



**SWx Weather Architecture Study
R&V #5
Summary & Feedback
Lt Col Richard A. Strathearn**

3 December 1998

SPACE WEATHER



Topics for Discussion

SPACE WEATHER

- DCG #2
 - Invitees
 - Objectives
 - Agenda
 - Decision Brief Outline
- Recommendations
- Final Report Proposal
- Issues & Action Items



Decision Coordination Group Meeting Phase I Attendees (22 Apr 98)

SPACE WEATHER

NOAA/OAR

Dr Joe Friday (SES-5)

HQ NASA

Dr George Withbroe (SES-5)

DUSD (Space)

Mr John Landon (SES-4)

Joint Staff/J8

COL Tim Murphy

NRO P&A

Col Rick Jones

HQ USAF/XO

Col Mike Jamilkowski

CNO/N6

CAPT Mary Crawford

USA SMDC

COL Bob Billings

USSPACECOM/J5

Lt Col Chris Chapin



Decision Coordination Group Meeting Phase II Invitees (16 Dec 98)

SPACE WEATHER

SMDC	LTG Costello	CNR	RADM Gaffney
CNO/N6	VADM Natter	OASD/C3I	Mr. Landon (SES-4)
NOAA/OAR	Dr. Evans	Joint Staff/J38	RADM Willard
HQ NASA	Dr. Withbroe (SES-5)	USSPACECOM/J5	Brig Gen Ferrell
HQ DA/DAMO-FDZ	MG Cosumano	AFSPC/DR	Brig Gen Arnold
USSPACECOM/J3	Maj Gen Kelly	AFSPC/XP	Brig Gen Pettit
AFSPC/DO	Maj Gen Hinson	HQ USAF/XOW	Brig Gen Lewis
AFRL/CC	Maj Gen Paul	CNO/N096	RADM Ellis
NRO/OAAA	Maj Gen Dickman	HQ SMC/CV	Brig Gen Hamel



Space Weather Architecture Study DCG # 2 Objectives

SPACE WEATHER

- Review Study Findings & Recommendations
- Evaluate Space Weather Architecture Vector
- Make a go/no go decision on the Architecture Vector and Recommendations
- Commit resources to supporting the Space Weather Architecture Transition Strategy



Space Weather Architecture Study DCG Agenda

SPACE WEATHER

Wednesday, 16 December 1998

- | | |
|--------------------|---|
| 1230 - 1300 | Sign-in |
| 1300 - 1310 | Introduction (Brig Gen Mitchell) |
| 1310 - 1315 | Administrative (Lt Col Strathearn) |
| 1315 - 1415 | Decision Brief (Lt Col Strathearn) |
| 1415 - 1430 | Discussion |
| 1430 - 1500 | Executive Session |



DCG Decision Brief Outline

SPACE WEATHER

- **Why a SWx Architecture Study was Appropriate**
- **SWx ADT Participants**
- **Phase I Summary (Objectives / Findings)**
- **Phase II Summary (Objectives / Findings)**
 - **SAX, User Applications, Man-made, & Meteorite results**
 - **Major Recommendations including Architecture Vector**
 - **Downselected Architectures Methodology & Descriptions**
 - **Evaluation overview**
 - **Programs Key to “A”, “B”, and “C”**



SWx Architecture Study R&V Revised Recommendations

SPACE WEATHER

1. Pursue a SWx Architecture Vector to

- Increase emphasis on operational model development
- Provide improved operational capabilities for high priority user needs
 - National Security priorities include Ionospheric, Radiation, and Neutral Environment specification and Scintillation forecast
 - Civil priorities also include Geomagnetic forecast

Pursue R&D to keep options open for fully operational forecast capabilities as phenomenology is better understood, models mature, & user needs are better defined

2. Integrate SWx information (system impacts & SWx environment data) into user systems through inclusion in:

- User education
- Requirements
- System anomaly resolution, damage assessment & reporting
- Simulations, wargaming & training
- CONOPS & contingency planning



SWx Architecture Study R&V Revised Recommendations (cont.)

SPACE WEATHER

- 3. Encourage the development and approval of SWx validated requirements focused on user needs**
- 4. Identify a cognizant organization to manage acquisition of an operational SWx Architecture to ensure models are developed in conjunction with sensors and user needs**
- 5. Consolidate and expand existing Archival System to capture SWx environmental data and system impacts.**
 - Centrally managed
 - User focused
 - Standard formats
 - Multi-level security
- 6. Provide SWx information in user impact terms, routinely available through common dissemination channels and integrated with other user information as required.**



SWx Architecture Study R&V Revised Recommendations (cont.)

SPACE WEATHER

- 7. Create a joint primary SWx center that includes a classified support cell to produce tailored products. A back-up capability is needed to provide support in the event of natural emergencies or catastrophic equipment failures.**

- 8. Provide a robust SWx R&D program to develop the recommended models and to provide options for further growth. Continue to leverage R&D missions to enhance operational products until operational systems are ready.**

- 9. Support the space control protection mission by providing timely SWx information. The operational specification and forecasting of environmental effects of manmade (primarily nuclear) events needs to be incorporated as a mission into the SWx architecture**



Proposed Final SWx Documentation Package

SPACE WEATHER

Presented to Seniors

Final SWx
Briefing

Distributed to Seniors + ADT

SWx Summary Report
100 pages

Available on web & CD

Final Report
Complete Description

SWx Databases

SWx Web Site

- Ops Impact
- Technology
- Requirements
- Applications
- Military Utility

- Presentations
- White Papers
- Reports (e.g. EB document)

Appendices

Appendices

Appendices




ADT Working Website Space Weather Architecture Study

SPACE WEATHER

Space Weather Address: www.virtualproject.com
User ID: DIR119127
Password: 83M73IM (case sensitive)

Webmaster: Bob Castle (703) 506-5343 bcastle@grci.com

 [Click here](#) for new additions to the WebSite as of 8/5/98

WebSite Directory

Groups/Panels | **Library** | Calendar | Points of Contact | Links | Database | Memo | Help | Contact Web

- Master Document List
- Phase II Key Documents
- Phase I Key Documents
- References
- Database Archive
- Other Archived Docs
- Documents in Review

Using the new WebSite Directory (Top of the graphic above): Pass your mouse over the menu headings at the top of the graphic above. Sub-menus will appear where applicable. Click to select the appropriate page. Select pages without sub-directories

The screenshot shows a web browser window. At the top, there is a navigation bar with several menu items: "Groups/Panels", "Library" (which is highlighted in blue), "Calendar", "Points of Contact", "Links", "Database", "Memo", "Help", and "Contact Web". Below this, a yellow menu is open under "Library", listing: "Master Document List", "Phase II Key Documents", "Phase I Key Documents", "References", "Database Archive", "Other Archived Docs", and "Documents in Review". The background of the page features a large, colorful graphic of a space weather phenomenon, possibly a solar flare or a magnetic field interaction, with bright orange and red on the left and blue and green on the right. The browser's address bar and taskbar are visible at the bottom.



Space Weather Architecture Study Issues & Action Items

SPACE WEATHER

- Forward revised recommendations to R&V members
- Request identification of further actions needed before the DCG