

ESA Background

- Strong Support Background for space effects
- Strong R&D programme oriented to models and tools
- Strong ST Physics (SOHO, Cluster, Ulysses, ISEE, GEOS,...)
- Strong Interest from ESA management

European Background

- Wider user community (GIC, comms., ...)
- Space weather studies, e.g. CNES,
- National programmes:
AMPTE, Freja, Equator-S, microsat.
programmes

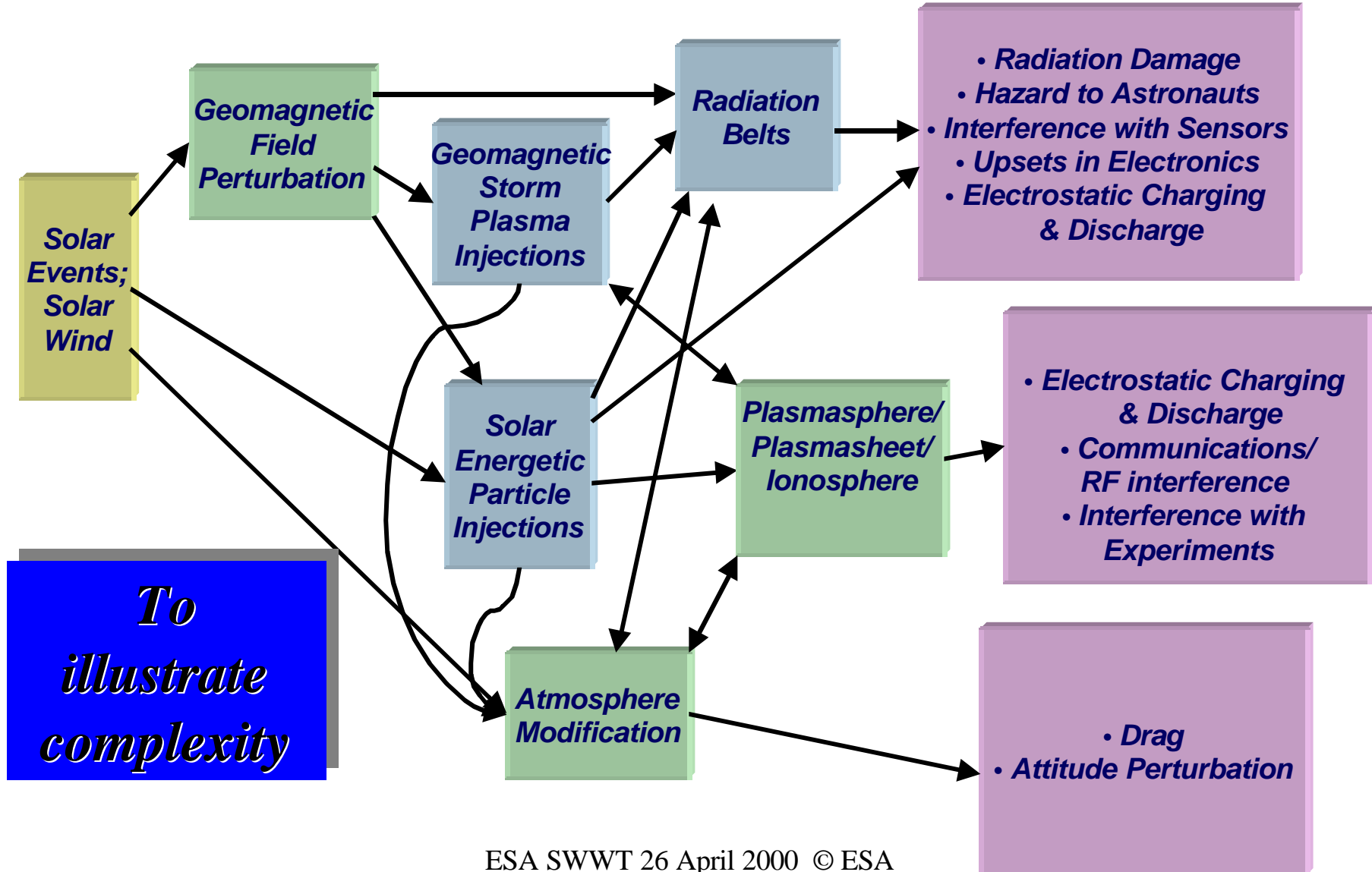
Context

- Context:
 - ESA history of Space Environment Analysis
 - ESA excellence in Solar-Terrestrial physics
 - world-wide perception of need and opportunities
- Opportunities
 - a natural networking opportunity
 - participation in a world-wide effort
 - member states' enthusiasm
- Problems
 - multi-disciplinary & multi-directorate ; lack of home
 - funding; lack of support in technology programmes

Context

- Effects on Spacecraft, Aircraft & Ground are increasing
- More in-orbit assets (Commercial, ESA & Member States')
- Space Weather System components are reaching maturity
 - A case of scientific research leading to a service?
 - An initiative of:
Space Environments & Effects Analysis Section
of D/TOS through General Studies Programme

Near Earth Environments and Effects



Study plan

- Investigate **needs** for & **benefits** of a Space Weather Programme
- Establish detailed **data requirements** w.r.t. quantification of effects
- Detailed analysis of potential **programme contents**:
 - Detailed definition of the space-segment
 - Detailed definition and proto-typing of the service-segment
 - Analysis of collaborative & organisational structures which need to be implemented by ESA and member states
- Proposal of a programme, including project implementation plan, cost estimate and risk analysis

Strategic Points for Europe

- Autonomy in protecting assets;
- Use of world-class expertise (technology, science)
- *Co-ordination*; member states' facilities
- Spin-off promotion, technology transfer, PR;
- Not just space: aircraft, ground systems
- European landscape:
small satellites; monitoring instruments; expertise
in environmental effects; excellence in science;