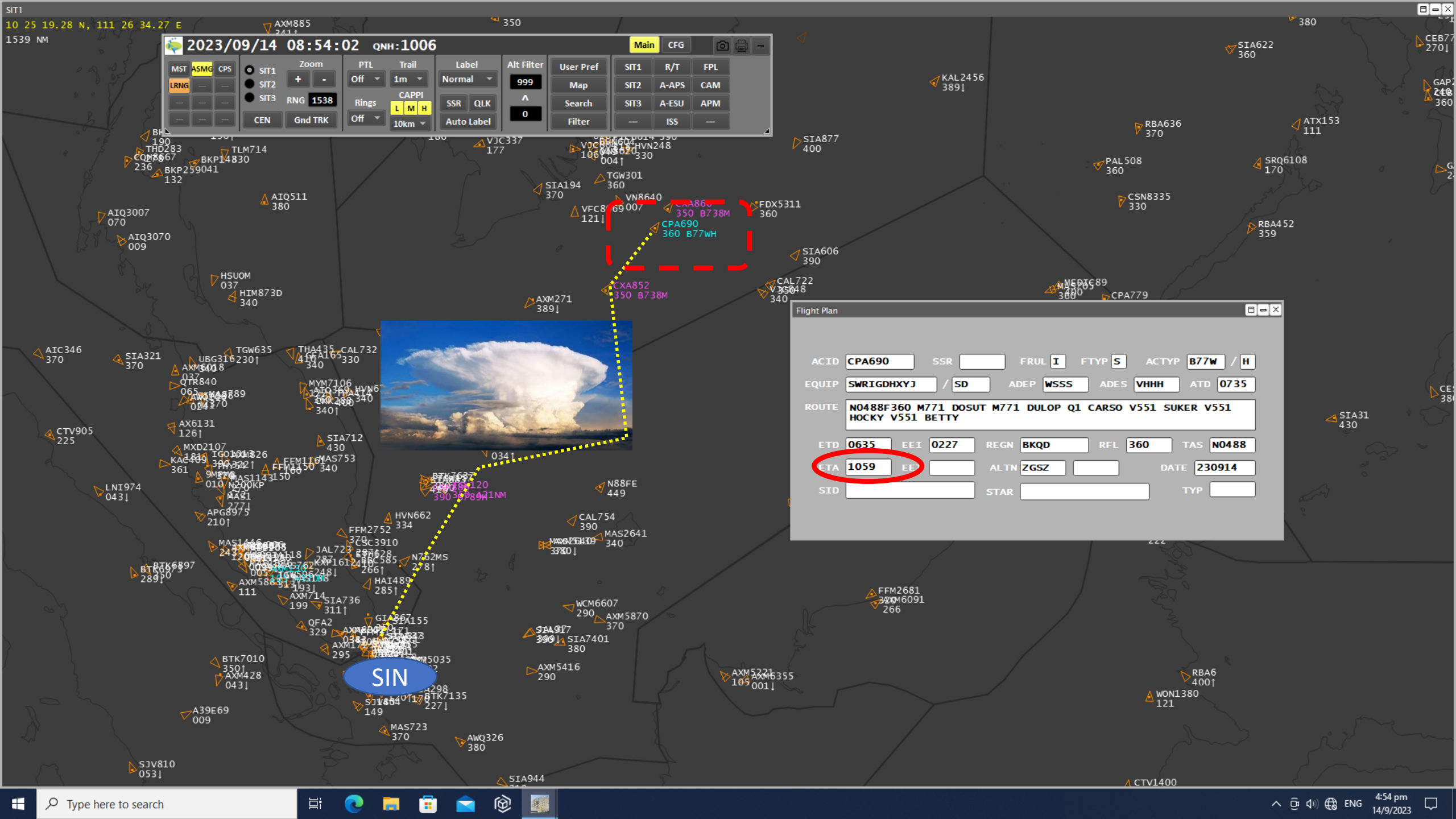
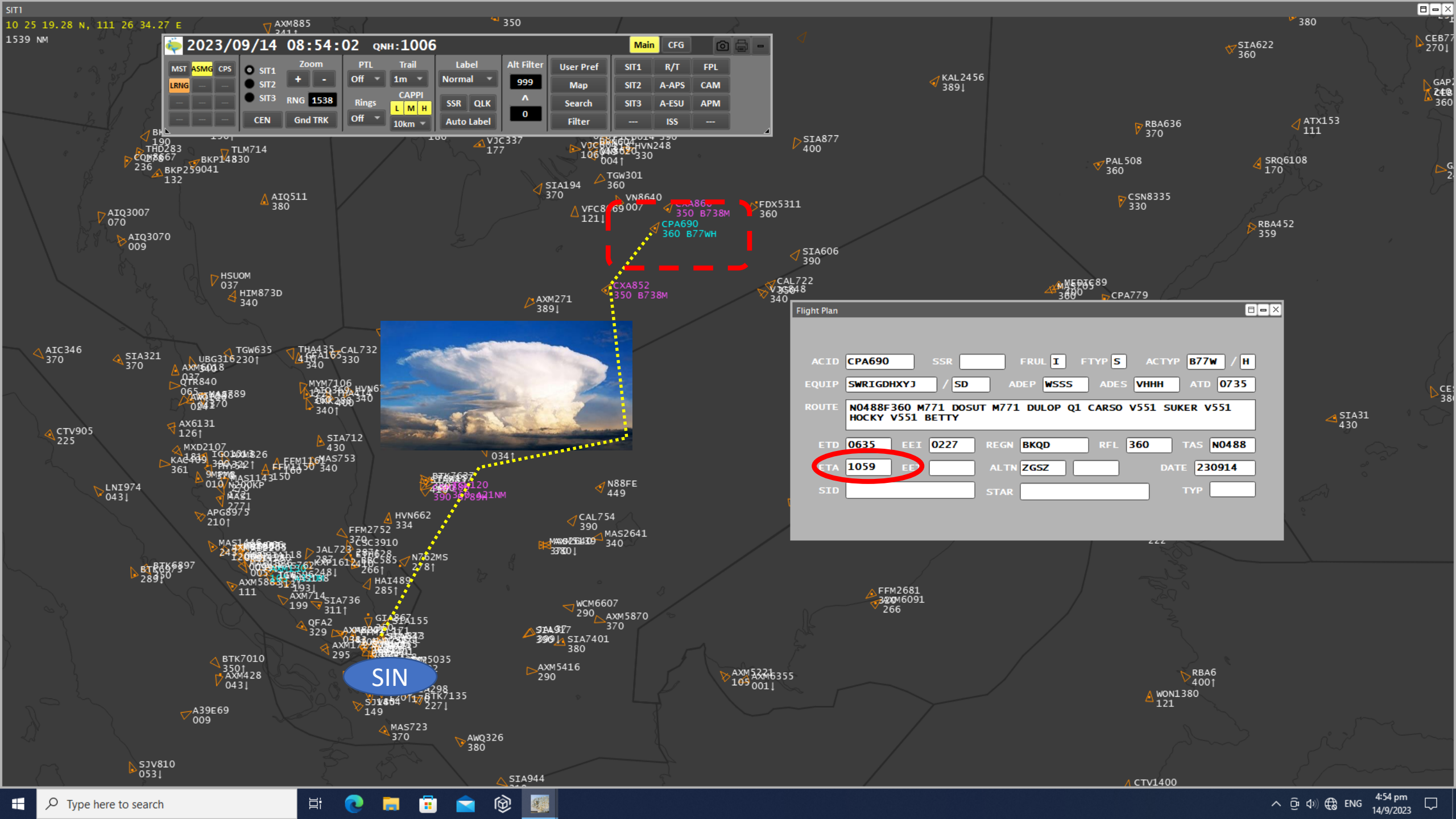
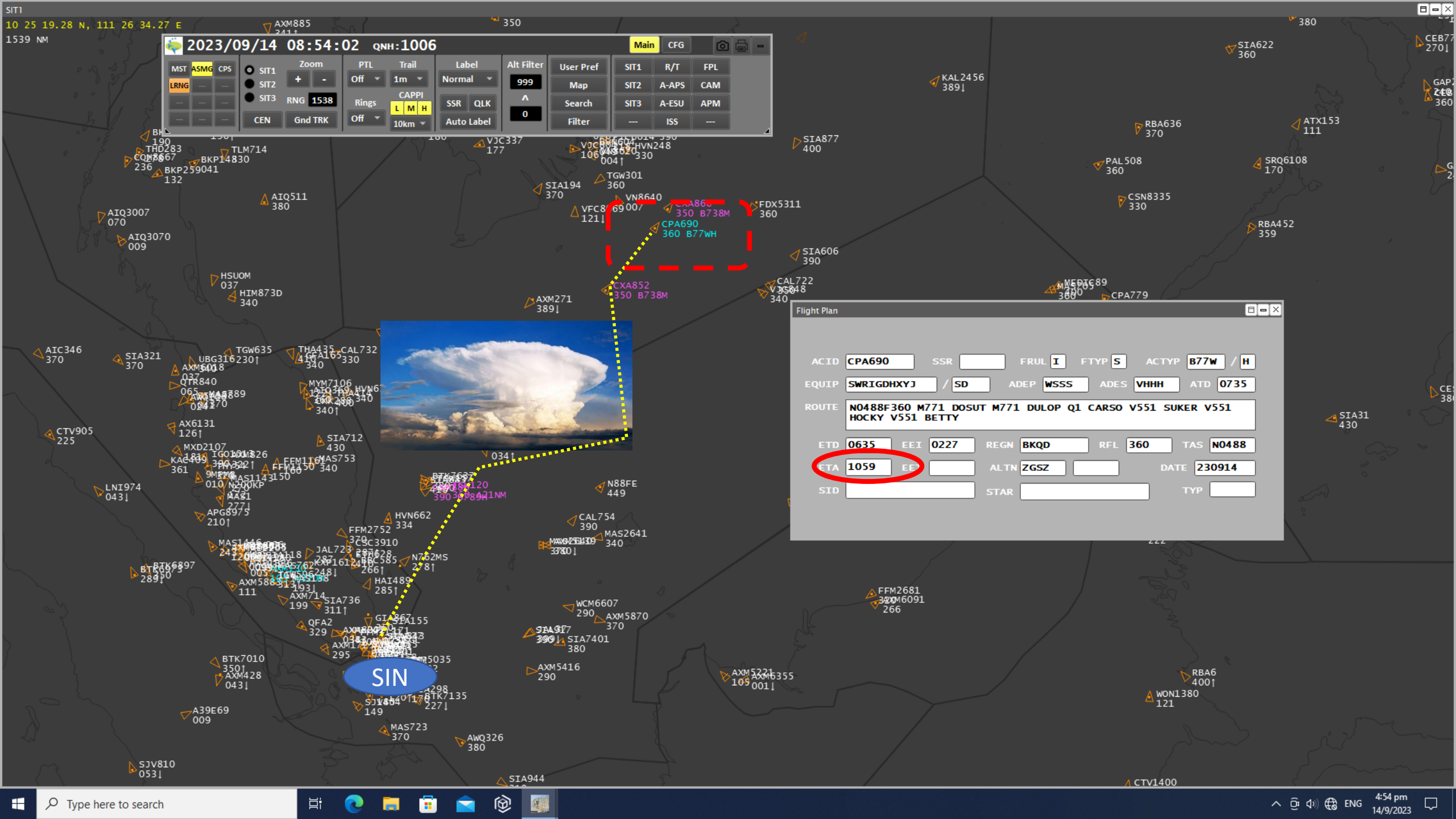
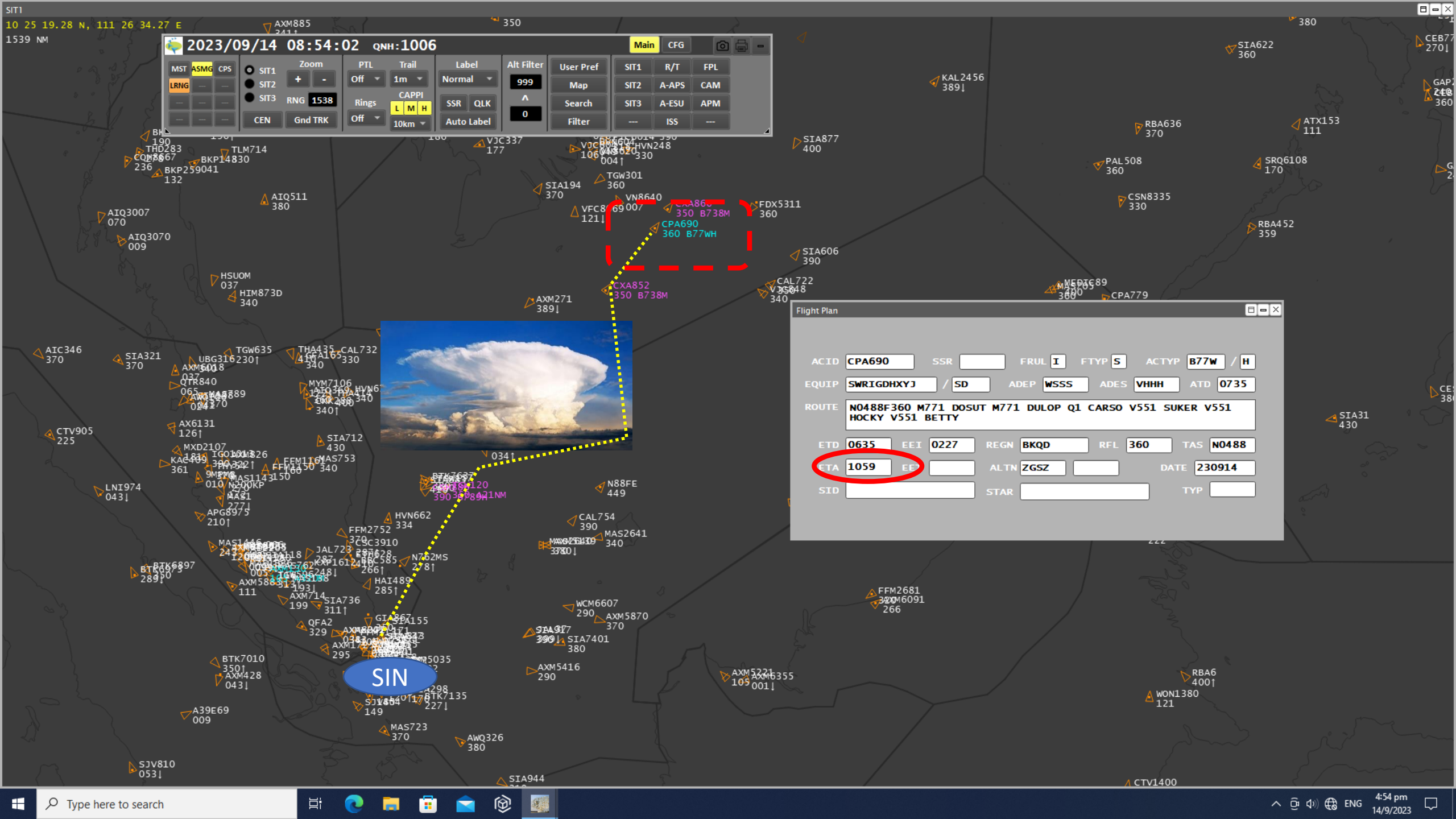
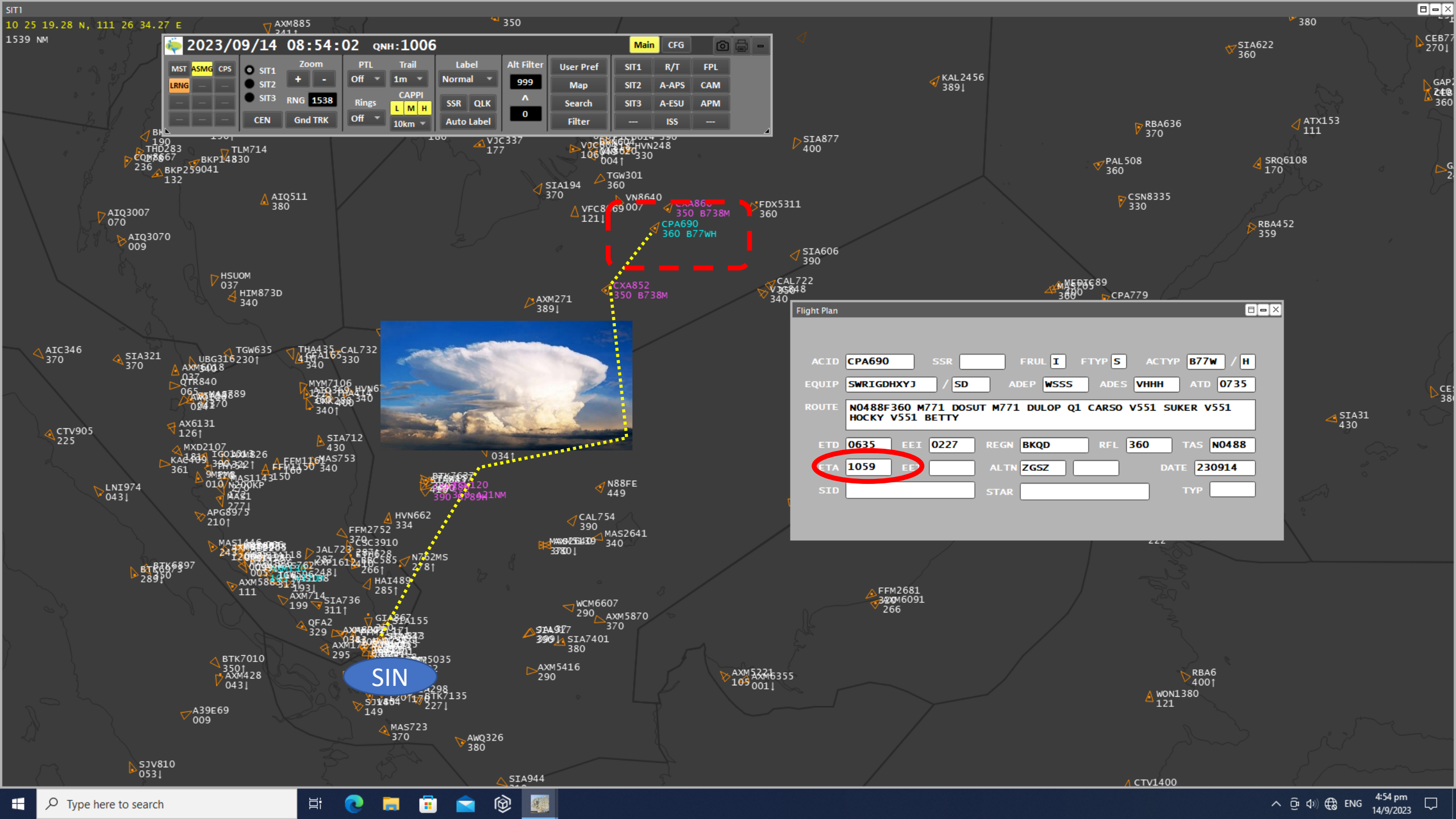
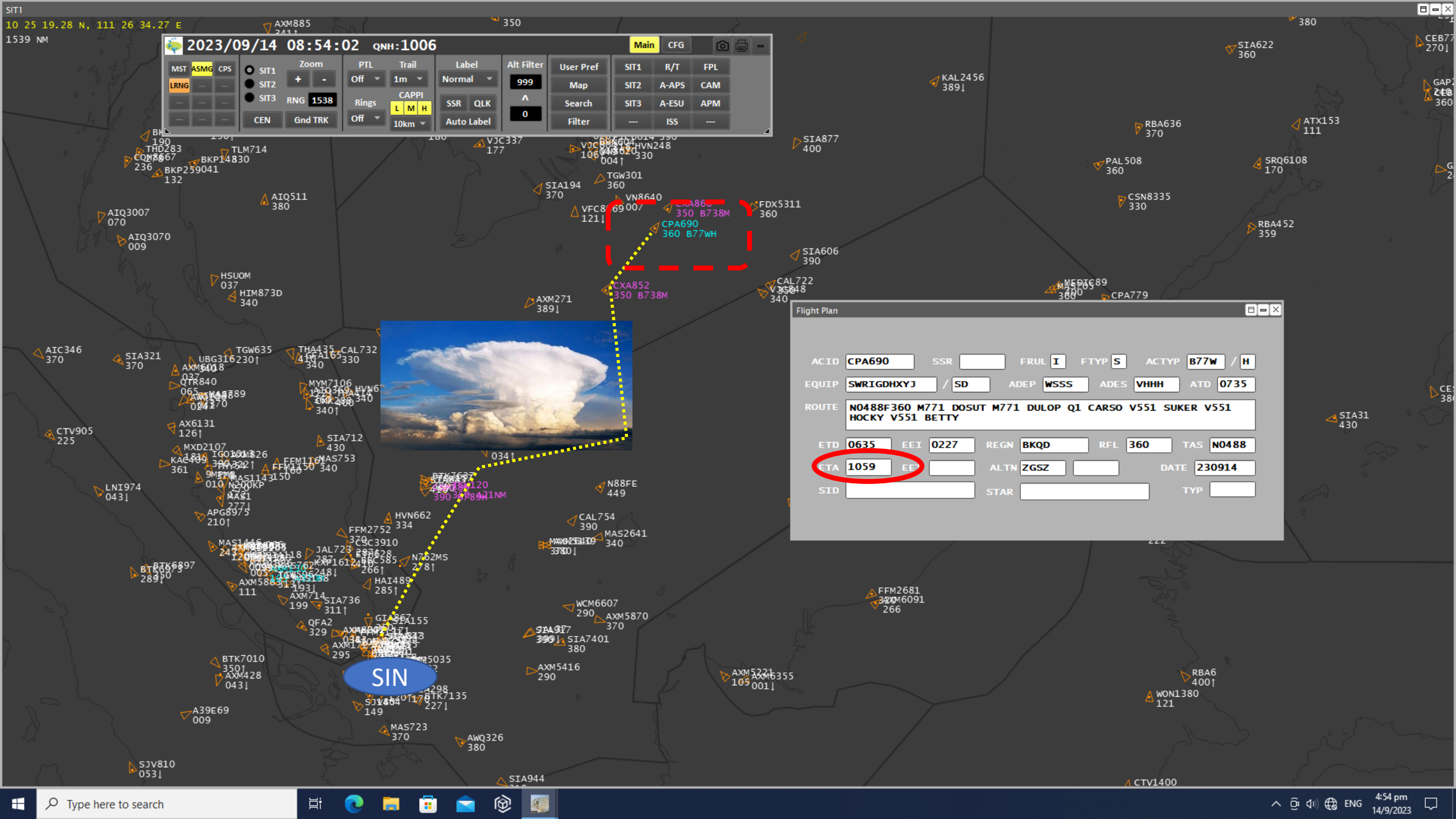
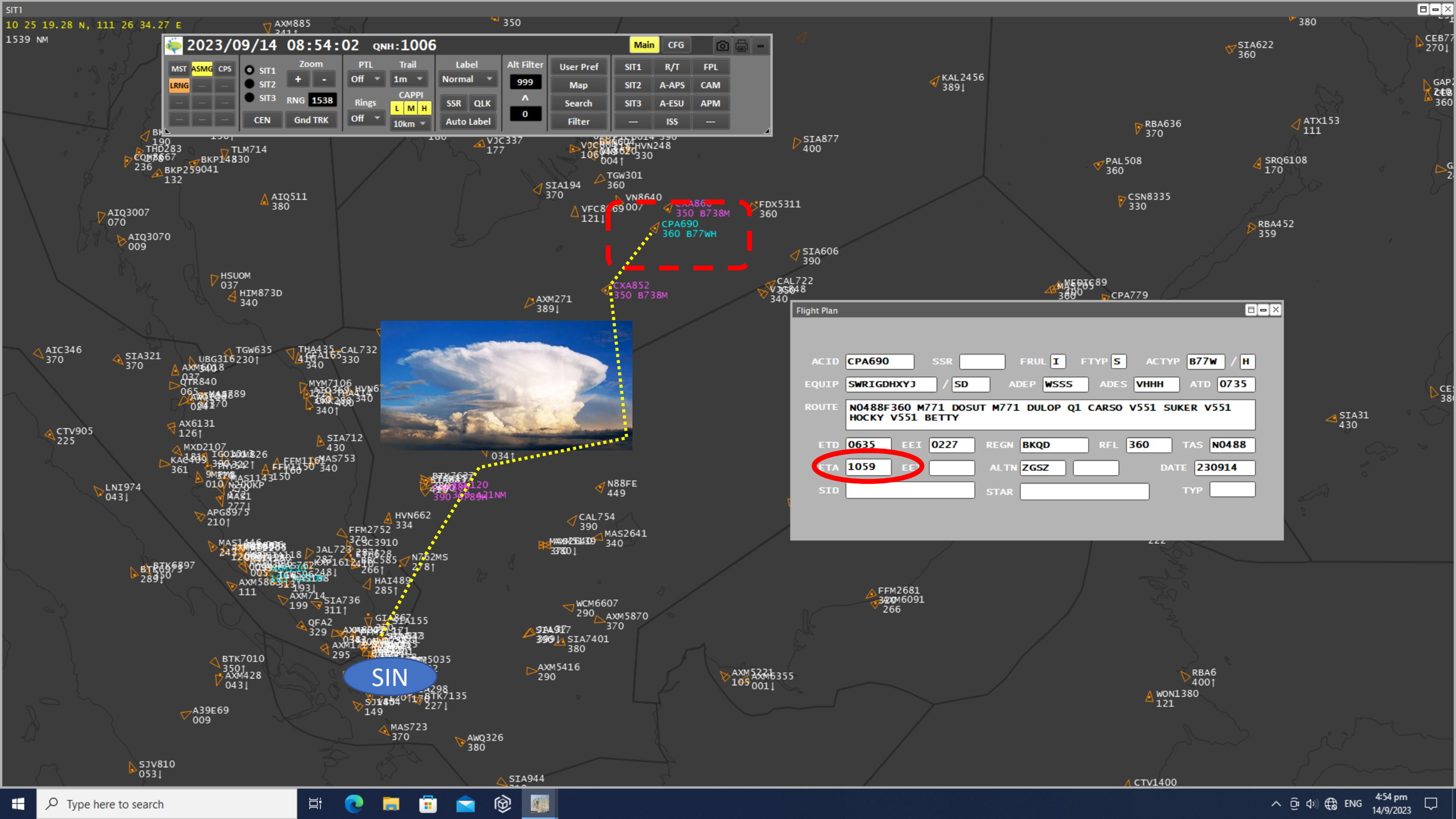
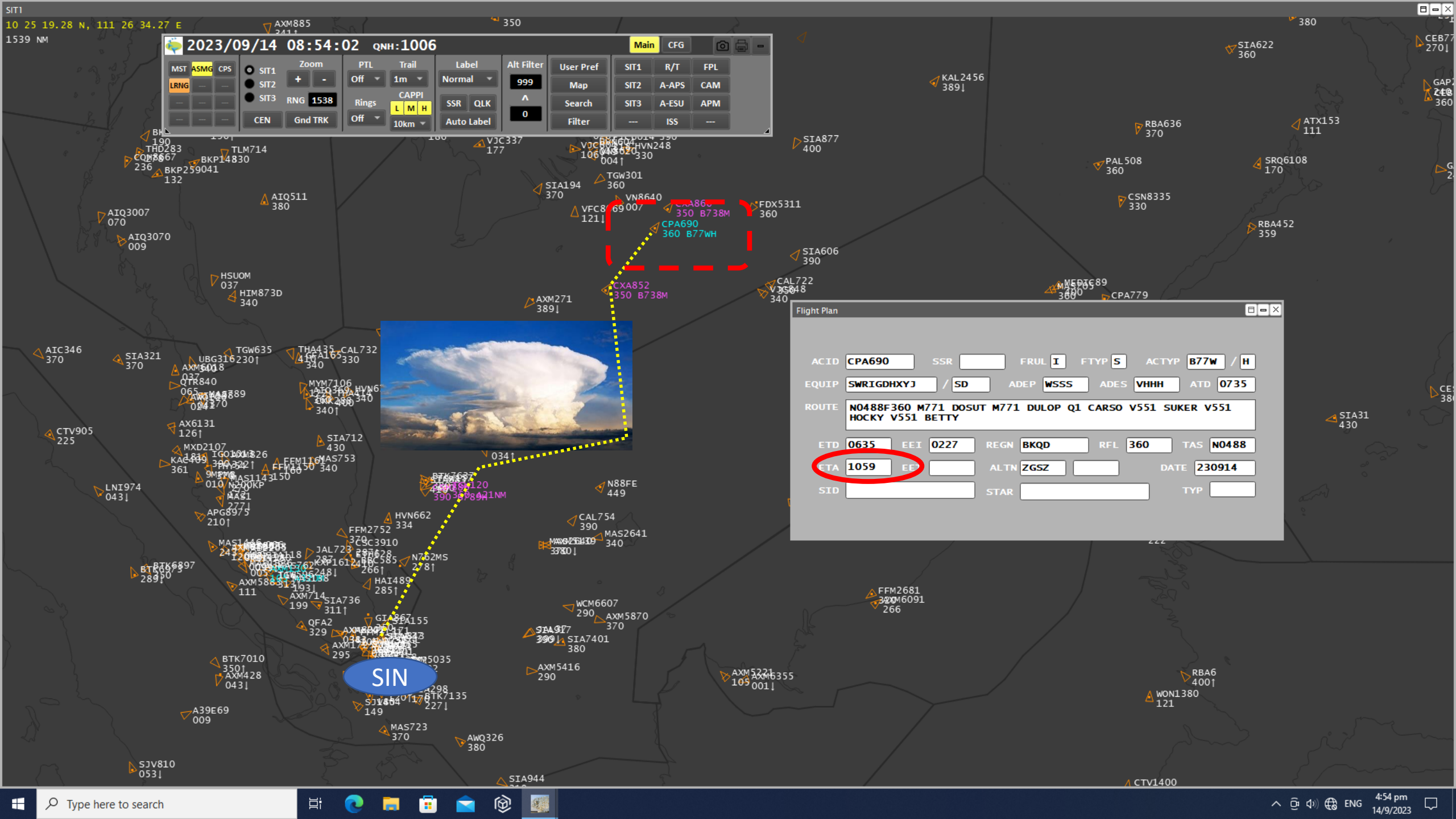
