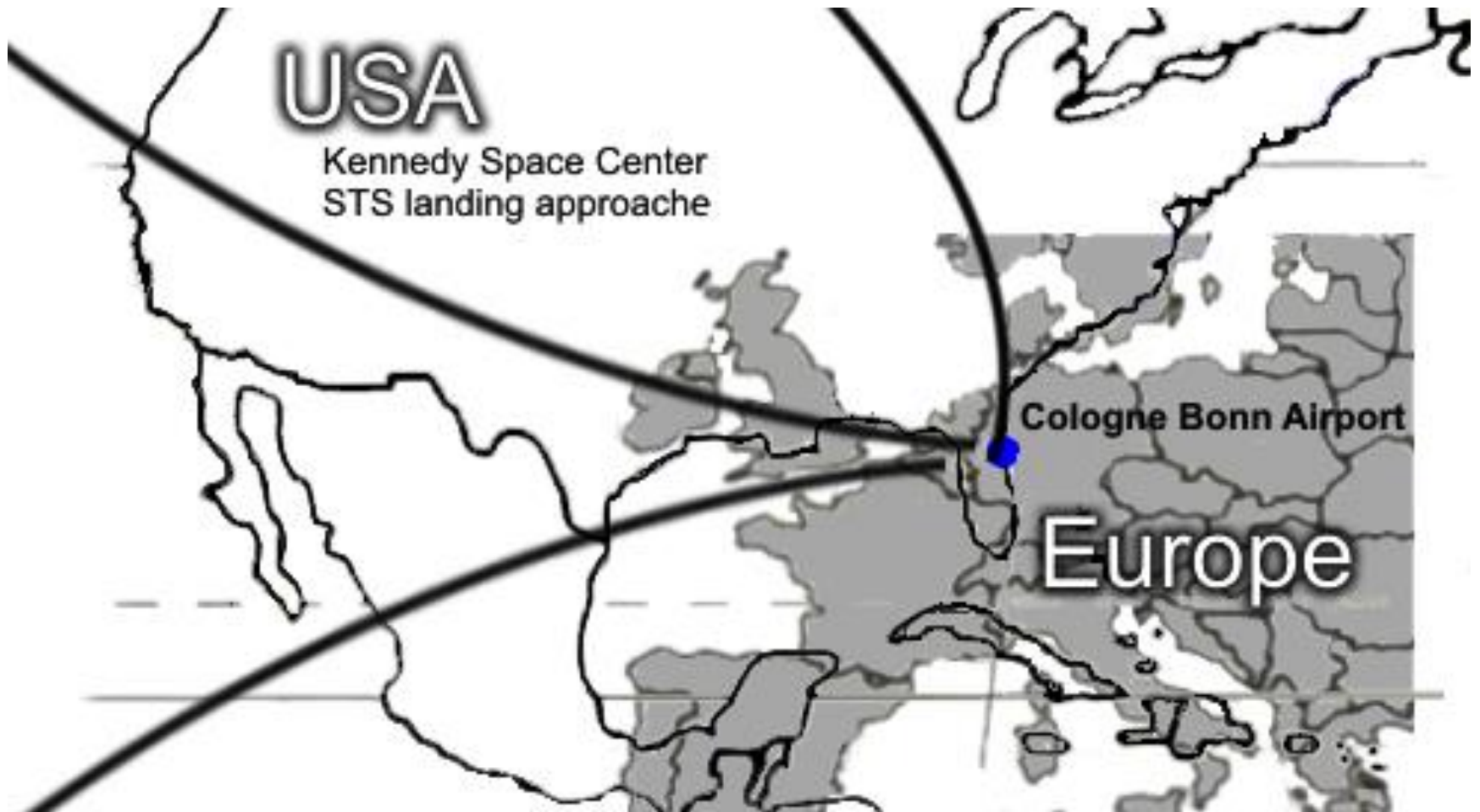


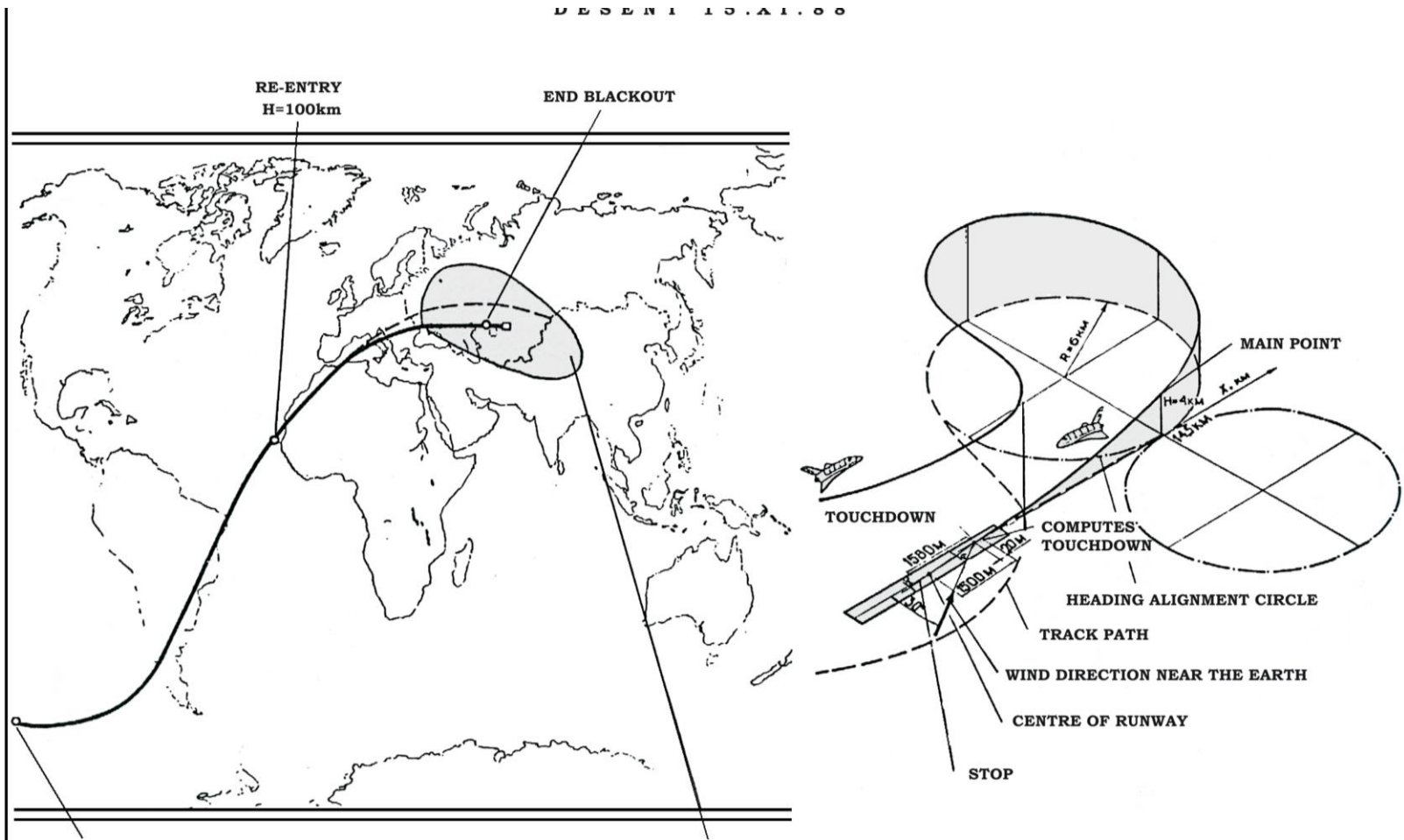
# **Reconsidering the Definition/Delimitation Question and the Passage of Spacecraft through Foreign Airspace**

