Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy										DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*							
COST ($ in Millions)	**FY 2009 Actual**	**FY 2010 Estimate**	**FY 2011 Base Estimate**	**FY 2011 OCO Estimate**	**FY 2011 Total Estimate**	**FY 2012 Estimate**	**FY 2013 Estimate**	**FY 2014 Estimate**	**FY 2015 Estimate**	**Cost To Complete**	**Total Cost**
Total Program Element	7.673	28.774	63.878	0.000	63.878	57.148	43.091	17.734	18.123	Continuing	Continuing
0524: *Navy METOC Support (SPACE)*	2.598	1.080	0.936	0.000	0.936	1.785	1.058	1.076	1.098	Continuing	Continuing
1452: *GEO SAT*	5.075	26.897	62.942	0.000	62.942	55.363	42.033	16.658	17.025	Continuing	Continuing
9999: *Congressional Adds*	0.000	0.797	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.755

A. Mission Description and Budget Item Justification

This program element supports the Navy's requirements in meteorological and oceanographic (METOC) space-based remote sensors. These requirements include commitments to satellite, sensor, and operational demonstration/development activities as well as the transition to fleet applications associated with three satellite programs: 1) the joint Defense Meteorological Satellite Program (DMSP), 2) the jointly funded Coriolis satellite which includes Navy Satellite Based Wind Speed (WindSat) and Air Force Solar Mass Ejection Imager instruments, 3) the Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2) altimetry satellite funded entirely by Navy.

The Navy METOC Space-Based Sensing Capabilities project provides for Navy participation in Navy/Air Force cooperative efforts leading to DMSP sensor development, and specifically participation in the calibration and validation of instruments and delivery of satellite products to the fleet. The passive microwave instruments carried on the DMSP satellites provide global and atmospheric data of direct operational relevance, including sea surface wind, sea ice, and precipitation. WindSat is a partnered program that meets multiple naval remote sensing requirements and provides a significant risk reduction for the National Polar-orbiting Operational Environmental Satellite System satellites' Microwave Imaging Sensor instrument.

The GEOSAT Follow-On project, and GFO-2 program, will provide a polar-orbiting satellite that measures sea surface topography using a precise altimeter. Both the GEOSAT Follow-On and Navy METOC Support (Space) projects fulfill Navy's obligation to develop naval service-unique, mission critical space-based METOC technology.

JUSTIFICATION FOR BUDGET ACTIVITY: BA-7: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Navy	DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*

B. Program Change Summary ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	8.182	28.094	0.000	0.000	0.000
Current President's Budget	7.673	28.774	63.878	0.000	63.878
Total Adjustments	-0.509	0.680	63.878	0.000	63.878
• Congressional General Reductions		-0.120			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.800			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.289	0.000			
• SBIR/STTR Transfer	-0.221	0.000			
• Program Adjustments	0.000	0.000	63.878	0.000	63.878
• Rate/Misc Adjustments	0.001	0.000	0.000	0.000	0.000

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2009	FY 2010
Project: 9999: *Congressional Adds*		
Congressional Add: *Integration of Adv Wide Field of View Sensor Testbed System*	0.000	0.797
Congressional Add Subtotals for Project: 9999	0.000	0.797
Congressional Add Totals for all Projects	0.000	0.797

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

FY11 from previous President's Budget is shown as zero because no FY11-15 data was presented in President's Budget 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 0524: *Navy METOC Support (SPACE)*	

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
0524: *Navy METOC Support (SPACE)*	2.598	1.080	0.936	0.000	0.936	1.785	1.058	1.076	1.098	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Meteorology and Oceanography (METOC) Space-Based Sensing Capabilities project provides for the naval service's unique sensor development efforts Navy Satellite Based Wind Speed (WindSat) and Navy participation in the Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave/Imager and Special Sensor Microwave Imager Sounder calibration/validation efforts in support of the fleet operational requirements. WindSat, an initiative begun in 1997, is a partnered program that meets multiple naval remote sensing requirements and provides a significant risk reduction for the National Polar-orbiting Operational Environmental Satellite System (NPOESS) satellites' Conical Microwave Imaging Sensor instrument. The passive microwave instruments carried on DMSP and future NPOESS satellites provide global oceanic and atmospheric data of direct operational relevance, including sea surface wind speed, sea ice, and precipitation.