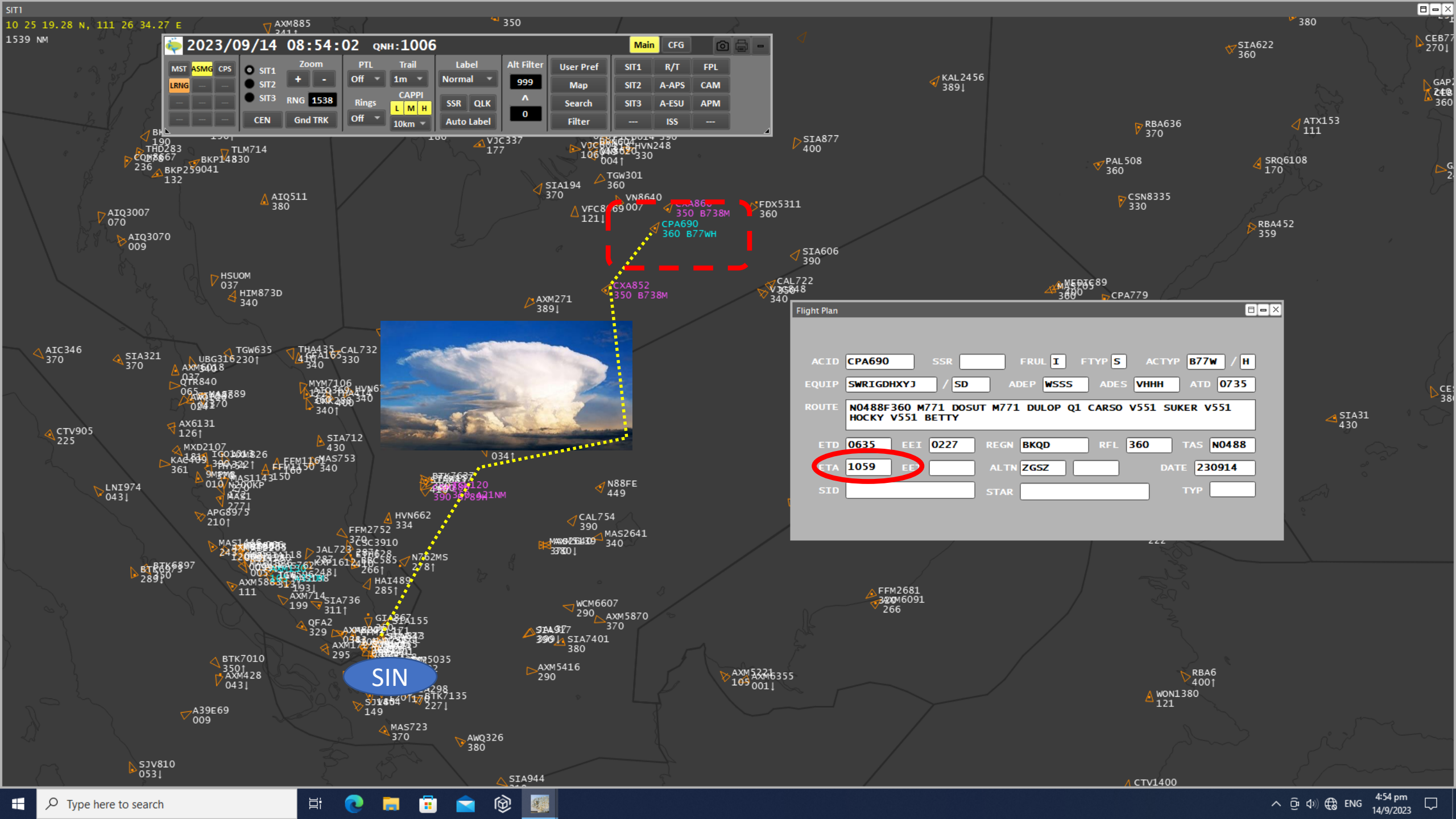
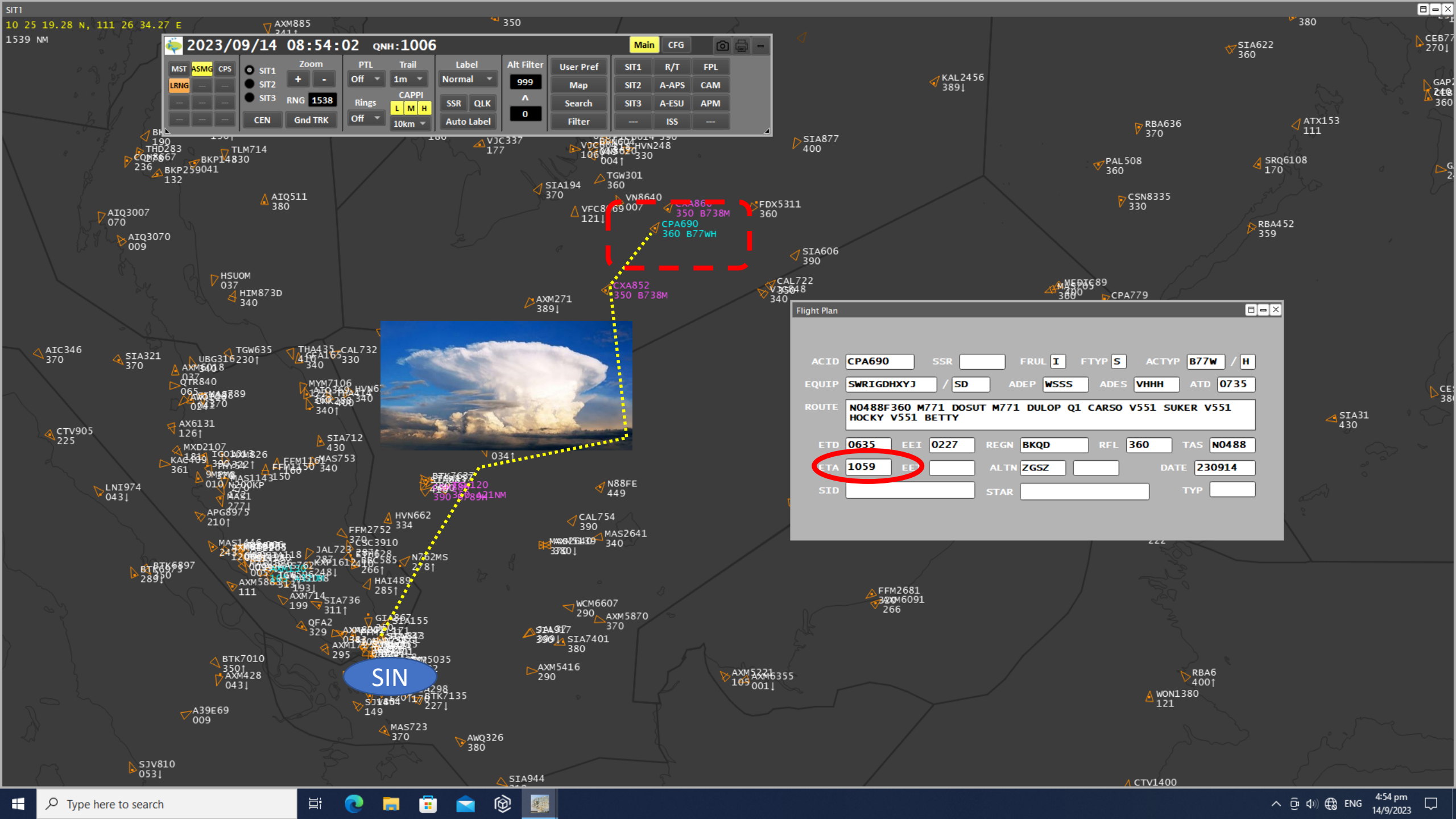
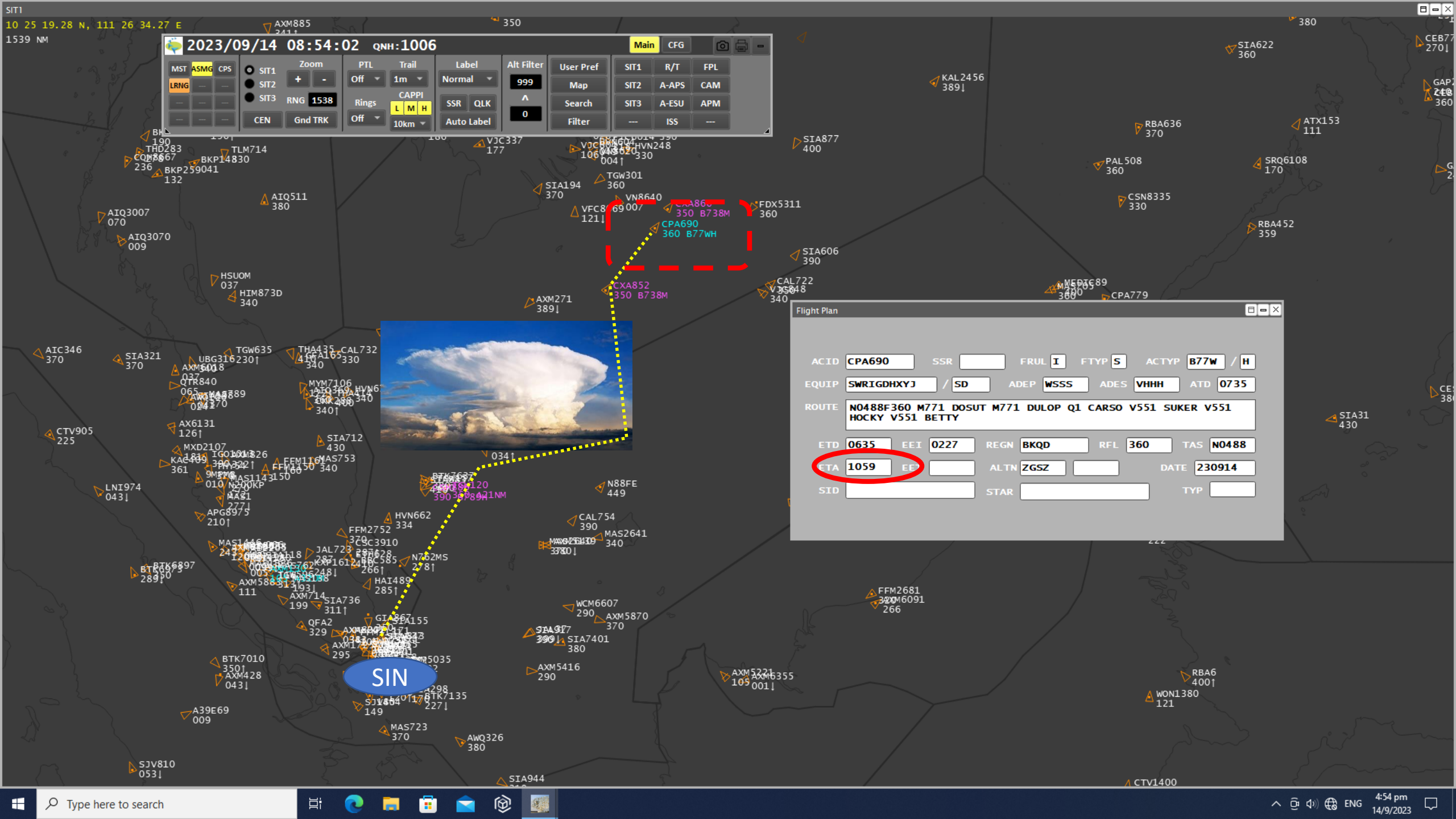
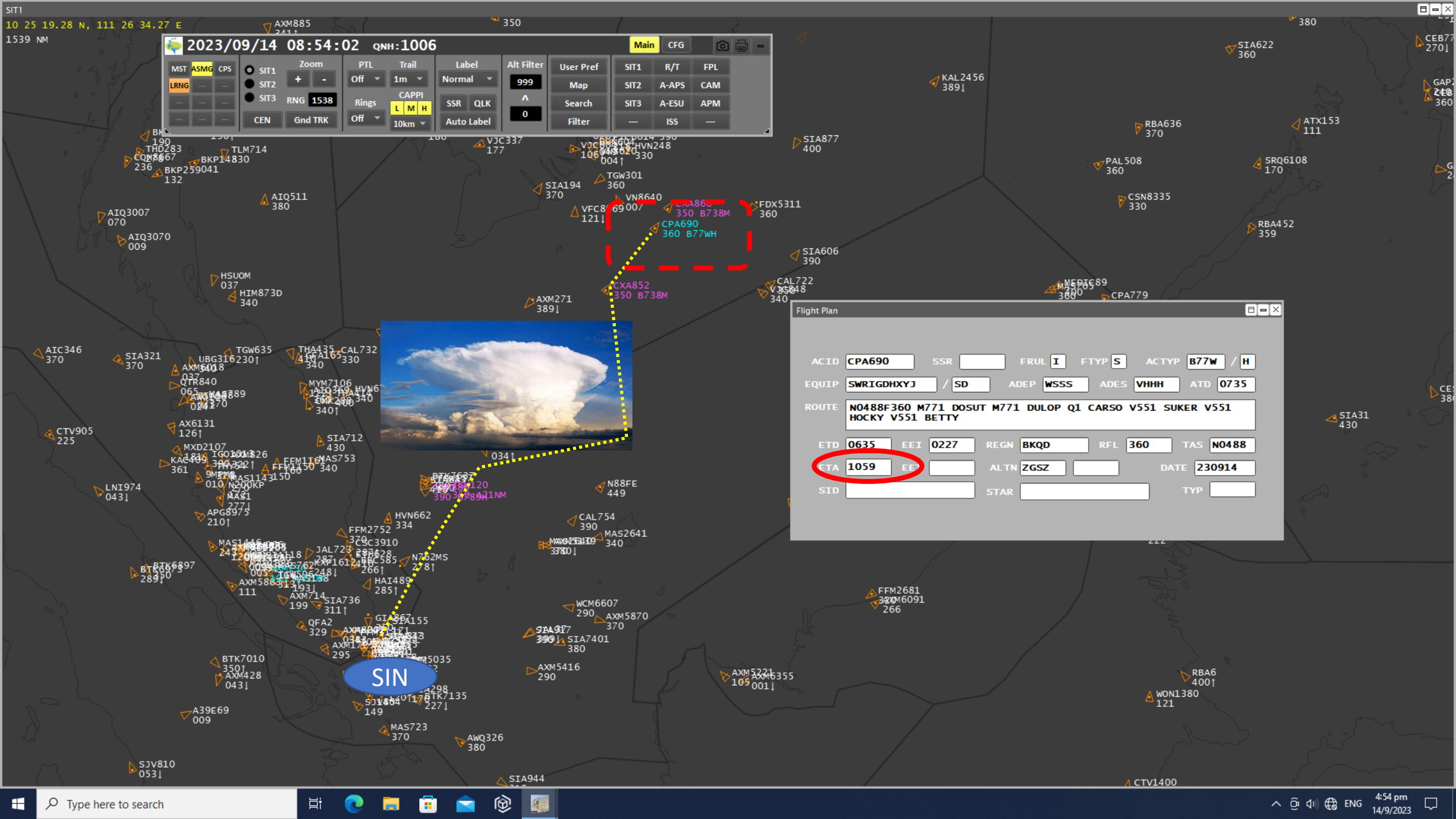
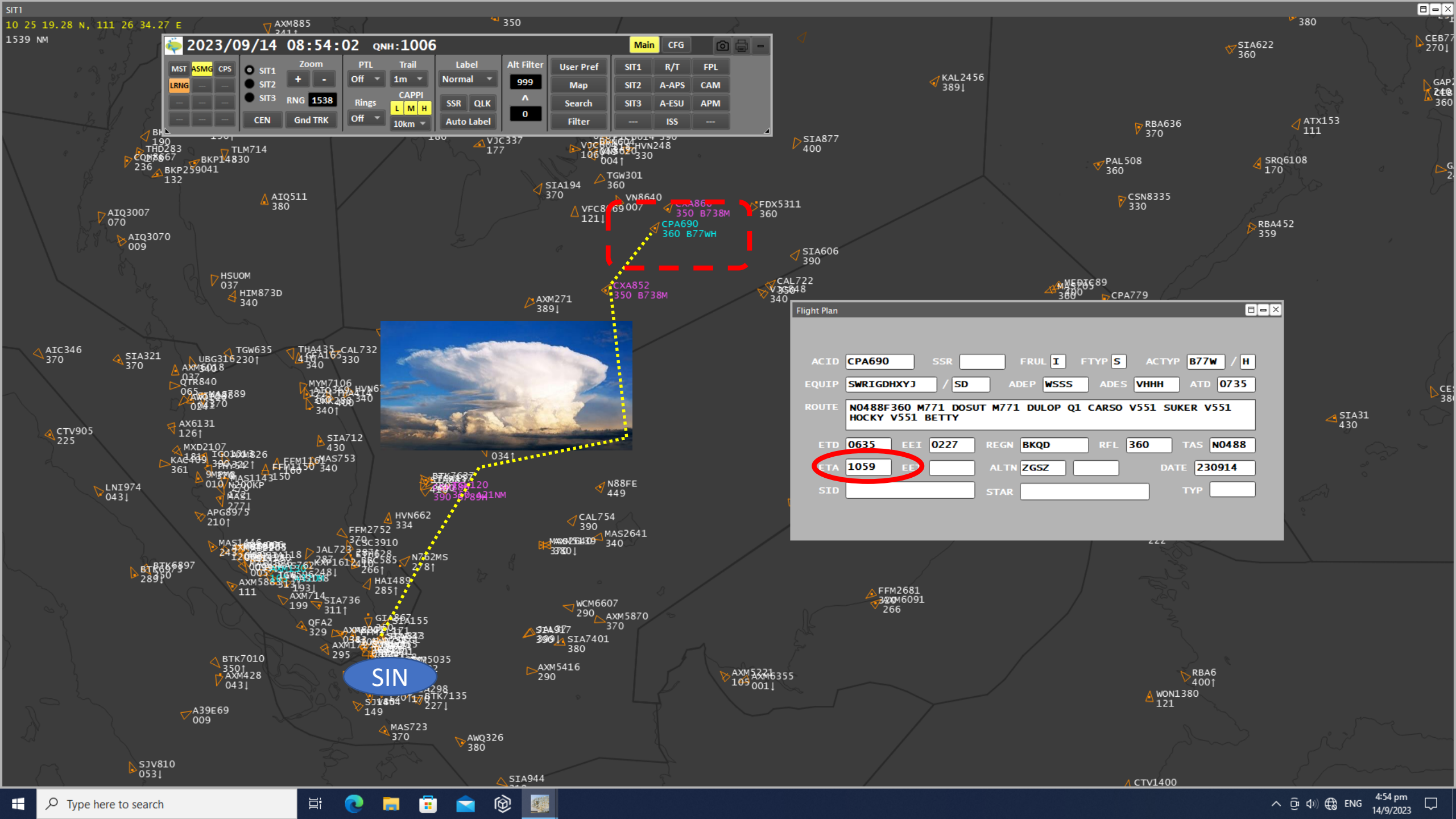
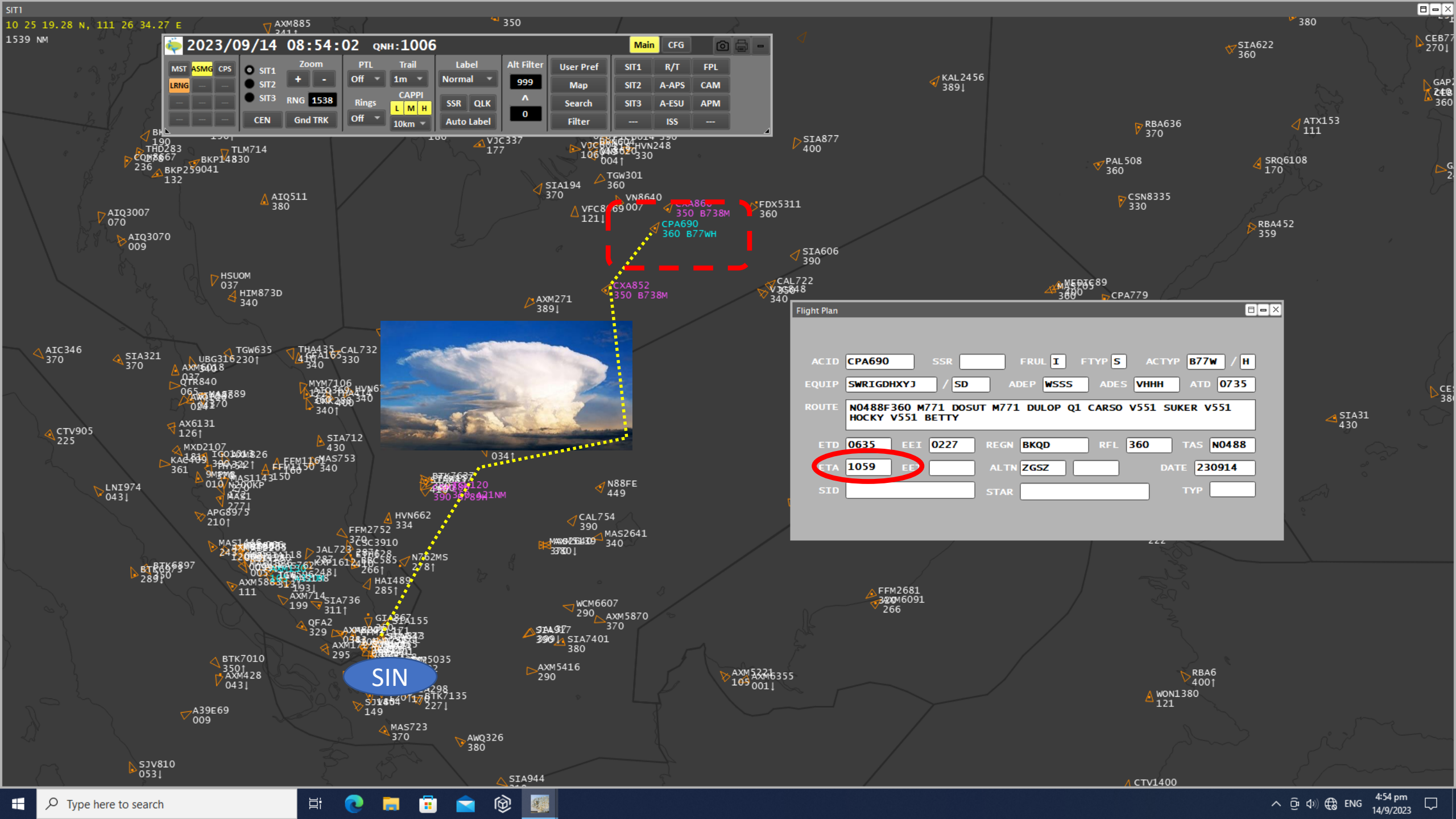
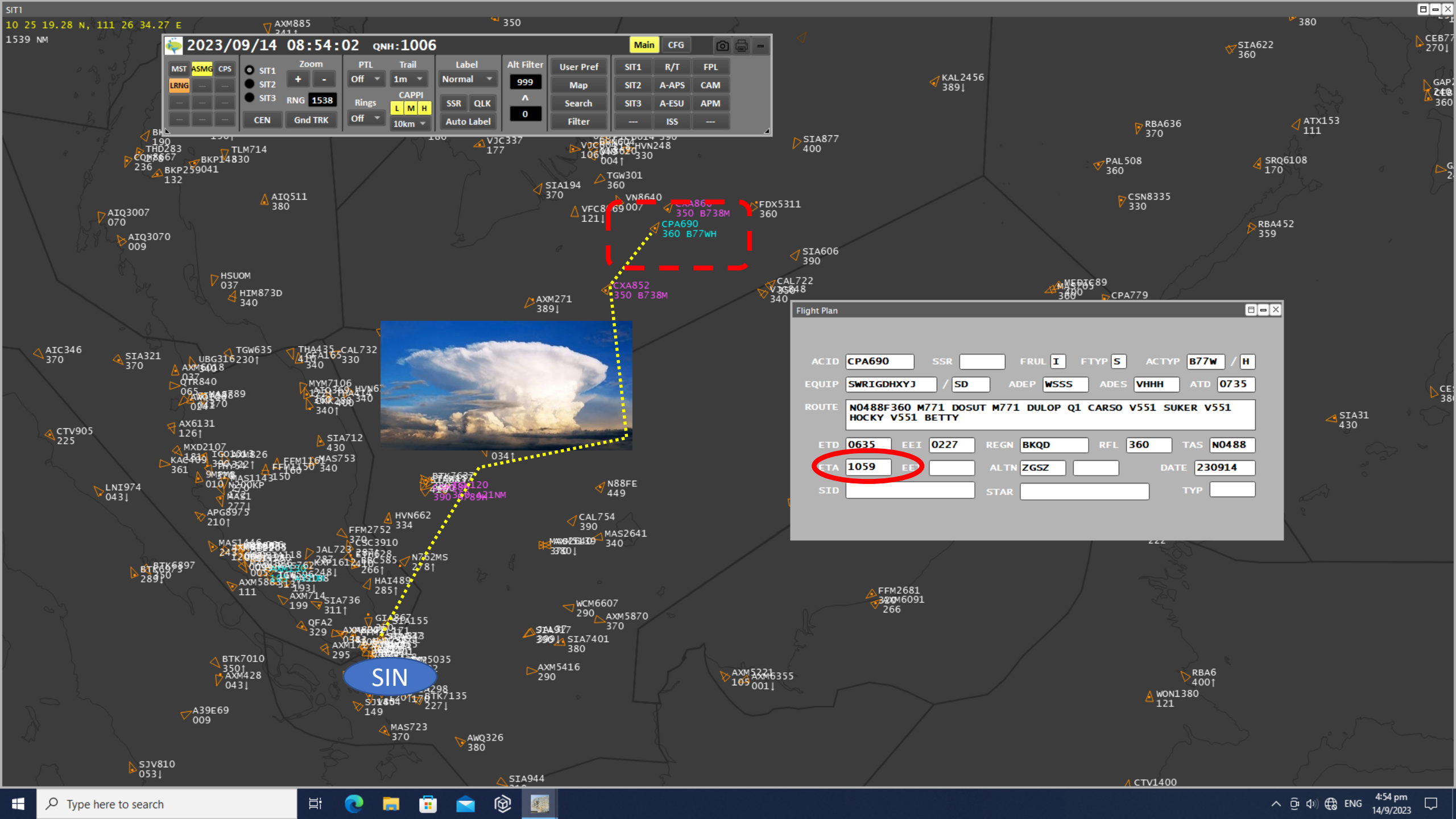
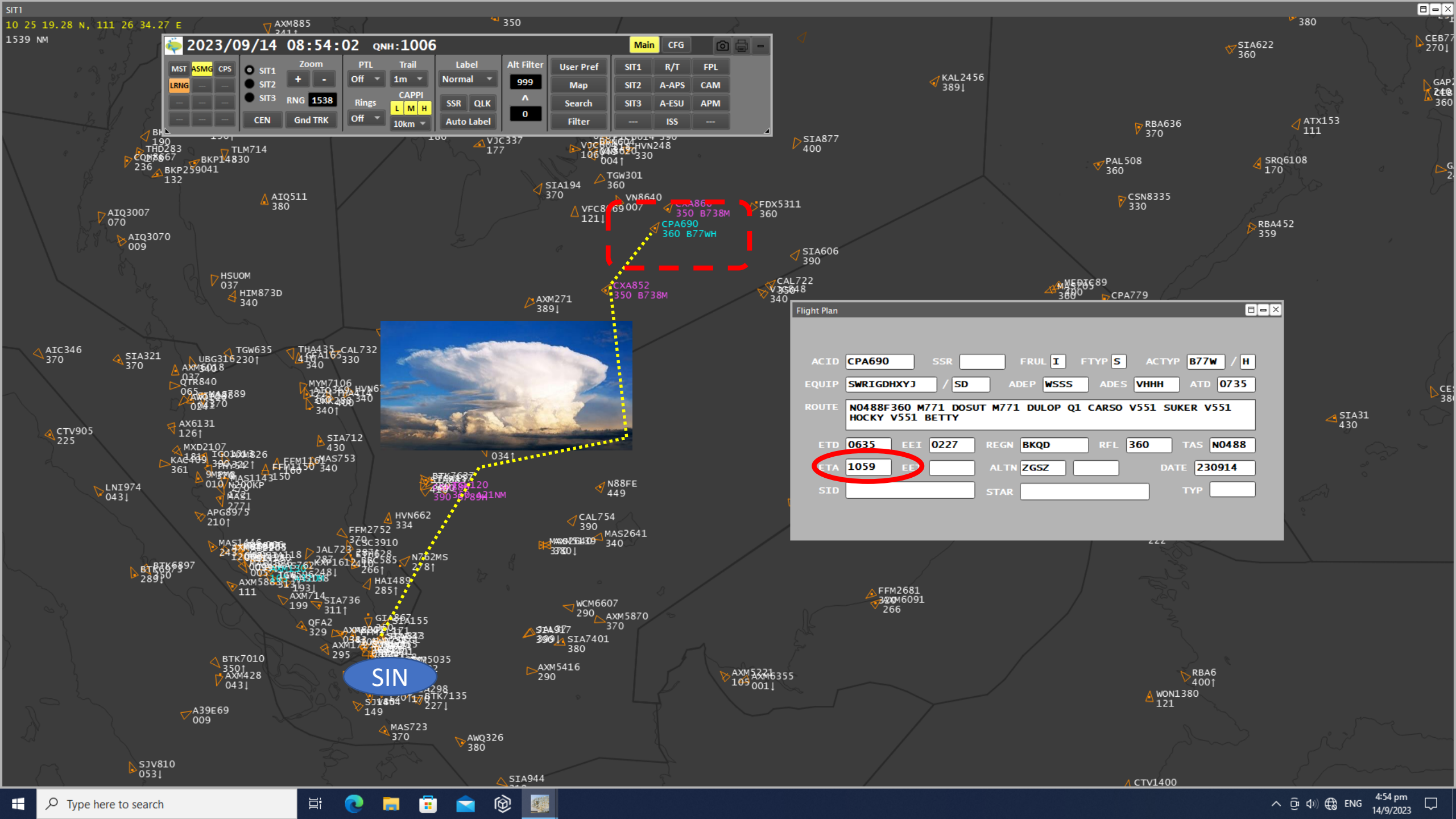
