Date	Pub	Agency	Study/Workshop/Action	Recommendations
1982		NSF/ONR/NOAA	Submersible Science Study (SSS) (first agency supported submergence committee report)	Convert Atlantis II to be support Ship for Alvin. This will increase lab space/berthing/endurance and add multi-beam capability single point lift and A-frame, Increase depth range improve sensors and imaging systems and ensure capabilities to launch ROVs and AUVs.
1986	UNOLS	NSF/ONR/NOAA	Alvin '86 - A Report on the Program's Status	The science is excellent, technological improvements are necessary for nav/imaging/lighting/sonar/data logging/payload/ manipulators. US should initiate efforts to extend payload/ manipulators. US should initiate efforts to extend depth range to keep up with other nations. "Alvin Review Committee" should be revamped. A Submergence Science Study Committee should be sponsored to assess both shallow submergence needs and needs for deeper depth capacity for Alvin.
1987-88	UNOLS	NSF/ONR/NOAA	Submergence Science Study Committee (report published 1990)	Immediate need for improved science and imaging sensors gain access to greater than 4000 m depth. Provide better access to shallow submergence facilities, establish a permanent submersible science committee.
1992	UNOLS	NSF/ONR/NOAA	Global Abyss Report (1994)	Greater access, deeper submergence capability… (I need to flesh this out)
1994		ONR	Incorporation of ROVs to NDSF	Directive by ONR that the National Deep Submergence Facility incorporate Jason/Medea, Argo II and DSL-120. Also Alvin's sphere was certified to 4500m
1996	NRC	ONR/NSF/NOAA/USN Deep Submergence Office/ARPA	Undersea Vehicles and National Needs (NRC study)	The nation should develop, maintain, and follow a long-term plan for federal undersea vehicle capabilities. Nation should meet its needs through combining govt programs, foreign programs, and industry-govt programs. Capital investment programs should take advantage of partnerships. Ensure user access to undersea vehicles by maintaining the pluralism of the present approach with a variety of agencies. Stable funding for national assets.

1997	**UNOLS**	**UNOLS Support Agencies**	**SeaCliff Workshop**	**Greater depth capability is needed (9 km). Maintain the excellent HOV capability that exists with Alvin and the deployment capability from the existing support ship (no major changesto the ship design, or submersible launch/recovery system). A spectrum of vehicles is needed. Investigate possibility of designing a new sub either using parts of SeaCliff or a new sub. Stable funding and lead funding agency is needed**
1999	**UNOLS**	**NSF/ONR/NOAA**	**Developing Submergence Science for the Next Decade (DESCEND)**	**Develop new sensors and tools. Accelerate development of AUVs. Construct a new deep-diving (6000+ M) occupied submersible. Plan for a new deep-diving (7000+m) ROV for science. Increase access to submergence vehicles and tools. Convene a submergence technology meeting.**
2002		**NOAA/NASA**	**LINK Symposium**	**New sensors and tools needed (new energy sources, miniaturization, bio/chemo-fouling mitigation, better manipulators/imaging/lighting). Continued human presence required shallow habitats and deep (>6000m) submergence capability. Additional efforts toward R&D for AUVs.**