The METOC Space-Based Sensing Capabilities project ensures the naval service's operational requirements are satisfied primarily through demonstration of technologies for inclusion on operational constellations such as DMSP, the National Polar-orbiting Operational Environmental Satellite System (NPOESS) and the National Oceanic and Atmospheric Administration's Geostationary Operational Environmental Satellites (GOES). These efforts fulfill naval service unique requirements that are not funded within the DMSP, NPOESS or GOES programs, and are in accordance with current inter-agency agreements.

The primary focus of the FY 2011 request is the continuation of the microwave imager sensors data anomally resolution, and to continue ground control and operations of the Coriolis spacecraft and monitor the state of health of the Navy Satellite Based Wind Speed (WindSat) on-orbit payload.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
METOC Space-Based Sensing Capabilities	2.585	1.080	0.936	0.000	0.936

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 0524: *Navy METOC Support (SPACE)*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: Continued performance assessments of microwave imagers (e.g.: Special Sensor Microwave Imager Sounder (SSMIS) / Special Sensor Microwave Imager (SSMI) / Microwave Imager Sounder (MIS)) and continued to calibrate sensors and validate data and resolve anomalies. Continued ground control and operations of the Coriolis spacecraft and monitor the state of health of the Navy Satellite Based Wind Speed (WindSat) on-orbit payload. *FY 2010 Plans:* Continue performance assessments of microwave imagers (e.g.: SSMIS/SSMI/MIS) and continue to calibrate sensors and validate data and resolve anomalies. Continue limited ground control and operations of the Coriolis spacecraft and monitor the state of health of the Navy WindSat on-orbit payload. *FY 2011 Base Plans:* Continue performance assessments of microwave imagers (e.g.: SSMIS/SSMI/MIS) and continue to calibrate sensors and validate data and resolve anomalies. Continue limited ground control and operations of the Coriolis spacecraft and monitor the state of health of the WindSat on-orbit payload.					
Acquisiton Workforce *FY 2009 Accomplishments:* Funded acquisition workforce fund.	0.013	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	2.598	1.080	0.936	0.000	0.936

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 0524: *Navy METOC Support (SPACE)*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Naval service unique, space based METOC requirements. Particular sensors or data sources with unique naval service mission needs are targeted to accelerate acquisition or ensure threshold accomplishment of Joint or converged national program plans. Navy Satellite Based Wind Speed provides risk reduction data and developmental technology that the National Polar-orbiting Operational Environmental Satellite System (NPOESS) Integrated Program Office (IPO) will use in the development of the Conical Microwave Imager Sounder (CMIS). CMIS will collect global microwave radiometry and sounding data to produce microwave imagery and other meteorological and oceanographic data. CMIS can be viewed as the follow-on instrument to the Special Sensor Microwave (SSM) instruments Navy developed for the Defense Meteorological Satellite Program. It will be the primary instrument for satisfying 20 NPOESS Integrated Operational Requirements Document Environmental Data Records. These CMIS sensors will be acquired as part of the NPOESS architecture which supports these Navy requirements in the future. Maintenance of rigorous sensor calibration and data validation for operational SSM instruments continues along with algorithm development in support of fleet applications. The Advanced Altimeter technologies will improve radar altimeter resolution and aerial coverage to support Navy requirements for sea surface topography measurement in the littorals.

E. Performance Metrics

Goal : Provide precise and near real-time METOC forecasting to the warfighter using existing and future space-based satellite derived data, including ocean surface wind speed, rain rate, ice concentration, and soil moisture measurements.