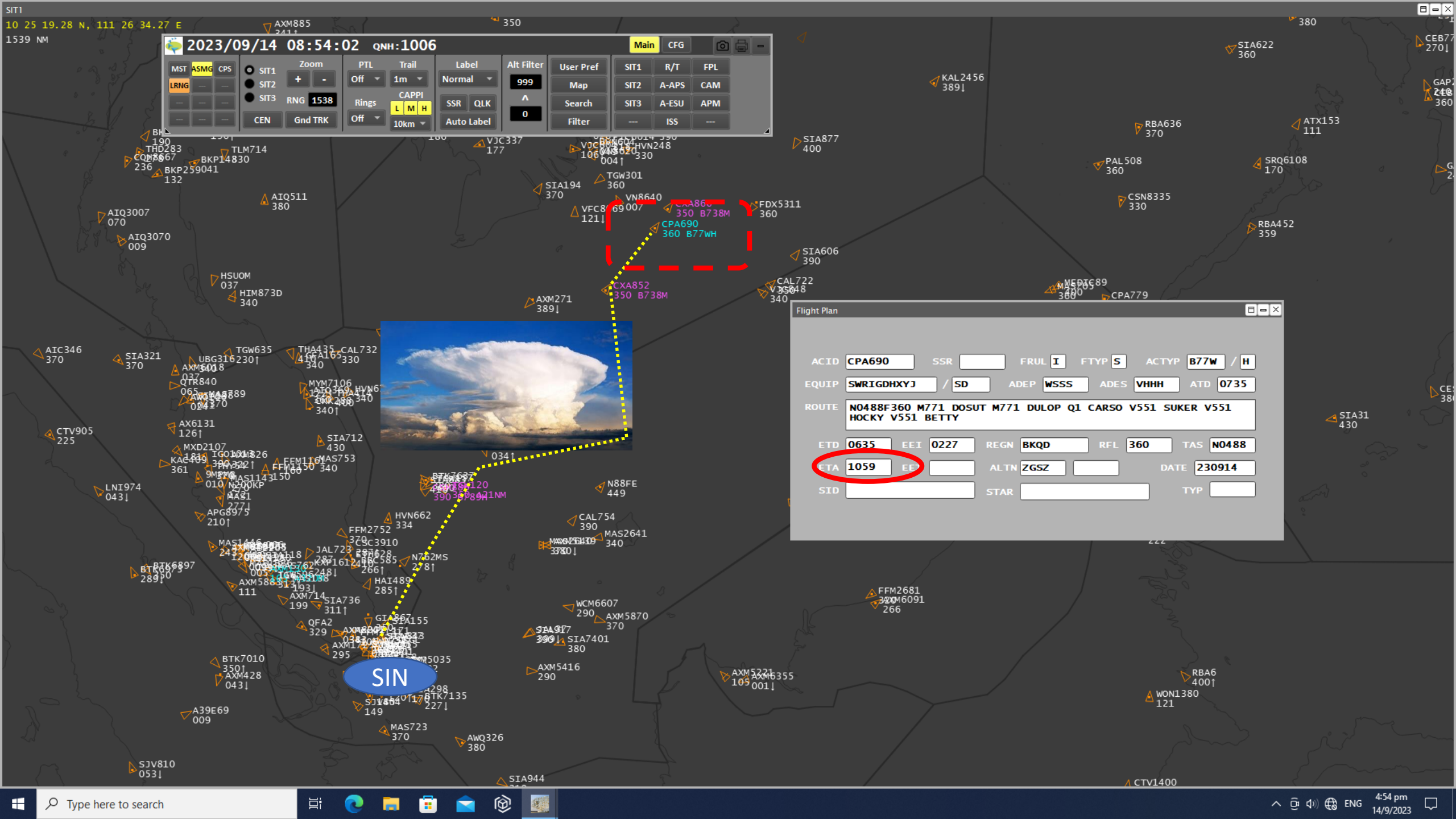
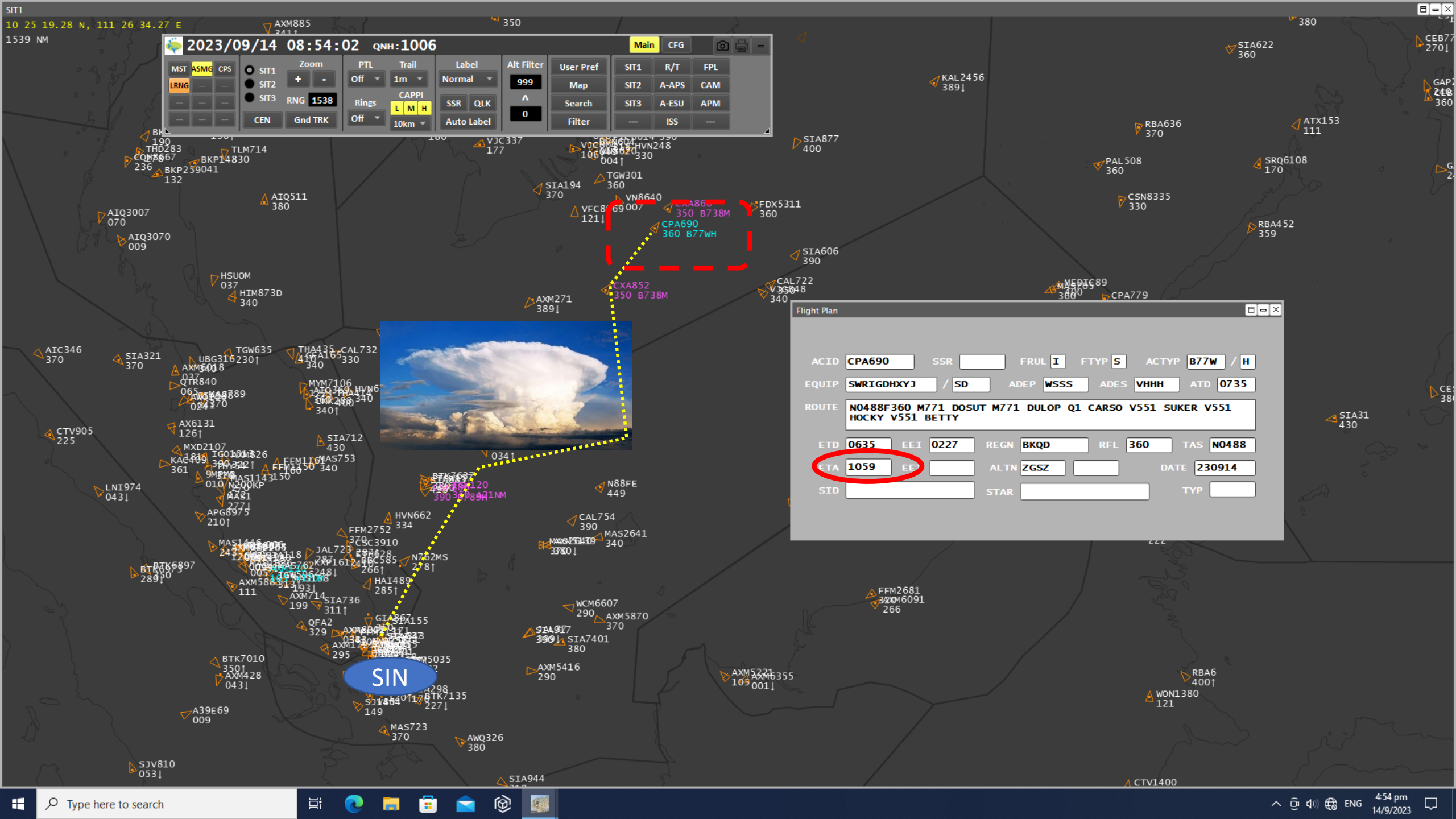
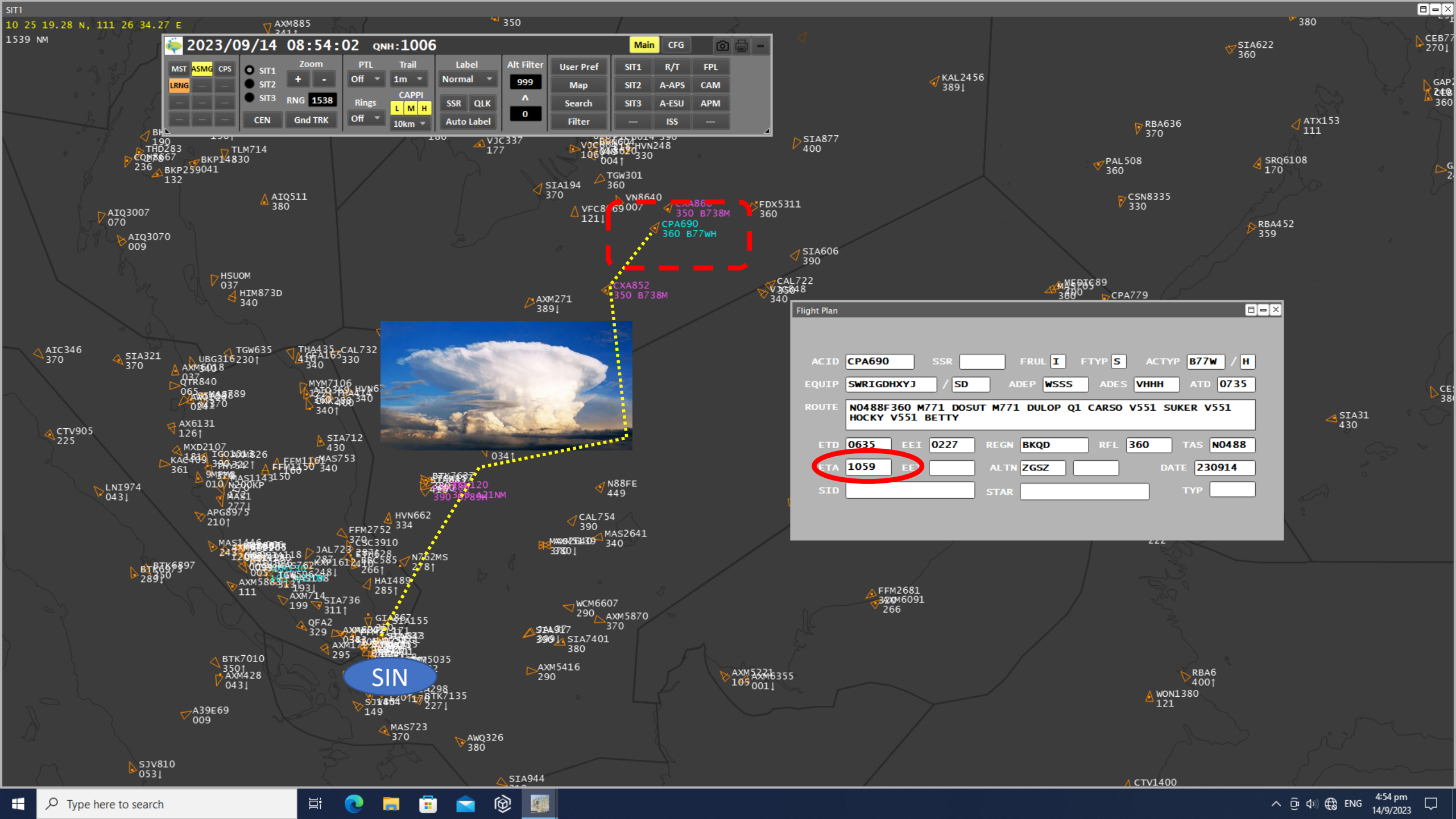
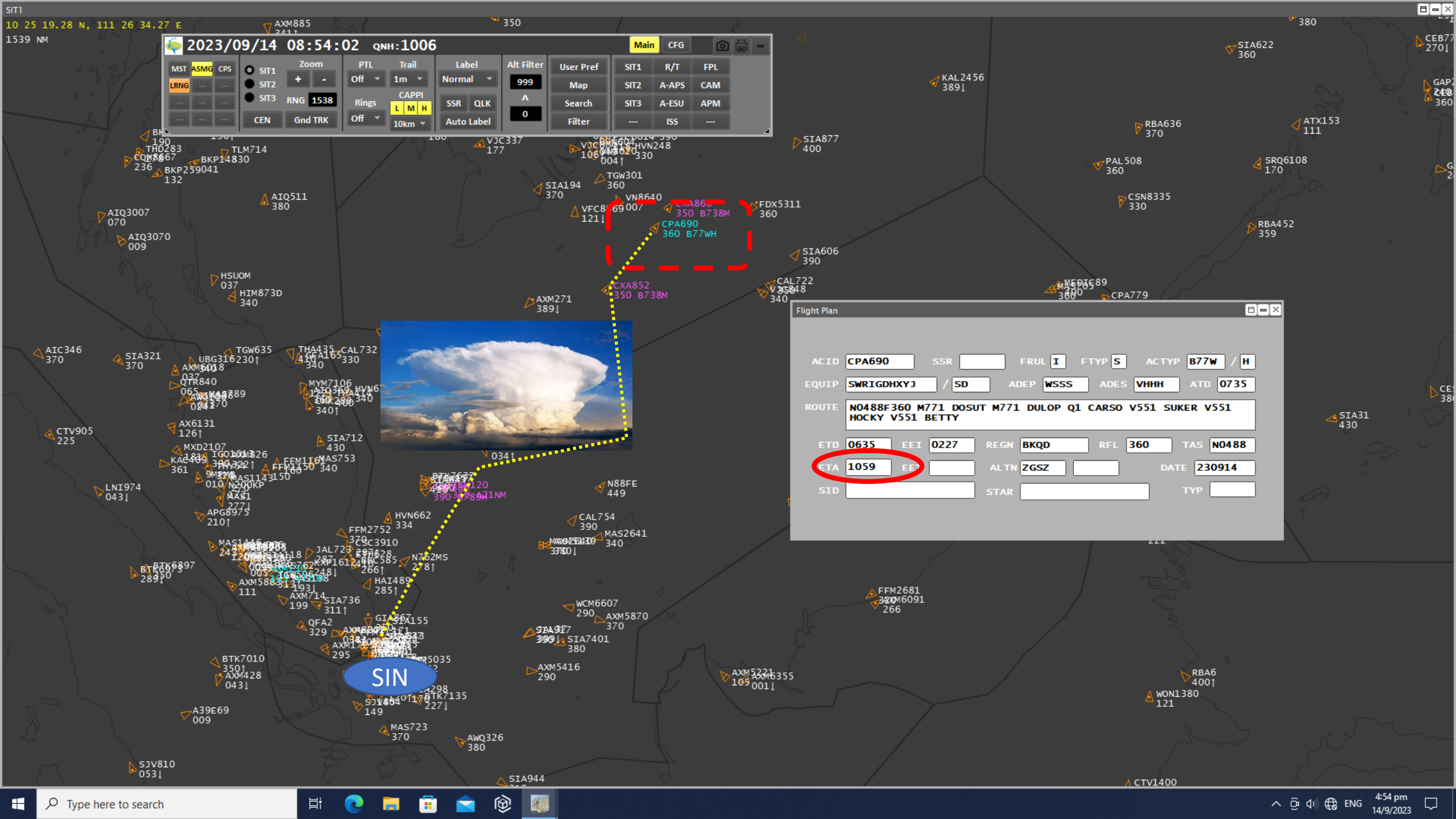
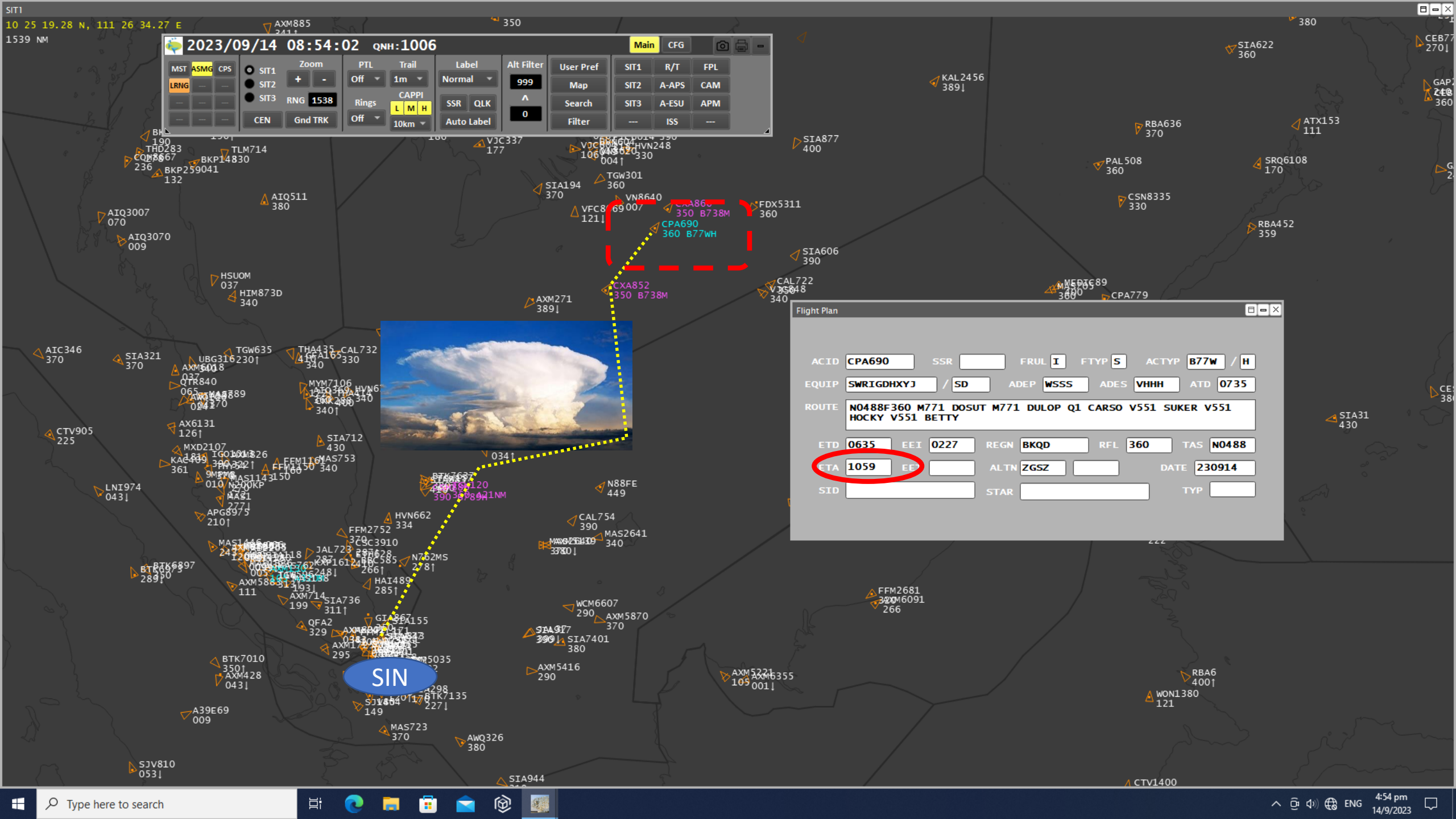
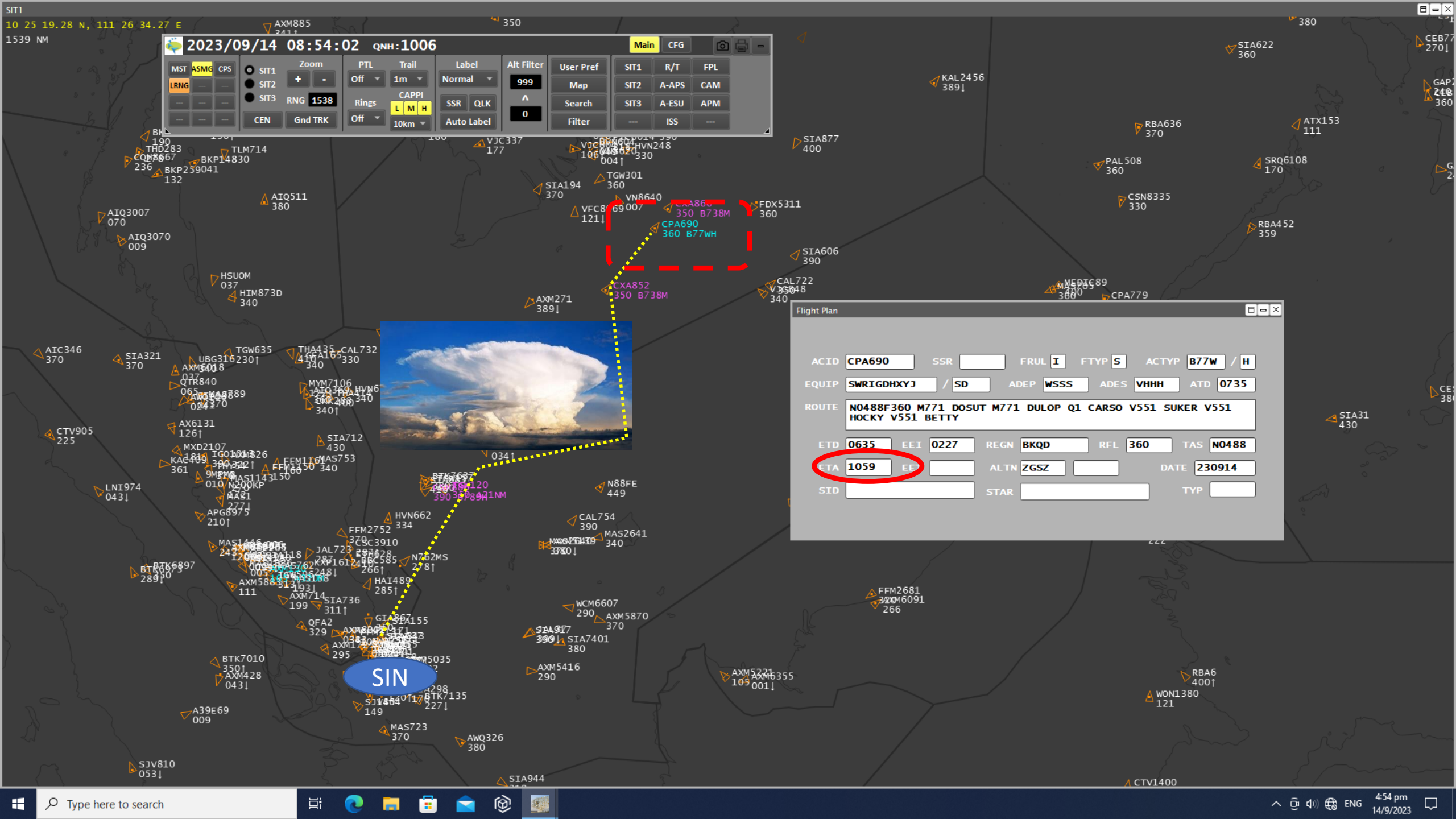
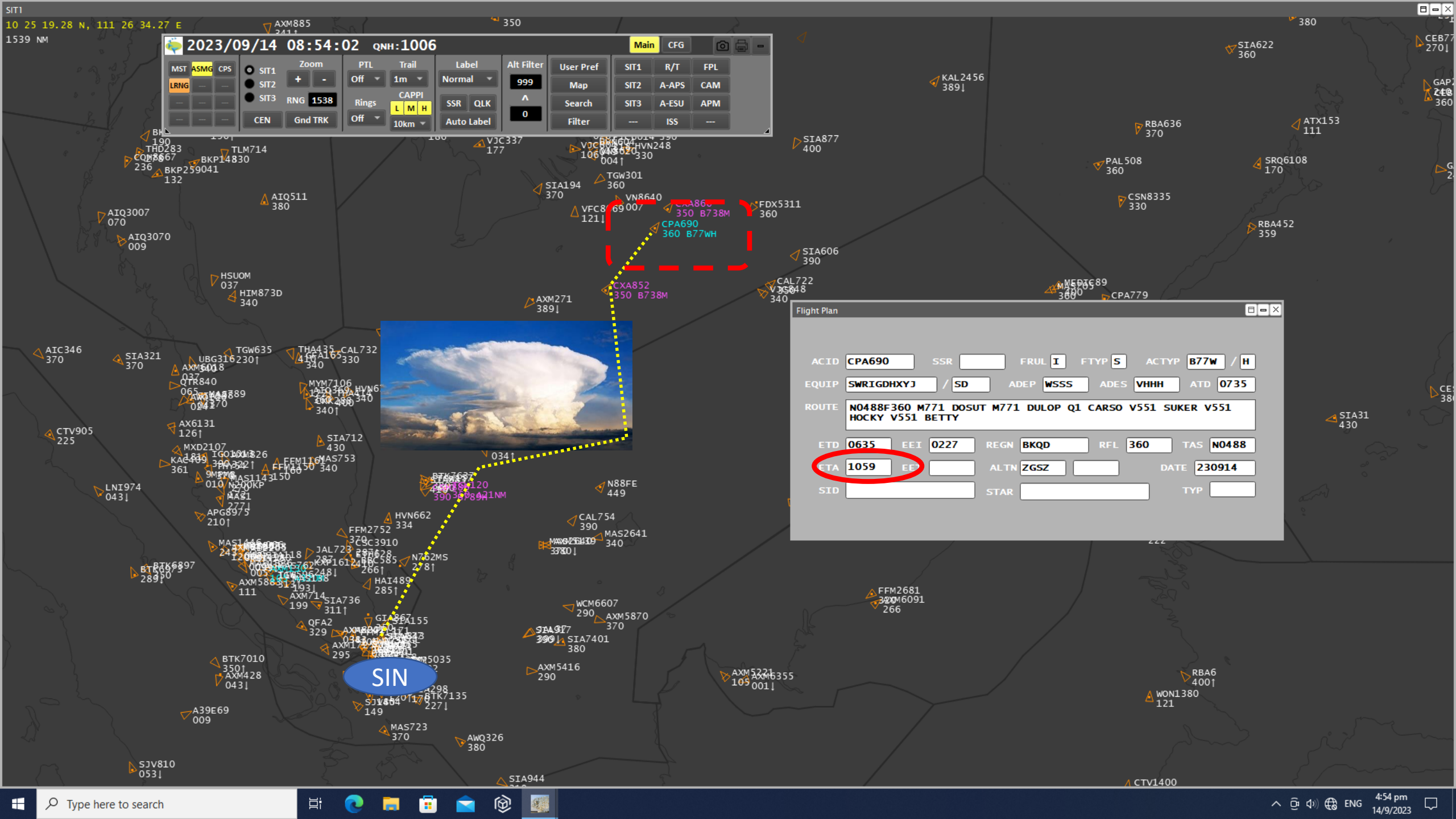
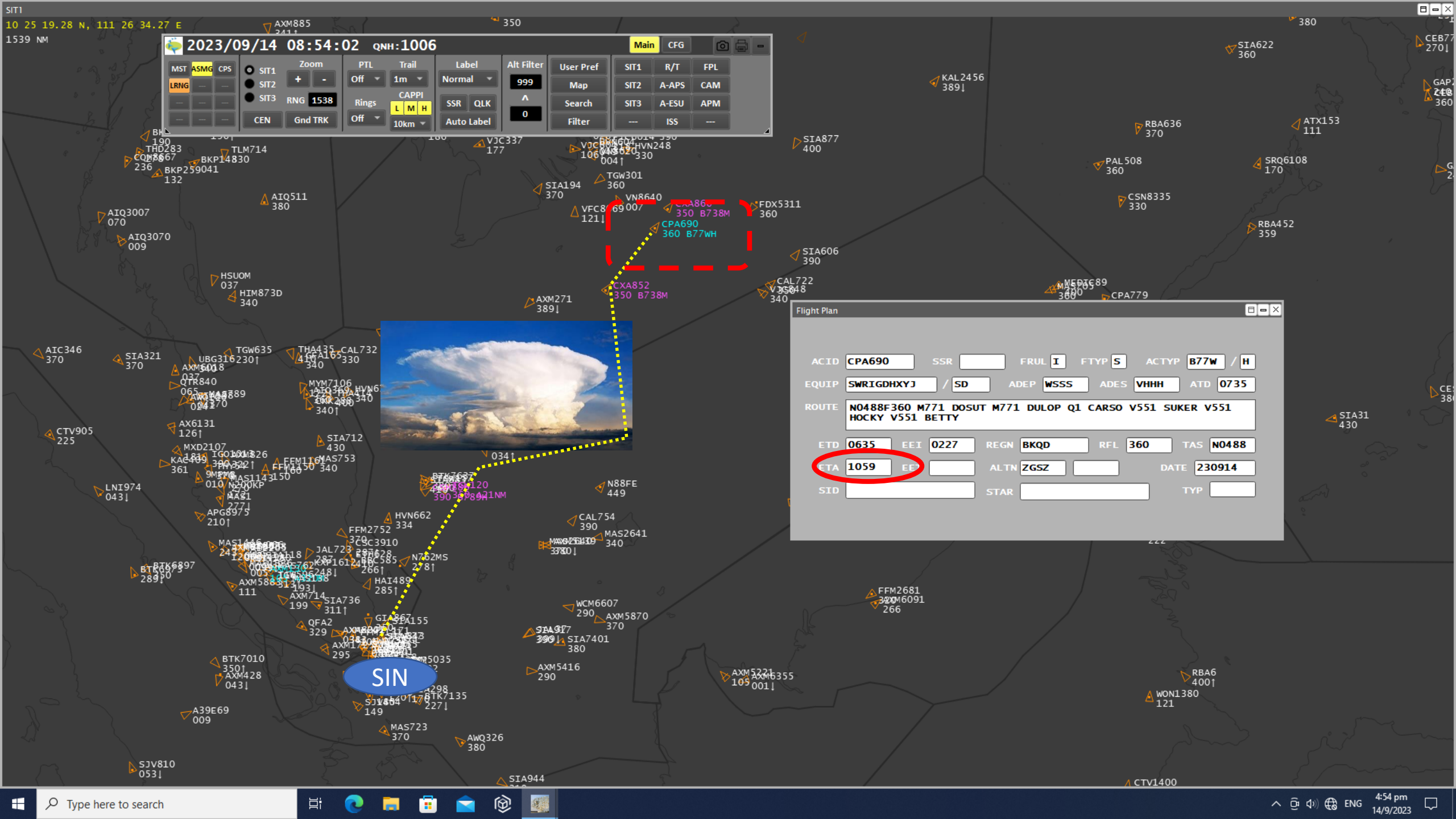