Dr. Marietta Benkö  
Cologne (Germany)

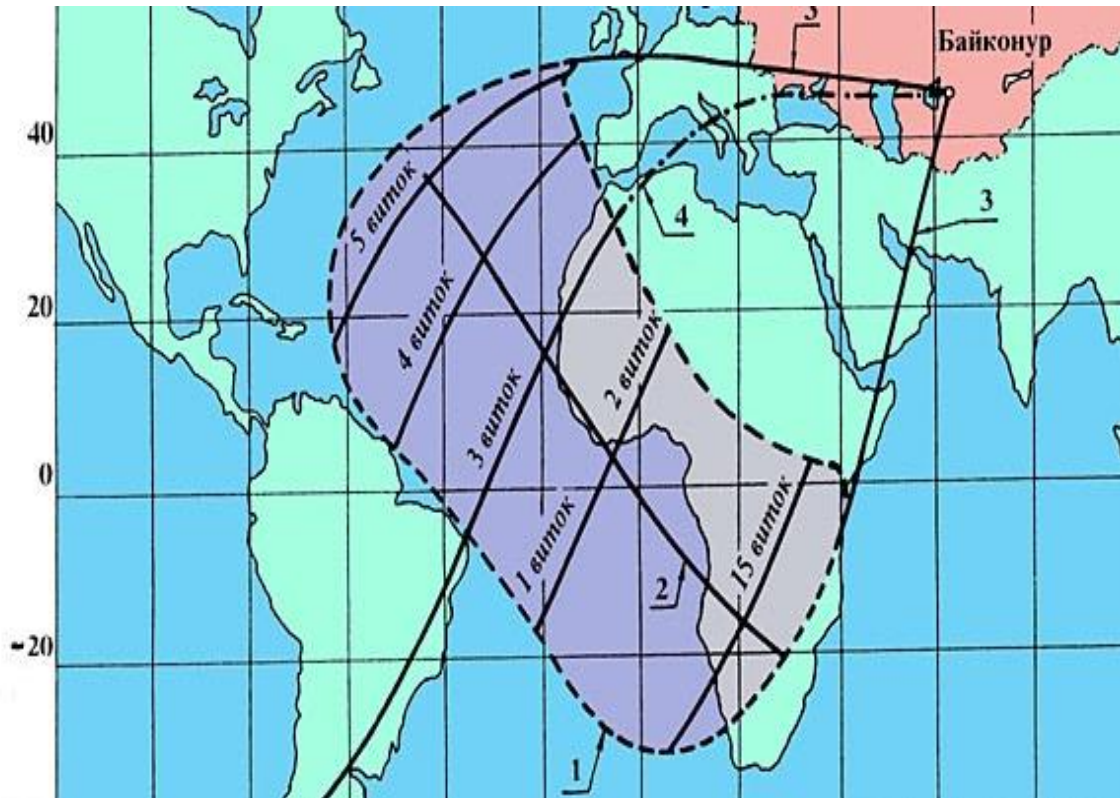
**Figure 1:** Re-entry trajectory for a typical approach of the US Space Shuttle to Kennedy Space Center as projected to an approach to Cologne/Bonn Airport (Space Shuttle emergency landing site).



**Figure 2:** *On the left:* BURAN descent/re-entry trajectory below 100 km.  
*On the right:* Touchdown on landing strip.