Metric: Provide precise ocean surface wind speed within plus or minus 2.0 meters per second, the rain over land and ocean rate within plus or minus 5.0 millimeters per hour, soil moisture measurements within plus or minus 10%; and sea ice concentrations within plus or minus 10%.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 0524: *Navy METOC Support (SPACE)*

Product Development ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Spacecraft Development	C/FFP	Spectrum Astro AZ	2.500	0.000		0.000		0.000		0.000	0.000	2.500	Continuing
Spacecraft Development	C/FP	TRW Redondo Beach, CA	4.885	0.000		0.000		0.000		0.000	0.000	4.885	Continuing
Assimilation/Prediction Models	WR	NRL Washinton, DC	5.408	0.437	Nov 2009	0.400	Nov 2010	0.000		0.400	0.000	6.245	Continuing
		Subtotal	12.793	0.437		0.400		0.000		0.400	0.000	13.630	

Remarks

Support ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
WindSat-Sensor/ Observing Systems (Space)	C/FP	Various Various	89.753	0.330	Nov 2009	0.244	Nov 2010	0.000		0.244	0.000	90.327	Continuing
IOMI PM and System Engineering	C/FP	Various Various	3.754	0.000		0.000		0.000		0.000	0.000	3.754	Continuing
SSMIS Cal/Val	C/FP	Various Various	10.706	0.253	Nov 2009	0.232	Nov 2010	0.000		0.232	0.000	11.191	Continuing
	C/FP	Various	0.316	0.000		0.000		0.000		0.000	0.000	0.316	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 0524: *Navy METOC Support (SPACE)*

Support ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Future Mission Engineering		Various											
APMIR	C/FP	Various Various	1.590	0.000		0.000		0.000		0.000	0.000	1.590	Continuing
		Subtotal	106.119	0.583		0.476		0.000		0.476	0.000	107.178	

Remarks

Management Services ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/FP	Various Various	0.316	0.060	Nov 2009	0.060	Nov 2010	0.000		0.060	0.000	0.436	Continuing
Acquisition Workforce	C/FP	Not Specified Not Specified	0.013	0.000		0.000		0.000		0.000	0.000	0.013	Continuing
		Subtotal	0.329	0.060		0.060		0.000		0.060	0.000	0.449	

Remarks

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 0524: *Navy METOC Support (SPACE)*	

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	119.241	1.080		0.936		0.000		0.936	0.000	121.257	

Remarks

Exhibit R-4, **RDT&E Schedule Profile:** PB 2011 Navy		**DATE:** February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	**PROJECT** 0524: *Navy METOC Support (SPACE)*