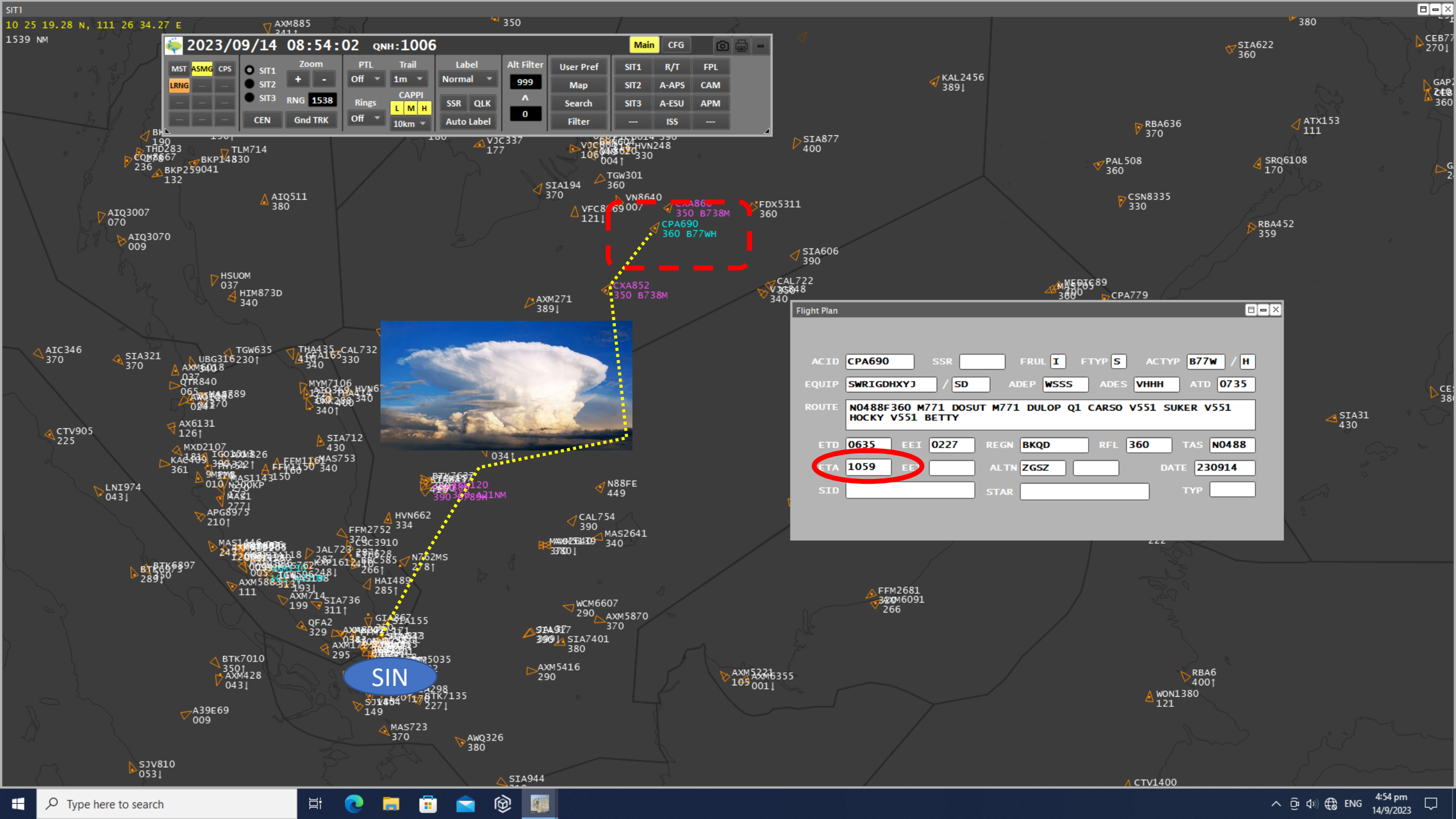
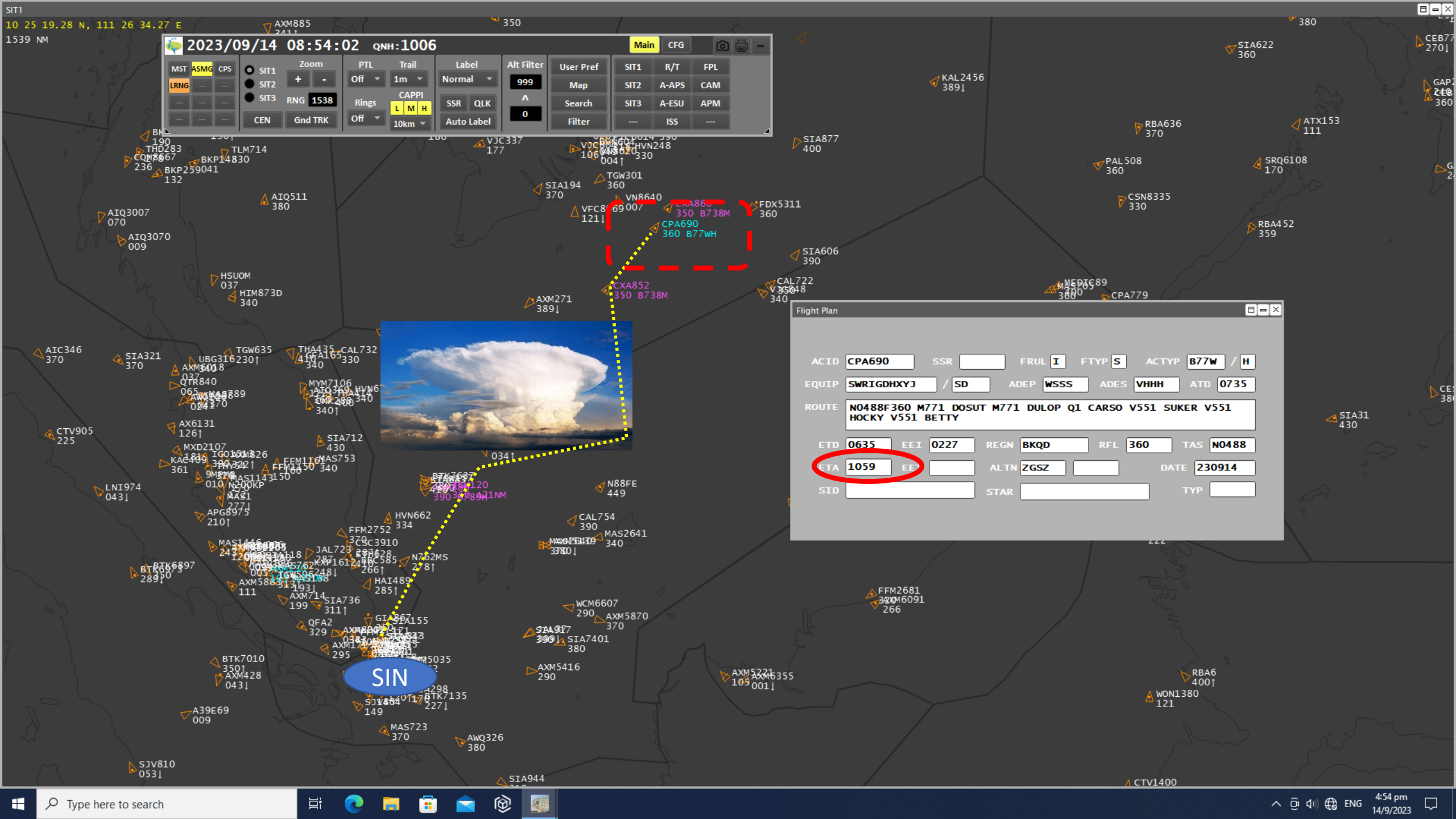
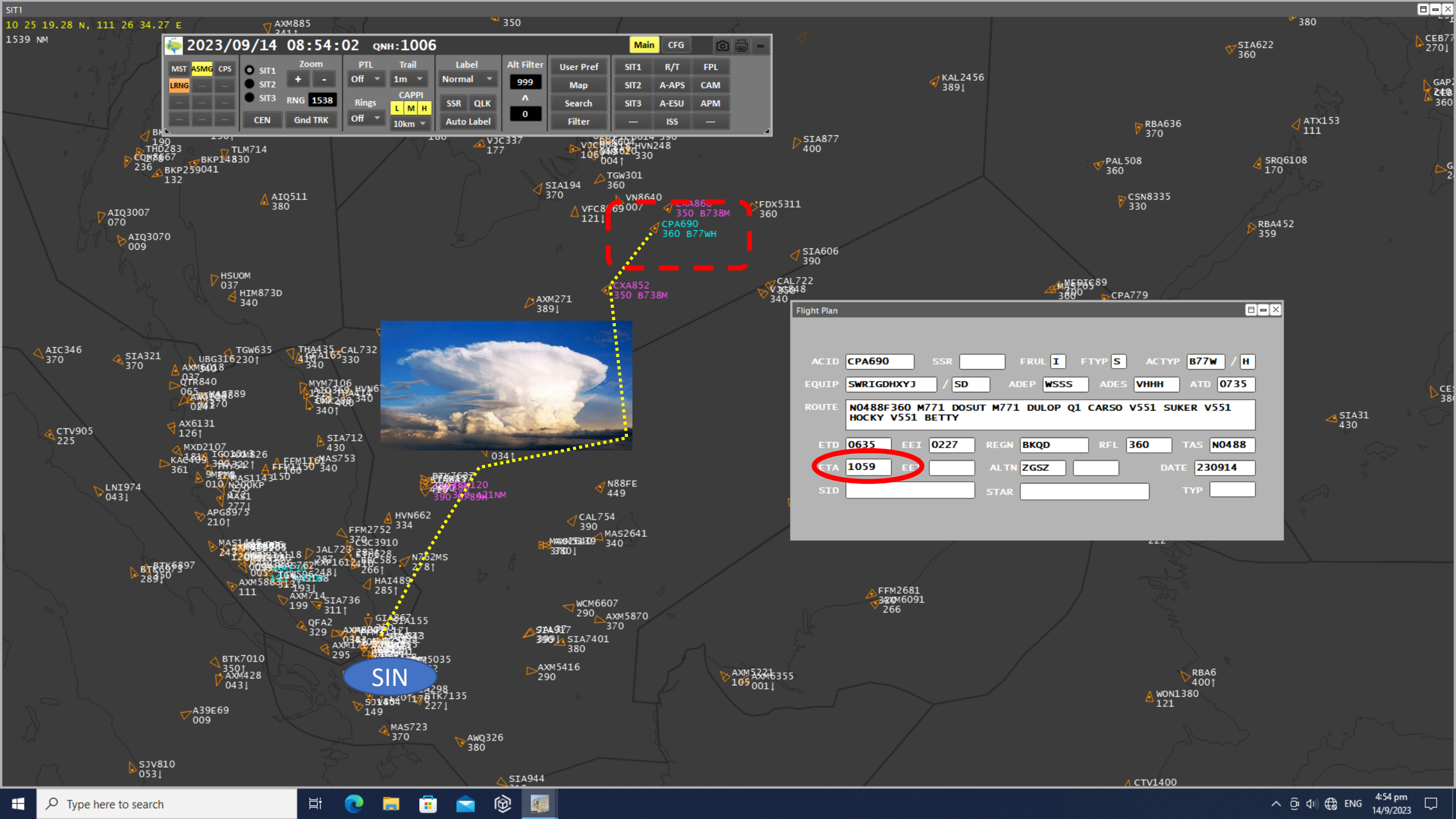
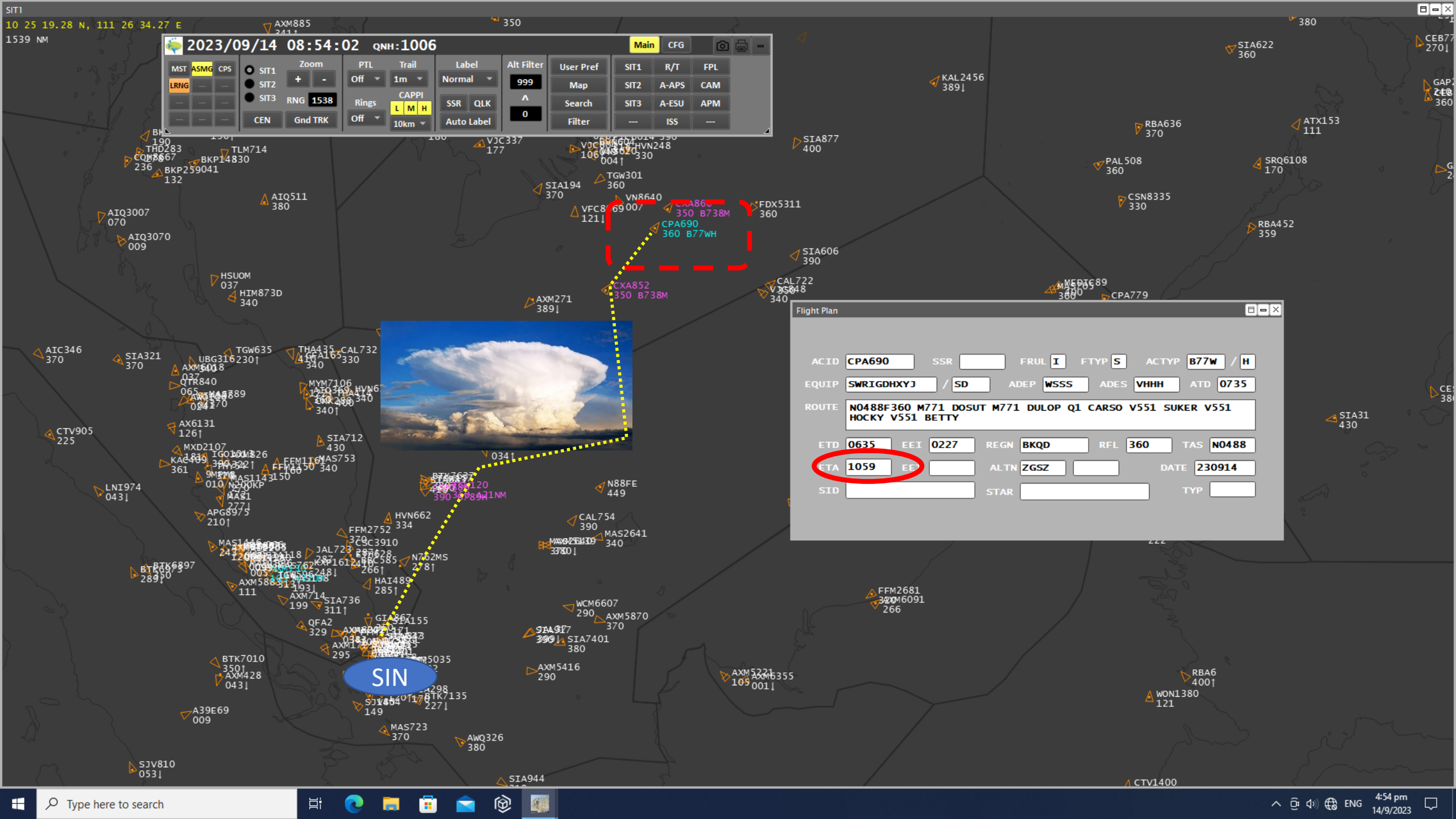
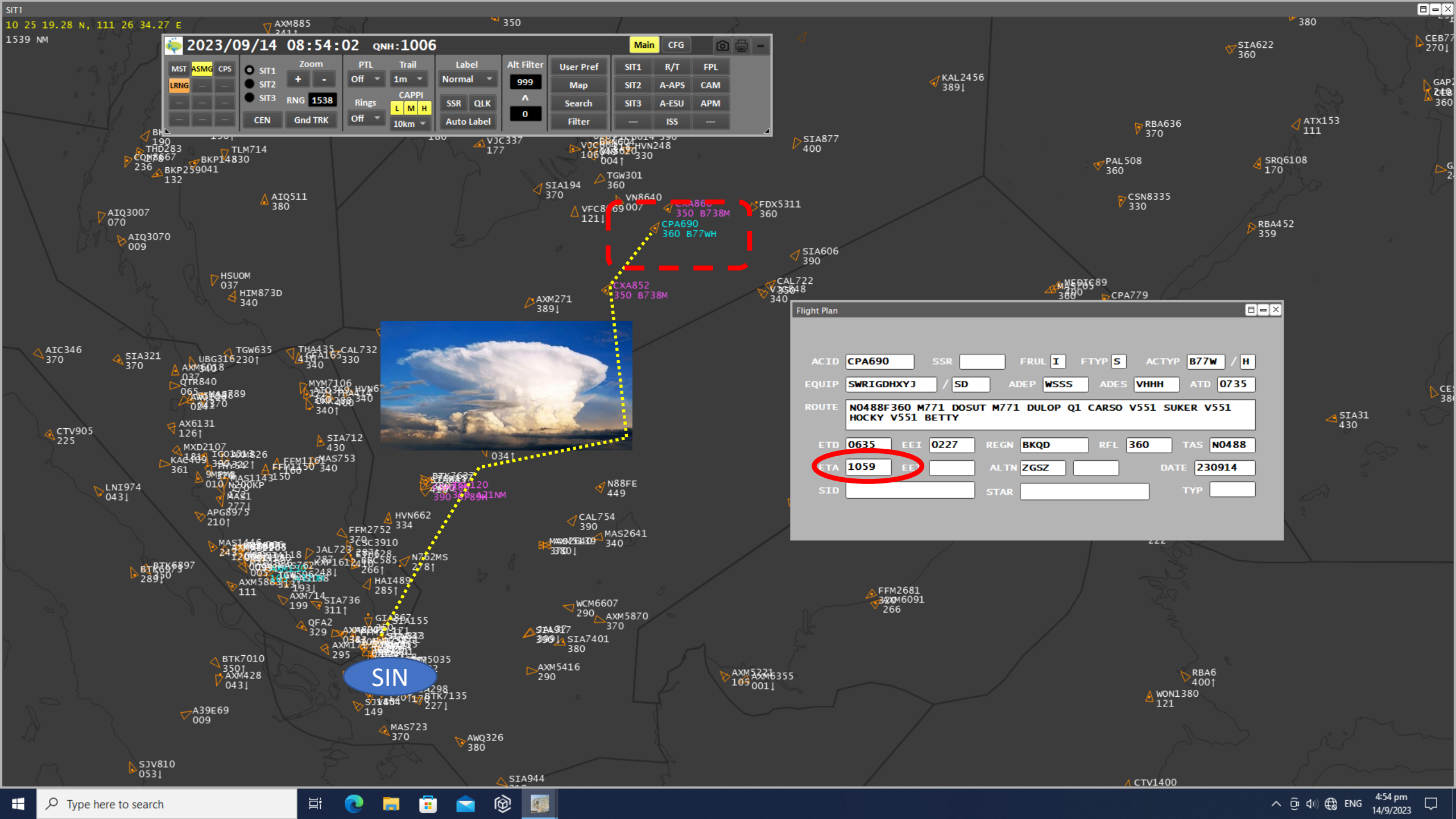
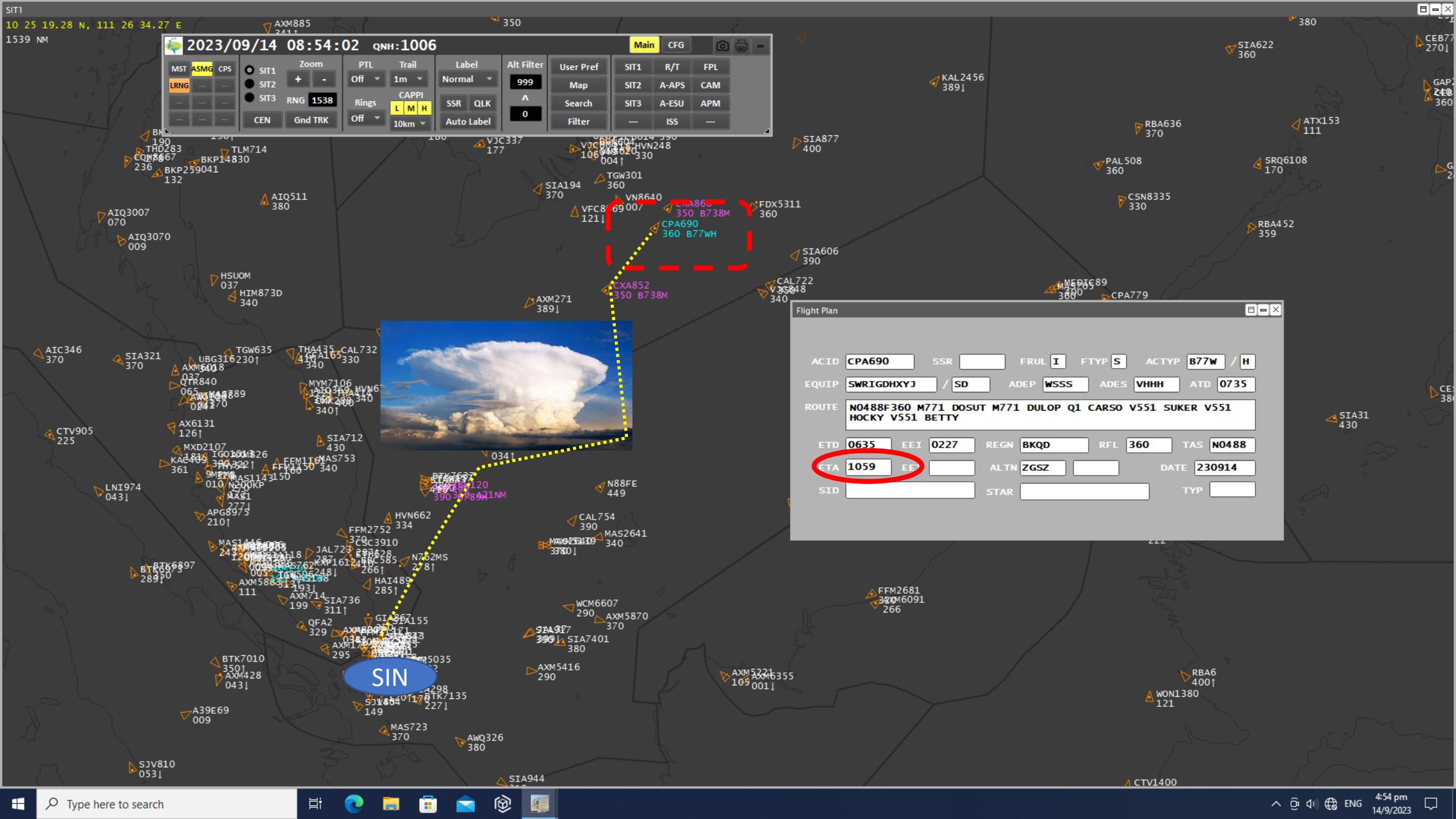
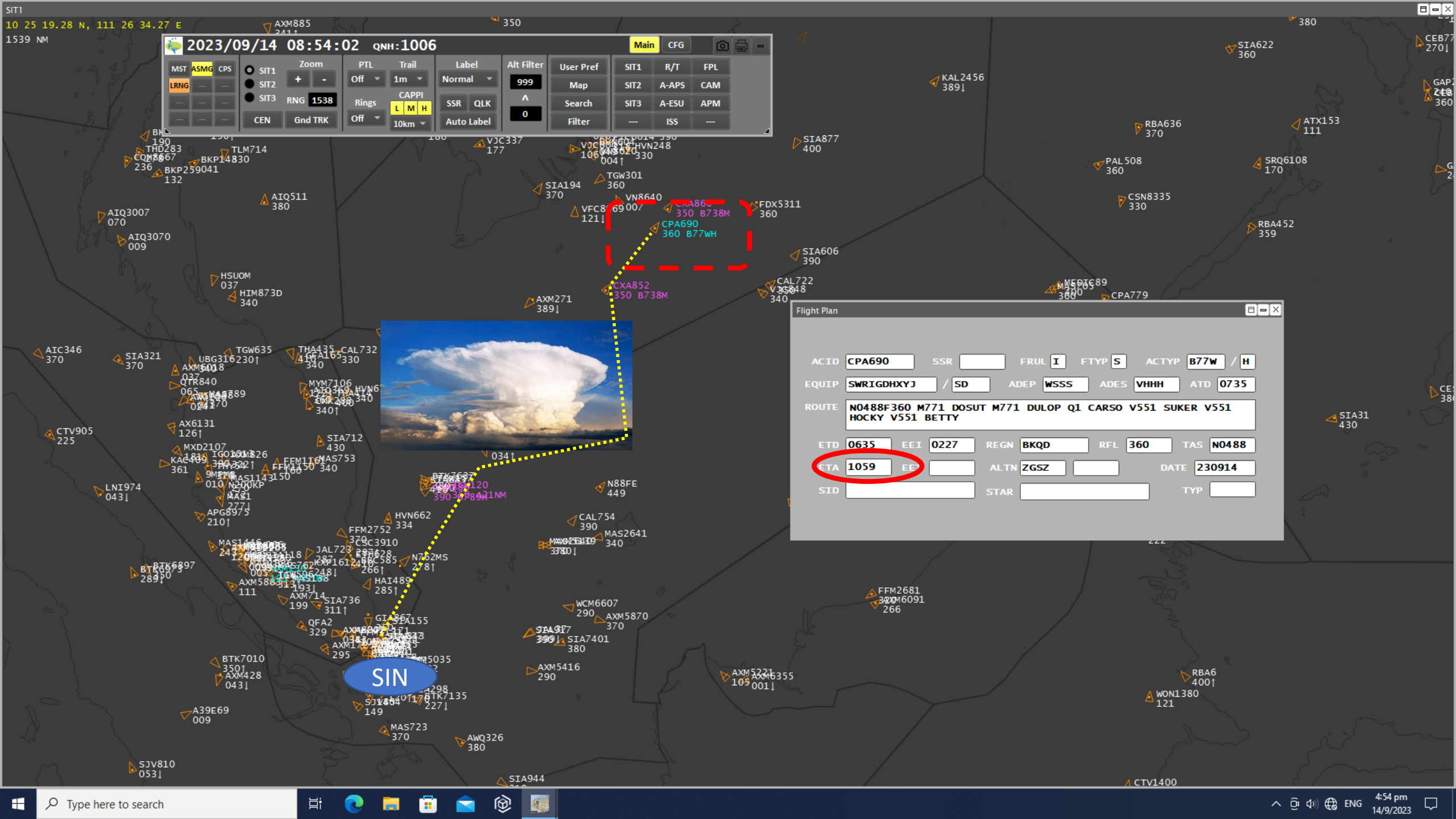
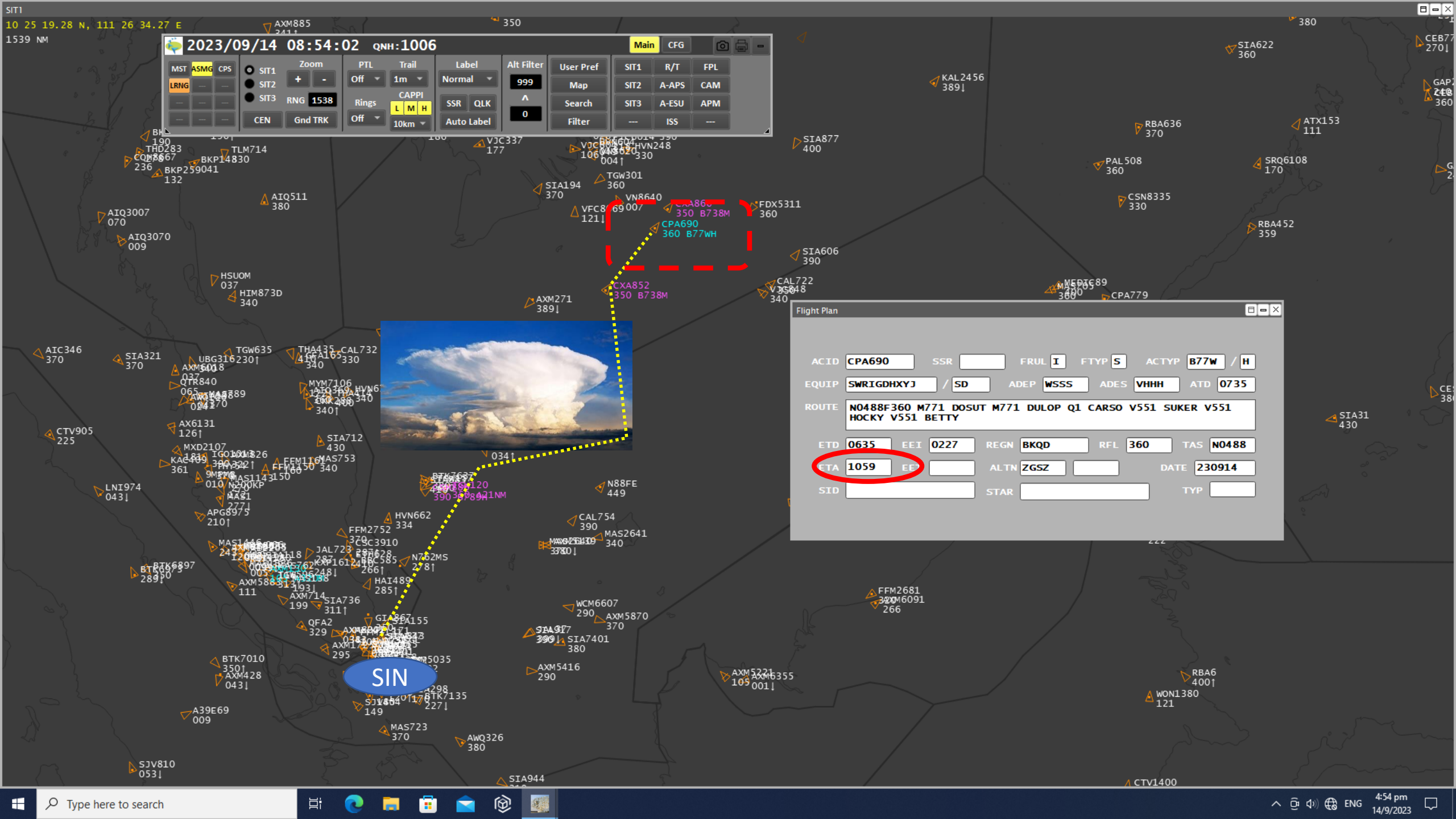