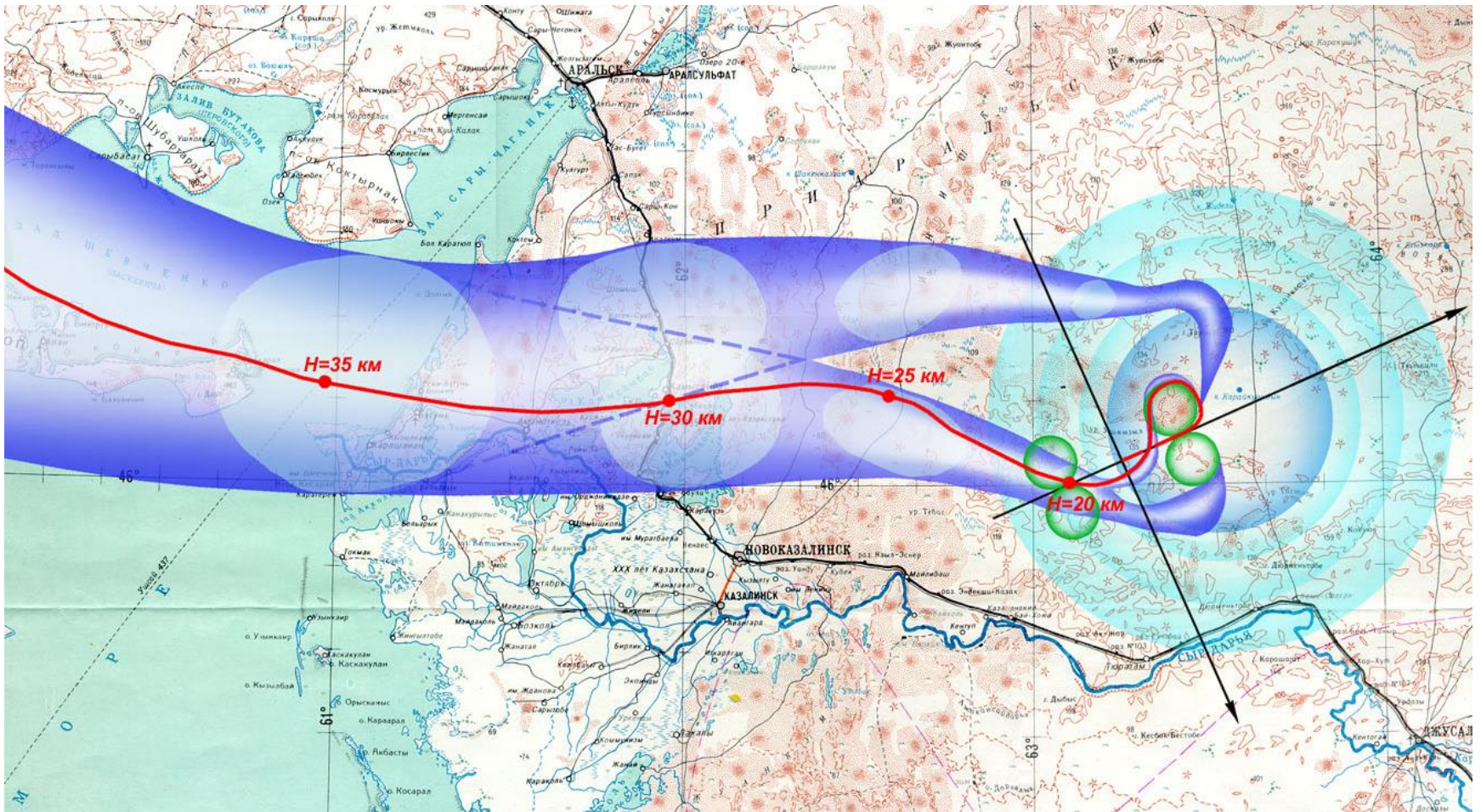


**Figure 3:** BURAN Spacecraft ground track during descent on 15 november 1988 and possible re-entry tracks before landing.



1. Area of allowable entry conditions
2. Design (aiming) line of navigation at the altitude of 100 km
3. Flight trajectories design area borders for landing in Baikonur
4. First flight descent and landing

**Figure 4:** BURAN's precalculated flight corridor (3D tubes) and actual re-entry track (red middle line) with indication of altitude over ground for the approach to Baikonur airfield.



**Figure 5:** Some available abort landing sites around the World for the case of an emergency during the launch phase of the Space Shuttle for different inclinations.