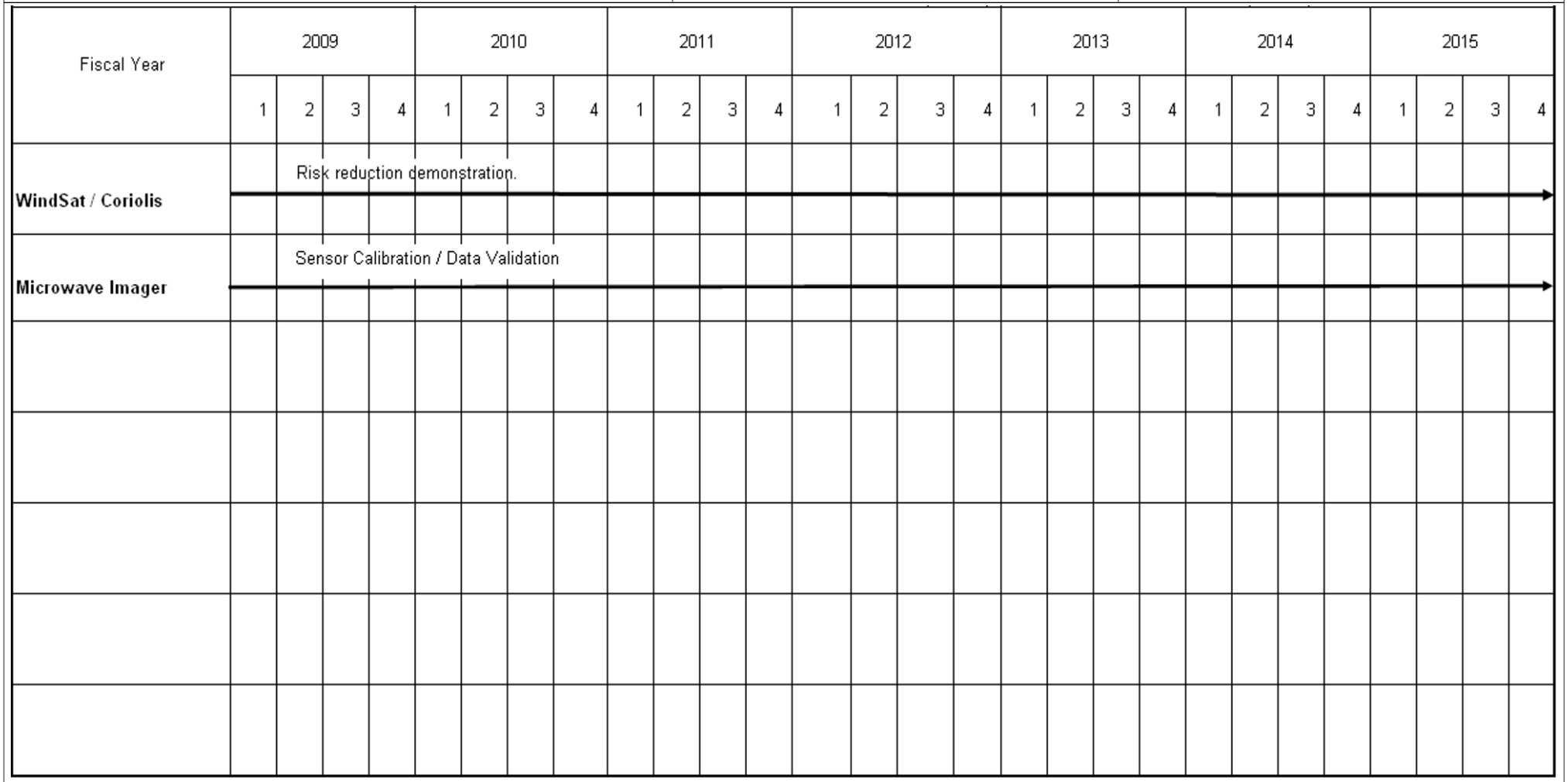

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	**PROJECT** 0524: *Navy METOC Support (SPACE)*

Schedule Details

	Start		End	
Event	**Quarter**	**Year**	**Quarter**	**Year**
Navy METOC Support (SPACE) WindSat Coriolis Risk Reduction Demonstration	1	2009	4	2015
SPACE Microwave Imager Sensor Calibration/Data Validation	1	2009	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 1452: *GEO SAT*	

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
1452: *GEO SAT*	5.075	26.897	62.942	0.000	62.942	55.363	42.033	16.658	17.025	Continuing	Continuing
Quantity of RDT&E Articles	0	0	1	0	1	0	0	0	0		

A. Mission Description and Budget Item Justification

This project provides a Polar-orbiting satellite (the Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2)) that measures sea surface topography using a precise altimeter. Mission data will be collected by the Spacecraft Operations Center and passed to the Payload Operations Center, and Altimetry Data Fusion Center, which are co-located at the Naval Oceanographic Office, Stennis Space Center, MS. Mission data is used in global and regional scale ocean forecast models. GFO-2 will provide a capability for precise mesoscale (e.g., fronts and eddies) and basin-scale oceanography. This capability will support tactical anti-submarine warfare, mine warfare, naval special warfare mission planning, tactical decision aids, and sensor/weapon performance prediction. GFO-2 will also provide an undersea warfare battlespace characterization capability that supports submarine detectability, weapon settings, sound velocity profiles, tropical cyclone intensity, and track forecasts.