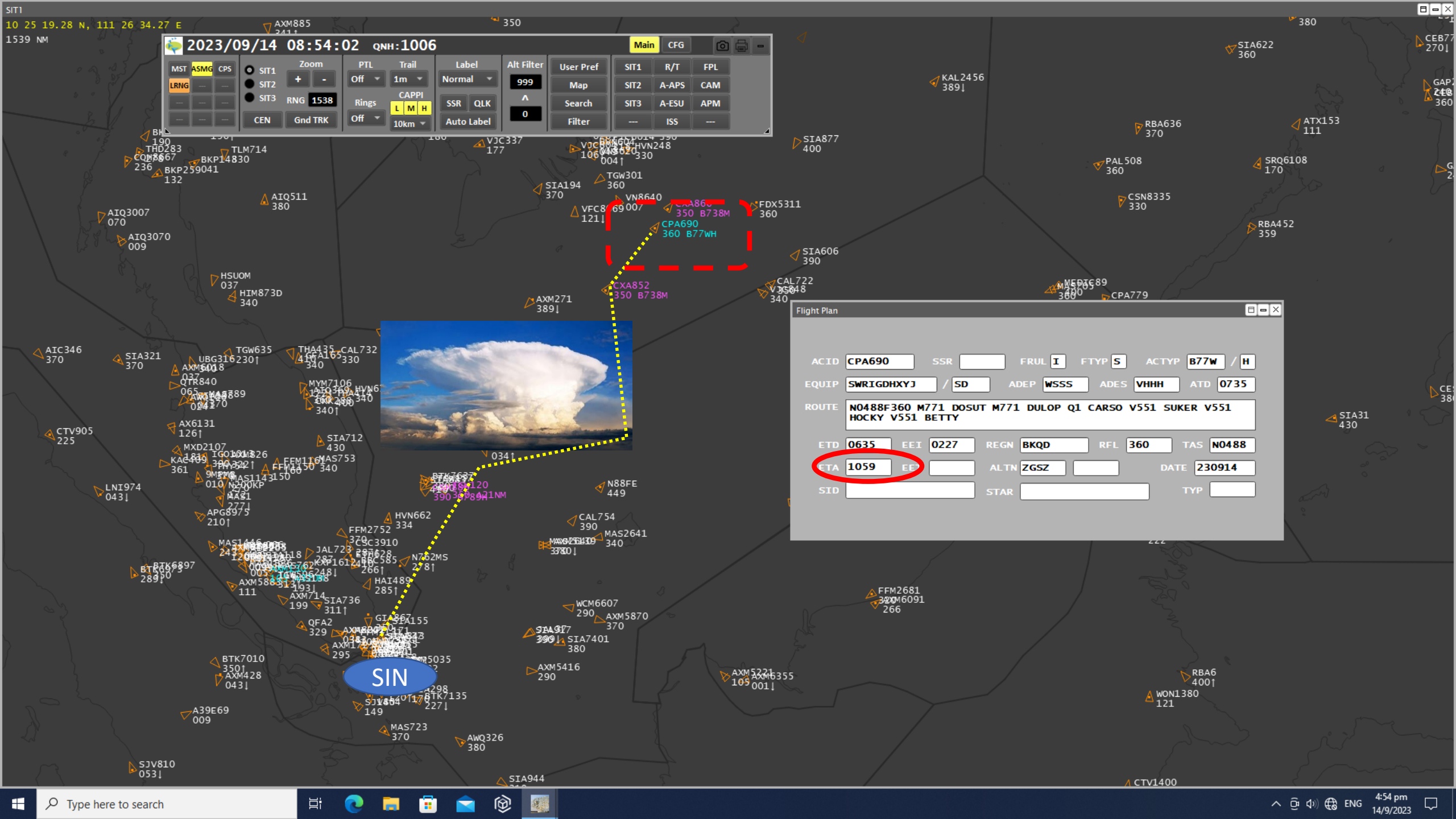
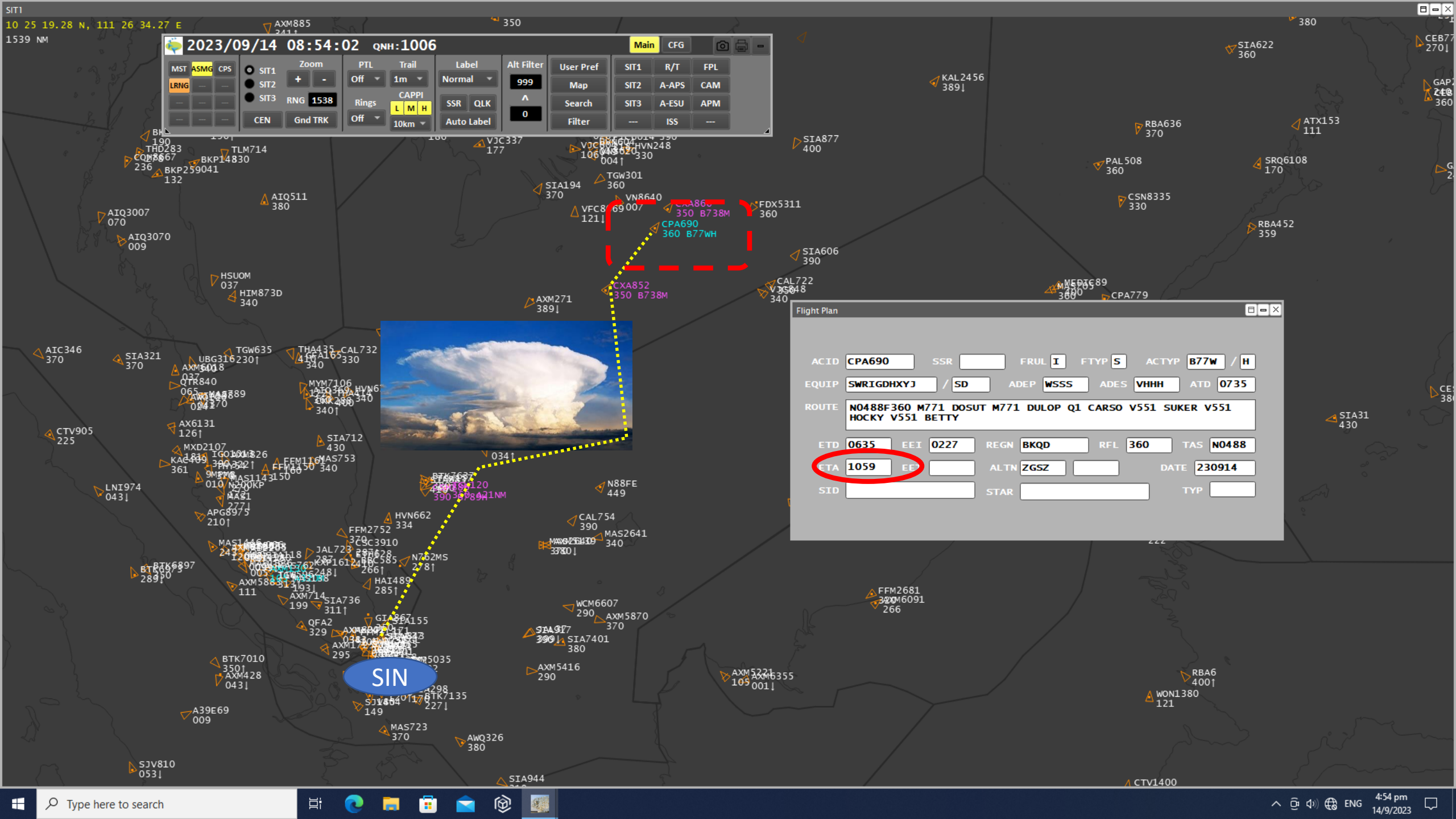
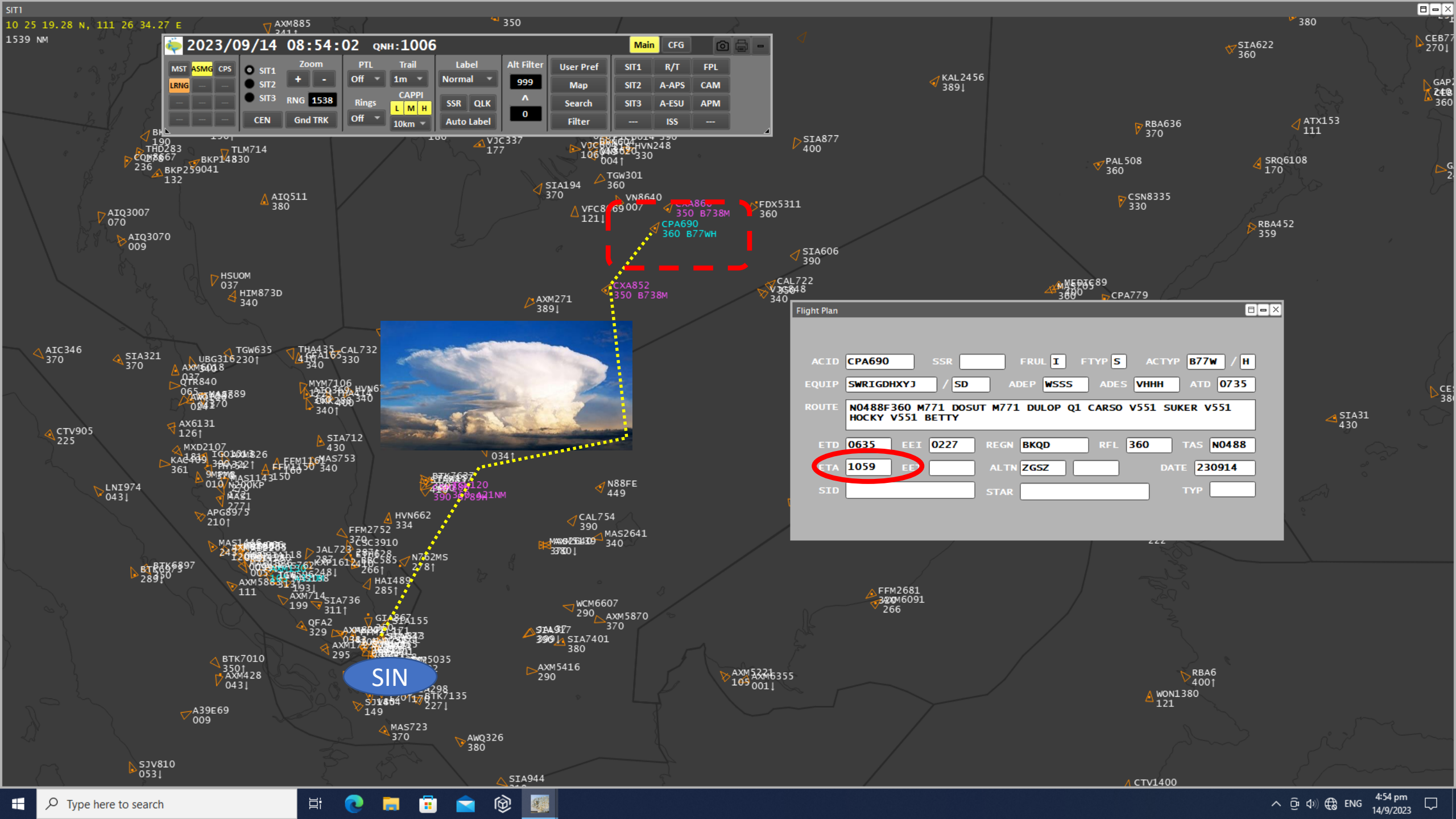
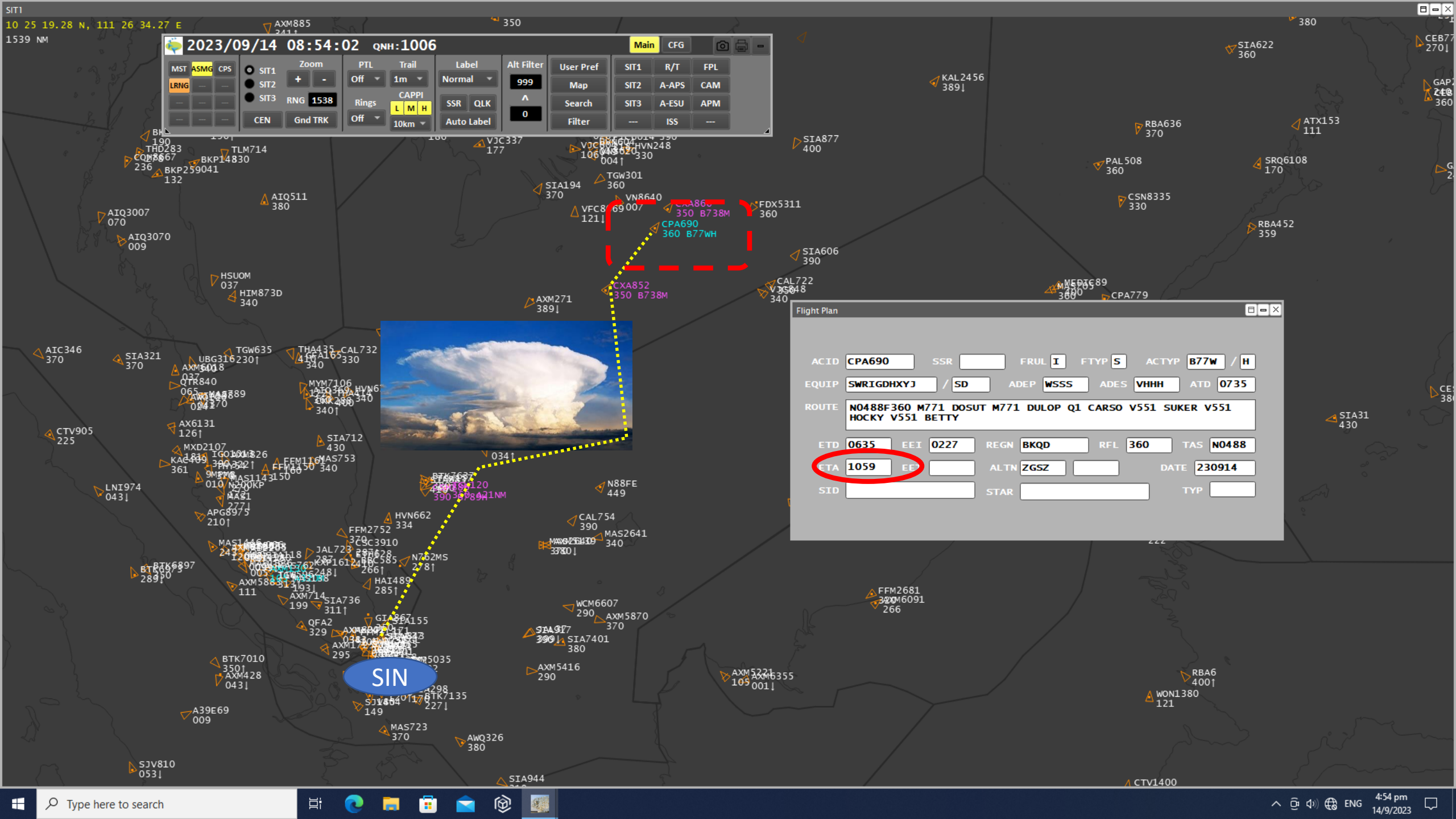
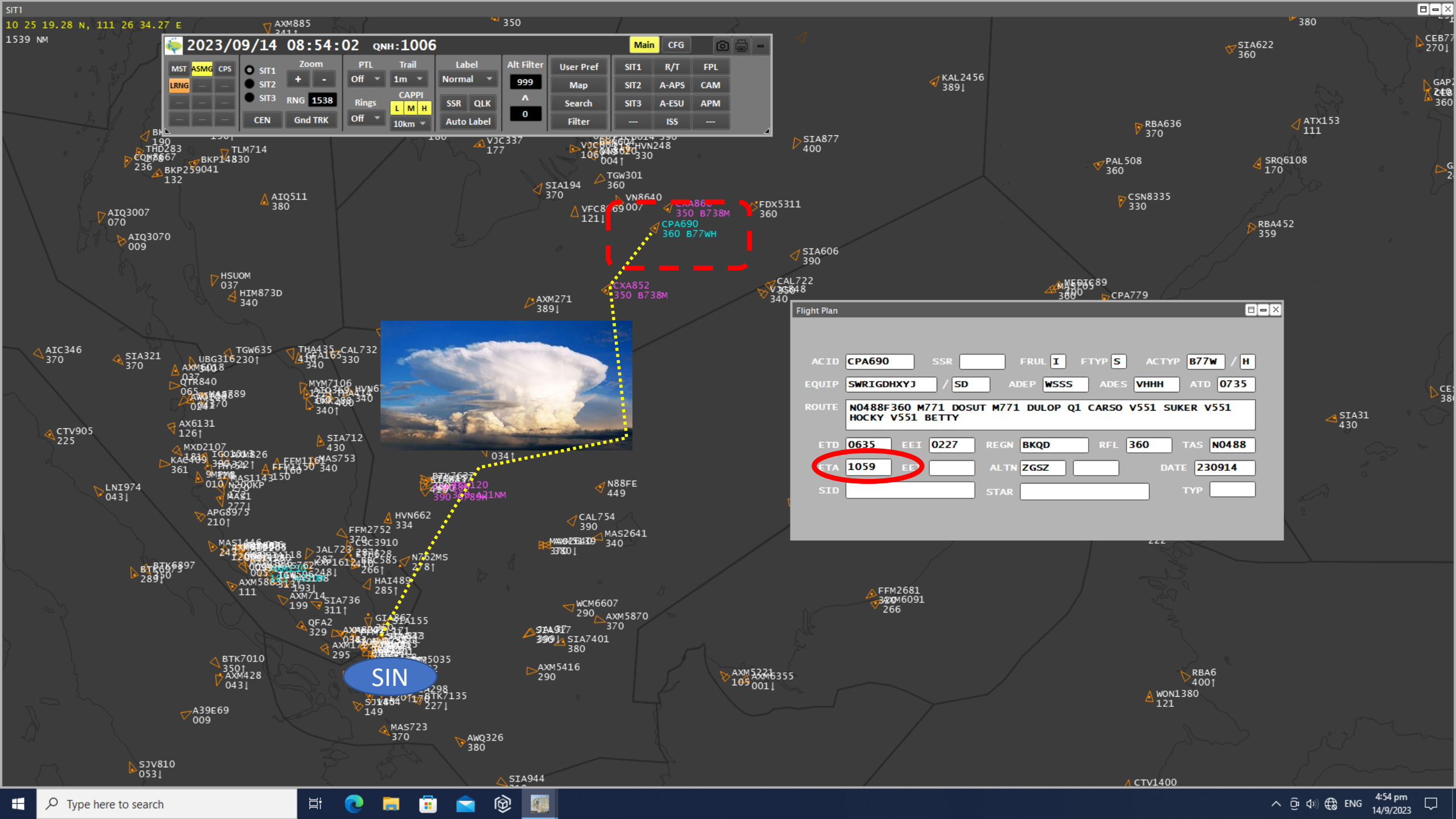
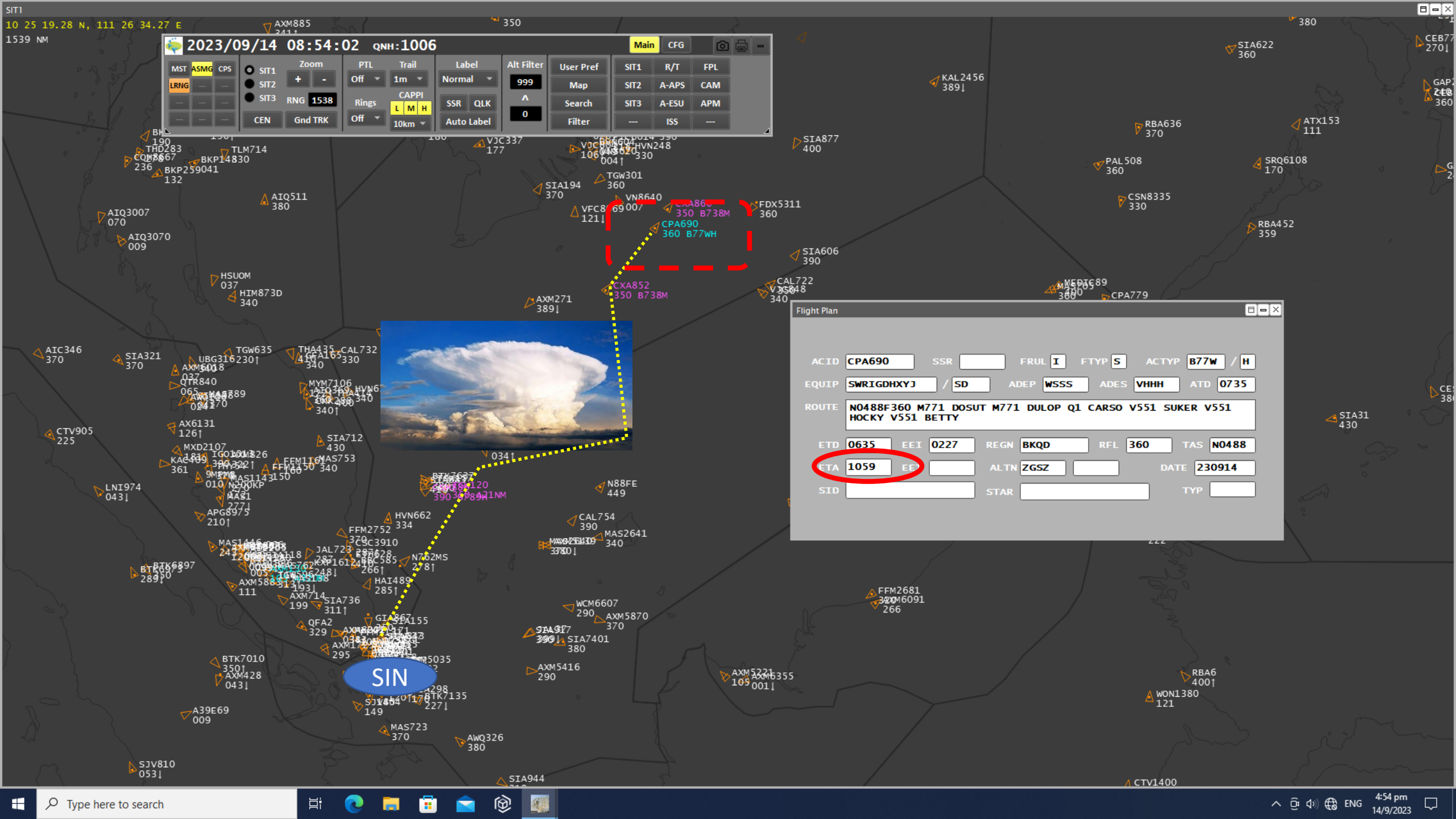
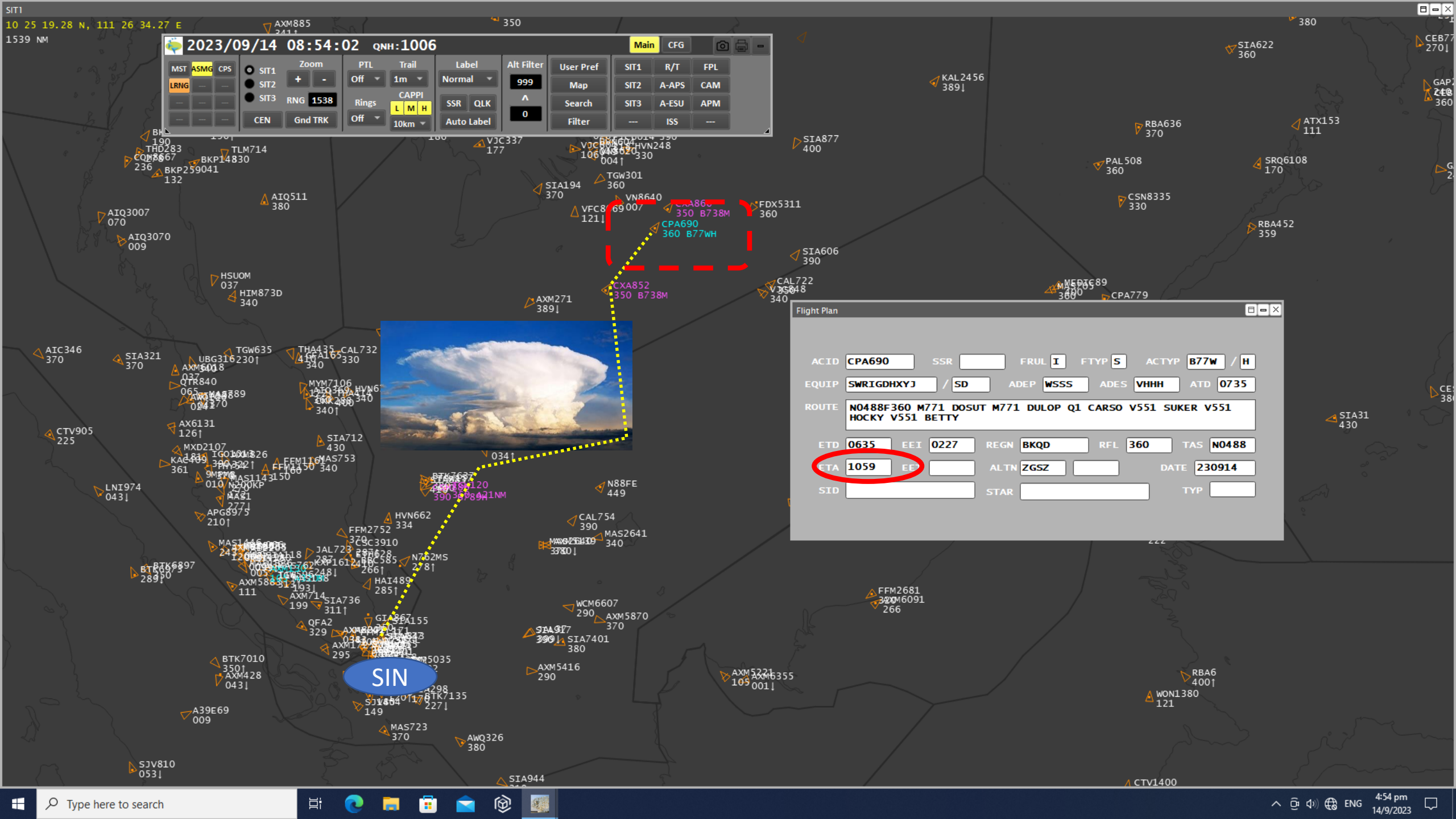
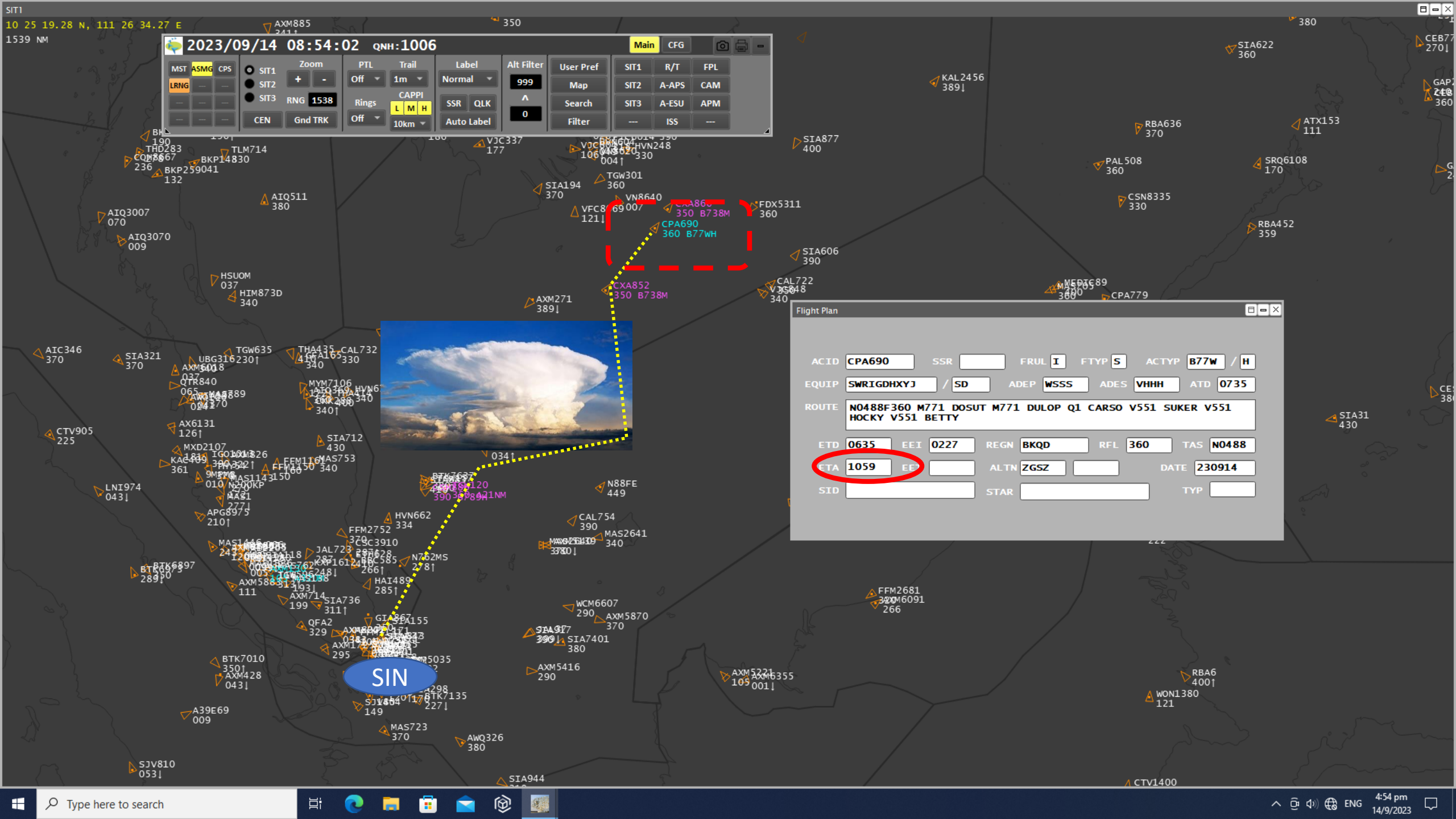
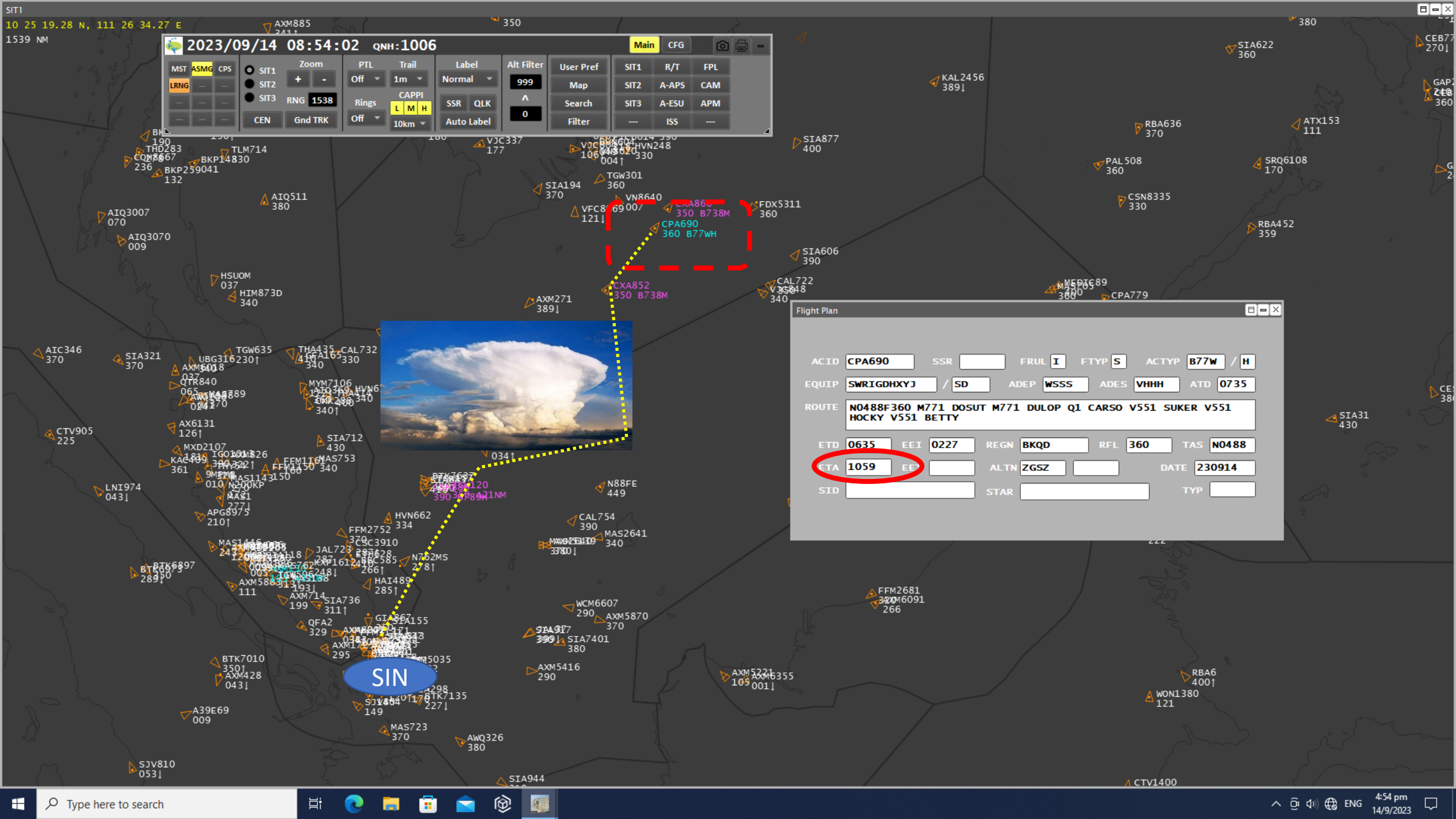
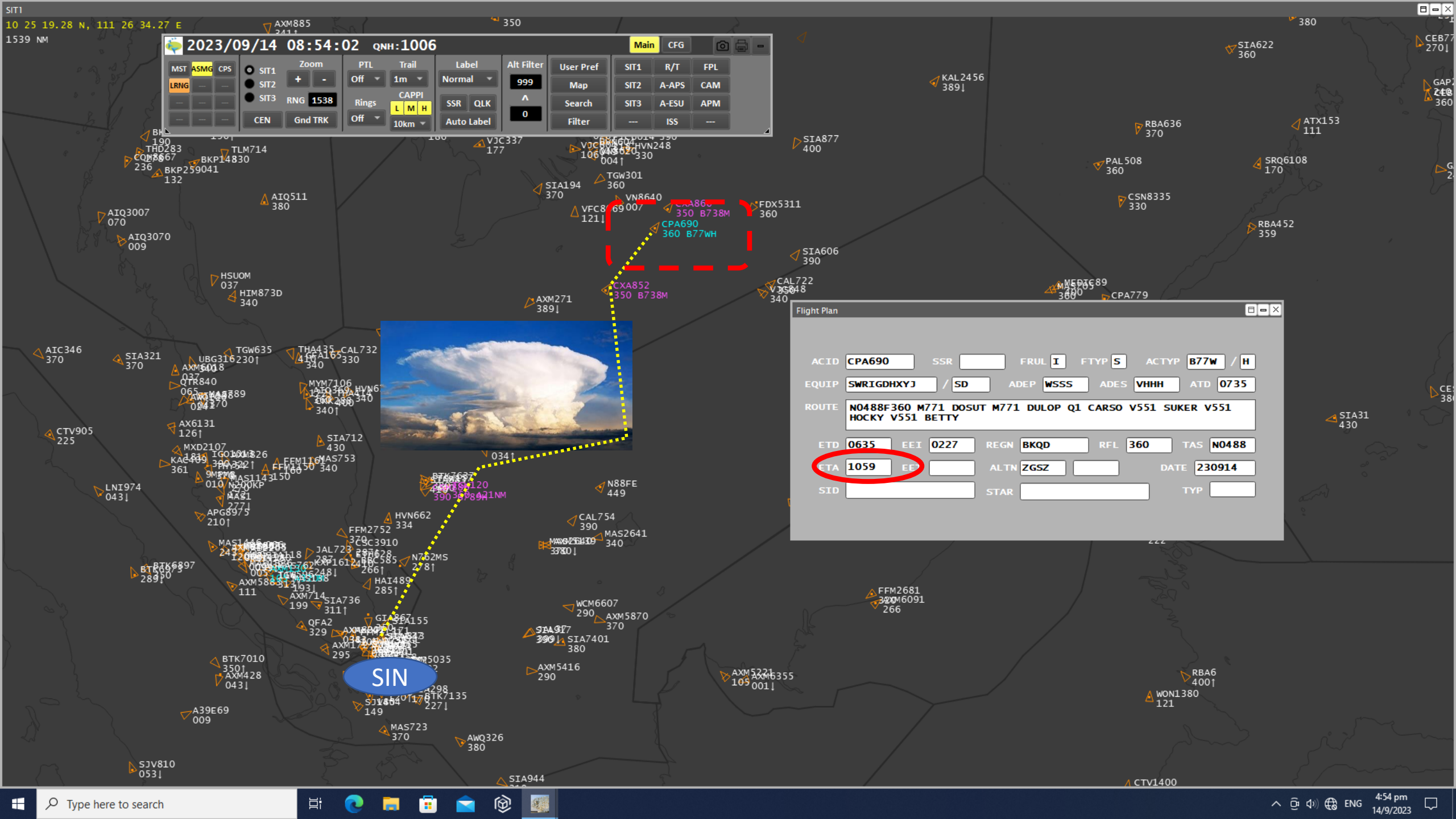
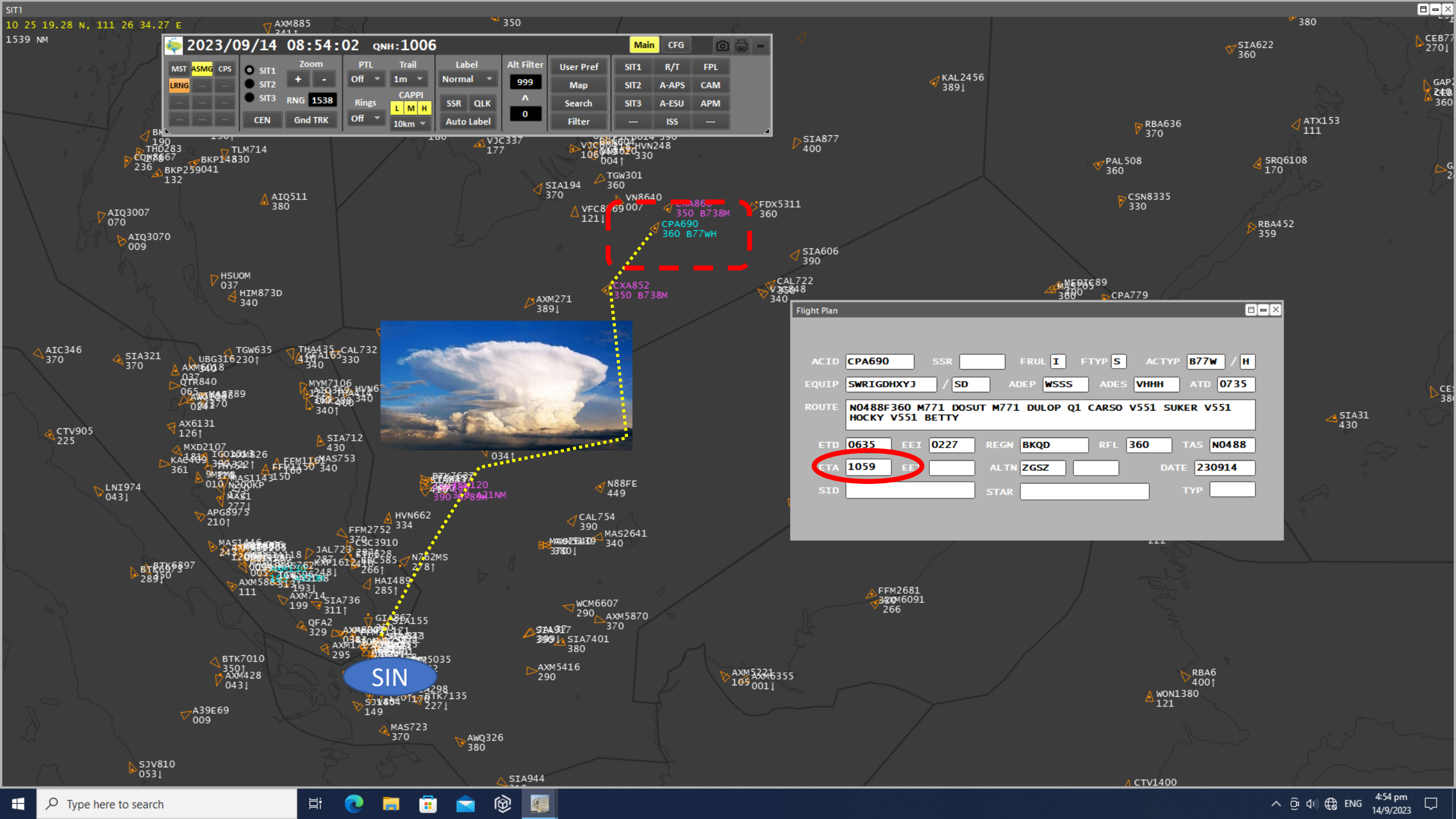
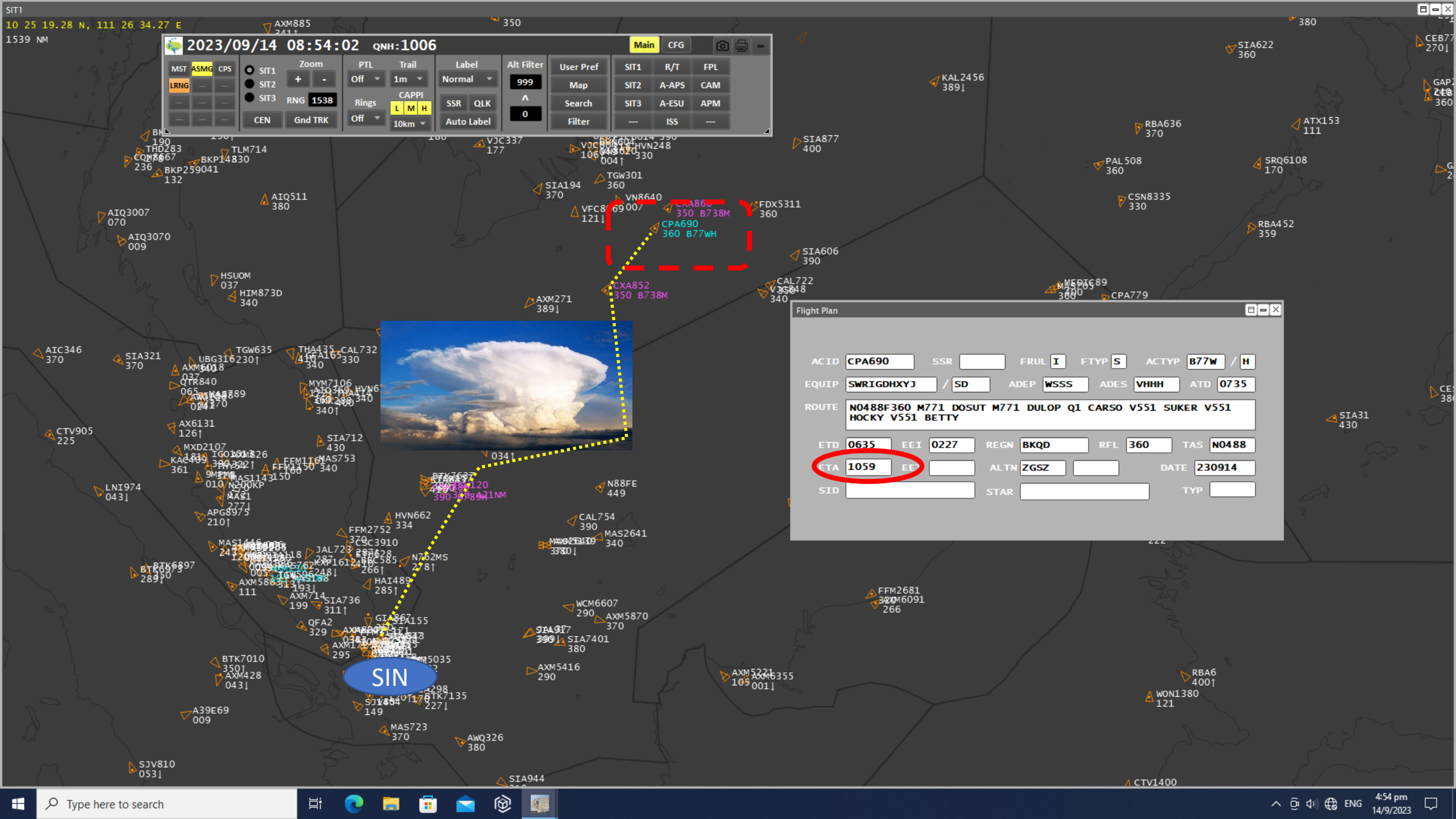
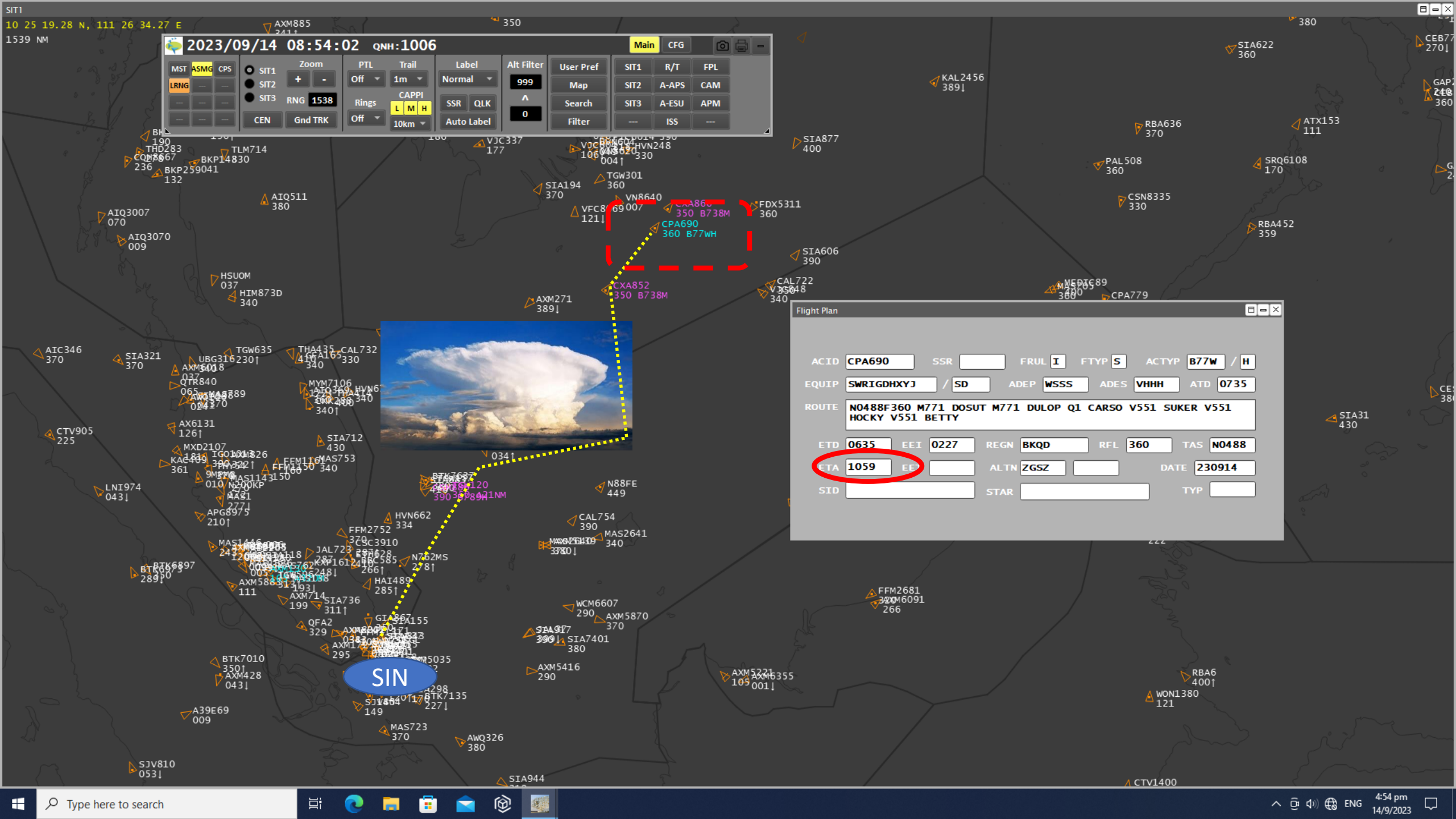
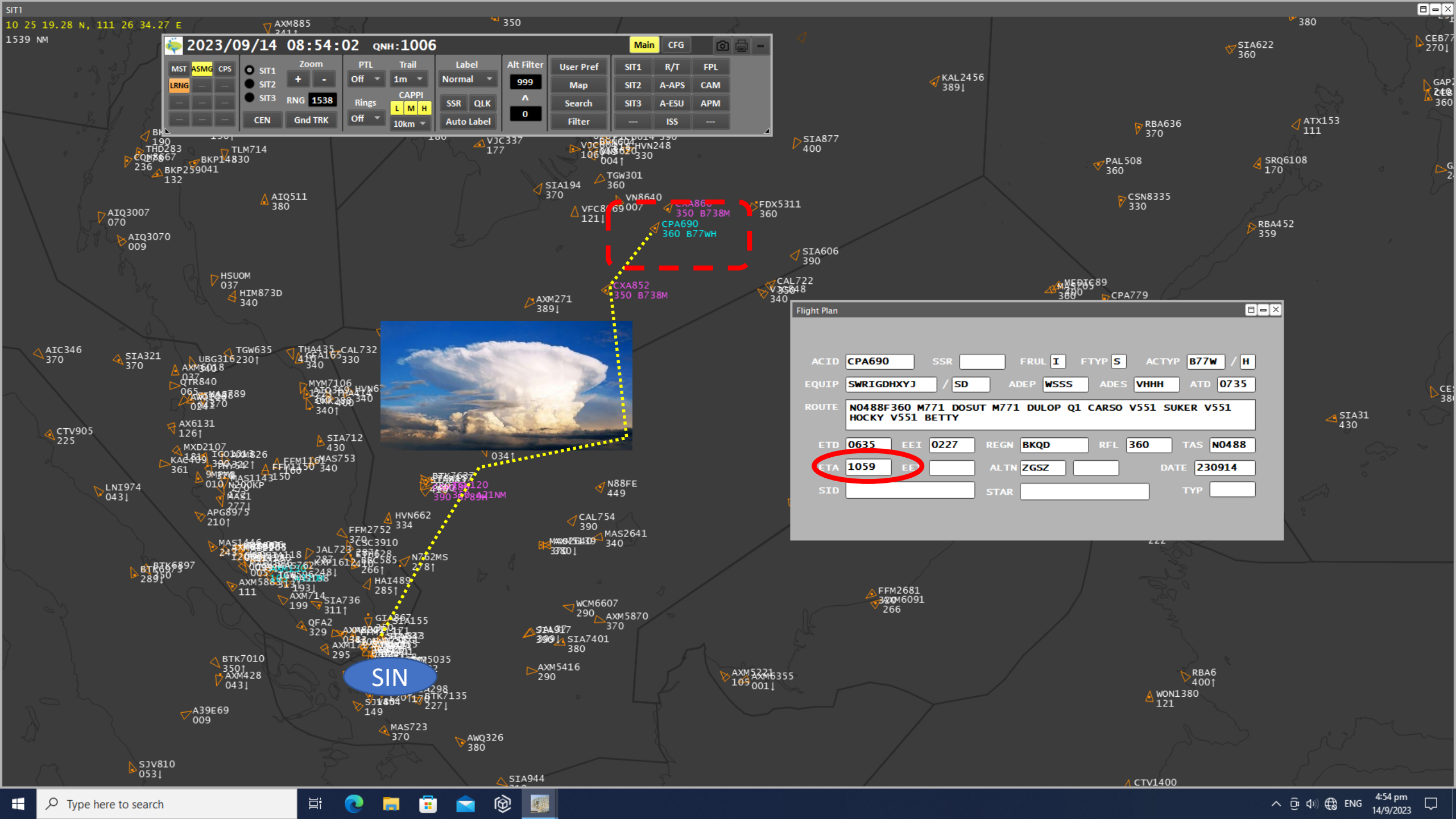


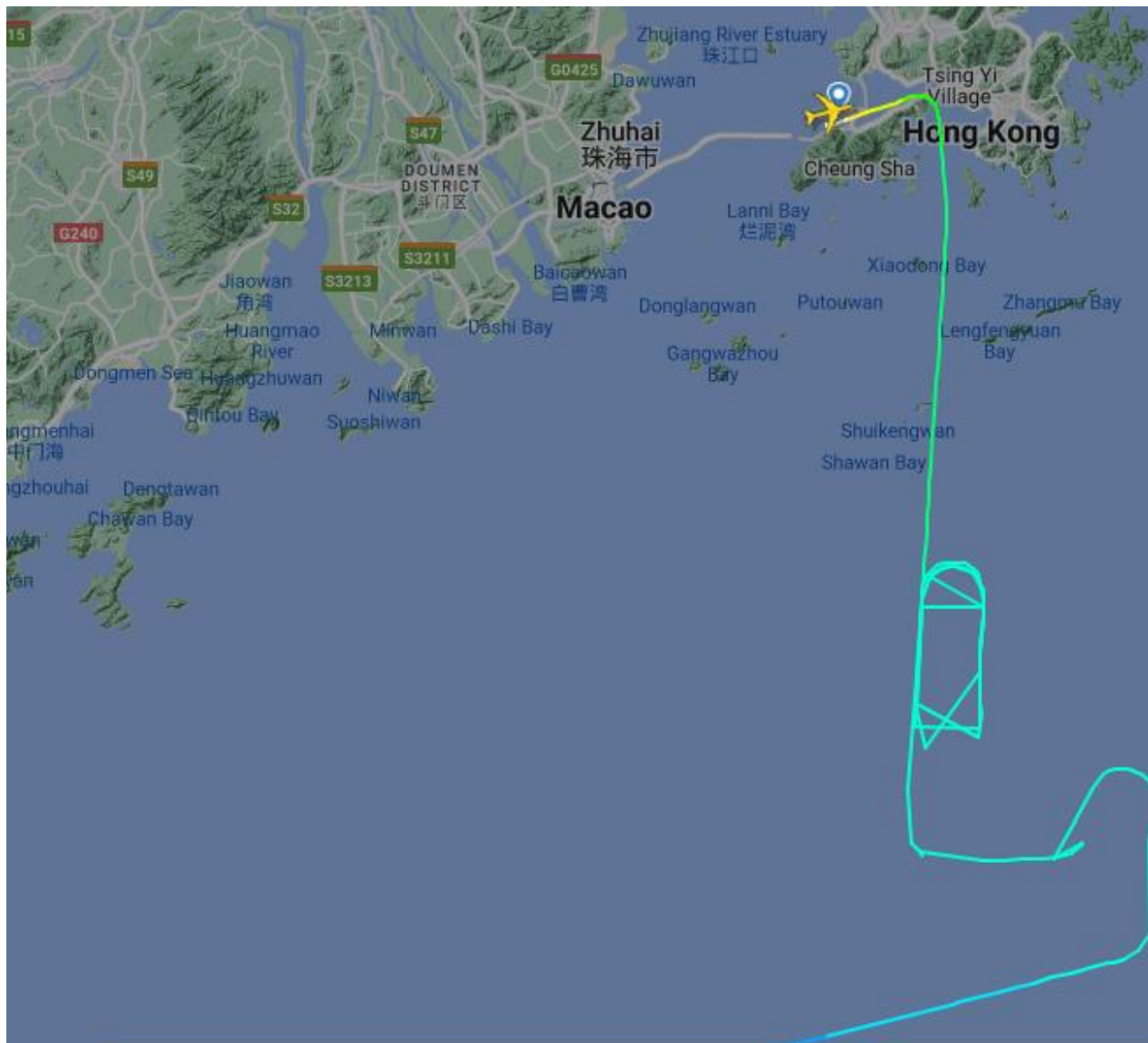
Scenarios 7 & 8



Future use case under development?







Playback of flight N8543 / NCR543

GREAT CIRCLE DISTANCE
5,956 km

AVERAGE FLIGHT TIME

FROM
Hong Kong (HKG)



TO
Dubai (DWC)



Brainstorming SWIM use cases development

- Be realistic
- Start small, e.g. sharing of TTOT could already bring significant benefit immediately
- Avoid imagining complex scenarios linking everything together which may not be operational feasible in the foreseeable future
- Use cases must be goal-oriented
 - E.g. surveillance data sharing for what purpose? Just purely for geographical visualization by human or machine digestible/consumable
- Detail operational steps to guide SWIM technical development

Thank you!