GFO-2 data will be made freely available to other agencies, such as the National Oceanic and Atmospheric Administration and the National Aeronautics and Space Administration, who value its input to studies involving global warming and climate change, including El Nino Southern Oscillation effects.
Ocean topography data was previously provided by GEOSAT from 1985 until the satellite failed in January 1990. The Geodetic/geophysical Satellite Follow-On satellite was launched in February 1998 and deorbited in November 2008. The GEOSAT GFO-2 will provide for the continuation of this capability.

The primary focus of the FY 2011 request is the continuation of the design, development, and build of the GEOSAT GFO-2.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
GEO SAT	5.049	26.897	62.942	0.000	62.942
FY 2009 Accomplishments: Continued Geodetic/geophysical Satellite (GEOSAT) Follow-On (GFO) performance assessments and continued to calibrate GFO payload and validate data and resolve anomalies. Continued investigations and implementation of life extension solutions as work arounds for degraded					

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 1452: *GEO SAT*

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
components of GFO. Completed GFO Performance validation reports (every 17 days) and GFO engineering anomaly resolution reports (upon retirement of anomaly). The GFO was deorbited in November 2008, all remaining resources were realigned into the GEOSAT Follow-On 2 (GFO-2) program of record. Began engineering analysis of alternative configurations for a future satellite based altimeter (GFO-2) and prepared acquisition documentation. Completed draft request for proposal in preparation for official release to industry. *FY 2010 Plans:* Begin design phase of GFO-2. Complete preliminary design and conduct Preliminary Design Review (PDR). Award the GFO-2 development contract. Complete Pre-Milestone B activities (System Requirements Review, System Design Review, and an Independent Program Assessment (IPA)). Begin initial testing of GFO-2 space systems and subsystems. *FY 2011 Base Plans:* Complete pre-milestone C activities of the GFO-2 (completion of the preliminary design, PDR and a second IPA). Begin the design phase of the GFO-2. Continue testing of GFO-2 space systems and subsystems. Begin testing of GFO-2 ground systems and subsystems. Begin testing of GFO-2 space system integration. Begin procurement of long lead time major subsystems, including a radar altimeter, water vapor radiometer, and Global Positioning System Receivers. Begin assembly of GFO-2 payload, bus, and launch vehicle.					
Acquisition Workforce Fund *FY 2009 Accomplishments:* Funded acquisition workforce fund.	0.026	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals	5.075	26.897	62.942	0.000	62.942

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	**PROJECT** 1452: *GEO SAT*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

The Navy will award one contract to establish a space based altimetry capability. The Government intends to award a single contract for the delivery of a complete end-to-end on-orbit capability. The base requirement will be for a system requirements review and system design review in support of milestone B. Options will be included to build, launch, and support the Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2) space vehicle.

E. Performance Metrics

Goal: Provide METOC GEOSAT derived mission data to improve the accuracy of global and regional scale oceanographic forecast models.
Metric: Anti-Submarine Warfare capability is highly dependent on the operational environment. GEOSAT Follow-On 1 demonstrated that a space based altimeter provided the equivalent of approximately a 500-fold increase in available subsurface observations and a 10-fold increase in available surface observations, critical to characterization of the ocean environment and oceanographic modeling. War-gaming models show that this increased knowledge of the subsurface acoustic propagation resulting from one altimeter reduced the probability of losing a ship to subsurface attack from 80% to 20% for various scenarios.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 1452: *GEO SAT*

Product Development ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	C/FP	Ball Aerospace Boulder, CO	85.984	0.000		0.000		0.000		0.000	0.000	85.984	Continuing
Software Development	C/FP	Various Not Specified	8.045	0.000		0.000		0.000		0.000	0.000	8.045	Continuing
System Engineering	C/FP	Ball Aerospace Boulder, CO	3.628	0.000		0.000		0.000		0.000	0.000	3.628	Continuing
System Engineering	C/FP	Various Not Specified	4.982	0.885	Nov 2009	0.916	Nov 2010	0.000		0.916	0.000	6.783	Continuing
GFO-2 (Naval Altimetry Satellite)	C/FP	TBD TBD	1.000	24.403	Mar 2010	60.162	Nov 2010	0.000		60.162	0.000	85.565	Continuing
		Subtotal	103.639	25.288		61.078		0.000		61.078	0.000	190.005	

Remarks

Management Services ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GFO	C/FP	Various Not Specified	0.200	0.000		0.000		0.000		0.000	0.000	0.200	Continuing
GFO-2	C/CPIF	MAXIM Systems San Diego, CA	2.685	1.609	Nov 2009	1.864	Nov 2010	0.000		1.864	0.000	6.158	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 1452: *GEO SAT*

Management Services ($ in Millions)

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Acquisition Workforce	C/FP	Not Specified Not Specified	0.026	0.000		0.000		0.000		0.000	0.000	0.026	Continuing
		Subtotal	2.911	1.609		1.864		0.000		1.864	0.000	6.384	

Remarks

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	106.550	26.897		62.942		0.000		62.942	0.000	196.389	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	**PROJECT** 1452: *GEO SAT*

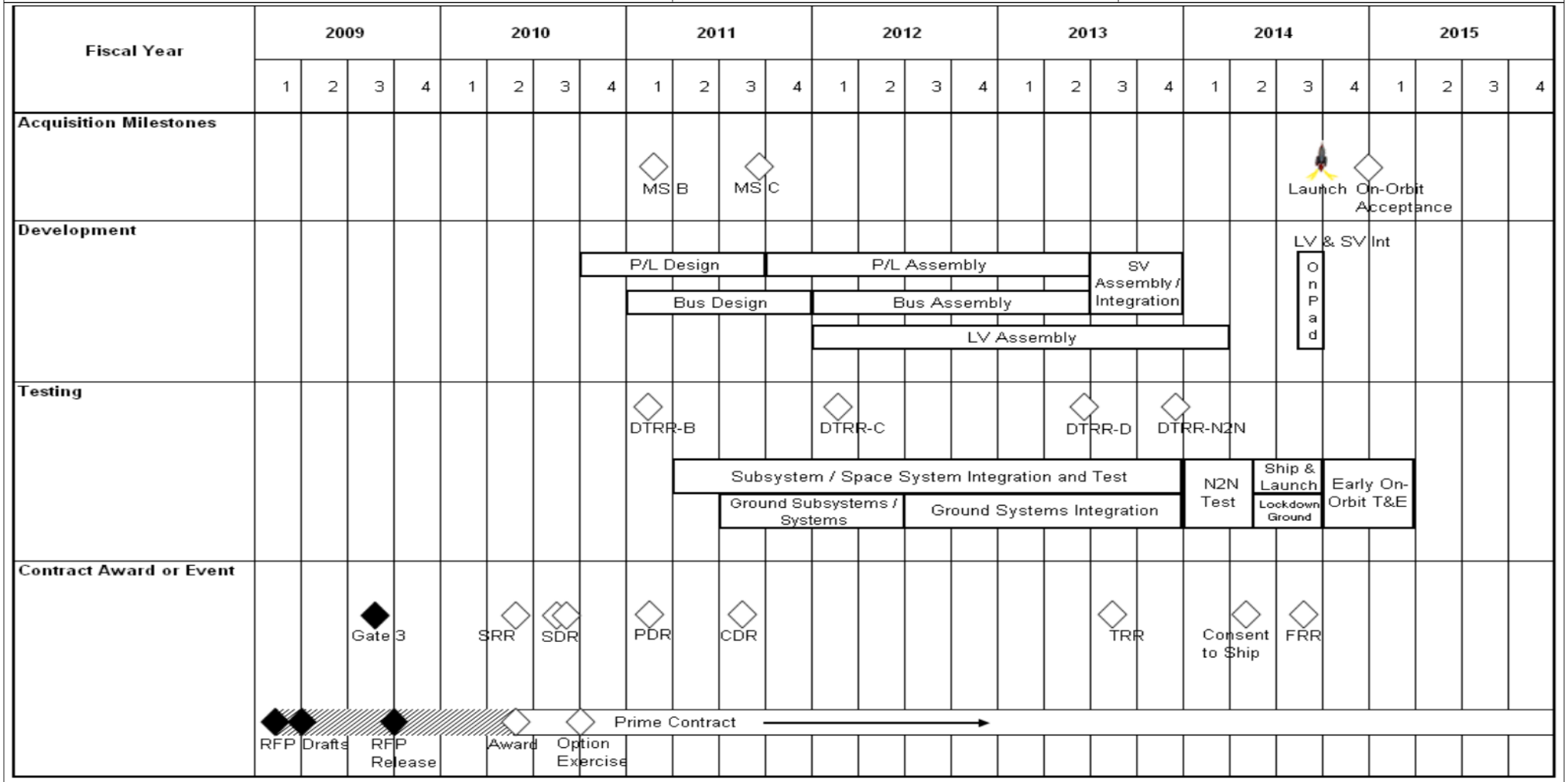

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	**PROJECT** 1452: *GEO SAT*

Schedule Details

	Start		End	
Event	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B (MS B)	1	2011	1	2011
Milestone C (MS C)	3	2011	4	2011
Consent to Ship	2	2014	2	2014
Launch	3	2014	4	2014
On-Orbit Acceptance	4	2014	1	2015
Payload (P/L) Design	4	2010	3	2011
Bus Design	1	2011	4	2011
P/L Assembly	4	2011	2	2013
Bus Assembly	1	2012	2	2013
Launch Vehicle (LV) Assembly	1	2012	1	2014
Space Vehicle (SV) Assembly/Integration	3	2013	4	2013
Subsystem / Space System Integration and Test	2	2011	4	2013
Ground Sub-Systems / Systems	3	2011	2	2012
Ground Systems Integration	3	2012	4	2013
N2N Test	1	2014	2	2014
Ship & Launch Prep	2	2014	3	2014
Lock-down Ground	2	2014	3	2014
Early On-Orbit Test & Evaluation	4	2014	1	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2011 Navy		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 1452: *GEO SAT*

	Start		End	
Event	Quarter	Year	Quarter	Year
Request for Proposal (RFP) Drafts	1	2009	2	2009
RFP Release	3	2009	4	2009
Award	2	2010	2	2010
System Readiness Review (SRR)	2	2010	2	2010
System Design Review (SDR)	3	2010	3	2010
Option Exercise	3	2010	4	2010
Prime Contract	4	2010	4	2015
Preliminary Design Review (PDR)	1	2011	1	2011
Critical Design Review (CDR)	3	2011	3	2011
Test Readiness Review (TRR)	3	2013	3	2013
Launch Vehicle and Space Vehicle Intregration	3	2014	4	2014
Flight Readiness Review (FRR)	3	2014	3	2014

Exhibit R-2A, RDT&E Project Justification: PB 2011 Navy			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 1319: *Research, Development, Test & Evaluation, Navy* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305160N: *Navy Meteorological and Ocean Sensors-Space(METOC)*	PROJECT 9999: *Congressional Adds*	

COST ($ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
9999: *Congressional Adds*	0.000	0.797	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.755
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Congressional Adds.

B. Accomplishments/Planned Program ($ in Millions)

	FY 2009	FY 2010
Congressional Add: Integration of Adv Wide Field of View Sensor Testbed System *FY 2010 Plans:* Integration for Advanced Wide Field of View Sensor with Reusable, Reconfigurable Payload Processing Testbed System.	0.000	0.797
Congressional Adds Subtotals	0.000	0.797

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Congressional Adds.

E. Performance Metrics

Congressional Adds.